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### KEY TO DATES AND PAGES.

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## The Mitchell Banks Memorial Lecture ON THE GALL BLADDER AND ITS INFECTIONS.

DELIVERED AT LIVERPOOL, NOVEMBER 24TH, 1927,

BY

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(With Special Platte.)

THE art of the surgeon which strives to rescue the life or restore the health of patients must serve, wherever possible, as the handmaid of science. When, by one device or another, we remove diseased organs, or parts of organs, or alter the mechanical or physiological processes which they fulfil, we must no longer rest content merely by the means by which we effect these changes—we must seek to know by what process the pathological state has been produced, what are its relations, if any, to other morbid conditions, near at hand or far away, and what modulations in function or in action are the result. Surgery does not complete its high mission by healing the individual patient, though in this must always lie its chief importance. It now seeks to advance the science of Medicine; and it may claim to have done so in a manner exclusively its own.

The application of this general principle to the particular instance of cholelithiasis is interesting. Before the surgeon became competent to inspect the gall bladder little was known of cholelithiasis but its catastrophes. The symptoms caused by stones within the gall bladder were referred to the stomach, and it was among the descriptions of functional diseases of this organ that the clinical history of the earlier stages of this condition was to be found. In consequence there started the fallacy, which is being so reluctantly abandoned, that gall stones as a rule cause no symptoms, and may often be regarded as "silent" or "innocent."

During the last forty years, in consequence of the knowledge gained during operations, there has steadily grown up a clear apprehension of the clinical symptoms caused by cholelithiasis. The various problems of differential diagnosis also have engaged attention, and a conception of the clinical and pathological relations between this disease and other morbid changes within the abdomen has now been established. Of this relationship we know little as yet; its existence has, however, clearly been established by direct research, and it is for analogical research to pursue to their birthplace the individual elements in a very complex pattern of pathological changes. Though we have learnt much as to the physiological activities of various organs within the abdomen, we know little of the correlation of normal functions as between one of these organs and another, or between one organ and many others. We know even less of the effect of morbid changes in one organ upon other organs; we are only beginning to realize their existence and their significance. May I to-day endeavour to interest you in some of the problems regarding the gall bladder as they present themselves to the surgeon?

### THE PHYSIOLOGY OF THE GALL BLADDER.

[Sir Berkeley Moynihan then discussed the evidence, obtained by direct and by analogical research, upon which our knowledge of the functions of the gall bladder is based; and concluded as follows:

1. The chief function of the gall bladder is excretory.
2. The mucosa of the gall bladder absorbs fluid, and other substances, from the hepatic bile, which it reduces to one-sixth or less of its original bulk.
3. Fluids and other substances absorbed are carried off by the lymphatics and by the capillary circulation.
4. The mechanism by which the gall bladder is emptied is complex; muscular contraction, variations in abdominal pressure, milking of the common duct by duodenal peristalsis, the "Sprengel air pump" action of bile as it descends from the liver, flowing past the opening of the cystic duct, elastic recoil, may all play a part in this act.
5. The quantity of bile leaving the gall bladder in the course of twenty-four hours is very small.
6. The functions of the gall bladder as an adjuvant of alimentary digestion are slight; and operative experience suggests that they are almost negligible.
7. The part played by the gall bladder in the general economy, by virtue of its powers of absorption, is unknown. There is suggestive evidence that it is concerned with the movements or the metabolism of cholesterol.]

### INFECTION OF THE GALL BLADDER.

Infection of the gall bladder may be primary or secondary.

*Primary infection* is rare. The cause is connected with the solitary cholesterol stone, formed aseptically, as Aschoff asserts, within the gall bladder. Such a stone is said to own a different origin from all other stones; they are dependent upon infection, this one arises from causes other than infection. When once formed the stone may at length become temporarily or permanently engaged in the cystic duct, whose obstruction starts a primary inflammatory change both in the walls of the gall bladder and in the contents. The stone, by its constant friction against the walls of the gall bladder, may in this way also initiate inflammatory changes.

*Secondary infections* of the gall bladder are far more frequent. The paths by which infection may reach the gall bladder are many. Organisms may be carried in the blood stream, in the bile, in the lymph stream, or may invade the walls of the viscus by direct extension from neighbouring parts—the liver, the stomach, the duodenum, colon, or kidney.

#### 1. Infection through the Blood Stream.

(a) *Arterial Route*.—The gall bladder derives its blood supply through the cystic arteries from the hepatic artery. This route is followed only in cases of general septicæmia.

(b) *Venous Route*.—The veins of the gall bladder empty directly into the portal vein. Infection arises through this channel only by a process of thrombosis or thrombophlebitis. No example of this has occurred in my series of cases.

We owe our knowledge of hæmatogenous cholecystitis to Rosenow.<sup>2</sup> He found that organisms removed from the gall bladder, from the bile, from the centre of gall stones, or from the cystic gland of patients treated by cholecystectomy, contained organisms, chiefly streptococci, which, when injected intravenously into animals, produced lesions of the gall bladder, of the bile ducts, and sometimes of



the stomach or duodenum. He suggested that such organisms have an "elective affinity" for tissues like those from which they were originally derived. Such organisms reach the gall bladder of the animal by the blood stream, and in the gall bladder produce lesions exactly comparable to those in the organs from which they were taken. Whether it is the micro-organism which selects the tissue in this "elective affinity," or whether it is the soil which alone provides the food necessary for the growth of the germs—the soil selecting the germ—is not a matter of importance. The truth is well established by Rosenow's experiments and by clinical and pathological research in man that micro-organisms attacking the gall bladder may reach it through the blood stream.

The question has been closely studied in connexion with typhoid fever, but the results of experimental work appear very conflicting. J. Koch,<sup>3</sup> in a patient who died of enteric fever, found inflammatory changes in the mucous and submucous layers of the gall bladder. Just beneath the epithelial layer of the villi he found masses or clumps of organisms, apparently those of typhoid fever. No organisms were found on the surface of the mucosa. He therefore drew the conclusion that it was not from the bile that the gall bladder was infected, but by a process of embolism. In the nests of organisms in the wall of the gall bladder propagation took place, liberated organisms escaping through the mucosa into the gall bladder, there to infect the bile. Chiarolanza<sup>4</sup> injected typhoid bacilli into the veins and beneath the skin of rabbits, and described the organisms as forming emboli in the capillaries of the submucous layer of the folds of the gall bladder. Other observers have, however, recovered organisms injected into the veins from the bile descending from the liver. It is interesting to note that the injection of Dakin's fluid into the blood stream is apt to cause acute cholecystitis.

## 2. Infection by the Lymphatic Route.

From our knowledge of the development of the gall bladder we should expect to find few lymphatic communications between it and the liver. In some situations, however, and notably at the splenic flexure, it seems possible for an organ to appropriate the peritoneal vessels which may come into relation with it. Professor Jamieson tells me that there is great traffic of vessels, especially from the under surface of the right lobe of the liver, with those of the gall bladder as together they pass inwards on their way to the lesser omentum. Winkerden,<sup>5</sup> investigating the gall bladder of the cat, failed to demonstrate any communication between its lymphatics and those of the liver. This is a contradiction of Suddler's<sup>6</sup> earlier observations, which showed an intimate connexion between the surface lymphatics of the liver and those of the gall bladder in man. Dr. A. L. Taylor, examining my cases of cholecystectomy in which a piece of the liver was removed, found evidence of hepatitis, of a thickened liver capsule, of dilated lymphatics beneath it, and of dilated lymphatics in the outer coat of the gall bladder.

The "hepato-lymphatic route" of invasion of the gall bladder, if it exists, would therefore appear to depend upon the following series of events: hepatitis—infection of intrahepatic lymphatics—extension of infection to the freely anastomosing surface lymphatics of the liver—involvement of communicating lymph vessels in the outer wall of the gall bladder. If this sequence is followed then the occurrence of hepatitis should be frequent, and invasion of the serosa and subserosa of the gall bladder be demonstrable in an early stage of gall-bladder infection. Evarts Graham<sup>7</sup> was the first to suggest the invariable existence of hepatitis in cases of cholecystitis and of cholelithiasis. Many surgeons had been familiar with the fact that infection of the liver and early and localized cirrhosis were observed both in cases in which stones were present in the gall bladder and in cases where, although calculi were not found, the gall bladder showed evidence of chronic inflammation. Our observations, carried on since Graham indicated the methods of inquiry, fully support his contention; and no doubt now remains that hepatitis, if not the invariable, is yet the very frequent, antecedent of cholecystitis. A further point concerns the condition of the gall-bladder wall. As to this the answer is unequivocal.

The outer coats are in a large proportion of cases more seriously affected than the inner. In this series of 81 cases there were only 18 in which inflammatory changes were more marked in the inner coats.

The wall of the gall bladder contains organisms more frequently than the bile. In 33 out of 81 cases active micro-organisms were found; in 30 cases in the wall, in 25 in the bile. A further observation made in my cases is relevant to this issue. The lymphatic vessels in the outer coat were grossly dilated in 20 cases out of the 81. The vessels were, mostly free of cells, but some contained lymphocytes. In 16 of the 20 cases the lymphatics of the subserous coat were dilated, and there was frequently evidence of infection in and around them. The lymphatic appears, therefore, to be a very probable route by which infection may reach the gall bladder.

Further evidence of the early involvement of the lymphatic system in cases of cholecystitis is afforded by the condition of the cystic gland. C. H. Mayo was the first surgeon to call attention to the significance of this observation. Among the signs which we now accept as indicating early though definite infection of the gall bladder, proved later on by microscopic and bacteriological examination of its walls, is the enlargement of the gland which lies in close relation to the cystic duct. Indeed, its enlargement not only demonstrates the existence of an infection, but is an indication of the necessity for the removal of the gall bladder.

## 3. Infection through the Bile Stream.

If infection is to reach the gall bladder through the bile stream it may either descend from the liver or ascend from the duodenum. That retrograde infection from the intestine is possible is clearly indicated by the presence, as the nucleus of a stone, of foreign bodies which, in the absence of a fistula between the gall bladder and the intestine or the surface of the body, could reach the lumen of the gall bladder in no other way. Such a nucleus as a piece of cotton fibre, or a tiny flake of copper from a cooking utensil, must ascend from the duodenum. C. J. Bond's<sup>8</sup> experiments lend conclusive support to this view. He found that coloured fluids introduced into the rectum could be recognized in the discharge from the gall bladder after the operation of cholecystotomy. We know that after the operation of typhlotomy the coloured fluids can be recognized in the intestinal discharge a few minutes after their introduction into the rectum. Bond showed that retrograde currents extend throughout the entire length of the alimentary canal. What alone is doubtful is, therefore, the frequency with which this ascending path of infection is followed. The following facts elicited from my cases are relevant.

As stated above, in 33 cases out of 81 active infection was present; in 30 cases organisms were cultivated from the wall, in 25 cases from the bile. In 8 cases in this series the bile was extracted from the duodenum by Lyon's method.<sup>9</sup> In 2 cases only were organisms present which proved identical with those found in the gall bladder.

## HYPOCHLORHYDRIA AND ACHLORHYDRIA.

The influence of hypochlorhydria and of achlorhydria is perhaps important. The duodenal contents are usually sterile, and are made and kept so by the antiseptic action of the gastric juice, which depends upon the presence of hydrochloric acid. In over 300 of my cases, including this series, it was found (by Dr. Aileen Wilson) that 22 per cent. of patients showed complete achlorhydria, the ordinary incidence of the condition being not more than 5 per cent. Achlorhydria, in cases in which afterwards gastro-enterostomy or gastrectomy is done and the mucous membrane examined, is sometimes associated with, and is perhaps dependent upon, chronic gastritis. We do not know at what period of life achlorhydria first occurs, whether it is a congenital condition, or whether it follows upon some acute or sustained infection in early years. But it appears very probable, and Knott's<sup>10</sup> work would confirm this view, that when free hydrochloric acid is absent the "gastric germicidal barrier" is removed; the pylorus then is relaxed, and organisms escape unharmed into the duodenum, whence (if there is also relaxation of the sphincter of Oddi, as seems

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FIG. 1.—A generation of large translucent pure cholesterol stones.

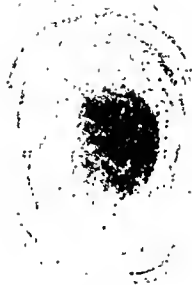


FIG. 2.—Cholesterol stones; on the largest one, displaced during operation from the cystic duct, calcium is being deposited.

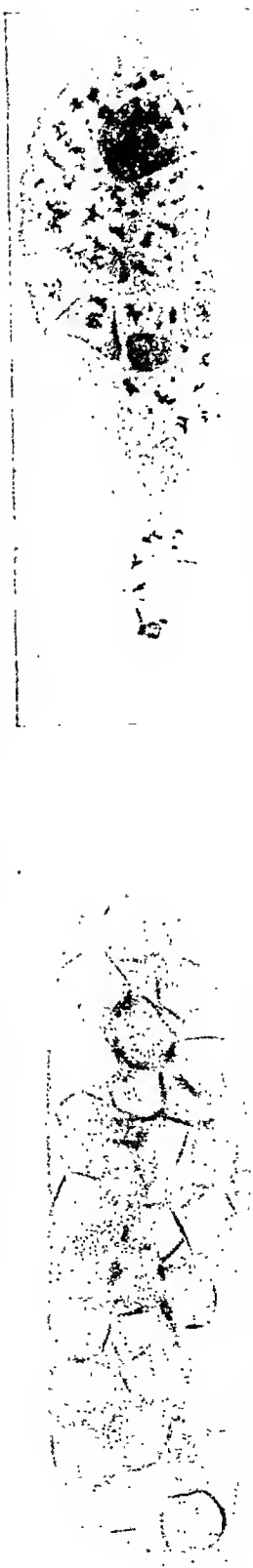


FIG. 3.—Two small stones with calcium nucleus. Large stone showing layers of calcium and layers of cholesterol.

FIG. 4.—Cholesterol stones with early laminar deposit of calcium.

FIG. 5.—Calculi with calcium nucleus, surrounded by cholesterol.

*Series of x-ray photographs of the gall bladder immediately after removal to show the constitution of stones, by Dr. L. A. Rowden.*

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FIG. 6.



FIG. 7.



FIG. 8.



FIG. 9.



FIG. 10.



FIG. 11.

Photomicrographs by Dr. A. L. Taylor, showing the condition of the gall bladder in chronic cholecystitis.

probable) they may ascend to the gall bladder. It is significant also that achlorhydria is perhaps responsible for lesions of the appendix, which may, through the portal system, themselves be the precursors, or possibly the causes, of an infection of the bile as it descends from the liver. My cases showed that when achlorhydria was present the bile in the gall bladder was infected in 66 per cent., as compared with 28 per cent. in cases where the acid content was normal or increased—the incidence, that is, of biliary infection is more than twice as high. Judd,<sup>11</sup> in an examination of 100 consecutive cases, found that the gall-bladder wall showed organisms in 29; in 7 cases only did the bile contain them.

Hyperchlorhydria was present in 16 of my 81 cases, and 6 of these patients had duodenal ulcer as well as cholecystitis. The evidence, therefore, appears to show that infection of the bile through the duodenum does certainly occur, and that it is more likely to develop when achlorhydria is present. When achlorhydria was found the radiological examination often showed a pyloric relaxation and a quicker escape of gastric contents into the duodenum. The associated relaxation of the sphincter of Oddi, though possible, is not demonstrable.

#### THE LIVER, PORTAL SYSTEM, AND APPENDIX.

Infection may also reach the interior of the gall bladder through bile descending from the liver. The sequence of events in this "hepato-biliary route" will therefore be: infection of liver cell—hepatitis—destruction of parenchyma—infection of bile—contact infection of gall-bladder mucosa. If this path were followed we should expect to find that when a piece of the liver is taken for microscopic examination inflammatory changes are present. In three cases in this series a definite hepatitis, most marked in the portal tracts, was found. The number is too small to have any value greater than this—that it does show that this type of hepatitis definitely occurs in association with cholecystitis.

The infective agent which reaches the gall bladder in this way is derived from the portal system. In this are two streams—the one derived from the alimentary canal, the other from the spleen. So far as the alimentary stream is concerned the main source of origin (of any infection) is most frequently the appendix. We know, from the clinical experience of a multitude of observers, that the appendix shows evidence of disease in a large proportion of cases in which cholecystitis or gastric or duodenal ulcers are present. Indeed, it is rare to find solitary inflammatory affections of the stomach, duodenum, pancreas, liver, gall bladder, or appendix. When one of these shows evidence of disease one or more of the others is likely also to be implicated. Whether the disease starts in one and spreads thence to the others, and if so in which one it begins, is doubtful. All of these viscera may possibly derive their infection from an outside source. There is a constant stream of bacteria from the intestinal lumen into the blood. The organisms may be arrested in the glands of the mesentery or in the endothelium of the liver sinuses. So long as they remain within leucocytes no signs of infection arise. The destruction of organisms by the Kupffer cells leads to a filling of the perivascular spaces by leucocytes, and finally to hepatitis. The bactericidal power of the liver is known to be considerable; the hepatic cells are indeed formidable "destructors." Some few organisms from time to time, by happy chance for them, escape with their lives, perhaps at a time when the liver is momentarily overwhelmed by a flood of unusually viru-

lent microbes. Those which so escape descend in the bile to the gall bladder, and contact with bile may cause the organisms (especially if they are of the *Bacillus coli* group), to clump in the concentrated bile and so to become the nuclei for stones. If hepatitis is incidentally caused it by no means necessarily follows that the gall bladder suffers later, whether through the lymphatics or through the bile stream; for multiple or solitary abscesses of the liver, or such conditions as syphilitic hepatitis, may be very advanced, yet the gall bladder remains normal.

#### THE SPLEEN.

But remembrance should also be given to the possibility that organisms within the portal current may be derived from the spleen. The association of diseases of the liver, and of gall stones, with diseases which seem to have their origin or their chief development in the spleen, has recently become clearer. In cases of haemolytic jaundice 60 per cent. of the patients suffer also from cholelithiasis. With splenic anaemia both cirrhosis of the liver and gall stones are associated. Enlargement of the spleen is noticed

in cases of stones in the gall bladder and the duct, but sufficient regard has not been paid to the possibility that it is from the spleen that the infective agent is immediately derived. There are cases in which a large number of small stones are found throughout the substance of the liver, not only in cases of cirrhosis, but in cases where the liver appears little if at all changed from the normal. And every surgeon is familiar with cases of recurrent gall stones in which the common duct and all the ducts of the liver within reach are filled with mud and fine stones, which may be washed down in almost unending quantities. In

such cases I pass several tubes up into the liver, and apply the Carrel method of intermittent irrigation for several weeks. Splenectomy for recurrent cholelithiasis may be found necessary in such cases. One of the functions of the spleen is to filter out micro-organisms and toxic substances from the blood stream, and to send them to the liver for destruction. It may sometimes harbour them as well as transmit them. Its capacity to do so in syphilis has been shown by W. J. Mayo. Possibly in other infections micro-organisms or toxic materials are held up and passed on only from time to time to the liver, which in this way receives the material, chiefly bilirubin and calcium, upon which the gall stones are deposited. It seems possible that stones with a bilirubin calcium nucleus may owe their origin to increased destruction of red cells in the spleen.

#### DIRECT EXTENSION.

Infection may reach the gall bladder from any viscus to which it adheres. If, for example, a duodenal ulcer, or even a gastric ulcer, is about to perforate, the gall bladder may become adherent to the inflamed area; and if the wall of the intestine is then completely destroyed, the gall-bladder wall may form the basis of the ulcer and so prevent perforation. Infection in this way may be spread from the outer coats to the lumen of the gall bladder. When so close an attachment of duodenum and gall bladder occurs it almost invariably has its origin in the latter. A stone seeks to escape from the gall bladder, which, becoming inflamed, adheres to the duodenum. A fistula forms, and a large stone escapes, perhaps to become impacted in the intestine and to cause acute obstruction. In only one case in my series of 81 did it seem possible that the gall bladder was infected in this way.

#### DESCRIPTION OF PLATE.

FIG. 6.—Gall-bladder wall from a typical case of chronic cholecystitis. The mucous membrane is relatively intact and the muscular coat of healthy appearance. The subserous coat is greatly thickened.

FIG. 7.—Peritoneal and subserous coats of a gall-bladder wall in chronic cholecystitis. This shows again the great fibrotic thickening and congestion and the ubiquitous infiltration by chronic inflammatory cells. The large spaces have contained fat. The mucosa and muscularis are almost intact.

FIG. 8.—Section from the inflammatory fibrous tissue immediately beneath the serous coat. In the middle of the field is a greatly dilated lymphatic vessel. The mucous membrane in this case is practically normal.

FIG. 9.—Section of liver from a case of chronic cholecystitis. A portal sheath is shown containing a vein, an arteriole, and a small bile duct. The sheath is considerably fibrosed and thickened, and contains numerous chronic inflammatory cells. These are particularly prominent surrounding the bile duct in the large tract and round the smaller ducts in the left-hand top corner of the slide.

FIG. 10.—A portion of liver including a portal tract, from a case of subacute cholecystitis. There is a good deal of fatty infiltration of the liver parenchyma and a widespread infiltration of the tract by small lymphocytes. The actual is round the small bile ducts in the bottom.

FIG. 11.—Centrifuged deposit from the bile in chronic cholecystitis. The deposit consists almost entirely of desquamated mucosal epithelium with very few inflammatory cells. None of these is seen in this slide. In cases either with or without stones the scantiness of inflammatory cells in the bile is a noteworthy feature and is some evidence against mucosal infection.

## CONCLUSIONS AS TO INFECTION.

An examination of the gall-bladder wall in my series of 81 consecutive cases shows clearly that infection began in the outer coats in 63. In 18 cases the inner coats were more seriously affected, but in some at least of these it appears possible that infection, beginning in the outer coats, attacked the inner coats more severely only because impaction of a stone in the cystic duct caused an obstruction which was quickly followed by inflammatory changes which fell upon the mucosa first. Infection may reach the outer coat by direct extension from the liver, by lymphatic infection from the liver, or by implication of the peritoneal surface as a consequence of disease in an adjacent organ, such as the appendix. In those cases in which infection begins from within, the ascending route appears to be followed more frequently than I had realized. Cholecystitis seems as a rule to be a part only of an infection which has its origin elsewhere; hepatitis is very commonly, if not always, present, and is almost certainly of earlier origin than the inflammation of the gall bladder.

## PATHOGENESIS OF CALCULI.

In the series of cases upon which this paper is based the blood cholesterol and the blood calcium were measured before operation. The gall bladder after removal was at once examined by the radiologist as it lay in sterile wrappings. The cholesterol and the calcium content of the bile in the gall bladder was taken and the bile and the gall-bladder wall examined for micro-organisms. Sections of the wall were taken in order to study the degree of inflammation in the several coats.

When a gall bladder containing stones is removed by operation and examined at once with x rays a very interesting discovery is made. As a rule, with few exceptions, the composition of the stone is dependent upon its size. The smaller stones are translucent; they consist of cholesterol without admixture or addition of any other substance. As the stones grow larger a thin deposit of calcium may be found upon the surface; the x-ray picture shows a thin crescent, the "new moon" appearance, or a smattering of black spots upon a translucent stone. When the stone is still larger a complete covering of calcium may be found, and the "wedding ring" stone is seen in the x-ray photograph. As the calcium deposit becomes heavier the shadow grows increasingly opaque, and finally a dense black appearance is presented. The inference is clear, I think, that not only the solitary stone, but the multiple stones, are, as a rule, built around a nucleus of cholesterol crystals deposited from concentrated bile.

The deposition of calcium undoubtedly occurs more rapidly upon an impacted stone. When, for example, there are a number of cholesterol stones of medium size in the gall bladder, and one becomes wedged in the opening of the cystic duct, or in a pocket at the fundus, calcium is soon found upon the surface. When the gall bladder is opened such a stone may be wrenched from its lodgement only with difficulty, and may tear away a piece of the gall bladder as it becomes free. In such conditions the mucosa is always destroyed, perhaps by pressure, and the stone is then in contact with a fibrosed muscular coat, an adventitious inflammatory coat, or the tissue of a neighbouring organ (liver, omentum, or intestine) in which it is buried. Calcium here, as elsewhere, seems to be deposited as the result of a long-continued irritation. When the cholesterol stone is becoming coated by calcium we may expect to see changes in the mucosa of the gall bladder, inflammation, fibrosis, ulceration, and finally complete destruction. We must not, however, be betrayed into supposing that these are primary changes which in their earlier stages have been responsible for the origin of the stones. It seems quite clear, from the examination of my cases, that the changes are induced by the stones, and are therefore not primary but consequential.

There are, however, stones which are differently formed. From the first the stone is impenetrably opaque, the shadow is quite black, and it is obvious that calcium alone or in a very large proportion is present. Other stones show on x-ray examination a tiny speck of blackest calcium, doubtless derived from the liver, surrounded by a mass of trans-

lucent cholesterol. An examination of the interior of the gall bladders from which stones have been removed shows that during the months or years when cholesterol alone is found in the stones the changes in the mucosa of the gall bladder are slight. The membrane may be thickened, coarsened; its reticulation, at first exaggerated, may later be diminished or destroyed; ulcers may be found here and there, and papillomata may grow from any part. But the calcium deposit upon stones shows increase, the mucosa is found to have changed and soon to be completely destroyed, perhaps together with the submucosa, until at last nothing remains but a dense wall of fibrous tissue. No trace of elastic or muscular coat remains. This varying condition of the mucosa seems in some measure to correspond to the change in the blood cholesterol, which seems to be high when the mucosa is active and low when it is lacking or fibrosed. It is interesting to note that when foreign material forms the nucleus of stones (3 cases with copper nucleus and 1 with cotton fibre) the calcium content of the stones is higher than usual—1 per cent. to 6.4 per cent., compared with 0.1 per cent. in the cholesterol stones.

The conclusion of the matter as to the pathogeny of stones in the gall bladder appears to be this:

Infection reaches the gall bladder, the outer coats as a rule being first affected. As a result the activities of this little viscus are at first enhanced; the lymphatics are engorged and the activity of the excretory or osmotic functions of the mucosa augmented. During this period the "cholesterol flood" is at its highest; increased absorption of cholesterol and its transmission to the general circulation cause hypercholesterolaemia. If the lymphatics in a further stage of inflammation become blocked and the mucosal activity continues, a deposit of lipid or crystals of cholesterol occurs in the mucosa, oedema being prevented or reduced by means of the activity of the capillary circulation. The condition develops which I first described as "a disease of the gall bladder requiring cholecystectomy."<sup>12</sup> To this disease MacCarty<sup>13</sup> later gave the name "strawberry gall bladder." It is now generally described as "cholesterosis." This condition, it is interesting to observe, never occurs unless the cystic duct is patent and bile can freely enter the gall bladder. The best description of it is given by Boyd: the "graceful fragile gossamer folds of mucosa are completely altered, being weighted down by dense yellow opaque masses much as a delicate birch tree might be weighted down by a load of snow." The yellow material is lipid in nature, and displays the properties of an ester of cholesterol. Sections of the gall bladder often show long bloated villi filled with this material, and pendent only by the narrow pedicle. If this pedicle is torn the villus will soon form the nucleus of a stone, and crystals of cholesterol will make haste to envelop it. What has happened in one villus has perhaps at the same time happened in many. And so a generation of stones is formed. Cholesterosis may, of course, be a primary condition of the gall-bladder mucosa, a too heavy saturation of bile by cholesterol resulting in the deposit of lipid in the villi. Such a condition existed among some of the 18 cases in my series in which the disease probably began in the mucosa.

When the stones begin to grow, as they may so rapidly do, they begin to be themselves the cause of material changes in the gall-bladder wall, by reason of the irritation they cause, or when obstruction of the cystic duct occurs. Secondary changes in the entire thickness of the gall bladder then result; the muscular coat and the elastic coats are fibrosed, and disappear; the outer coats become thickened, a deposit of fat occurs in the walls, adhesions form, and all the changes with which we are so familiar in advanced cases make their appearance. Concomitantly, blood changes in respect of cholesterol and calcium content are observed. While the mucosa is overactive hypercholesterolaemia is as a rule found; when the mucosa is destroyed we may expect to find hypocholesterolaemia.

The importance of all these considerations, both to the physician and to the surgeon, is obviously considerable. If, on the one hand, infections of the gall bladder begin from within then medical treatment in the early stages by the methods suggested by Lyon, and advanced by Hurst,



may not only bring immediate relief but may interrupt an impending and otherwise inevitable series of changes, leading at last to irremediable conditions, in which the aid of the surgeon would be necessary. It is, in my judgment, not the least of the functions of the surgeon in this present, and I hope passing, phase of his activities, to help the physician to recognize stages in disease earlier than those with which *post-mortem* experience made us familiar; and in this way to do something to prevent disease from drifting until the surgeon alone can offer help. The business of the surgeon is to diminish surgery.

If, on the other hand, the gall-bladder infections begin from without, and are merely part of an infection which spreads widely, involving first the liver, then a far wider view is necessary, and a multitude of other most relevant questions arise. Prevention of the disease of cholelithiasis must then be sought in a study of changes earlier than any with which we are yet familiar. The relief of symptoms of the disease, however, when once established in the gall bladder, is hardly to be permanently obtained except by its removal, for if the outer coats are involved first, Lyon's method must, I think, lose much of its value. Our immediate inquiry must accordingly be directed not only to the clinical manifestations of early infections of the liver and gall bladder and their antecedents, but also to a study of early pathological changes in the liver and gall bladder, as revealed by inspection during operation. The microscopic, chemical, and bacteriological examination of any parts removed must be correlated with the knowledge so obtained.

#### SYMPTOMS OF EARLY CHOLECYSTITIS.

The symptoms which my inquiries indicate as being those of cholecystitis in its earlier stage are fundamentally those which I described some years ago as the "inaugural symptoms of cholelithiasis."<sup>14</sup> They are as follows: Flatulence and fullness after meals, amounting sometimes to so great distress that a woman takes off her corsets or loosens them; great epigastric discomfort which may involve the right side also or pierce through to the back; early satiety during a meal, a feeling that when a small meal is taken the stomach is overfull; a sudden unaccountable sensation of intolerable nausea, described very often as "sea-sickness," sometimes accompanied by faintness and often by salivation; a feeling of cold associated with slight shuddering, often coming on with great regularity; acidity and "water-brash." None of these symptoms is severe and none striking. It is in association and persistence rather than in individual character that their importance lies. The complexion of patients is often altered, although they do not realize it. After removal of the infected gall bladder a patient will often comment upon an improvement in the complexion, and remark that it is "as it used to be many years ago." Now and again in such patients a more acute disturbance of health is noticed; pain and distress in the upper part of the abdomen are associated with local tenderness, with swelling of the liver—whose edge becomes more easily palpable—and with a slight increase of tenderness. It is as though the whole liver were affected by a slight but transient inflammation. Some months or years later an attack of hepatic colic occurs, not with the agony associated with the passage of a calculus, but with a rather more subdued but still sufficiently acute pain which radiates to the right side and presses through to the shoulder. In an intelligent patient these several steps may all be traced.

#### INDICATIONS FOR OPERATION.

The criticisms which may properly be urged against this description are that it is vague and that many of the symptoms are of great frequency, occurring even in those who consider their health quite satisfactory. I am not quite sure that vagueness, however applicable as a quality of any individual symptom, can truthfully be made to apply to their conjunction. It is the presence of all, or most of them, over periods of weeks or months, their consistency as well as their character, which is significant. As to the charge concerning their frequency I would say that infections of the gall bladder are in truth very common. Indeed, I think the statement that of all forms of dyspepsia that

dependent upon the gall bladder is the commonest, is unassailable. We use the word "functional" in connexion with dyspepsia far too easily. If we look back to the great teachers of medicine two or three centuries ago—and it is well worth while to do so—we shall see that Tronseau, Thomas Watson, and others described many of the dyspepsias we now know to be dependent upon gross organic disease as "functional."

The exact description of the clinical manifestations of gastric ulcer, the recognition of duodenal ulcer in its full character and frequency, the discovery of "gall-bladder dyspepsia," the demonstration of chronic appendicitis and of visceral prolapse as causes of indigestion, have all led to a diminution in the number of "functional affections of the stomach." A still further contraction, perhaps the greatest of all, will occur when we are able fully and clearly to recognize the effect upon the health for which infections of the gall bladder, its antecedents and its consequences, are solely responsible. The uncertainty which may attach to the clinical history is relieved or removed by the Graham-Cole method of cholecystography. The value of this method does not attach itself so much to the diagnosis of cholelithiasis, in which the proportion of errors is always small, but to the study of normal physiology, and of pathological changes in the gall bladder. Dr. Rowden pointed out to me almost at the beginning of our investigation of cases by this method, how likely it seemed that the negative evidence would prove to be most valuable in those early cases of gall-bladder disease in which our interest was then chiefly engaged. In a few cases diagnosed as early cholecystitis either no shadow of the gall bladder was seen or perhaps only a faint shadow after a long interval. When an operation was performed we sometimes hesitated to remove a gall bladder which showed only a slight degree of structural change. But its subsequent examination, and especially the after-history of the patient, showed that cholecystectomy had indeed been necessary. It soon became evident that one of the main functions of the gall bladder, concentration of bile, was checked at a time when the external appearances of the viscus were only slightly altered; and further, that in this precocious stage the "inaugural symptoms" were clearly elicited.

If, therefore, "inaugural symptoms" are present, and if a cholecystographic shadow is absent, diminished in opacity, or delayed in appearance, the integrity of the gall bladder may safely be impugned, and operation for its removal be performed.

The appearances presented by the early pathological gall bladder vary. There is often a lack of the usual lustre, the walls, normally deep blue in colour, are a little paler, and perhaps a little thinner; there is apt to be a deposit of fat, especially towards the pelvis or along vessels. Adhesions are present, and the cystic gland is enlarged, while in later stages the wall becomes thickened and fibrous in texture. The changed appearance is often so slight that reluctance to remove the gall bladder may naturally be felt. But the subsequent examination of the wall will convince both pathologist and surgeon that the extent of the involvement justifies ablation. In such examinations attention has hitherto been chiefly centred on the mucosa; it is, however, the outer coats which will call for the most careful scrutiny.

I have no doubt that until we are able clearly to understand and to control the earlier symptoms of cholecystitis and its foregoing conditions, removal of the gall bladder should be performed more frequently than is now the custom. In cases of inveterate mild dyspepsia I have many times hesitated whether to extirpate a gall bladder which did not seem much changed. Yet when I have not removed it I have found symptoms unrelieved, and have been compelled to operate again, with great satisfaction to my patient. I am happy to find this experience corroborated by one of the shrewdest and sanest of my surgical friends, Starr Judd of Rochester.<sup>15</sup> Advance in this direction must be slow and wary, and any case dealt with should receive the most exhaustive inquiry beforehand, and the parts removed—the gall bladder and perhaps a tiny fragment of the liver—should be examined with care and completeness; examinations of the blood and bile, in respect at least of the cholesterol content, may be made concurrently. I know

no department of medicine which so much requires that the physician and the surgeon and all laboratory workers should be in league together.

*Note.*—This address is based upon an experience of many hundreds of cases of cholecystitis operated upon in recent years, but more particularly upon a series of 81 cases, in which the following examinations were made. Before operation the cholesterol and calcium contents of the blood were estimated, in many cases a Reyfuss test meal was given, and in a few a duodenal intubation was made. The gall bladders removed were first examined by Dr. L. A. Rowden and were then opened; cultures of the bile and of the gall-bladder wall were made; the calcium and cholesterol content of the bile was estimated; and sections were made of the gall-bladder wall. In some cases the blood was examined for cholesterol at varying periods after the operation.

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## THE PREVENTIVE FRAME OF MIND IN MIDWIFERY.\*

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OBSTETRICS has, I think, always suffered by being unfairly compared with the two great sister branches of our practical work, medicine and surgery, for there is really no proper basis of comparison. Medicine and surgery are in practice concerned with conditions which are wholly pathological. In so far as they deal with the preservation of the physiological they come under the heading of preventive medicine. The functions with which the science and art of obstetrics deal partake of both physiological and pathological characters. Obstetrics is thus in a somewhat equivocal position, and, as Mahomet's coffin was believed to be suspended between heaven and earth, so it lies midway between the heaven of the purely physiological and the lower earth of the pathological. On the earthly side we have distinguished obstetricians—as, for example, Professor De Lee in America—who would have us believe that the function of parturition is becoming more and more pathological under the influence of the increasing artificiality of modern life. Our own friend Dr. C. E. Douglas had certainly one foot firmly on the earth when he propounded the suggestion that possibly there was something inherent in the condition of pregnancy which made a woman more prone to death—some diminished power of resistance to disease, call it what you will, some sacrifice which the individual woman offers to the race. On the other side you have the optimists who regard parturition as a purely normal physiological function, regardless of the false analogy which such an expression implies. As has been pointed out again and again, parturition differs from all other physiological functions in that it is performed in the interests of the race, while all others are performed in the interests of the individual only. The truth is that the proper place of obstetrics is partly on the earth and partly in the heavens, and our business is to keep it as far as possible on the higher physiological levels. This, I maintain, can only be done by deliberately adopting and practising a preventive frame of mind.

When we come to think of it in rather more detail, the functions of the modern obstetrician are most pronouncedly

bound up with preventive medicine. I submit that these functions may be summed up as follows:

1. To watch over the health of the expectant mother, and, as far as may be possible, of the unborn child during the period of utero-gestation.
2. To foresee conditions calculated to create difficulty or danger in childbirth, and to take steps either to remove them if possible, or to arrange for the birth to take place in circumstances in which the best obstetric skill may be available.
3. To conduct the delivery so that both mother and child are exposed to the minimum of risk and injury.
4. To restore the mother to her ordinary vocation in life with health and vigour as far as possible unimpaired.
5. To foster her capacity to nurse her child.
6. To see to it that the mother's reproductive organs return to a healthy normal condition fit for further normal functioning.
7. To watch over the health of the infant and thus begin the ante-natal care of the succeeding generation.

Could any programme well be more preventive than this?

The problem of the persistent maternal mortality ratio seems to me to offer three sides upon which it is susceptible to attack and to some degree of remedy. The first of these is in regard to the methods of practice, the second is in regard to the conditions of practice, and the third is in regard to the teaching of midwifery.

## THE METHODS OF PRACTICE.

How does the general principle of prevention apply to the methods of practice? The first part of the answer is obvious—to wit, that the routine and universal practice of ante-natal examination and supervision promises an immediate improvement in maternal mortality. To recall in detail the benefits to be obtained by ante-natal care would be to go over ground already familiar. But what we have to keep in view and to emphasize in our advocacy is that the benefits are not theoretical or merely possible, but certain. To avert difficulties by foresight and foreknowledge, or to prepare in advance for unavoidable difficulties, is bound in the long run to produce better results than follow from trusting to one's ability to treat unexpected complications as and when they arise. The general public requires education on this point, and I earnestly suggest that one of the duties devolving on each member of such a society as ours is to preach this gospel of ante-natal supervision amongst the public until it becomes universally understood. That the profession also needs to be educated on this point is not so generally appreciated, but it is a fact. In one sense ante-natal care is nothing new, but in another sense—in the sense of the general routine exercise of such supervision—it is a new doctrine to the great majority of present-day practitioners. It is only graduates of the last dozen years or so who have had the doctrine hammered into them as students. To all the older practitioners the teaching that such supervision is an integral part of the obstetrician's duty is new, and it is always a difficult thing to arrest the attention of the profession to new teaching except it be accompanied by some striking discovery—such as, for example, insulin. I am speaking of what I know when I say that our young graduates are sometimes actually discouraged in their efforts to practise ante-natal supervision by seniors who are not alive to its importance.

The methods of ante-natal supervision are simple. A very little practice will produce a reasonable degree of skill in estimating the relative sizes of the head and the pelvis, and in other respects the ante-natal examination is along ordinary medical lines. Another great point is that the means to carry out this principle are already to hand. Financial assistance is offered by the Government to every municipality which starts an ante-natal centre. But it is not enough to establish centres. The women must be got to go to the centres. Our experience in Edinburgh certainly encourages us to believe that, if the centres are established and well run, the patients will be forthcoming in increasing numbers. Furthermore, the practice must be adopted in private by the profession throughout the whole country; the rural districts are the most difficult in this respect. When this is done we shall be making a gallant effort, and infallibly a fruitful effort, to attack our problem. At present in Scotland not more than 9 per cent. of the

\* Being part of the valedictory presidential address to the Edinburgh Obstetrical Society.

mothers attend the ante-natal centres. I venture to think that if we could convert that 9 into 90 or, better still, into 99, we should have in large measure solved our problem.

Another avenue along which the problem may be attacked on the side of the methods of practice is the improvement of intra-natal care. Here the general principle of prevention again makes itself manifest in a way which would appear, if we are to judge by results, to be not fully apprehended. It is simply that, in the absence of complications, a natural unassisted labour is always more favourable to both mother and child than an instrumental one. There is no shadow of doubt in my mind that if this were held as a guiding principle in the obstetric practice of the country the maternal and foetal mortality would be very markedly diminished. That the forceps, used under proper indications, is an invaluable instrument is a truism, but will anyone deny that it is employed many times where proper obstetric indications are wanting? This is a point upon which I submit that the specialist is more able to pronounce an opinion than the general practitioner. Only those who have experience of maternity hospital work can fully appreciate the horrors of the "failed forceps case," and only the gynaecologist realizes how many of his hospital beds are occupied with the so-called "successful" instrumental cases of five, ten, or even twenty years ago.

In this matter we can see very clearly the effect which certain discoveries have had upon midwifery. The work of Simpson and of Lister conferred upon the obstetrician a much greater liberty of action than he had previously dared to exercise. Immediately thereafter the further improvements in the axis-traction forceps gave a decided impetus to the employment of that instrument, and to instrumental obstetrics generally. Doctors and patients alike found that labour could be shortened by the use of instruments, and they appreciated this apparent advantage before the less obvious and more remote disadvantages obtruded themselves upon the professional consciousness. As matters stand to-day, the public, as well as the profession, have to be re-educated to the much greater safety, both immediate and remote, of a natural non-instrumental labour—always, of course, provided that real obstetrical indications for the forceps or other operation are absent. Until this re-education is accomplished our younger graduates will receive discouragement in this respect mainly from their patients. The young doctor who, acting up to the teaching which he has received at his medical school, gives Nature the prolonged time which she often requires to accomplish the descent and rotation of the head in an occipito-posterior position, or the moulding of the head through a slightly contracted pelvic brim, runs the risk of being most unfavourably compared by his patients and their friends with other neighbouring practitioners, who are prompt to interfere even, it may be, at the cost of a stillbirth. The pendulum has swung too far in the direction of instrumental interference, and we must try to bring it back to the greater safety of the middle line.

Now, putting aside complications such as ante-partum haemorrhage, which in the present state of our knowledge must still be labelled as largely unpreventable, and also the minor complications which form the proper obstetrical indications for forceps delivery, the fact again obtrudes itself that ante-natal examination enables us to divide our cases in advance into those in which labour is likely to be normal and those in which some form of dystocia may be anticipated. That being admitted, all I am really urging is that the cases in the first group should be allowed to remain normal. A simple application of our preventive principle, but profoundly far-reaching in its results.

This brings me to the next point. It has been shown more than once that the maternal mortality is less in the practice of competent midwives than in the hands of general practitioners. Granted that the figures adduced in support of this claim can be challenged on some points of detail, and admitting that the nurses' figures deal with cases in the main uncomplicated, yet the comparison is very striking when one considers that, so far as normal cases are concerned, the main difference between midwives and doctors is that the former cannot interfere instrumentally with the natural course of labour. Septic infection is easily the

greatest cause of maternal mortality, and equally the greatest risk associated with instrumental interference, and it seems obvious that, as has been laboriously demonstrated by Geddes and others, the doctor engaged in general practice, especially in industrial areas, is in this respect a potentially greater danger to the parturient woman than a trained, competent, and properly supervised midwife whose practice does not bring her into frequent contact with virulent organisms.

Experience in some large practices and considerations such as we have been discussing suggest that no slight advantage might follow the adoption of the plan of handing over a larger proportion of normal cases to the care of carefully chosen competent midwives. An essential condition of this would be that every pregnant woman should see a doctor at least once or more during her pregnancy, and should receive adequate ante-natal examination and supervision, as well as a subsequent post-natal examination. The separation of those in whom conditions are perfectly normal throughout pregnancy, and in whom labour may be expected to be normal, from those in whom there are existing complications or conditions likely to lead to difficulty in labour, can and ought to be made only by a qualified medical practitioner. But with this proviso the plan offers certain advantages. It would avoid the ever-present temptation, to which medical men and women are exposed, of hurrying a delivery because of other calls upon their time, and would thereby secure a considerably larger number of normal spontaneous deliveries. In the second place, it would, if our reasoning is correct, lead to a diminution in sepsis through the diminution in instrumental interference. In the third place, it would relieve the medical practitioner of a great deal of work that is often irksome and harassing, as well as physically exhausting, and would give him more time and leisure to study and to interest himself in the cases which present pathological features.

When we come to consider how best to deal with the second group of cases, in which difficulty is to be anticipated, we find ourselves facing one of the complexities of any such remedial schemes. Logically and, I believe, actually, complicated cases occurring in general practice can be much better dealt with if the patient is placed either in a maternity hospital or in a nursing home where the conditions are suitable for operative intervention. This brings us at once to the all-important point that an increase in the provision of maternity hospital accommodation is an urgent necessity throughout the whole country. But, if pressed to a logical conclusion, this plan would in many cases mean that the family doctor would have almost no midwifery to do. Many doctors would be greatly relieved at such an outcome, but others who are interested in midwifery would feel aggrieved. This is one of the points which require careful consideration, but in considering it let us not lose sight of the big general principle that complicated obstetric cases are in the same category as surgical operations, and obstetric operations are no more suited for performance in the average conditions of general practice than are such surgical operations. Where circumstances permit the family doctor to do his own surgery, then presumably they would also allow of his doing his own difficult midwifery, but where either the inclinations, skill, and experience of the doctor, or the conditions in which he practises, are adverse to his undertaking surgery, then my contention is that they should be accepted as equally adverse to his undertaking difficult midwifery.

Another proposal, which has received support from Professor Munro Kerr among others, involves again the establishment of maternity hospitals in all large centres of population, and maternity departments in existing hospitals in smaller centres, and also the establishment of an official maternity service ramifying from these centres over the whole country. From the point of view of obstetrics alone this is merely a further and more complete development of the plan which we have been considering. The maternity service would exercise practical supervision over all maternity nurses and midwives, and the scheme would include sweeping as many as possible of cases, both normal and abnormal, into hospitals. It would involve the appointment of obstetric specialists in an increased number who,

in the larger centres, might well be whole-time salaried specialists, while in the smaller centres such work would naturally devolve upon doctors engaged in other practice as well. Such part-time appointments would of themselves constitute a formidable difficulty in the harmonious working of such a scheme, and, however logical, admirable, and desirable it may be, the plan would, in my view, lead directly to obstetrics becoming wholly a specialty. I am not at all clear that this is a desirable solution, and I should personally regard with considerable reluctance any scheme which would deprive the doctor, who has a natural interest in obstetrics, of the opportunity of midwifery practice unless he was prepared to specialize wholly in obstetrics. Such a separation of obstetrics from the practice of medicine and surgery would, I think, tend still further to degrade the status of the family doctor in the eyes of the public, and, as Dr. Douglas has so ably shown in his recent Alexander Black Memorial Lecture,\* this is a very real danger. I would suggest that an adequate provision of maternity hospitals or maternity departments in cottage hospitals, where family doctors who wish to attend their own obstetric cases could do so under aseptic conditions conducive to the safety of the patients, provides a possible and suitable compromise; and there can be no doubt that the provision of more hospital accommodation and the general encouragement of women to enter hospitals for their confinements—although, in the case of small local hospitals, not necessarily to place themselves in the hands of specialists—would tend to raise the standard of midwifery among the profession generally.

The first scheme—of encouraging the handing over of normal cases in large numbers to the midwife, with the doctor exercising a general supervision and available at need—seems practicable, always provided it is associated with regular routine ante-natal and post-natal examination by the doctor. In a sense it is a reversal of the great struggle which the profession waged and won in the eighteenth century to remove midwifery practice from the control of the midwife. But the difference between the trained midwife of to-day, practising under the supervision of the doctor and the legal control of an active Central Midwives Board, and the ignorant, untrained, and uncontrolled handswoman of the earlier century, is so vast that I do not think such an apparent reversal of the evolutionary process would necessarily be a retrogression. All complicated cases would still come under the care of the medical practitioner, either outside or inside hospital, and in this way the profession, with, I am quite sure, the weight of an enlightened public opinion and the authority of the State behind it, would continue to hold complete control of the whole position.

These, then, seem to me to be two avenues opening before us, and along one or other of them, perchance in some measure along both, the future practice of midwifery is, I think, bound to develop, if we are going to make any serious effort to improve conditions. I do not think that either line of advance is wholly devoid of difficulties and disadvantages, and I do not wish to appear to be advocating either to the exclusion of the other. All I want to do is to lay the matter before the profession in the hope that it will give earnest consideration to it. We cannot afford to stand still, nor can we afford to advance blindly. We must consider the ground carefully from every point of view, and then advance along the line which promises best.

#### THE CONDITIONS OF PRACTICE.

The second side upon which the problem of maternal mortality is susceptible of improvement is in the conditions of practice. This is mainly a matter for legislative and administrative action, but the medical profession outside the official medical services must exercise effort to secure such action, and be prepared to offer skilled and experienced judgement to mould and guide it. As already said, the public must be made to realize that for the safety of the mother a confinement demands conditions comparable only with those which it is accustomed to associate

with a surgical operation. Nothing has done more in recent years to educate the public on this point than the economic and domestic conditions during and after the war, which made maternity nursing homes in many cases a necessity. Even from this educational point of view alone we do well, I think, to encourage patients to enter such homes. It is an interesting fact that maternal mortality is not necessarily or always at its highest in the poorest slums. The unfortunate denizens of those areas seem to be protected by Providence by a process of immunization through constant contact with dirt. But that does not alter the great principle involved: To my mind by far the best solution of this problem is to provide the necessary increase in maternity hospital accommodation, and then to encourage, or if need be seek powers to compel, every woman in such slum areas to go into a lying-in hospital for her confinement. If experience proves that it is not enough—to adapt in all reverence the words of the parable recorded by the Good Physician—"to go into the streets and lanes of the city and bring in the poor," then we must go further, as the Lord in the parable did, and "send out into the highways and hedges and compel them to come in."

In the next place there is the economic factor, as it touches the medical profession. The profession is not an organized system of philanthropy, and, despite the fact that our work affords us more opportunities of helping our fellows than fall to the lot of other professions—opportunities which one is proud to think are usually grasped—yet we have our full share of human failings. It is futile to expect in medicine, any more than in mining, that poorly paid work will be done as well as well paid work. Midwifery in industrial-class practice is not adequately paid, and we cannot hope to raise the standard of obstetric practice very much unless the public, individually or collectively through the State, is prepared to pay for it. This is an unpalatable statement to make, and it is usually for that reason neglected, but I believe it to be a fundamental truth of great importance in this connexion, and I am certain that it is an aspect of our problem that must be considered and remedied.

There are many other points on which I might touch in connexion with the conditions of practice, but I will conclude by saying that a general proposition to keep in view here is that we must welcome and not resent the co-operation of the official and administrative section of the profession in these matters. Without their help we cannot press home the attack along this line.

#### THE TEACHING OF OBSTETRICS.

This forms the third line of attack on our problem, and I will deal with it very briefly. If the general practitioner has been criticized in the discussions which have been proceeding in a more or less desultory way upon our main topic, the teacher of obstetrics has, of a truth, not escaped censure. I think and hope that we have not made the mistake of confusing criticism for abuse, but have taken the censure in the right spirit and have tried to apply it. Personally I have yet to meet the teacher of obstetrics who is satisfied with the present position. The main weakness, and the only one of which I propose to speak, lies in the limited opportunities available to the student for gaining practical clinical experience before he embarks on practice. The cause of this lies partly in the number of subjects which require to be crammed into a curriculum to which economic conditions put, in general, a time limit; partly in the fact that most teaching hospitals are engaged in training nurses as well as medical students, and a difficulty arises in making adequate provision for both. The obvious solution is the increase of the number of maternity beds available for teaching—a consummation towards which, you will observe, we come by all three lines of approach to our main problem. But until this consummation is achieved, and even afterwards, more stress should, I think, be placed upon what has been described as "an obstetric atmosphere." The naturally erratic incidence of deliveries in any maternity hospital removes the clinical teaching of practical obstetrics from any very fair or helpful comparison with the teaching of clinical surgery or clinical

\* See BRITISH MEDICAL JOURNAL, June 18th, 1927, p. 1120.



medicine. The main place for clinical obstetric training must be the labour ward, supplemented by the ante-natal department and the puerperal wards. To obtain the full advantage of his time and study the student ought to be free to devote his whole days, and as much as need be of his nights, to clinical midwifery along with clinical gynaecology. He ought to reside in the maternity hospital, so that he may indeed "live, move, and have his being" in an obstetric atmosphere. I entirely agree with Dr. Fairbairn's recent remarks at Glasgow as to the supreme educative advantage thus obtained. I am glad to say that in Edinburgh we have advanced towards this ideal as far as our present inadequate maternity hospital provision and our present curriculum permit. But I take this opportunity to point out that, if the great new obstetric and gynaecological department in the Royal Infirmary, to which we are all looking forward, is to prove the gain which it ought to be, ample provision for students to reside in it is a *sine qua non*. Furthermore, the curriculum must be altered. The conditions of practice at present are such that a newly fledged graduate is much more likely to be called upon to attend a complicated obstetric case than to perform a major, surgical operation, and public opinion expects, though to my mind quite unreasonably, that he will be fully equal to any obstetric emergency. Yet the time allotted to the vital study of clinical midwifery is approximately only one-third of that given to clinical surgery, and is practically the same as that allotted to venereal diseases, to tuberculosis, to diseases of the eye, or of the ear, nose, and throat, or even of the skin. Opportunities to alter the curriculum are few and far between; when the next one will occur I cannot forecast—they are generally preceded by volcanic rumblings in the General Medical Council, and of such I hear nothing at the moment. Meantime we must wait, like the man at the pool of Bethesda, ready to seize the chance of the troubling of the waters and press for the remedying of this source of weakness.

## CONCLUSION.

May I, in conclusion, summarize what I have been endeavouring to lay before you? My first point is that the whole position requires to be considered in broad outline and freed from questions of detail in treatment, which often only tend to obscure the big general outline of the situation. My second point is the need to apprehend fully the newer doctrine of the essentially preventive nature of midwifery practice. This embraces in the first place the doctrine of ante-natal examination and supervision; secondly, the supreme advantages of obtaining a natural labour wherever possible. As a corollary to this there is the urgent necessity of increasing maternity hospital accommodation for complicated cases and for women whose houses are unsuitable for even a normal delivery. In the third place, the consideration of midwifery from this preventive standpoint stresses the necessity of carrying out adequate post-natal care of the mother and the linking up of the work of the obstetrician with that of the pediatrician so that the child's life may be protected. The intimate relation of the work of venereal clinics with maternity work in this connexion needs only to be mentioned. In the next place there is an admitted need for fuller clinical teaching of medical students. Lastly I would repeat that if we are to make any real advance in regard to conditions of practice we must be prepared to welcome the assistance of the official administrative section of the profession. Without their help we shall be unable to move in these matters as we ought to do, and we must be prepared to give them the advice and guidance of our experience in the matter. If I may borrow a sporting metaphor, I would say that those of us who are engaged in the active practice of midwifery, and who are, so to speak, in the front line, must use our heads as well as our weight in the scrummage, and heel the ball out so that the executive back line may be enabled to carry it forward to the goal towards which we are all striving.

INDUCTION OF PREMATURE LABOUR IN  
RELATION TO MENTAL DISEASE.

BY

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At the Annual Meeting of the British Medical Association at Nottingham in 1926 a discussion took place on the indications and methods for termination of pregnancy before the viability of the child. The discussion, which was opened by Dr. T. W. Eden, is fully reported in the JOURNAL of August 7th, 1926 (p. 237). There is also a report in the JOURNAL of January 29th, 1927, of a joint meeting of the Medico-Legal Society and the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, held on January 21st, to consider the medico-legal and ethical aspects of abortion; this discussion was opened by Dr. Fairbairn.

In the course of the last twenty-seven years I have been consulted in a certain number of cases in which the question of terminating a pregnancy has arisen in connexion with mental disorder. I think it will be of interest to set out these cases in two groups: I, cases in which the pregnancy was allowed to continue; II, cases in which the pregnancy was terminated before viability of the child. I have given the cases in considerable detail from my case-books.

I.—Cases in which the Pregnancy was Allowed to  
Continue.

## CASE 1.

Mrs. A., aged 31; seen July 25th, 1900, with Dr. Lavies.  
*Family History.*—Uncle "nervous" and depressed; sister "nervous."

*Previous History.*—Much trouble and strain from illness in family. Married in 1897. "Hysterical" the day before marriage; also shock of brother's death by accident six weeks after. A child was born in 1898; no breakdown after, but did not nurse child. In October, 1899, had a miscarriage. In the winter of 1899 her husband was ill with phlebitis for three months; she refused to have a nurse for him and became much run down.

*Present Attack.*—In July, 1900, she was sleepless and excited

and gradually developed acute mania. She remained at home with nurses. On August 12th Dr. Lavies reported a suspicion of pregnancy, as she had missed one menstrual period. After a short improvement she became much worse and had to be certified. She was placed under care at the Priory. In November her physical condition had much improved; catamenia still absent and so there was a strong suspicion of pregnancy, although, of course, cessation of periods is a common symptom in such acute cases. In January, 1901, she was still maniacal, but there was no doubt as to pregnancy. In April she was advanced in pregnancy, was still incoherent and jocular, but was not so excited.

She gave birth to a child on April 9th, while still under care. There were no bad symptoms. By August she had steadily improved mentally, and in September was quite recovered.

In this case there were no indications that the patient's life or recovery was endangered by the pregnancy, and it was left to run a normal course.

## CASE 2.

Mrs. B., aged 30; seen December 4th, 1909, in consultation with Dr. F. D. S. Jackson and Dr. (now Sir) M. Craig.

*Family History.*—Sister committed suicide.

*Previous History.*—Had been married five or six years and had had two miscarriages. Had been living apart from her husband for two years, and he was not supporting her, but occasionally visited her. Two years before had had right salpingitis; no operation was done. Recently her sister had shot herself just after returning from America with the patient. This was a great upset to her; she was very depressed, said she had nothing to live for, told her doctor she was going to shoot herself, and also that her husband had forced his way into her flat and had overpowered her, and that she was in the family way. She was sleeping badly, constantly imagined she saw the future child with a wound on its head, the same as she had seen in her sister's forehead. When seen by an obstetric physician, who thought she was pregnant, she said, "That decides it." She was crying all day and sleeping very little; said she would end it and would not have the child; could not bear it, and could not go through with it. She refused to have her relatives or her husband told. The question of premature labour was raised.

On examination she was agitated and depressed, said she would be an "absolute ass" to live under the circumstances; felt certain her child would be marked by a wound; declared that her husband, who had not seen her before for two years, "forcibly overcame" her about two months ago. Said if she had a child her husband would never leave her alone, as he generally did. Wondered why she had not already committed suicide; thought herself a sentimental fool not to have done it because of her brother and sister. She could not go on with her work (journalism). She spoke of having been to a woman for abortion, but nothing had been done.



This seemed to be a case in which the continuance of pregnancy might be associated with a very severe attack of melancholia, with great risk of suicide, and therefore premature labour might be justifiable. There was, however, the question of the husband's legal position. It was decided to watch events. Shortly after this the patient wrote saying that she had thought over the matter further, and was very thankful to us for talking to her, and that she had now decided to let the pregnancy go on.

## CASE 3.

Mrs. C., aged 22; seen January 22nd, 1910, with Dr. Arthur Gervis.

*Previous History.*—Had been "run down" and neurasthenic for some time before her marriage, and on December 22nd, 1909, had written in her diary, "I do not think he is the man for me." On the morning of the wedding (December 23rd) she ran away to a friend's house for protection. Her mother fetched her back and the marriage took place by licence. Her husband went to West Africa after a short honeymoon. On the morning of January 13th, 1910, she attached a rope to a pipe in the bathroom, made a noose round her neck, and suspended herself out of the window 60 feet from the ground. The rope broke and she fell, and sustained a fracture of the left femur, of the pelvis, and anterior fossa of the base of the skull. The next day she said God had never meant her to marry, that no man could supply her ideal, and that God had intended her to commit suicide. A catheter had to be passed, and it was found that the marriage had not been consummated. She was treated at home, at first being in splints and under constant supervision. Later the patient improved; she went first to Westcliff, and then to Las Palmas to meet her husband on July 2nd, 1910. She then demanded intercourse and said she wanted to have a baby. In August, 1910, the husband said she was "extravagant" in her love for him, and that he thought her "sexually mad." She was not now depressed, but would sing for hours. She began to be exalted and excited, with frequent desire for intercourse; wished "a man was built like a horse," and became extravagant about money. She was clamorous to have a child, although examination had shown contraction of the pelvis. In October she had to be certified, and went to Chiswick House. She gradually improved, and was discharged in May, 1911. She returned to her husband. In August, 1911, she was found to be pregnant, and was recertified for Chiswick House in consequence of return of excitement and eroticism. It was decided to let the pregnancy continue, and in January, 1912, she was transferred to single care greatly improved mentally. Caesarean section was successfully performed by Dr. Mary Scharlieb on January 22nd, 1912, and a living female child removed. In March she was discharged from certificates as recovered. Subsequently she had to be put under care again. The manic-depressive attacks make the prognosis for the future very grave.

In this case there appeared to be no special danger to the mother's life in the continuance of the pregnancy, except for the fact that delivery could not take place through the pelvis.

## CASE 4.

Mrs. D., aged 34; seen January 11th, 1914, in consultation with Dr. Walter Griffith.

*Family History.*—Mother died in confinement, sister died in confinement (? after induction of labour); another sister died during pregnancy.

*Previous History.*—The patient has contracted pelvis. Is pregnant about four to five months for the first time. Has not been told the state of her pelvis.

*Mental State.*—She is depressed; says she is quite sure she is going to die, and that if God Almighty told her she would be safe she could not believe it; feels she would "give herself up to die" if the pregnancy went on. Has the greatest horror of childbirth, is constantly depressed and cannot shake it off; feels she shall "let herself go" and will not trouble to keep her health up. It is a perfect nightmare to her; dreams about it and wakes up in perspiration with fear. The very thought of a child inside her makes her feel as if she were going off her head. Thinks she will die of fright before the confinement. Is worried by the family history.

She was placed under care in St. Bartholomew's Hospital and her general health and mental condition improved. She gradually regained confidence. Labour was induced in the middle of the ninth month, a female child was born, and the patient became quite happy nursing it.

## CASE 5.

On August 21st, 1916, I was consulted by Dr. Collinson of Preston, who had been referred to me for a further opinion by the late Dr. R. H. Cole as to the case of a lady, aged 32, who was about two or three months pregnant.

*Family History.*—Father alcoholic, died at 45. Mother neurotic. Maternal uncle insane. One brother insane and another committed suicide. There was also a had family history on the husband's side.

*Previous History.*—From the age of 19 to 24 she had been in a "sanatorium" before marriage. She had four children, the eldest aged 5 years and 10 months, the youngest a boy born April 8th, 1916. Labour was then natural; she did not nurse the child. She last menstruated on May 28th. She then became pregnant again, about two months after the birth of the child. There was no mental or nervous illness in former pregnancies.

*Present State.*—With this pregnancy she had become restless and anxious, and afraid to go on with it. The husband was afraid that this pregnancy might unbalance her and that the child might be mentally weak. Dr. Cole had seen the patient and did not notice any special nervous symptoms, and her general health was good. It was said that before marriage a surgeon and a physician expressed the opinion that in view of the bad inheritance she ought not to have children. But she had had no mental disorder in any of her former pregnancies or labours.

After full consideration it was decided that there was not sufficient justification for interfering with the course of the pregnancy. As she had previously had four children the question of inheritance could not be specially considered in relation to the present pregnancy.

## CASE 6.

Mrs. E., aged 35, seen January 29th, 1927, with Dr. Burford and Dr. Clarke.

*Previous History.*—No previous mental disorder. She married in July, 1926. Last period August 2nd. Vomiting began on September 10th and continued unrelentingly till Christmas. There was also acetoneuria, but no albumin or sugar. Mental symptoms of the confusional type began as the vomiting ceased, and had continued up to date; sleep deficient, attention defective; answers to questions foolish; takes food well; no incontinence; no great excitement, and no suicidal tendency. A serious complication had, however, arisen in loss of power in both legs, with wasting of muscles and contracture of thighs and knees, the attempt to straighten which caused pain. The knee-jerks were deficient, the plantar reflex flexor; there was no loss of sensation, and no loss of control over bladder or rectum. She had been found to have retinal haemorrhages and retrolubular neuritis, and the opinion had been given that she had toxic myelitis. There was some aphonia.

Dr. Eden had seen her and gave the opinion that it was not desirable to induce premature labour from the obstetric point of view.

From the mental point of view there seemed no reason to induce premature labour, as the vomiting had ceased, she was taking food well, and there seemed no reason to doubt that she was improving mentally and in general health.

The remaining question was as to whether, if the pregnancy was allowed to continue, the condition of the spinal cord and nervous system would be detrimental to her life or might lead to permanent paralysis. The opinion of Dr. (now Sir F.) Buzzard was taken on this point, and it was decided to allow the pregnancy to continue.

The patient was delivered of a stillborn child at full term. The placenta was found to contain infarcts, due to thrombosis of the foetal arteries and not to endarteritis, but probably due to some toxin damaging the endothelium, but with no evidence as to cause. The pathological report was made by Dr. Wilfred D. Newcomb.

Eventually the patient steadily improved both physically and mentally, and was able to return home to her husband in South Africa.

## CASE 7.

Mrs. F.; seen June 17th, 1927.

*Family History.*—Three brothers broke down mentally. One died under case; one committed suicide.

*Previous History.*—Has had four children; delivery always under an anaesthetic, but has never been mentally ill. Youngest child aged 2 years. Did not nurse the children.

*Present Condition.*—Pregnant three months. Looks robust. Says she is an "ordinary woman" physically. Has always had a terror of the pain at confinement, and a fear that the doctor would not arrive in time. Feels she has not the mental or physical strength to go through it, but does not fear anything except the pain. Always works hard; feels she does not want any more children. She had recently moved to another locality, and was advised to choose her new medical attendant and let him watch her progress.

In the first group Case 1 shows how acute insanity may run its course during the whole of pregnancy and be recovered from, and how pregnancy may be masked by the fact that cessation of catamenia is a frequent occurrence in acute insanity. When it became evident that the patient was advanced in pregnancy it seemed justifiable to allow it to continue.

Case 2 shows the advantage of deliberation and time for reflection in a patient who at first sight seemed to be in danger of a severe attack of melancholia with suicidal intent.

Case 3 was one where neither the husband nor the wife desired termination of pregnancy before the child was viable, and fortunately her improved mental condition allowed Caesarean section to be performed.

Case 4 at one time seemed likely to go down hill, but, like many cases of insanity in the early months of pregnancy, recovered before full term.

Case 5.—In view of a previous history of normal labours there was no justification for terminating pregnancy.

Case 6.—In this case the patient was nearly six months pregnant when first seen. There was the complication first of severe vomiting and then of toxic myelitis; but when seen her mental condition did not suggest irrecoverability.

and she was in no way dangerous to herself or others. Eventually she was delivered of a stillborn child at full term.

Case 7.—There seemed to be no justifiable reason, physically or mentally, for terminating the pregnancy. There was no doubt that "res angusta domi" had some influence in the desire for abortion, and this could not be held sufficient reason for it.

## II.—Cases in which Pregnancy was Terminated.

### CASE 1.

Mrs. G., aged 30; seen November 17th, 1903, with Dr. Wethered.

*Family History.*—Mother insane, one child idiotic.

*Previous History.*—Three and a half years ago, and before the birth of the fifth child, she had become depressed and apprehensive that the child would be an idiot-like the other; after its birth she was depressed and then excited. She recovered, but was inclined to depression and irritability since at each period.

*Present Attack.*—Three weeks previously the period did not come on, and before this she was excited and threatened to cut her throat. Her mother had broken down and had gone to an asylum about two months before, and patient had visited her there and was much upset, and crying. On November 13th she tried to get a razor and to burn herself at a gas fire, and rushed to the dining room to get a knife. On examination she was depressed, saying that she "could not face it," that one child was imbecile, that she could not live if she were pregnant, and threatened suicide. She was also upset about her mother's insanity. In this case it was evident that if pregnancy continued her life would be in danger from suicide, and accordingly the pregnancy was terminated and a two months' foetus removed. She made a good recovery.

### CASE 2.

Mrs. H., aged 46; seen May 31st, 1905, with Dr. Howard Tooth and Dr. Walter Griffith.

*Previous History.*—The patient and her husband had postponed marriage for some years, hoping that the time would pass when she might become pregnant, and married hoping she would not have children. Two years before she had been rather "queer" after influenza. Had always dreaded pregnancy "because of the lines in her hand." A friend had become insane, and the patient dreaded the same in her own case. She married in December, 1904, and when seen was four months pregnant. She had been vomiting, and when told she was pregnant said she could not go on with it. She became "quite uncontrollable," constantly speaking about the friend's insanity and dreading the same result.

When seen she was lying with her eyes shut clutching at the bedclothes, complaining of a creeping sensation in her head, and as if her brain were balanced on a small area and very little would upset it. Thinks she will become imbecile if she has a child. Does not want to live, but does not threaten suicide. Later she had three convulsive attacks and hysterical paraplegia. She became more depressed and confused, and in view of the physical and mental condition it was decided to terminate the pregnancy. She afterwards recovered.

### CASE 3.

Mrs. I., aged 24, first seen April 9th, 1908, with Dr. R. J. Walker.

*Family History.*—Brother alcoholic and delirious.

*Previous History.*—Always rather unstable. Her first child was born on March 15th, 1908. During the whole of the pregnancy she had vomiting after every meal and had constipation. Labour was easy. Had much pain in the breasts, and so breast feeding was abandoned. She began to be sleepless, depressed, and suicidal, and passed through an attack of puerperal melancholia, from which she recovered.

After the former attack she became pregnant again in 1909, and premature labour had been induced. A year before she had measles, followed by an attack of melancholia which passed off. Seen again on November 1st, 1911, in consultation with Dr. Barker and Dr. Hey. She was now two months pregnant, and suffered from constant vomiting "night and day" associated with great depression and sleeplessness. The vomiting was said to be worse than in the first pregnancy; she prays to God to take her, and hopes she will not live; dreads breaking down and being put under care. Dr. Gow had been consulted about terminating the pregnancy. In view of former attacks of depression and the return of vomiting, and the probability that more severe mental disorder was likely to follow if the present pregnancy were allowed to continue, the opinion was given that it would be right to terminate it.

### CASE 4.

Mrs. J., aged 27; seen January 18th, 1911, with Dr. Munkintosh.

*Family History.*—Father had melancholia and shot himself. Mother died of chronic alcoholism.

*Previous History.*—Had been married four and a half years; had two children, a boy aged 3½ years and a girl 10½ months. The first labour was difficult; she nursed the child for three weeks, then became depressed and suicidal, but recovered. The second labour was easy; she did not nurse the child. She again became depressed and suicidal, was ill for about five months but recovered. Had only been back at home since August.

*Present Attack.*—Pregnant about three months, as confirmed by Dr. W. Griffith. Patient much upset at the idea of being pregnant; had been sleeping badly and was agitated. Dreads breaking down again with depression, and feels certain it will occur and that it will be worse this time. Has lost 9 lb. in weight.

In view of the previous attacks it seemed justifiable to terminate the pregnancy, which was done. Dr. Griffith removed the uterus and contents.

### CASE 5.

Mrs. K., aged 25; seen in consultation with Dr. (Sir M.) Craig, February 10th, 1911.

*Previous History.*—Married at 18. Was ignorant about marriage, and from the first "loathed" it and began to dislike her husband. One child born in 1908. During that pregnancy had block of left ureter and was under Dr. Williamson and Mr. Pardoe. Labour was induced at the eighth month. Had albuminuria for months after confinement. Was physically run down and had periods of depression, and took a dislike to the child. In 1909 she had delusions and thought imps and devils were sitting round her; contemplated suicide, and in the autumn of 1910 made an attempt with drugs. She recovered.

*Present Illness.*—Became pregnant again two and a half months ago. Began to sleep badly and to have "terrors"; dreaded the pregnancy and threatened suicide; loathed the idea that there was something inside her, "put there by someone she hated." Said she was going to perdition and would never recover; that she was going to "make her bow and depart," and that it would be kinder to her husband and everyone else. She dreaded a return of the kidney trouble. Considering her former attack of depression, the kidney trouble, and the present recurrence of depression, the opinion was given that the uterus should be emptied.

### CASE 6.

Mrs. L., aged 25; seen January 21st, 1914, in consultation with Dr. Chambers and Dr. Comyns Berkeley.

*Family History.*—Father died of some malignant disease; no insanity in family.

*Previous History.*—Had had two children; the first died aged 2½; a second child was living aged 1½. The confinements were normal and no mental disorder followed. The first child had died of tuberculous meningitis. After the second confinement the patient had an abscess in the armpit, followed by a succession of abscesses. She was seen by Mr. Watson Cheyne, and had vaccine treatment. She was ill altogether nine months, was much pulled down, and made up her mind she would never have another child.

*Present Condition.*—Pregnant two months. Dr. Comyns Berkeley did not feel justified in advising termination. In November she had become pregnant, and at once became depressed and spoke of suicide. Sat all day silent and gloomy, and took little food and had little sleep; felt convinced the child would not be normal; said she did not care what happened to her. The opinion was given that if the pregnancy continued she would have a bad mental attack and might commit suicide. The pregnancy was terminated and she recovered.

### CASE 7.

Mrs. M., aged 33; seen November 19th, 1918, with Dr. Stevens.

*Family History.*—Four members of her family, including one brother, have been insane and three others "nervous." Was a Russian, and the family had been ruined by the revolution.

*Previous History.*—She was musical and artistic, and had dabbled with Rosicrucianism and "magic." She married in November, 1917; her husband was a widower, aged 46, and was in the navy.

*Present Condition.*—Pregnant two or three months; she dreads having a child and wants to commit suicide; feels incapable of having a child; thinks it is too like an animal or a frog; vomits when she thinks about it; feels like a doomed thing and like a prisoner who will die, that this is her end, and that she is between life and death.

It was agreed that continuance of the pregnancy would eventually result in a severe attack of melancholia, and that she might commit suicide. The pregnancy was terminated.

### CASE 8.

Mrs. N., a Swede, aged 30; seen February 14th, 1921, with Dr. Wyatt.

*Previous History.*—Has three children, eldest 4½, youngest 1½. Last child born October, 1919; after confinement had puerperal sepsis. The uterus was scraped out and she recovered, but at Christmas, 1919, had rheumatic fever, after which she became depressed, was taken to Sweden, and there passed through a bad confusional attack which had left a blank in her memory. She returned to England in September, 1920, apparently recovered, but was weak and unable to manage her house. In January, 1921, was depressed, but found to be pregnant again. Was said to have been for three weeks "very ill in her mind," spoke of going away and never coming back, was irritable and restless and sleeping badly, and sometimes desiring to commit suicide.

*Present Condition.*—She complained of being "nervous" and depressed, dreaded another attack, recognized that in 1920 her "mind was quite away" and she had been in a mental home in Sweden; was emotional and weeping. It was agreed that there was great risk of another mental illness if pregnancy was continued, and it was terminated.

### CASE 9.

Mrs. O., aged 30; seen June 18th, 1921, with Dr. Bevan.

*Family History.*—Sister broke down mentally after hysterectomy and early menopause.

*Previous History.*—Has had three children; was quite well after the birth of the first. The second child was born in 1916, after which there was an attack of melancholia lasting four or five months. The third child was born in January, 1919; there was much haemorrhage and (?) inversion of the uterus, followed by a

second attack of mental depression associated with lactation. The husband had been warned against further pregnancies.

**Present Illness.**—Now pregnant about six weeks. Became depressed again, spoke of "frightful forgetfulness" and of having a blank spot in her memory.

In view of the two previous attacks of melancholia, the complication at former confinement, and the apparent beginning of another attack of depression, it was decided that the pregnancy should be terminated.

## CASE 10.

Mrs. P., aged 35; seen November 17th, 1924.

**Family History.**—Two sisters had been under care for mental illness but recovered.

**Previous History.**—Has had two children. Had been much concerned about husband's money difficulties. Had been depressed since June. Recently had tried to poison herself by gas in a bedroom, but promised not to make further attempts. Had been, however, allowed to sleep in a room alone in a friend's house, and one morning had precipitated herself from the bedroom window, sustaining fracture dislocation of the right ankle, dislocation of the left elbow, a scalp wound, and concussion. She was treated in a nursing home for the surgical troubles, concurrently with which she passed through a severe attack of mental disorder, part of the time being confused and delirious with rise of temperature, and part of the time deeply melancholic with thoughts of suicide. Late in December, when she had sufficiently recovered surgically, Dr. R. H. Cole and I saw her in consultation with Dr. Hill, and came to the conclusion that she should be certified. The husband, however, objected to this, and as the patient expressed her willingness to go under care as a voluntary boarder she went thus to a private mental hospital. She was quickly found to be unfit for voluntary treatment and was certified. Subsequently she recovered sufficiently to be discharged as "relieved" at the end of July, 1925.

In December, 1925, she became pregnant again. In view of the previous severe and dangerous attack of mental disorder there was no hesitation in giving the opinion that the pregnancy ought not to be allowed to continue.

With regard to the second group, it may be said that in each case the question of the health of the mother was the primary factor, as in all these cases the child was not "viable."

I agree with the views expressed by Dr. Fairbairn at the joint meeting of the Medico-Legal Society and the Section of Obstetrics of the Royal Society of Medicine, that only purely medical considerations should be allowed to weigh in deciding as to termination of pregnancy.

It is interesting to note the views expressed by legal authorities in the discussion of January 21st, 1927.<sup>1</sup> For instance, Lord Riddell is reported to have said that "induction was not only justifiable, but a duty when the pregnancy indicated grave danger to the mother's health, whether the result was likely to be permanent or not."<sup>2</sup> Sir Travers Humphreys said the practitioner "was not entitled to let anything weigh with him except the health of his patient—her medical welfare as distinct from her social or economic welfare."<sup>3</sup> Earl Russell is reported as leaning to the German view which Lord Riddell had quoted, "in which it was insisted that the foetus was not yet an independent human being, and that every woman, by virtue of the right over her own body, was entitled to decide whether it should become one." Mr. Justice Salter, in summing up the debate, is reported as having said that if abortion were ever sanctioned outside the medical area—in the interest of eugenics, for example, or for economic, social, or personal reasons—he would have great fear that within the medical area there would arise a large class of pliant doctors who would be easily persuaded that there were sufficient medical reasons in a given case. He was certain that if it were ever proposed to extend the liberty of abortion, the spirit of unswerving opposition would arise again as it did in the attitude of the early Christian Church towards abortion.

In the *Journal of Mental Science* for July, 1927, is published a paper by Dr. J. R. Lord, President of the Royal Medico-Psychological Association, on the induction of abortion in the treatment and prophylaxis of mental disorder. He concludes that the only morally sound reasons for inducing abortion are medical: (a) to preserve life, (b) to alleviate or cure serious physical or mental illness, or (c) to prevent serious ill health, physical or mental, whether permanent or temporary.

The cases I have recorded seem to me to be of importance as showing the questions which have to be taken into consideration in each case as it arises.

## THE TREATMENT OF "TENNIS ELBOW."

BY

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THERE is probably nothing which brings the surgical profession into greater discredit at the present time than its inability to cure a "tennis elbow." The condition is extremely common, and so helpless have we been in its treatment that most sufferers now never consider consulting a medical man at all. For while we have been gravely considering what may be the pathology of so curious a condition the osteopaths and non-medical manipulators have been curing the patients in hundreds. Let us neglect pathology and consider what we really know about it clinically.

In the first place it is almost confined to tennis players, golfers, and workers in certain trades which involve the constant use of a hammer.

Secondly, the onset of the condition is insidious; there is seldom a history of any sudden strain or accident.

Thirdly, the patient can commonly do anything with his arm without pain except the particular exercise with which the pain is associated. On the other hand, during the acute stage at any rate, a patient may suddenly bungle some perfectly simple action owing to his accidentally getting his arm into the position which produces the pain. A favourite trick of this sort is to drop a tea-cup when reaching out the hand to take it from a tray. Indeed, the action of holding a tea-cup will often produce the pain of tennis elbow, and the fact is of help in making a diagnosis.

Fourthly, in the acute stage, which may come on rather suddenly and in which the patient simply cannot hold a racket at all, there is a very strong subjective sensation that "something is out of place."

Fifthly, all these symptoms are present without any physical signs adequate to explain them. This represents only a superficial point of view and is not strictly true. I shall return to it later.

Finally, the condition is frequently cured by non-medical manipulators by some form of forcible manipulation. The test of cure is that the patient can play tennis without pain, or with only a feeling of soreness quite different from the incapacitating pain.

These, I think, represent the generally recognized facts; at any rate they were the facts known to me when I first began to take a special interest in the subject. I happened at this period to come across a number of cases in a short time. I found in all the recognized tender spot, which varied in position but was usually just above or below the external epicondyle, and, as had been described before,<sup>1</sup> that the pain was often produced by complete flexion of the wrist and fingers; also that on superficial examination all movements were complete. When, however, I specially examined combined movements, this was not the case. Frequently, for example, with full pronation combined with complete wrist and finger flexion the elbow would not come perfectly straight, or if it did come straight there was a distinct feeling of resistance and the process was painful. This is, of course, a complicated movement, but a similar movement of the opposite limb was free and painless. This fact, together with the known frequency of cure by forcible manipulation, strongly suggested that forcing the restricted movement might bring about the desired result. My first case was rather dramatic. The patient was a big strong man, and I insisted on an anaesthetic. Under nitrous oxide I wrenched the arm as follows: with the wrist and fingers flexed and the forearm fully pronated I forced the elbow into hyperextension, making at the same time firm pressure with my left thumb over the tender spot by the external epicondyle. There was a snap like a pistol shot and the horrified anaesthetist insisted that I had broken the arm. The cure was as dramatic as the manipulation. It was a long-standing case and had never been very severe, but the patient assured me that for the first time for many years he was able to take a hard back-hand volley without pain. Further experience has shown me that there is not always so loud a noise,

## REFERENCES.

<sup>1</sup> BRITISH MEDICAL JOURNAL, January 29th, 1927. <sup>2</sup> *Ibid.*, p. 183. <sup>3</sup> *Ibid.*, p. 183.

but in every caso I have felt a click or snap which, though perfectly obvious to the hand, was not always audible. In recent cases it is little more than the feeling of something giving way.

I have performed this manipulation both with and without an anaesthetic, and so far have not had a failure. This does not mean that I have manipulated every patient who came to me thinking he had a tennis elbow, for in some of them I could not satisfy myself of the diagnosis. But all those who had the physical signs detailed above (and they were by far the greater part) were cured by the manipulation I have described. In all cases a short nitrous oxide anaesthetic is preferable, and in chronic cases I believe it is essential. The manipulation is painful, and few patients will allow one to use the force necessary to cure a chronic case, where presumably the adhesions are firm. As regards after-treatment I believe that none is necessary. A few days' rest from tennis may be indicated if the elbow is sore from the manipulation, but otherwise the sooner the patient returns to the game the better. The need for prolonged after-treatment would suggest to me an incomplete manipulation.

While the hypothesis of "adhesions" will explain many cases it is difficult to fit it in with some acute cases. I recently saw a well known player on the first day of an important tournament. He said his elbow had "gone out"; he could not hold a racket, and he had to compete again during the afternoon. I found exactly the physical signs described above, and on manipulation, which caused severe pain, there was a definite click under my thumb. He got up, tried his arm, and said it "had gone in again," and he played through the tournament with a sore but useful elbow.

Now "adhesions" cannot come on suddenly like this, and one is compelled to conclude that something is out of place. If so, may it not be the same thing in the chronic cases also, and that the malposition has become fixed by adhesions? The whole condition presents many similarities to that of a semilunar cartilage in the knee. Here, however, we have no semilunar cartilage, but we have a very unusual type of joint. The head of the radius is necessarily very loosely attached to the orbicular ligament to permit rotation, and it is possible that a part (possibly a torn part) of this ligament may occasionally slip between the head of the radius and the capitellum. This would interfere with extension just as displacement of a semilunar cartilage interferes with extension of the knee. Another curious analogy is that the successful method of treatment which I have described above is almost exactly similar to the method of reducing a displaced semilunar cartilage so ably developed by Sir Robert Jones. If we consider pronation in the forearm to correspond to internal rotation of the leg the analogy is almost complete.

#### Conclusions.

1. The majority of cases of "tennis elbow" present characteristic symptoms and physical signs.
2. These cases can be cured by the simple manipulation described above, preferably carried out under nitrous oxide anaesthesia.
3. The pathology of the lesion is uncertain, but it is suggested that in acute cases a portion of the orbicular ligament may slip between the radial head and the capitellum.

#### REFERENCE.

<sup>1</sup> Fisher: *Manipulative Surgery*.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### OPTIC NEURITIS AND SPHENOIDAL SINUSITIS.

HAVING read the illuminating discussion on optic neuritis published in the *BRITISH MEDICAL JOURNAL* of November 12th, and having remarked the scepticism concerning sinus infection as a cause of optic neuritis, I was prompted to record the following case as an example of a frankly rhinogenic optic neuritis.

Miss X., aged 24, was admitted to the General Hospital, Birmingham, on November 27th, 1926, complaining of morning nausea and vertigo of twenty-one days' duration, frontal headaches of increasing severity and of fourteen days' duration, and sudden partial loss of vision in the right eye since three days previously. The latter symptoms coincided with a paroxysmal increase in concurrent symptoms. Except for measles as a child, and a chronic nasal catarrh during the past few years, she had enjoyed quite good health.

Routine clinical examination revealed no abnormality in any system except the ocular. A leucocyte count, however, showed slight increase—that is, 12,400. The visual acuity was: right eye, 6/8; left eye, 6/6 partly. Perimetry demonstrated slight narrowing of the temporal half of the right field of vision. The left visual field was normal. Both fundi presented engorged veins and very full arteries with a well marked light reflex. Haemorrhages were freely scattered about, some around the disc and many extending far out into the fundus; they issued from engorged venules. Papilloedema of the right disc was remarked to the extent of 4 diopters, whilst the left disc exhibited an area of oedema on its nasal half. No retinitis was noted. X rays could show no abnormality of the nasal sinuses, and no evidence of increased intracranial pressure.

Under expectant treatment the visual acuity improved almost to the normal, and the papilloedema subsided.

#### Operation on Sphenoidal Sinus. Recovery.

From time to time exacerbations of headache and photophobia occurred, and each exacerbation was accompanied by increased nasal catarrh and fresh crops of retinal venous oozing. At the end of six weeks Mr. Musgrave Woodman removed a septal spur on the left turbinate, which prevented good access to the sphenoidal sinus. The left sphenoidal sinus was then found to be enlarged and heavily infected, containing thick flakes of pus. The right sphenoidal sinus was small and was slightly infected. From the pus a feeble growth of pneumococcus was obtained and an autogenous vaccine made.

After the radical treatment no fresh haemorrhages were remarked, the headaches cleared up, and in three months, when she was examined, the fundi looked quite normal.

I wish to express thanks to Dr. K. Douglas Wilkinson for permission to publish this case.

In this case of severe optic neuritis a very definite focus of infection was demonstrated in the sphenoidal sinus, and, although subjective eye symptoms cleared up with expectant treatment, objective eye signs still remained, along with subjective symptoms due to sinus infection. Operative treatment effectually dealt with the infection, and the patient was in perfect health three months afterwards. Had she not undergone operation I am very much inclined to believe that she would have led a miserable existence for years, suffering from time to time a recrudescence of eye symptoms due to an intermittently recurring flare-up in the nasal sinuses.

A. C. REES WALTON, M.B. Birm., M.R.C.S.,  
General Hospital, Birmingham.

#### WIRE BRISTLE IN THE BOWEL.

THE early history of this case led to the patient being unjustly suspected of bringing his trouble on himself.

During the night of September 20th-21st, a boy, aged 14, had colicky pains referred to the region of the umbilicus. He confessed to having feasted on green apples on the previous night; his mother administered castor oil, but without result. On the morning of September 22nd, no movement having taken place and no flatus passed, an enema was given. The bowels moved one hour later. In the afternoon colicky pains recurred and retching, which had been present during the night, gave place to vomiting. The vomited material was black and very foul smelling. The temperature had risen to 99.8° F. and pulse was 142. The hernial openings were closed, no tumour could be felt, and the rectum was clear. There was fluid dullness in both flanks. Laparotomy was decided upon.

The abdomen was opened by a right paramedian incision. Distended loops of small intestine presented through the wound. Examination by hand revealed a constriction near the caecum, and this portion was delivered. A piece of wire was found piercing the ileum and passing into an appendix epiploica on the caecum, pinning another loop of ileum between. On removing the wire the obstruction was relieved immediately. The bowel and mesentery seemed viable. The peritoneal exudate was not evacuated and the wound was closed in layers without drainage.

On September 23rd the abdomen was distended, but flatus was passed after the administration of a dessertspoonful of liquid paraffin every hour, and 0.25 c.cm. of pituitrin every half-hour, for two hours. Distension was present on September 24th, but the bowels moved after three doses of 0.5 c.cm. of pituitrin given hourly. Since then convalescence has been uninterrupted.

The piece of wire measured 1 5/16 in., and was identical in appearance with a wire bristle from a pot cleaner. The patient's mother thinks that the wire must have been swallowed with porridge, but the patient has no recollection of having done so.



Mr. J. Anderson, D.S.O., F.R.C.S.Ed., of Dundee, gives me permission to mention the following case.

"In 1914, Miss S. was sent for consultation with a diagnosis of subacute appendicitis. The pain was confined to the right iliac fossa, and clinically, in all respects, resembled lesion of the appendix. Laparotomy was performed two days later. The appendix was found normal, but, on investigating the abdomen, omental adhesions were found to the greater curvature of the stomach which, on separation, proved to be protecting a perforation in the centre of which was a metal bristle, which was traced to a pot-cleaning brush. Convalescence was uneventful, and she is now well."

Grief.

H. A. GRAHAM, B.Sc., M.B., Ch.B.

#### A LARGE URETERAL CALCULUS.

A MAN, aged 49, was admitted to hospital with a diagnosis of left-sided pyonephrosis. He gave a history of attacks of pain in the left side of the abdomen and left flank of two years' duration. For the same period he had suffered from frequency of micturition. There had been no haematuria, but the urine had been foul smelling and turbid.

The pyonephrosis was so big that it was readily visible to the eye. The urine was full of pus and smelled strongly of *B. coli*. An x-ray report of the urogenital tract stated, "there is a large calculus in the bladder or in a sacculus of the bladder on the left side." Rectal examination revealed a hard fixed mass above and to the left of the prostate. On cystoscopy there was found to be no calculus in the bladder and no sacculus leading out of it. The right ureteric orifice was normal, but that on the left was congested, and a thin stream of pus was issuing from it. Immediately above it the bladder wall was seen to be bulged inwards by a mass lying in the terminal portion of the ureter.

The bladder was opened, its wall was incised over the swelling, and the calculus levered out of its bed. Immediately there was a gush of foul, greenish pus, which filled the bladder and overflowed on to the table. A finger could easily be passed up the ureter, the lumen of which was estimated to equal that of the small intestine.

After the operation the pyonephrosis disappeared entirely. The patient refused removal of his infected and disorganized kidney, and was discharged from hospital with only a trace of pus in the urine.

The calculus was smooth and regular in outline, and measured  $3\frac{1}{2}$  in. in length and  $1\frac{1}{2}$  in. in diameter. It was very heavy, weighing no less than 1,639 grains.

Though not the greatest in length and diameter, this calculus is, so far as I can discover, the heaviest yet recorded.

JOHN C. JEFFERSON, F.R.C.S.,  
Honorary Surgeon, Rochdale Infirmary.

#### FOREIGN BODY IN THE EAR FOR THIRTY-SIX YEARS.

I was interested in Dr. Wells's account (October 8th, p. 637) of a foreign body in the ear for thirty-three years, and I feel it may be of interest to record the following account of an encapsulated foreign body which remained in the external auditory meatus even longer.

I treated the captain of a vessel, in which I sailed to Japan as a ship's surgeon, at Yokohama Hospital (where then patients were allowed to have their own medical adviser to treat them) for a serious attack of bronchitis, and only consented to take him home if he strictly obeyed my orders.

He had a raucous voice, and, sailor like, did not mind matters when he wanted to cough; his energetic hacks must have dislodged the foreign body from its bed, which allowed it some play, for it caused a superficial ulceration.

I told him that his bronchitis was well, and that his hacking cough must be due to some reflex irritation. It astounded him to conceive that his ear should have anything to do with the cough; but on removing the body, which I found to be a grain of old dry rice (encapsuled), he proffered the remark, "It must have been there since the day I got married"; his eldest son was then 35 years of age. It impressed him greatly that from the moment of its removal the cough vanished and never returned again.

I sifted the matter as well as I could, and had no doubt that the foreign body was there for at least thirty-six or thirty-seven years.

Bath.

WILLIAM P. KENNEDY, M.D.

### British Medical Association.

#### CLINICAL AND SCIENTIFIC PROCEEDINGS.

##### CITY DIVISION.

##### Urinary Obstruction.

A MEETING of the City Division was held on December 6th, 1927, at the Metropolitan Hospital, Dr. PHILIP HAMILL in the chair, when Sir JOHN THOMSON-WALKER read a paper on urinary obstruction. He began by saying that senile enlargement of the prostate was the most common form of urinary obstruction and the one which gave rise to the greatest difficulties in regard to the proper method of treatment. Once this change in the prostate had become definitely established it was progressive. In some cases the early stage, in which little, if any, residual urine was present, might last for three, five, or more years without apparent change, and then rapid increase in the obstruction take place.

Operation was the proper treatment in the majority of cases, and early operation was advocated so that the patient was not too old and the stage of sepsis and back pressure was avoided. Moreover, there were cases where malignant disease developed in a simple enlargement of the prostate. In 100 consecutive cases of prostatectomy for simple enlargement of the prostate 16 showed microscopic areas of malignant change. The presence of two or more ounces of residual urine was an indication for operation. Frequent micturition in old men was not physiological, and always demanded careful investigation, although this symptom was not, apart from residual urine, a necessary indication for operation.

In estimating the fitness of a patient for operation all the systems must be included in the investigation. Renal failure and sepsis were the two common contraindications to operation. The tests of the renal function were within reach of all practitioners. The clinical symptoms were often overlooked in their early stage. Repeated estimation of the urea percentage of the urine was a valuable guide. The urea concentration test of Maclean was a very accurate and valuable test when properly used in cases of back pressure kidney. The blood urea estimation was a laboratory test, and might not be available in practice. If used alone it might be fallacious, but it was valuable when combined with the urea concentration test in advanced cases. The surgeon must frequently operate on cases where the renal function was not completely normal, and his success would depend on his ability to prevent post-operative complications, which were specially fatal in such cases. In sepsis the tests of fitness for operation were the general condition and the condition of the urine. The urea tests were used in renal sepsis, but only indicated the amount of reduction of the renal function, not the extent or virulence of the sepsis. The blood cholesterol had been used as a test of the resistance of the patient to sepsis. A high blood cholesterol content was regarded as favourable, and below 0.130 per cent. was abnormal.

Treatment by radiation, either with radium or the hard x rays, was not a reliable method in simple enlargement, and had dangers equal to the catheter and to operation. In rare cases the hard x rays had produced improvement in symptoms, but usually it failed. Massage was useless in true enlargement of the prostate. The removal of the obstruction at the neck of the bladder by means of punches and electric cauteries had a very limited application to a small class of case. When the prostate showed definite enlargement these methods were dangerous and ineffective. Removal of the prostate by operation was recommended early in the disease by a single-stage operation, and by the operation introduced by the speaker. His operation mortality in hospital was 8.2 per cent., and in private cases 4.4 per cent., and there were long series of cases without a death. The recent publication of a mortality of 13 and 20 per cent. after the blind operation showed that prostatectomy should be performed by surgeons with special skill, and with the advantages of a special hospital or a special department of a general hospital.

After an animated discussion the meeting terminated with a hearty vote of thanks to the lecturer.



## Revelus.

### A HANDBOOK OF OPHTHALMOLOGY.

THE appearance of *A Handbook of Ophthalmology*<sup>1</sup> in addition to the number of smaller-textbooks on this subject which are already at the disposal of the student may at first sight appear somewhat surprising. But it is certainly true that the majority of these, being written by specialists, look upon the subject too much from the specialist's point of view; they fail to take into consideration the fact that the entire clinical work of the average medical student lasts merely three years, that within the compass of these three years a very formidable array of subjects has to be mastered, and that the tendency at the present time is not towards simplification, but rather towards further complexity; they forget the absorbing claims of practical and clinical studies; and, most of all, they forget that to the average medical student ophthalmology is, and always will be, one of the minor or accessory subjects—of secondary importance, both from the view of future practice and of examinations, to the main interests of medicine, surgery, and midwifery. The tendency, therefore, is for the student to regard a comprehensive treatise on ophthalmology as making an unjustifiable call upon his time—and often upon his purse—and to rely almost exclusively upon the lectures of his teachers and the clinical demonstrations at his hospital. It is because we think that the *Handbook* of NEAME and WILLIAMSON-NOBLE goes a very long way towards reducing matters to reasonable proportions, without at the same time having the defects of a cram-book, that we think it assured of a welcome. It is small, but not superficial; it is easy to read, and not overburdened with technicalities; and it treats of the essentials of the whole subject without going into too great detail or becoming absorbed, after the manner of an encyclopædia, with uncommon affections or pathological rarities. The authors, moreover, have both had considerable experience of the routine of out-patient departments and of the requirements of teaching clinics; and if, as seems probable, the volume is likely to be a popular reference work for the undergraduate, a review in some detail may not be out of place.

The first chapter deals with the examination of the eye and its surroundings, and goes rapidly and concisely over the more common clinical methods used in ophthalmology. If we were to criticize anything here it would be to remark that the detection of colour-blindness seems to be treated rather cursorily, considering the gravity of the issues that sometimes hang upon the establishment of its presence, and to point out that in Holmgren's wool test the excellence of the test lies in the subject not being asked to name the colours he sees (as is suggested in the text), but in his being forced to match them with other (confusion) colours. The second chapter, dealing with the theory of lenses, refraction, accommodation, and anomalies of muscular balance, is very well done, and explains in a readily comprehensible manner a subject which is difficult to deal with without relying very largely on the abstractions of mathematics. Refraction cannot be learned from reading alone, but only by painstaking and supervised practical experience. It is an exercise which has to be regarded as a post-graduate specialty, and had best be left alone by the undergraduate student, but it will be difficult to find a more readily comprehensible account of the essentials of the theory involved.

The remaining chapters of the book deal with the diseases of the eye, the eyelids, and lacrimal apparatus, including a chapter on injuries of the conjunctiva, the cornea and sclerotic, the iris, ciliary body, and choroid, the lens, the vitreous, the optic nerve, and the retina, and with glaucoma. The more common diseases only are discussed, and, as is essential in a book of this nature, in a manner essentially dogmatic. Although everyone will not agree with the authors on all points, the views expressed are always reasonable, and represent safe and orthodox

teaching. The student will find the summaries of confusing subjects useful, such as the diagnosis between iritis and glaucoma, the types of cataract, etc.

The book continues with a chapter on the ocular museles—a subject most students find abstruse, but well presented here—and others on the orbit, on operations, on ophthalmic signs and symptoms occurring in general diseases, and on the general therapeutic methods commonly used in ophthalmic practice.

On the whole the book will prove useful, and, we think, acceptable to the student. It is very well produced, and a feature of it is the uniform excellence and usefulness of the illustrations. It is plentifully supplied with coloured blocks (the work of Theodore Hamblin, Limited), which are well chosen and well executed. And finally, considering the labour which must have been expended on its production, it is remarkably cheap.

### STILL'S "DISEASES OF CHILDHOOD."

THE appearance of the fifth edition of Dr. STILL's *Common Disorders and Diseases of Childhood*<sup>2</sup> is, as is said in the preface, another birthday in the life of the book. And in the case of a book so well known and so well esteemed it is the occasion for congratulation rather than for critical examination.

It is a bigger book than it was at its birth in 1909, but in its general plan and character, and even in the order and titles of its chapters, it has been little changed. In the present edition three new chapters, on vomiting, erythroedema, and cretinism, have been added, making 72 chapters and over 1,000 pages of text.

Beyond these statistical facts appropriate to the life story of a book, it is enough to say that this is one of the best and most practical books on the subject in the English language. Although it has grown out of lectures given to students at Great Ormond Street and King's College, it has perhaps appealed most strongly to practitioners—those who are engaged in the practical and responsible problems of medicine in childhood. For it is the narration of the personal experience of the author with regard to all the common, and not a few of the uncommon, diseases of childhood; and, while there is a good foundation of pathology, the emphasis is laid on symptoms and clinical features, and on diagnosis, prognosis, and treatment. "Experience is uncertain and judgement difficult"; but here the experience is long and extensive, and is made up of careful observations, diligently recorded, sifted, and weighed. Take, for example, pyloric stenosis in infants, which is not one of the common diseases, but which is yet very important from the point of view of diagnosis. The chapter on this subject is written from a personal experience and records of 312 cases, and there can be no question as to the rare value and authority of a pronouncement on the subject based on first-hand knowledge of this extent.

The practitioner of medicine has found in this book what he desires above everything else—a full and authoritative account of symptoms and those clinical appearances which he can himself observe or elicit, and of the principles and the fallacies of diagnosis; guidance in the perplexing business of prognosis, whether immediate or remote, grave, hopeful, or uncertain; and a discussion of treatment which goes beyond principles and enters minutely into details.

Another uncommon thing about the book is that it has the indefinable but obvious charm of a literary style. That style is neither eloquent nor dogmatic, but is rather conversational and discursive, with the atmosphere of the bedside and the easy talk of the teacher to his students. But with this informality it is always clear and quiet and refined, and is often enlivened by gleams of humour. With these merits it may stand already inside the narrow and closely guarded circle of English medical classics; at least, on this new anniversary we may say to its author, *Esto perpetuus*.

<sup>1</sup> *A Handbook of Ophthalmology*. By Humphrey Neame, F.R.C.S., and F. A. Williamson-Noble. London: J. and A. Churchill. 1927. (Med. 8vo, pp. xii + 312; 193 figures, 12 plates. 12s. 6d. net.)

<sup>2</sup> *Common Disorders and Diseases of Childhood*. By George Frederic Still, M.D. Cantab., Hon. LL.D. Ed., F.R.C.P. Lond. Fifth edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xiv + 1032; 89 figures. 30s. net.)

## RADIOTHERAPY OF CANCER.

THE sixtieth volume of *St. Bartholomew's Hospital Reports*<sup>3</sup> contains a remarkable piece of team work, consisting of seven articles on the radiotherapy of cancer, about which Sir Thomas Horder, in an introduction, says that, as far as he knows, no single centre has in such a short time produced a mass of work of equal value to that done at St. Bartholomew's. The majority of the articles deal with radium: thus Dr. F. L. Hopwood treats of the physical aspects of radium and tabulates the dangers—local, such as radio-dermatitis, and general, such as grave anaemia. The effects of irradiation on tissues are lucidly set out by Dr. R. G. Canti, who, like Dr. Hopwood and Mr. Malcolm Donaldson, collaborated with the late T. S. P. Strangeways at the Experimental Hospital, Cambridge, in experiments on tissue cultures; in this article the direct and the indirect action of irradiations on cells are considered in some detail. Some of this experimental work is also referred to in Dr. W. M. Levitt's account of the history and present position of deep x-ray therapy. The practical matter of treatment by the gamma rays of radium is fully considered by Dr. N. S. Finzi, who is followed by Mr. Geoffrey Keynes on the treatment of mammary carcinoma by radium. Mr. Malcolm Donaldson, in reviewing the radium treatment of carcinoma of the cervix uteri in the Hospital for five and a half years, pleads for the establishment of an institution for the treatment of malignant disease by one method. Writing with twelve years' experience on the radium treatment of the larynx and tongue, Mr. Douglas Harmer finds that intrinsic cancer of the larynx is very susceptible to radium, probably more so than cancer elsewhere; lingual cancers are also susceptible, but less so than those of the vocal cords, and, as glandular metastases present difficulties, block dissections still give the best results.

The same issue of the Reports contains several clinical papers, an obituary notice of Dr. T. Clay Shaw, and the completion of Sir D'Arcy Power's account of the rebuilding of St. Bartholomew's Hospital in the eighteenth century.

## MENINGIOMAS.

THE main topic of the Maccewen Memorial Lecture for 1927, delivered by HARVEY CUSHING at the University of Glasgow in June of that year, and now published in a small volume,<sup>4</sup> is the treatment of that group of meningiomas or tumours of the cerebral membranes which arise in the floor of the anterior fossa of the skull, and more particularly in one or both of the olfactory grooves. They are mostly of the endotheliomatous type, being either firm and slow-growing, with a tendency to calcification, or softer and more cellular, and tending to rapid growth. In this situation they produce a train of symptoms by which their presence may be recognized, and are therefore amenable to surgical treatment. They may, however, attain a large size, and nothing can well be more disconcerting in this difficult branch of surgery than to turn down possibly an insufficiently large bone flap and come on a huge meningioma. What promised to be a simple procedure may suddenly be transformed into one of exceptional gravity, increased by the extreme vascularity of some of these growths; the proposition of enucleation is converted into that of piecemeal removal, and the surgeon who takes a flying leap at one of these operations, ill prepared, rides for a fall.

It is the loss of blood and the consequent tedious delay that occurs in these piecemeal operations which renders stage operation so frequently necessary, the bleeding from the raw surface needing to be arrested at the removal of each fragment. To meet this difficulty Cushing conceived that the employment of electricity might be of service. It is known that, in its application to surgery, electricity may be used for cutting or for the coagulation of the tissues, in the latter case acting also as a haemostatic.

<sup>3</sup> *St. Bartholomew's Hospital Reports*, vol. lx. Edited by W. McAdam Eccles and others. London: John Murray. 1927. (Demy 8vo, pp. xxvii + 23; 21 figures, 2s. net.)

<sup>4</sup> *The Meningiomas*. By Harvey Cushing, C.B., D.S.M., A.M., M.D. Harv. L.D.Camb. and Glasg. Glasgow: Jackson, Wylie and Co. 1927. (Roy. 8vo, pp. vi + 53; 28 figures. 2s. 6d.)

Clearly, if this double action could be combined, and incision and haemostasis be rendered simultaneous or almost simultaneous, the inconveniences attending the piecemeal removal of meningiomas would largely disappear. Professor Bovio, director of the biochemical laboratories of the Cancer Commission of Harvard University, interested himself in the problem, and succeeded in perfecting an electro-surgical apparatus in which both the coagulating and the cutting currents were combined in one machine, and in which, through the agency of a pistol grip, the current could be let off and on by the pressure of a trigger. The apparatus enables the operator to control the degree to which the incised tissues are coagulated, and the current is so powerful that a loop may be employed in place of the straight needle in common use. Three cases in which the apparatus was successfully employed are described. In the first the tumour weighed 60 grams, and was situated well back in the anterior fossa on both sides of the middle line. The usual low frontal bone flap was reflected, and the dura elevated from the roof of the orbit. An incision was made in the tenso dura well down under the frontal lobe, and the anterior margin of the tumour disclosed. Loopfuls of tissue were then scooped out from the body of the growth in the right half of the fossa, and the outer shell drawn forward and removed. The large cavity left made the removal of the portion of growth lying to the left of the mid-line comparatively easy. This portion blocked the opening under the falx, which had to be incised at the upper part of the field and detached from the crista galli; it was removed intact. The operation took seven hours, and the removal of a much larger tumour in a subsequent case took nine hours; but Cushing states that he has no dread of a long session, believing that convalescence is shortened by attention to technical details on the operating table.

The point to be emphasized in these operations is that they were carried out at a single sitting, instead of multiple sittings as under the old method; and that we now have at command a device which makes it possible to extirpate intracranial tumours hitherto so inaccessible that their attempted removal would have been regarded as foolhardy in the extreme.

## DIABETES.

THE third edition of LAWRENCE'S *Diabetic Life*<sup>5</sup> contains a few important additions. The mode of insulin action is more fully dwelt upon in the light of new knowledge. The author explains how "insulin will increase the metabolism of a diabetic by supplying a fuel which was hitherto lacking (for glycogen, not glucose, is the fuel which the muscles can use)." He goes on to point out how, after an overdose of insulin, and probably after vigorous exercise in normal individuals, adrenalin is secreted and mobilizes available glycogen from the liver. The short chapter on synthalin is welcome. If we may judge from the extensive advertising of this drug in certain foreign journals, it is likely to be pushed in this country before very long. As Dr. Lawrence writes, "one was led to believe that an important discovery had been made." But, he continues, "To my great disappointment I have not been able to confirm them [that is, the claims of the discoverers of synthalin], and, from personal communication with other workers in this country, I have found that their experience has been similar to mine." His conjecture as to the reason for the success of synthalin on the Continent and its failure here is worthy of emphasis. "It would appear," he says, "that on the Continent patients insist on higher carbohydrate diets than in this country, and demand, or get, a certain amount of bread and even beer! The lack of appetite caused by synthalin and the consequent failure to eat and absorb the usual amount of food may account for some of the good results obtained in these cases." Lawrence's book is improved by the additions he has made, and we are particularly impressed by his well considered criticism of synthalin. His *Diabetic Life* is a good guide to treatment, and can be warmly recommended to general practitioners.

<sup>5</sup> *The Diabetic Life: Its Control by Diet and Insulin*. By R. D. Lawrence, M.A., M.D., M.R.C.P. Third edition. London: J. and A. Churchill. 1927. (5½ x 8½, pp. viii + 185; 11 figures. 8s. 6d. net.)

THE reader who turns from Lawrence to BOUCKAERT cannot fail to realize that insulin is a more familiar drug in England than in Belgium. Dr. Bouckaert's book on the pathology and treatment of diabetes\* provides a complete survey of the work which led up to the production of insulin, and he has made a good many observations on its action, both in animals and in man. The whole reads as though it were intended to serve as an introduction to the medical profession in Belgium of a little known treatment. Accepting this, the book appears well arranged and well suited for its purpose. The author comes largely under the influence of Professor Marcel Labbé, and consequently divides his cases into the two groups *diabète sans dénutrition* and *diabète avec dénutrition*, a grouping which is obvious to every observer, but is not really of prime importance in the application of insulin treatment. Dr. Bouckaert refers to synthalin and accepts the claims of its discoverers with less reserve than does Lawrence. But even he is not wholly satisfied that it can do all that is claimed for it. He mentions also a proprietary article named "oxantin," which its manufacturers state is more readily utilized than glucose. It is said to be a sugar-tasting compound more readily transformed into glycogen in the liver than glucose. We have no experience of this substitute for carbohydrate in the diet. Its discoverers call it "a sugar which does not need insulin." Bouckaert, however, is careful to remark that he has little personal experience of its use. He is a cautious writer, well informed, and capable of setting out his subject clearly and succinctly.

Professor VON NOORDEN's book on diabetes and its treatment† scarcely needs additional commendation; previous editions have made it as well known in Great Britain as on the Continent, and our chief interest in this eighth edition is to read what he has to say about insulin, for nearly ten years have elapsed since the seventh edition was published, and insulin was then unknown. In the preparation of this edition von Noorden has had the assistance of Professor S. ISAAC of Frankfurt; and the section of diseases of the eye is contributed by Dr. E. GRAFE. The tremendous simplification which the introduction of insulin has wrought in the dietetic handling of diabetes is not made obvious in this latest edition of von Noorden's book, and it seems as though many of the chapters might now be relegated to an appendix or historical summary. Insulin has replaced most of the plans of treatment laboriously surveyed in the hundred and thirty pages which in this book immediately precede the description of insulin treatment. Ten pages devoted to the cure of diabetes by means of mineral waters or at health resorts is enough to exhaust the patience of any reader of to-day. Although the author frankly admits (on page 490) that insulin has wrought a revolution, he does not appear to lay the same stress on it that we have done in this country. Von Noorden mentions synthalin with the advice that its value must be appraised cautiously and critically. Of oxantin he says that in mild cases of diabetes it raises the blood sugar much less than does sugar; moreover, it seems to have anti-ketogenic properties, so that it has proved a useful adjuvant to insulin in the treatment of coma. The conclusion we have come to is that, with our knowledge of how insulin has altered our views of the treatment of diabetes, the eighth edition of von Noorden's book has not changed enough to save it from being tedious.

#### RADIOLOGY IN DERMATOLOGY.

IN 1922 we reviewed the first edition of Dr. G. M. MacKEE's book on *X-Rays and Radium in the Treatment of Diseases of the Skin*, and expressed a very favourable opinion upon it from all points of view. The author has now published a second edition,‡ but though on exactly

the same lines there are so many additions and alterations that it may be considered to be almost a new book. A few chapters have been revised, but most have been rewritten; 174 pages, 104 illustrations, and 300 literary references have been added, and twelve additional diseases mentioned. Whilst the letterpress, etc., has undergone this extensive revision, the general construction remains the same.

Apparatus and technique are fully dealt with, and each disease is considered separately and in most instances illustrated. Whilst holding that the dermatologist should be his own radiologist, the author is very insistent that this plan can only work satisfactorily if the dermatologist has had a thorough practical training in the use of both radium and x rays, and possesses modern equipment. We are fully in agreement with the author in this respect. We also agree with his observation that radium, while of great value to the dermatologist, is of less importance than are the Roentgen rays.

Finally, we can only repeat what we wrote in 1922—that the book is one which every skin specialist should thoroughly digest, that it should prove invaluable to all radiologists, and that as a reference book for medical practitioners generally it should be of much value.

A book on x-ray treatment by Dr. Iser Solomon, with a preface by Dr. A. BÉCLÈRE, entitled *Précis de Radiothérapie Profonde*,§ is important not only to radiologists, but to all who practise medicine or surgery, inasmuch as it is the result of many years of highly scientific work. We know of no book in which the technique of treatment is so fully discussed. The first part, of some 290 pages, is divided into eleven chapters dealing with the physics of x rays, with their biological properties, with x-ray tubes and generating apparatus, and with protective devices. Not the least important of these chapters are those on the various instruments and methods for the measurement of dosage from the points of view of both quality and quantity. The author is a well known authority on this part of the subject, and has devised a method which is very accurate, by the use of which different workers can ensure the same dosage and quality of radiation. Illustrations, diagrams, and tables to the number of 143 are a valuable addition to the text. The second part, consisting of thirteen chapters, treats of clinical applications. Following a first chapter on general considerations in the x-ray treatment of malignant neoplasms there are chapters on sarcoma, malignant growths of the uterus and ovaries, cancer of the breast, malignant disease as it affects the digestive organs, and cancer as it attacks various other parts. Following this are two chapters which deal with tuberculous disease and the affections of the nervous system; fibroma of the uterus and affections of the blood forming and controlling organs are each discussed separately; the final chapters deal with the glands of internal secretion and some other miscellaneous conditions in which x-ray treatment is of value. There are not many illustrations in this second part, and we are spared the usual "picture show" of cases before and after treatment which, as a rule, are so very unconvincing and theatrical. The author is to be congratulated on his discretion in this respect. The fact that Béclère has written the preface and has given his approval to this book is in itself a warranty of its value; we can agree with everything he says about it.

#### A BIRD LOVER'S BOOK.

If any excuse were needed for reviewing a book about birds in a medical journal, it would be that so many medical men, in the past and the present, have devoted their leisure to the study of these delightful creatures. It is curious that the members of what is probably the least leisured of all callings should be able to find most time for their hobbies; and the study of natural history has always been the favourite. Possibly the study of botany, which includes gardening, takes prior place to all other recreations of doctors, particularly those who are fortunate enough to ply their craft in country places. But, after all,

\* *La Pathogénie et le Traitement du Diabète*. Par le Dr. J.-P. Bouckaert. Préface du Prof. A. Lemaire. Collection de Monographies Médicales, No. 1. Louvain: Secrétariat de la Société Scientifique; Paris: Les Presses Universitaires de France. 1927. (64 x 104, pp. 105; 10 figures. 6 belgas.)

† *Die Zuckerkrankheit und ihre Behandlung*. Von Dr. C. von Noorden und Dr. S. Isaac. Achte Auflage. Berlin: J. Springer. 1927. (Sup. roy. 8vo, pp. xi + 627; 20 figures. R.M. 46.50.)

‡ *X-Rays and Radium in the Treatment of Diseases of the Skin*. By George M. Mackee, M.D. Second edition, thoroughly revised. London: H. Kimpton. 1927. (Med. 8vo, pp. xii + 788; 354 figures. 45s. net.)

§ *Précis de Radiothérapie Profonde*. Par Dr. Iser Solomon. Préface du Dr. A. Béclère. Paris: Masson et Cie. (Med. 8vo, pp. xvi + 512; 174 figures. 10s. or 60 fr.)

botany is the most natural choice when we remember that the medical man of to-day has not been divorced for so very long a time from the ancient craft of the herbalist.

The work before us—*The Ramblings of a Bird Lover*<sup>10</sup>—is by a doctor, but of divinity, not medicine. His appropriate name is already well known to thousands of bird lovers in this country. Dr. RAVEN states in his preface that he makes no apology for this, his fifth book on his favourite subject. Why, indeed, should he, since it is a book which will delight every reader who understands the thrill that is felt by all true bird lovers when a new or rare bird is seen or heard? The author confesses that he was born "bird-mad." After reading this book we believe him and rejoice that he was. Quite rightly the chapter of honour, the first, is devoted to the author's namesake, the raven; and in the index of references this noble and, in appearance, somewhat clerical bird outnumbers any other by six to one. This also is as it should be.

The book is one of the most delightful of its kind, and the author's enthusiasm is such that the reader feels that he himself is one of the author's party on his exciting expeditions. The volume is generously illustrated with original photographs. Most of these are excellent, but we have examined Plate II, which is said to show the nests of raven and buzzard with birds complete, in every light, perspective, and angle, but have failed utterly to identify anything at all in either photograph. Otherwise it is impossible to find anything but praise for the written word and illustrations in this fascinating bird book.

### NOTES ON BOOKS.

Of the making of popular books on health there is no end, but there must be a demand for them, or publishers would not undertake their issue. Most of them follow well defined lines. Differences appear only with the mentality of the writer. Some are crisp and some are dull. Some are sound and some are cranky. Most aim at giving the reader some idea of the manner in which his body machine is constructed and how that machine works. Dr. BARTON, in his book *That Body of Yours*,<sup>11</sup> has followed a different plan. He starts with the body working, and takes point after point in which the adult feels some sense of strain. Just as when the car driver who finds a spluttering in the carburettor turns up a book under the heading of "irregular firing" to find out the cause of the trouble, so Dr. Barton in his book takes salient signs and crisply deals with them. "Are you losing your nerve?" he asks in his first chapter, and then discourses thereon in a really intelligent and attractive style. But there is method besides, for the questions which make the subject matter of the chapters are on a plan. He begins with brain and nervous system, and so through the various functions of the body. His style is pleasant and simple. It is a good little book.

The well known *Manual of Psychiatry*,<sup>12</sup> of which Dr. A. J. ROSANOFF is the editor, has now reached its sixth edition. To the present volume many additions have been made, amongst which are sections on disturbances of nutrition in relation to mental disorders; psychoses associated with lethargic encephalitis; psychoses associated with pellagra; residuals of cerebrospinal meningitis; theory of personality; rest and diet in the treatment of mental disorders; parole system; prevention by eugenic measures; mental disorders and hygiene of childhood; military psychiatry; intelligence and educational achievement tests; and guide to study of personality. The contributors to this volume are Drs. Rogues de Fursac, from a translation of whose textbook this manual has developed, H. L. Hollingworth, Mary C. Jarrett, Clarence A. Neymann, and the editor.

The *Topographical Anatomy of the Dog*<sup>13</sup> is a continuation of the series of excellent manuals on veterinary anatomy written by Dr. O. CHARNOCK BRADLEY, principal of the Edinburgh Veterinary College. This volume follows the plan previously adopted in the three volumes on the horse. It is written primarily for the use of the canine surgeon. As Dr. Bradley

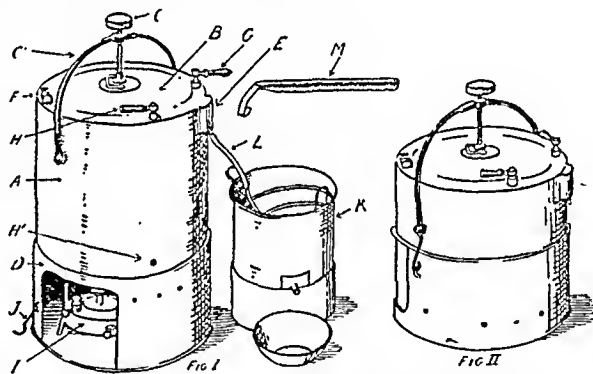
states in his preface, "the veterinary surgeon of to-day is following as closely as may be the specialist in human surgery, and there is no obvious reason why human and canine surgery should not be even more nearly alike." There is no reason why the human surgeon should not be able to profit by this advance in the surgery of the most controllable of the domestic mammals. Clearly, however, a fundamental knowledge of anatomy must precede the practice of surgery; and this volume provides such a fundamental and accurate substructure. It should prove also of considerable value to the student of comparative anatomy, who is already greatly indebted to the earlier volume, *Notes on the Dissection of the Dog*. The scope of the new edition has been widened; new material has been added, and new illustrations by Mr. J. T. Murray, an artist whose skill as an illustrator of anatomical works is already well known. Dr. Bradley is to be congratulated on a sound and important addition to the standard works on anatomy, one which should be of great importance to both human and veterinary surgeons as well as to anatomists in general.

### PREPARATIONS AND APPLIANCES.

#### PORTABLE LOW-PRESSURE STERILIZER.

MR. CHARLES W. CATHEART, F.R.C.S. (Edinburgh), has devised an improved form of the cubical low-pressure sterilizer which was described by him in the *JOURNAL*, December 19th, 1914 (p. 1056). It is, he says, a simple appliance which efficiently sterilizes the most resistant pathogenic organisms; the sporing culture of the anthrax bacillus was used as the test.

The apparatus consists of a cylindrical boiler (A). This encloses the sterilizing chamber, which measures 10 by 10 inches, and has a capacity of 864 cubic inches. In order to make the lid (B) steam-tight it is provided with a flange, which lies over a groove packed with asbestos. The screw (C), which takes its purchase from the curved handle (C'), can thus be made to force the lid firmly down. The short handle (D) belongs to a three-way stopcock, which is fixed inside the boiler. By means of this stopcock the attendant can, by a quarter of a circle turn, direct the steam from the boiler either into the sterilizing chamber (as in Fig. I), or (as in Fig. II) into the collecting box (E), to be described later. In a half-way position of the stopcock the steam will pass both ways. In no position can the steam be deprived of an outlet.



The sliding plate (F) closes the water inlet. The short handle (H) controls the stopcock for the exit of water at the aperture (H'), near the bottom of A. This arrangement enables the nurse to lighten the sterilizer before lifting it off the stand. The water escapes in a curved stream, which clears the stand. Complete emptying, if required, can be effected later by tilting the sterilizer. A suitable cover is provided to economize the heat during sterilization.

The stand (J) raises the sterilizer to the requisite height above the burner of the primus stove (I), which efficiently heats the boiler. The hook (J) is required to attach the stand to the handle of the sterilizer when packed for transport (see Fig. II).

The collecting box (E) receives all the steam, whether directly from the boiler or indirectly, after it has passed through the dressings. A water gauge (M) takes the form of a split metal tube, marked to indicate quarts. Into the groove a strip of "rope-brown" or similar paper is inserted. This grade of paper accurately retains the water-mark left by immersion. The water gauge, thus provided, runs no risk of injury during transport, and has, in this respect, a decided advantage over the glass-tube type.

The condenser (K) consists of an open can, which is filled with cold water. It is furnished with a coiled tube ("worm" L), which is connected by a rubber tube with the exit passage (N) of the collecting box (E). The stand for it is similar to that for the sterilizer.

<sup>10</sup> *The Ramblings of a Bird Lover*. By Charles E. Raven, D.D. London: Martin Hopkinson and Co., Ltd. 1927. (Demy 8vo, pp. xvi + 186; illustrated. 10s. 6d.)

<sup>11</sup> *That Body of Yours*. By James W. Barton, M.D. People's Library edition. London: Hodder and Stoughton, Ltd. 1927. (4½ x 7, pp. 304. 2s. 6d. net.)

<sup>12</sup> *Manual of Psychiatry*. Edited by Aaron J. Rosanoff, M.D. Sixth edition, revised, enlarged, and illustrated. New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1927. (Med. 8vo, pp. xvi + 697; 67 figures. 30s. net.)

<sup>13</sup> *Topographical Anatomy of the Dog*. By O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S. Second edition. Edinburgh and London: Oliver and Boyd. 1927. (Roy. 8vo, pp. xii + 268; 80 figures. 24s. net.)

*Mode of Introducing the Steam.*—The steam enters the upper part of the sterilizing chamber and escapes at the bottom. This method of directing steam has been recommended by Schimmelbusch and Lelean. It has the great advantage of driving out all air from the dressings without the use of any mechanism for the purpose. Since steam is lighter than air it accumulates at the top of the chamber, and by degrees displaces the air and drives it downwards. The air then escapes, first through a false bottom of wire gauze, and then through an exit tube, which conducts it through the boiler to the collecting box (F), thus preceding the steam on the way to the condenser. Air in the dressings, if it should surround organisms, would, as a non-conductor, effectively protect them from the action of steam.

The "drums," which are "Canton" cloth bags, are cylindrical in shape, with an arrangement of tapes which allows the edges to be folded over and securely closed. This material is very closely woven, and is fluffy on one side like swansdown, only much stronger. It is dustproof. Similar cloth "drums," although of a less close texture, have been used in several hospitals with quite satisfactory results.

*Test for Steam Permeation.*—To ensure that steam is able to permeate bags of "Canton" cloth, tests were made at the laboratory of the Royal College of Physicians, Edinburgh, with silk threads infected with a sporing culture of anthrax. These threads were placed in the middle of dressings contained in the "Canton" bags. They were steamed for an hour in this sterilizer, and found to be sterile. The control threads showed active growth in culture medium.

A card giving directions for use is supplied with the sterilizer. The makers are Messrs. Smith, Hurford and Drysdale (21, Lauriston Place, Edinburgh). Mr. Hurford has made application for a patent.

The price of the sterilizer without the cover or the cloth "drums" is £12 12s. The size and price of these "drums" are as follows:  $9\frac{1}{2}$  by 4 by 4 inches, 3s. each;  $10\frac{1}{2}$  by  $4\frac{1}{2}$  by  $4\frac{1}{2}$  inches, 3s. 6d. each; 12 by 7 by 7 inches, 4s. each.

## COMMERCE IN RADIUM.

THE history of the commerce in radium is that of successive attempts made by one country after another to secure a monopoly. The original observation of the Curies, reported to the Académie des Sciences on April 12th, 1898, was that two minerals, pitchblende and chalcocite, were more radio-active than could be accounted for by the uranium they contained. They suggested that this was probably due to the presence of some element much more active than uranium. A deposit of pitchblende at Joachimsthal in Bohemia was then being worked to supply a small commercial demand for uranium. Using a ton of the Joachimsthal residues the Curies succeeded, with the assistance of Debierne, in isolating a mixture of radio-active substances associated with barium. By progressive separation from the barium they obtained enough of the active substance to enable its character to be determined by the spectroscope, and in 1902 they produced radium chloride in a pure state.

During the course of these experiments much was learnt about the properties of the element radium, including the main facts as to its physiological action, and it was soon seen that it might be of value in therapeutics. The mine at Joachimsthal belonged to the Austrian Government, which sought to establish a monopoly, and founded an institute in Vienna to investigate the purposes to which radium could be applied. But these discoveries of radium directed attention to geological strata in other countries which were known to contain uranium, such as the beds of autunite in Portugal, and of pitchblende in Cornwall and Saxony. Further deposits of pitchblende were found in the United States, in Mexico, and in India, but the most important discovery was that of very extensive deposits of carnotite in Colorado and Utah. Though this mineral contains a very small proportion of radium (about 1 gram in 400 tons) it proved profitable to work it owing to the ease with which the radium could be extracted. Hence there arose French and American attempts to obtain the monopoly of radium.

At first most of the carnotite obtained in America went to France, where the amount of radium extracted rose from about 3 grams in 1912 to 7 or 8 in 1914. But several companies were formed in or near Denver in Colorado, with capital sufficient not only for the mining

and transport of the mineral, but also for constructing roads, factories, and settlements for the workers in a previously desolate country. Consequently, in 1913, 10.5 grams of radium were produced on the spot, and 22.4 grams in 1914. At the beginning of the latter year the American Government took steps to obtain a monopoly of radium, and decreed that, while radium-bearing mines already discovered should remain the property of the concessionaires, any further discoveries would become the property of the United States. Prospectors would be able to exploit them, but on terms fixed by the Government.

The American monopoly lasted until the Belgian society, the Mining Union of High Katanga, which was working some copper concessions in the Belgian Congo, brought to light some very rich lodes of pitchblende. The first deposits were found in 1913, and in 1915 further discoveries were made at Chinkolohwe. The existence of uraniferous lodes was confirmed in 1921 by Professor Schoep of Ghent; by the end of the year the first cargo of mineral reached Antwerp, and by July, 1922, the factory at Oolen was in working order. From that time the monopoly has passed into the hands of Belgium, and the American and other factories are now in a state of partially suspended animation, unable to compete with the Belgians, who at present supply most of the world's demand.

The radium salt chiefly in request at present is the sulphate, which is found most suitable for the preparation of radium applicators. The chloride and bromide, which are easily soluble, can also be obtained, and are considered to be preferable when radium emanation is required. Radium is now generally sold in terms of radium element, and the price of either salt is calculated on that basis. According to a table given by Professor Matignon in a recent article,<sup>1</sup> the price rose from £2 to £5 a milligram in 1904 to twice that amount at the end of 1905, and to £12 in 1906. By 1910 the price had risen to £27; it went to £30 in 1912, and £36 in 1914. This seems to have been the highest point ever touched. The rise occurred in spite of competition, and seems to have been greatest at the time when the French were engaged in extracting radium from the carnotite imported from Colorado. With the establishment of factories in the United States the price began to fall, and was becoming stabilized at about £22 a milligram in 1922, when the Belgian production caused a further fall to £14 in 1923, and the price is now £11 10s.

With the exception of chalk and the quartz sands, which are almost without any trace, nearly all rocks of the earth's crust contain some radio-active material, usually in quantity so minute as to be detected only by very delicate methods. The richest in radium are the igneous granitic rocks; sedimentary rocks have a smaller content. All spring waters which have been in contact with strata containing radio-active material are more or less radio-active. This applies to mineral waters so designated, but whether their therapeutic effects are on that account increased or modified in any way does not seem to be established. The chief sources for the extraction of radium are uraniferous minerals, and the processes utilized are all based on the original method of the Curies and Debierne. The presence of barium is essential, and it is added to minerals which contain an insufficient quantity of this element. Insoluble sulphates are precipitated in the process, and when the residues are sufficiently pure they are submitted to a series of crystallizations, generally as radium bromide, until the radium has been separated from the barium.

Professor Matignon estimated that down to the end of 1924 a little over 300 grams of radium had been produced. Of these, 23 came from the Joachimsthal mine, and the total European production before the Belgian factory was established was about 60 grams. The Americans claimed that about 160 grams were extracted from carnotite. The rate of production at the Oolen factory in Belgium suggested that by the end of 1924 it had produced 110 grams. Half the total quantity in the world appeared to be in America, where the hospitals and medical institutes owned over 120 grams. To dispose of these 300 grams of radium complicated commercial machinery was necessary. Money was spent to educate the medical profession in the

<sup>1</sup> *Rev. Scientifique*, 1925, 15, p. 524.



uses of the element. Journals and reviews were impressed into the service, and researches were made to find fresh channels for its disposal. It is interesting that, apart from the profound influence that the Curies' discovery has had on the views of physicists and chemists, the chief practical application of radium rests on its use as a therapeutic agent, but there is an extending use of radium compounds in the preparation of "luminous compound"; so far its results in treatment have not reached the expectations that were at one time entertained. Owing to these limitations the output of radium is being kept under control, in order that the supplies may not be increased beyond the demand.

## CIVIL FLYING.

### MEDICAL REQUIREMENTS FOR AVIATORS.

THE Medical Subcommittee of the International Commission for Air Navigation has recently revised the medical requirements preliminary to the granting of licences to fly. Two civil licences are issued—namely, the A-licence for private flying, and the B-licence for the operating crew of aircraft engaged in public transport or aerial work. In both cases the medical examination is conducted by medical men specially designated by the Commission, and in the case of the B-licence an additional preliminary medical examination is required certifying the minimal requirements as to physical fitness. With the great increase in private flying many medical men are now called upon to examine candidates for the A-licence as well as to conduct the preliminary examination for the B-licence.

#### *The A-licence (Private Pilots).*

The medical man has to certify the following points:

(1) A good family and personal history, with particular reference to nervous stability.

(2) An age of 17 years or over.

(3) Freedom from any wound, injury, congenital or acquired deformity, or effect of any operation, such as might interfere with the safe handling of aircraft under ordinary conditions.

Radioscopic and radiographic examination when palpation reveals any swelling or pain in the abdominal viscera. Previous surgical intervention in the biliary or alimentary passages (except appendicitis) involving a total or partial excision or division of one of those organs; and any anatomical lesion of the walls of the digestive tube, any stricture (except spasmodic stricture), calculus or foreign body, and any peritoneal lesion or visceropneumonia not compensated by a good abdominal musculature. Freedom from disease of the liver, bile ducts, and pancreas (to be verified, if necessary, by laboratory examination, radiography, and examination of the blood and urine), more especially as regards calculus, tumour, or other lesion causing persistent impairment of the function of those organs.

(4) Freedom from any disease or disability entailing a liability suddenly to become incompetent in the management of aircraft; heart, lung, and nervous system fit to withstand the effects of high altitudes; and absence of kidney disease, signs of syphilis and cardiac lesions.

(5) A visual acuity of 6/9 for both eyes, with correction by glasses if necessary; normal ocular poise, field of vision for each eye, and colour perception.

(6) Healthy middle ears; an auditory acuity not less than perception of a whisper at the distance of one metre; and an intact and not hypersensitive vestibular mechanism, equal on both sides.

(7) Examination of nose, throat, and mouth showing free tubal air entry on both sides.

#### *The B-licence (Pilots, Navigators, Engineers or Members of Operating Crew of Aircraft Engaged in Public Transport or Aerial Work).*

##### *Preliminary Examination.*

The candidate must have full use of his four limbs, must not be completely deprived of the use of either eye, must be free from any active or latent, acute or chronic, medical or surgical disability or infection. He must be free from any injury or wound which would entail any degree of functional incapacity which might interfere with the safe handling of aircraft at any altitude even in the case of prolonged or difficult flight. He must be completely free from hernia, must not suffer from any detectable sensory lesion, and must be free from a history of morbid mental or nervous trouble. The examination of the nervous system must comprise a full inquiry into the family and personal history, and should include a statement signed

by the candidate and accompanied, if possible, by a certificate in regard especially to losses of consciousness, fits and convulsions, from the candidate's ordinary medical adviser or other responsible person.

##### *Final Examination.*

(1) The report of the preliminary examination must be satisfactory.

(2) There must be no mental or trophic impairment, pathological tremor, or presumptive evidence of latent epilepsy. Motility, sensibility, tendinous, cutaneous and pupillary reflexes, co-ordination of movements and cerebellar functions must be normal (local peripheral trouble due to accidental section of a sensory nerve excepted). Fractures of the cranium involving the internal table, even without apparent impairment, will entail temporary unfitness for two years from the date of the fracture. Any presumed nervous syphilis will entail rejection, unless disproved by examination of the blood and cerebro-spinal fluid, made with the consent of the candidate.

(3) Age-limits of acceptance, 19 to 45 years.

(4) Requirements similar to those in paragraph (3) of the A-licence, except that there must be no disability causing interference with the safe handling of aircraft even in the case of prolonged or difficult flight.

(5) There must be no disease or disability entailing liability suddenly to become incompetent in the management of aircraft. The muscular power must be adequate for the handling of the types of aircraft or the apparatus to be used. There must be no signs of aneurysm of the large arteries, no cardiac lesion, even if compensated; the heart must be normal, with normal function, and only respiratory arrhythmia, increase of pulse rate from excitement or exercise, and a general slow pulse not associated with auriculo-ventricular dissociation will be allowed. There must be no acute disability nor any cicatricial lesion of the lungs, no tuberculosis capable of being diagnosed by the usual clinical methods, no disease of the tracheo-bronchial glands, and no pulmonary emphysema, even if slight. Each examination shall include a radioscopic in doubtful clinical cases. There must be no signs of organic disease of the kidneys, and these organs must be insensitive to palpation and of normal size. Renal ptosis will entail rejection. The urine must not contain any pathological element. Affections of the urinary passages and organs may entail temporary or definite unfitness. Female candidates must have normal uterine and appendages, but cases in which surgical intervention has taken place will be considered individually. Presumed pregnancy will entail rejection. After confinement or miscarriage a new medical examination will be required before resumption of air duties. No candidate must present any clinical signs of syphilis.

(6) The visual acuity must be compatible with the efficient performance of duties; pilots and navigators must have a 100 per cent. visual acuity for each eye, without correction by glasses. Binocular vision, ocular poise, the field of vision and colour perception must be normal.

(7) The middle ears must be healthy. Auditory acuity must correspond to the normal perception of the tuning-fork C (1) 64 vibrations per second, C (3) 256 vibrations, and C (7) 4,096 vibrations at 1 cm. from the ear. The vestibular mechanism must be intact, not hypersensitive, and equal on both sides.

(8) There must be free nasal and tubal air entry on both sides, and no serious acute or chronic affection of the buccal cavity or upper respiratory tract.

In order to ensure the maintenance of efficiency re-examinations are held every six months (in the case of women every three months), when the requirements in some particulars are less stringent. Thus, pulmonary emphysema will entail rejection only when the pulmonary capacity falls below three and a half litres at rest after a full exhalation and inhalation, and when the duration of breath-holding at rest falls below 50 seconds, or 40 seconds if the candidate is less than 1 metre 65 cm. in height, or is a woman. Further, renal ptosis will not entail rejection if it causes no functional disability, nor will mild and localized tuberculosis of the testis and epididymis.

It has been objected that it is somewhat unfair to lay down a practically identical standard of fitness for both women and men. But even if a separate schedule had been adopted for women it is difficult to see in what particulars the requirements could have been made less stringent. It is not stated whether the periodical re-examinations are to be as complete as the original examinations, but, assuming that they are to be almost as complete, it would have been satisfactory to have a statement why women need to be re-examined every three months and men only every six months. The question of medical fees for making the examinations is not touched upon by the subcommittee.

# British Medical Journal.

SATURDAY, JANUARY 7TH, 1928.

## COLLECTIVE RESEARCH.

WE print in the SUPPLEMENT to-day the concluding section of a review of past and present activities of the British Medical Association in the field of collective research—activities for which we would invite the hearty co-operation of our readers. Full particulars of the two inquiries which have been undertaken at the outset of this new venture on the part of the Association in the furtherance of science are given on page 1 of the SUPPLEMENT. Those who have followed the story of earlier researches conducted by the Association, set out last week in the first section of the review, will be aware that in undertaking an investigation like that contemplated the Science Committee is committed to no light task. To quote the report of the special subcommittee which, in 1881, inaugurated the most striking of the earlier experiments of this kind, the committee is fully aware that "to combine a number of men in the systematic and careful observation and record of facts is difficult under any circumstances, and especially so in the case of medical men, whose irregular and harassing avocations necessarily disincite them to enter upon and continue a labour of this kind." But if the task is difficult it is none the less worthy; and the progress of specialization at the present time lends force to the demand for exploring every possible means of making the experience of the individual practitioner on the one hand, and of each group of specialists on the other, available to the whole of the profession in the common fight against disease.

In some respects also the work should be easier now than it was forty years ago, for the profession at large is to-day more practised in the keeping of records, while the utilization of such records is far better understood now than in the eighties. Again, while many of the problems of those earlier collective investigations still remain to be solved, we can at least say that the particular points on which information is required have been more strictly defined in the interval, and the direction of inquiry is accordingly an easier matter. The value of the results to be expected from the application of this method to suitable problems has recently found a happy illustration in the report of a committee of the Medical Society of London on late results of operation for carcinoma of the breast.<sup>1</sup> If the possibilities of work of this kind are easily recognized, it seems at least equally clear that the comprehensive organization of the British Medical Association should place it in a peculiarly advantageous position for tackling a problem whose essence lies in the application to the ends of science of that power, derived from combination, which is more commonly exercised at present in the sphere of medical politics.

In formulating its scheme the Science Committee has sought to learn from past failures, no less than from past successes, how to avoid the dangers and exploit the potentialities of the method to be used. Alike in the choice of the subjects and the manner of approach to the particular problems chosen, the committee has taken the advice of those best qualified to form an opinion on the validity of the method to be

adopted and the ultimate value of the results likely to be obtained. The questions to be answered have been so framed as to elicit so far as possible the particulars essential to the solution of each problem, with a minimum of labour on the part of the practitioners sharing in the work. The subjects chosen for what is, in effect, merely a preliminary effort—namely, the treatment of varicose ulceration and the after-effects of gastro-enterostomy—are both of immediate practical importance. In both there is reason to suppose that the record of a sufficient number of cases will supply information the lack of which is daily found to be an obstacle to the effective treatment of prevalent maladies. The information sought is already in existence, and quick returns—more especially in the case of varicose ulceration, where all that is required is a record of the treatment adopted and the results obtained by individuals—should make it possible to complete the work and assess its value before the interest raised by its inception has had time to diminish. The inquiry into gastro-enterostomy needs the co-operation of surgeons and general practitioners, and therefore involves a more protracted investigation. It has been limited to operations performed in the five years from 1920 to 1924, with a view to reducing so far as possible the time necessary for obtaining useful results. To judge from the offers of assistance already received from individual surgeons throughout the country, to whom the memorandum and questions on this subject were addressed only some three weeks ago, the project has aroused considerable enthusiasm. Expert assistance has been promised to the committee in the classification and evaluation of the information obtained through these and any future inquiries, and the success or failure of the scheme lies now with the individual members of the profession.

The two subjects so far proposed for investigation must not be taken as in any way indicating the limits of the researches on these lines envisaged by the committee. The field of treatment and pathology in which a careful record of collective experience should supply information of vital importance is a very wide one, and, apart from the results to be expected, the work itself is of a kind to lend that significance to personal experience which it so often lacks while the individual works in isolation. The way, indeed, is not altogether an easy one, but, as Sir James Paget said in commending the first collective investigations to the notice of the Metropolitan Counties Branch of the Association, we may fairly "venture to promise to all who will begin this collective inquiry and then proceed from it to personal inquiry—a pleasure as great as can be had in any of the pleasures of life."

## GALL-BLADDER INFECTIONS.

THE ideal of medicine to-day is the prevention rather than the cure of disease, and this high conception Sir Berkeley Moynihan, in his Mitchell Banks Memorial Lecture (printed at page 1), enforces with the self-denying maxim, "the business of the surgeon is to diminish surgery," which suggests "surgery to end surgery." Logical and efficient methods of prophylaxis must obviously be founded on accurate knowledge of the causes of diseases, and therefore their initial stages, circumstances, and environment generally must be studied with care—a doctrine much insisted on by James Mackenzie. The first departures from health are shown clinically by symptoms—that is to say, by disturbance of function; but though these

<sup>1</sup> BRITISH MEDICAL JOURNAL, December 10th, 1927, p. 1032.

may, and often do, precede any structural changes, the organs have so much functional reserve and power of compensation that morbid changes may begin and insidiously advance before producing any outward signs and symptoms. Histological examination of organs, especially in an early stage of disease, should therefore be the handmaiden of clinical research, and not, as has sometimes been said, merely an investigation of the late or end results.

"The pathology of the living" is the lecturer's now familiar phrase for the morbid changes revealed by a biopsy or operation, not only in the organ or structure which seemed to be mainly affected, but also elsewhere. The instance that occurs to mind is a diseased appendix found when operating for a diseased gall bladder—that is to say, two coexisting and perhaps related infections, the one diagnosed clinically, the other and more severe revealed only by the scalpel. Study of such associated changes is helping to elucidate the problem of the origin of disease, and of the influence that a morbid process in one part has on the other parts with which it is physiologically correlated in health. Taking the gall bladder and its infections as his subject, Sir Berkeley Moynihan has provided out of a vast experience of this pathology of the living—fortified by detailed special investigation by laboratory methods of eighty-one cases of cholecystitis—much material for thoughtful criticism and study of its bearings on the present and future practice of the healing art.

In view of the fact that in order to prevent grave complications cholecystectomy is advocated earlier and more frequently than is even now the practice, it is clearly important to have more exact knowledge about the functions of the gall bladder. Clinical experience—which, after all, is the working criterion—does not suggest that the removal of the organ is attended by untoward symptoms. But it may be wise to recall the cautious attitude of Peyton Rous and P. D. McMaster of the Rockefeller Institute for Medical Research, New York. These workers, in their paper on the concentrating activity of the gall bladder,<sup>1</sup> have pointed out that it probably has other functions; that its secretion of mucus (which, like the concentration of bile, is a function of the gall bladder as distinct from the ducts) is unexplained; and that the fact that removal of a normal gall bladder is not followed by bad effects proves, not that the loss is unimportant, but that the body has adapted itself to the loss. On the other hand, as the lecturer's observations attest, an infected gall bladder often shows much more change under the microscope than naked-eye examination would suggest; its removal, therefore, is on quite a different plane, and appears to correspond with appendicectomy.

After considering, on the basis of his carefully examined cases, the way in which infection reaches the gall bladder, Sir Berkeley Moynihan concludes that in 63 out of 81 cases infection began in the outer coat, and might arrive directly or by way of the lymphatics from the liver (the hepatitis here being almost certainly antecedent to the cholecystitis), or from peritoneal inflammation of an adjacent organ, such as the appendix. Only in 18 instances was the inflammation more pronounced in the inner than in the outer coat of the gall bladder, and there was reason to think that the infection ascended from the duodenum more often than might be anticipated, particularly in the presence of achlorhydria, when Oddi's sphincter at the biliary

papilla may possibly be relaxed. In reviewing the evidence the lecturer admits the occurrence of haematogenous infection of the gall bladder, but chiefly pays attention to infection by way of the lymphatics. He argues that, as the outer coat of the gall bladder is usually first inflamed, there is in the early stage increased absorption from the cavity of the gall bladder with a consequent rise in the cholesterol content of the blood; later the lymphatics may become blocked, so that, from continued absorption by the mucosa (as Chiray and Parel also have stated), the villi become occupied by cholesterol; hence arises the condition first described by him, then called "the strawberry gall bladder," and later cholesterosis—a condition that never occurs when bile is prevented from entering the gall bladder. Detachment of these lipid-laden villi may give rise to a generation of minute caeculi which proceed to grow and cause secondary changes in the gall bladder—namely, destruction of the mucosa and the elastic and muscular tissues, and fibrosis.

The conclusion that cholecystitis and the subsequent formation of caeculi are due to infection of the gall bladder from without rather than to direct infection of the mucosa by bacteria-laden bile has an important bearing on the most effective form of treatment. Sir Berkeley Moynihan considers that if the infection were from within, medical treatment and Lyon's non-surgical drainage of the gall bladder in the early stages might be successful; but that if the infection is from without and widespread, removal of the gall bladder is, in the present state of knowledge and pending the discovery of other means of controlling the earlier symptoms of cholecystitis, the proper procedure. Further, in cases of obstinate dyspepsia he has often hesitated to remove a gall bladder which did not appear at the time of laparotomy to show much change, and when he has refrained from cholecystectomy in these circumstances the symptoms have not been relieved until this was performed. Here, then, the ideal of "surgery to end surgery" has not yet been entirely attained, although much progress towards it has been made.

### THE PARLIAMENTARY SESSION.

THE parliamentary session of 1927 has given satisfaction to medical members of Parliament. They have seen the gusts of political prejudice against the medical profession die down after having blown with occasional bitterness in consequence of the controversy about the Axham case, and the disposition of trade unionist members of Parliament, when charged with intimidation or restrictive practices in the unions, to seek to make analogies reflecting upon the medical profession and the General Medical Council. Even the questions put down on behalf of the antivaccinators have been less pertinacious, in part because the Royal Commission on Vaccination was in being. Only at the close of the session were questions asked by members which conveyed a suggestion that a report from this Commission was overdue. The Parliamentary Medical Committee projected an open meeting at which lay members of Parliament would hear the medical case for vaccination, but this proposal was not persevered with. There has, too, been comparatively little agitation on the floor of the House of Commons by antivivisectionists, and rumours have been heard that the less prejudiced of these may yet be persuaded to accept a compromise regarding the use of stray dogs for experiment.

<sup>1</sup> *Journ. Exper. Med.*, 1921, xxxiv, 47-73.

A growing prejudice and source of difficulty in medical legislation, though not antimedical, has been manifest during the year. It is the prejudice of the minor local authorities against any legislation or rearrangement of duties which would increase the powers of county councils and county borough councils. The Royal Commission on Local Government has long been preoccupied with these objections, which have forced Mr. Chamberlain to modify his scheme of centralizing Poor Law administration under county councils and county borough councils, and compelled him also to accept a last-minute compromise on the Nursing Homes Act, which weakened the principle of licensing and inspection by county authorities established a year previously in the cognate Midwives Act. In expounding his Poor Law scheme to members of Parliament and to local authorities Mr. Chamberlain has laid most stress on the need for co-ordination and economy in public health administration, and in particular for making certain little-used ward accommodation in some Poor Law institutions available for the relief of other institutions, including voluntary hospitals. He has said emphatically that he does not propose to bring voluntary hospitals under public control, and in recent answers to questions he has declared that he cannot contemplate additional grants of public money to voluntary hospitals, which, in his opinion, have now been put in a secure position by the improvement in public support. Mr. Chamberlain still hopes that his Poor Law Bill will be one of the features of the Government programme in 1928, but though he has practically promised to continue the boards of guardians in rural areas, the passage of the bill into law is not assured. Still less assured of becoming Acts this year are the bills to be based upon the reports of the Royal Commission on Lunacy and the Royal Commission on National Health Insurance. The latter at least has a chance, but the Government at the close of the session could give no promise concerning it.

It is also accepted by political observers as certain that the Factories Bill, to which the Home Secretary has given much attention, will, if introduced this year, be reduced to little more than a codifying measure. The Home Secretary has, however, announced that he hopes, by Order in Council, to reduce the danger of fires in factories where celluloid is handled. The revision of the Factories Bill has been forced by the wide objection to legislation involving increases in public expenditure and in the numbers of public officials, but two departments doing work of indirect interest to medical men—the Transport Ministry and the Mines Department—have been respite from the closing order, to take effect next spring, which the Chancellor of the Exchequer had pronounced against them.

References to subjects of medical importance have been made by the Home Secretary and the Minister of Education during the session, and the pronouncements of the Minister of Agriculture regarding diseases of animals included the important matter of the possible association of the importation of pig carcasses with outbreaks of foot-and-mouth disease. The Ministers chiefly concerned with health matters, however, have been Mr. Chamberlain and Sir Kingsley Wood, who have maintained their position in the esteem of members, have handled departmental business well, and have succeeded in guiding several Acts of medical interest on to the Statute Book. The system whereby responsibility is taken for bills by private members, acting in consultation with the

Ministry of Health and supported in Committee by the Minister or the Parliamentary Secretary, has secured the passage into law of the Mental Deficiency Act, providing that the sequelae of encephalitis lethargica in adolescents can be classed as mental deficiency, of the Nursing Homes Registration Act, and of the Midwives and Maternity Homes (Scotland) Act. An Act, for which Mr. Chamberlain was responsible, has been passed to codify the existing Poor Law as a preliminary to its amendment. The Dominion Office, aided by the Minister of Health, secured the assent of Parliament to the Medical and Dentists Acts Amendment Act, removing difficulties consequent on the setting up of a separate medical register in the Irish Free State.

Both individually on the floor of the House and in Grand Committee, as also when working as a body through the Parliamentary Medical Committee, in collaboration with Lord Dawson and with certain members of Parliament with professional or academic associations, medical M.P.'s have done steady work, securing the attention of the House of Commons and exerting marked influence on their parties and on the Government. Dr. Fremantle has been an efficient and popular chairman of the Parliamentary Medical Committee, and has also presided over the Conservative and Unionist Party Committee on Health and Housing. Dr. Graham Little, till close on the end of the session, was the active honorary secretary of the Medical Committee. The Medical Practitioners Communications Bill which he introduced came before the House of Commons too late to make progress, but drew the attention of legal and lay members of Parliament to an important question of law and ethics.

#### NEW YEAR HONOURS.

THE New Year Honours list, issued on Monday, January 2nd, contains names which the medical profession will delight to see honoured. A baronetcy is conferred on Sir Richard Havelock Charles (serjeant-surgeon to the King), who has had a long and very honourable career, first in India, and after his return to this country as president of the Medical Board of the India Office, and Medical Adviser to the Secretary of State for India. In that capacity he was able to do much for the Indian Medical Service at a time of great difficulty. While in India Sir Havelock Charles was professor of anatomy at Lahore, and afterwards professor of surgery at Calcutta. A knighthood has been conferred on another distinguished surgeon, Mr. Percy Sargent, who was consulting surgeon with the British army in France, and is now consultant surgeon to the Ministry of Pensions. He is surgeon to St. Thomas's Hospital and to the National Hospital, Queen Square. He is well known to the profession as a general surgeon, and also as a specialist in the surgery of the brain and spinal cord. The honour of knighthood is conferred also on Dr. G. W. Badgerow, honorary lieutenant-colonel of the Canadian Army Medical Corps, dean and surgeon to the Throat Hospital, Queen Square, London, and consulting surgeon to various Dominion hospitals in England. The knighthood received by Mr. F. G. Hallett, who, after fifty years' service, recently retired from the office of secretary of the Conjoint Examining Board in England of the Royal Colleges of Physicians and Surgeons, is, it will generally be recognized, very well deserved. His powers of organization, his long experience in all matters relating to examination, and his exceptional knowledge of regulations for medical education in this and other countries, gave his services a very special value and caused them to be held in the highest regard. The same honour has been received

by Dr. William James Wanless, of the American Presbyterian Mission Hospital, Miraj, Bombay, and would have been received by Alderman James Robinson, L.R.C.P. and S.I., who was Lord Mayor of Cardiff in 1913-14, had he survived a few days more; he died on December 27th, as recorded elsewhere. Major-General James Stuart Gallie, C.M.G., D.S.O., K.H.S., late R.A.M.C., Deputy Director of Medical Services, Aldershot Command, receives the C.B. (Military); Dr. Robert George Archibald, D.S.O., director of the Wellcome Tropical Research Laboratory, Khartum, becomes C.M.G.; and Lieut.-Colonel Cuthbert Lindsay Dunn, I.M.S., director of public health, United Provinces, becomes C.I.E. Miss Ellen Margaret Farrer, M.B., medical missionary, Zenana Baptist Mission, Punjab, is awarded the Kaiser-i-Hind Medal of the first class for public services in India.

#### IODINE, GOITRE, AND GROWTH.

DR. PERCY STOCKS, in an article on the influence of iodine administration on goitre incidence and physical growth,<sup>1</sup> brings forward further evidence of the efficacy of the treatment. He has found a class of subjects particularly favourable for statistical treatment in the secondary school of Berne. The records of treatment of 1,130 girls in that school are exceptionally complete and accurate, and have enabled Dr. Stocks to plot a series of curves which show with great clearness the continuous reduction of the gland under treatment. The method adopted is to classify the girls in a series of age groups differing progressively by one year between the ages of 11 and 16; the size of the thyroid is then registered for each group at gradually increasing periods from the commencement of treatment, thus showing the effect on the gland in each group at the beginning of treatment and after one, two, and three years. It was found that in every age group each additional year of treatment is associated with a marked fall in the size of the gland. In estimating the size of the thyroid use is made of the system of categories based on that of the Swiss Goitre Commission—namely, (1) thyroid just palpable, (2) gland easily felt, but not sufficiently enlarged to change the contour of the neck appreciably, and (3) very obvious enlargement, going on to pronounced goitre. By a conventional calculation two intermediate categories are added to these, making five in all. The five categories are regarded as equal divisions on a uniform scale of thyroid size, category 1 being taken as origin (0) and the remaining categories as deviations from this—namely, 1, 2, 3, and 4 respectively. The author considers that there can be no doubt whatever of the significance of the decreases exhibited in the curves, and that the efficacy of the treatment can be safely accepted. The main object, however, of the research was to examine the effect of iodine treatment on the growth of the body between the ages of 11 and 16, in girls having different degrees of goitre at the commencement of treatment. Those with pronounced goitres (category 3 above mentioned) exhibited about 3 cm. (height) and 3½ kg. (weight) in excess of the mean growth after two or three years' treatment; and the descending series of categories showed a gradually diminishing excess, that of category 2, for example, showing an excess of 1½ to 2 cm. and kg. in two years. It thus appears that the effect of iodine treatment increases progressively with the severity of the goitre at the commencement of treatment. That a retardation of growth goes hand-in-hand with goitre is well recognized; that the increased growth after iodine treatment is greater in girls with initial goitre is probably due to the counteraction of this retardation in districts severely affected with the disease. A similar effect on the physical growth of normal girls in non-goitrous districts cannot

necessarily be inferred. In a second paper, written in collaboration with Mary N. Karn,<sup>2</sup> the relation between the prevalence of thyroid enlargement in children and the mortality from other diseases is statistically examined. The more important results of the research have reference to Graves's disease and cancer. It is found that of the large towns those which have the greatest percentages of children aged 12 with enlarged thyroids tend to have a greater mortality from Graves's disease. This seems to support the suggestion, already made by Dr. Stocks, that Graves's disease has two causal factors—one local and responsible for endemic goitre, and the other a nervous factor. With regard to cancer, the authors find that a positive relationship exists between the prevalence of thyroid enlargement in children and the cancer mortality in the large towns of England and Wales, similar to that found from Swiss and American statistics, but less pronounced.

#### CANCER OF THE UTERUS.

THE Ministry of Health, through its departmental committee on cancer, has made a statistical investigation of the various methods of treating cancer of the uterus, as was done in the case of cancer of the breast. A memorandum on mammary cancer was published in 1926, and was considered at some length in our issue of September 25th, 1926 (p. 573). A memorandum on uterine cancer<sup>3</sup> (Circular 826) has now been issued to local authorities in England and Wales, and contains some recommendations which will require careful consideration. In an introductory note it is stated that about one-fifth to one-sixth of the total mortality of cancer among women is due to involvement of the uterus, and that this is relatively more common among the married and widowed than among the single; in recent years there has been a tendency for the death rate from uterine cancer to fall. No special evidence was found that the disease is associated with the menopause, and the explanation suggested for the prevalent contrary view is that at this period women have less hesitation in seeking treatment than later in life. On the average rather fewer than half those applying for treatment were found to be in an operable condition, and the average operative mortality is given as 10 to 20 per cent., with a tendency to decrease. If recurrence follows operation it appears to do so in 50 per cent. of patients within five years, thus rendering survival for this length of time a reliable criterion. Treatment by radiation results in the survival of about 10 to 12 per cent. of inoperable cases for a period of five years, and when patients in the operable class are included the rate rises to about 40 per cent. In England, however, this treatment has been relatively less used than in other countries, and the conclusion is reached that, pending further developments, the chief reliance must be placed on operative surgery. It is concluded that the incidence of carcinoma of the cervix may be definitely reduced by improved treatment of local lesions incidental to childbirth, and it is possible that radiological procedures will become even more effective than they are at present. Emphasis is placed on the importance of commencing any form of treatment early, and it is suggested that health authorities and cancer committees should educate women as regards the importance of immediate and thorough investigation of any irregular uterine haemorrhage. Some local authorities have established special centres or clinics designed to facilitate diagnosis and to give advice; and it is thought that in this way, as well as in others, means may be found for inducing a larger number of patients to undergo treatment at a stage where the prospect is hopeful.

<sup>1</sup> *Annals of Eugenics*, Vol. II, Parts III and IV, p. 382.

<sup>2</sup> *Annals of Eugenics*, Vol. II, Parts III and IV, p. 395.

<sup>3</sup> H.M. Stationery Office. Price 1d. net.



## METHODS OF MEDICAL EDUCATION.

THE eighth series of *Methods and Problems of Medical Education* has lately been published by the Rockefeller Foundation.<sup>1</sup> Like its forerunners, it has been arranged by the Division of Medical Education in accordance with their plan for collecting and issuing from time to time brief descriptions of clinics, laboratories, and methods of teaching in different parts of the world. The eight volumes, or separate reprints of any of the articles, will be sent gratis on application to the Rockefeller Foundation, 61, Broadway, New York. The present series, a book of nearly 400 pages, well printed and lavishly illustrated, includes articles by authorities on medical education in Europe and America. While the arrangement under subjects is not strictly followed, the earlier pages are mainly concerned with the teaching of clinical medicine and the lay-out of medical wards. Then follow groups of papers on pediatric departments, on cardiology and heart clinics, and on the teaching of general surgery and the organization of surgical departments. Methods of clinical instruction in Great Britain are dealt with in papers contributed by Sir Archibald Garrod, Sir G. Lenthal Cheatle, and Professors Francis Fraser, D. P. D. Wilkie, and George Gask; an account of the new obstetric hospital and residents' quarters at University College Hospital, London, is given by Sir George Blacker and Professor F. J. Browne; and the electro-cardiograph department of the Edinburgh Royal Infirmary is described by Dr. W. T. Ritchie. Most of the articles on Continental schools of medicine are printed in the language of the country. It would make a dull category to name here the thirty-seven separate articles and their authors, but on a future occasion we may try to pick out some threads that appear to run through a group of papers on related subjects.

## PREVENTIVE MIDWIFERY.

PROFESSOR R. W. JOHNSTONE'S valedictory address to the Edinburgh Obstetrical Society, which is printed at page 6, contains much material for thought. Prevention is a word widely used in general medical literature, and he would have it henceforth express the leading idea in obstetrics. He would apply it also to ante-natal care, which, as he says, promises immediate improvement in maternal mortality, and is therefore true prevention. Professor Johnstone remarks on the recent growth of this work, but seems to question whether its importance is even yet sufficiently recognized by the older generation of medical men. Perhaps the suggestion here is too sweeping; the ways in which it is now seen that ante-natal care should be exercised have increased, but the idea existed before, as witness the continuous watch for albuminuria, which has gone on for many years in general practice, to the saving from eclampsia of many patients who would otherwise have developed it. Perhaps, too, he exaggerates when he expresses a desire that 99 per cent. of mothers should attend ante-natal clinics; even if this is to be understood to apply to working-class mothers only, surely it is not the case that only 1 per cent. have doctors who can be trusted to impress on them the simple needs of ante-natal care. More of such instruction and advice is given in general practice than some may think. Professor Johnstone, in pleading for more intra-natal care, reminds us how greatly the work of Simpson and Lister has increased the amount of operative midwifery. This is obviously correct, and an almost inevitable result is that we begin to think of it as a branch of surgery. Instrumental intervention, he says, has become easy: "the pendulum has swung too far . . . and we must try to bring it back to the greater safety

of the middle line." He sees another pendulum swinging this time towards the supersession of doctors by midwives. Much has been heard in recent years of the lower mortality in the midwives' than in the doctors' practice, and the comparison, unless variations in the conditions are fully recognized, is apt to be unfair to the general practitioner. If a similar sort of comparison were to be made between the treatment of simple fractures and complicated fractures the unfairness would be obvious, for the results in the complicated fractures would be expected by everybody to be less good. The cases seem to be parallel, or at least comparable. Apart from this suggestion of injustice there seems to be no reason to object to the change from the medical practitioner to midwife, especially as in many important areas midwifery is already in the hands of trained midwives, the doctor only being called in where help is needed. Apply to this existing situation a closer ante-natal supervision on the part of the doctor, and the difficulties should be largely solved. There will, it is true, always be persons to agree with Mr. Neville Chamberlain in hoping for a time when all serious cases will be dealt with in hospitals; but even if this were really practicable the expense would be enormous and the expected improvement by no means certain. It would, moreover, imply the extinction of the family doctor as a factor in the case, and Professor Johnstone is clear that this is not desirable. Perhaps the situation might be helped by a greater use of the cottage hospitals. Much good surgery is already done in these, and the same might occur in obstetric work. Another idea of much interest which calls for examination is his plea for an "obstetric atmosphere." Taken too literally this conjures up strange visions. But if it is to be accepted as a plea for an enlarged idea of the importance of all the new agencies which make for the guidance of the expectant mother, then it is one to be energetically supported. Sir Thomas Clouston used to plead for what he was the first to describe as a "health conscience," and perhaps a similar "conscience" is what Professor Johnstone seeks. Be that as it may, the idea is full of possibilities. On the question of education in obstetrics, Professor Johnstone deplores the shortage of practical opportunities for the medical student, and contrasts with this the disproportionate amount of practical training enjoyed by pupil nurses. With the admitted need for proper training of nurses and the restricted amount of clinical material this may be inevitable; but there seems to be some doubt whether the General Medical Council's regulation about twenty cases duly conducted by every medical student is regularly complied with everywhere. The fact appears to be that with an alleged deterioration in the quality of midwifery practice by doctors there has been *pari passu* a general rise in the education and the competence of midwives, and it might be a reasonable inference that these stand in relationship.

## CONFERENCE ON RHEUMATIC DISEASES.

A CONFERENCE on rheumatic diseases is to be held at Bath—an appropriate setting—on Thursday and Friday, May 10th and 11th, under the presidency of Sir George Newman, Chief Medical Officer of the Ministry of Health. There will be three sessions: (1) social aspects, presided over by Lord Dawson of Penn; (2) causation, presided over by Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge; and (3) treatment, presided over by Sir E. Farquhar Buzzard, Regius Professor of Medicine in the University of Oxford. The chairman of the organizing committee is Dr. F. G. Thomson, Past President of the British Medical Association, and the local honorary medical secretary is Dr. Vincent Coates, 10, Circus, Bath. Further particulars will be announced in due course.

<sup>1</sup> *Methods and Problems of Medical Education* (eighth series). New York: The Rockefeller Foundation, 1927.

## MEDICAL SOCIETY OF LONDON.

THE Medical Society of London has now issued its programme of work for the second half of the present session, with which one hundred and fifty-five years of useful life will be completed. The ordinary meetings have been arranged as usual for Mondays at 8.30 p.m. A pathological evening on January 9th will be followed a fortnight later by a discussion on the treatment of pernicious anaemia, the openers being Professor F. R. Fraser, Sir William Willcox, and Dr. Herbert Froneh. On February 13th the subject of ultra-violet light therapy, its use and abuse, will be introduced by Professor Leonard Hill, Dr. O'Donovan, and Dr. C. B. Heald, and on February 27th the scope of surgery in the treatment of chronic rheumatoid and osteo-arthritis by Mr. Max Pogo and Mr. Harry Platt. The discussions on March 12th and 26th will be on the carrier problem, opened by Dr. J. E. McCartney and Dr. John Freeman, and on advances in the treatment of cancer of the cervix uteri, opened by Dr. Herbert Spencer and Dr. Max Chervat of Brussels. This year's Lettsomian Lectures, on rheumatic heart disease in childhood, will be given at 9 p.m., by Dr. F. J. Poynton, on February 20th and 29th and March 7th. The annual dinner is to be held at the Trocadero on March 8th, and the session closes on the evening of May 14th with the delivery of the Annual Oration by Sir Archibald Garrod on "Lessons of rare maladies," and the annual general meeting and conversazione.

## WELFARE OF THE BLIND: ADVISORY COMMITTEE.

IN view of the continued development in the work among the blind owing to the operation of the Blind Persons Act, 1920, and the new problems constantly arising in connexion with this service, the Minister of Health has reappointed the Advisory Committee on the Welfare of the Blind for a further period of office. The committee has been constituted so as to afford representation to the local authorities concerned with the working of the Blind Persons Act, 1920, and to voluntary agencies for the blind, as well as to organized blind workers. The chairman is the Right Hon. G. H. Roberts, and the vice-chairman Mr. P. M. Evans, LL.D. The medical members are Dr. J. J. Butterworth, Dr. Robert A. Iyster, Dr. H. A. Powell, and Dr. Adelino M. Roberts. The committee will advise the Minister on matters relating to the care and supervision of the blind, including any question that may be specially referred to them by the Minister. Mr. F. M. Chapman of the Ministry of Health will act as secretary.

## HUNTERIAN LECTURES.

SIR ARTHUR KEITH will give a course of six Hunterian Lectures before the Royal College of Surgeons of England, on factors concerned in the growth of the human body, on Mondays, Wednesdays, and Fridays during January, beginning on Monday, January 16th, and ending on Friday, January 27th. The first lecture will deal with Hunter's experiments on growth and grafting, and the second with the growth of living tissues under experimental conditions and the bearing of the knowledge thus obtained on abnormal growth of the human body. In the third and fourth the growth-controlling functions of the pituitary gland, and the influence exerted by the thyroid and parathyroid glands on the growth of the body, will be considered; in the fifth the manner in which sex glands exert their influence on the growth of the body as a whole, and on its special parts and organs, will be discussed; and the last lecture will contain a review of the evidence for including the suprarenal and pineal glands among the controllers of growth. The lectures will be delivered at 5 o'clock on each day.

## REGISTRATION OF OPTICIANS.

## REPORT OF DEPARTMENTAL COMMITTEE.

IN March, 1927, the Minister of Health and the Secretary for Scotland appointed a Departmental Committee to consider the Optical Practitioners (Registration) Bill and to make recommendations. The chairman was Mr. F. B. Merriman, K.C., M.P., and the other members were Mr. O. Aves, Mr. W. B. Barker, Dr. H. B. Brackenbury, Mr. L. G. Brock, Mr. E. Treacher Collins, F.R.C.S., Mrs. W. L. Courtney, Lord Cozens-Hardy, Mr. Rhys Davies, M.P., Mr. H. L. F. Fraser, Dr. C. O. Hawthorne, Mr. G. E. Houghton, and Sir Henry Keith.

The Committee held fourteen meetings, all in private, and its report has now been issued.<sup>1</sup> This consists of a majority report, signed by nine members, including the chairman, the upshot of which is that the establishment of a State register of sight-testing opticians is not in itself a desirable policy. There are also two minority reports, both in favour of registration, though on somewhat different grounds. One is signed by Messrs. Aves, Barker, and Houghton, and the other by Mr. Rhys Davies, who went abroad before the Committee's report was drafted.

Among the bodies which submitted statements to the Committee were the General Medical Council (oral evidence by Sir Donald MacAlister and Mr. H. L. Eason), the British Medical Association (Mr. Bishop Harman, Dr. R. Wallace Henry, and Dr. Alfred Cox), and the Council of British Ophthalmologists; the Ophthalmic Benefit Committee, and representatives of approved society organizations; the British Optical Association, the Company of Spectacle Makers, and the Association of Dispensing Opticians; and a number of bodies representing sight-testing opticians of various kinds. As the written and oral evidence was very voluminous the Committee did not think it desirable to have this printed, but the names of all the bodies and persons whose views came before it are given in an appendix.

*The Majority Report.*

At the outset the Committee interpreted its terms of reference as in no sense limiting it to a consideration of the registration of opticians under the provisions of the particular bill referred to it, thinking it advisable to examine in a comprehensive manner the problems which the subject appeared to raise.

Part I of the main report deals first with the history of the matter in this country and the chief factors which have lately contributed to the necessity for an inquiry at the present time. It then gives an account of the provisions for registration in other countries, and of the nature and promotion of the bill under consideration. Part II refers in greater detail to the main problems involved. This part is divided into three sections and occupies ten pages. The first section sets out the relationship between the public on the one hand and ophthalmic surgeons and opticians on the other, and the kind of register which could be set up, with a note on the need for safeguarding the status of dispensing opticians. The second section discusses the limitations which would have to be placed on the practice of opticians who would be included in such a register. The third sums up the conclusions reached in the two preceding sections and states the final conclusions reached by the majority of the Committee upon the main issue. We reproduce, substantially in full, both sets of conclusions:

*Summary of Conclusions in Sections I and II.*

The functions of even the best qualified opticians should be restricted to the use of mechanical means for the correction of errors of vision; and in the best interests of the patient the responsibility for any examination of the eyes should be upon an oculist, who, in addition to having access to all the resources of the skilled optician, can bring to bear the whole of his medical experience either in deciding that it is possible to determine the absence of disease or, on the other hand, to recognize and to treat any diseased condition that may be

<sup>1</sup> Report of the Committee appointed by the Minister of Health and the Secretary of State for Scotland on the Optical Practitioners (Registration) Bill, 1927. Cmd. 2999 London: H.M. Stationery Office. 6d. net.

present. Opticians cannot, therefore, provide more than at best a partial service, but in view of the fact that large sections of the community in present circumstances do not avail themselves of the services of oculists, and that the public are not in a position to recognize which are the most competent opticians, there is a *prima facie* case for setting up a State register in order to produce some sort of order out of the present chaos.

As, however, a considerable proportion of cases of defective vision are not cases of mere refractive error, but require treatment other than, or in addition to, the provision of spectacles, it follows that the very prescription of spectacles involves an implied decision that no other treatment is required; and we think that this consideration must govern the standard to be set for admission to any register. After a careful review of the facts regarding the training of opticians as a whole, we have been forced to the conclusion that it would not be in the public interest to set up a prohibitive register which would involve the admission of practically all opticians who were able to show that they have been conducting bona fide businesses. At the same time the setting up of a non-prohibitive register would be useless, if not dangerous, unless it were made a condition of entry that every candidate should prove to the satisfaction of the Board his ability to exclude the possibility of the existence of disease before prescribing spectacles. We are not satisfied that even those opticians who are most highly qualified in all other respects are sufficiently trained in this respect. Further, the setting up of a register of sight-testing opticians would necessitate the separate registration of opticians who undertake dispensing only.

We find that it would be necessary not only to impose restrictions on registered opticians in the way of treatment, of advertising, and of using confusing or misleading titles, but that it is imperative that they should be prohibited from using drugs. Such a restriction would in effect severely limit the classes of patients whom the opticians would be capable of treating.

#### Final Conclusions.

In view of all these conclusions we are convinced that the setting up of a State register of sight-testing opticians is not in itself a desirable policy. There remains, however, the question whether it is nevertheless necessary, having regard to existing circumstances, to adopt this expedient in the public interest. In our opinion the answer to this question depends on how far the medical profession is likely to be able to make the services of oculists available for persons in those sections of the community for whom at present they are, for economic reasons, not available.

*Prospect of the Extension of the Services of Oculists.*—Whether it is as the result of the establishment by approved societies of ophthalmic benefit, or of the question of registration becoming acute, or of the increasing competition of better trained opticians, or merely of the greater public recognition of the importance of defects of vision, we are satisfied that there exists a movement on the part of the medical profession to provide treatment by oculists on terms which will make that treatment much more readily accessible to the public. We are assured, for example, that so far as insured persons are concerned, negotiations are at present being conducted by the British Medical Association with a view to the establishment in all the more populous districts of clinics or other schemes by which the services of oculists would be made available at fees within the reach of approved societies, having regard to the limited funds available for ophthalmic benefit.

*Number of Oculists Available.*—Moreover, we are satisfied that in recent years an increasing number of medical men, and particularly the younger men, have been making a special study of ophthalmology; also, that there is good reason to believe that a supply of oculists, sufficiently well distributed to meet reasonable demands, will be forthcoming. The setting up of a State register of opticians would not encourage, and might indeed retard, these movements. We feel that it would be a retrograde step on the part of the State to do anything to discourage the provision of the best form of treatment for the greatest possible number of patients.

*Future of Opticians.*—It has been claimed, probably with truth, that the setting up of a State register would incite those responsible for the training of opticians to raise the standard of qualifications, but we see no reason why the improvement in methods of training which has been made in the last ten or fifteen years should not be maintained, though no register is set up. Whether the register is set up or not we feel sure that numbers of the population will resort to opticians in the future, as they have done in the past, and we think that the natural competition engendered by the movement on the part of the medical profession to which we have referred will have the effect of raising the standard in both classes of practice. Further, in view of the large numbers of opticians who are undoubtedly capable refractionists, we con-

sider it would be beneficial in the public interest if use could be made of their services in that capacity in collaboration with and under the control of oculists.

While we have been forced to conclude that it is not in the public interest that a State register of opticians should be set up, we desire to emphasize that one of the principal reasons on which we base this opinion is our view that it is possible and probable that the medical profession will be able to provide insured persons entitled to ophthalmic benefit with the services of oculists at an early date, and at fees within the limit of the funds from time to time available to approved societies for this purpose. We hope, also, that such a service will be extended to the non-insured population. If, however, these hopes are not fulfilled within a reasonable time we do not wish our Report to preclude the possibility of a reconsideration of the question in the light of the circumstances then existing.

#### Minority Reports.

In their dissenting report Messrs. Aves, Barker, and Houghton say that, according to their reading of the terms of reference, the main issue to be determined was whether some form of State registration of sight-testing opticians is necessary for the protection of the public.

"From the public point of view the case for State intervention springs from the unfortunate prevalence of ignorant and incompetent opticians. All the evidence before us has tended to confirm the danger arising from the activities of incompetent persons setting themselves up to prescribe for defects of vision. There seem to be but two ways of dealing with this evil. One is to prohibit entirely any unregulated practice; the other is to provide some form of identification whereby the public may distinguish between regulated and unregulated practice. This necessity is both urgent and obvious, yet we find a decision evaded on the plea that the service even of the qualified sight-testing optician is 'at best only a partial service,' and that the State should not encourage the public to have recourse to any form of treatment which is 'not the best attainable.' Such a deduction appears illogical, since it is based on a Utopian service which is purely hypothetical, as opposed to the present adequate and admittedly efficient organization."

They conclude that the case for the regulation of the practice of optometry by means of a State register is well supported, and that the Committee incurs a serious responsibility in making an indeterminate report.

"If this issue is shelved at this juncture through reluctance to tackle the problem we foresee as a consequence: (a) the creation of further vested interests which will complicate the problem on the inevitable reopening of the question; (b) the creation of an unfair prejudice against the case of the qualified opticians whose past voluntary efforts have earned the praise of the whole Committee that has heard the evidence; and above all (c) an encouragement to the pretensions of incompetent persons whose activities constitute the most serious and obvious danger to the public. A *non possumus* conclusion now that the issue has been thus prominently raised will certainly give countenance to the idea that there is no intention whatever to interfere with undisciplined practice, and this in itself would be little short of a public disaster."

In his separate statement Mr. Rhys Davies remarks that the business and practice of optometry in this country is undoubtedly in a state of chaos.

"No general standard of qualification is attained. Whilst a large number of opticians are well qualified to do sight-testing and provide spectacles, there is a considerable proportion of persons performing this very delicate and important task without any semblance of qualification. In fact, in some cases spectacles are bought like ordinary merchandise, sold over shop counters and in the market places, without any regard whatsoever from the vendors' point of view as to whether they meet the requirements of the customer or not. . . .

"There is much to say in favour of laying down the principle that all persons suffering from any affliction of the eyes should proceed direct to an ophthalmic surgeon, the surgeon to make out the prescription, which the patient would then take to the optical practitioner, who would simply carry out the instructions of the surgeon, and supply the appliance. That, however, is an ideal which cannot possibly be achieved for many years to come. The present number of ophthalmic surgeons is totally inadequate, and there is no doubt that there are optical practitioners already in practice whose experience undoubtedly gives them as good a title to perform ordinary sight-testing as many general medical practitioners. The optician should provide spectacles only in cases where no disease exists. Where the optician finds that the eye is diseased he should send the case forthwith to the ophthalmic surgeon for treatment. That practice prevails already among a large number of the most qualified optical practitioners. I am

satisfied that optical practitioners, even with the best qualifications, should not be allowed to use drugs for sight-testing purposes. . . . "Steps should be taken to guide, co-ordinate, and develop educational facilities for the training of optical practitioners so that a proper standard should be set and the public safeguarded against quackery of all kinds."

Mr. Rhys Davies concludes that optical practitioners should be registered on the general lines of the provisions of the bill submitted to Parliament, but subject to certain reservations, which he sets out.

## EDUCATIONISTS IN CONFERENCE.

### SOME MEDICAL ASPECTS.

THE beginning of the year is the chosen time for educationists to assemble, and for the last ten days University College, London, has been given up to almost continuous conferences, in which fifty teaching organizations have participated. The discussions have ranged from the alleged dullness of writers on education to such questions as the nutritional requirements of school children, English spelling in the schools and elsewhere, and education for marriage.

Sir Michael Sadler, in a presidential address at the first of the sessions, claimed that Britain now had the pre-eminence in the field of education which formerly belonged to Germany or to Germany and America both, and that Britain to-day was the most considerable exporter of educational ideas. He deplored, however, one vestige of the older European traditions which was too prominent in English secondary education—namely, the importance given at Oxford to Latin in responses and entrance examinations. There was a time when Latin was the lingua franca of educated Europe, but that time had gone. He fully realized that certain types of mind were enriched by the form and colour of classical education, but there was nothing gained by making it a fetish, especially when this meant the neglect of the study of living European languages and the art of speaking them.

### Health Teaching in Schools.

The Association of Headmistresses of Private Schools was addressed by Professor Winifred Cullis, who pleaded that health teaching should be given the same place in school as the teaching of writing and reading, and that no school should be considered adequately staffed unless it had at least one teacher capable of, and specially trained for, this type of instruction. She regretted that in at least one training college physiology and physical exercises were grouped together, so that a person proficient in the latter might gain sufficient marks for a certificate, while having only the most rudimentary knowledge of physiology. Another point made by Professor Cullis was that it by no means followed that the children of the professional woman were neglected; some of the happiest homes she knew were homes in which the mother went out to pursue some professional avocation. Far more frequently the neglected children belonged to homes in which the mothers were absorbed in social pleasures. Professor Cullis made an appeal to headmistresses of schools to which girls came from homes in which there was no financial stringency, to consider whether the ambitions of their pupils might not be properly directed to a medical career. She believed that there were too few women doctors. Women doctors were wanted especially for the care of girls and young women, where they had a sphere which could not be so well filled by men doctors, and the statement that women doctors found it difficult to obtain employment was not in accordance with the experience of the Royal Free Hospital Medical School for Women, which had trained half the women doctors in the country.

### The "Problem Child."

One event in connexion with the conferences was the first public meeting of the Child Guidance Council, a body of which some account was given in a recent issue (December 10th, 1927, p. 1104). Here the address was delivered by Mr. P. B. Ballard, M.A., D.Litt., who spoke from the point of view of a psychologist on the "problem" child, meaning by this term not the mental but the temperamental defective, especially the neurotic and the "naughty" youngster. Mr. Ballard said that there was a tendency to regard mental deficiency as hereditary, but delinquency as a thing for which the individual was responsible. But mental deficiency might not be entirely hereditary;

in part it might be due to bad environment, perhaps to bad teaching, while as to delinquency there seemed to be no doubt that some children were prone to queer complexes as a result of some unfortunate handling in the earlier part of their lives, and for which they themselves could not be held to account. The curious thing was that, while attempts were made to cure the incurable—that is, the mentally deficient—little or no attempt was made to cure the curable—namely, the neurotic and delinquent child. The mental defective was not punished, but the delinquent was punished, and punished, too, from a purely retributive point of view, whereas the proper way of dealing with him was by education. Mr. Ballard submitted that child guidance clinics offered suitable machinery for dealing with such children through a sympathetic staff of psychiatrists, psychologists, and specially trained social workers. The Child Guidance Council, owing to an American benefaction, was being financed for the present without the necessity of appealing for funds, and hoped to establish before long a demonstration child guidance clinic which would show that the problem of the "difficult" child was not insoluble.

### Psycho-analysis in Early Childhood.

The full gospel of psycho-analysis was proclaimed at a large meeting—over which Sir George Newman was announced to preside, but he was detained at the last moment—held under the auspices of the British Psychological Society. Dr. David Forsyth dealt from the psychological point of view with the first five years of life, and especially with the period of infancy. He said that recent investigation has shown that when the fairly complete amnesia which existed prior to the fourth or fifth year was broken up by psycho-analysis the causes of subsequent nervous disturbance reached back into that period. Even so early in life were children swayed by loves and hates and jealousies as between their two parents and themselves, and were frequently the subjects of the "Oedipus complex." The attitude which a child of 3 or 5 adopted towards its father or mother might presently determine the adult attitude, if a girl, towards men, and, if a youth, towards women. The physical experiences of birth, sufficiently trying for the mother, must be extremely terrifying to the child, and there was a possibility that from these experiences dated the dread which hovered in the minds of some young children. The infant possessed a mass of strong emotions, not only powerful, but uncontrolled, and his earliest emotional reactions, largely to external stimulus, might give shape to his later reactions—though qualified perhaps in one or other direction—to similar stimuli throughout life. Dr. Forsyth suggested ways in which any disturbance of the normal function of feeding and excretion might show itself in subsequent character. For example, children who learned the habit of retaining the stool, finding that to do so enhanced the pleasure of the eventual excretion, were likely to be strong willed. The making of a pessimist might be traced back to a maladjustment in breast-feeding which left the infant unsatisfied, or to food being given at a wrong temperature to the bottle-fed child. The speaker also pointed out that the earlier the origin of psychological disorders in childhood the more severe was the ultimate result.

Among other subjects for debate at the conferences, which do not conclude until the end of this week, were physiology and muscular work, school meals, and the effects of bodily infirmity on character formation; these must be held over for subsequent reference.

## France.

[FROM OUR OWN CORRESPONDENT.]

### A.D.R.M.

THE Association for the Development of Medical Relations has just held its annual meeting at the Paris Faculty of Medicine. Your readers have already heard of the work carried on by Professor Hartmann and his supporters. The idea is to keep the doors of our medical sanctuaries wide open to our colleagues from abroad, and to give freely and readily all information that may prevent loss of time and red-tape entanglements. During the year just past colleagues from no fewer than fifty-six different countries availed themselves of the opportunities thus afforded. The largest number came from South America. Quite a new

departure was the institution, at the beginning of the academic year, of post-graduate lectures and demonstrations in English. They were attended chiefly by Americans, whose scientific headquarters were at the American Hospital in Nenilly. The association also had the privilege of greeting over two hundred conferees from the Inter-State Post-Graduate Assembly of North America.

#### THE LYONS FACULTY OF MEDICINE.

The ancient medical faculty of Lyons is on the eve of being transferred to a part of the site on the outskirts of the town where the erection of the great hospital group to be called the *Grange Blanche* has already been begun. This scheme is endowing France with an institution which will probably be the most complete centre of instruction and treatment in Europe. Its realization has been made possible by the Rockefeller Foundation, which has guaranteed two-thirds of the cost on condition that the city of Lyons collects the other third. Here, then, we are witnessing the foundation of a *cit   m  dicale*, and the introduction almost inescapably of collegiate life into France; but we must not complain if we are being induced to break with our oldest traditions in order to follow the example of friendly nations. Unification of methods is the normal course for things to take.

#### THE NEW PROFESSOR OF THERAPEUTICS.

The amphitheatre of the Faculty of Medicine of Paris has witnessed one more of those great days when it is filled to hear the inaugural lecture of a new professor. This time it was the turn of Dr. Loeper, who has been appointed professor of therapeutics. It is not easy to take possession of a chair made illustrious by such men as Trousseau and Dica  fey, but their successor rose to the occasion in an address which was a miracle of simplicity and good taste. These qualities have rendered him one of the most popular of our younger masters. He has been a highly valued collaborator of Professor Achard, and in his service at the H  pital Tenon he has proved himself a pioneer in the scientific investigation and demonstration of affections of the digestive tract. In him we shall always find an intellect alive to every new development and thoroughly well acquainted with the investigations and the investigators beyond our own frontiers.

#### DR. YERSIN.

The Acad  mie des Sciences has just awarded one of its most important prizes, *le grand prix Lecomte*, to Dr. Yersin. It will be remembered that he was associated with Dr. Roux in preparing antidipltherial serum, and that later on he discovered the plague bacillus, and then went on to produce antiplague serum. But the Acad  mie wished in Yersin to honour not only a medical benefactor of mankind, but also an eminent geographer. Yersin has explored the Moie country in Indo-China, and was the first to produce a map of that region. Moreover, he it was who introduced the culture of rubber into the colony.

#### PROFESSOR CALMETTE.

Professor Calmette, assistant director of the Institut Pasteur in Paris and a member of the Acad  mie de M  decine, has just been elected a member of the Acad  mie des Sciences. It is not necessary for me to recall that Dr. Calmette has to his credit a record of scientific researches sufficient to overburden any ordinary man. He gave his energies first to the study of snake venoms and to the production of antivenomous serum; next he attacked the problem of the infectious diseases, especially tuberculosis. His researches with regard to vaccination of young bovine animals against tuberculosis led to the discovery of B.C.G., designed to protect the newborn infant against tuberculosis—a discovery which, in its practical applications, seems to be one of the most important made in our epoch.

#### A POPULAR PROMOTION.

Most popular in France, and in Great Britain too! It is with the greatest pleasure that we have seen that the French Government, perhaps as a Christmas gift, has promoted to the rank of Officer of the Legion of Honour *notre grand ami Anglais* Sir StClair Thomson.

G. MONOD.

## Ireland.

#### HEALTH OF NORTHERN IRELAND.

THE fifth annual report of the Registrar-General relating to Northern Ireland contains general summaries of the births, deaths, and marriages registered during 1926, and, unlike certain other statistical productions, contains some interesting information about the health of the population concerned. A preliminary report of the census taken in 1926 gives the number of inhabitants of Northern Ireland as 1,256,322. While the marriage, birth, and death rates for the year under review are all below the average for the previous ten years, yet, as compared with 1925, the birth rate shows an increase, though the other two rates are lower. There has been a steady decline in the marriage rate following the peak year of 1919, and it is now the lowest for the past ten years, with the exception of 1917. The birth rate fell steadily from 1920, with the exception of 1923 and 1926, in which years there were slight recoveries. The death rate has varied considerably; it was high during the war years, and then fell steadily until, in 1923, it reached 14.9. In the following year an epidemic of influenza and a high rate for respiratory diseases resulted in an increase to 16.1, but since then there has been an annual decrease, and the rate of 15.0 for 1926 is the lowest recorded during the past ten years, with the exception of that registered for 1923. Deaths from tuberculosis continued to decrease, but still represent nearly 10 per cent. of the mortality from all causes. In the ago period 15 to 25 this disease is responsible for over 54 per cent. of deaths, whereas in the following ten-year period the proportion falls to 44 per cent. Deaths from influenza in 1926 totalled 482, being less than half the average for the past ten years. Heart disease was the chief cause of death, and is followed by tuberculosis and cancer; the death rate from this last condition has risen each year from 1922 to 1925, but was slightly lower in 1926. There was a slight increase in the mortality due to encephalitis lethargica and cirrhosis of the liver. The number of deaths registered as uncertified in consequence of the fact that no medical attendant was present during the last illness has dropped considerably, from 2,350 in 1925 to 1,785 in 1926. The report is published by H.M. Stationery Office, price 2s. 6d. net.

#### TREATMENT OF CANCER: FUSION OF HOSPITALS.

At the annual meeting of the committee of management of the Dublin Skin and Cancer Hospital, Lord Glenavy, Chairman of Irish Free State Senate, moving a resolution that the Dublin Skin and Cancer Hospital was worthy of the support of the citizens, said that the report was calculated to raise a feeling of very grave anxiety in the minds of those interested in that and similar institutions in the city. The time had come when their institution would have to make up its mind whether it would carry on on the same ambitious lines on which it had been working with such success, or whether it would have to curtail its activities, with consequent loss to the citizens and the country. As to State aid in the routine working of ordinary hospitals, it was a thing not to be hoped for, and in his opinion not to be desired, and in this he was expressing the opinion of all concerned in hospital administration in Great Britain. The State had no money of its own; it had to get the money out of the pockets of the taxpayers, and any contribution towards the upkeep of general hospitals would impose a very heavy additional burden on the already overtaxed citizens of the community. Further, State aid would debar voluntary contributions, and there was also the consideration that they would not get State aid without State control, and State control was not useful or helpful in hospital administration. Four thousand people died in Ireland yearly from cancer. It was a national matter, and required national consideration. This had already been given to tuberculosis, and it was difficult to see why the same consideration should not be extended to cancer. While that hospital was devoting itself to research work it was doing a national work, and ought to receive national recognition. The difficulty was that



it was not the only institution pursuing the same lines. These efforts should be centralized and united in one great institution. The more the patients in one institution the greater the opportunities for ascertaining the cause of cancer and its effective treatment, and he would be glad if the staffs of the three institutions engaged in this work could meet in conference and see how far it was possible for their combined efforts to be continued at one centre. If nothing else resulted there would be economy. There were too many hospitals, some of which had outlived their usefulness, and amalgamation would cut down expenses and greatly increase efficiency. He thought it would be a very good thing in this connexion, and for hospital management throughout the city, if the Government were to appoint a commission of experts, who would go into the entire matter, thrash it out, and if the parties were unwilling to come to terms they might be compelled to do so by the agency of the State; he said that in the best spirit of benevolence towards all the institutions.

## Correspondence.

### THE ABUSE OF CAESAREAN SECTION.

SIR,—Dr. Jellett, in his paper on the abuse of Caesarean section (*BRITISH MEDICAL JOURNAL*, September 10th, 1927, p. 451), is very grudging in praise of its utility. He gives operability rates varying between 1 in 6 and 1 in 366. The former he suggests is the outcome of excessive surgical zeal, and the latter the result of careful obstetrics. Abuse can only be proved when, for a given condition—whether it be contracted pelvis, placenta praevia, or something else—the results obtained by a clinic which seldom resorts to section can be shown to be as good as those obtained by one which makes frequent use of the operation. No allowance is made for the fact that the modern maternity hospital is the surgical centre for a very large area. The cases requiring operative treatment are therefore drawn from the district which the hospital serves, and this, in the case of the Newcastle-on-Tyne Maternity Hospital, is very large indeed. Our hospital records show that the proportion of sections performed in one year to women delivered in the hospital is 1 to 19. I have looked up the reports for several other maternity hospitals in this country, and find the proportion to be 1 to 10, 1 to 21, 1 to 30. No one could possibly be misled into thinking that such figures indicated abuse of the operation unless they appeared in the lay press. There will be general agreement, however, that, if strict ante-natal supervision were universally practised, many sections would be avoided.

Discredit is thrown on the operation as a whole by the results of late operation in cases originally suitable for it, as, for instance, cases of pelvic contraction which reach the obstetric surgeon in a condition greatly increasing the risk of death from post-operative sepsis or shock. Death from such causes frequently results, no matter how cases seen late in labour are dealt with. In a series of 52 "failed forceps" cases admitted to hospital 8 mothers died. Of these, 3 were delivered by forceps or version and 5 by abdominal section. Of the 5, one, a primipara, had a ruptured uterus, and the child was in the abdominal cavity—this cannot be considered a true Caesarean section—while one died of pneumonia a month after leaving hospital. It is therefore hardly fair to lay the onus of the fatal result on the section.

Dr. Jellett states that "even when the operation was done under the most favourable circumstances the mortality was 1.4 per cent." Excluding obstetric incompetence, surely he would not have us believe that that figure would have been avoided, or even have been as small, had the condition which justified the section been dealt with by any other method. It is difficult to understand why an operator who would not hesitate to open an abdomen and enucleate a fibroid from a uterine cavity should hold in such dread the enucleation of a living child.

Rupture of the uterus during a subsequent pregnancy or labour is given as a reason for dreading the operation, but Dr. Jellett provides the explanation that "there is

always the risk that unsuitable suture material, bad suturing, or sepsis of the wound may cause a weakening of the scar." Surely the first two are inexcusable, while the last-named is highly preventable. The dread of rupture is a negligible factor.

Having decided to perform a section the removal of the uterus, whether in part or in whole, is absolutely unjustifiable. To justify such a procedure Dr. Jellett states that in late cases "we must take into consideration the probable existence of a latent infection, which may later give rise to a general peritonitis." (The italics are my own.) Examination, and even the application of forceps, does not mean that the patient is septic. Local soreness with an offensive discharge after rupture of the membranes is probable proof, but actual proof can only be obtained by discovering offensive liquor amnii when the uterus is opened, or by taking a culture from the same. Many patients with definitely infected liquor amnii make excellent recoveries. Post-mortem examinations have shown conclusively that all too frequently the periuterine tissues are already badly bruised and infected at the time of the section, and this could not have been eliminated by a hysterectomy.

If general peritonitis and death were unknown after apparently normal labours, or after difficult forceps deliveries, the dread of a section resulting in such a catastrophe would be very real indeed. The following figures are of interest in this connexion. Of the 52 "failed forceps" cases already referred to, 16 were delivered by section. All had been many hours in labour; many were exhausted; all had been examined on a number of occasions; and some showed definite evidence of infection. Of these, 5 died following section (vide supra), the remaining 11 recovered and retained their uteri.

Dr. Jellett's paper will do good in calling attention to the importance of ante-natal care, and by its hearty condemnation of the conversion of Caesarean section into a short-circuiting operation by an operator not conversant with obstetric procedures.—I am, etc.,

E. FARQUHAR MURRAY, M.D., F.R.C.S.

Newcastle-on-Tyne, Dec. 23rd, 1927.

### TROPICAL AUSTRALIA.

SIR,—In the *BRITISH MEDICAL JOURNAL* of December 31st, 1927 (p. 1244), Sir James Barrett returns to a subject on which he has often recorded his views—that is, the successful peopling of tropical Australia by a white race. As all who have studied this question know, there is a considerable literature on this subject, and there are also conflicting views. Having already discussed the matter, on which unfortunately I cannot speak from first-hand knowledge, in my papers on acclimatization, which appeared in the *Lancet* for June 30th, July 14th, and August 4th, 1923, I have no desire to consider it afresh, especially as Cilento summed up the situation, at least from his own standpoint, in a recent communication to *Health (Commonwealth of Australia Service Publication (Tropical Division), No. 7, June, 1925)*.

There is, however, one point to which I would like to direct attention. Believing, as I do, that tropical light and heat, even in the absence of all so-called tropical disease, tend to affect deleteriously the nervous systems of northern European races constantly exposed to them, I found it difficult to understand how, in the low-lying littoral of tropical Queensland, white men were able to work in the cane fields and to believe that a healthy white race had persisted there throughout several generations. I am told, however, that the explanation lies in the fact that these white Australians are very largely of Italian origin. I should be glad to know if this is true, as, if so, it would certainly explain the remarkable adaptation of a white race to trying tropical conditions. There can be little doubt that the Spaniard and the Southern Italian have a better chance of becoming acclimatized in the tropics than have the inhabitants of northern European countries. A consideration of what has occurred in Cuba and in parts of South America, apart altogether from the production of the half-breed, indicates that this is the case.

Is there in the low-lying region of tropical Queensland an example, on a comparatively large scale, of a colony

of British-born settlers which has persisted without deterioration for three or four generations, and the male members of which have carried out manual labour in the open? Will Sir James Barrett, out of the wealth of his experience and knowledge of local conditions, kindly answer this query?—I am, etc.,

London, W.C.1, Jan. 2nd.

ANDREW BALFOUR.

#### TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—The comment on suprapubic prostatectomy by Mr. G. A. Clarkson (November 26th, 1927, p. 1006) might be termed ultra-pessimistic. There must be something radically wrong with the pre-operative care, operative technique, and post-operative treatment to cause so much constant leaking after this operation. I have had the pleasure of working under Sir John Thomson-Walker and Mr. A. Clifford Morson, and since returning to Canada have now performed dozens of suprapubic prostatectomies in accordance with their technique, with only one death, in a man, aged 76, who had cancer of the prostate. In all my cases the wounds were healed and dry within six weeks, with one exception, where I had to drain the bladder for three months in order to obtain a proper specific gravity of the urine and sufficiently high urea content. Young's operation is excellent in the hands of its author or other experts, but for the average surgeon the suprapubic route in my opinion is the safest. Each operation no doubt has its place in urinary surgery, but from the standpoint of mortality or complications there is nothing to choose between them.

Statistics have been published which show a slightly lower death rate for perineal prostatectomy, but we must take into consideration the fact that certain difficult cases, such as those of very large prostates, or of large, complicating calculi, or of bladder diverticula, can only be dealt with by the suprapubic route, and that as a result of this the mortality of this operation is likely to be increased. From the point of view of convalescence the advantages lie to a small degree with the perineal operation, but even Young admits that in 14 per cent. of his cases fistula existed six weeks after operation. Perineal prostatectomy certainly eliminates all risk of hernia, but it carries with it a slightly greater risk of fistula, imperfect bladder control, impaired sexual function, and certainly more danger of injury to the rectum. The suprapubic route, moreover, is certainly the best for dealing with the enlarged prostate, and even with the small multinodular prostate when, after removal, tags of mucous membrane and perivesical tissue may cause obstruction. I think that Sir J. Thomson-Walker's open operation, facilitated by his retractor with light attachment, renders the operation just as efficient as by the perineal route. When the prostate is placed high in the pelvis, when it is very large, or when associated with bladder complications, it is really the only one that can be successfully carried out.—I am, etc.,

CLARENCE MILLER, M.D., C.M., F.A.C.S.

New Glasgow, Nova Scotia, Dec. 12th, 1927.

#### EARLY SIGNS OF TUBERCULOSIS.

SIR,—Dr. Eugene L. Opie's address in the *BRITISH MEDICAL JOURNAL* of December 17th, 1927 (p. 1130) on the pathology of the tuberculosis of childhood and its bearing on clinical work is a very valuable contribution, and should be carefully studied by all who are interested in the pathology of tuberculosis. He stresses two features of the disease: (1) relative immunity acquired by infection in childhood, and (2) "the danger that latent infection may cause manifest and perhaps fatal disease."

His ideas upon latent tuberculosis agree with those which I have been preaching for a quarter of a century. Those who, at the Congress of Tuberculosis at Berlin in 1899, had the privilege of seeing the demonstration of 32 cases of latent pulmonary tuberculosis in 196 cases of sudden death examined by Birch-Hirschfeld, can readily visualize the danger inherent in latent infection.

Throughout his article Dr. Opie clearly and frankly vindicates the paramount importance of using tuberculin for determining the existence of these potentially dangerous latent infections of tuberculosis. These latent forms of

tuberculosis in children exposed to infection in the family "may occur in the apex in adolescent children," and there may be also a "high incidence of clinically manifest tuberculosis with symptoms and physical signs." He adds as a control that "no manifest disease has appeared in the non-contact families." His investigations in the bacteriology of latent tuberculous lesions provide the clearest proof of the truth of the view I expressed fully twenty years ago, that a typical reaction with tuberculin was itself proof that there were living tubercle bacilli somewhere at work in the living tissues. My view was summarily rejected. Dr. Opie's investigations leave little doubt that my view was, and is, sound.

I regret now that I did not attend the Annual Meeting of the British Medical Association in Edinburgh in order to have the opportunity of suggesting to Dr. Opie that tuberculin dispensaries are not only the best means of investigating the prevalence of tuberculosis in the families of the poor, but simplify the diagnosis and treatment of the latent cases by means of tuberculin and radiology.

Moreover, thirty-five years' experience convinces me that, of all "the well known measures directed to retard the progress of tuberculosis," tuberculin treatment at these institutions leaves little to be desired in simple uncomplicated chronic phthisis, and probably would be equally beneficial in modifying the character and course of tertiary lesions in other organs than the lungs.

Lastly, Dr. Opie and I seem to have always had an instinctive dislike to the inapt and shadowy designation "hilum tuberculosis." Such a term is an unworthy reflection upon our anatomical and physiological knowledge and might well be discarded in radiological descriptions. There is no need for shadowy designations, when at least we are anxious to know the actual site of the lesion. This is all the more important if, as Dr. Opie tells us, "accentuation of the hilum shadow or thickening of the mediastinum is seldom due to tuberculosis of lymph nodes, and does not aid in the recognition of the disease," and if, as Dr. Armand-Delille (Paris) plainly says in the discussion, "normal lungs show x-ray hilum shadows which bear no relation to enlarged bronchial glands." We shall certainly avoid pitfalls and clarify our conception of the secondary stage of tuberculosis, the essential lesion of which is tuberculosis of the lymphatic tracts of the lungs, including the important terminal lymphatic glands, if we allow this vague and indeterminate expression "hilum tuberculosis" to vanish entirely from medical literature. There is so much uncertainty regarding many features of tuberculosis that it is not wise to introduce a term that merely adds to our difficulties without helping towards a clear and definite perception of the true facts.—I am, etc.,

W. CAMAC WILKINSON, M.D.

London, W.1, Dec. 23rd, 1927.

#### CATARACT AND ULTRA-VIOLET LIGHT.

SIR,—Dr. Percy Hall's letter in your issue of December 24th, 1927 (p. 1206) calls for one comment. He suggests that my remarks on the causation of cataract by ultra-violet light were based on experiments on animals, using the excised eye suspended in normal saline. In this there is a slight misunderstanding. The experiments which I have done involved the radiation of the isolated lens suspended in various fluids, and, in addition, the radiation of the intact eye of the living animal. And if, as I take Dr. Hall to mean, experiments on animals cannot apply to the human subject, how much of the accepted foundations of medical science are to be left inviolate? Certainly Dr. Hall is not of this opinion in other connexions, for his book on *Ultra-Violet Light* contains the reports of many animal experiments, the lessons of which are applied to the case of man.

Dr. Hall expresses surprise that, in spite of my contention, I use ultra-violet light in the treatment of many ophthalmological diseases. When doing so, I am quite satisfied that I am not causing cataract, as I hope Dr. Hall will be assured when he acquaints himself with the technique now employed at the Royal London Ophthalmic Hospital, wherein the lens is absolutely excluded from the

incident light.<sup>1</sup> Certainly when used in large doses ultra-violet light produces an intense conjunctivitis. But Dr. Hall uses the same agent on the skin, where with similar incautious dosage it produces an equally intense dermatitis.

As for the "sting in the tail" of my letter, it was not necessarily intended for Dr. Hall, but for anyone soever whose practice leads to the results exemplified in the letter of Mr. Sydney Tibbles, which appears in the same issue of the JOURNAL. Two cases of a like nature have come under my notice recently, the one treated by a qualified practitioner, the other not.—I am, etc.,

London, W.1, Dec. 24th, 1927.

W. STEWART DUKE-ELDER.

SIR,—In view of Dr. Percy Hall's statement in your issue of December 24th, 1927 (p. 1206), that "certainly removal of the lens is not a 'cure' for cataract," I feel it is only fair to reply that, so far as we know, it is the only cure.

The fact that patients who think they are going blind with cataract want to get better, if possible, without an operation, leads them to try all sorts of treatment, which they can often ill afford. I have known patients half starve themselves, live on fruit juices, and try every form of treatment, including ultra-violet light. The effect of the latter, in one case, I mentioned in the letter which follows Dr. Percy Hall's on page 1206.

For twenty years I have tried every form of treatment for patients with commencing cataract, in the hope that, if they got no better, at least the condition would get no worse—that is, in cases of incipient cataract, where the patients' activities were not greatly interfered with by the failing vision. I have tried iodides internally, locally, by injection, and by ionization. They were recommended in textbooks that were written sixty years ago. The fact that I once thought I got the commencing striae of a right lens practically to disappear with a French proprietary preparation containing calcium iodide has led me in the last eighteen months to try this preparation on some two hundred cases that I have re-examined carefully at fixed intervals. With the exception of one case (which has since relapsed) there has been no definite improvement. The patients themselves may think they are better, and, unless the surgeon is careful, he, too, may be misled by their enthusiasm.

The so-called "cures" are due to the fact that anyone's vision varies from time to time. If the lighting, the type, and the distance from the type are constant factors at each examination there are always slight differences in the vision, and I suggest that that is what caused an "improvement" from 6/12 to 6/9 and 6/9 to 6/6 in the right and left eye respectively of the case quoted by Dr. Percy Hall.

Apparently the administrators of ultra-violet radiation cannot quite agree at present as to its real value in ophthalmic practice, but Dr. Spiro, in a paper which you quoted on page 1194, read in my Section at the recent Conference on Light and Heat, pretty well covered the ground by showing what eye cases were improved by the general tonic effect of general radiation.

Practically all forms of cataract tend to get denser with increasing years, and this includes congenital forms, and when useful vision is prevented the only cure is to remove the cataractous lens. There are thousands of people all over the world who have been successfully operated upon, and who are again able to lead a happy existence, as the result of what is probably the most delicate operation in the whole of surgery. I admit one has to remove the opaque lens which is preventing vision. As the patient was blind before this, surely Dr. Percy Hall might be generous enough to admit that as a "cure" for the blindness.—I am, etc.,

London, W.1, Dec. 24th, 1927.

SYDNEY TIBBLES.

#### ANTISEPTICS IN OPHTHALMIC SURGERY.

SIR,—Sir Arnold Lawson's paper on this subject, reported in your issue of December 17th, draws needed attention to an important subject. His teaching, stated briefly, seems to be that, although the eye cannot be sterilized, it should, for surgical purposes, be treated exactly as if it could.

<sup>1</sup> Brit. Journ. Ophthalm., 1927, xi, 67.

But in my opinion irrigation is of value. My experience, based on over two thousand cataract extractions and an annual average of more than a thousand eye operations, is strongly in favour of the use of mercury perchloride lotion, 1 to 3,000 or even 2,000. Before cataract extraction we irrigate and wash thoroughly with this solution. The antiseptic power of such a lotion is very great, even when diluted with tears. Moreover, it is astringent. Since adopting this procedure, which we owe to Colonel Smith, panophthalmitis after cataract extraction has been banished.

In the East trachoma is extremely common, and before operating great care has to be exercised. If there is any doubt the lids should be everted for inspection. The absence of any latent lacrymal obstruction must be ascertained. Smears from the conjunctival sac, examined microscopically, are not to be despised; for, although the conjunctiva has some inherent power of combating infection and intracellular micro-organisms may often be seen (a proof of phagocytosis), excess of organisms can usually be recognized. We have quite abandoned tying up eyes to see if there is discharge. Such procedure, even for a few hours, if it demonstrates the existence of discharge, also aggravates the condition and necessitates longer preparatory treatment for days or weeks. Eyelashes cut short, and the stumps washed with the perchloride solution, rarely give trouble if after operation Lister's double cyanide gauze is applied under the pad of wool or Gamgee tissue.

The special value of Sir Arnold Lawson's paper is the emphasis laid upon scrupulously careful antiseptic technique even where, as in this case, the actual organ operated upon cannot be absolutely sterilized.—I am, etc.,

ERNEST F. NEVE, M.D., F.R.C.S. Ed.

Kashmir Mission Hospital.

#### LARGE OVARIAN CYST.

SIR,—The interesting account, in the BRITISH MEDICAL JOURNAL, December 31st, 1927 (p. 1225), by Dr. H. H. Barnett, of an ovarian cyst from which 108 pints of fluid were removed, brings to my mind the case recorded by Mr. Samuel Glass in the *Phil. Trans.*, vol. xlv, Part II, for 1747 (p. 337). The patient was Mary Nix of Hampton Poylo. She died, and a post-mortem examination was made. The circumference of her abdomen was six feet four inches, from the xyphoid cartilage to the os pubis was four feet and half an inch. The base of the heart lay under the right clavicle, the lungs scarcely exceeded in magnitude those of a newborn child. There was in the abdomen a cyst which contained fluid, which was "found to be not above a pint less than thirty gallons wine measure." The author is uncertain as to the origin of the cyst; it may have been ovarian; he suggests that perhaps it was renal; but be that as it may, surely few abdominal cysts have contained more than 239 pints.—I am, etc.,

London, W.1, Jan. 2nd.

W. HALE-WHITE.

#### AN INCIDENT IN A "FIRST-CLASS LIFE."

SIR,—I think the circumstances of the following case, in which a man is certified a "first-class life" at 3.30 p.m. and has a gangrenous appendix at 9 p.m., may be of interest.

On December 6th, 1927, I was asked to go and see Mr. X, complaining of "stomach ache," with a temperature of 100.6° F. He was a very healthy, well built man, just 50 years of age. In July, 1927, he had an attack of similar pain for four hours one night. As regards family history, I had operated upon a son and a daughter for acute appendicitis.

He awoke on December 6th with a headache (unusual), which yielded to aspirin. This was succeeded about noon by abdominal discomfort below the umbilicus, which persisted, but had not been severe. He decided to "walk it off" over a distance of two miles from his office to his home, which he reached with difficulty.

His condition on examination at 7.30 p.m. was noted as follows: Does not look very ill. Complaints of moderate pain in hypogastrium. Bowels open this morning; no nausea and has not vomited. Temperature 100.8° F., pulse 78, tongue coated. Abdomen moves poorly on respiration. Right rectus very rigid in lower half: maximum tenderness over McBurney's point. Rectal examination negative.

I sent him straight off by ambulance to a nursing home as an early acute appendix.

At 9 p.m. he looked decidedly ill; the temperature had risen to 102° F., and the pulse to 84. He had not vomited. At the operation, using Battle's incision, the appendix was found to be retrocecal and bound down. Free pus of horrible odour was present and the appendix was gangrenous, very oedematous, swollen, kinked like a hairpin, and perforated. I removed it with difficulty, having to begin at the base, and left a drainage tube in the wound.

There was no vomiting after the anaesthetic. The patient was very ill for the first week, and the odour of the abundant purulent discharge very foul. He made uninterrupted, if slow progress, and was out to have his bed made in sixteen days. There is still some discharge, now inoffensive. The patient is doing well and gets up daily (twenty-one days).

The interest of this case lies in the fact that the patient had been carefully examined for life insurance that very afternoon (December 6th, 1927) at 3.30, by a very able local practitioner of standing, and passed as a "first-class life."

I have since discussed the case with my colleague, who says that Mr. X mentioned some abdominal pain to him at the time, so that the abdomen, being suspect, received a more than usually thorough examination, but there were no signs of appendicitis to be made out. I'm, however, suggested that if the pain continued Mr. X should call me in, and it was this precautionary advice rather than the severity of his symptoms which led to my being consulted in time.—I am, etc.,

R. SALISBURY WOONS, M.D., F.R.C.S.

Cambridge, Dec. 28th, 1927.

#### ISOLATION FOR MEASLES.

SIR,—It is perfectly safe for an uncomplicated case of measles to mix freely in society fourteen days after the first appearance of the rash, convalescence being satisfactorily established.

My reason for writing this letter is that I now find myself compelled to keep a patient at school over Christmas because the medical man who attends her family asserts that it is unsafe for the child to return home till three weeks have elapsed from the first appearance of the rash.

All the periods during which uncomplicated cases of the common exanthemata remain infectious are definitely known, and it is important that members of the medical profession should realize this fact. The data have been drawn up and printed by the Medical Officers of Schools Association, in consultation with epidemiologists of repute and other leading consulting physicians, and they have stood the test of time. I say this without hesitation after more than twenty years' experience as medical officer of a public school.

Since some practitioners are still unacquainted with what should be by now a matter of common knowledge, it seems high time that the rules adopted by all our public schools should be communicated to the profession by some central authority, such as the General Medical Council.—I am, etc.,

Winchester, Dec. 26th, 1927.

F. J. CHILD, M.D. Cantab.

#### INJECTIONS FOR VARICOSE VEINS.

SIR,—May I offer a word of warning to those of my colleagues who have jumped to the conclusion that the treatment of varicose veins by sclerosing injections can be undertaken in a haphazard manner? Surely there should be a preliminary examination of the patient? Has he cardiac trouble, renal trouble, a blockage of the deep veins, or, as in the case I have in mind, have his superficial veins been removed?

Unknown to me, my patient was advised to have this new treatment. The surgeon, after applying a tourniquet to the thigh, raised a small pouch in the popliteal space, into which he injected a solution. Then the patient stood up and the tourniquet was removed. The patient "did a mild faint," as he himself says. However, within ten minutes he was told to go home. I was called an hour later and found him collapsed and generally upset.

I mention all this because the method used by the surgeon was wrong. My advice is: Never apply a bandage to get your vein, especially when most of the superficial veins have been removed fifteen years before; never let your patient walk away until he has had at least twenty

minutes' rest. If you employ the new line of treatment, make yourself proficient in the administration of it. Calamities are thus avoided.—I am, etc.,

London, S.W.7, Dec. 14th, 1927.

A. MACBETH ELLIOT, M.D.

#### A CLINIC FOR PHYSICAL TREATMENT IN LONDON.

SIR,—As a member of the London Clinic Subcommittee (British Committee on Rheumatism, International Society of Medical Hydrology) I am writing in reference to Dr. Menzell's letter in your issue of December 10th (p. 1120) as there would appear to be a danger of some misconception as to the aims and objects of the proposed clinic.

But first I would like to assure Dr. Menzell that the committee are well aware, not only of the existence of the Kensington Clinic, but of the splendid work that is being done there under Dr. Menzell's direction, and any failure to mention the clinic was, I am sure, due to oversight and not to any lack of appreciation. I personally have sent a large number of patients to his clinic, and can testify both to the benefits that they have received and to the kind manner in which they have been treated, a courtesy which has been amply extended to the doctor sending them, as, for instance, in the matter of reports on progress.

There are other clinics also of a somewhat similar nature in London, but, so far as I am aware, there is no place in all this huge centre of population where a complete physical treatment is given, including hydrotherapies, and hydrotherapy is a special feature of the proposed clinic.

Such treatment can, of course, be obtained at the spas; but the spas could take only a small fraction of the insured patients requiring hydrotherapeutic treatment, even if it were possible or desirable to dislocate so large a body of people from their work for a prolonged stay away from home at a spa. It is not suggested that precisely the same benefit can be obtained by a course of baths in London as by a similar course at a spa, as, apart from the benefits of rest and change and the powerful psychological element involved, there is undoubtedly a specific influence on the bathor's skin, and so on the whole organism, immersed in certain mineral waters, though by no means in all mineral waters.

Thus the action of hypertonic brine waters, or of waters with high contents of free gases or mineral acids, on the circulation and on the peripheral blood content, is not a matter of conjecture or assertion but of proof, and easily verified by experiment. It has been suggested in certain quarters that practically the whole virtue of mineral water baths lies in their specific content. Such an attitude is even more absurd than the opposite one, which would deny all virtue to any mineral water bath beyond that of hot water. Hydrology, though very little studied, is, up to a certain point, just as exact a science as any other branch of medicine, though an enormous amount of work is required to be done in the matter of research before this backward branch can take its true place in medicine.

Briefly, for the treatment of insured patients it is proposed to use various baths and douches of hot ordinary London water, in combination, or not, as may be necessary, with massage, manipulation and movements, electricity, light, dry heat, and other implements of physical treatment, in such measure that one form of treatment shall aid or supplement another. It is confidently hoped that this course will reduce the long list of rheumatic panel patients at present necessarily inadequately treated by bottles of medicine, week after week and month after month; will relieve effects of rheumatism though not causes; that so it will reduce the cost to the societies of sickness benefit; and that it will curtail the huge wastage of man-labour power caused by chronic rheumatic disablement. In fine, that it will be a relief both to the panel patient and the panel doctor. The points mentioned by Dr. Menzell will naturally be observed:

1. Patients will be sent by their panel doctors.
2. They will be examined by a doctor at the clinic before treatment.
3. The staff will be fully qualified.

4. All patients will report periodically for examination by the medical officer.

5. The fact that they are panel patients will be accepted as proof of their financial status.

6. A charge will be made. It is hoped that the clinic will eventually be self-supporting.

Finally I would point out that it is hoped that this will be only the first of many similar clinics throughout London and the country generally.—I am, etc.,

London, W., Dec. 16th, 1927.

ARTHUR STANLEY HERBERT.

### UNDERFEEDING AND OVERFEEDING IN INFANCY.

SIR,—Dr. Leo Mandel, in your issue of December 10th (p. 1118), says that it is to welfare centres that we should look, rather than to a hospital out-patient department, for statistics as to the simpler diseases of nutrition in normal infants. I think that medical officers of welfare centres will agree that overfeeding is a very frequent cause of malnutrition, even in the breast-fed infant. How often do we get the case of a baby suffering from diarrhoea and vomiting and consequent malnutrition, who is found to be having ten or eleven feeds in the twenty-four hours! The mother is told by her friends, "Oh, your milk evidently disagrees with baby. You should put him on a bottle." When the feeds are reduced to five or six in the day, with no night feed, the baby quickly becomes normal, unless the overfeeding is of long duration. In my experience a case of malnutrition due to long-standing overfeeding, whether in breast-fed or bottle-fed babies, is much more intractable than one due to underfeeding.

As to dried milks, the following of the directions on the tin usually involves not only the fallacy of feeding entirely by age without consideration for weight, but also the reconstitution of the dried milk almost to the composition of undiluted cow's milk, which few people would think of giving to a young infant. At centres with which I am associated dried milk is supplied in plain packets without directions. Instructions are given to each woman individually to dilute the dried milk in such a way (for a normal infant) that, with added sugar and cod-liver oil in some form, the mixture approximates as nearly as possible in composition to breast milk. The quantities are adjusted partly according to weight and partly to age.

Besides the fact that they deal chiefly with the normal healthy infant, medical officers of welfare centres have the further advantage that they are able to see the results of their methods in after years, whereas in the out-patient department of a hospital the child is only seen as a rule as long as the mother considers it to be abnormal.—I am, etc.,

London, Dec. 11th, 1927.

DOROTHY B. GERE.

### A TREATMENT OF MORPHINISM.

SIR,—I have only to-day read Dr. Stanford Park's criticism (December 3rd, p. 1056) of my note "A treatment of morphinism," which appeared in your issue of November 5th (p. 827).

"What use," he writes, "is atropine in treatment apart from the delirium it produces?" I do not use it to produce delirium, and, indeed, I consider that the production of delirium is painful, unnecessary, and undesirable. I am not prepared to say why an exceedingly high tolerance of atropine and hyoscine secures the patient against discomfort, but I did and do state it as a fact. Had I not Dr. Stanford Park's assurance that the same result can be secured by other (and as yet, I believe, unpublished) methods, I should have said that such other methods did not exist.

My suggestion that such easy weaning had its influence on prognosis, to judge from a small but accurate series of after-histories, depends on no supposition of mine that "a kind of immunity" (to atropine or to morphine? I do not gather which) is conferred. I should rather favour some such psychological explanation as has been given me by patients as a cause of relapse after other treatments—namely, that painful withdrawal is apt to leave behind

a lurking resentment which is only too liable to reassert itself when occasion offers.

Without a doubt recent regulations in the sale of dangerous drugs have improved prognosis generally, but 60 per cent. of my cases are medical men, with whom opportunity remains.—I am, etc.,

London, W., Dec. 21st, 1927.

G. LAUGHTON SCOTT.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

Dr. T. W. M. CAMERON has been recognized as a teacher of helminthology at the London School of Hygiene and Tropical Medicine.

The London School of Hygiene and Tropical Medicine (Division of Medical Zoology) has been admitted as a school of the University in the Faculties of Medicine and Science under Statute 74, pending consideration of an application for the admission of the school as a whole.

Mr. Wilfred Trotter, M.S., F.R.C.S., has been appointed a member of the University College Committee for the remainder of the year ending February 29th, 1928, vice Sir George Blacker, resigned.

The following have been appointed examiners for the second examination for medical degrees in 1928, the chairmen being indicated by an asterisk:

*Anatomy*.—G. Elliot Smith (Univ. Coll.), D. M. Blair (King's Coll.), W. E. Le Gros Clark (St. Bart's), F. G. Parsons (St. Thomas's), W. Wright (London Hospital), T. Yeates (Middlesex), Mrs. Lucas Keene (London School of Medicine for Women), J. E. S. Frazer (St. Mary's), together with the external examiners.

*Pharmacology*.—E. B. Verney (Univ. Coll.), J. P. Hill (Univ. Coll.), P. Hanuill (St. Bart's), N. Mutch (Guy's), St. Bart's, G. W. do P. S. Vincout (Middlesex), \*Miss E. M. Medicine for Women, B. J. Collingwood (St. Mary's), together with the external examiners.

*Physiology*.—R. J. S. McI. Nicholson, E. C. Dodds, Cullis (London), St. Mary's, J. P. Hill (Univ. Coll.), St. Bart's, G. W. do P. (London Hospital), Middlesex, \*Miss W. C. on, B. J. Collingwood.

It has been decided that the scheme for the second examination for medical degrees, Parts I and II, for internal students approved in July, 1925, and continued for the session 1926-27, shall be continued for the session 1927-28.

It has been resolved to institute, in accordance with the regulations on university titles, the following chairs, tenable at the London School of Hygiene and Tropical Medicine: (1) Chemistry, as applied to hygiene; (2) Public Health, salary, £1,300 a year, together with an allowance of £200 a year. Applications for the latter chair must be sent in by February 16th.

A course of three lectures on the surgery of the kidney and ureter, with lantern illustrations, will be given by Mr. Graham Simpson at Guy's Hospital Medical School on February 10th, 17th, and 24th at 5.30 p.m.

The following have been appointed staff examiners in the subjects of examinations for medical degrees for 1928:

*Anatomy*.—Professor T. H. Bryce and Professor T. B. Johnston.

*Bacteriology*.—Professor J. W. H. Eyre.

*Chemistry*.—First Medical: F. D. Chattaway and Miss Sibyl Taito Widdows. Second Medical: Professor C. S. Gibson, O.B.E., and F. D. Chattaway.

*Forensic Medicine and Hygiene*.—W. B. Anderton and A. S. MacNalty.

*General Biology*.—A. J. Groves and F. Drabble.

*Medicine*.—C. Bolton (internal), Professor F. R. Fraser, Professor A. J. Hall, and C. Wall (internal). Associate Examiners: C. M. Wilson, A. Peilling, D. H. de Souza, and Professor W. E. Hume.

*Mental Diseases and Psychology*.—C. H. Bond, C.B.E., and E. D. Macnamara.

*Neurology*.—Gordon H. Holmes and C. M. Hinds Howell.

*Obstetric Medicine*.—J. S. Fairbairn and Eardley Holland. Associate Examiners: Professor F. J. Brown and D. W. Roy.

*Otorhino-laryngology*.—Sir William Milligan and Herbert Tilley.

*Pathology*.—Professor Stuart McDonald and Professor E. H. Kettle. Associate Examiners: R. Donaldson and J. A. B. Hicks.

*Pharmacology*.—W. E. Dixon and V. J. Woolley.

*Physics*.—Professor F. H. Newman and Gilbert Stoad.

*Physiology*.—Professor J. B. Leathes and Professor J. Mellanby.

*State Medicine*.—W. A. Brend and R. A. Lyster.

*Surgery*.—H. S. Souttar, Professor C. A. Pannott (internal), W. Girding Ball (internal), E. C. Hughes, and as fifth examiner if required, C. M. Page. Associate Examiners: Professor E. D. Telford, N. C. Luke, G. T. Mullally, P. H. Mitchiner, and as fifth examiner if required, E. K. Martin.

### UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.

#### WELSH NATIONAL SCHOOL OF MEDICINE.

PROFESSOR JAMES HENRY DIBLE has been appointed Professor of Pathology and Bacteriology in the Welsh National School of Medicine.



## Obituary.

SIR PERCY BASSETT-SMITH, K.C.B., C.M.G.,  
F.R.C.P.LOND., F.R.C.S.ENG.,  
SURGEON REAR-ADMIRAL R.N.(RET.).

WE have to record with great regret the death of Surgeon Rear-Admiral Sir Percy Bassett-Smith, K.C.B., which took place at his home at Blackheath on December 29th, 1927, after a short illness. As lately as December 14th he was present in his usual seat at the meeting of Council of the British Medical Association.

He was born in 1861, the son of the late William Bassett-Smith, and was educated at Hurstpierpoint and at the Middlesex Hospital, taking the L.S.A. in 1882 and the M.R.C.S.Eng. and L.R.C.P. Lond. diplomas in 1883. In 1913 he also became M.R.C.P., and was elected F.R.C.P. in 1918. He took the D.T.M. and H. at Cambridge, and in 1916 was elected F.R.C.S.Eng. After serving as senior house-physician at Middlesex Hospital he entered the Royal Navy in 1883, was promoted to staff surgeon in 1895, attained the rank of surgeon captain in 1917, and retired with the rank of surgeon rear-admiral on April 1st, 1920. During the Sudan campaign of 1884-85 he served at Suakin as surgeon of H.M.S. *Rambler*, receiving the Egyptian medal and the Khedive's bronze star. During this commission he made valuable reports on the geology and biology of coral reefs, and many of the specimens collected by him were transferred to the British Museum, for which he received the thanks of the trustees. Later (1891-1893) he served again in the surveying service in H.M.S. *Penguin*, when he again made many valuable and interesting reports on subjects of natural history and collected many specimens; for this work also he received the thanks of the trustees of the British Museum.

In 1899 Bassett-Smith was specially promoted to fleet surgeon, and received the Gilbert Blanc Medal for his journal. He was also Cragg's research prizeman at the London School of Tropical Medicine. From 1900 to 1912 he was lecturer on tropical medicine and bacteriology at Haslar, and from 1912 to 1921 professor of clinical pathology at the Royal Naval Hospital, Greenwich. While at Greenwich he did most valuable scientific work of many kinds for the naval service, and in 1921, on his retirement from the active list, he received a letter from the Lords of the Admiralty in appreciation of his great attainments.

After his retirement he practised as a consultant in Harley Street, and was on the staff of the Victoria Park Chest Hospital and of St. John's Hospital, Lewisham. He took an active part in the work of the Royal Society of Tropical Medicine, and held office as its president. He was the author of articles on snake bite and poisonous fishes in the *Encyclopaedia Medica*, Vol. XI; on undulant fever in the *Practitioner's Encyclopaedia of Medicine*, 1915, and in Byam and Archibald's *Practice of Medicine in the Tropics*; and of contributions on kala-azar, typhoid fever, Wassermann's reaction, and the prevention of scurvy, to various medical journals.

Sir Percy Bassett-Smith was a loyal supporter of the British Medical Association. At the Annual Meetings in 1903 and 1912 he served as vice-president of the Section of Tropical Diseases, and in 1910 of the Navy, Army, and Ambulance Section. He became a member of the Naval and Military Committee in 1921, and was elected to the Council in the following year, and held both offices continuously until the time of his death. In 1922 he was made a member of the committee appointed to consider the expansion of the Army Medical Service in time of national emergency. He was a regular attendant at Council and committee meetings, where his quiet but most effective services and his kindly personality were valued by all with whom he came in contact.

He was created C.B. in June, 1911, at the coronation of H.M. King George, and K.C.B. in June, 1921, after his retirement. He married Constance Brightman, daughter of the Rev. F. Hastings, who died in 1925, leaving two daughters.



Photograph by

[Elliott and Fry, London.

SIR PERCY BASSETT-SMITH.

At the funeral service on Wednesday morning, January 4th, at St. Margaret's Church, Lee, the Council of the British Medical Association was represented by Major-General Sir Alfred Blenkinsop, the Naval and Military Committee by Dr. F. W. Goodbody, and the headquarters staff of the Association by Dr. C. Courtenay Lord, Assistant Medical Secretary.

We are indebted to Sir HUMPHRY ROLLESTON, Bart., for the following tribute:

The announcement of the premature death of Surgeon Rear-Admiral Sir Percy W. Bassett-Smith while actively engaged in the medical life of London comes as a sad shock to his many friends, especially in the Naval Medical Service. For many years he was the authority on all things pathological in the Royal Navy, and his long term of service (from 1900 until his retirement in 1921) in this capacity at the Medical School, first at Haslar and afterwards at Greenwich, deservedly gave him a unique position. Though specially promoted in 1899 to the rank of fleet-surgeon (now surgeon commander), his employment in these pathological posts was incompatible with the usual sea service, and accordingly his further promotion was much delayed, and, indeed, at one time seemed doubtful. Eventually, however, the outstanding value of his work was fully recognized, and this most able, modest, and conscientious man, ever willing and anxious to help, and therefore extremely popular with his medical brethren, became a surgeon rear-admiral and a K.C.B.; when retirement did become necessary he left with a truly enviable reputation. While at Haslar (1900-12) he combined clinical instruction in tropical diseases with his pathological teaching and research, and when transferred with the Medical School to Greenwich was enabled to utilize beds in the Dreadnought Hospital for the application of his laboratory results—for example, those on the vitamin content of foods—to the practice of medicine. In the outside medical world his merits were duly recognized by election to the Fellowships of both the Royal Colleges, and after his retirement he at once became an authority at the various medical societies in London and in consulting practice.

## ALEXANDER BLACKHALL-MORISON, M.D.,

F.R.C.P. ED. AND LOND.,

Consulting Physician, Royal Northern Hospital, London.

THE death took place suddenly, on December 23rd, 1927, at his residence in Upper Berkeley Street, London, of Dr. Alexander Blackhall-Morison.

Alexander Morison was born on Christmas Day, 1850, and after receiving his early education at Dollar Academy, in those days a celebrated boys' school, he proceeded to the University of Edinburgh, where he took the degree of M.B. in 1872. He came of well known Scottish ancestors, and took a great pride in the exploits of his progenitors; this was shown particularly by the volume that he produced for the New Spalding Club, dealing with "The Blackhalls of that Ilk and Barra," as well as by a manuscript volume which he had prepared dealing with the life of his grandfather, Sir Alexander Morison. The Blackhalls, as he points out, were hereditary coroners and foresters of the Garioch from the end of the fourteenth century. A member of this family, William Blackhall, was regent and professor of logic at the University of Aberdeen in the year 1682, when he lost his chair in consequence of religious difficulties with the authorities. Sir Alexander Morison, who was descended through the female line from the Blackhalls, graduated M.D. of Edinburgh University in 1799, and later became President of the College of Physicians. He was best known as a pioneer in this country in the special study of mental diseases, having been for fifty years visiting physician to Bethlem Hospital, and prominently associated with the philanthropic movement in favour of the more humane treatment of lunatics which was introduced in the earlier half of the nineteenth century. In this connexion he founded, in 1864, a lectureship on mental diseases in the Royal College of Physicians at Edinburgh, and an endowment to reward meritorious attendants of the insane. His two sons were members of the medical profession, and of these the elder, Alexander Cushnie Morison, was a surgeon in the service of the Honourable East India Company, and father of Alexander Blackhall-Morison.

After graduating at the University of Edinburgh, Blackhall-Morison became house-surgeon to Professor Spence, and afterwards spent some time in post-graduate study at the Universities of Berlin and Würzburg. Returning to England, he settled in general practice in the North of London, a type of medical work which he continued for some twenty years. In 1878 he graduated M.D. at Edinburgh, receiving a gold medal for his thesis, and in 1887 he joined the Royal College of Physicians at Edinburgh as a member, proceeding to the fellowship in 1889. At a later period, in 1892, he became a member of the Royal College of Physicians of London, and was elected to the fellowship in 1903. Desiring to confine his practice to work as a physician, in 1892 he became physician to the Children's Hospital at Paddington Green and physician to St. Marylebone General Dispensary. Later he became physician to the Royal Northern Hospital and physician in charge of heart cases at Mount Vernon Hospital.

His interests as a physician were specially connected with cardiology, and a number of articles dealing with angina pectoris, heart failure, and cognate subjects were contributed to the *Lancet* over a period of about ten years. A series of these articles, dealing with cardiac pain, was published in 1914 under the title of *Sensory and Motor Diseases of the Heart*. As the views expressed in this volume tended to support the old ideas in regard to cardiology, they brought him into a good deal of correspondence and conflict with the clinicians who at that time were engaged in work upon the muscular and electrical phenomena connected with cardiac function, and especially with the late Sir James Mackenzie. In 1897 he was appointed by the Royal College of Physicians, Edinburgh, to deliver the Morison Lectures, which had been founded by his grandfather, and he chose as his subject the anatomy and physiology of the nervous mechanism of the viscera. For a second time, in 1923, he was appointed Morison Lecturer, when he dealt comprehensively with the progress

of neurology, psychology, and psychiatry during the last century.

Like his predecessor William Blackhall in 1682, he was a man of deep and unyielding convictions, which took the form of a strong championship of what he conceived to be the dignity of the medical profession. This led him, after the introduction of the national health insurance scheme, to become one of the founders of the National Medical Union. For some years he occupied the position of president in this union. In times of relaxation Dr. Morison was fond of fishing, sketching, and golfing, and he was devoted to several branches of antiquarian research. This led to the collection of many objects of interest connected particularly with the historical aspect of medicine. For his collection he had obtained a fine portrait of William Harvey, painted upon a wooden panel and believed to be from the brush of Cornelius Janssen. This portrait was presented by him to the Royal College of Physicians at Edinburgh.

Dr. Blackhall-Morison had long been a member of the British Medical Association. He served on the Metropolitan Counties Branch Council in 1921-22 and again in 1926, and in 1922 was chairman of the Marylebone Division, of which he was the representative in 1923-24. He was a member of the Association's Non-Panel Committee in 1923-25.

He was interred in the cemetery of Currie, six miles out of Edinburgh, in the same burial ground as his grandfather, Sir Alexander Morison, M.D. The funeral was attended by Dr. J. Ford Anderson, together with several of his old patients from London, and there was a large attendance from the Royal College of Physicians of Edinburgh, including the new president, Dr. R. A. Fleming, and the past-president, Dr. G. M. Robertson.

## JAMES ROBINSON, C.B.E., L.R.C.P. AND S.,

Formerly Lord Mayor of Cardiff.

Dr. JAMES ROBINSON died at his residence, Hillside, Penylan, Cardiff, on December 27th, 1927, after a short illness. Born at Portadown, co. Armagh, in 1867, he received his early education at Grange, and studied later at Galway and Belfast. He took the diplomas of L.R.C.P. and S., and after some experience of practice in South Wales removed to Cardiff in 1894. He took great interest in municipal affairs, and became a member of the Cardiff City Council in 1901. He was chairman of the Health Committee from 1907 to the time of his death, and was also a member of the Parliamentary, Watch, Waterworks, Mental Hospital, and Education Committees. He was made an alderman in 1912, and served as Lord Mayor of Cardiff in 1913-14.

Dr. Robinson was the representative of the City Council on the Council of the South Wales and Monmouthshire University College, and was a member of the Council of the Welsh National Memorial Association and of the Board of Management of the Cardiff Royal Infirmary. He was appointed a justice of the peace for the city in 1908, and in 1915, when deputy mayor, he was elected a member of the advisory committee for the appointment of magistrates for the city. During the war Dr. Robinson assisted in the work of medical examination, and was chairman of the executive committee of the Welsh National Hospital and of the executive of the Welsh Hospital at Netley. In recognition of these services he was awarded the C.B.E.

Dr. Robinson was a member of the Cardiff Division of the British Medical Association. By a sad coincidence his name appears among those members of the medical profession upon whom the King proposed to confer the honour of knighthood in the New Year.

The death took place, on December 20th, 1927, at his residence at Newburgh-on-Tay, of Dr. JOHN MACMILLAN. He had been in his usual health till December 16th, when he developed an attack of pneumonia. He was born in 1875 and graduated M.B., C.M. at the University of Edinburgh in 1896, taking the M.D. degree three years later. As a

student he was a well known Rugby football player, and he did much to foster open-air sports in Newburgh, where he was for several years president of local golf and bowling clubs. He acted as medical officer for a number of parishes in northern Fifeshire, and was a prominent member of the local education authority. He is survived by a widow, son, and daughter.

## Medical News.

THE People's League of Health has arranged two series of lectures to be delivered in the house of the Medical Society of London, 11, Chandos Street, Cavendish Square, at 6 p.m. Eight lectures on the mind and what ought to be known about it will commence on January 25th; they will be given by Drs. Crichton Miller, E. D. Macnamara, R. D. Gillespie, T. Beaton, E. Mapother, W. A. Potts, A. F. Tredgold, and Sir Robert Armstrong-Jones. Seven lectures on nutrition in health and disease will commence on February 17th, and the lecturers will include Professors Leonard Hill, V. H. Mottram, Winifred Gullis, and Drs. Harry Campbell, L. J. Harris, and Eric Holmes. Tickets may be had from Miss Olga Netherlands, R.R.C., 12, Stratford Place, W.1.

THE Pharmaceutical Society of Great Britain will hold an evening meeting in the theatre at 17, Bloomsbury Square, W.C., on Tuesday, January 10th, at 8 o'clock, when a lecture on colour photography will be given by Sir William J. Pope, F.R.S. Tea and coffee will be served in the examination hall afterwards. Medical friends of members will be welcomed.

THE Fellowship of Medicine announces that a clinical demonstration in ophthalmology will be given on January 11th, at the Royal Eye Hospital, St. George's Circus, at 3 p.m., by Mr. Griffith. The first medical demonstration will be given by Sir Thomas Horder, at St. Bartholomew's Hospital, on January 26th, at 1.30 p.m., and the first surgical demonstration by Mr. A. E. Mortimer Woolf at the Queen Mary's Hospital, Stratford, on January 23rd, at 2 p.m. Lectures arranged by the Fellowship of Medicine will be delivered in the lecture room of the Medical Society, 11, Chandos Street, Cavendish Square, on Mondays, at 5 p.m.; the first lecture will be given on January 16th by Sir James Parves-Stewart on acute drunkenness. These lectures and demonstrations are free to medical practitioners. On January 9th a fortnight's course in medicine, surgery, and the special departments will begin at the Prince of Wales's General Hospital, Tottenham. Also on January 9th a course in diseases of children, organized by Dr. Bernard Myers, will commence at the Children's Clinic, the National Heart Hospital, the Royal Waterloo Hospital, the Hospital for Consumption, Brompton, and the Royal National Orthopaedic Hospital, and will occupy nearly every afternoon and most mornings. Other arrangements for January include a whole-day course in cardiology at the National Hospital for Diseases of the Heart, January 16th to 27th, and one in psychological medicine at Bethlehem Royal Hospital, consisting of lecture demonstrations on Tuesday and Saturday mornings, at 11 a.m., from January 17th to February 11th. Syllabuses and tickets may be obtained from the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1, who will also supply copies of the *Post-Graduate Medical Journal* and particulars of the general course of work, which continues throughout the year.

DR. ROBERT MACNEIL BUCHANAN and Dr. George H. Edington, ex-president and president respectively of the Royal Faculty of Physicians and Surgeons, Glasgow, have been appointed justices of the peace for the county of the city of Glasgow.

DR. H. P. NEWSHOLME has been presented by the public health staff of the borough of Croydon with a wireless set and an attaché case as an expression of goodwill on his retirement from the medical officership of health for Croydon to take up the corresponding post at Birmingham.

AN extra Gifford Edmonds' prize of £100 for the best essay on a subject dealing with ophthalmology involving original work will be awarded in December, 1928. The subject for this essay is "Central scotoma: its pathology and clinical significance." Essays should be sent to the secretary, Moorfields Eye Hospital, City Road, E.C.1, from whom particulars may be obtained. The subject for the current essay to be sent in by December, 1928, is "The causation and differential diagnosis of proptosis." The prize is open to all British subjects.

THE Ministry of Health has issued a circular to public health authorities describing the character of the report which medical officers of health should present for 1927. As

in the previous year, it will be an ordinary report and not the full survey report, which was last required for 1925 and will not again be due until 1930.

THE proceedings of the combined meeting of the Section of Neurology of the Royal Society of Medicine and the American Neurological Association, which was held at the end of last July, have been published in the October issue of *Brain*. We gave an account of this conference on August 13th, 1927 (p. 276).

THE John Scott prize of 1,000 dollars has been awarded to Dr. Peyton Rous for his work on cancer, Dr. A. Hess for his work on rickets, and Dr. Afriano de Amaral for his work on antivenins.

THE annual report for 1926-27 of the Society for the Provision of Birth Control Clinics has been issued from the Women's Welfare Centre (153a, East Street, Walworth Road, S.E.17). Besides this main centre at Walworth the society now has eight affiliated centres: in Stepney (East London), North Kensington, Cambridge, Glasgow, Manchester, Wolverhampton, Birmingham, and Oxford, the last two having been opened during the year under review. Three of the medical officers attached to the centres of the society accepted the invitation of the National Birth Rate Commission to give evidence at its medical session. For the maintenance of its work the society is dependent on voluntary benevolence.

THE honorary secretary of the Lonsanne Medical Graduates' Association informs us that the following medical men have been approved for the M.D. degree at the University of Lonsanne since June, 1927: P. Ellman, J. J. Luddy, J. R. Maleri, D. A. Imrie.

THE health of the European child in Malaya is the subject of an article in the issue of the *Journal of Tropical Medicine and Hygiene* for December 15th, 1927, by Dr. G. A. C. Gordon, late assistant health officer to the municipality of Singapore. Full details are given of the necessary precautions to be adopted with regard to clothing, diet, and habits, and the conclusion is reached that the average period of residence for these children may, under favourable conditions, be extended to the age of puberty.

AT a lively dinner of the Society of Apothecaries of London, held in the Hall at Blackfriars on January 3rd, the Lord Mayor (Sir Charles Batho) and Mr. Sheriff Davenport, attended as guests, and the society's gold medal was presented to Sir Frederick Gowland Hopkins, D.Sc., F.R.S., F.R.C.P., professor of biochemistry in the University of Cambridge. The company were received by the Master, Dr. R. Whiteside Statham, and the Wardens, Lieut.-Colonel C. T. Samman and Dr. H. J. Platt. Those present besides the after-dinner speakers included Sir George Makins, Dr. C. O. Hawthorne (Chairman of the Representative Body, British Medical Association), Sir Squire Sprigge (Editor of the *Lancet*), Mr. H. W. Carson, President of the Medical Society of London, the Masters of five City Companies, and Sir Frederick Hallett, who was warmly congratulated on his knighthood, announced among the New Year honours. In proposing the health of the Lord Mayor and Sheriffs, the Master, in a graceful speech, spoke of the happy relations between the Corporation and the great Guilds of the City of London and of the long history of the Apothecaries' Society, one of the few guilds still carrying out the objects of its charter. As proof of its response to the needs of the time, he mentioned the establishment of the new diploma in obstetrics and infant welfare, for which the first examination would be held next summer. After replies by the Lord Mayor and Sheriff, the Master presented the society's gold medal for therapeutics, paying tribute to Professor Hopkins's unique position in biochemistry and to the profound influence upon therapeutics of his pioneer studies in nutrition; that part of his work which had the widest appeal was his discovery of the bodies now known as vitamins. Sir Frederick Hopkins, in acknowledging the award, welcomed Dr. Statham's emphasis on dietetics as a branch of therapeutics. It might seem a provocative statement at such a banquet, but in his view no section of the human race had ever yet been properly nourished. Although the race had survived, yet this was a relative survival. Something was wrong; there was some deficiency; but science, he believed, would be able to right matters without disturbing the amenities of life. The founding of this medal proved the society's interest in medical research: great advances in medicine almost always came from research rather than from experience and common sense. The health of the guests was proposed by the senior warden, and responded to, in the absence of the vice-chancellor, by Dr. E. Graham Little, M.P. for the University of London, and by Mr. Lewis Briscoe, Master of the Armourers' and Braziers' Company. Excellent music was provided by the Chantry Gleemen, a male voice quartette from the choir of Westminster Abbey and St. Paul's.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Naclilus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### THE MAXIMAL DOSE OF MERCUROCHROME.

**DR. E. REAVLEY** (Alta, Canada) asks for opinions on the following case. A man, aged 41, previously healthy, who had recently passed a life insurance examination, developed septic cellulitis on the left side of the neck, which spread to the upper third of each arm and the front of the chest and the left side. There was a haemorrhagic sputum from the throat, but the heart and lungs were normal. The temperature did not rise above 101° F., and the pulse ranged between 80 and 100. On the ninth day of his illness he received an intravenous injection of 320 c.cm. of 1 per cent. mercurochrome. Dr. Reavley asks whether this dose amounting to 3.2 grams of mercurochrome, is a "record." He had previously considered that 0.2 to 0.5 per cent. solution was the strongest that should be used, and that not more than 20 c.cm. of this should be administered. In the present instance death occurred on the day following the injection.

#### A MANUSCRIPT GONE ASTRAY.

**DR. J. P. GOOD** (27, Farnham Road, Edgbaston, Birmingham) asks our help in securing the return of a thesis entitled "An inquiry into the causation of spina bifida." He lent it to some medical acquaintance whose name he cannot recall.

#### WINTER MOTORING.

**DR. C. F. FRANCE** (Dicconson House, Wigton) writes: If "Canadian" (JOURNAL, December 31st, 1927, p. 1250) will send his address I will let him have particulars of the paraffin lamp used for warming my car for the last three or four years.

#### TREATMENT OF FLATULENCE.

**DR. I. V. YOFFA** (Victoria, Australia) writes in answer to "West Country" (JOURNAL, October 1st, 1927, p. 629), who asked for advice as to the treatment of recurrent attacks of gastric and intestinal flatulence: An effective remedy is bismuth salicylate gr. x and salol gr. ij, in a cachet. Three such doses, at hourly intervals, will check the attack, and the taking of a cachet daily on rising will prevent recurrence. An occasional laxative is necessary to counteract the constipating action of the bismuth.

#### INCOME TAX.

##### Obsolescence of Cars.

"PERPLEXED" explains that his firm owns three cars, bought at different dates, and desire to claim the wear and tear and obsolescence allowances for 1927-28. The inspector of taxes will allow wear and tear only on the value of the cars as written down to April, 1927, and states that the obsolescence allowance would be based on the written down value of the cars—that is, after deducting the wear and tear allowances from 1923 onwards.

"We agree with the inspector of taxes as regards the wear and tear allowance, but not as regards the obsolescence. The latter allowance is dealt with in Rule 7, Cases I and II, Schedule D, and it is there provided that allowances are to be deducted on those "which have at any time been made in estimating profits or gains..." In our opinion, it is clear that in respect of the years 1923-24 to 1926-27 the sums treated as the appropriate allowances for the purpose of calculating the capital value as at April, 1927, cannot be said to have been made, and, therefore, should not restrict the obsolescence allowances as they become due for the different cars.

### LETTERS, NOTES, ETC.

#### BULLOUS ERUPTION AFTER PHENYL-CINCHONINIC ACID.

"H. M." writes: I have read with much interest the experience of "J. C. M." with a preparation of phenyl-cinchoninic acid. I have tried a number of these, as many of them are, I am convinced, true eliminants of uric acid, or in some way regulate the oxidation of the purin bases. It is, however, very necessary to note that phenyl-cinchoninic acid is incompatible with alkalis (see *British Pharmaceutical Codex*, 1923, p. 940), and this fact that the patient to whom "J. C. M." refers took potash water with the tablets may account for the eruption which followed. This untoward happening sometimes occurs after the taking of aspirin with soda or potash water. But I have never found any such trouble or discomfort to occur after the taking of an allyl ester of phenyl-cinchoninic acid, which, not being an acid, has no known incompatibles.

#### MOSQUITO BREEDING AND POOL-PROOF GUTTERING.

**DR. F. G. CAWSTON** (Durban) writes: Careful inspection of some centrally placed buildings at Durban, where mosquito breeding was particularly prevalent during a recent epidemic of dengue fever, showed that the slope of the roof guttering, when it existed at all, was quite inadequate to provide for the escape of the droppings of pigeons which frequented the buildings. In one place the down pipe was placed so far away from the end of the gutter that there was a fall for a few feet in the wrong direction. Another gutter, which originally may have been satisfactory, now contained half an inch of dry mould throughout its length. The leaf-mould which accumulates in the shaded portion of residences facilitates the breeding of mosquitos. Where possible the usual type of gutter might be replaced by one the depth of which increases with a uniform gradient towards each down pipe. This plan has been adopted in the design of one of the new buildings in Durban's prime adds to the sightline ing that the gutter is to strengthen the structure, where sh is preferably beaded on both borders. Without much expense no gutters should be readjusted to allow of a slope of at least 1 in 140 towards the down pipes at the commencement of each rainy season. By removing the spikes or brackets which hold the gutter in place the slope can be easily adjusted to prepare for the increased risk of mosquito breeding through the hotter months of the year.

#### MOTOR CAR BRAKES AND FLOODS.

THE Automobile Association reminds motorists that their brakes may be put out of action after running through floods. Generally speaking, the metal-to-metal brakes are less likely to be affected than those which have fabric linings. After passing safely through a flood the brakes should be tested at once for efficiency; if they are not working satisfactorily the car should be run for a short period with all brakes slightly applied, in order to evaporate the moisture by the resulting heat. This will keep the brakes in order. With regard to the possibility of the engine stopping from submergence of the end of the exhaust pipe, there is no undue risk if the engine is kept turning at a high rate of revolutions on the first speed, which should always be employed when going through flood water.

#### A DISCLAIMER.

**DR. ESTELLE COLE** (London) writes to disclaim all responsibility in connexion with the use of her name for advertisement by a firm of woollen manufacturers. The advertisement was based on a health article which appeared in the daily press, part of which was appropriated without her knowledge or sanction. She notified the firm that she objected to her name being used in this way when the advertisement appeared.

#### CORRIGENDA.

**MR. G. D. F. McFADDEN, F.R.C.S.**, wishes the following corrections to be made in his article on mesenteric lymphadenitis, which was published in the JOURNAL of December 24th, 1927. In the second paragraph (p. 1174) the sentence beginning "At the Ulster Children's Hospital" should read: "At the Ulster Children's Hospital 25 cases of mesenteric lymphadenitis were treated during the years 1925 and 1926, and in the same period there were 34 cases of acute appendicitis." In page 1176 (column 2, paragraph 3) the sentence beginning "In a follow up of 20 cases" should read: "In a follow up of 20 cases of mesenteric lymphadenitis on which an appendicectomy was done in the Royal Victoria Hospital, 12 cases were traced for six to twelve months after their operation. Of these, 5 were considered cured, 4 were no better, 2 felt improved but not cured, and 1 was cured who had the appendix and a calcareous gland removed."

**DR. A. NORMAN LKEMING** desires to make a correction in his letter on the treatment of pro lished in the JOURNAL of December 24 gurs "40 per cent." (in the second line)

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant residant and other appointments at hospitals, will be found at pages 45, 46, 47, 48, and 49 of our advertisement column, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement column appears in the Supplement at page 7.



## A British Medical Association Lecture ON THE EARLY DETECTION AND SUPERVISION OF RHEUMATIC INFECTION IN CHILDREN.

DELIVERED BEFORE THE KENT BRANCH AT BROMLEY ON  
NOVEMBER 10TH, 1927,

BY

GEO. A. ALLAN, M.D., F.R.F.P.S., M.R.C.P.,  
ASSISTANT PHYSICIAN, WESTERN INFIRMARY, GLASGOW.

It is now over four years since the Section of Medicine at the Annual Meeting of the British Medical Association at Portsmouth, after a discussion on the etiology and treatment of heart disease in early life, sent a recommendation to the Council to appoint a special committee to investigate this grave menace to the community, with a view to its prevention. A few months later such a subcommittee was appointed by the Science Committee to inquire into the subject of cardiac disease in children, and later to advise the parent committee on the rheumatic problem generally.

As you are doubtless aware, that Committee has published two reports—one in 1926<sup>1</sup> and one in 1927<sup>2</sup>—and the interest these have awakened augurs well for the future, although it must be remembered that many years' work will be required if any impression is to be made on the disease throughout the country.

It is not my intention by the presentation of figures to try and impress you with the size of the problem. I understand from the wording of the invitation I received that you wish to come to grips with practical things and to see in what way you yourselves can help. Your secretary spoke of "rheumatic heart disease"—I have intentionally altered the words to "rheumatic infection." One principle which has guided the subcommittee in all its deliberations has been that to prevent rheumatic heart disease the whole problem of the rheumatic infection in children must be tackled. This is not to say that until the question of rheumatism is solved nothing can be done to avoid much of the cardiac crippling that exists. But when aiming at the prevention of cardiac disease we may, with proper vision and perspective, help towards solving the larger problem.

### EARLY DETECTION.

What we have to aim at as an ideal is not the early detection of the manifestations of the rheumatic infection, but the ability to detect and circumvent the conditions—diathesis, environment, or infection—which in combination produce the manifestations. That is the true preventive ideal. It involves a knowledge of certain factors about which our information is still limited.

What do we know in a true sense about the rheumatic diathesis? There is a tendency to ascribe it to "a certain imbalance of the production of hormones by the thyroid, adrenals, and pituitary." (I am quoting from a book recently published.) A consequent want of adaptation to environment would lay the child open to infection, and active rheumatism might result. It is, if anything, an inborn predisposition to a special type of infection. But not all with that predisposition develop the disease, and the problem is not materially altered for these children, though there may be need for greater care along preventive lines generally. The difference is one of the quantity rather than the quality of the steps to be undertaken.

When we turn to the question of the environment and the factors which generally predispose to rheumatism we are again in the field of unsettled speculation. The subcommittee has made an attempt, I think with a certain measure of success, to verify some of the points about which there has for long hung a curtain of doubt. It is impressed by the importance of the housing factor and the relation of dampness in dwellings to the rheumatic infection, and with the greater liability to the infection of the poorer classes, though not of the very

poorest. One might say that it afflicts the poor rather than the rich; those who live in damp rather than those who live in dry houses; the young rather than the old; and children with enlarged tonsils more frequently than those with healthy tonsils.

When we come to the question of the infection we can only say that there is no view which has been so widely accepted as that it is due to a streptococcus, and that many believe that the tonsil is the commonest portal of entry. That the intestines may harbour it, and that, when once it gains entrance, many parts may afford it a resting place where it is ready to light up on slight provocation, there are sufficient grounds to suggest. More positive knowledge regarding these points—diathesis, environment, and infection—has to be acquired if prevention is to be more than a slogan.

### EARLY MANIFESTATIONS.

In the meantime, while laying our plans and working for the prevention of the disease, our next best line of attack is to recognize it early, treat it efficiently, and prevent relapses.

What, then, may be the earliest manifestations of the rheumatic infection for the discovery of which we should ever be on the alert?

#### *The Heart.*

It is well to remember that the heart itself may present the first recognized manifestation. In quite a large number of cases of rheumatic heart disease there is no history of antecedent illness. Thus, in a series of 112 consecutive cases of mitral stenosis, and after making allowance for growing pains, muscular rheumatism, and other infections in addition to typical rheumatic fever, there still remained a balance of 18 per cent. in which no history of previous illness could be obtained. In some the heart had been quietly infected and the invasion unrecognized, as no special symptom called for treatment till the heart began to fail. Only repeated, systematic examination of apparently healthy children would have detected these cases early. In others, the attack on the heart is primary, acute, and abrupt.

It is often extremely difficult to be certain whether a heart has been definitely attacked in the early stage of the disease. While mitral stenosis may be taken as the valvular lesion most constantly rheumatic, this lesion must not be expected in the early stage. Before the characteristic murmur and thrill have fully developed probably several years have elapsed. A systolic murmur developing at the apex may be the earliest sign, but, on the other hand, such a murmur may appear quite apart from valvular damage, and cannot alone be taken as positive evidence. Some enlargement of the heart is a better guide, but, again, one must be prepared to find variations in the position of the apex beat in perfectly healthy children. Definite enlargement and a systolic murmur would be presumptive evidence of heart involvement. In some cases the aortic valve is affected early, and the diastolic aortic murmur provides definite evidence of heart invasion. If to those is added an unduly rapid pulse the inference is that a lesion is not only present, but active. It must be remembered also that while valve lesions may speak more clearly in physical signs, myocardial lesions are, though more silent, also more important. Pericardial friction is, of course, absolute evidence of heart involvement, and it is certain to be accompanied by damage to the muscle.

#### *Pains.*

Pains in the child, whether recognized as rheumatic fever, growing pains, or muscular rheumatism, call for special care. There are still those who need to be reminded that rheumatic fever in children is not necessarily a very painful affection. There are still many people who have got to be made to recognize that rheumatic fever is pre-eminently a disease of childhood. The term "growing pains" I am convinced has been the cause of much neglect. I recollect five consecutive cases of active heart disease in young people admitted to hospital two years ago. In no case had frank rheumatic fever been the primary manifestation. In the first and second it was "growing



pains"; in the third it was "rheumatics" in the feet, cured after one visit to a doctor's surgery; in the fourth it was a septic throat; and in the fifth it was breathlessness with no antecedent history. Those having the care of children, whether in the capacity of parents, teachers, school medical officers, or general practitioners, must have these facts prominently in their minds.

#### Chorea.

Chorea should be accepted, in the absence of any definite evidence to the contrary (for example, lethargic encephalitis), as a rheumatic manifestation in every case. A fright, or the strain of school, may be the exciting factor, but is seldom if ever the only one. In two of the cases already referred to chorea was recognized before heart symptoms. Poynton's figures, published some years ago, are worth repeating. In 217 cases of chorea there was definite heart disease (with other rheumatic manifestations) in 122; arthritis in 28; dilatation of the heart in 22; in 20 there was no history, but in two rheumatism developed later; and in 15 the chorea was ascribed to fright, and two of these later were rheumatic.

Classical Sydenham's chorea should not be waited for. Restlessness, fidgetiness, or change in nature should be investigated early. One wonders how many children with unrecognized chorea are punished when they ought to be medically treated. This must also be preached in the proper quarter, and teachers would often be able to recognize symptoms which at least call for medical examination before classical symptoms of chorea appear.

#### Tonsillitis.

There can be no doubt about the close association of recurrent sore throats, or tonsillitis, with rheumatic fever and heart disease. The frequency of enlarged tonsils in children with rheumatic infection is greater than in other children of the same age group. Tonsillitis, not necessarily very serious, may be the first indication of ill health in these cases, and may also usher in a relapse. In a case recently seen with enlarged heart and systolic apical murmur there was a history of recurrent tonsillitis for five winters, and in the last attack, and for the first time, the patient had some pains about the ankles. The sore throat of scarlet fever also seems to be the fact that determines rheumatic and heart infection in that disease. Antecedent tonsillitis appears to be less common in the choreic than in other types. Whether the tonsil is the portal of entry for the infection, or a coincident manifestation, we need not pause to consider. We do, unfortunately, know that with the removal of tonsils freedom from relapse in rheumatic cases cannot be guaranteed, though it appears to help more in the cardiac and arthritic than in the choreic type.

The only practical conclusion at present seems to be that diseased tonsils are a potential source of danger, and if they are proved to be diseased enucleation by an expert should be advised.

#### Nodules.

The painless rheumatic nodules found on the extensor aspects of joints or tendons, and on the scalp, are, when present, valuable for diagnosis, prognosis, and treatment. They are not present in every case, and will often be overlooked unless specially sought for. Their painlessness contrasts with the painful and tender fibrous nodules of so-called muscular rheumatism or fibrositis. They tend to come out in crops, and are best seen by flexing the joints. In doubtful cases their presence clears the diagnosis; in prognosis they help by indicating a severe and usually visceral type of infection; in treatment they indicate activity of the infection, even though fever has ceased, and call for prolongation of treatment.

#### Other Early Features.

Other features may be even earlier, but are less certainly rheumatic. Anaemia in a child always indicates the need for careful investigation. Primary anaemias are less common in the child than anaemia associated with other diseases. One of these latter is rheumatic heart disease, and it should always be looked for. Pleurisy is

a condition which is occasionally rheumatic, though, of course, it is more often tuberculous. Restlessness and nervousness have already been indicated in their relation to chorea. In atypical febrile illnesses the infectious fevers, stomach affections, and chest and throat complaints are often thought of. How often is a search made for some rheumatic manifestation?

#### SUPERVISION.

The time has passed when the treatment of rheumatism can be dismissed after some details about the dosage of salicylates, the best kind of local application, and some trite remarks about a suitable fever diet, a blanket bed, and some laxative.

Present-day treatment presupposes an acquaintance with the natural history of the disease so far as it is known, with the environmental conditions of the patient, with the factors that will best promote recovery and prevent collapse, and with the facilities available for special treatment when home conditions are unsatisfactory.

Surveying the treatment in its broader aspects I would suggest that our guiding principle should be to destroy the infecting agent while removing the causes that encourage its operation, and to restore function while protecting against relapse.

*To Destroy the Infecting Agent.*—We do not yet know of any bactericide or specific serum that has a direct action on the organism. Till we know of something better the salicylates are our main hope. Administered in large doses, with double the amount of sodium bicarbonate, while ensuring a daily evacuation of the bowels they are well tolerated by children. This treatment should be continued for a week or two after all signs of activity have passed.

*Remove the Causes.*—This heading implies a knowledge which we only partly possess, but if housing conditions, defective nutrition, throat, dental, and intestinal infections play a part even in a general lowering of resistance, then these should be combated. As some of these cannot be dealt with at home the logical conclusion is that the child should be removed to a more suitable place, and this means hospital for the majority. There, under more hygienic conditions, the actual treatment of the infection, of dental and of intestinal sepsis, and specialist treatment of diseased tonsils, can be carried out with greater hope of success. Whether the general part of this can be under the supervision of the family doctor will depend on the resources of the patient, the nature of the hospital, and its administrative rules.

*Restore Function.*—Rest in bed, and later regulated exercise, are the most potent therapeutic agents at our disposal for this purpose. With even any suspicion of cardiac involvement rest should be prolonged for a few weeks after all evidence of activity of the disease has vanished. Pain, which is often slight, readily passes with salicylic treatment. Actual fever likewise soon disappears, but a subfebrile temperature, rising perhaps only to 99° (skin) at some part of the day, and only on some days, often persists. It may only be recognized if four-hourly records are made, and not infrequently it indicates activity of the heart lesion. Nodules likewise must be looked on as evidence that the disease is not fully arrested. Lastly, elevation of pulse rate should warn the attendant that the heart is still in the grip of an active lesion.

It may be asked how long this is going to take. No figure of weeks or months can be stated. In a recent case whose treatment I was occasionally called on to supervise in private it took nine months. In many cases it may be shorter, but it may be longer. It can hardly be contested that if the heart is unduly exercised during the stage of activity dilatation and permanent damage will ensue.

Following this period there usually remains much to be done. Iron, cod-liver oil, and glucose have a useful place in restoring vigour to the cardiac muscle. Regulated exercise is also of value. But experience points to the fact that these will operate more efficiently if convalescence can be prolonged under the best hygienic conditions, and with fresh air, and especially sunshine.

From these remarks it will be seen that we have overreached the limit of ordinary hospital treatment, and I will return to this point.

**Prevention of Relapses.**—The steps suggested under the last heading help in preventing relapses. Many of these children, however, pass back to school, and ought to be under constant supervision during the quiescent stage, so that the first indication of ill health or advance in cardiac lesion can be recognized. Others are unfit for the rush of ordinary schools, and for them the hospital school provides the most suitable treatment and supervision, while schools for physically defective children may afford a refuge for some.

#### GENERAL CONSIDERATIONS AS TO TREATMENT.

If we survey the points I have raised in the management of the acute case of rheumatic infection difficulties at once emerge. For the well-to-do private cases, which after all only constitute a minority of the total, all that has been suggested can be carried out by the family doctor, and the results usually justify the care expended.

When we consider the class that supplies the vast majority of the cases we are met with difficulties at many stages. The causal factors, such as damp housing conditions and faulty nourishment; the inability of many parents to recognize the need for prolonged rest; operative intervention for diseased tonsils and teeth, alike cry out for the removal of the child to a more suitable environment. At this stage the general hospital seems the most suitable place. But the voluntary hospitals call out for more beds, or a reduction in the waiting lists, and the rheumatic child has to be dismissed too soon. The more fortunate spend a week or two at the hospital's convalescent home, and then they return to the conditions under which the infection previously arose. A relapse or a reinfection takes place, a further short period in hospital follows, with the heart a little more damaged, and soon we have to deal with a cardiac cripple. The results are more satisfactory than those obtained by home treatment, but the hospitals cannot face the time question and the after-care.

You in Kent cannot be unacquainted with the work that is done in this connexion at Broadstairs. Dr. Raven will not misunderstand me when I say that his efforts, however, merely touch a fringe of the problem. There are only a few such places in the country where the rheumatic child can be cared for over a sufficiently long period. The largest, I think, is the home outside Birmingham, with accommodation for 100 cases. These are residential hospital schools or rest homes. Education, exercise, rest, and nutrition are all medically supervised from the point of view of this special class of case. It will be said that to provide these homes will cost money. Of course it will. Sanatoriums for tuberculosis cost money, but rheumatism kills as surely as tuberculosis; it incapacitates during early life like tuberculosis. If by means of hospital schools for rheumatic cases the disease can be arrested, these cases have as great a demand on the country's money as the tuberculous case, in so far as sanatoriums are treatment centres and not isolation hospitals. Obviously all cases will not be considered suitable for hospital school treatment, even if accommodation were available. Home conditions may be the determining factor calling for admission of certain cases. Patients who have just passed through an attack of rheumatism with arthritis, carditis, or chorea would be considered suitable. Mild or potential cases, or doubtful cases, could be carefully observed and treated. Patients in whom the disease is quiescent but who are unable to bear the strain of school would be much benefited. Advanced cases would not be suitable, and would be better treated in hospitals.

Until such homes become available children unfit for the ordinary schools might be found fit for the more sheltered life of the schools for the physically defective, and should be so disposed of. Of the remainder, some will be unfit for school life at all, and must remain at home. For those who go to ordinary schools special facilities should be provided to prevent their having to sit in damp clothes or boots, and, if they have to remain in school during lunch time, to ensure that they get a suitable warm meal. Further, in inclement weather, a certain latitude regarding

attendance should be allowed. Physical training and play should also be regulated so as to suit the individual case.

For all the potential cardiac cases and for all the quiescent cases, whether suffering from the graver or milder types of heart defect (the active cases being presumably under active treatment), there should be facilities for regular medical supervision. The rheumatic child must be looked after when he or she is apparently well, so that the slightest departure from health may be recognized and appropriately dealt with. If this is to be done there must be lists of all these cases, so that they can be notified for re-examination. Some will have been under medical care, the subjects of acute rheumatic infection; others will have had some of the milder or only suspicious manifestations, while some will have been found during investigations of some other illness, or on routine examination in schools. Who, then, will have seen these cases in the first instance? Naturally the family doctor will have the first opportunity in many cases. Some, however, will go direct to the outpatient department of the hospital, or be seen by doctors acting under the Poor Law medical service, and in either case may, if necessary, pass directly into the hospital or infirmary. Some, again, will first be recognized at the routine school medical examination, because of a defect the result of some previously treated or untreated illness.

#### The School Medical Service.

Routine examinations are made, as a rule, three times in the ordinary school period of from 6 to 14 years of age—that is, on entry, a few years later, and on leaving. Re-examinations are, of course, made oftener if deemed necessary, while certain cases are referred to the family doctor if there is one, or to a school clinic. So far so good. But what of the child who has rheumatism, called "growing pains," say during the year following the school medical examination? It is seen about three years later with cardiac disease but attending school, perhaps in the interval having had some throat affection which had been treated and got well after a few days. The interval is much too long. The subcommittee's view is that, for the detection of such cases, special examination at least twice a year would need to be undertaken. The school medical officer has an opportunity of detecting cases that would otherwise be missed, but he is handicapped by the exigencies of the service otherwise. Then there is the question of treatment of the cases when detected. Two points to which I have already briefly alluded are important in this connexion. These are stated as fundamental principles in the second report of the subcommittee.

First, the problem of rheumatic heart disease in children is the problem of a systemic infection, not of a static disease of an important organ; in other words, every case of rheumatic heart disease in a child is primarily a rheumatic rather than a cardiac problem, and is, therefore, one for consideration on the broadest principles of medicine.

Secondly, this being so, the medical care of such children should be left to those who have immediately at hand the means of treatment for any and every rheumatic condition or emergency—that is to say, to practitioners (where means permit) or to hospitals, rather than to any *ad hoc* institutions or clinics which are divorced from facilities for dealing with the serious infective problems that may arise at any moment in rheumatic children.

The subcommittee therefore would regard the treatment of rheumatic children as outside the scope of the school medical service, school clinics, or minor ailment centres. To transfer these children to a clinic for minor ailments is to misinterpret the nature of the disease. The manifestations at any time may appear trifling, but they are always fraught with grave potential danger.

For the school medical service to be of most value, even under existing conditions, notice should be sent on its return to school regarding every child who is treated for any rheumatic condition, so that it may be put on a list for special examination, while cases detected by the school medical officer should be referred to the family doctor or the hospital for suitable treatment or supervision. This implies co-operation of the school service, practitioners, hospitals, and parents.

#### The General Practitioner.

The general practitioner can supervise the case arising in his own practice if the parents are willing to have this

done at sufficiently short intervals to make it of value. It cannot be done haphazard; a list must be kept and cases noted to attend at suitable intervals.

### *The Hospitals.*

When we consider children who have come under the purview of the hospitals or infirmaries directly, we find that they have been dismissed to their homes and gone back to school or chronic invalidism. A hospital register would require to be kept of all such cases, and a method evolved for their periodic examination. Unless someone accepts responsibility for these, any re-examination is apt to be perfunctory. Advice sent to the school would, of course, allow of a certain control, but, as we have seen, this is apt to be unsatisfactory.

We have now various groups of children whose treatment is being supervised by different people in the same area, and if complications arise these children will mostly gravitate to the hospitals for indoor treatment.

If we could ensure co-operation between the school service, general practitioners, and hospital authorities, a supervisory centre run in conjunction with a hospital would appear to be the most appropriate solution. One such centre has been in operation for a year and has received the blessing and some support from the Rheumatic Heart Disease Subcommittee. I refer to the one at Paddington Green Children's Hospital, under the charge of the secretary of the subcommittee, Dr. Reginald Miller. In the official report of this centre (BRITISH MEDICAL JOURNAL, SUPPLEMENT, December 10th, 1927, p. 223) certain facts should be noted. It is a supervisory, not a treatment, centre; it works in close association with the hospital, the school medical service, the public health service, and the general practitioner, and it does not interfere with the work of the general practitioner. The value of such a centre is seen in the numbers who have been found requiring, and who have been recommended for, treatment. About a quarter of the cases had active infection and about the same number required tonsillectomy, and all these were referred to hospital or to their family doctor. Others have been referred to heart homes or to schools for physically defective children, and of course a large number are still under regular supervision.

Another benefit from such a centre is that it affords an opportunity of educating the parents in the significance of certain signs of ill health. On the reverse of the patient's card are printed the following suggestions on the care of rheumatic children:

#### ON THE CARE OF RHEUMATIC CHILDREN.

1. Rheumatism is caused by infection by a germ, and is a common disease of children, in whom it often attacks the heart. This is the great danger of the disease. Rheumatism is the commonest cause of heart disease in children.

2. Rheumatic attacks of all sorts often start with a sore throat. A sore throat in a rheumatic child is always a dangerous symptom.

3. Common symptoms of rheumatism in children are:

Sore throat.  
Pains in muscles.  
Painful joints.  
Paleness.  
Shortness of breath.  
Fidgetiness or nervousness.

4. Chorea, or St. Vitus's dance, is rheumatism attacking the brain. Its chief danger is the tendency for the heart to be injured at the same time. Unusual nervousness, disturbed sleep, fidgety movements, or a tendency to drop things may be warnings of St. Vitus's dance.

5. Rheumatic heart disease is often painless and may only be discoverable by a doctor's examination.

6. If the heart has been injured by rheumatism, its recovery is very slow, and permanent harm may be done by letting the child resume an ordinary life before recovery is satisfactory.

7. An occupation in life for a child with heart disease requires very careful choice.

8. Rest is very necessary for rheumatic children. They should always be put to bed early, and they should be made to lie down during the day if they seem at all tired or if there is any aching of the limbs.

9. Damp is bad for rheumatism; basements are dangerous. Rheumatic children should sleep in the sunniest and driest room available. If they get wet, their clothes should be taken off and dried at once. Watertight boots are especially important.

10. Rheumatism tends to recur, especially in the winter months.

Similar suggestions have been printed in other parts of the country for the information of teachers and parents, and have proved useful.

It will be obvious that local conditions regarding density of population must determine to a certain extent the best method to be adopted in any locality. Further, any scheme to be efficient implies the presence in the locality of some public-spirited medical men. In certain parts it might be found most suitable to staff such a centre from a roster of practitioners. In others a hospital physician might take charge. By the class most attacked by the disease payment is not going to be made. The public have not yet been educated to the standard of individual payment for professional attendance when they think they are well. There is, however, much to commend the work, and if local hospitals would provide the facilities no doubt each town could provide one or more who would be willing to give the time necessary to this supervision.

Then the goodwill and co-operation of the school medical service and the general practitioners in the district ought to be secured. If the Branch could stimulate interest so as to honeycomb the county with enthusiastic investigators, in addition to the immediate good of the children much useful information would be accumulated if *uniform records* were employed. Such a scheme is at present under consideration in the West of England, and a scheme of voluntary notification of rheumatic heart disease has been suggested.

### *Possible Immediate Action.*

Before closing these remarks, I should like to emphasize two lines along which I think immediate practical good will follow. One is the education of all those coming in contact with children in the special liability of children to this infection, in the conditions which as far as we know predispose to it, and the indications of ill health which warrant medical attention. The other is the need for prolonged after-care and the provision of suitable residential hospital schools or rest homes—call them what you will—where a healthful environment, modified recreation, and general education can be provided for more or less indefinite periods.

The report of the Medical Research Council on "Social Conditions and Acute Rheumatism," published this year, while not agreeing in all details with the report of the Association's subcommittee, closes its preface with this sentence, which has our cordial support: "The plain need for organized after-care offers an urgent but soluble problem of preventive medicine, too long neglected, and every motive of humanity and wise economy should impel the community to provide the after-care as rapidly as possible."

#### REFERENCES.

<sup>1</sup> BRITISH MEDICAL JOURNAL, SUPPLEMENT, July 3rd, 1926. <sup>2</sup> *Ibid.*, April 16th, 1927.

## FIELD VISION AND NEAR VISION.\*

BY

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The Royal Philosophical Society of Glasgow in 1895 gave me an opportunity of publishing my views on the testing of the eyesight of seamen. The subject was discussed at that time chiefly from two points of view—namely, the testing of the colour sense and the testing of the light sense. The communication was largely a criticism of a report by a departmental committee of the Board of Trade; the net result of that discussion was that new regulations for the testing of eyesight which were about to be issued were withdrawn after the paper which I contributed to this society was, in great part, published in the *Liverpool Journal of Commerce*.

I have no intention of going back on that controversy further than to say that, so far as I am aware, the testing of the light sense has not yet been introduced in the examination of seamen. As a result of that controversy coloured lights are now largely used in examining the eyesight of seamen, as is also Edridge-Greou's colour testing apparatus, and that notwithstanding the strenuous advocacy of Holmgren's wools by the late Sir W. de W. Abney

\* An address given to the Royal Philosophical Society of Glasgow.

in the official report to which I have referred. He objected to coloured lanterns being used for testing, on the ground that the light emitted by any coloured lamp was not a pure light; forgetting all the while that the same objection is applicable—and perhaps more strongly so—to the coloured skeins.

At present I desire to discuss some other functions of vision which are classed under the designations of field vision, visual acuteness, and form sense; perhaps it is legitimate to add to these perception of movement.

It may materially help to elucidate my subject if I call attention to the difference between visual acuteness and field vision. A simple experiment will at once show the difference. I am going to ask the learned chairman of the meeting to look at a single word in the centre of a page of print. He will find that, so long as he looks steadily at the selected word, he is quite unable to read any other word on the page. The fact that he can read the selected word depends on the circumstance that its image is made at the macula of the retina; and hence visual acuteness is sometimes spoken of as macular vision. Such a designation may not be strictly accurate, but still no serious harm can arise from regarding "macular vision" and "visual acuteness" as practically synonymous. The term "visual acuteness" is perhaps more appropriately used as indicating a measurement of the sharpness of macular vision possessed by any eye.

To return to the experiment: while the chairman discovers that so long as he looks fixedly at one word he is unable to read any other word on the page, at the same time he notices that he sees, although indistinctly, that there are persons sitting on the benches. He cannot, however, so long as he gazes at the selected word, recognize any of them, and might even experience some difficulty in saying whether they were ladies or gentlemen. The power of reading the selected word is called visual acuteness or central vision; the power of recognizing objects at a distance from the central point of fixation is called field or peripheral vision. To some extent the difference between the two is comparable to the difference between the low power and the high power of a microscope. The term "form sense" is often indefinitely applied to visual sensations, and in several of the older textbooks it is used carelessly to mean macular vision.

My present purpose is to call attention to some of the functions of peripheral vision which seem to me to have escaped notice, or at any rate have not been adequately considered. My proposition is that for ordinary manual work visual acuteness, in the proper meaning of the expression, is hardly ever employed; the workman as a rule uses only his field vision.

Visual acuteness has been evaluated; up till now the same has not been done for field vision, and, so far as I can form an opinion, it is never likely to be expressed by any formula. The first man to give a reliable formula for the estimation of visual acuteness was Professor Hermann Snellen of Utrecht, who for many a day was the colleague of Professor Donders in the university of that town. It was a most fortunate combination. Snellen was an ophthalmic clinician of the first rank, and Donders was, in that part of physiology which deals with vision, perhaps only second to Helmholtz himself. His book on the refraction and accommodation of the eye is still a standard book of high authority.

Snellen, after much experimental work, came to the conclusion that, before any object could be seen by a typically healthy and emmetropic eye, it must subtend an angle of one minute on the retina; this implies that, before two objects are distinguishable one from the other, they must be separated by a space which subtends an angle of one minute on the retina. Ultimately he adopted a 5-minute angle as the standard of macular vision, and arranged lines of letters, the largest of which at 60 metres subtend an angle of 5 minutes, while the smallest subtend the same angle at 6 metres. Between these there are lines for the distances of 36 metres, 24 metres, 18 metres, 12 metres, and 9 metres.

Snellen introduced the formula  $V = \frac{d}{D}$ , where  $V$  is the visual acuteness,  $d$  the distance between the patient and

the types, and  $D$  the distance at which the lowest of the lines which the patient is able to read should be read by a normal eye. Thus if at the distance of 6 metres the person being examined is unable to read, or says that he is unable to read, anything smaller than the line which should be read at 18 metres, his vision, or supposed vision, is  $\frac{6}{18}$  according to Snellen's scale.

In practice it is found that some persons with normal eyes as regards both structure and refraction have better vision than Snellen's standard; but such exceptions, in my experience, are not frequent. Landolt of Paris, who, perhaps as much as anyone, applied the teachings of Helmholtz and Donders to clinical work, while accepting Snellen's standard, altered the test, using instead of letters a broken ring. Either test is quite good; in the main I think Snellen's is the more generally useful, for the break in the ring may correspond with a corneal meridian which is emmetropic—that is, of normal refractive power—while the other meridians of the cornea may be short-sighted or long-sighted.

In the next place I wish to indicate as clearly as I can what I mean by "field of macular vision." Again I am going to take the liberty of using the chairman for experimental purposes. I have on this slip of paper a number of letters, printed in parallel vertical and horizontal rows. I now ask the chairman to look steadily at the letter printed at the centre of the slip, and while doing so to draw a line round all the other letters which he sees distinctly while his vision is fixed on the central letter. That gives us the field of binocular macular vision of the person being examined for a particular distance. If the distance of the observer's eye from the paper be known, and also the diameters of the figure drawn to include all the letters that the examinee has seen are measured, then a simple calculation will give the field of macular vision in degrees. So far as I have been able to form an opinion, the field of macular vision, when no accommodation is used, does not extend to two degrees in the general field of vision.

As is well known, the aforementioned binocular general field of vision, as distinct from the macular field in what may be called the maximum horizontal direction, measures rather more than 180 degrees, say about 184 degrees. That means that if the person being examined stands erect and looks at a distant object, so that the axes of vision are horizontal, then if the general field of vision be measured in the plane which passes through the maculae and nodal points of the eyes, the general field is approximately 184 degrees. To put it in nautical language, if I were placed at the centre of a ship in such a position that I could look straight ahead over the bows, keeping the axes of vision horizontal and parallel, I should be able, if my eyes are normal, to have field vision, as distinguished from macular vision, from 2 degrees abaft the starboard beam, right round over the bows to 2 degrees abaft the port beam. The general field of vision is limited in other directions by the prominence of the structures at the upper and inner aspects of the margin of the orbital cavity. Now in the circular arc measuring about 184 degrees not more than 2 degrees correspond to macular vision; the remaining 182 degrees are concerned with field vision.

I shall have something more to say about field vision, but meantime I must ask for careful attention to the conditions which obtain in myopia. Suppose a man requires to hold a book to within a few inches of his face before he is able to read its contents, we say that he is short-sighted. For macular vision it is in all cases necessary that the object at which a person is looking—say the book which he is reading—and the image of that object on the retina be at foci conjugate to each other, else reading is impossible. Supposing a man when not using glasses has to bring a newspaper to ten inches from his eyes before he is able to read it, then we know that his remote point of macular vision is ten inches. Cases are not infrequent in which the remote point is much nearer, perhaps only one inch or even less from the eye. Now in such a case it is obvious that there is no macular vision at a greater distance than the farthest distance at which the person can see the book which he is reading; the whole field beyond that distance possesses what has already been called field vision, but does not possess macular.

The next point which I am going to mention will appeal to those who have no familiarity with optics. It is this: that any man who, when reading without glasses, has to bring a book to a distance of ten inches, or even less, from his eyes before he is able to see to read, experiences no difficulty in walking about the streets without glasses. For example, in that condition such a man does not require to approach to within ten inches of a tramcar before he sees it; nor has he to put his eyes to a distance of ten inches from the step before he is able to mount; nor does he require to go to ten inches from a man walking in the street before he sees him sufficiently clearly to avoid collision. All such actions depend on field vision, and not on macular vision, or visual acuteness, as it is generally called.

It is this field vision which is employed for almost all manual work, and a person engaged in such a form of employment hardly ever uses his macular vision, or only incidentally does so. As above stated, macular vision has been expressed by a formula. So far as I am aware field vision has not been thus expressed, and I think that it never will be. Nevertheless, it is of the first importance to those engaged in manual labour and, indeed, to everyone in daily life.

Field vision has the following important functions in health: (1) It has light sense, a function which, up to a point, gives a certain form sense. (2) It has colour sense, which, however, is modified in some persons by the presence of colour-blindness. (3) It has the sense of projection. (4) The periphery of the retina, as well as its central parts, has vision which is very excellent for the perception of movements.

Although a man be very short-sighted he can readily perceive differences in shades, for that is a matter of the light sense. To illustrate my meaning let me narrate an experiment which I made on myself in the month of September, 1926. On a clear although moonless night, towards the end of that month, I made myself myopic by the simple process of putting a pair of 12-inch convex lenses in front of my spectacles for distance, and yet with that arrangement I could from Arinagour in the island of Coll see the Treshnish Islands, the nearest being eight miles away; they would have presented no difficulty had I been navigating through them. It was not a pitch dark night, for there was starlight; had it been so nobody, no matter what the condition of his visual apparatus, would have seen anything, but the feeble amount of light present was differently reflected by the sky and by the islands. Yet, with the optical arrangement which I was wearing at the time, I could not have read a book at a greater distance than twelve inches from my eyes. Short-sightedness, even a high degree of short-sightedness, does not *per se* present any difficulty in the seeing of colours. Thus the short-sighted man negotiating the tramcar would see the vehicle some hundreds of yards from him; he would do so because, for the most part, cars are in movement, and, moreover, the reflection from its surface would affect his light sense differently from the objects surrounding it. Further, from the differences in the colours of the cars, he would most likely be able to determine if it was the car that was going to suit his purpose. A short-sighted person is unable to read an illuminated direction notice on the front of a car without the aid of glasses, but has no difficulty whatever with a coloured light, unless, indeed, he is colour-blind.

Projection is one of the most important functions of vision. When the point at which the person is looking is straight in front then the principal axis of each eye is directed to it, and it is seen in what may be called its true position, but in addition to that, in binocular vision, not only can the position of the object, the image of which is formed on the macula of each eye, be definitely fixed; but while the person is steadily looking at this object he can at the same time quite accurately point to other objects in the room. Let us suppose that an object is lying to the right of the observer when he is looking at the point of fixation; then its image is formed on the nasal side of the right retina and on the temporal side of the left retina, and these two stimulations, one on each retina, give rise

in health to single binocular vision. Such points are said to be homologous.

But the same condition is found to exist in monocular vision. If I were to shut one eye and look steadily at an object in front of me, I could quite easily point to other objects in the room. From the point of view of compensation for the loss of an eye this is a matter of great importance. In the early days of workmen's compensation I was much employed on behalf of certain firms to examine persons who had sustained eye injuries, and the mention of two cases will show the importance of the subject. One of them was that of a man who had lost an eye in a large factory in a town not far from Glasgow. The remaining eye was admitted to be good. I caused search to be made, and it transpired that quite a number of men who were each possessed of one useful eye had worked in the same and other factories in that neighbourhood; their pay sheets were quite as good as those of their more fortunate brethren.

The same question arose in connexion with a miner who had lost an eye at his work. Again the pay sheets were produced of a number of colliers similarly situated as regards vision, and it was found that the amounts earned by these men compared favourably with the amounts earned by their fellow workmen. At the moment I cannot name any form of manual work which cannot be undertaken by a man who has only one healthy eye.

Another question arises, and it is: Given that a workman has lost an eye at a particularly hazardous occupation, should he be compelled to risk the remaining eye at the same occupation? Personally I would answer that question in the negative; he ought not to be forced to do so. At the same time there would require to be a careful definition of what constitutes hazardous employment.

Mention must be made of another important difference between macular vision and general field vision: it is that if errors of refraction exist they must be very carefully corrected for macular vision, but do not, within wide limits, require to be corrected at all for general field vision. Had time permitted I would have elaborated this point, but I must content myself by relating a few examples, which relation will, I think, convey my meaning to my audience.

1. To return to our supposed case of a man who, owing to his short-sightedness, cannot read a book at a greater distance than ten inches, yet who is able, with suitable glasses, to read the smallest of Snellen's types at the proper distance of twenty feet; such a man, although unable to read ordinary type at a greater distance than a few inches with the naked eye, can without spectacles or eyeglasses perfectly well make out objects at very considerable distances, and he sees them with sufficient distinctness to enable him to locate them even when they are far off, and to avoid them when they are near. In other words, visual efficiency cannot be expressed in terms of visual acuteness, using the phrase "visual acuteness" as synonymous with macular vision. It is quite untrue to say that because a man cannot read all Snellen's types at twenty feet he will not be able to make out an object at sea, perhaps miles away. As already narrated, when I made myself so short-sighted that I could not read a book at a greater distance than twelve inches I could easily make out the presence of islands eight miles away.

As regards road traffic, it does not matter what letters a driver can read in a consulting room, but it does matter that he can see other traffic on the road at a sufficient distance to enable him to avoid it; the one is not a test of the other.

The vision required at sea and on the road is field vision, and not macular. No doubt a certain amount of macular vision is required at sea for such purposes as reading of tide tables and the examining of charts.

2. Nor does the presence of an uncorrected defect in the refraction of the eye make any difference to the individual in distinguishing colours. A person with an error of refraction can, without glasses, distinguish colours quite as well as he can with them; for the recognition of colours is for the most part a matter of field vision and not of macular.



3. The same remark holds true about the light sense: the distinction of shades is quite good in peripheral vision, and that whether the individual is or is not wearing glasses. Indeed, the light sense is more active without glasses than with them, for about 15 per cent. of the light that is incident on the surface of a spectacle lens is reflected and never enters the eye at all. Where the initial amount of light is small the effect of the loss of such a percentage is considerable.

I hope the preceding remarks have made the essential difference between visual acuteness and field vision quite clear. I propose to conclude by giving a few examples in support of the view which I have already expressed, that manual work is for the most part a matter of field vision and not of macular.

In the first place take coal miners. At the Annual Meeting of the British Medical Association in Toronto, in 1906, I mentioned the cases of some miners who had very high degrees of short-sightedness—some with the far point of macular vision at only two inches from their eyes—and yet their pay sheets showed that they were in no way handicapped. Since that time I have seen miners whose far points of macular vision were ten inches or under who had no difficulty with their work. I have recorded cases in which the far point of reading vision was at two inches from the eye, and yet the pay sheets showed no diminution of earning power. One case I particularly remember, in which a young miner desired to get work above ground and applied to be taken on as a stoker by one of the railways. It was then found that he had short-sightedness and that his far point of reading distance was at fifteen inches from his eyes. Till that examination took place he had no idea that there was anything wrong. It is needless to say that his services were not accepted.<sup>1</sup>

A few years ago I made an investigation as to the causes of blindness in about twelve hundred cases. The results of that investigation were published under the auspices of the medical officer of health for the city of Glasgow. I have selected a few of them as illustrative of the truth of the view which I have been enunciating—namely, that the importance of field vision has not been adequately considered. One or two of the cases which I am going to mention were seen at the clinic of the Glasgow and West of Scotland Mission to the Outdoor Blind.

1. A man, aged 70, who, at the time of my seeing him, was quite blind as a consequence of injury to the back of his head. Therefore for some years he had not had either macular or field vision. The interesting point is that he had previously been extremely short-sighted, so that the conjugate of each retina was at a less distance than two inches from the front of the corresponding eye, and yet, in that condition, he maintained himself either as a dock labourer or as a stoker on board a steamship up to the time of the accident which deprived him of sight, and he did that work without any correction of his errors by glasses.

2. A man in the employment of the Glasgow Mission to the Outdoor Blind. This man lost an eye a number of years ago. With the remaining eye he sees the type called "brilliant" by printers at rather less than two inches from the eye, but not at a greater distance. Till he entered his present employment he was regularly at work at the bottom of a coal pit.

3. A man whose conjugate to each retina was twelve inches from the cornea, yet he was quite able, till he became nearly blind from choroiditis, to work as a carter in the streets of Glasgow.

4. In this case there is also a high degree of short-sightedness, the conjugate of the retina being at three inches from the man's eye, yet all through the war he worked steadily in a hangar of the Royal Air Force.

5. This workman has also an extreme degree of short-sightedness, the conjugate of his retina being not more than three inches in front of his cornea, yet he was, during the war, enlisted in H.M. forces and served abroad.

The above cases show that, although a man's far point of reading vision may be only a few inches from his eye—in some cases at less than two—yet the field vision is quite sufficient to enable the person to undertake many forms of ordinary work.

Amongst those whom I have entered in my special notebook there are recorded some cases where the conjugate of the retina is negative—that is, it is situated behind the retina, and the light leaving the eye from a point source

on the retina emerges from the eye in a divergent pencil. For this form of refraction error the same condition is true—it makes very little or no difference so far as manual work is concerned, but it does cause much trouble for near-at-hand vision, and interferes materially with a person's ability to read and to write.

I might bring before your notice many other cases of persons possessed of refraction errors who had no difficulty whatever in earning their living and in getting about much as other people. It is quite certain that for their work they did not employ visual acuteness, but only field vision.

Now I wish to bring to notice a few cases of a different kind, but which also support the view that field vision is of great importance for most forms of manual work.

A man was operated on in both eyes for congenital cataract. He has no visual acuteness—that is, he cannot see to read at any distance with or without glasses, and never will—yet he has excellent field vision and is able, without any attendant, to get about quite freely.

Bilateral congenital cataract—an opacity in each lens in infancy, or at any rate in early childhood—if extensive, prevents the formation of retinal images and therefore, if not remedied by suitable treatment, the patient will never have macular vision. At the same time ordinary daylight reaches the retinas notwithstanding the opaque lenses, and a person so afflicted will be found to have useful field vision, although destitute of macular vision.

One of the most extraordinary cases that I have ever seen is the following.

A man, aged 25, had his left eye removed early in life on account of some disease. The right eye has congenital nystagmus, and, in addition to that, the lens of the right is, as the result of an injury received a good number of years ago, dislocated. With a convex lens of about 7 degrees focal length held close to the eye he can make out bourgeois type when that type is held at an inch in front of the lens. He cannot, of course, with any glass see even the largest of Snellen's letters at twenty feet. He lives in a town in the South of Scotland, and yet, handicapped as he is, he can walk about quite freely. He also says that he cycles a good deal, but he finds cycling increasingly difficult on account of motor traffic.

One other set of cases will further illustrate the fact that macular vision is not used by working men. When a man is driving a paling stob he swings a long-handed mallet over his shoulder; that action entirely prevents the image of the object which he is going to strike being focused on the macula. Such work is entirely a matter of projection: and the sense of projection is as much a function of field vision as it is of macular.

Another example of the same thing is the swinging of a heavy hammer by a blacksmith. In this instance, as in the previous one, the action depends upon the sense of projection and on the mental estimation of distance.

Macular vision, and therefore macular efficiency, can be expressed by means of a formula, and, as already pointed out, it is seriously impaired by errors of refraction. Field vision, and therefore field efficiency, cannot be expressed by any formula, and for field vision, within wide limits, it is not necessary to correct errors of refraction.

Field vision is largely a matter of projection and of mental interpretation. In one of his writings Helmholtz plainly stated that the eyes merely receive stimuli of various kinds, but that it is left to the mind to interpret them. After all, it is the mind that really sees and not the eyes, just as it is a person who hears when using a telephone and not the apparatus.

There are other points on which I should have liked to say a great deal, but I have only time for one other remark, and it is that if you test men for work by letters you will reject a number who are quite capable of doing a great deal. For example, at the moment I know a gentleman who has a considerable degree of short-sightedness, who cannot see to read at a greater distance than eighteen inches and certainly would not have anything like six twenty-fourths of Snellen's types for distant vision, and yet he has for many years driven a motor car and has not had any accident. Undoubtedly eyesight can be tested for such occupations as reading and writing by Snellen's letters, but you cannot test efficiency for manual work by any such contrivance. The only test of efficiency is as to whether a man has or has not done the work; if he has done it in the past there is no reason why he should not

<sup>1</sup> See BRITISH MEDICAL JOURNAL, 1906, II, p. 1855.

do it in the future, but no *prima facie* statement without such investigations is of any value. If you reject persons who are capable of work because they are not able to read certain letters at a particular distance you are going to throw a number of men out of employment who might otherwise be pursuing occupations remunerative to themselves and beneficial to the community, and add materially to the number of the unemployed, although not unemployable.

## A PLEA FOR A NATIONAL LABORATORY FOR THE STUDY OF MENTAL ABNORMALITY.

BY

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By the publication in 1914 of Dr. Shaw Bolton's *The Brain in Health and Disease* and of Dr. G. A. Watson's equally important work on cortical stratification and cerebral function in horizontal layers, it appears to be established that developmental errors in the cellular elements of the several horizontal layers of the cerebral cortex underlie many of those antisocial reactions characteristic of criminality and some of the insanities.

Almost every branch of study shows that the principles underlying the structure of the nervous system are the same in all vertebrates. Once fertilization is accomplished the single-celled ovum undergoes a rapid process of cell division, and these cells resolve themselves into three great types—somatic, reproductive, and nervous. As regards the last highly specialized cells (neurons), it is now generally believed that, though they remain throughout life anatomically independent, they cannot function physiologically unless they become combined into chains and arcs. A neuron is usually comprised of three nerve elements—a receptor, afferent, or sensory neuron conducting from the periphery centrally; an interposed, connecting, or internuncial neuron; and an effector, efferent, or motor neuron. Medical attention has, perhaps, been too exclusively focused on the long conducting receptor and effector neurons, yet it is the internuncial neurons which, when present in sufficient numbers, result in the phenomena termed "mind."

The researches and investigations of Golgi, Cajal, Mott, Bolton, Watson, and many others suggest, if they do not actually prove, that all mental phenomena—speech, reason, memory, and the like—are the products of many thousands of millions of cerebral neurons linked together in arcs and functional units, and that these millions of cerebral cells appear to be internuncial in type.

In the spinal cord the dorsal spinal nerve roots are composed of receptor neurons. The connecting associational and commissural neurons are internuncial in character, and the ventral spinal nerve roots transmit the effector neurons of the arcs. In the cerebellum the receptor (proprioceptor) neurons chiefly traverse the inferior cerebellar peduncles. The internuncial neurons are of the supra-segmental type—that is, the associational and commissural neurons of the spinal cord are replaced by small granular cells strictly confined to the grey matter and forming the bulk of the cerebellar cortex, and greatly outnumbering all other neurons in the cerebellum. The relatively few Purkinje cells constitute the effector cells of the cerebellar neuron arcs. The cerebellum is thus distinguished by a totally different type of internuncial or connecting neuron, and the associational and commissural spinal cord types are completely absent, being replaced, as stated, by the granular cell type. The fact that anatomical nomenclature has differentiated these granular cells as basket, stellate, Golgi Type II, and the like, should not be allowed to divert attention from the fact that all are interposed between the receptor and effector neurons of the cerebellum and are thus internuncial in character. Cerebellar cortical construction thus compels the conclusion that the function of these numerous cerebellar internuncial cells must be that of storage of nerve impulse; hence the cere-

bellum is, clinically and functionally, a great storehouse of nerve energy, and this energy is liberated under the control of the cerebral cortex exercised through the cortico-ponto-cerebellar pathway, and comes into action in every voluntary muscular movement.

The cerebral cortex fulfils functions so different from those of either spinal cord or cerebellum as to suggest that a totally different construction must be employed by nature, and yet such is not the case. The cerebral cortex, in its structure, simply repeats both spinal cord and cerebellar types, the essential difference being that there are far more associational and commissural internuncial (spinal cord type) neurons, and granular (cerebellar type) ones in the cerebral cortex than in either spinal cord or cerebellum.

In the cerebral cortex the thalamo-cortical fibres form the receptor limbs of the neuron arcs. The projection systems represent the effector sides of the arcs. There are thus left the enormous numbers of granular cells, and the even more numerous pyramidal and polymorphic cells, the axons of many of which form the associational and commissural systems of the brain, as the representatives of the connecting or internuncial units of the neuron arcs. It is not, as yet, clear whether these numerous cerebral neurons are all to be regarded as the internuncial neurons of the primary cerebral neuron arcs, or whether they form secondary neuron arcs within the primaries. All the evidence, however, seems to warrant the conclusion that it is these presumably internuncial cortical neurons which, by storing up all those numerous nerve impulses which continually bombard the brain from birth to death, act as the physical basis of memory, and therefore of speech, reason, judgement, and of all mental phenomena.

Recent research, particularly that of Bolton and Watson, has shown that the cell bodies of these cerebral neurons which are almost certainly internuncial in character and function tend to arrange themselves in the cerebral cortex in definitely stratified layers, and that this horizontal stratification has a subtle, but profoundly important, functional significance. Excluding the fibre laminae of the cerebral cortex, which are not germane to the present argument, the human cerebral cortex is composed of three layers of cell bodies—pyramidal cells on the exterior, granular cells in the middle, and polymorphic on the interior next the white matter. The polymorphic cells on the interior, termed by Watson the infragranular cortex, are present in all mammals, and are believed to be the nerve elements controlling or concerned with the purely animal functions of the body, such as the acquisition of food and the activities of sex—that is, the infragranular cortex appears to be the brain of the preservation of the individual and the perpetuation of the species.

The pyramidal cells on the exterior are best and most largely developed in man, and man is the only animal who possesses a sufficiency of such pyramidal cells to give him the power of voluntarily inhibiting the animal functions of the infragranular cortex. The layer is termed by Watson the supragranular cortex, and the cell bodies are of the kind commonly and always associated with the effector functions of inhibition. When normally developed man can, therefore, exercise a voluntary control over the animal instincts of sex, acquisition, and self-gratification; and society, in the interests of all, expects him to do so. It is illogical and erroneous to attribute mental evils to a purely physiological process like repression, for repression is a human attribute, and the welfare of the nation calls for its exercise. If, however, the individual possesses a relatively undeveloped supragranular controlling cortex it necessarily follows that his powers of control are diminished, and he is more likely to react to his environment on the more purely animal basis of acquisition, sexual gratification, and lack of appreciation of the consequences of these reactions. It is a striking fact that at least 75 per cent. of those antisocial reactions against which society seeks to protect itself, and known as "crimes," are directed against the person or the property—that is, sex and acquisition. It is equally striking that Bolton and others have been able to demonstrate that these antisocial personalities are found, after death, to possess a thinner supragranular cortex—that is, one with fewer pyramidal

cells than normally should be the case. It is equally confirmatory that Berry and Porteus in Victoria, and Morris Millor in Tasmania, have been able to substantiate the fact, from an examination of many thousands of cases, that about two-thirds of the known antisocial group possess appreciably smaller heads than the normal, which is, of course, a macroscopic and clinical confirmation of Bolton's microscopic studies.

This definitely measurable thinning of the cerebral cortex occurs chiefly, according to Bolton, in the frontal region, and chiefly affects the pyramidal-celled supragranular cortex, and these observations of Bolton are generally confirmatory of the earlier and more primitive work of Batty Tuke and other alienists. Such a cortical thinning denotes, as stated, a diminished number of cortical neurones, and a diminished number of cortical neurones equally connotes an altered reaction to the environment. Many human individuals pass into the complexities of adult life with an undeveloped, partially developed, or irregularly developed pyramidal-celled supragranular cortex. They possess the sexual and physical appetites of the adult with the brain of control of the child, and it is futile to expect from such abnormally constructed individuals that normality of conduct as regards sex and respect for the property and welfare of others which constitutes the essential basis upon which all civilized society rests. The bulk of them are aments and will remain aments, and their social reactions will be the final product of their environment. With such an undeveloped and unstable mental or cerebral structure they may succumb earlier, and in larger numbers, to the stresses and strains of a complex civilized life, and thus swell the populations of our poorhouses, police courts, mental hospitals, gaols, benevolent homes, and the like. They thus add to the financial burdens of the fit, and aided, as they so frequently are, by a misguided charity, may not improbably eventually poison and destroy civilization itself.

A minority of this group, those with an apparently irregularly developed cerebral cortex, form an even more dangerous section of society, the more so because they are frequently mistaken for people of ability, and defy most of the known or recognized tests for amentia.

Many forms of abnormal mental reaction are probably not so much due to disease as to aberrant cerebral development, with a consequent disordered reaction to the environment. Debates on the relative importance of heredity and environment are many. The human brain is the product of both. Mentally deficient parents will breed similar children, and will do so in larger numbers than is good for society, and for obvious reasons. Lacking an adequate brain of control, they obey, like the animal, the dictates of nature, and give free rein to the passions of the body. Developmentally, and in the normal individual, the neuron or brain cell undergoes a series of embryological changes, without which it cannot function. At birth the cerebral cortex, and particularly the pyramidal cells of the supragranular cortex, are largely in a neuroblastic, non-functional condition, and hence the mental reactions of the newborn child tend to resemble those of the idiot. With the incoming of the exteroceptive stimuli, particularly those from light and sound, a necessary factor for the conversion of the non-functional neuroblast into the functional neuron is introduced. The environment, therefore, materially affects, not only the nature of these stimuli, but also brain growth itself. If, for example, the acoustic exteroceptive stimuli be completely cut off, the child becomes a deaf-mute, with a thinner acoustic cortex and a correspondingly diminished general intelligence. If both visual and acoustic stimuli are arrested the child may become an idiot from deprivation of its senses, because stimuli important to the conversion of neuroblasts into neurones are lacking—always assuming, of course, that no other form of "education" takes the place of these important "senses." If, again, the child be in such an environment as to encounter only obscene words, criminal acts, and the expression of perverted thoughts during this most important formative stage of cerebral development, there can be only one result—antisocial reaction at a later stage. Education is the establishment

of neuronic habit, and that, in its turn, is the result of the environment. Education—that is, the environment—thus plays an important part in brain growth and mental development, but if the machine be so imperfectly constructed from the beginning as to make it incapable of receiving the necessary number of stimuli, then some severe degree of amentia must persist throughout life. If this be very pronounced the law will probably demand the segregation of the child as an imbecile, but if it be not so pronounced, or be obvious only to the adequately trained neurological expert, the child will be passed into the complexities of a civilization for which it is quite unfit, there to perform those bodily acts regarded as criminal by the more normally constructed members of society. All scientific evidence thus seems to show that mental phenomena are the result of an adequate number of exteroceptive stimuli being received by an adequately constructed cerebral cortex—environment and heredity. The first place to seek for mental abnormality of all kinds, and certainly those which are commonly classified as antisocial, are the cells of the human cerebral cortex, and this study demands co-operative national effort.

That there has not hitherto been any co-operative effort to study the mental abnormalities appears to be due to a lack of appreciation of the simplicity of the great principles underlying the construction of the vertebrate neuraxis, and the present-day somewhat illogical position of the study of the nervous system may not unfairly be represented thus:

Structure.	Specialty.
1. Receptor neurones ... ..	Diseases of the nervous system.
2. Internuncial { Normal ... ..	Psychology.
{ Abnormal ... ..	Psychiatry.
3. Effector neurones ... ..	Diseases of the nervous system.

To divide a functional entity, like the neuraxis of man, into a series of watertight, non-correlated specialties appears to be unscientific and calculated to breed error. It is rather unity of study which is so essential; and the future integrity of the nation appears to demand the establishment of a national laboratory for the study of cerebral and mental abnormality. Even though the critic may be indisposed to accept the statements herein briefly mentioned, he must in fairness admit that there is sufficient suggestive evidence to warrant further inquiry, and the magnitude of the problem justifies a national effort.

## TREATMENT OF LUPUS VULGARIS.

BY

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DURING the last four years almost exactly 4 per cent. of the patients treated at the dermatological clinic of the Royal Infirmary, Cardiff, were cases of lupus vulgaris, the proportion of males to females being a little more than two to three. The methods of treatment used have been pyrogallol ointment, acid nitrate of mercury (as recommended by Adamson), salicylic acid and creosote plaster, x rays, ultra-violet rays, and alkaline phenol followed by a hypertonic dressing as described below. Of these x-ray treatment has been little employed as the results were slow and uncertain. Ultra-violet rays applied by the Kromayer lamp locally, combined with general irradiation, have been disappointing, as cases which did not readily yield to other methods failed to respond, and where they would doubtless have been efficacious the other methods gave quicker results. Salicylic acid and creosote plaster acted well in some cases, but was slow.

Pyrogallol ointment 5 to 10 per cent. proved valuable if thoroughly applied for a long period. One case—a girl aged 13—had when first seen a wide band of lupus on the left thigh, a smaller area about the right gluteal fold, a large area on the left shoulder, and wide areas on the cheeks and nose. The treatment was carried out by a friend, who described rubbing the areas with the ointment till they

bled. After four years the disease has disappeared, only superficial scars being left. Some other patients to whom this ointment was prescribed only benefited slightly. In these, investigation showed that the pain of the application and the slowness of the rate of progress had caused them to neglect its use.

One merit of the acid nitrate of mercury and the phenol methods is that, being applied by the physician himself or under his direction, and only in hospital, there is no question of the thoroughness of the application.

The objections to the caustic nitrate are considerable. Its application is intensely painful and the caustic action is comparatively unselective, so that sound tissue is apt to be destroyed as well as diseased tissue. It is applied in this clinic on cotton-wool pencils or by means of pointed match-sticks dipped in the fluid; the latter are used to perforate and destroy nodules. The value of the method appears to be limited to areas where discrete nodules can be distinctly made out, otherwise destruction is extensive and unsightly scars are left. The pain is so great that it demands considerable fortitude on the part of the patients (local anaesthetics applied to the surface reduce but do not abolish the pain), and they are therefore apt to cease attending before the treatment is completed. Nevertheless the nitrate or some equivalent caustic seems to be indispensable for exuberant or deep-seated nodules, and for dealing with the nodules which survive the phenol treatment.

The application found most generally useful is alkaline phenol followed by a hypertonic dressing. With the co-operation of Mr. J. T. Williams, pharmacist to the infirmary, the following formulae have been worked out. In a 4 c.cm. wide-mouthed sample bottle stoppered by a rubber cap are placed 2.5 c.cm. of a solution of caustic potash (1 part to 2 of water) in which is suspended precipitated chalk (1 part), and 1.5 c.cm. of acidum carbolicum liquefactum. A considerable degree of heat develops. The preparation is made in small amounts because oxidation takes place with resulting brown discoloration after a few days' exposure to the air over the fluid. When the phial is filled this does not occur to any extent, and there is enough of the preparation to treat several patches. It is better, however, to keep the caustic potash preparation separate from the phenol and mix shortly before use. Fresh preparations are thus always conveniently available. A pencil of cotton-wool wrapped round the point of a forceps is dipped in the fluid and the area rubbed. The caustic potash dissolves the epidermis and the abrasive action of the precipitated chalk aids in its removal. As the rubbing is continued the lupus nodules start out as purple spots, and nodules not previously noted can be detected. When these purple spots are well marked the application is stopped; if it is continued the whole area will turn a purplish-black. The colour appears to be due to haematin formation by the alkali.

A piece of unmedicated lint is cut of the size of the area of disease, and on this is placed a fairly thick coating of a paste consisting of equal parts of salicylic acid, sodium salicylate, and cane sugar, with enough glycerin to make a soft paste. This is applied to the area treated and the whole covered in with zinc oxide adhesive plaster, which overlaps for some distance on all sides so as to make an impervious dressing.

There is a good deal of pain during the application of the alkaline phenol, but the anaesthetic action of the phenol soon removes this. Later in the day a fair amount of pain is to be expected, and after a day or two exudation finds its way out from under the dressing. The application is repeated twice a week, in most cases for four weeks, though not so long for superficial cases. On the removal of the first dressing a granulating surface is found, no lupus nodules being visible, but if the wound were allowed to heal some nodules would be found. Repetition of the treatment is therefore necessary, but after the first treatment touching with the alkaline phenol or slight rubbing only is required. After the last treatment the place is allowed to heal up under boric ointment.

Superficial areas are often cured in six weeks, approximately, but when the nodules are deep-seated or the type is exuberant complete cure does not occur so soon. A

great reduction, however, in the amount of the disease takes place. It is usual to repeat the treatment if the nodules left are numerous, so as still further to reduce them; if few and discrete they are treated at once by acid nitrate of mercury.

In spite of the strength of the carbolic acid and the size of the areas treated—in one case both cheeks were under treatment at the same time—no sign of carbolic acid poisoning has occurred; this I attribute to the hypertonic dressing causing the flow of lymph to be outward, not inward.

In two cases excessive destruction took place, producing superficial sloughs. In one there was no indication that this might occur. The other was that of a woman whose leg had been amputated for tuberculosis; her general reaction was poor, and cure has not been obtained. There is, therefore, some risk in the method.

The principle of the treatment appears to be that diseased tissues are less resistant to caustics than healthy, and that therefore, if the proper strength is found, healthy tissues will not be seriously damaged. I have repeatedly seen islands of healthy tissue in the middle of the ulcers produced. Caustic potash alone would act, but the anaesthetic action of the carbolic acid is valuable. The hypertonic dressing might be composed of other substances. I have used a boric acid, magnesium sulphate, and glycerin paste with success.

This is the routine treatment applied in almost every case in this clinic, and disappearance of the disease has been obtained in cases of many years' standing—up to fifteen or more. It fails, however—or at any rate is only partially successful—where the impervious dressing cannot be properly applied—for example, on the nose, or close to the eye. For these places it must be supplemented by acid nitrate of mercury or other powerful caustic, or perhaps by ultra-violet rays. It does, however, prepare the way for these by reducing the number of nodules. It has with the others the great merit that its application does not depend on the patient's perseverance, except so far as concerns his attendance at the clinic, and in this respect there is no difficulty—patients are eager for the treatment. For success personal supervision by the physician himself, attention to details, and experience of the resistance of the skin, which varies in different parts of the body, all appear to be requisite.

## A CASE OF ERYTHROEDEMA OR "PINK DISEASE."

BY

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SINCE the clinical picture known as erythroedema, erythroedema polyneuritis, or "pink disease," is seemingly, from the available literature,<sup>1</sup> a somewhat rare condition, I have taken detailed notes of a case which came under my care lately.

An only child, a boy aged 2 years and 8 months, was brought to Colwyn Bay in July for a holiday from Lancashire. His parents, who are both quite healthy, said that he was an active and normally healthy child until a fortnight or so before they left home. He then seemed to lose appetite, would not play by himself, wanted "petting and coaxing" and often asked to be carried. He had one or two symptoms, and there were no marked symptoms, and he was "a little run down and that the holiday would soon put him right."

On the day of his arrival he asked for an ice-cream; this was given to him and there seemed to be no immediate ill effects. On the next day he complained of severe abdominal pain and vomited once, and when I saw him for the first time he presented the usual picture of intestinal colic in children. He had spasmodic abdominal pain, and the temperature and pulse rate were slightly raised. Examination of chest and abdomen was negative, but on rectal examination constipated faeces could be detected. He was given a small dose of calomel, a small olive oil enema, which had a good result, and ordered boiled water only.

The next morning (July 22nd), after a good night, the abdominal pain had gone, the bowels had been moved with a slightly greenish stool, the temperature was 101°, and respirations between 40 and 50; the alae nasi were active, and although on examination the chest still seemed healthy, his condition suggested early pneumonia without physical signs, as is common in a child.

A mild diaphoretic mixture was prescribed, and powders containing a sixth of a grain each of calomel and Dover's powder were

given every four hours. He was kept on boiled water with the occasional addition of a little brandy.

The two following days saw him steadily going downhill; there were no physical signs in chest or abdomen, no cough, no vomiting; the bowels were opened two or three times daily, and the motion, although not offensive, looked like cooked spinach. On chest and abdomen were a few patches of erythema, which I took to be "sweat rash," and there was a ring of erythema round the umbilicus. He was passing urine normally, and it showed nothing unusual on examination. His temperature ranged from 102° to 103°, pulse rate 140, respiration rate 30 to 40. There were photophobia and conjunctival injection, and his tongue and lips were dry and sore. He was completely hypotonic and the tendon reflexes were absent. The tips of his fingers and toes were now slightly reddened, swollen, and painful to touch, and owing to general weakness and the condition of the mouth he began to refuse fluids, which up to this time he had taken in large quantities. These had consisted of seaweed, boiled water, brandy and water, and a little orange juice.

On July 25th he was semi-comatose with a temperature of 103°. His fingers and toes and the greater part of his hands and feet were bright red, swollen, and acutely tender. They looked as if the boy had been playing with a wet coloured toy and the dye had come off on to his hands. His motions were still like cooked spinach, not too frequent and not offensive, and, more with the idea of increasing his fluid intake than washing away any poisonous bowel contents, I commenced giving him regular large bowel irrigations with normal saline, leaving a few ounces in the colon each time. He was also given an ounce or two of normal saline with a little brandy by the rectum at regular intervals, and as much fluid by the mouth as possible. All other medication was stopped.

On July 26th and 27th this treatment was continued, and a slight but definite improvement was noted. He was having up to 2 oz. of brandy daily and as much fluid as possible. He had wasted rapidly in spite of fluid intake, and was and looked very ill, taking no interest in his surroundings and occasionally making a feeble cry and holding up his hands for treatment. They were being wiped with spirit and dusted with powder. His temperature still ranged between 102° and 103° and his mouth required constant attention.

On July 28th he was much better; his temperature was 101°, his hands and feet were less red and painful, and the motions a better colour. He began to take more by the mouth again, and Valentine's meat juice and albumin water were added to the diet. The next day his temperature was 99.5°, his motions were formed and a greenish-yellow colour, and as he was taking plenty of fluid by the mouth the rectal washouts and instillations were stopped, and a dilute Nestlé's milk mixture was given in addition.

From this time he improved daily, his temperature fell to normal, his diet was gradually increased, and his hands and feet became less red, swollen, and painful, and commenced to peel in large patches, complete casts of some of the fingers being shed in one piece.

In another week he was up in a chair, and a few days later out in a perambulator. His appetite was enormous; he constantly called for more food, and as his tongue was clean and his bowels normal he was indulged within reason. When last seen, three weeks after the commencement of the acute stage of the illness, he was seemingly quite well except for the wasted and flabby condition of the leg muscles. He had no motor or sensory paralysis, but the tendon reflexes were still absent, and although he was pronounced fit to return home his parents were warned against a too rapid convalescence, with special reference to the use of his legs.

The features of the case which impressed me most were, first, the prodromal history, which made me suspect meningitis; then the symptoms suggestive of early pneumonia which did not develop, and later the complete hypotonic state, and the striking condition of the extremities, which is a marked feature of the clinical picture.

Except for the rise in temperature and the acuteness of the illness this case seems to have been fairly typical, and leads me to suggest that the origin of the toxæmia causing the "polyneuritis" is intestinal.

REFERENCE.  
1 *Medical Annual*, 1924.

## A SERIES OF CONSECUTIVE OPERATIONS ON THE MASTOID.

BY

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DURING the past eight years I have performed close on 400 mastoid operations; those recorded here have been performed during the last three years and nine months, and comprise both private and hospital patients. I am greatly indebted to Mr. Bolton, the house-surgeon, and Mr. Lynch, the acting house-surgeon, for extracting and tabulating the cases in the hospital record—a somewhat difficult task. Any case of otorrhoea of over two months' duration has been considered chronic.

The operations may be classified as follows: (1) for primary acute mastoiditis, in which the mastoid and the otorrhoea are simultaneous, or the otorrhoea has lasted for a few days only; (2) for acute secondary mastoiditis, an acute condition grafted on to chronic otorrhoea; (3) for chronic otorrhoea, performed for the cure of the discharge and to improve hearing and relieve vertigo. The type of operation adopted for the acute uncomplicated cases was a modification of the Schwartz operation.

In my early cases after the ordinary Schwartz operation there was a sagging inward of the posterior conchal portion of the membranous meatus. This caused a blurring in hearing power; to overcome this I remove a fair amount of the posterior bony wall and place a suture in such a position as to make traction. Unless the tissues are very much damaged in the acute cases the wound is partially sutured and the antrum drained by gauze for twenty-four to forty-eight hours. Opinion at the Annual Meeting of the British Medical Association at Nottingham was opposed to this and favoured the open granulation method. I am unrepentant. It sometimes happens that an acute case is so severe that a more radical operation than the modified Schwartz has to be done. In such a case a flap is made in the membranous meatus and the whole of the posterior bony wall is removed. In the chronic cases the modified radical operation was invariably done unless there was much destruction of the tympanic membrane; the complete radical operation was then performed. In the radical operation the posterior wall of the tympanum was never touched.

The modified radical operation, which is based on Bondy's operation, consists in the complete removal of the posterior wall and roof of the external meatus and attic. It is tedious but well worth while. The aim of the conservative operation is not only to cure the discharge but to improve hearing. This is invariably attained; with a large resonance chamber and ossicles and membrane untouched the hearing power should be improved. After the acute operation healing was usually complete in a fortnight; after the modified acute operation healing usually took a month; after the modified radical operation epidermization in my recent cases, blessed by good nursing, has been extraordinarily rapid—frequently a month, sometimes six or eight weeks. Any underlying constitutional disability, such as syphilis or tuberculosis, delays healing, as does eczema occasionally.

Among the acute primary cases there were one cerebral abscess, two lateral sinus infections with thrombosis, and two without. In the acute secondary mastoid cases there were three instances of cerebral abscesses, eight of lateral sinus infection with thrombosis, and three without. Among the acute cases was one septic pneumonia and one diagnosed as pulmonary embolism. The age varied from 1 year and 2 months to 67 years.

No case of labyrinthitis occurred in this series. Some of the cases had labyrinthine symptoms, which cleared up after the mastoid operations. All cases of serous meningitis recovered.

There was one case of secondary acute mastoiditis in a patient aged 17, admitted with definite signs of cerebral pressure—that is, a high temperature (103°), pulse 56, and marked mental hebetude and vomiting. Mastoid signs were not typical, but the mastoid operation was decided upon. On opening up the antrum pus came away under pressure. There was a considerable destruction of bone, and the dura was exposed. There was a large cholesteatoma occupying the antrum and middle ear. I trephined over the temporo-sphenoidal lobe. There was no pulsation of the membrane; the dura was carefully opened, and pus sought for in vain. Next day the symptoms were better, the mind was clearer, and the temperature was down, but the pulse was slower. There was no papilloedema, and no homolateral hemianopia. I asked him how he was. He said, "Better, nurse." "Have you got any headache?" He answered, "No, nurse." I said, "I'm not the nurse, I'm the doctor." He replied, "Yes, nurse." This I took to be due to my having explored the anterior part of his temporo-sphenoidal lobe (Ballance). The following day his pulse was 46. His answers were normal. There was induced nystagmus in the left eye—the operated side—of the cerebellar type. I therefore decided to trephine over the posterior fossa, and an inch and a half of bone was removed above the lateral sinus. There was no bulging and no pulsation. The dura was incised, the brain exposed, and the venules were seen to be engorged but silent. Pus was sought for in vain.

After this second operation he made a complete recovery, and left the hospital with quite good hearing



power. This seems to me to be one of those cases of encephalitis so well described by Symons.

Furuncle is mentioned, not as being a complication of acute mastoid disease, but for the opportunity of making this assertion—that in all cases of long-standing otorrhoea in which a furuncle large enough to close or partially close the meatus occurs a radical mastoid operation should be done, especially if the furuncle be on the posterior wall of the meatus. In each of three recent cases I was fully justified in this line of action. In many of these cases there was a cholesteatoma, and this might mean erosion of bone; in one case the pus tracked backwards between the skull and the dura to make its exit by a hole in the skull in the sub-occipital region, burrowing its way beneath the pericranium into the soft tissues of the neck, where I ran it to ground, after freely removing the bone from the mastoid to the secondary hole in the skull. The dura was covered with granulations, as was the lateral sinus, and at the completion of the operation the lateral sinus burst. This man has so far made slow progress. His age is 47, and he has well marked emphysema of both lungs. The lateral sinus was never opened and the jugular never tied unless there were definite signs of phlebitis, when the jugular was tied high up in the neck and the lateral sinus exposed; if thrombosis was present it was dealt with in the usual way. If there had been signs of sinus infection, such as rigors without definite signs of phlebitis, the sinus was not opened, but if there were definite signs of phlebitis with or without thrombosis the sinus was opened, allowed to bleed, plugged, and saline given. In a boy with marked lateral sinus thrombosis, necessitating wide excision of bone for removal of a septic clot which extended very near to the torcular, a complete recovery resulted with good hearing power. In all the acute cases, primary or secondary uncomplicated, there were no deaths. Skin grafting was never done.

## THE ETIOLOGY OF LEUKAEMIA.

BY

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THE key to the etiology and nature of leukaemia is presumably to be found in the study of those factors which control the leucocyte content of the blood. While the line of investigation necessary is at present rather obscure, the constant recording of cases, especially those which do not strictly fall into any standard classification, may throw some light on the main causative factors. For this reason I have analysed the histories of twenty-five cases of leukaemia observed during the last six years.

The series consisted of 11 patients with myeloid leukaemia, of whom 7 were males and 4 females, and 8 cases of acute and chronic lymphatic leukaemia, 5 in males and 3 in females. The remaining 6 cases were atypical. The red blood count was below 1,000,000 in 37 per cent. of the series.

### *Myelogenous Series.*

In the myelogenous series the total number of leucocytes ranged from 32,000 to 954,000 per c.mm. and the lymphocyte proportion from 0.8 to 40 per cent. In the case with the most marked lymphocytosis the polymorphonuclears and myelocytes were both 29.6 per cent. and the lymphocytes later fell to 1 per cent. The polymorphonuclear count was never lower than 29 per cent. and was usually above 40 per cent. This latter point may have something to do with the better prognosis of myelogenous leukaemia as compared with the non-granular form, where the polymorphonuclear count was never higher than 18 per cent. and ranged from 3.7 to 18 per cent.

Bad teeth or pyorrhoea occurred in 7 cases (64 per cent.), night sweats in 3 (27 per cent.), and a chronic infective septic focus of some kind was present in 82 per cent. of the cases.

There was nothing in any of the family histories to support the possibility of contagion from other patients. The duration of the disease varied from two to eight years.

The spleen was enlarged in all cases, and other lymphatic glands in 2 cases. The temperature usually ranged between the normal and 100°; in 3 cases there was no pyrexia and in one case the temperature reached 102°. Out of the 11 cases 7 were discharged as "better."

### *Non-Granular Series.*

In the non-granular series, out of 9 cases 4 were chronic, 5 acute. The total leucocytes ranged from 4,800 to 928,000, but in one atypical case the figure was as low as 600. The lymphocytic percentage varied from 74 to 96. In all cases except one it was 80 per cent. or over.

Pyorrhoea or some chronic primary focus of infection was present in the histories of 6 cases (66 per cent.). Night sweats were recorded only in one case. The length of history was from one to seven months in the acute and five to eighteen months in the chronic forms. There was nothing in any family history to support contagion with any other case. The spleen and other lymphoid glands were enlarged in all cases except two; in one of these there was no splenic enlargement and in the other the spleen only was enlarged. There was usually no pyrexia in the chronic cases; the temperature rose as high as 105° in the acute. Two patients were discharged—these were of the chronic type; the remainder died.

### *Etiological Theories.*

Of theories as to the causation of this disease only two need be considered in the light of present knowledge.

#### 1. *The Tumour Theory.*

This theory is the most popular one at the present time. It is based mainly on certain changes which appear to be analogous to tumour formation, such as the excessive and apparently purposeless proliferation of leucocytes, and their tendency to metastasize. Several factors, however, indicate that if the nature of the agency instigating the condition is similar to that of tumour formation, it behaves quite differently from any other kind of malignant lesion. So far as is known, in a necropsy of a case of leukaemia, no site can be indicated as the possible primary focus.

The changes in the bone marrow and reticulo-endothelial system are more or less uniform, but certain areas may tend to be more dense than others. Patches of leucocyte deposit or gross infiltration will be relatively more marked in places, but these differ microscopically from centres of malignant proliferation. "The newly formed cells are not in possession of resolving power (of fermentative nature?) which proper tumour cells possess, and by which they entirely destroy the organs attached." This is a very essential difference; it practically amounts to the difference between a benign leucocytic infiltration and an invasion by malignant cells.

Patients, moreover, have been known to survive for ten years or longer, and the condition may become entirely arrested for as long as seven years (Price). These are points hardly compatible with our knowledge of carcinomatosis and sarcomatosis.

#### 2. *The Infective Theory.*

In the discussion on leukaemia and allied conditions at the Annual Meeting of the British Medical Association at Nottingham, Dr. R. Donaldson, after surveying some of the arguments against the sarcomatosis theory, concluded that there was more to be said for a possible virus or irritant, using the latter in its broad sense.<sup>2</sup> This certainly appears to be the most plausible etiological theory, and a survey of the present series of cases would seem to bring out points in its favour. Early investigators such as Virchow held this view and maintained that leukaemia was the result of specific infection. Others believe that it is non-specific in origin. In the histories of the above cases, 17 showed varying degrees of irregular temperature; in all the acute and atypical varieties the temperature was 103° or higher, but the chronic lymphatic patients had no rise at all.

There was a history of pyorrhoea, tonsillitis, sore throat, bronchitis, or some chronic infective focus in 82 per cent. of the classified cases and in all the atypical ones. The

occurrence of night sweats, to which Donaldson drew special attention as being a common feature, was recorded in 20 per cent. of cases. The length of history in chronic cases varied from two to eight years.

In rare instances cases have been recorded where contact with a leukaemic patient has apparently led to transmission of the condition, and Weiss and others have reported instances where several members of the same family were victims of the disease. Such incidents are, however, so rare that they can hardly be employed as evidence of the infective nature of leukaemia.

Animals grafted with leukaemic exudate from human beings have only in one questionable instance (that of Wiczowsky's experiment) developed leukaemia. Three patients dying from carcinoma were inoculated by Schaffer with leukaemic blood from another patient; none of them developed leukaemia.

It could be argued that if the disease is infective in nature it is hardly conceivable that the latter experiment could have failed. Nevertheless it may reasonably be supposed that a patient suffering from malignant disease is not to the same extent susceptible to the virus. In any case this experiment would have to be repeated by other observers to provide confirmatory evidence.

Ellerman has succeeded several times in inoculating healthy fowls with a filtrate from leukaemic fowls. The filtrate used consisted of an emulsion of organs passed through the Berkefeld filter and, therefore, cell free and microbe free for organisms up to the size of bacteria. The condition could thence be transferred from one bird to another indefinitely. These experiments go to show that at least, so far as the leukaemia of fowls is concerned, it is a definitely infective condition. Whether the disease in human beings is of the same nature is still open to question, but it would be difficult to imagine that leukaemia in human beings with its fundamental resemblances to the disease in fowls could be induced by an entirely different process. The following clinical details are of interest in this connexion.

A man, aged 66, had a two months' history of pain on the right side of the abdomen spreading up towards the thorax. The liver was large with a smooth, round, hard, and sharp edge, and there was a large palpable tumour on the left side with some of the characters of the spleen. This diminished under x-ray treatment. The red cells and colour index were normal. The leucocytes numbered 32,000 per c.mm., and the differential count was polymorphonuclears 64 per cent., lymphocytes 27 per cent., large mononuclears 4.4 per cent., mast cells 0.2 per cent., and myelocytes 4.4 per cent. Megaloblasts and normoblasts were present. There was very grave oral sepsis, indicating total extractions. The temperature ranged from 98° to 100°, but after extraction of the teeth it was above 100° for a few days. The total leucocytes varied from 8,000 to 32,000 during the month he was in hospital. No further symptoms developed, and he was discharged feeling well.

This case was diagnosed as chronic lymphatic leukaemia, though it was recognized as not being a typical case.

Many chronic infections—tuberculosis, for example—show a relative lymphocytosis, though admittedly the total leucocyte count would not be expected to reach 32,000. The lymphocytes varied from 24 to 38 per cent. There was certainly as much a parallel between the course of this case and that of a chronic infection (there was a very definite chronic septic focus), as between the course of this case and that of a case of "useless white cell proliferation," which leukaemia is supposed to be.

We might conclude, then, from the above analysis that leukaemia is a condition which runs a course in many striking respects parallel with that of an acute or chronic infective process, and that while there are clearly some unexplained resemblances to tumour formation (particularly if myelomas and chloromas are included under the heading of leukaemia), we must await further light on the whole problem of the etiology of tumours; this in turn will reveal the relation between the two conditions.

It may yet be proved that Gye's recent dictum is true—that the "agent of malignant disease is a living filterable microbe."<sup>1,2</sup>

## REFERENCES.

<sup>1</sup> *Leukosis in Fowls*, Ellerman, p. 12. <sup>2</sup> *BRITISH MEDICAL JOURNAL*, October 2nd, 1926, p. 595. <sup>3</sup> *Ibid.*, November 12th, 1926, p. 870.

## Memoranda :

## MEDICAL, SURGICAL, OBSTETRICAL.

## FOREIGN BODY IN THE BLADDER.

DR. HUNTER WOODS reports an interesting case of foreign body in the bladder (*BRITISH MEDICAL JOURNAL*, December 17th, 1927, p. 1140). May I mention two cases which came under my care at Guy's Hospital during the summer of 1926. Both were young females aged about 20.

The first case, when examined, showed a metal bar lying transversely in the bladder. The gentle efforts which were made to dislodge it through the urethra failed to move it, so I at once, fearing damage to the large pelvic blood vessels, cut down through the suprapubic route, and opened the bladder. With some difficulty I removed the foreign body, which was embedded in the right wall of the bladder and touched the left wall. The foreign body was a metal thermometer case, minus the lid, about three inches long. The patient afterwards developed left iliac thrombosis, so my fears as regards damage to important blood vessels were justified.

The second patient had caused much trouble at a country hospital, and was considered to have produced an artificial haematuria. She was cystoscoped during my holiday, and it was thought that she had a growth on the left wall of the bladder. When I cystoscoped her I felt certain it was not a growth, as I saw a similar mass at the base. I removed, through the urethra, two fruit stones. I set them in earth, and one produced a seedling tree. Unfortunately it suffered from being covered up and became mouldy, but I think it was some form of plum, cultivated, I suppose, as the stones were about an inch long—that is, much longer than the stone of any sloe, bullace, or wild plum that I have seen.

I think that, in the second case, the stones were introduced deliberately. But in the first case the thermometer case may have been introduced into the urethra during the passage of urine in order to allay spasm and pain.

In this connexion I may mention three other cases.

The first, a young child, had a vesico-vaginal fistula and a phosphatic stone in the bladder, which was found to have formed round a bone collar-stud about seven-eighths of an inch long. The second was that of an old man who had been passing bougies on himself for many years. I removed, suprapubically, three stones, all surrounding broken fragments of stiff bougies, but they were not of metal. The stones were phosphatic.

The third case was that of an elderly man who had been operated upon by the late Mr. Dunn for strangulated hernia. He suffered from retention afterwards and a coude catheter was passed. When this was removed it occurred to the patient that the catheter did not present quite the same appearance that it showed before introduction. When I examined him I found a firm mixed phosphate and urate stone, but in view of the history decided to perform suprapubic lithotomy rather than lithotripsy, for which the conditions otherwise appeared favourable, and a stone 1½ inches long, oval in shape, was removed from the bladder. The stone was sawn in half, and it was found that the upturned end of the coude catheter formed the nucleus of the stone. In my opinion the mere suspicion of a foreign body in a stone precludes lithotripsy in such cases.

A. RALPH THOMPSON, Ch.M., F.R.C.S.,  
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## INTESTINAL OBSTRUCTION IN AN INFANT.

A FEMALE infant, aged 3 days, was admitted to Charing Cross Hospital on November 27th, 1926, on account of vomiting. The pregnancy and birth had been normal and the child appeared well made. She took the breast well when put to it for the first time, but vomited soon after. Vomiting continued at frequent intervals (on one occasion continuously for an hour), though the child did not again take the breast. Meconium unusually light in colour was passed.

On admission the child seemed well and cried lustily. Some distended veins were visible in the abdominal wall, otherwise nothing abnormal could be detected. Some bile, but no blood, was seen in the vomit; the stools were small, dry, and putty coloured. An occult blood test was positive. A diagnosis of duodenal atresia was made. Saline and glucose were given subcutaneously, but the child continued to vomit and rapidly went downhill.

Laparotomy was performed by Mr. N. C. Lake on November 28th. A mid-line incision was made. On opening the abdomen a blind-ended distended piece of small intestine presented, and proved to be the upper few inches of the jejunum. Near to this blind end was found the proximal end of the rest of the small intestine, also blind, and of very small foetal type. The colon was undeveloped, the calibre of a lead pencil, whereas the distended small intestine was the size of a normal adult jejunum. This discrepancy in size made it impossible to perform an anastomosis, even had the condition of the child been good enough to justify such a procedure.

A medium-sized rubber catheter was tied into the distended jejunum and the abdominal wound closed. The child died six hours later.

The site of the lesion would seem to preclude a developmental error. The theory suggested by the surgeon in charge of the case is that the condition was caused by pressure atrophy by a band-like adhesion due to intra-uterine peritonitis.

I am indebted to Mr. N. C. Lake for permission to publish this case.

E. A. C. WILSON, M.B., B.S.,

Lee-on-Solent.

Late House-Surgeon, Charing Cross Hospital.

### A NOVEL HAEMOSTAT.

An attempt to stop internal haemorrhage by plugging the rectum in the manner described below seems of sufficient interest to be placed on record.

A six-foot labourer of generous proportions was admitted to hospital on November 21st last. He was exceedingly shocked and collapsed and was losing blood from the rectum in an obvious manner.

He stated that for the twenty-four hours before admission he had been bleeding from the bowels, and in order to stop the bleeding he had inserted a porcelain egg-cup into the rectum. This frank statement, told in a rich brogue, seemed rather incredible, but on examination his temperature was 96.8° F., his pulse 130 a minute, and his appearance grave. The sphincter ani was stretched, and the mucosa lacerated and bleeding. The left side of the abdomen was acutely tender, but not rigid.

The man was immediately taken to the theatre and sigmoidoscopy performed, with neither anaesthetic nor positive result, except great quantities of blood clot. He was next screened with an excellent X-ray apparatus, but with no result.

Laparotomy was performed after a rapid preparation, and a full-sized egg-cup found just below the splenic flexure. The bowel was not perforated. A colleague versed in the art of obstetrics passed a blunt instrument up the rectum and the operator guided its point into the bowl of the egg-cup, which was then gently "milked" down, guided into the rectum and delivered by gentle manipulation.

Recovery was straightforward, and the patient was discharged a fortnight after operation.

An interesting fact is that ten months previously the patient sustained a slight accident at work—no broken bones, but a few superficial lacerations necessitating rest in bed for a week. He has not worked since that accident.

A. HOPKINS, M.B., Ch.B.N.Z., F.R.C.S. Ed.

Huddersfield.

### VESICAL BILHARZIA: DOUBLE INFECTION WITH *S. HAEMATOBIMUM* AND *S. MANSONI*.

THE following three cases of vesical infection with bilharzia, in which lateral spined eggs were found in the urine along with those of *S. haematobium*, appear to be worth recording, owing to the rarity of published cases.

*Case 1.*—A boy, aged about 12 years, first seen on March 6th, 1925, was passing so much blood in his urine that it was a bright pink colour towards the end. Microscopically numerous eggs of *S. haematobium* were found, and there was also seen in the slide examined a single lateral spined egg. Subsequent search in other slides failed to show any more of the latter eggs. When seen again on July 12th, 1926, the urine still contained numerous eggs of *S. haematobium*, and again lateral spined eggs were found, this time with greater ease, about two eggs being seen per slide. The urine was re-examined on July 15th, and lateral spined eggs were still present; on this occasion his faeces were examined twice, but no infection was found. On each occasion he had been given a test tube and told to bring in it the last few cubic centimetres of his urine, so that there would have been little chance of contamination from faeces, even if a faecal infection had been present.

*Case 2.*—Another boy, aged about 12 years, first seen on March 3th, 1926, was at the same school as Case 1; he also showed a lateral spined egg amongst a heavy infection of *S. haematobium*. His urine was re-examined on July 12th, 1926, but although eggs of *S. haematobium* were still present in large numbers, no lateral spined ones were seen, and none again on July 15th, when his faeces were also found to be negative.

The first boy was also examined by Dr. Maclean, sleeping sickness officer, on July 12th; he confirmed the fact that the eggs were really lateral spined, and not foreshortened terminal spined ones.

These two cases were seen at the Government School, Mwananyiri, Tanganyika Territory, on the southern shore of Lake Victoria. The children were mostly drawn from the surrounding villages, stretching along the lake shore on either side, some of them coming from five miles away; the few children whose parents lived far inland stayed with relatives living on the lake shore. There was a staked-off bathing pool in the lake, where the boys were taken to batho daily. At the time of inspection in March, out of

sixty boys attending the school thirty-nine had blood in their urine and thirty-two of these had *S. haematobium* eggs present. (I have since heard that some more of the boys are now passing blood), and probably they had all been infected by bathing in the lake, either in the school bathing pool, or at their homes; for cases of vesical bilharzia infection were seen from villages on the shore from seventeen miles to the east of the school to seven miles to the west. The third case gave the following history:

*Case 3.*—A man, aged about 25 years, used to reside in the town of Mwanza, where he bathed in the lake every day; his health had been good, and he had never before passed blood in his urine. At the beginning of October, 1925, he was sent to Maswa, and at the first three camps on the shore road he just washed down with water from a water-jar; but at the fourth camp, Nassa, seven miles east of the above school at Mwananyiri, he actually entered the lake and bathed. The next two camps and Maswa itself, where he was stationed, were inland, water being drawn from water-holes, and here there had never been seen any cases of bilharzia infection which could be said to have been contracted locally. On March 20th, 1926, he paraded sick, complaining of passing blood in his urine, the last portion of which was pink in colour, and there were seen numerous eggs of *S. haematobium* and a single lateral spined egg. His faeces were unfortunately not examined.

What made this case particularly striking was that he paraded sick two days after my return from the safari where I had been examining the schoolboys, and that the only history given of washing in doubtful water was his bathing in the lake at a spot near the school. No live snails, for examination for cercariae, were found on the lake shore.

The only other recorded case of a similar condition of which I know is that reported by Macfie,<sup>1</sup> who himself refers to another case reported by Bandi in Egypt in 1912. These cases would, however, suggest that the double vesical infection with *S. haematobium* and *S. mansoni* is commoner than supposed at present.

My thanks are due to the director of medical and sanitary services, Tanganyika Territory, for his permission to publish these cases, and to Dr. Maclean for his advice.

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Medical Officer.

### ACUTE PNEUMONIA TREATED BY SODIUM NUCLEINATE.

ONE of us, having read with much interest a paper by Dr. Gardner-Medwin (BRITISH MEDICAL JOURNAL, July 12th, 1924, p. 49) on the treatment of acute pneumonia by sodium nucleinate, had obtained a box of ampoules of the drug, and so we were able to use it at the very commencement of a case of pneumonia.

The patient was a strong young man, aged 18, who insisted on playing a game of Rugby in a tearing east wind and hard frost when he already had a bad cold. After the game he complained of severe pains in the chest and pneumonia was suspected, but no signs of it were found. He made a good tea and dinner and went to bed with a temperature of 99.8°. The next day he had broken bed with a temperature was normal and the pains had gone. He was kept indoors all day, and about tea-time suddenly began to feel very ill. His temperature was then 104°, and afterwards rose to 105.6°; the pulse was 144, and the respirations 38. He was violently sick and afterwards coughed up a fair amount of blood mixed with phlegm. He was then developing early signs of consolidation in the right lower lobe of the lung. He was removed to hospital that evening and was given injections of sodium nucleinate every four hours (ampoules of 2 c.cm. containing 0.05 gram in 1 c.cm.), together with half-drachm doses of sodium bicarbonate and glucose. There was a crisis within twenty-four hours, and the youth was convalescent at the end of a week.

In this case we are convinced that the youth was acutely ill and in for a life-and-death struggle, but four doses of sodium nucleinate produced a remarkable alteration. If, as is supposed, sodium nucleinate stimulates the white corpuscles there must be a great field for its use in other forms of infection—such, for example, as puerperal fever. At any rate it is used at Edinburgh in one dose of 1 c.cm. of a 5 per cent. solution before abdominal operations.

We consider that it should be in the armamentarium of every practitioner for use at once in pneumonia, and that it should be tried in other forms of bacterial infection. It can be obtained from F. H. Mertens, 64, Holborn Viaduct, the British agents of Clin et Cie, St. Jacques, Paris.

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Guernsey.

<sup>1</sup> Macfie: *Journal of Tropical Medicine and Hygiene*, February 16th, 1920.

## Reports of Societies.

### THEORIES OF SUGGESTION.

At the meeting of the Section of Psychiatry of the Royal Society of Medicine on January 10th, with Dr. R. LANGDON-DOWN in the chair, a discourse was delivered by Dr. WILLIAM BROWN, reader in mental philosophy at Oxford, on theories of suggestion.

Dr. William Brown began by remarking that to talk nowadays of theories of suggestion might seem to some old fashioned and out of date. That was not his view, and he thought that a great deal of very good work done in the past was in danger of being overlooked in the enthusiasm—in many cases untrained and uneducated enthusiasm—for analysis in its various forms. The word "suggestion" was used in educational, scientific, and medical literature in slightly different senses. Among educationists the word was used to indicate a general kind of influence brought to bear upon the mind, other than that of ordered and logical argument. In popular speech it was used in the sense of insinuation, as a counsel might "suggest" to a witness; and among pure psychologists it had been given the wider connotation of the effect of preformed associations on the activity of the mind. In psychological medicine the use of suggestion had developed out of the earlier use of hypnotic influence. Hypnosis and suggestion were not the same thing, but in a state of hypnosis, which was a state of mental dissociation, a person became more suggestible as a result of the dissociation; on the other hand, the opposite condition might also hold good, a state of hypnosis following upon suggestion. Hypnosis seemed to proceed in stages of deeper and deeper degree, but nowadays it was not customary to speak of stages of hypnosis because, although they occurred, they did so in no definite order or sequence.

Various theories had been devised to account for the responsiveness of the hypnotized person to suggestion. Freud said that this result followed because of some bond of affection which had sprung up between the hypnotist and the hypnotized. McDougall's theory was that in the process of hypnosis the patient was thrust into a state of self-abasement, and, the instinct of self-assertion being in abeyance, he was ready to accept orders from another person. During the war large numbers of soldiers became readily hypnotizable under intense physical shock, such as concussion, which probably brought about physical dissociation of the higher centres of the brain. Alcoholic persons were easily hypnotizable, also persons under anaesthetics. Hypnotism was originally used at operations, and if chloroform had not been discovered shortly afterwards, no doubt hypnotism or suggestion-treatment would have been used more extensively. It still had its uses in preparing the patient for operations, and it had quite definite effects, such as the prevention of nausea after the anaesthetic. Dr. Brown had himself observed 600 cases of amnesia among soldiers in France during the war; nearly every case was hypnotizable, and memory invariably returned under hypnosis. Chareot defined hypnosis as an artificial hysteria, while Bernheim's definition was that of an artificially increased suggestibility. The two definitions needed to be combined to give an adequate account of hypnosis. Moreover, due allowance should be made for the factors of dissociation and of rapport in hypnotic phenomena. He drew attention also to the work of Pavlov, who explained both sleep and hypnosis in terms of inhibition of the cerebral cortex, spreading in sleep to the subcortical centres, and in hypnosis not so spreading.

Dr. Brown next considered in more detail the factor of rapport, which was of such central importance in hypnotism. Pierre Janet explained suggestion or hypnotic effect in terms of ideomotor action, in which the suggested idea, because of the inactivity of competing ideas, produced its maximum effect. This theory was not sufficient, but itself needed further explanation. Freud explained rapport in terms of the sex instinct "inhibited in its aim" (transference), and brought in his distinction of "ego" and "ego-ideal" or "super-ego," to supplement the theory. At

first sight all suggestion seemed to be in essence auto-suggestion, since it must be accepted by the patient if it was to work at all; but there was the converse possibility that suggestion might be hetero-suggestion, the individual being unable to accept anything from himself, but always from the outer world. Ernest Jones explained auto-suggestion in terms of narcissism, saying that if the idea of narcissism had been formed directly by concentration upon the idea of self the process might be termed auto-suggestion; whereas if this had been preceded by a stage in which the ego-ideal was resolved into the earlier father-ideal the process might be termed hetero-suggestion. When a person was hypnotized he placed the hypnotist in the position of his ego-ideal. In auto-suggestion, according to Ernest Jones, there was a regression to a still earlier psychological situation—a situation of primary narcissism, the libido being fixed upon the ego and supporting the ego-instincts. Jones said that therefore auto-suggestion was a bad thing, involving an impoverishment of the ego and the withdrawal of energy that should be available for getting into touch with the world; but if this was true it was not easy to explain the improvement in physical health from auto-suggestion. "Auto-suggestion" was an inadequate and misleading term in that it did not satisfactorily indicate the therapeutic value of auto-suggestion in which the will was supplemented, not supplanted, and complete volition made possible. Those who benefited by auto-suggestion did not become more self-centred; on the contrary, they became more self-confident. McDougall's explanation of hypnotic suggestion in terms of the instinct of self-abasement was too limited, for different instincts might supply the driving power to produce suggestion effects in different circumstances. Such instincts as self-preservation (fear) and gregariousness might play their part. Freud again explained the action of the gregarious instinct in terms of the libido; in his view there sprang up among members of the group libidinal relations—of course inhibited in their aim—towards one another and towards the leader of the group. Without denying all truth to Freud's theories of love hypnosis and gregariousness, Dr. Brown said that his own experience, both of the method of suggestion and of deep analysis in investigating and treating cases, did not bear out the theory in its entirety, and lent no support whatever to Freud's theory of group-consciousness. He could not believe that the libido needed to be brought in at all; the self-assertive instinct came in, no doubt, but the growth of the gregarious instinct could be adequately explained in terms of natural selection, and Freud's theory of the libidinal relations of members of the group seemed far-fetched and ridiculous.

In some brief discussion Dr. R. D. GILLESPIE said that Dr. Brown's championship of suggestion-treatment, coming from so intelligent a source, rather surprised him. The speaker thought it extremely improbable that suggestion-treatment in its former vogue would ever return, seeing that suggestion depended on lack of criticism on the part of the person to whom suggestions were made. Dr. LEAHY expressed his emphatic belief in suggestion, the value of which was not limited to persons of poor or unstable intellect. He described a case in which suggestion had proved of great value in facial abscess in a university man; a man of strong intellect and a great sportsman. Dr. TRAVERS SMITH had found suggestion helpful in the administration of anaesthetics, to remove the patient's fears. He thought that Dr. Brown had dismissed Freud too easily. Dr. HAYDN BROWN said that 90 per cent. of the favourable results obtained by osteopaths were due to the suggestibility of the patients. In his own experience he was using the word "suggestion" less and the word "education" more. Patients should be made to relax the muscles, in which condition they were more teachable. Dr. T. A. ROSS spoke of the variability of response to hypnotic treatment on the part of patients suffering from different forms of illness.

Dr. WILLIAM BROWN said, in reply, that he had not "dismissed" Freud. It was possible to accept a great deal that Freud wrote, but in his theories with regard to the gregarious instinct and to transference, the explanation of rapport in terms of inhibited sex instinct, he could not follow him.

## CURRENT VIEWS OF SHOCK AND COLLAPSE.

At a meeting of the Section of Surgery of the Royal Society of Medicine on January 4th, with Mr. V. WARREN Low in the chair, Mr. V. ZACHARY COPE offered some criticisms on current views of shock and collapse, and a discussion followed.

Mr. Cope said that in spite of much investigation and discussion the current teaching about shock and collapse was still far from satisfactory. This was evident alike from the point of view of the definition of terms, the pathological factors involved, and, to a less extent, the clinical symptoms. Hardly any two writers agreed on a definition of shock. Some discriminated between shock and collapse, and others did not. What was called "shock" by one writer was by another called "collapse." Some said that the symptoms were similar, but the pathological conditions dissimilar. Many limited the term "shock" to the result of wound or operation, whilst others included those states with similar symptoms resulting from any type of harmful stimulus or from loss of body fluid. Mr. Cope placed on the lantern-screen a number of definitions taken from textbooks, British, French, and American, and finally put forward his own definition for discussion:

"The term 'shock' signifies a condition following the application of harmful stimuli, or the depletion of the body fluids, in which there is a serious and clinically demonstrable depression of the vital processes of the body, particularly the circulation and metabolism.

"'Collapse' is a term applicable to the sudden onset or rapid aggravation of the symptoms of shock."

He considered that shock should be defined clinically without reference to the condition of the blood pressure and without any mention of the pathological factors involved, inasmuch as these were still not agreed upon. Views on the pathology of shock had varied greatly during the last two decades. Laboratory experiments had been contradictory, and it was now acknowledged that Malcolm's observations, which were made many years ago in the course of clinical work, were more accurate and informative than a great deal of the experimental work done by others. Malcolm pointed out that in shock the pulse often remained slow, but the volume of the pulse became gradually smaller, whilst the peripheral vessels were contracted, and he stated that fluid must therefore be leaving the vessels. As a result of the investigations made in the war by Keith and others, it was determined that the essential factor in shock and collapse was a deficiency of the volume of blood in circulation. This was clearly stated by the late Professor Bayliss, whom he quoted. It was well understood that considerable loss of fluid from the blood vessels might occur without lowering of blood pressure owing to compensatory vaso-constriction. Unless the vasomotor centre was out of action (and Porter had shown that it was not), then a serious state of shock might exist with no appreciable fall in blood pressure. When once the blood pressure began to fall the descent might be rapid, owing to the limit of vaso-constriction being reached. That shock might exist with a high blood pressure was suspected by Rendle Short, affirmed by Parsons and Tyrrell Gray, and referred to by Bayliss; but so much attention had been paid to the terminal symptoms of the condition in which the blood pressure was necessarily lowered that the earlier but still serious stage in which the blood pressure might be high and the pulse slow had been widely neglected. Kinnaman maintained that the fall in body temperature was a better indication of shock. The symptoms of shock were due either to circulatory failure, depressed metabolism, or sympathetic stimulation. They varied greatly, and there was hardly one constant symptom, though in demonstrable shock there was nearly always either subnormal temperature, a lowering of blood pressure, or a diminution in size of pulse. Pallor, mental dullness, increased pulse rate, and sweating might or might not be observed. The blood pressure might be within normal limits, even in serious shock. Unless this dissociation of symptoms of shock was remembered the early stages of the condition were likely to be overlooked. It was likely that a clinical estimation of the circulating blood volume would be a better guide to the onset of shock. Mr. Cope pleaded for a more

thorough investigation of shock from the clinical aspect, for a widening of the definition so as to include all the similar states resulting from various causes, for the clear apprehension of the facts which supported the view that the advent of shock was not merely a matter of fall of blood pressure, and for a recognition of the frequent dissociation of the symptoms.

Mr. J. D. MALCOLM said that it was generally accepted that in profound shock the vessels were contracted and the blood pressure was very low. This made it necessary to reconsider the law that contraction of the arteries raised the blood pressure. His own observations, though made many years ago, were not the first which directed attention to the need for modifying this law; Sir George Johnson, in the middle of the last century, had pointed out the same necessity. The speaker believed that persistent contraction of the vessels was by far the commonest mode of death in shock, and that vascular contraction should have an important place in any definition.

Mr. E. M. COWELL gave some account of his observations undertaken during the war, as an outcome of which he had suggested a division of shock into primary and secondary. In secondary shock the blood pressure fell gradually. He thought there was no need to be pessimistic with regard to the state of knowledge concerning traumatic shock; it was admittedly inadequate, but a great deal of useful work had been done, and already the effect was seen in the greatly lessened frequency of traumatic shock. He exhibited some simple instructions issued by the Red Cross Society for preventing shock in motor injuries, and said that it was now found that even in accidents involving compound fracture of the femur shock might be prevented.

Mr. J. P. LOCKHART-MUMMERY thought that traumatic shock was due to overstimulation of the brain centres. In all conditions of shock a diminution in volume of the blood in circulation was observed. The reason why the fall in blood pressure was used in early experiments for measuring shock was because it was easily taken, and there were no means then—and, indeed, there were no means now—of measuring the circulating blood volume. But it was possible now to recognize the onset of shock before definite lowering of blood pressure occurred. One of the earliest effects was an increased pulse rate; there might be exceptions to this, but with anything like a normal heart, when the blood volume in circulation began to diminish, the heart's activity would show a compensatory increase. Normally there was a fixed ratio between pulse rate and blood pressure. If the blood volume in circulation was diminished at all seriously the first thing to be upset was that ratio, the pulse rate tending to increase out of all proportion to the blood pressure.

Mr. A. J. WALTON thought that the outstanding significance of shock as a process of exhaustion ought to have a place in any definition; certainly, clinically that was the first thing to grasp. In all these cases there was a necessity for rest. He was strongly against giving stimulating drugs in the treatment of shock, though he often had difficulty, after an operation, in persuading the medical attendant to withhold such stimulants. For his own part he would give as "drugs" only morphine and water—he said "water" and not "saline," for he found it difficult to understand how the idea arose of giving salines per rectum in shock cases. In the comparable condition of thirst one might drink alcohol, or, more wisely, water, but not saline.

Mr. C. H. S. FRANKAU said that the pulse rate might be slow at the wrist in cases of shock, and the heart might be three times as rapid as the wrist pulse indicated. He had been able to prove in quite a number of cases that the actual heart rate was a great deal more rapid than the rate felt at the wrist. He could not agree with the remark which he supposed Mr. Cope to have made [it was really a quotation from Professor Bayliss] that haemorrhage and shock were much the same thing. The quality of blood was different; in shock it had a high specific gravity, in haemorrhage a low.

Mr. COPE devoted his reply to a further plea for a clinical definition of shock. He thought the definition should be a broad one, and that qualifying adjectives—such



as traumatic, haemorrhagic, toxic—should be affixed to indicate the particular clinical type. If a pathological definition were awaited it would mean postponement to the Greek kalends.

### RECURRENT ENDOTHELIOMATOUS DERMOID.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on December 16th, 1927, the President, Mr. COMYNS BERKELEY, in the chair, Dr. W. G. BARNARD showed a specimen of an endotheliomatous dermoid of the ovary, and a recurrence near the cervix removed twenty-four years later.

Dr. Barnard said that the first tumour had been reported by Herbert R. Spencer; in 1917 a tumour the size of a pigeon's egg was removed from the vagina, and a tumour the size of a split pea could just be felt to the right of the os uteri. In June, 1927, the tumour exhibited was removed from the region of the cervix. Dr. Barnard stated that the nature of these tumours was identical with that of the endoteliomata, and he believed that the second and third were secondary to the first. The extraordinarily similar microscopic structure, the fact that the third was palpable when the second was removed, and the slight increase in cellularity of the tumours seemed to him to support this view.

### Gynaecological Involvements of the Abdominal Wall.

Mr. FREDERICK ROQUES showed a specimen of endometrioma of the umbilicus obtained from a patient who, thirty-four years previously, had been operated upon for an inguinal hernia. He exhibited microscopic specimens revealing all the characteristics of an endometrioma, and he then discussed the question whether this tumour in any way helped towards the elucidation of the origin of these umbilical endometriomata. He drew attention to the occurrence of a sinus at the back of the specimen, and expressed the opinion that it was not justifiable to invoke Sampson's theory of causation to explain these tumours growing at the umbilicus and in an outward direction. After reviewing the evidence, he concluded that this specimen could be used to support almost any of the explanations which had from time to time been advanced, but that it lent more colour to that usually known as the "peritoneal theory."

Professor BECKWITH WHITEHOUSE showed a specimen obtained from the abdominal wall of a patient who had menstruated through a laparotomy scar for twenty years, associated with diffuse endometriomatosis of the pelvic cavity and the abdominal wall. He detailed the clinical history of the case, and pointed out that after twenty years normal menstrual function returned. The patient was subsequently treated by radium, and had made good progress.

### Etiology of Puerperal Sepsis.

Mr. BURT-WHITE read a paper entitled "An investigation into the etiology of puerperal sepsis," which described the results of examinations of swabs taken from the cervical canals of pregnant women. The organisms were cultured both aerobically and anaerobically, and their effects on animals were tested by injection. Mr. Burt-White demonstrated the rarity of the *S. pyogenes*, and mentioned that in the one case in which this organism had been isolated there was a normal puerperium. He reviewed the previous results of examination on similar though less exhaustive lines, and referred to the difficulty of determining the actual strains of streptococcus responsible for fatal cases of puerperal septicaemia.

### CONSERVATIVE TREATMENT OF SPINAL CARIES.

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on December 16th, 1927, Sir WILLIAM DE COURCEY WHEELER, in the absence of the president, took the chair, and read a communication on the results of the treatment of Pott's caries by conservative treatment alone and treatment supplemented by the introduction of a bone-graft.

Sir William Wheeler said that nowadays patients were treated in open-air hospitals by specially skilled assistants

and trained orthopaedic nurses; it was too early to judge the results. Under the old regime the sequels of treatment in city hospitals, without special nursing and with inadequate methods of fixation, were far from satisfactory. It appeared that very few patients with advanced Pott's caries ever reached old age. Some records showed that within a period of twelve years 40 per cent. were dead; others gave the percentage of deaths within fifteen years at 38.6, 75 per cent. of the deaths occurring within the first two years. In 1911 fusion operations of the spine had been introduced in the hope of reducing the high mortality and of promoting a speedier cure. There was general agreement that the bone-grafting operation was useful to the general as well as to the orthopaedic surgeon. Operative treatment in adults had been further encouraged by the report of the commission appointed in America to investigate the results of these fixation operations. There was no doubt whatever that both the Hibbs's and the Albee operations caused fusion of the laminae. This had been proved by cases in which a second operation had been performed, by necropsies, by clinical observation, and to some extent by radiography. Sir William Wheeler urged the necessity of careful and prolonged after-treatment. His patients remained on a Thomas's or Jones's frame for three months, and were then kept in bed for another three months without the frame; during the next three months they were allowed to move about carefully, wearing a Jones's posterior spinal support night and day, and afterwards the posterior spinal support was continued according to the progress of the case. He had never seen in an adult the absorption or disappearance of a bone-graft after introduction. He had operated upon several young children about twelve years ago, and was satisfied that the method was only justifiable in exceptional cases, though some surgeons had advocated the operation as part of the conservative treatment in young children, and had proved that the graft did not interfere with growth. The presence of abscess or paraplegia was in his opinion a strong indication for the introduction of a graft. He dealt with the treatment of spinal abscess, and also with the treatment and prognosis when paraplegia was present. In his view laminectomy did more harm than good, but Frazer's operation to relieve pressure was designed on sound principles. After discussing the various operations for spinal fusion he gave an account of thirty adult patients treated in the period 1917-27; of these six died, and nineteen or twenty appeared to be cured.

Mr. F. GILL said that by bone-grafting operations for tuberculous disease of the spine the patient was restored to his normal strength in a shorter time than with conservative treatment, and he was able to carry on for a number of years. The skin and spinal muscles were anaesthetized with novocain and adrenaline, and this lessened the shock, reduced the loss of blood to a minimum, and rendered the operation field almost bloodless. He used an osteotome or chisel for cutting the graft in preference to the Albee saw, which, he thought, cauterized the bone and was apt to destroy the osteoblastic tissue.

### Treatment of Fractures.

Mr. WILLIAM DOOLIN showed a man, aged 63, with both bones of the forearm broken. Mr. Doolin said that sixteen years previously the patient had broken both bones of the left forearm. During the nine or ten weeks that he was in splints no radiological examination was made. He was out of work for twenty-one weeks, and since then had been continuously at work as a house painter, but lately there had been pain in the arm. He had an evident false joint, with very poor grip; both pronation and supination were present, but only to a limited extent, and he could not lift weights. Owing to his age and the extensive sclerosis of the bone ends demonstrated by x-ray examination, Mr. Doolin had decided against operative repair, but a celluloid armlet was provided which effectively controlled the forearm, abolishing the flail movement. With this gripping power was definitely improved, and there was ability to lift a chair held out at arm's length. Mr. Doolin thought it a singular example of pluck that the man had continued to earn his living at rough painting

with both bones of the forearm gone, and with a false joint between the elbow and wrist.

Mr. WILLIAM PEARSON, exhibiting some intramedullary bone pegs of his own design, said that this method of treating fractures had been very fully dealt with by Professor Hey Groves in a series of lectures delivered in London several years previously. The use of ivory or bone pegs was confined to transverse fractures of the shaft of the long bones, without comminution, in which operative treatment was required. The principle consisted of putting the peg into the intramedullary canal so as to keep the two main fragments in alignment while union was taking place. Mr. Pearson claimed that his pegs could easily be altered in size by filing, and that they did less damage to the endosteal tissue. It was not good, he thought, to excavate the medullary canal and endosteal tissue, which were concerned in bone formation. Blocking the medullary canal with a solid ivory or bone peg would retard the formation of callus round the fractured surfaces, and therefore his pegs had a series of longitudinal grooves on the surface, and in the larger sizes small central canals, so that the callus formation would grow both through and round the pegs. The few cases in which Mr. Pearson had used these pegs had done very well. The pegs were made in six sizes by Messrs. Allen and Hanburys.

Mr. H. STOKES said that he himself had made some bone pegs, but with difficulty and without much success. Using an ordinary chisel, however, he got a better result by making them, not round, but octagonal. Mr. ARTHUR CHANCE had found it difficult to alter the pegs themselves. He thought it was easier to make the bone fit the peg than the peg to fit the bone, and was therefore in favour of excavating the medullary cavity.

Mr. PEARSON, replying, emphasized the fact that his bone pegs were only for temporary use: they were simply an internal splint to prevent displacement. The canals which he had made in the larger sizes were for the purpose of vascularization; he would not use them in the case of non-union, in which event two methods were open—namely, a bone-graft or a step-cut operation. The latter was feasible in the case of the humerus.

#### *Bone Complications in Typhoid Fever.*

Mr. F. J. HENRY recorded a case of typhoid infection of ribs and sternum in a man aged 62. A lump had appeared on the front of the chest about five weeks after typhoid fever. There was a smooth, rounded, painless swelling about the size of a golf ball on the anterior chest wall, involving apparently the second, third, and fourth costal cartilages and the right border of the sternum. It was stony hard and very fixed to the deeper structures; an x-ray examination showed pronounced thickening of the body of the sternum, with osteo-sclerosis. An exploratory incision was made, and the lump was found to consist of a fibro-cartilaginous mass, with a central cavity containing pus, from which a pure culture of *B. typhosus* was isolated. No other residues of typhoid infection could be found in the urine, faeces, or specimens of bile removed by the duodenal tube. Mr. Henry said that the frequency of bone complications in typhoid fever was stated to be less than 1 per cent., which was curious in view of the probability of the marrow of most of the bones being infected some time or other during most cases of this infection. De Quervain had drawn attention to the fact that typhoid osteitis and ephondritis of the ribs might be confused with tuberculous disease, and had emphasized the chronicity and the difficulty in securing healing.

Sir WILLIAM WHEELER referred to the teaching of Murphy that each infection had its own date for metastasis; the infection from staphylococci appeared sixteen to twenty-one days afterwards, that from streptococci seven days afterwards, and in the case of typhoid fever metastasis of the bones occurred from the fourth to the fifth week after the infection. Mr. ARTHUR CHANCE had had a similar case, the patient having an indolent inflammatory swelling in the right side of the sternum. On incision a little thickened pus was discovered, but no bacteriological proof was obtained. The rib cartilage was bare, but there was no

evidence of necrosis. Healing occurred in six weeks. Mr. H. STOKES quoted two similar cases, one of an abscess in the tibia, the other of an abscess in the back of the scalp; both had healed without difficulty. He thought it wise to open the bone and scrape it.

Mr. HENRY, replying, said that in a similar case of swelling occurring four to five weeks after the infection he would leave it alone. Infections in bone other than the ribs and sternum healed up without much difficulty. If the cavity did not heal up he proposed filling it with a muscle graft from the pectoralis major.

#### OPHTHALMOLOGY AND GENERAL MEDICINE.

A MEETING of the Manchester Medical Society was held on December 7th, 1927, when Dr. J. GRAY CLEGG delivered his presidential address on ophthalmology in relation to general medicine.

Dr. Clogg, referring first to embryology, mentioned the fourfold relation of the eye with ectoderm, comprising the neural ectoderm of the retina, the lens, the conjunctiva, and the skin of the lids; the uveal tract and the cornea were of mesodermic origin. It was not surprising, therefore, that the eye, with other ectodermic and mesodermic organs, was liable to disturbances of function and nutrition. The anatomical relations of the organ and its nerves and blood vessels, together with the visual pathways, were most complicated, and most important ocular signs accompanied, therefore, affections of the brain and spinal cord. The ophthalmologist must have a wide knowledge of anatomy, physiology, and pathology, and the physician should be familiar with methods of examination of the eye and the visual field. Reference was made to some of the more superficial ocular diseases, and it was strongly recommended that all medical practitioners should possess a good lamp, a large lens of 3 in. focal length, a pocket loupe, and an electric ophthalmoscope. With the former many of the superficial affections were easily and clearly distinguished, and keratic deposits could be recognized; with the latter the retina and choroid might be examined, at any rate after dilatation of the pupil. The opinion was expressed that all affections of the uveal tract were the result of the direct actions of trauma, micro-organisms, or of toxins circulating in the blood, and therefore the oculist needed the co-operation of a bacteriologist and a physician. Abnormal conditions of the retina were then described, and the appearances of haemorrhage occurring at varying depths. Arterio-sclerosis of the retina and its relation to general arterio-sclerosis were considered. It was recognized by the "copper wire artery" in the early stage, and the "silver wire artery" when complete occlusion of the lumen had supervened. When this retinal condition appeared serious cerebral results followed in about 45 per cent. of the cases. Amaurosis fugax might result from temporary spastic occlusion of the retinal arteries, but if the blood stream remained stagnant long, thrombosis set in and coagulation necrosis of the retina resulted. Many cases that had formerly been regarded as embolism of the central retinal artery or one of its branches were really due to this cause. Thrombosis of the retinal vein brought about rapid loss of sight, was evidenced by extensive haemorrhages, and was often complicated by a secondary glaucoma. Renal retinitis was next described, with its characteristic but not pathognomonic appearances. It occurred in one-third to half the cases affected by contracted kidney. In chronic parenchymatous nephritis the retina was usually not affected; almost always the blood pressure was high. Renal retinitis might occur at any age, whereas arterio-sclerotic retinitis was a disease of old age. The prognosis for life was bad; very few patients survived two years after its discovery, whereas the arterio-sclerotic type of patient might live much longer. Further, in renal cases both eyes were usually affected, but in arterio-sclerosis in nearly one-half the patients one eye only showed the signs. Papilloedema might be the only ocular sign when differential diagnosis from a cerebral tumour might be difficult, but the blood pressure was a distinct guide. Mention was made of the retinitis of pregnancy, in

which detachment of the retina not infrequently occurred. It was believed that there were two outstanding factors producing different types of renal retinitis—namely, toxic and vascular; in parenchymatous nephritis the toxic element prevailed, whereas in the small red kidney the vascular was the more important. Lastly, diabetes was dealt with, and the reasons given for supposing that the retinitis was really due to this disease and not to accompanying renal conditions; it affected the later half of life. Diabetes also involved the pars retinae iridis, and Harrison Butler had stated that he had diagnosed diabetes from an oedematous condition of the mamelons, the brown knobs at the pupillary margin of the iris. The lens might become opaque and rapid with changes in its refractive index; in fact, if in an elderly person a form of progressive myopia was noted, diabetes was almost always responsible. Reference was made to the so-called retrobulbar neuritis produced by diabetes, but it was stated that the central scotoma for colour might really be present with an effect on the ganglion cells of the macular region as in tobacco amblyopia. Hypotony of the globe and lipaemia retinalis were also observed, the latter when fat was formed in the blood; which might amount to 26 per cent.

### GYNAECOLOGICAL TUMOURS.

At a meeting of the North of England Obstetrical and Gynaecological Society at Sheffield on November 25th, the President, Professor W. FLETCHER SHAW, in the chair, Mr. CARLTON OLDFIELD (Leeds) exhibited a specimen of carcinoma corporis uteri, showing (1) fibroids which had been treated by Apostoli's method thirty-five years previously, and (2) sarcomatous tissue.

Mr. Oldfield said that the specimen had been removed from an unmarried woman aged 75, who had had slight abdominal pain and blood-stained discharge for three weeks. The uterus, which was slightly enlarged, was first explored with the curette, and since the tissue removed was clearly malignant a pan-hysterectomy was performed. The patient, in spite of her age, bore the operation well, and never had a rise of pulse or temperature. Professor Stewart had reported that the uterus contained both an endometrial malignant growth and several fibroids, the latter of necrotic aspect. The endometrial tumour was a very cellular and active-looking adenocarcinoma, which was invading the muscle to a moderate extent. The largest fibroid had undergone total necrosis, but without any appreciable calcifications. The uterine wall at one point close to the large necrotic fibroid showed a form of sarcomatous change. Mr. Oldfield stated that Apostoli's treatment (passage of an electric current through tumours) had been employed by Mr. Keith thirty-five years previously for fibroids producing menorrhagia in this patient, the current being applied three or four times. The bleeding was not checked at once, but continued for two or three years; the menstruation became almost normal in amount for a year or so before the menopause. The patient had been quite well since. The chief interest of the specimen was the condition of the fibroids, and the question arose whether their unusual shrunken appearance was due to the Apostoli treatment or was only the ordinary atrophic change. Mr. Oldfield added that, if the sarcoma-like tissue was a true growth of this kind, the combination of carcinoma and sarcoma was remarkable, and the question arose as to whether the electrical treatment had had anything to do with the malignant diseases.

#### Abdominal Myoma.

Mr. W. GOUCH showed a specimen of an unusual abdominal tumour in a married woman aged 60, who had suffered for eighteen months from indigestion and heartburn, and recently from severe attacks of abdominal pains, with violent vomiting. Examination showed a very hard and movable tumour extending from the pubes to above the umbilicus. Pelvic examination showed no abnormality, and a provisional diagnosis of solid ovarian tumour with torsion or pedicle was made. At the operation it was

found that the tumour could be pushed up under the ribs; it was situated in the lesser omentum, with the stomach stretched along its lower border. It was removed without any great difficulty, the only strong adhesion being to the stomach; the bare area on the stomach wall was stitched over and the abdomen closed. Microscopic examination showed that the specimen, which weighed 15 lb., was a pure myoma.

#### Carcinoma of the Cervix.

Mr. W. W. KING (Sheffield) showed a specimen of carcinoma of the cervix with a microscopical structure in places so strongly resembling sarcoma as to be misleading; when, however, further sections were cut from other parts of the growth the true carcinomatous nature of the growth was at once recognized. Mr. King thought it probable that some of the so-called "sarco-carcinomas" of the cervix were of the same nature.

The PRESIDENT said that specimens diagnosed as sarcomata were very often difficult to prove, especially in the case of fibroids. He asked whether fibroids ever underwent sarcomatous degeneration, or whether the sarcoma arose outside the fibroid. Professor MILES PHILLIPS thought that sarcoma might arise in a fibroid tumour. Professor DOUGLAS said that this very rarely happened. Often cells were found resembling sarcoma; they were due to degeneration in the cells of the fibroid and were not really malignant.

Dr. BRIDE (Manchester) showed a case of massive carcinoma of the cervix in a patient, aged 35, who had had her first child eleven months previously. She had bled slightly during the pregnancy, and for the last three months continuously. On examination the vagina was found to be completely filled with growth, which was removed, and two applications of radium were given. She died eight months after the operation, with probably recurrence of the growth.

Dr. LEITH MURRAY said that in these cases the operation was easy, but recurrence was very likely. Mr. GOUCH said that recurrence was early in the cauliflower growth because the glands were easily invaded. Professor MILES PHILLIPS drew attention to the importance of the routine examination on the tenth day of the puerperium. Mr. W. W. KING said these growths were relatively less malignant than those arising in the cervical canal, which rapidly invaded the pelvic cellular tissue, and the PRESIDENT agreed.

#### Large Ovarian Fibroma.

Mr. J. ERIC STACEY (Sheffield) showed a specimen of fibroma of the ovary removed from a 2-para, aged 47, who had noticed swelling of the abdomen for twenty years; it had been worse since the last child had been born seven years ago, and had latterly increased rapidly. The circumference of the abdomen was 57 inches. A large, smooth encapsulated tumour of the right ovary was removed at operation; it contained spurious cysts from hyaline degeneration and weighed 26 lb. There was no ascites. Microscopically it resembled fibroma of the uterus.

Dr. BRIDE commented on the absence of ascites, which he believed to be the rule. He had removed a tumour weighing 8 lb. from a woman aged 70. Dr. LEITH MURRAY said that these fibromas became enlarged by degeneration. Professor MILES PHILLIPS said that a tumour of 88 lb. was the biggest recorded. He did not think that ascites was present as a rule.

### THE RITUAL OF FRACTURE REDUCTION.

At a meeting of the Liverpool Medical Institution on December 15th, 1927, the president, Dr. J. C. M. GIVEN, in the chair, Mr. R. WATSON JONES read a paper entitled "The ritual of fracture reduction."

Mr. Watson Jones said that of the many auxiliaries of treatment introduced since the pioneer days of Hugh Owen Thomas and Sir Robert Jones, the most valuable and yet the most ignored was x-ray control, now so perfect that plaster and certain metal splints offered no barrier. The modern

routine of fracture reduction must include not only manipulation followed by fixation, but an almost immediate x-ray examination to determine the position which was being fixed. If this was shown to be imperfect the routine—manipulation, fixation, x-ray examination—was repeated as often as necessary on consecutive days, until the position already fixed was shown to be perfect. Fractures must be regarded as emergencies, and the organization of a hospital fracture department must provide for the immediate institution of treatment, with further daily attention until full reduction was secured. The "twice-weekly" fracture clinic was as obsolete as the "once-weekly" operating day. The combination of such a routine with x-ray control throughout rendered fracture reduction simple and certain, and perfect results could be secured in more than 90 per cent. of recent fractures by manipulation alone. The ritual was illustrated by combined injuries of the forearm bones, where relatively slight anatomical displacements might cause serious functional impairment. An analysis of the early and delayed functional defects of malunion was followed by a demonstration of a series of cases where perfect results had been secured by controlled methods. When operative reduction was necessary intramedullary ivory pegging was regarded as the operation of choice because of the perfect apposition, impaction, and alignment ensured. The importance of impaction was seen in the relatively slow union after autogenous bone-pegging. The results of 20 cases of medullary pegging (including 12 from a total of 200 recent and old fractures of the forearm) showed that in the absence of infection union was never delayed, and disappearance of the peg was complete in three to six months. A method of instituting early controlled movement, a new way of inserting long pegs, and a set of drills with a "cruet-stand" for drills and pegs were described.

#### JAMES MACKENZIE INSTITUTE.

##### *Carcinoma of the Colon.*

ON December 6th, 1927, Sir GEORGE LENTHAL CHEATLE (King's College Hospital, London) read a paper on some recent views upon carcinoma as applied to the colon. He described two types of epithelial hyperplasia which he had found in his researches on the breast. The first type, associated with increase in peri-canalicular and peri-acinous connective tissue, was seen in the breast of the newly born infant and at puberty, and, therefore, might be regarded as physiological. He protested against the use of the term chronic mastitis in this connexion, since the condition was not inflammatory. He did not agree that this hyperplasia was secondary to increased vascularity, but considered that the increased vascularity present was the result of the demands of increased functional activity. A second type of hyperplastic change was described, in which the epithelial cells tended to heap themselves upon one another, and by this process led to the formation of cysts and papillomata. In the colon he had been unable to discover anything comparable to the first type, but the second type of overgrowth was common. In the breast and colon such papillomata might be innumerable, and they were commonly associated with carcinoma. The epithelial activity was, in the lecturer's opinion, the essential change in all instances. In the colon two such papillomata were shown to be carcinomatous. A cell, having taken on the malignant character, invaded surrounding tissue, and as yet this invasion was the only proof of its malignancy. These conditions and the earliest stages and local spread of carcinoma were illustrated by numerous slides. The following types of spread in the colon were described: (a) Limited spread in the submucous lymphatics; (b) direct spread of epithelial cells in the perirectal fat; (c) embolic spread (though this was rare); (d) diffuse explosive local spread in all tissues; (e) invasion of radicals of proctal vein; this last explaining the frequent invasion of the liver in carcinoma of the bowel. In conclusion the lecturer expressed his thanks to Drs. Cuthbert Dukes, Archibald Leitch, and Fry for assistance in the preparation of his paper.

## Rebels.

### THREE AMERICAN BOOKS ON HYGIENE.

THE fourth edition of Professor ROSENAU's *Preventive Medicine and Hygiene* was reviewed in the JOURNAL on April 14th, 1925. In the fifth edition,<sup>1</sup> which has now appeared, a number of the subjects treated are either new or fully dealt with for the first time. The higher prevalence of cancer in the older states of America as contrasted with the newer is ascribed to differences in age and sex distribution. Its incidence is greater among whites than negroes, but has recently increased among the latter. The author does not commit himself to any of the theories of causation which have been advanced, but he refers to avitaminosis and growth control as possible factors and quotes the work of Gye. A scheme of ocular hygiene is outlined. Conservation of vision is described as a vital problem, second only to the conservation of life itself. For preventing the damage which ensues on glaucoma, early recognition—often difficult—and prompt treatment to control pressure and maintain drainage are insisted on. Sharp or fragile toys, so dangerous to the eyes of children, are deprecated. The good example of the sight-saving class for progressive myopia, first set up by Bishop Harman in London, is now followed by nearly every alert city in the States. Trachoma is prevalent among the American Indians, and is endemic among the poorer sections of all large American cities. Reference is made to the optic atrophy induced by wood alcohol, a teaspoonful of which may cause loss of vision. Periodical general physical examination, on a birthday basis after early childhood, is commended as a wise and useful innovation which is growing apace. Distomatosis, common in warm countries and occasional in the United States, is discussed, and its prophylaxis indicated. The new section on the psycho-analytic approach to sex hygiene is quite unconvincing. That on mental hygiene is good in tone. It applies psychiatry to social problems and follows mental development from infancy to adult life, dealing with praise and blame, reward and punishment, delinquency, discipline, and endurance. The new section on statistical methods will be found of service, though possibly not easy reading for all. Among other new or expanded topics are granuloma inguinale, balantidial dysentery, and resuscitation after gas poisoning. The author, it would appear, still looks askance at vaccination by cross-scratching or scarification—in fact, he says it should be prohibited. The high opinion which we expressed of Professor Rosenau's fourth edition is more than confirmed by the fifth. The book is a valuable work of reference, but it is much too live to be a work of reference only. It is cordially recommended as a comprehensive guide in the routine practice of public health and a sound exposition of its principles.

The eighth edition of Professor EGBERT's *Manual of Hygiene and Sanitation*<sup>2</sup> presents the fundamental principles of the science in the light of recent knowledge, avoiding the exposition of more detail than may properly, in the author's view, be included in a manual. The channels by which the infectious diseases are communicated are set forth in a way which should make them clear to the non-medical reader. It may be noted, however, that the species of mosquito which carry malaria are considerably more than two, and that *Pediculus capitis* as well as *Pediculus corporis* is capable of transmitting typhus. The subject of immunity, formidable to the uninitiated, is handled with lucidity. In the discussion of the causes of vitiation of air the author appears unduly tolerant of the organic poison theory. The work of Leonard Hill on the physical characters of used air might have been accorded more than a reference in a footnote. On methods of ventilation the sound opinion is quoted that the best system of ventilating schoolrooms is by means of fresh

<sup>1</sup> *Preventive Medicine and Hygiene*. By Milton J. Rosenau. Fifth edition. New York and London: D. Appleton and Co. (Med. 8vo, pp. xxv + 1458; 157 figures, 1 plate. 42s. net.)

<sup>2</sup> *Manual of Hygiene and Sanitation*. By Seneca Egbert, A.M., M.D., Dr.P.H. Eighth edition. Philadelphia and New York: Lea and Febiger. (5½ x 8, pp. viii + 616; 154 figures. 4 dollars.)

unheated outdoor air admitted at the windows. The section on social hygiene is in good taste and entirely to the point. The following excerpt from the section on water purification is a direct appeal to the financial conscience: "Lawrence, Mass., with a population of 44,654 in 1890, built a filter at a cost of \$67,000, saved enough lives at \$5,000 per head to pay for it within the first four months and had a reduction of almost 60 per cent. in the typhoid rate within a year." Professor Egbert is a believer in common sense. He writes a vigorous English style which is pleasant to read.

To convey to teachers and students of education a helpful knowledge of practical hygiene and sanitary organization is the task attempted by Professor WILLIAMS of Columbia University in his work on the essentials of modern health care. He defines health as a quality of life which renders the individual fit to live most fully, and to serve best. He has no high opinion of the dull gymnastics of the German and Swedish systems, but quotes William James to the effect that the strength of the British Empire lies in the strength of character of the individual Englishman, perennially nourished by the national worship, in which all classes meet, of athletic outdoor life and sport. He hopes and desires that it may be so in America also, but recognizes the risks there of spectacular display and the semi-professional attitude. He treats of the care of expectant mothers, infants, young children, and school children. He places the optimum temperature for the schoolroom at 68° F. He discusses the teeth and tonsils as foci of infection, notes the prophylactic value of unimpeded sunlight, and endeavours in a few pages, which will put his non-medical readers on their mettle, to explain the phenomena of immunity. He cites an excellent summary from an American source on the control of communicable disease. He is rightly not cordial to the hot-air furnace as a means of warming dwellings. He gives an account of City, State, and Federal health administration in the United States, and concludes with a chapter on international health as promoted by the Rockefeller Foundation, the Red Cross, and the League of Nations. Professor Williams's book, to borrow an expression of his own, is worth while.

#### THE CENTENARY OF UNIVERSITY COLLEGE.

*The Centenary Addresses, Bound Together in One Volume*,<sup>2</sup> delivered to celebrate this great occasion at University College, naturally arrest attention both from the eminence of their authors and the historical interest of their contents. Of the twelve addresses all except Sir Gregory Foster's entitled "These hundred years," delivered on March 26th, 1926, before the Union Society, were given in 1927, and it is perhaps a pity that the valuable account of the history of University College Sir Philip Magnus gave on April 27th, 1926, which was noticed in our columns (1927, i, 155), has not also been included. In his survey Sir Gregory Foster, like Professor J. Norman Collie in his address on "A century of chemistry," touches on the famous Professors T. Graham, Williamson, and Ramsay, and goes on to praise the famous men who begat reputation for University College, not, of course, omitting the masters of medicine. The late Professor E. H. Starling's discourse (*BRITISH MEDICAL JOURNAL*, 1927, i, 438), which is the first in the volume, shows how much the progress of British physiology in this country owes to the professors in the laboratories of the College, especially during the last fifty years. In speaking on the relations of University College and medicine Sir John Rose Bradford pointed out that the two original Faculties were law and medicine, drew attention to the extraordinary breadth of view manifested by the founders as to the requirements necessary for the adequate study of medicine, and showed how the College had contributed to the development of scientific methods and of the scientific type of mind in the general

practice of medicine. Sir Oliver Lodge in his discourse on "A century's progress in physics" also praises Sir W. Ramsay and refers to the work of Professor J. A. Fleming, who gave the address on "A century of electrical engineering"; Sir Oliver does not confine himself to retrospect, and warns his audience about the risk of accepting the false doctrine that science has any other aim, such as utility, than truth. In "Culture and the coming peril" Mr. G. K. Chesterton, who was once a member of the Slade school, writes on what, after some fifteen pages of winnowing down the exact nature of the peril, he reveals to be standardization at a low standard. In the centenary oration the Right Hon. H. A. L. Fisher, Warden of New College, in speaking on the subject of "Our universities," compared the exclusiveness of the two older universities and the narrow curriculum they used to offer with the broader principles inspiring the foundation of London University, which have been followed by the newer provincial universities. University College, he pointed out, stands for three things—tolerance, academic study, and collegiate life. Professor R. W. Chambers, who contributes the preface, also spoke on "Philologists at University College," and used the word in the older, broader, and more correct sense as meaning those interested in the study of literature as well as the study of language; appreciative notices of Henry Morley, W. P. Ker, and Platt add to the attractive character of Professor Chambers's address. Professor J. E. G. De Montmorency is responsible for "A century of jurisprudence," and Dr. Mary Broderick's address entitled "Our inheritance" brings to a close a volume of varied interest.

#### THE ARCHIVES OF PSYCHIATRY.

The ninth volume of the *Archives of Neurology and Psychiatry*<sup>3</sup> is edited by Dr. FREDERICK L. GOLLA, who succeeded the late Sir Frederick Mott as director of the laboratory at the Maudsley Hospital, and as pathologist to the London County Mental Hospitals. Since we owe the inception of these valuable *Archives* to Mott, it is only fitting that the present volume should include his portrait, an obituary, and a bibliography of his numerous contributions to neurology and psychiatry. His Harveian Oration on "Some Developments of Harvey's Doctrine 'Omne Vivum ex Ovo,'" together with three other articles from his pen, are also included in the twenty-seven papers published in this volume.

The various contributions cover a wide range. P. K. McCowan, J. S. Harris, and S. A. Mann give an account of their researches on blood sugar in encephalitis lethargica, and also on the clinical effects following the injection of hyosine in the subjects of this disease, with special reference to its influence on carbohydrate metabolism. A. Hancock writes on the cerebro-spinal fluid in encephalitis lethargica. S. A. Mann is responsible for blood sugar studies in mental disorder; the investigation of a series of cases of early mental disorder by the laevulose test for liver glycolytic efficiency; and a research on the neutral sulphur excretion in dementia praecox following sodium thiosulphate ingestion. A preliminary report from the London County Mental Hospitals Service of the value of malarial therapy in dementia paralytica is given, and W. S. Dawson records his experience of the treatment of this disease by trypanamide. The same writer and Mary R. Barkas give a somewhat unfavourable account of somnifen treatment in the psychoses. Dr. Barkas also contributes papers on the treatment of psychotic patients in institutions in the light of psycho-analysis; on tonic spasm of the eyes in conjugate deviation; and on social conditions as a factor in the causation of mental disorders. G. A. Lilly and E. L. Hopkins write a note on the Wassermann reaction in the blood serum of male admissions to Hanwell Mental Hospital; E. G. T. Poynder and J. Russell record an investigation on the cholesterol content of the cerebro-spinal fluid in certain mental diseases; P. K. McCowan reports four cases of pellagra, with histological findings in one case, and also writes on the physico-psycho-galvanic

<sup>2</sup> *Hygiene and Sanitation: The Essentials of Modern Health Care.* By Jesse Keirns Williams, M.D. Philadelphia and London: W. B. Saunders Company. (Post 8vo. pp. 344; 52 figures. 10s. net.)

<sup>3</sup> *Centenary Addresses, Bound Together in One Volume.* University of London, University College. With a Preface by Dr. R. W. Chambers. London: University of London Press, Ltd. 1927. (Demy 8vo. pp. viii + 356. 12s. 6d. net.)

<sup>3</sup> *Archives of Neurology and Psychiatry.* Edited by Frederick L. Golla, F.R.C.P., M.B.Oxon. Vol. IX. London: P. S. King and Son, Ltd. 1927. (15s.)



reflex in the neuroses and psychoses; E. H. P. Morton gives an account of a case of herpes zoster, apparently due to invasion of the ganglia by round-cell sarcoma. Isabella M. Robertson is responsible for a research of considerable importance on the vasomotor reactions in mental disorders, with special reference to the haemoclastic crisis, and A. A. W. Petric writes on the same subject. P. K. McCowan and S. A. Mann contribute a paper on typhoid carriers in mental hospitals. The editor of this volume and J. Hettwer are together responsible for two researches: the first a study of the electromyograms of voluntary movement, the second on the influence of various conditions on the time relations of tendon reflexes in the human subject.

We should like to congratulate Dr. Golla on the quality and quantity of the research recorded in this volume. It is evident that under his direction investigations are being carried out along lines which can scarcely fail to be fruitful in results.

#### DIATHERMY.

THE book on diathermy<sup>6</sup> written by Dr. IWAN VON BÜBEN, assistant medical officer in the women's clinic attached to the University of Budapest, though it has reached us rather a long time after the date on the title-page, is worthy of notice, because it is concise and will serve as a useful guide to those acquainted with German who desire to learn the principles of the subject and the therapeutic field. After a short introduction to the history of diathermy, the author describes the high-frequency current and the methods of production; some machines of German make and electrodes of different types are then described. Various ways of administering diathermy to the patient are explained in the next section, and the author indicates the risks that are encountered if attention is not paid to details of technique, and gives instructions for the guidance of the beginner. The effects of diathermy on normal tissues and its method of action in the treatment of disease are described; of special interest in this section are the observation by means of the cystoscope of vaso-dilatation in the mucous membrane of the bladder when the diathermy current is directed through the pelvis. Treatment of the different regions and systems of the body is dealt with in separate sections. The value of diathermy in many of the diseases peculiar to women is emphasized, and the potency of diathermo-therapy in gonococcal infection in the female subject is pointed out. In the section on diseases of the lungs diathermy is said to be of value in chronic pleurisy and bronchitis, but it is not recommended for any stage of pulmonary tuberculosis. Surgical diathermy is briefly described in the last section. The use of the current for coagulating abnormal tissue *en masse* is the form of operation which the author describes. The book is well illustrated and there is a good bibliographic index.

#### POTASSIUM AND CALCIUM IN THE BLOOD.

*Acta Medica Scandinavica*, in its nineteenth Supplement, offers yet one more of those detailed, almost exhaustive, reports of clinical and laboratory investigations the publication of which would appear to be the special service it seeks to render to medicine. This service merits grateful acknowledgement. The subject of this Supplement is the potassium and calcium content of the blood,<sup>7</sup> and consists of a considered report by Dr. ESKIL KYLIN on a long series of chemical analyses of the body fluids of normal and diseased subjects. From the data on healthy individuals mean values are deduced for the normal concentrations of potassium and calcium in the blood and the magnitude of physiological variations. Pathological conditions under which significant departures from these normal values are observed are classified, and emphasis is placed upon the significance of departures from the normal ratio of potassium to calcium. The clinical field has been widely surveyed.

<sup>6</sup> *Die Klinische Anwendung der Diathermie*. Von Dr. Iwan von Büben. Mit einem Geleitwort von Universitätsprofessor Dr. Béla v. Kelen. Leipzig: J. A. Barth. (Roy. 8vo. pp. vi + 175; 82 figures. M.11.40.)  
<sup>7</sup> *Der Gehalt des Blutes an Calcium und Kalium*. Von Eskil Kylin. *Acta Medica Scandinavica*, Supplementum XIX. Jönköping: Tryckeri Aktiebolaget Smaland. 1927. (6 x 9½, pp. 112.)

The patient collection and correlation of a great mass of analytical data upon such factors as those here discussed may seem a monstrously tedious labour. Such it is; nor does the assembly of the results in print provide engaging reading. Nevertheless, it is spado work which must not be shirked. When, as in this case, it is performed with discretion in an organized laboratory under rigid standards of control it is a service of great value both to medicine and to physiology.

#### NOTES ON BOOKS.

Dr. HERBERT SPENCER has published his FitzPatrick Lectures on *The History of British Midwifery from 1650 to 1800*, in a volume which is rendered the more valuable by the completeness of the bibliographical references it contains. In this respect it contains information, doubtless necessitating diligent research, which is not to be found elsewhere, and which would alone entitle it to be regarded as a standard work on the subject. The volume is illustrated with reproductions of the portraits of some of the leading obstetricians of the period—namely, William Harvey, Sir Fielding Ould, William Smellie, William Hunter, John Leake, Charles White, William Perfect, William Osborn, and Thomas Denman. These add greatly to the interest of the work. The substance of the lectures was published in our columns at the time, and in the same issue (November 12th, 1927) was a leading article in which some of the lessons they had to teach were discussed, so that we need not now say more than that. Dr. Spencer is to be congratulated on having added an important and attractive volume to medical literature.

It is more than eighteen years since the idea occurred to a Bart's man (Mr. Basil Lang) to 'rescue' from 'the decent obscurity of office files' some of the choicest flowers of wit that had blossomed in the *St. Bartholomew's Hospital Journal* and arrange them in a little paper-covered book entitled *Round the Fountain*.<sup>8</sup> This anthology of verse and prose has enjoyed a great and deserved popularity, and several editions, each larger than the last, went quickly out of print. A fourth edition, with all the old favourites and many sparkling new pieces from the same source, has now been prepared for the entertainment of Bart's people, ancient and modern, and of others who enjoy light literature with a medical flavour and do not mind topical touches in reason. Apart from the added matter, two fresh features will be welcomed by many. The text is now decorated with sprightly pen-and-ink sketches, some of them very good, and there is a frontispiece showing the fountain in the square, with patients in bed under the plane trees. The other novelty is a limited issue of copies printed on better paper, in a stiff binding of dark blue, with the hospital arms on the back. This should please those who agree with us that *Round the Fountain* is much too good to lie about on tables and sofas like a last month's magazine, and ought to have its own place on the bookshelf.

*The Manual of Veterinary Bacteriology*,<sup>9</sup> as its name implies, deals only with bacteriology as it affects the domestic animals, but as there are remarkably few textbooks in English on this subject it will be a welcome addition to the books of reference of the medical man who is interested in the diseases communicable to man from animals. The classification of the American Society of Bacteriologists has been adopted throughout, but the more familiar names in general use in this country are included in brackets. In addition to surveying the bacteria and filterable viruses, Dr. KELSEY includes sections on the fungi and the protozoa. Incidentally, we must protest against the very general tendency to include protozoology under the heading of bacteriology, a tendency by no means confined to America. In addition to these more systematic parts, the author discusses infection and immunity—very briefly and not too well—and also serology, haematology, preparation of vaccines and serums, and the examination of water and milk. These latter chapters are clear and well written. Any textbook must of necessity include only a selection of the material available, and accordingly a certain amount of information is omitted which, although apparently in the opinion of the author unnecessary, would probably be considered useful in this country. There are also a certain number of actual errors

<sup>8</sup> *The History of British Midwifery from 1650 to 1800*. By Herbert R. Spencer, M.D., B.S.Lond. London: J. Bale, Sons, and Danielsson, Ltd. 1927. (5½ x 9, pp. xxiv + 285; 9 plates. 15s. net.)

<sup>9</sup> *Round the Fountain*. Published by the Editors at the Journal Office, St. Bartholomew's Hospital, London. Fourth edition. 1927. (Post 8vo, pp. x + 201. Price 5s. 6d. in paper cover, post free 3s. 10d.; in cloth binding—limited to 500 copies—7s. 6d., post free 7s. 11d.)

<sup>10</sup> *Manual of Veterinary Bacteriology*. By Raymond A. Kelsey, D.V.M., Ph.D. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. xii + 525; 86 figures. 25s. net.)

(for example, equine epizootic lymphangitis is *not* present in Britain, as Dr. Kelser states), but on the whole they are few. The author has produced a very creditable book, which is easily read, and will prove an acceptable addition to general medical literature.

Dr. HOMER SMITH of New York has written a monograph on *Applied Refraction*,<sup>11</sup> dealing with the work of the ophthalmologist from the clinical standpoint. He writes as a practitioner to practitioners, and, omitting optics and mathematics, confines his attention to the actual practice of the art of determining the refraction of the human eye and how such errors as are found should be treated. His subjective practice is orthodox, and he is able to give a clear statement of his methods, and to deal with difficulties in an explicit manner. We judge the weakest part of the book to be his method of determining refraction; he appears to rely almost exclusively on subjective methods. It is true he uses the ophthalmometer for measuring the curves of the cornea, but by neglecting the retinoscopy mirror he misses the most valuable of all methods of examination—one that is more objective than any other, and one that depends upon the skill of the surgeon and least on the whim of the patient. One observation of his is worth noting: "No one can do good refraction work if he is in a hurry. As a preliminary I recommend to the beginner Sir William Osler's essay on 'Equanimitas.' Repose of mind and body are essentials to patient and operator." But we would qualify the repose of mind of the operator; the repose must be of the sort that gives complete concentration on the work on hand—a concentrated alertness. The caution against hurry is opportune, in view of the difficulties that attend clinical work when authorities attempt to crowd the examination room with excessive numbers.

Dr. GERALD B. WEBB and Dr. CHARLES T. RYDER, in bringing out the third edition of their book, have changed the title from *Recovery Record to Overcoming Tuberculosis*.<sup>12</sup> Apart from this there seems to be little alteration. It is essentially a popular book, intended for the patient himself. As the recommendation on the cover-flap says: "It is written in a bright, clear, and hopeful style which can hardly fail to be most helpful. It points out clearly and comfortably the way to recovery, and gives specific instructions all along the line. Anything the doctor may forget to tell the patient will be found in these pages. The advice and counsel cheer the reader's mind and keep him on a high level of optimism." Quotations from poets and others are interspersed between the charts. Some readers may find the book not altogether to their taste.

*Further Contributions to the Theory and Technique of Psycho-Analysis*<sup>13</sup> includes a great number of short contributions, some only a few lines long, together with some more lengthy papers by Dr. SÁNDOR FERENCZI, one of the leading Continental exponents of psycho-analysis. The author explains in his preface that the present collection is in no way intended to be a systematic survey of the development of psycho-analysis in the years which have intervened since his first collection of writings was published in English in 1916, but only the disjointed papers which represent his personal contribution to this development. He believes these papers give a true picture of the manifold interests which continually occupy the physician practising psycho-analysis and bring him into touch with the most varied fields of the natural and mental sciences. This volume is compiled by Dr. John Riekman, and is translated from the German by Dr. Jane Isabel Suttie and others.

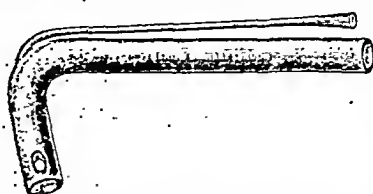
The Student Christian Movement has published for private circulation a small book entitled *The Education of Boys in the Subject of Sex*.<sup>14</sup> It has been written anonymously by a public school housemaster, who describes in detail the ordinary sexual development of boys. The author's experience has obviously been extensive, and his practical suggestions will be helpful to medical practitioners, parents, and schoolmasters who have the responsibility of dealing with this rather difficult subject. Undue space is, perhaps, given to what may be termed the clinical details, and this will render the book rather monotonous and even irritating to some readers; but, in view of

the sound practical advice, both given and implied; this may well be pardoned. Though the book does not cover all the ground indicated by the title, and leaves some difficulties almost unmentioned, yet it is certainly a useful contribution to this branch of pediatrics.

## PREPARATIONS AND APPLIANCES.

### *A Tube for Suprapubic Cystotomy.*

Mr. C. ALEX. WELLS, F.R.C.S. (Liverpool), has devised a tube for suprapubic cystostomy, and has found it very effective in practice. The tube is fixed by an efficient purse-string suture in the bladder opening, which should be no larger than is essential.



The longer portion (about 9½ inches) lies comfortably on the abdomen, and ensures good drainage by its rigidity and gentle slope; it is fitted at the distal end with the light collapsible tubing supplied for Paul's tubes. The shorter portion is about 4 inches long, and the angle between the two parts is about 75 degrees. By leaving the end of the incorporated catheter outside the dressings the bladder can be irrigated without disturbing the bandage. The cave of Retzius should be drained as usual, though in favourable circumstances the patients remain quite "dry" for several days. This tube is made by the Genito-Urinary Manufacturing Co., Ltd., 28A, Devonshire Street, W.1.

## TETRA-ETHYL LEAD.

### THE RISKS OF ITS ADDITION TO PETROL.

ABOUT 1903 it was found that the addition to petrol of one part in a thousand of the substance known as tetra-ethyl lead was of great value in preventing "knocking," and the mixture was a great commercial success, for 300 million gallons were sold in the United States during the two following years. It is said, moreover, that the use of this mixture will permit the use of petrol engines with higher compression. We understand (and Dr. Myer Coplans, in the letter published at page 74, confirms this) that petrol mixed with tetra-ethyl lead is already being sold in this country, and from the facts mentioned it appears probable that it may in the near future replace ordinary petrol to a large extent. This possibility raises a public health problem of importance.

There is no doubt that tetra-ethyl lead is a very active and dangerous poison. As regards its actual toxicity it is true that Kehoe<sup>1</sup> suggests that it is no more toxic than inorganic lead; but, on the other hand, Norris<sup>2</sup> and Gettler's<sup>3</sup> *post-mortem* analyses show that the compound has a specific affinity for the central nervous system, and this indicates a higher toxicity than inorganic lead. There is, however, no doubt that tetra-ethyl lead is far more dangerous than any inorganic lead compound, because it is volatile and can be absorbed either by inhalation or even through the intact skin. Even supposing that its toxicity is the same as that of other lead compounds the amount needed to produce cumulative poisoning would only be a few milligrams a day.

In actual practice its possible toxic action is suggested by reports that in the chief factory in which it was prepared five employees died in 1924 and thirty others were affected, and that the Standard Oil Company of New Jersey had already agreed to pay 350,000 dollars to six persons.<sup>4</sup>

The high toxicity of this compound naturally aroused alarm in the United States, and its use was for a time prohibited in the city of New York. The United States Bureau of Mines tested the effects produced on animals by the exhaust of "ethyl gasoline," and concluded that no lead poisoning was produced.<sup>4</sup>

More recently a special committee appointed by Surgeon-General Cumming has reported on the effects of ethyl gasoline on employees in garages and motor drivers.<sup>5</sup> It concluded: "There are at present no good grounds for

<sup>11</sup> *Applied Refraction*. By Homer Erastus Smith, M.D. Edinburgh: Med. Soc., pp. ix + 131; 9 figures. 15s. net.)  
By Gerald B. Webb, M.D., and Charles T. Ryder.  
Issued. New York: P. B. Hoeber, Inc. 1927.

<sup>13</sup> *Further Contributions to the Theory and Technique of Psycho-Analysis*. M.D. Compiled by John Riekman, M.D. Authorized translation from the German by Jane Isabel Suttie, M.B., Ch.B., and others. The International Psycho-analytical Library, No. 11. London: L. and V. Woolf, The Hogarth Press. 1927. (6½ x 9½, pp. 473, 28s. net.)

<sup>14</sup> *The Education of Boys in the Subject of Sex*. London: The Schools Secretary, Student Christian Movement, Annandale, North End Road, N.W.11. 1927. (Cr. 8vo, pp. vii + 115. 3s. post free.)

prohibiting the use of ethyl gasoline as a motor fuel, provided that its distribution and use are controlled by proper regulations." This conclusion was qualified, however, by the statement that it was derived from the study of a relatively small number of individuals, who were exposed to the effects of ethyl gasoline for a period of time comparatively brief, and the committee urged the need of further investigations.

The evidence available at present, therefore, so far as it goes, indicates that the mixture "ethyl gasoline" can be used without producing poisoning.

#### *Symptoms of Tetra-ethyl Lead Poisoning.*

The effects of tetra-ethyl lead poisoning have been summarized by Kehoe.<sup>1</sup> In cases of moderate cumulative poisoning the chief symptoms are as follows: Insomnia; nausea and vomiting, which occur particularly in the early morning; headache and vertigo, and muscular weakness. The chief signs are a uniform pallor, low blood pressure, sub-normal temperature, loss of weight, and a well defined coarse tremor. Colic is not a feature and the lead line on the gums is rare; the blood picture is inconstant, sometimes stippling of the red cells is seen and sometimes the blood is normal. In acute cases cerebral symptoms predominate: the patient is irritable, nervous, and excitable, and may even become maniacal. The signs, therefore, are quite different from those of ordinary lead poisoning.

Kehoe recommends the administration of large quantities of alkalis as treatment (20 to 30 grams of a mixture of sodium bicarbonate and magnesina). He mentions that the use of narcotics for the insomnia is dangerous.

#### REFERENCES

- <sup>1</sup> Kehoe: *Journ. Amer. Med. Assoc.*, 85, 108, 1925.
- <sup>2</sup> Norris and Gettler: *Ibid.*, 85, 818, 1925.
- <sup>3</sup> *Ibid.*, 88, 411, 1927.
- <sup>4</sup> United States Bureau of Mines (report): *Ibid.*, 83, 1511, 1924.
- <sup>5</sup> Report by committee appointed by Surgeon-General Cumming: *Ibid.*, 86, 370, 1926.

## MEDICAL ASPECTS OF EDUCATIONAL PROBLEMS.

In our last issue (page 28) we gave some account of the discussions, so far as they had a medical interest, at the various educational conferences meeting in London during the Christmas vacation. A few of the later events on the programme are worthy of special mention.

#### *The Effect of Illness on Character Formation.*

To the Child Study Society Dr. David Forsyth lectured on the effect of physical infirmities upon character formation—a subject, he said, curiously neglected, and not mentioned in any medical textbook so far as he was aware. Permanent bodily afflictions and temporary illness alike had their influence on the behaviour both of adults and children, and the younger the child the more pronounced the effect. The very young child thought of illness as due to some imp within the body, and at a later age regarded it as punishment for sin, thus following the course of race evolution from animism to religion, though the further development to science and a scientific explanation of disease did not come in childhood. Illness that sent a child to bed arrested its further mental development for the time being, or even put it back. The child tended to revert to the infant state, largely because it became again the object of special attention on the part of the mother. Children who suffered from nervous ills lost them on being put to bed for bodily illness, but the relief was only temporary. Surgical operations on children had no bad effect in themselves, except that in some cases parents were unwise enough to conceal what was intended until the actual operation took place, and this gave the child a sense of grievance against the parent. The irritability shown by children during convalescence was attributable to disappointment at the partial withdrawal of maternal solicitude. Deformities or facial defects caused the child to feel itself different from other children, and to become solitary and subject to fantasy. Dr. Forsyth added that the initiative of many children was largely paralysed and the character was ruined by coddling by parents on account of

infirmity; on the other hand, there were children who reacted to infirmity in a different way, and who increased in determination and perseverance as they grew up.

#### *School Meals.*

The subject of the nutritional requirements of school children was discussed at a meeting of the National League for Health, Maternity, and Child Welfare. Dr. Alfred Eichholz of the Board of Education, who presided, emphasized the need for providing for the feeding of children in the secondary as well as the elementary schools, especially in country areas. He also indicated other advantages in the provision of school meals in addition to saving the children from hunger—namely, a certain amount of instruction in the elementary principles of dietetics, especially as to the right proportions and edibility of food, and the inculcation of good manners and social qualities. Dr. V. T. Thiersens, assistant medical officer of health for Bradford, mentioned that in the abnormal conditions arising from the coal deadlock of 1926 a quarter of a million children were fed daily by over 170 authorities, instead of the usual number of 100,000 children by 135 authorities. What was noted in the children from the poorer parts of towns was not so much lack of food at home as lack of appetite, arising from home conditions, especially insufficiency of sleep, which helped to bring about the well known assembly of defects—anaemia, debility, and malnutrition. A further speaker, Dr. G. Chaikin of the Public Health Department of the London County Council, spoke on the subject of vitamins and the necessity for their preservation in the process of cooking.

#### *Measurement of Muscular Work.*

To the British Association for Physical Training Dr. Guy P. J. Crowden lectured on the physiology of muscular work, and described some experiments with lads engaged at a brick-making<sup>1</sup> works near Peterborough as to the harrows filled with bricks which they could handle. Measurements had been taken of the oxygen consumed by the lad or man at rest and then of the excess oxygen when engaged in various phases of his occupation. One point elicited was that of this excess cost of oxygen 30 per cent. was expended in the labour of starting and stopping the barrow and 70 per cent. in pushing it a distance of 50 metres; in the labour of starting and stopping something like 25 per cent. was consumed in the gravity action of raising and lowering the handles, and 75 per cent. in getting the necessary acceleration. The investigation had led to the working out of economy loads and other points.

#### *The Teaching of Defective Children.*

A ten weeks' course of study for teachers of mentally defective and of dull and backward children has been arranged by the Central Association for Mental Welfare. The course, which is to be given in London from May to July, includes lectures on the psychological and pedagogical, the medical, and the social and legal aspects of the subject. The first of these aspects is concerned with normal and abnormal psychology, methods of teaching, and speech training; the second with the medical side of mental deficiency, and with the epileptic, unstable, and subnormal child; and the third with the legislation covering the subject and the social organizations for defectives. The Board of Education has approved the course, and has agreed that leave of absence from school on full pay given to the teacher for attendance at the course shall be treated as contributory service for superannuation to the extent permitted by the superannuation rules. The Board of Control also has recognized the course in connexion with the staffing of the teaching departments of its institutions. It is emphasized that the course is intended primarily for teachers with no previous experience of work for defective or backward children. It has been found that the number of teachers with the necessary training and qualifications for dealing with such children is very limited. On the other hand, the ordinary school teacher without some special training should not be placed in charge of such classes. Defective children are extraordinarily various, some of them dull all round, some backward only in one subject, a number are positively feeble-minded, and others only temperamentally handicapped and lacking in self-control, and teaching has to be modified to the individual. The address of the Central Association is 24, Buckingham Palace Road, S.W.1.

# British Medical Journal.

SATURDAY, JANUARY 14TH, 1928.

## FACTORS IN VISION.

THE address recently delivered by Dr. Freeland Fergus at the Royal Philosophical Society of Glasgow, which is printed in full at page 42 of this issue of the JOURNAL, is one that will be a stimulant to thought, for it questions our common ways of dealing with matters relating to vision in civil life. The subject is not a new one. It has been the occasion of much experimental work during many years past, notably by the medical officers of the Air Force. Most of the points raised are not disputed, but are accepted on the basis of a lengthy experience. They are dealt with alike by textbooks of ophthalmology and of physiology. But for all that knowledge and record of ascertained facts, a restatement of these facts in virile and racy language such as will be found in Dr. Fergus's paper is needed.

Again and again the laity, and some doctors, fall into the habit—some would call it the slovenly habit—of supposing that in stating a figure indicative of visual acuity under certain conditions the measure of the sight of the person examined has been given. Examples of the evils that arise from such slipshod habits are not far to seek. A little while ago an attempt was made to qualify the terms of what was meant by "economic blindness," in regard to the provisions of the Blind Persons Act, by introducing stereotyped standards of visual acuity. A vigorous protest by Mr. Bishop Harman published in our columns led to (or at any rate was followed by) further directions which materially and advantageously varied the criticized proposals, by restoring to the certifying doctor his responsibility for the judgement of the state of the sight in relation to work in each individual case. Again, during the past year a somewhat lengthy correspondence was published in the *Times* on tests of vision for motor drivers, and in most of these letters there was the same harping on visual acuity as a possible standard of efficient sight. In the JOURNAL of October 8th, 1927 (p. 646), we touched on the many factors other than acuity that needed to be taken into account before the quality and quantity of a person's vision could be determined. Further, it is no uncommon occurrence in county courts, where claims made under the Workmen's Compensation Acts are adjudicated, to hear evidence given by medical witnesses that the patient's vision by reason of the accident has been reduced to 6/12, and it is almost the rule for the cross-examining counsel to describe this as "vision reduced to one-half the normal." Too commonly this erroneous statement is allowed to pass unchallenged, since a discussion upon the meaning of medical terms is rarely advantageous in a court of law.

Dr. Fergus is without doubt right in his insistence on what may be almost conceded as a paramount asset in vision—the field of vision. For all general purposes of life a good field of vision is imperative. Without that, no matter how good the visual acuity may be, the subject of the defect is more or less a prisoner unless there be some guide at hand whose services can make up to him what he lacks. Extreme cases have been known in which visual acuity has remained nearly full, registering as much as 6/9, yet with an

extremely meagre field of vision—a field restricted, perhaps, to no more than five or ten degrees from the fixation point. Such a patient is blind, so blind as to need leading about; he is unable to see a friendly hand held out to welcome him; blind despite his ability to read small print! The reverse, where there is no macular vision but a full general field of vision up to the normal periphery, gives quite a different picture. Such a person (showing, for example, a patch of degeneration or choroiditis in each macula) is a free man, able to move about at his own pleasure and in safety; he can engage successfully in many of the varied occupations of modern life, especially in country districts, but with less success in great towns, where ability to read is commonly necessary.

The value of a good field of vision is very rightly stressed by Dr. Fergus. But we venture to suggest that in doing so he has somewhat belittled the value of an intact and efficient macula, one that is capable of giving keen vision for detail. His observation that he himself, in a condition of focus or out-of-focus eyes which greatly lowered his visual acuity, was still able to see distant islands, is not, we think, conclusive. It is probable that he knew these islands and where to look for them. Macular vision is exercised even when the rays of light falling upon the structure are not in focus. The myope whose vision without glasses is less than 6/60 can often tell the time by the church clock; a bare hint of the position of the hands, however blurred the impression may be, enables him to "place" them, and in this judgement no doubt he is aided by his knowledge of what the time ought to be. To "see men as trees walking" is seeing, and seeing with the macula, albeit the impression is faulty, for the faulty macular impression is corrected by a swift and unconscious reference to stored experience. This is less true of the blurred impressions of objects seen with the peripheral field of vision; with these there is a true impression of position and size, but not of recognizable form; for there is an imperative urge for the subject to turn the eyes upon the object seen in this blurred peripheral impression so that the macula may discover its true form. If field of vision alone were the dominant factor, then the rabbit should have splendid sight, for the field of this animal must be immensely greater than man's; but with this great general field there is no critical faculty such as goes with the possession of a highly developed macula, hence the rabbit sees only to flee.

It may be asked, How comes it that in practical affairs so much emphasis is laid on visual acuity and so little upon the field of vision? The practice will probably be found to have arisen from two experiences. First, those with bad fields of vision eliminate themselves or are eliminated in early life from the ranks of the normal. Children who stumble over objects obvious to others attract attention, as do those whose disability becomes more pronounced with failing light. Secondly, tests of vision first came to be regarded as necessities in schools. The children must be educated, and education in modern times is necessarily related to the printed page; so their ability to see to read, and to do this accurately and without undue strain, is a *sine qua non* for the normal school. This is shown by a reverse provision: school children are defined as blind if they are "unable to read the ordinary school books," a definition which is in contrast to that of blindness in adult workers or pensioners—"so blind as to be unable to perform any work for which eyesight is essential." When the need for testing the sight for occupations other than education became apparent, it was natural to pursue (with certain exceptions—for

example, colour vision) the same habit of testing visual acuity. This was the more likely to happen owing to the commonness of remediable defects of visual acuity as compared with irremediable defects of visual field, colour vision, light sense, and binocular vision. The tendency in all human affairs is to tackle the simple problem first. But there is evident danger in being satisfied with this simple and unrelated test of visual acuity, as Dr. Fergus shows. It may be stressed too much; it may cause more serious defects to be neglected; and it may lead to hardship in some cases. But for all this we can scarcely agree that visual acuity is negligible or even inferior in value to visual field. A man to be a whole man, of full economic value in any walk of life, should have, besides good visual acuity, a good field of vision, good colour vision and projection, and, possessing two eyes, should have binocular vision. A man with less than these, with a failure in only one point, is less capable than one who has them all. That does not mean he is incapable of work, and of good work, but; given an equality of mental equipment, he is less likely to be successful in the performance of fine mechanical work than is his physically more perfect competitor.

One point in Dr. Fergus's paper appears to need further investigation. He insists on the high value of the field of vision, but he does not see that there can ever be a practical standard for this field. This is a point for inquiry. We should have thought that it would be possible to devise such a standard. Patients suffering from chronic glaucoma recognize the growing limitation of their field of vision; in the early stages the limitation causes them little or no disability, but when there is a loss of periphery of some thirty degrees they are conscious of a real trouble. They note that they bump into door-jambs, pieces of furniture, or passers-by in the streets. The loss of periphery of field they have sustained is such that they are no longer aware of objects close about them. A series of observations upon intelligent patients of this order might show at what degree of limitation of field of vision an element of danger appears. Some smaller limitation than this would mark the margin of safety. If such tests were carried out, with agreed standards of illumination, of size of test objects, and of working distance, a standard of sufficient accuracy and ease of ascertainment might be devised. It would seem to be no more difficult than the determination of colour sense, light sense, and binocular vision—especially when the high average of intelligence now shown by the general populace is borne in mind.

This paper by Dr. Fergus is worthy of careful study, and the subject of it might well form a topic for discussion by ophthalmic surgeons, possibly in the Section of Ophthalmology at one of the Annual Meetings of the British Medical Association.

### TETRA-ETHYL LEAD.

SEVERAL readers have called our attention to the answer given by the Home Secretary in the House of Commons on December 1st, 1927, to a question by Mr. Hardie regarding the possibility of poisoning due to the use of petrol containing tetra-ethyl lead— $Pb(C_2H_5)_4$ . The Home Secretary's final statement (as printed in the Official Reports) was: "It is quite clear, unless the hon. member has information which I have not, the poisoning does not exist."

The chief facts known regarding tetra-ethyl lead are set out briefly in an article printed in this issue of the JOURNAL at page 61. They may be summarized in the

statement that it is a powerful cumulative poison, peculiarly dangerous on account of the ease with which it can be absorbed. Tetra-ethyl lead is added to petrol in the proportion of one part in a thousand, and the mixture is termed in America "ethyl gasoline." This appears to be such a valuable commercial commodity that, if nothing is done to restrict its use, it will probably replace ordinary petrol to a very large extent. Investigations by two committees in the United States have indicated that there is no evidence for poisoning by ethyl gasoline, but this conclusion must be regarded as provisional. The simplest course open to this country is to admit ethyl gasoline freely, and to find out by experience whether a significant proportion of garage workers and car drivers get lead poisoning; and this appears to be the course that is being adopted.

We do not wish to oppose on insufficient grounds any important invention that may result in a great saving of the national petrol bill, but we would suggest that a pharmacological experiment of this magnitude does at least deserve careful watching. It is true that the investigations that have been carried out suggest that ethyl gasoline is not dangerous when carefully used. These inquiries, however, do not claim to be conclusive, and we would suggest that the possible dangers are of such magnitude that as full an investigation as possible of the problem ought to be made in this country. The Home Secretary's answer suggests that the Government does not feel any particular alarm, but it is obvious that if the widespread use of large quantities of such a powerful and dangerous poison does not result in any ill effects, this will be a very fortunate and (to us, at least) unexpected occurrence.

There are two chief dangers. The first is the poisoning of garage workers and chauffeurs by fumes given off from the combustion of ethyl gasoline; a short account of the outstanding symptoms of tetra-ethyl lead poisoning will be found at page 62. The second danger is the production of ordinary lead poisoning in the general population owing to the spraying of the streets of our crowded towns with lead dust from the exhaust pipes of motor cars. The whole problem is, of course, one of particular interest to medical practitioners, from the professional point of view as the guardians of the health of the community, and also from the personal point of view as car drivers.

### FOOT-AND-MOUTH DISEASE IN 1927.

So far as foot-and-mouth disease is concerned, 1927 has been one of the most fortunate of recent years. In 1923 there were 1,929 outbreaks recorded in Britain; last year there were about 120, the majority of which occurred in the latter part of December. Last year also saw considerable activity in research into the cause and prevention of the disease; but we are still without any scientific method of control. The Foot-and-Mouth Disease Committee, appointed three years ago, is still continuing its work, and many valuable facts have been discovered by its members. Much of this has been rendered possible by the use of the guinea-pig as a suitable laboratory animal, and intradermal inoculation of the pads of the feet has been found to be a satisfactory method of infection. It has not yet been found possible to cultivate the virus *in vitro*, however. Using this animal as a source of infection, it has been possible to study the properties of the virus. It has been found to be very active indeed, lesions being producible after an inoculation with a dilution of over one in ten millions.



Olitsky and Boëz,<sup>1</sup> by comparing the filterability of the virus through collodion membranes, have estimated that the size of the organism lies between 20 and 100  $\mu$ . The viability of the virus has also been studied, and some surprising results have been obtained. In the flesh of a slaughtered animal it becomes inert twenty-four hours after death, but it may remain alive for forty days in the blood and seventy-six days in the bone marrow. In cold storage it can live for over a year, and for a very considerable time on hay and bran. The virus is, however, easily destroyed by disinfectants such as sunlight and weak formal. It has been found that a certain amount of immunity may be conferred on animals by the use of a formalized virus, with or without the addition of a hyper-immune serum; but these experiments on immunity have not yet reached a stage at which wholesale vaccination is possible. Our knowledge of the possible hosts of the virus has also been extended. Rabbits and white rats can be infected, and the rabbits may contract the disease spontaneously, although possibly simple contact alone may be inadequate, and a breach of the epithelium may be necessary. No definite cases of infection in man have been reported in this country during the present series of outbreaks, although there is a possibility that slight cases have not been diagnosed as due to this cause. An epidemic in young milk-fed children was reported recently from France, where diarrhoea and other digestive symptoms, together with a skin eruption (but without any vesicles on the mouth or mucous membrane), were found to follow the consumption of milk from cattle which all subsequently displayed typical symptoms of foot-and-mouth disease. The milk was always most infective in the pre-clinical stages. It is now generally recognized that at least two, and possibly three, strains of this virus exist, and that there is no cross-immunity. Vesicular stomatitis of horses has been shown to be very closely allied to foot-and-mouth disease, and it seems possible that this is still another variety. It has been suggested that only one of these strains is infective to man—the strain originally isolated from Germany and called the "A" strain—and it is of interest to note that the great majority of strains isolated in Britain were of the other or "O" variety. Professor Greenwood,<sup>2</sup> as a statistical epidemiologist, has examined the operation of the slaughter policy—abandoned since 1918—in Holland, and believes that this policy has had no effect, good or bad, on the incidence of the disease in that country. How far this policy has affected the incidence of the disease in this country, however, is not apparent. He has also expressed scepticism as to the continued reintroduction of the disease from abroad—a claim which, he points out, has always been made by officialdom in all countries, and has likewise been made in the case of human influenza. Meanwhile the slaughter policy has cost this country, in compensation alone, over five million pounds within the last five years.

#### HUMIDITY AND THE COTTON WEAVER'S HEALTH.

The problem of the effect of artificial humidification upon the sickness rates of operatives in the cotton weaving industry has formed the subject of an investigation carried out by Dr. A. Bradford Hill on behalf of the Industrial Fatigue Research Board, and the valuable conclusions arrived at have now been published in a report.<sup>3</sup> Previous reports issued by this board and by departmental committees have shown that excessive warmth and humidity exercise a detrimental effect on the weaver physiologically, producing discomfort and fatigue, and diminishing efficiency, but no definite figures have hitherto

been available to support or refute the oft-repeated assertion that, even under present working conditions, these factors exercise an injurious effect on the health of the operatives concerned. This report is presumably expected to fill the blank, and it will certainly be very interesting to note how it is received by the operatives' unions. It may be explained that cotton cloth is woven in sheds of two types, "wet" and "dry," the distinction depending on whether moisture is introduced into the atmosphere by artificial means or not; the latter preponderate in this country. The choice of the type of shed depends on the kind and quality of the cloth to be woven. Cotton weaving, whatever the variety of cloth, thrives best in a damp atmosphere, and, though recognizing that the natural humidity found in the south-east and east of Lancashire, assisted by a suitable sizing, is quite enough to meet ordinary needs, it is contended by manufacturers that certain varieties of cloth cannot be woven satisfactorily, and certainly not economically, without a higher percentage of humidity than can be supplied naturally. Steam is the most effective and extensively used agent, but very fine water sprays are also employed. Unfortunately the introduction of steam, while increasing the humidity, increases the temperature, and, although this is good for the process, when certain recognized limits are exceeded the weaver suffers. Commencing with the Cotton Cloth Factories Act, 1889, a succession of statutes and regulations has been controlling atmospheric conditions in these "wet" sheds, and there can be no question about the progressive improvement in the health of the weavers during the period of operation. But the weavers have never been satisfied with statutory regulation of temperature and humidity, and still insist on the total abolition of artificial introduction. The need for this particular investigation can therefore be appreciated. The weaving sheds of each type to be placed under observation were very carefully chosen, and approved by both manufacturers and operatives. They were situated in Preston, Burnley, and Accrington, where both processes are utilized; in Blackburn, where all the sheds demand high humidity; and in Nelson, where the sheds are "dry." The chosen factories employed altogether about 20,000 weavers; cards for all these were made out, and, at the end of twelve months, were sent in to the various approved societies concerned for the entering up of particulars of sickness. Due account was taken of workers leaving during the period of observation. In assessing the results separate groups of males, single females, and married females were formed for non-humid and humid factories, and each group was subdivided into age periods of ten years. The general conclusion is to the effect that sickness incidence shows no selective difference between the humid and non-humid groups, either in number of days of sickness experienced, in number of claims made, or in number of persons affected. Analysis of the sickness town by town yielded similar results. The mean dry and wet bulb readings and the mean relative humidities for a period of five months were calculated from the records of both types of factories, and these latter were again classified under temperature and humidity headings, but again no significant difference in the sickness incidence could be found. The possible effect of unemployment on sickness claims was not lost sight of, but a comparison between the results from groups of factories of each type, which had been very little affected by unemployment during the year, and the general results showed conclusively that this factor could be disregarded. The sicknesses themselves have also been classified under general headings without affording evidence of any consistent or distinct differences between the two types. All these conclusions appear to be quite justified when the results are examined from so many angles. The only semblance of a weak spot to be found is in comparing the influenza and respiratory

<sup>1</sup> *Journ. Exp. Med.*, 1927.

<sup>2</sup> *Journ. Hygiene*, October, 1927.

<sup>3</sup> *Artificial Humidification in the Cotton Weaving Industry: Its Effect upon the Sickness Rates of Weaving Operatives.* By A. Bradford Hill, Ph.D. Industrial Fatigue Research Board, Report No. 48. London: H.M. Stationery Office, 1927. 2s. 6d. net.

classes, which cover the illnesses generally attributed to "catching cold." The claim rates for these classes combined appear to support a greater incidence in humid sheds, for most of the groups belonged to Burnley and Blackburn.

#### THE INFECTION OF BARBADOS WITH MALARIA.

HITHERTO Barbados was able to boast that, unlike any other of the West Indian Islands, it was free from malaria. Unfortunately it has, during the last few months, lost that claim on permanent residents, and on winter tourists who are being attracted in increasing numbers to the Antilles since the dread of yellow fever has been so greatly diminished, if not entirely extinguished. Mosquitos of various sorts, including *stegomyia* as well as *eulex*, abounded in Barbados, but anopheline mosquitos, though carefully sought for, had never been found. The epidemic of last autumn dates from October 8th, when seven patients suffering from what was believed to be typhoid fever were notified. The symptoms were not wholly characteristic of malaria, and it is not surprising that in an island where the disease had never been known to occur there was hesitation in making that diagnosis. The epidemic developed rapidly, and over three hundred cases were recorded in three weeks; most had a fever running from seven to ten days, but many apparently cleared up without quinine; a few seemed uninfluenced by quinine; others showed marked improvement after quinine; but some had been ill at home for a week before they were treated in hospital. They were not having chills, but there was a good deal of vomiting, and some cases had shown early jaundice. The deaths were mostly in elderly and debilitated people. Splenic enlargement was generally absent. In these circumstances the services of Dr. E. A. Seagar, professor of tropical hygiene, Imperial College of Tropical Agriculture, Trinidad, were requisitioned, and the Colonial Office sent out Dr. J. T. C. Johnson from England. Dr. Seagar reached Barbados on November 16th, and that evening, under the guidance of Dr. Lionel Hutson, inspector of public health, he visited two districts and took blood films from a number of cases, finding the parasites of subtertian malaria in most of them. Next morning a few anopheline larvae were found in one of those districts in a small grassy swamp above a pool, and in an adjoining district great quantities in a "seepage." The search was continued during the following days, and the conclusion eventually reached was that anopheles was breeding fairly widely. Hollows in the fields holding water, and with the grass growing up from the bottom and entangling green algae, were sites of election for heavy breeding in many cases, but even large pools containing "millions" showed an anopheline infection if the edges were grass-grown. Several of the gullies were followed up on to the terraces, and in suitable grass-grown holes containing water in the beds of the gullies anopheline larvae were found. Grass-grown ditches holding water at the roadside were also infected. On microscopical examination the larvae proved to be of the species *Anopheles albimanus* Wiedmann, one of the carriers of the malignant parasite in this part of the tropical world. Dr. Seagar bred them out to the adult mosquitos and also caught adults, and all proved true to species. In his report to the Governor Dr. Seagar pointed out that it was to be expected that the anopheline mosquitos will spread over the island in advance of the actual cases of malaria, because a female anopheline, having had a meal of human or animal blood, will look for water to lay eggs, and that brood, when hatched, will push on for other water to breed in, and if they encounter and bite a human being with the malignant crescents circulating in the blood they will become infective. It is thought probable that the infection has come from Cuba in labourers, but there is a possibility that the mosquito may have travelled also in the

holds of small schooners carrying fruit from the neighbouring Antilles. It seems unlikely that they can have crossed the sea independently, as the ordinary flying range of an anopheline is about half a mile, though it may traverse five or six miles, with the wind, in special circumstances. The Government of Barbados has voted a small sum of money to cover the cost of emergency measures, including, it would appear, the provision of quinine for prophylaxis. It is proposed to fumigate houses in which infected individuals reside, and to undertake a campaign of education. Professor Seagar, however, advises the Government that it will be a lengthy business even to keep malaria under control. The prospect of stamping it out does not seem to be very hopeful.

#### PERIOSTITIS OF THE METATARSUS.

IN the December issue of the *Archives of Disease in Childhood*<sup>1</sup> Dr. Wilfred Attlee, a member of the Eton College Medical Board, writes on a rather puzzling condition of the foot to which he thinks the term periostitis of the metatarsus may best be applied. He relates three cases, all in healthy schoolboys, aged 14, 15, and 17, and illustrates his reports with skiagrams. In all three cases the first complaint was of pain in the dorsum of the foot, accompanied by a little swelling and tenderness over the middle of the metatarsal region. At this stage skiagrams showed nothing abnormal except a faint shadow round the middle of the shaft of a metatarsal bone. The shadow was so faint that it was completely overlooked in one instance, at any rate; it became more marked as time went on, and after a month or so films showed a fracture with considerable callus. The fractures seem to have been spontaneous. After another two or three months nothing more than a slight thickening of the bone was visible. The author offers no satisfactory explanation of the cause of the initial periostitis. He states that these affections of the feet have been referred to by various authors as "marching fractures," "acute metatarsal overstrain," and "chronic oedema of the feet." It is, he says, true that healthy people have been affected without definite cause, and that the descriptions given convey the impression that, in spite of different titles, they all belong to the same condition in different stages.

#### ROYAL SOCIETY FOULERTON RESEARCH PROFESSORSHIPS.

IN our advertisement pages will be found a notice regarding the regulations drawn up by the President and Council of the Royal Society for the appointment of Foulerton Research Professors, on the recommendation of a special committee of Fellows. The full text of the regulations may be obtained from the Secretary, at Burlington House, London, W. A Foulerton professor will be required to conduct such original researches in medicine or the contributory sciences, on lines approved by the committee, as are calculated to promote the discovery of the causes of disease and the relief of human suffering. In awarding professorships regard will be had primarily to the ability of the individual rather than to the subject of his research, so long as the subject is one permitted by the regulations. They will be awarded only to candidates who have shown outstanding ability for independent research. Except as provided below, a professor must devote his whole time to research, though he may give a limited course of instruction in the subject of his research to advanced students; and any award will depend on suitable arrangements being made for pursuing the research at a university or other

<sup>1</sup> *Archives of Disease in Childhood*. Issued by the British Medical Association. Yearly subscription (six numbers), 25s.; a single number, 4s. 6d.

approved place. The stipend of a professor, less deduction for superannuation, will be at least £1,400 per annum. In special cases a professorship may be awarded to the holder of a paid academic or other scientific post if the duties of that post occupy only a subsidiary part of his time, and its retention would not interfere with the discharge of the duties of the professorship as essentially a whole-time appointment. In such cases the President and Council may order the payment of such stipend as they think fit, provided that the total annual income from such paid post, together with the stipend from the Foulerton Research Fund, shall be at least £1,400, less the contribution towards superannuation. Foulerton professorships will be awarded for five years, the appointment being renewable for further successive periods of five years at the discretion of the President and Council, except that when a professor is over 55 appointment or renewal will be only for the period until he attains the age of 60, though power is given to extend the appointment after he becomes 60 for a period not exceeding three years, and so on from time to time. Power is given also in special cases to appoint a professor for a limited number of years without the opportunity of renewal, but the level of ability here must not be lower than that demanded from other Royal Society professors. Members of all nationalities and of either sex are eligible, but if a member of Council or of the Management Committee becomes a candidate he will, *ipso facto*, vacate that office. The President and Council may make grants to a professor towards the expenses incurred in his research where these expenses cannot be met from other sources. Applications (marked outside "Foulerton Professorship") must reach the Royal Society by May 1st next, and candidates should state their age and the lines of research in which it is proposed to engage.

#### THE "POLICE JOURNAL."

A QUARTERLY review for the police forces of the Empire has just made its appearance under official patronage, entitled the *Police Journal*. This in no way resembles that lurid periodical of former days the *Illustrated Police News*, with its crude pictures of plump ladies in ball dresses lying among champagne bottles with their throats cut or their heads battered in. The first issue contains fourteen original articles on various subjects, among which are three of interest to medical men and biologists. Dr. John Glaister, who is lecturer on forensic medicine in the University of Glasgow, contributes a well illustrated and thorough essay on some results of medico-legal research in the examination of blood-stains and hairs. In this the precipitin or serological test for blood is described, by which a skilled and experienced investigator can arrive at definite conclusions as to the origin of a minute and long-dried drop of blood. But it is only by skilled manipulation and close attention to detail that trustworthy results can be secured, as here described. Most remarkable is the fact that experimentally a blood-stain measuring one inch square which was excised from the woollen vest of a suicide gave a satisfactory reaction after the lapse of fourteen and a half years, and it is reported that a like result has been obtained from a mummy 4,000 years old. That part of the essay which treats of hairs is of great value. With the aid of the descriptions and photomicrographs here given and reproduced it should not be difficult to determine the zoological species of the source of origin of any hair. Such a determination may obviously be of the first importance in the detection of crime. In "Toxicology and crime" Sir William Willcox gives a brief account of the history of criminal poisoning and of the scientific study and detection of poisons—a branch of science which is hardly a century old, and dates from the discovery of Marsh's test for arsenic in 1836. This paper is illustrated by notes on

some of the chief poisoning trials of the past hundred years. We regret to say that of the nine criminals mentioned three were medical men and one (Crippen) passed with the public as a doctor. Lately the lower branch of the law seems inclined to make a bid for pre-eminence in criminal poisoning—at least as far as detected cases go. A third most interesting article, although its appeal is to anthropology rather than to medicine, is that on the Indian hereditary criminal, in which Mr. F. C. Daly describes some of the tribes or castes which in India live by crime, principally theft, either in the form of larceny or of dacoity—that is, robbery by gangs of five or more persons. Mr. Daly has had charge of the Bengal Criminal Investigation Department, and he writes with a full knowledge of his subject. Some of these tribes are fairly civilized, but others are in the very lowest stage of barbarism. To read of "a tribe called Juangs, who when I knew them in 1896 were the most primitive people I have ever encountered," reminds one of Kipling's verses:

"A stone's throw out on either hand  
From that well ordered road we tread,  
And all the world is wild and strange.

For we have reached the Oldest Land  
Wherein the Powers of Darkness range."

For these people are not denizens of the jungles of Assam or the wilds of Northern Burma, but of Orissa, a State comparatively close to Calcutta.

#### BUSH NURSING.

THE Victorian Bush Nursing Association is an admirable institution. Founded in 1910 by the Countess of Dudley, it renders assistance to patients in what are described as "outback places" in Victoria, Australia. Originally cottage centres with a nurse attached were opened in various districts, but in 1921 the first hospital centre was founded at Sugarloaf Reservoir. In the report of the Association for the year ending June 30th, 1927, the opinion is expressed that these bush nursing hospitals will probably furnish the solution to the problem of medical attendance in the country. The hospitals are "private" hospitals, owned and controlled by the centres. They are available to all who need them at fixed rates, and as no rent is paid and no profit required the charges are very low. Their inmates are attended by their own doctors, and make their own arrangements with them. By concentrating the patients in one building the nurse is able to attend more cases, and no time is wasted in travelling. The council of the Nursing Association is convinced that in time all the bush nursing cottages will be converted into small hospitals. At present there are fifty-five centres, including nine hospitals, and the number of country ambulance centres is now nineteen. Drs. C. G. Shaw and B. M. Sutherland, members of the Victorian Branch of the British Medical Association, have seats on the council; and the treasurer, Sir James Barrett, M.D., shares with Dr. Edith Barrett the secretarial duties. A short additional report published by the council gives an analysis by Dr. R. Marshall Allan, director of obstetric research in Melbourne University, of the obstetric work carried out from 1922 to the present year. It appears that 2,273 mothers have been attended without a single death. Moreover, the rate of stillbirths was only 12.75 per 1,000, and of deaths under one month only 5.27, as compared with average rates for the State of Victoria of 30 and 31. The average maternal mortality in Victoria is approximately 5 per 1,000 deliveries. Dr. Allan, while admitting that this relative immunity from fatalities in the Victoria Bush Nursing Association cannot continue indefinitely, attributes it to efficient ante-natal supervision and medical aid, the development of bush hospitals, and the excellent infant welfare training given

to the nurses. Apparently the only problem awaiting solution is the provision, in places at a distance from centres and with poor means of transport, of waiting accommodation for expectant mothers and crèche accommodation for their young children. In some States there is a Country Women's Association which provides a rest home with a matron in charge.

#### ACTIVITY OF LOCAL ANAESTHETICS.

SOME interesting points concerning the activity of local anaesthetics have been raised in a recent communication by Trevan and Boock.<sup>1</sup> These authors compared the minimum molecular concentrations, at different pH values, of various local anaesthetics which are necessary to produce anaesthesia in a rabbit's cornea after ten minutes' continuous instillation. The substances investigated were cocaine, novocain, stovaine,  $\beta$ -eucaine, benzylbenzoyl-econine, and phenylethylbenzoyl-econine. In every case it was found that, between pH 5 and pH 8, the activity of the anaesthetic increased directly with the alkalinity of the solution in which it was dissolved. On the alkaline side of pH 8 the curves which illustrate their results tend to flatten out. The authors also constructed titration curves with a view to determining the amount of free base present at any given pH. It appears that the results obtained incline them to accept Gros's hypothesis—namely, that the active constituent of a solution of cocaine is the base, not the basic ion or the undissociated salt. This view seems to be to some extent at variance with some of the current teaching on the subject. In conclusion the authors point out that, apart from the considerations to which they have applied themselves, it is clear that the activity of these substances when compared one with another depends upon other factors, of which an important one must be chemical structure. From the point of view of the synthetic chemist it is desirable to effect changes in the molecule which will increase the "molecular anaesthetic power" while at the same time not increasing the basic dissociation constant. This work seems to be of considerable interest in view of the employment in everyday medical practice of substances such as borocaine.

#### A HALF-FORGOTTEN WAR.

It would be fairly safe to assume that there has been no war of any consequence during the last three or four hundred years in which a British subject has not taken some more or less active part. Certainly members of the medical profession could not be accused of shirking their full share of adventures of this sort. The great war has so completely swamped all previous hostilities that we are apt to forget many of the smaller and less important campaigns of recent years, especially those in which this country held only a watching brief. Surgeon Rear-Admiral C. M. Beadnell has helped to remind us of one of these almost forgotten wars by publishing his *Reminiscences of the American-Filipino War, 1899*,<sup>2</sup> a fracas which was so soon overshadowed by our own South African war that very little attention was paid to it in this country. Admiral Beadnell tells how he, then junior surgeon in the *Powerful* on the China Station, came to be lent to the American army, which at the time was suffering from a shortage of medical officers. He certainly made the most of his opportunities to observe what was going on around him and the conduct of the troops of both belligerents. While praising highly the spirit and discipline of the American soldiers, he is generous in his appreciation of the fighting qualities of the Filipinos, who, though badly armed and without artillery, nevertheless gave Uncle Sam a considerable

deal of trouble before the rebellion was finally subdued. Another eye-witness has related how, before leaving home, the Yankee doughboy had been exhorted to remember that the Filipino was "his little brown brother"; experience of the said brother's prowess with the bolo prompted a very different sentiment, thus neatly expressed:

"He may be a brother of Silas P. Taft  
But he ain't no brother of mine."

The Filipinos took full advantage of the geography of their country, and displayed very considerable military skill in the construction of their defensive works. A number of these are illustrated in a remarkable series of photographs which the author himself managed to take. The magnitude of the operations may be gauged by his statement that a hospital ship arrived at Manila from New York with 100 nurses and medical supplies for 250,000 patients. The greater part of this narrative will probably interest the soldier more than the medical reader, for it is a chronicle of purely military events; but some interesting information is given about the types of weapons and projectiles employed by both sides. The much greater freedom of movement and opportunity for personal investigation accorded the author by the official pass with which he was furnished by American H.Q. might very well be envied by those who, in the world war, found their orb decidedly limited. Admiral Beadnell is to be congratulated on keeping his valuable notes intact during twenty-five years of active service at sea—no mean feat.

#### MARCELLIN BERTHELOT.

THE centenary of the birth of Marcellin Berthelot, the famous French chemist, was celebrated not long ago, and in a recent issue of *La Chronique Médicale* we find some notes on his life, beginning with a paper by M. Georges Hartmann on the sites of the various houses in which Berthelot lived with his parents until his marriage at the age of 33. Berthelot, apparently, was under the impression that he was born at the house of the *Lanterne*, where Foulon and other suspected enemies of the people were hanged during the revolution. M. Hartmann shows that Berthelot's birthplace was adjacent to this house. Dr. Cabanès describes some of the achievements of Berthelot and some of the traits of his character. He appears to have been distant in manner; his only intimate friend was Renan; they met when young, and were both animated by a passion for truth. Berthelot instructed Renan in natural science; Renan taught Berthelot Hebrew. A week before his death the scientist was engaged in translating from Hebrew a book on alchemy which he had received from Morocco. Berthelot graduated M.D. in 1865; but many years before this he had become engaged in the study of organic chemistry, and in 1860 a professorship in this subject was created for him. He occupied the chair for the rest of his life. During the Franco-Prussian war he presided over the scientific committee for national defence, controlled the manufacture of cannon and of dynamite, and incidentally studied the possibilities of improving upon the old black gunpowder. As a result of these researches, a few years later smokeless powder was invented, thus giving to French armament a superiority which lasted for several years. Berthelot was a man of varied culture, and would have shone as a philosopher, historian, or man of letters no less than as an experimental chemist. He retained a love for the classics, read Plato in the original Greek, and took with him on his holidays well thumbed copies of Lucretius and Tacitus. While advocating intellectual and social relations between France and Germany, he deprecated close intimacy until both nations had renounced all claims to intellectual pre-eminence, and until Germany had ceased to proclaim the rights of force and conquest.

<sup>1</sup> *British Journal of Experimental Pathology*, August, 1927.

<sup>2</sup> *Reminiscences of the American-Filipino War, 1899*. By Surgeon Rear-Admiral C. M. Beadnell, R.N., C.B., E.M.P. Reprinted from the *Military Surgeon*, 1927.

## RESULTS OF TREATMENT OF UTERINE CANCER.

A REPORT is published to-day by the Ministry of Health\* supplementing the important statistical report on cancer of the uterus, which was issued last summer and was considered at some length in our issue of August 6th, 1927 (p. 228). The main report, prepared by Dr. Janet E. Lane-Claypon, was based on a survey of the literature throughout the world in an attempt to assess the operability of cancer of this organ and the effect of modern treatment. The supplement now published has been drawn up by Dr. Lane-Claypon and Mr. W. McK. H. McCullagh with a view to comparing the aggregate figures in the report with those of English surgery.

The records of over 1,000 patients admitted to the wards of the Samaritan Free Hospital, London, during the period 1901 to 1926 were examined; but those attending from 1921 to 1926 were not included in the estimation of the results of treatment, five years not having elapsed since the year of operation. The results in this respect are based on a total of 895 patients. A small number of applicants at the out-patient department, who were not admitted to the wards owing to their obviously inoperable condition, have been omitted from the calculation, but it is thought that this does not appreciably falsify the operability figure. Radium treatment had scarcely been introduced at the hospital by the end of 1920, and so no comparison is attempted between the numbers of patients dealt with in this way and the corresponding ones in the former report. Cancer of the cervix is considered separately from cancer of the body of the uterus. Out of the total number of 1,023 cases, in 207 there was cancer of the body of the uterus, and in 816 cancer of the cervix. Microscopical reports were not always available, but no case in which there was any doubt of cancer was accepted for the purpose of this analysis.

The inquiry dealt primarily with operative treatment, and abdominal hysterectomy in particular. Other subjects considered include vaginal hysterectomy, the fertility of the patients, duration of symptoms, the age, and the state of the disease at the time of operation. The main conclusions are given as follows (at two places we have appended within brackets the comparable figures in the previous report):

(1) The "operability"—that is, the percentage of patients presenting themselves for treatment who are deemed operable—is practically the same as, although somewhat higher than, the average operability as determined by the mass data from the literature. The percentage for cancer of the cervix is 52.8, and for cancer of the body 78.8. [This compares with the mean operability figures in the previous report of 48.9 and 80.7.]

(2) The "operative mortality"—that is, the mortality arising as a direct result of the operation—is markedly lower for cancer of the cervix than that for the massed literature, being 8.6 as against 17.3. For cancer of the body it is 11.9 on a much smaller sample, as against 6.4 for the literature.

(3) The actual proportion of survivors in the Samaritan Free Hospital series after abdominal hysterectomy may be given as 43.8 per cent. alive after five years, and 36.6 per cent. alive after ten years. These figures are for cancer of the cervix only, and the percentage has been taken upon all patients operated upon, excluding, however, those who died from causes other than cancer within the given period. For cancer of the body of the uterus the corresponding proportions of survivors after operation are much higher—61.5 per cent. (five years). No death occurred after five years in the ten years' series. [In the massed literature the corresponding net figures for cancer of the cervix treated by abdominal hysterectomy were 37.6 per cent. alive after five years, and 34 per cent. after ten years. For cancer of the body the net five years' survival figure was 60.]

(4) These results could be greatly improved, in cervical cases probably nearly doubled, if patients would attend for treatment in the early stages of the disease. For the present series, which corresponds closely with the figures of the literature, the mean alleged duration of the symptoms before application is made is about six months in those considered still operable. By this time, or on the average slightly later, roughly one-half of all the patients have become inoperable, whereas the lives of many of them could have been saved, as is shown above, by earlier operation. For cancer of the body the mean alleged duration of the symptoms before application for treatment is eighteen months.

(5) Youth does not appear to be a disadvantage in cancer of the uterus as is frequently stated. For cancer of the cervix the figures indicating operability are, in fact, higher than those for later years, as is also the proportion of survivors after operation. The figures have a similar trend for cancer of the body, but owing to the paucity of the data are less reliable.

The first point noticeable in these conclusions is that the results of English surgery, as represented by the Samaritan Free Hospital, are, if anything, slightly better than those indicated by the analysis of the massed data of many countries. The operative mortality is notably lower and is almost certainly one of the causes of the higher survival rate at five years from operation. The strongest emphasis is laid in this supplementary report on the deplorable number of women who delay applying for treatment until in an inoperable state, and it is suggested that further efforts should be made to discover and remove the causes of this disastrous delay.

Another interesting point raised is the possible association of cancer of the uterus with miscarriages. The figures leave little room for doubt that the early termination of pregnancy before the foetus is viable has a definite association with the occurrence of cancer of the cervix. The data are, however, insufficient to establish whether the miscarriage or the fact of the pregnancy is more closely related to this sequel. Further evidence is required as to the duration of the pregnancy before the miscarriage and the circumstances of the labours before more definite conclusions can be reached. Detailed obstetrical histories, together with notes of careful physical examinations of a large number of women, spread over a considerable number of years, would be most valuable if they could be obtained. The knowledge desired would relate to the state of a large number of consecutive non-cancerous cases, their obstetrical histories, the proportion of injured cervixes, the damage resulting from unskilful midwifery, and the existence of conditions which might have been prevented by ante-natal care.

As Sir George Newman remarks in a prefatory note to this supplement, the interval between the supposed initial factor and the final phase of cancer may be one of many years' duration. It thus seems reasonable to suppose that abnormal conditions present during this period could be identified, and either prevented by suitable treatment at childbirth or removed subsequently by appropriate measures, thus avoiding or delaying the onset of cancer. He adds that the practicability of special investigations into this subject will receive further consideration.

The importance of this supplementary report depends not only on the information it contains, but on its ability to act as an incentive to further investigations. Sir George Newman regrets "the apparent disinclination of English surgeons in general to publish records of series of cases from which data could be published for analysis." Something might be done to overcome this disinclination by including in such official reports as this a more graphic presentation of the conclusions reached, which "those who run may read" without expending the large amount of time and energy entailed by careful study of the whole. The stimulus is present but latent.

## SEVENTH CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

The seventh congress of the Far Eastern Association of Tropical Medicine was held at Calcutta, from December 5th to 11th, 1927, under the presidency of Major-General T. H. SYMONS, C.S.I., Director-General of the Indian Medical Service. A large number of delegates attended from many countries, and among the specially invited guests were Sir Walter Fletcher, Professor J. W. W. Stephens, Sir Malcolm Watson, Professor T. Madsen (director of the National Institute of Serotherapy at Copenhagen), Lieut.-Colonel S. P. James, I.M.S. (ret.), Dr. F. d'Herelle, Dr. K. Shiga, Dr. A. L. Hoops, and Dr. J. W. Scharff of Singapore, and members of the Public Health Service and Medical Research Board of the United States. In connexion with the congress a souvenir booklet was issued containing, in some 350 pages, authoritative

\* Ministry of Health Report No. 47. H.M. Stationery Office. Price 9d. net.



information about the leading medical and administrative problems, a summary of Indian history, and chapters on indigenous systems of medicine, art, archaeology, racial ethnology, and Indian weather conditions. The subjects of discussion were arranged in six sections as follows. Section I included clinical medicine and surgery, ophthalmology, dermatology, gynaecology and pregnancy diseases, pathology, mental hygiene and psychiatry, radiology, and dentistry; Section II was concerned with State medicine and hygiene, and child welfare. A group of diseases comprising plague, cholera, dysentery, sprue, intestinal infections, leprosy, and tuberculosis were considered by Section III, which also included bacteriology. Section IV attracted considerable attention in view of its dealing with malaria, kala-azar, protozoology, typhus-like diseases and leptospirae, medical entomology, and helminthology. The fifth Section considered nutrition, the deficiency and endocrine diseases, immunology, chemico-therapeutics, rabies, and pharmacology; Section VI was restricted to veterinary conditions. Abstracts of papers were published in advance in the programme of scientific sessions—a matter of great convenience to the delegates.

The congress was opened by the Governor of Bengal, Sir STANLEY JACKSON. In his speech he surveyed the history of medicine in India from 1500 B.C., and referred to the distinguished work in Calcutta by Major Ronald Ross and Sir Leonard Rogers. He emphasized the practical importance of scientific research in promoting public health, as illustrated by the discoveries made in connexion with kala-azar.

#### *Presidential Address.*

Major-General SYMONS, welcoming the delegates, indicated how such scientific congresses had a special value in extending knowledge of disease and promoting public health measures. In the great subcontinent of India, with its many races, religions, and languages, serious difficulties were encountered in all attempted lines of advance in public health and sanitation. Nearly all medical relief was State aided, and financial restrictions were consequently common. Many of the inhabitants did not desire any improvement in the standard of living which they had inherited, and, therefore, there was considerable obstruction to reforms. The president described the work of combating epidemic diseases such as plague, cholera, small-pox, and leprosy, and devoted special attention to the progress made in treating diseases of the eye.

#### *Work of the Sections.*

Malaria occupied a prominent place in the scientific programme of the congress. With Sir WALTER FLETCHER in the chair of Section IV, a paper on the future of malaria control in the Malay Peninsula was read by Lieut.-Colonel S. P. JAMES of the Ministry of Health, who described the proposals of the Malaria Commission of the League of Nations for dealing with this affliction in South-east Europe. Dr. SCHARFF reported the results of mosquito control methods in rural Singapore, and the ensuing discussion turned on the complex nature of the malaria problem, the necessity of further research, and the different methods of control which might be employed in various areas. During the subsequent session the subject of the theory and practice of malaria control was introduced by Lieut.-Colonel C. A. GILL, I.M.S., and Colonel KATSUNO reported on the prevalence and control of malaria in Japan. The Section of Medicine held discussions on the importance of mixed infections in the tropics and on disseminated sclerosis in India; Lieut.-Colonel C. A. SPRAWSON, who opened the second of these, encountered opposition to his statement that this disease was rare in Indians. In the Section of Deficiency Diseases papers on epidemic dropsy by Lieut.-Colonel MCGAW, and on beri-beri by Lieut.-Colonel McCARRISON, led to a keen discussion, an outstanding question being whether the conditions were the same disease or different degrees of one wide disease group. Another point contested was whether the cause of the disease group was a vitamin deficiency or due to a toxin derived from grain, or whether both factors were concerned. Colonel MCGAW maintained that insufficient attention had been paid to the way in which food was stored. The effect of storage on the nutritive qualities

of rice was dealt with by Dr. KESSLER, and methods of standardizing rice were considered by Colonel VEDDER. Colonel McCARRISON, in a paper on goitre, defined three groups, depending respectively on lack of iodine, infection, and unbalanced diet. In the Cholera Section Lieut.-Colonel RUSSELL, Director of Public Health, Madras Presidency, gave a synopsis of the statistical work in connexion with this disease, and criticized the conclusions of Sir Leonard Rogers as to absolute humidity being the key to the cholera problem. He thought that no one climatic condition could be thus incriminated, but a combination of high temperature with high humidity and intermittent rains favoured the outbreak of epidemic cholera. Lieut.-Colonel Russell also criticized as impracticable the mass inoculation of pilgrims before their attendance at religious festivals. The Section of Dysentery was presided over by Dr. K. SINHA, and the subjects dealt with included the dysenteries of Bengal, sprue, and the bacteriophage, on the last of which a paper was read by Dr. D'HERELLE. Professor NIKANOROV of Saratov read a paper on plague in South-east Russia, which indicated the notable differences between the epidemiology of this infection in that country and in India, both as regards the rodents concerned and the flea carriers. Ophthalmic conditions considered included glaucoma—which is very common in Bengal—ocular tension, and the ocular complications in leprosy. Among the other subjects dealt with in various Sections were: vaccination against cholera, the medical inspection of Indian school children, the value of salvarsan, the use of gold salts in tuberculosis, enteric infections, and diabetes in the East. Sir JACOBIS CHUNDER BOSE demonstrated the influence of drugs on plant life.

#### *Health Research in India.*

At the concluding session of the congress Sir MUHAMMAD HABIBULLA, a member of the Viceroy's executive council, announced that the Government had decided to appoint a committee to consider the establishment in India of a central institute for medical research work. Sir Walter Fletcher would preside over this committee, which would include Colonel James of the Ministry of Health, Dr. Row, and Colonel Christopher. Sir Malcolm Watson has been invited to give expert advice on the problems of malaria control in the United Provinces, Punjab, Central Provinces, and Burma. An appeal has been issued in India for increased financial support for the Ross Institute.

#### *Congress Excursions.*

After the conclusion of the proceedings at Calcutta the delegates visited different parts of India. One party travelled through Northern India, visiting Benares, Lucknow, Delhi, Kasauli, Lahore, and Bombay; another excursion included Madras and Coonoor. Those who travelled to Bihar and Orissa visited the ancient religious centre of Bodhgaya, the various medical institutions of Patna, and the Radium Institute and mental hospitals at Ranchi.

#### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the committee forty-three cases were considered and £559 voted to thirty-six applicants. The following are notes on some of the cases relieved.

Daughter, aged 61, of M.R.C.S. who died in 1895. She is now very deaf and has lost the sight of one eye. She looks after an elder sister who is mentally deficient, and also takes care of another old lady who pays 10s. a week. Income from investments £24. Voted £20.

Widow, aged 37, of L.R.C.P. and S. who died in 1925. Left with six children—2 to 18 years of age. Since her husband died they have been living on the proceeds of the sale of the practice, which is now exhausted. Applicant borrowed £17. Receives £2 a month from another charity for one child, and £5 a quarter from the Freemasons for another. Eldest girl is a typist at 2s. a week. Rent 12s. a week. £10 voted and case to be further considered.

M.B., single, aged 68, who practised in London and abroad and then took a home for delicate children, which unfortunately failed. She has an adopted child aged 14. Voted £20, to be paid in quarterly instalments.

M.R.C.S., aged 72. Through age and inability to obtain locumtenencies and exhaustion of savings, applied to the Fund for assistance. Has Epsom College pension of £30 and old age pension. Voted £30. Total previous relief given £100.

Daughter, aged 54, of L.R.C.P. who died in 1883. She has no income, but looks after her mother, aged 87, whose income is derived from the old age pension, the B.M.D. Fund annuity of £30, with a supplementary grant of 7s. 6d. a week from the Guild. Voted £18.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, W.1.

## Scotland.

### CLINICAL TEACHING IN EDINBURGH.

FOR some time past dissatisfaction has been expressed by members of the staff of the Royal Infirmary, Edinburgh, with the working of an agreement between the managers of the Royal Infirmary and the University Court of Edinburgh University regarding clinical teaching of students. The agreement appears to have been somewhat hastily drawn up in 1912. Its object was the betterment of the conditions then existing as regarded the method of conducting professional examinations and teaching in the University. During the intervening fifteen years several of its provisions have become obsolete, and some of its clauses appear to have been interpreted by members of the University in a manner not contemplated by those who drew up the document. It may be recalled that the Edinburgh Extra-mural School is of considerably older date than the University, the former tracing its inception from the beginning of the sixteenth century, while the medical faculty in the University was founded by a group of teachers, including Munro, Plummer, and Rutherford, only about the year 1726. Moreover, many of the most celebrated exponents of Edinburgh medicine have belonged to the Extra-mural School or School of Medicine of the Royal Colleges of Physicians and Surgeons. Since the founding of the Royal Infirmary, largely by the activity of these colleges, those of their Fellows who were members of its staff have enjoyed the right to teach clinical medicine or clinical surgery to the students who elected to work in the wards under their charge. It is not unnatural, therefore, that the physicians and surgeons to the Royal Infirmary should object to an agreement by which they became, in effect, subordinato officials of the University before being allowed to exercise this right of two centuries' duration. Many of the teachers and students have also expressed an adverse opinion upon the success of a clinical curriculum which had grown up under this agreement, whereby students attended clinical medicine, clinical surgery, and various special branches in succession for periods not exceeding three months. The opinion has been expressed that this plan of rapid rotation, which is pursued in America, did not conduce in Scotland to retention of knowledge. Another point at issue under the agreement is a claim by certain members of the University to jurisdiction over buildings within the confines of the Royal Infirmary. Accordingly the managers of the Royal Infirmary have, in terms of the old agreement, given notice of its termination at September 30th next, and have stipulated that in the event of any proposal for concluding a new agreement there shall be three parties to it—namely, the managers of the Infirmary, the governing board of the School of Medicine of the Royal Colleges, and the Edinburgh University Court.

### GLASGOW ROYAL MATERNITY HOSPITAL.

The medical report for the year 1926 on the work of the Glasgow Royal Maternity and Women's Hospital is the first of its kind, *nova progenies*, and therefore of special interest. The hospital at present contains 114 beds, of which 25 are reserved for the ante-natal department. By arrangement with the Glasgow Parish Council a number of additional beds are made use of in Stobhill Hospital, an example of co-ordinated working between a charitable and a rate-supported institution which reflects much credit on all concerned. It has enabled the Maternity Hospital to carry on its policy of refusing treatment to no woman in labour, and at the same time to avoid overcrowding of the wards and the risks which such overcrowding would have entailed. The ante-natal department carries on its work in co-operation with the ante-natal dispensary, with which are combined a post-natal dispensary and an infants' consultation centre. Attendance is given, too, in the patients' own homes. During 1926 the number of patients treated by the hospital was 7,763. This excludes patients treated at the dispensaries, at which there were 10,434 attendances. Of the 7,763 patients, 516 were sent to Stobhill and 3,594 were treated in their own homes. The remaining 3,653, who were treated in the wards of the

hospital proper, form the subject of the medical report. The classification suggested by the Royal Society of Medicine has been modified to include three categories: A, cases which had ante-natal supervision; B, emergency cases; and C, cases, other than emergency cases, which had no ante-natal supervision, being mostly women who applied for admission at the onset of labour without having been seen by a doctor or midwife. A cases numbered 1,785, B cases 1,226, and C cases 642, represented by percentages of 48.9, 33.5, and 17.6 respectively. Of the A cases, 27 died, of the B cases 57, and of the C cases 8. Among the A cases the frequencies of abnormalities included malpresentation 84, contracted pelvis 189, placenta praevia 11, accidental haemorrhage 21, post-partum haemorrhage 29, adherent placenta 54, puerperal pyrexia 155, albuminuria, pre-eclamptic, and nephritic toxæmia 189, eclampsia 10, hyperemesis 35, heart disease 72, pyelitis and pyuria 66, and syphilis 48. Of the B cases 336 were abortion and 27 ectopic gestation. Among the remaining 863, who were approaching full term, the frequencies of abnormalities included malpresentation 123, contracted pelvis 97, placenta praevia 66, accidental haemorrhage 77, post-partum haemorrhage 51, retained placenta 51, albuminuria, pre-eclamptic, and nephritic toxæmia 75, eclampsia 55, hyperemesis 26, heart disease 16, pyelitis 28, and syphilis 9. Of the C cases 538 were approaching term. Among these the frequencies of abnormalities included malpresentation 38, contracted pelvis 20, placenta praevia 9, accidental haemorrhage 17, post-partum haemorrhage 13, adherent placenta 25, albuminuria, pre-eclamptic, and nephritic toxæmia 13, eclampsia 4, hyperemesis 1, heart disease 3, pyelitis 2, and syphilis 12. The number of obstetrical operations during the year was 583, including 260 forceps cases with 14 maternal and 77 infant deaths, of whom 66 were stillborn; 48 inductions with 6 maternal and 28 infant deaths, of whom 26 were stillborn; 125 Caesarean sections with 6 maternal and 5 infant deaths, of whom 4 were stillborn; 73 versions; 28 craniotomies; 4 oöphorectomies; 3 salpingectomies; 12 salpingo-oöphorectomies; 8 hysterectomies; 2 hysterotomies, and various other procedures. The total cases of contracted pelvis treated were 306, of whom 9 died. Among the 516 Stobhill cases the maternal death rate was 0.58. The abnormal cases were 21.1 per cent. Among the 3,594 cases treated at home there was one maternal death. The percentage of abnormality was 16.6.

### GLASGOW ROYAL INFIRMARY.

The annual social meeting of Glasgow Royal Infirmary, at which the managers have met the staff and nurses every New Year's Day since 1868, took place on January 1st. Lord Provost Mason presided, and on behalf of the citizens thanked the staff and nurses for their services to the patients. Mr. James Macfarlane, LL.D., chairman of the board of management, formally declared open the recent installation of wireless apparatus which had been made throughout the institution at a cost of £1,271. This had been begun early in 1927 and was now complete, consisting of a receiving and amplifying apparatus, with 631 pairs of headphones, loud speakers, and the necessary amplification. There was also a microphone receiver, which was in use at the time of the meeting, so that the proceedings were broadcast throughout the institution to every patient. Mr. Macfarlane added that the managers were engaged in hastening on the completion of the gatehouse block in Castle Street, which was intended to be a casualty ward and a waiting room for friends of patients in the institution. This block would complete the scheme of reconstruction begun in 1908. It may be recalled that this block occupies the site of the old Lister Ward, about the removal of which considerable discussion took place two or three years ago. The various medals and prizes gained by nurses in the competitive examinations were then presented by Mr. Macfarlane, and thereafter the newly completed teaching accommodation for nurses in the institution was formally opened by Mrs. Mason, wife of the Lord Provost. This institution for preliminary training of nurses in anatomy, physiology, hygiene, and nursing has been erected at a cost of £10,000; it is admirably equipped with lecture room, laboratory, and demonstration room, provided with sterilizers and various pieces of sanitary apparatus.

## Ireland.

### IRISH COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.

At the last meeting of the Irish Committee of the British Medical Association the following members were present: Dr. John Mills (chairman), Dr. T. B. Costello, Sir James Craig, Drs. Pierce Grace, W. W. Murphy, J. P. Shanley, A. B. Stephenson, and H. T. Warnock, Sir William Wheeler, and the Irish Medical Secretary (Dr. P. Hennessy). Apologies were received from Drs. J. Armstrong, T. Bennett, R. C. Peacocke, and J. Power, and Mr. C. J. A. Woodside. Votes of condolence were passed to Mrs. Darling and Dr. Alfred Cox on their recent bereavements. The draft of a circular letter for the recruitment of members in the Irish Free State was considered and approved. The different matters on the agenda of the Irish Medical Committee were discussed at some length, and suggestions were made to those members of the Irish Committee of the B.M.A. who are also members of the Irish Medical Committee, for their guidance in regard to the decisions that might be taken at the subsequent meeting of the latter body.

### IRISH MEDICAL COMMITTEE.

At the meeting of the Irish Medical Committee, held in the Royal College of Surgeons, Dublin, on December 21st, 1927, with Dr. R. J. Rowlette in the chair, Dr. E. T. King was appointed to fill the vacancy upon the Complaints Committee caused by the resignation of Dr. P. Grogan. A letter was read from the National Health Commission stating that serious anomalies had arisen in the remuneration for certification in the areas included in the counties numbered (13) to (39), and attributing these anomalies to the adoption of the dispensary district as the area unit for payment in those counties. In connexion with the Commission's proposal to change the unit area from the dispensary district to the county, Dr. Power (chairman of the Free State Irish Medical Committee) wrote protesting against the change, and stating that enlarged areas with ineffective supervision and a larger pool were not calculated to secure efficient certification. Dr. Elliott also wrote that the dispensary unit had given satisfaction and should not be changed. After a long discussion it was resolved that a deputation should wait upon the National Health Commission to request that the committee be supplied with further particulars which, when received, should be forwarded to the local medical committees in the areas affected for their consideration before arriving at a final decision. An amendment that the Commission's arrangement be accepted was not seconded. It was decided to ask the Minister for Local Government and Public Health to receive a deputation in connexion with (1) the inadequate salaries of Poor Law medical officers in Mayo, Longford, and elsewhere; (2) appointment of locumtenents nominated by doctors going on leave; (3) promotion under the Local Authorities (Officers and Employees) Act, 1926; (4) remuneration for registrars of births, deaths, and marriages; (5) fees for committal of dangerous lunatics; (6) arrangements for the treatment of private patients in district and county hospitals. In regard to medical appointments under the Local Authorities Act, it was resolved to make representations to the Appointments Commissioners as follows: (1) That a recurring fee of £1 for medical candidates appearing before different selection boards is excessive; (2) that candidates with no prospect of being appointed should not be put to the expense of appearing before the selection boards unless on the expressed desire of the candidates; (3) that the physical examination appears unnecessarily severe, and that it should have a direct relation to the physical requirements necessary for the efficient medical discharge of the duties of the office to be filled; (4) that, if required, medical members of selection boards should receive reasonable remuneration. In regard to the status of medical officers in the Free State Army, the committee placed on record its opinion that these officers should be on a permanent and pensionable basis. A discussion on the School Attendance Act led to a resolution expressing the view that as this Act provides no

remuneration for the medical certification of school children treated under the Medical Charities Acts, no certificates should be issued in these cases with the exception of children boarded out by the health boards; and that in any event the minimal remuneration should be 2s. 6d. for each certificate. As a result of a representation from the Limerick Borough Medical Committee with regard to supplying medicines in certain contract practices, the committee passed a resolution expressing strong disapproval of the practice of requiring doctors holding society and Government appointments to supply medicine under the terms of such appointments in districts where a supply could be had reasonably from a local chemist, and recommending that steps be taken to alter the conditions of such appointments where necessary to conform with this resolution.

### THE CANCER CAMPAIGN.

A meeting of medical practitioners was held on January 5th in the Medical Institute, Belfast, under the auspices of the Ulster Medical Society and of the Ulster Branch of the British Medical Association, to consider the formation of a Northern Ireland branch of the National Cancer Campaign. Dr. Rankin, president of the Ulster Medical Society, occupied the chair, and among those present were the Marquess of Dufferin and Ava, president of the National Cancer Campaign in Ireland and chairman of the board of management of the Royal Victoria Hospital; the Vice-Chancellor of the Queen's University, and others. Mr. Seton Pringle (Dublin) explained the objects of the cancer campaign.

The following resolution, proposed by Dr. William Porter (Portrush), president of the Ulster Branch, B.M.A., seconded by Professor A. Fullerton, P.R.C.S.I., was adopted:

That the National Cancer Campaign is worthy of support, and that a Northern Ireland branch should be established for the purposes of informing the public as to what is already known about cancer, and of raising funds to assist in further investigation of the problems still unsolved.

A further resolution was adopted on the proposal of Professor R. J. Johnstone, M.P., seconded by Mr. J. Brian Moore, F.R.C.S.I., chairman of staff, Mater Infirmorum Hospital:

That this meeting is of opinion that the plan of the National Cancer Campaign is the most suitable that can be adopted, and is that most likely to lead to further progress, as under its present scheme those hospitals and laboratories which are already engaged in the treatment and investigation of cases of cancer will be assisted and encouraged to pursue their activities under a central direction, so that full use will be made of the services of their staffs of trained research workers, and of surgical, radiological, and biochemical experts.

The concluding resolution was as follows, the proposer being Mr. A. B. Mitchell, chairman of staff, Royal Victoria Hospital, and the seconder Dr. Leonard Kidd (Enniskillen):

That this meeting agrees with the decision of the National Cancer Campaign that it is not expedient to establish new special hospitals for the treatment and investigation of cancer, and that the results hoped for are more likely to be attained by development of the institutions already established.

A committee was appointed to take steps for the formation of a Northern Ireland branch.

## England and Wales.

### LEEDS SCHOOL OF DENTISTRY.

The new buildings of the Leeds Dental Hospital and School of Dentistry are approaching completion and will be formally opened by the Speaker of the House of Commons in the early spring. In the opening of these new and handsome buildings a hope long entertained will come to fruition. For many years before it took definite shape the formation of a school of dentistry was an aspiration in the minds of many of the dentists of Leeds, and met with warm sympathy from the members of the medical board of the school of medicine, among whom should be specially mentioned the name of Mr. Scattergood, who for so many years acted as the dean of the faculty of medicine. It was not, however, till twenty-one years ago that the members of the Leeds and district section of the British Dental

Association decided to start a dental hospital for the treatment of patients who could not afford to pay fees and for the practical training of dental students. The hospital was equipped through the generosity of these dental surgeons and their friends, and was carried on for some years in the Public Dispensary, in rooms specially provided for the purpose in the new building just at that time being occupied; but as its work grew, and as the demands on the accommodation of the dispensary increased, it became necessary to find new premises. This was made possible by the generosity of two other public bodies—the authorities of the General Infirmary, who made room for part of the work, and the board of guardians, who provided accommodation in the East Leeds Infirmary for the rest of it. A few years later this latter portion of the work was transferred also to the General Infirmary, in which the whole of the activities of the dental hospital and school have since been carried on. With the expansion of the hospital the training of dental students has also increased in volume and importance, and the institution now forms a combined dental hospital and school, which is of great value to the county and compares favourably in the quality of its work with similar institutions in other places. There are now 53 students undergoing training in the school, and during last year 9,210 patients received treatment, entailing 28,350 visits. At an early stage the Dental Committee in charge of the hospital came to an arrangement with the University authorities by which students could read for a degree or a diploma in dental surgery by combining courses in the University with their practical work in the hospital. In 1914 this arrangement was developed into a scheme of amalgamation, by which the dental school became a department of the University within the faculty of medicine. The University now takes full responsibility for the whole of the educational work of the school, while the hospital work forms a department of the General Infirmary.

For some time it has been clear that new premises would again have to be provided for this progressive institution, especially as the rooms now used by it in the Infirmary were only lent temporarily and are required for other purposes. Indeed, it was seen that without new accommodation the invaluable work of the school and hospital would have to be given up. A building for this department had therefore to be included amongst the urgent needs in respect of which the University was compelled to issue its appeal for £500,000. A site, valued at about £8,000, has been provided by the General Infirmary authorities, the Dental Board of the United Kingdom has promised a grant of £5,000 contingent on the balance of the cost of the building being obtained from other sources, the honorary staff of the dental school have subscribed £2,000, and a certain number of contributions have been received from other dental surgeons. It is hoped that old students of the school, together with other dentists in Yorkshire, will help in providing the balance of the funds required.

The building, which will provide accommodation for 150 students and pupils, occupies a site adjacent to the medical school and the General Infirmary, and conveniently situated for the University. That the Dental Hospital is adjacent to the Infirmary will not only be a matter of convenience, but marks the fact that dentistry is a part of medicine, using that term in its wide and proper sense. The building is of fireproof construction throughout, and the walls and floors are to be finished in accordance with the most modern hospital practice. Having regard to the important field open for research into problems connected with the prevention of dental caries, provision is being made for suitable accommodation for the facilitation of such research work. Special attention has also been paid to the need for a closer knowledge of the pathological and bacteriological aspects of dentistry, and a large and well equipped histo-pathological laboratory will be one of the main features of the new building. Special rooms are being included for the treatment of children, where the study of applied orthodontia will be carried out, and for radiographical work. On the ground floor are situated the main entrance and patients' entrance, entrance hall, offices, warden's room, library and museum, students' common rooms, lecture room, and histo-pathological laboratories.

A hospital-type lift is provided for stretcher cases from the ground to the first floor. Here are situated the waiting hall for patients, pupils' laboratory (to accommodate 75 pupils), together with plaster room and store, dental mechanics' workroom and store, prosthetics room, children's room, and gas room (operating theatre) with dressing and recovery rooms. An x-ray room with adjacent dark room is also provided on this floor. The whole of the second floor, with the exception of a small workroom for students, a nurses' room, and stores, is to be used as a conservation room with 72 dental chairs. Provision is also made for a model dental surgery on this floor for the use of senior students. In the basement are situated the heating chamber, fuel stores, staff mess room, and general stores.

#### ST. MARY'S HOSPITAL EXTENSIONS.

Over £40,000 has already been raised towards the £60,000 which the present extension of St. Mary's Hospital, London, is expected to require. It is hoped that the two new operating theatres and the sixty additional beds will be ready for use by July; a certain number of the beds will be reserved for cases of accident and sudden emergency. A ball is to be held at the May Fair Hotel, on January 18th, in aid of the fund, and Prince and Princess Arthur of Connaught have expressed their intention of being present. Speaking at a meeting of the Ladies' Association of the hospital on January 5th, Lord Eustace Percy commented on the fact that the hospital last year had been obliged to refuse no fewer than 1,000 patients requiring in-patient treatment. He hoped that the association, which had raised £1,200 for the hospital in 1927, would be equally successful on the present occasion. Madame Adeline Genée referred to the recent phenomenon of streets covered with ice, and said that on one day St. Mary's Hospital had dealt with 184 accident cases, of which fifty were broken wrists, and had used ten gallons of liniment.

#### ROYAL INSTITUTE OF PUBLIC HEALTH.

Under the auspices of the Royal Institute of Public Health a series of lectures on problems of forensic medicine will be delivered at 37, Russell Square, W.C.1, on Wednesday afternoons, at 4.30, from January 18th to March 14th inclusive. The course will be opened by Mr. Roland Burrows, Recorder of Chichester, who will lecture on the subject of the medical practitioner in relation to the administration of justice. Dr. Godfrey Carter in the following week will deal with tests for drunkenness, with particular relation to motor accidents, and on February 1st Dr. Nathan Raw will discuss medico-legal problems associated with lunacy. The subsequent subjects are: problems of forensic psychiatry, by Dr. Norwood East; medico-legal problems of Jewish life, by Dr. W. M. Feldman; some aspects of legal live birth, by Professor Whitley MacFall; the present legal position as regards the treatment of the insane and the mentally defective, which will be discussed by Sir Robert Armstrong-Jones; problems in medico-legal practice, by Dr. G. Roche Lynch; and bacteriology in its connexion with forensic medicine, by Dr. Robert Donaldson. These lectures are free to members of the medical and legal professions.

#### PRESERVATIVES IN FOOD.

The Minister of Health has issued a reminder (Circular 852) to local authorities that a further stage in the Public Health (Preservatives, etc., in Food) Regulations came into operation on January 1st relating to butter, cream, and articles of food containing preservative necessarily introduced by the use of preserved bacon, ham, egg yolk, or cream in their preparation. Since it may not have been practicable for all stocks of preserved butter to be disposed of before the beginning of 1928, the Minister suggests that in the case of butter the council might refrain, during the first few weeks of the year, from instituting legal proceedings in any case where they are satisfied that reasonable efforts have been made to clear old stocks, and that future consignments will conform with the regulations. Previous references to the regulations dealing with preservatives in food appeared in our issues of August 22nd, 1925 (p. 349), January 8th, 1927 (p. 70), and April 23rd, 1927 (p. 782).

## Correspondence.

### FATALITY RATES OF SMALL-POX IN THE VACCINATED AND UNVACCINATED.

SIR,—It is an almost universal medical belief (and I share this belief) that the fatality rate among persons attacked by small-pox is much greater, age for age, among the unvaccinated than among the vaccinated.

An interesting contradiction is furnished in the small-pox statistics of England and Wales for the four years 1923-26. The following table furnishes the numbers of cases of "small-pox" in vaccinated and unvaccinated persons over 15 years of age, together with the numbers of deaths and the fatality rates per cent., for each of these years and for the whole period. The comparison is confined to age 15 and over for the simple reason that practically all the cases under 15 are among the unvaccinated.

Year.	Vaccinated.			Unvaccinated.		
	Cases Over 15 Years.	Deaths.	Case Mortality per cent.	Cases Over 15 Years.	Deaths.	Case Mortality per cent.
1923	369	2	0.5	734	2	0.3
1924	635	2	0.3	1,241	—	—
1925	933	3	0.3	1,824	—	—
1926	2,073	6	0.3	3,116	2	0.06
Totals	4,010	13	0.3	6,915	4	0.05

\* Including 94 cases "doubtful" as to vaccination state.

It will be observed that in each year the fatality rate was greater among the vaccinated than among the unvaccinated. In a total for these years of 11,019 cases, 4,010 occurred among the vaccinated, with 13 deaths—a fatality rate of 0.3 per cent.—and 6,915 occurred among the unvaccinated with 4 deaths—a fatality rate of 0.06 per cent. That is to say, the fatality rate among vaccinated cases was just five times as great as among unvaccinated cases.

It would be interesting to read possible explanations of this statistical anomaly which your readers may have to offer. Clearly some explanation is required, and I suggest that, in justice to vaccination, these figures call urgently for:

1. A special inquiry into the true cause of death of all fatal cases of "mild small-pox" in this country.
2. Revision of the rules of death registration under which a death certified by the doctor in attendance as due to chronic nephritis, cerebral haemorrhage, or other disease on condition unconnected with small-pox, is registered and entered in the vital statistics as a death from small-pox.

Note.—The figures quoted are from the annual reports of the Chief Medical Officer, Ministry of Health, 1923 (p. 37), 1924 (p. 37), 1925 (p. 38), 1926 (p. 39).  
—I am, etc.,

Chesterfield, Jan. 4th.

R. P. GANNOW.

### GAS GANGRENE FOLLOWING STREET ACCIDENTS.

SIR,—I have read with interest the reports of two cases of gas gangrene following motor accidents, by Drs. Marshall and Ellis, in your issue of December 24th, 1927 (pp. 1183 and 1184). It is to be regretted that both these articles convey the impression that gas gangrene is very rare in civil practice, whereas it is not at all uncommon.

Indeed, in two of the hospitals with which I am connected the house-surgeons and casualty officers have been told to give prophylactic injections of "anti-gas" serum at the same time as the antitetanic in all cases of street accidents with badly lacerated wounds and crushed tissues. During the past year I have had to perform three amputations and several lesser local operations for such infections.

Two points of special interest are to be noted, with regard particularly to infections with *B. welchii*: certain districts and roads appear to be much more heavily infected than others (this corresponds to war-time experience, when wounds sustained in certain very limited districts displayed a big incidence of gas gangrene, while those from areas two or three hundred yards away were practically free); bacteriological investigation of a series of street accident wounds will reveal the organism in a large percentage of cases, but in only comparatively few of these are there any of the clinical signs of infection. A latent infection of this kind may suddenly "light up" after an interval of many days if the local resistance be lowered by thrombosis or ligation of the main arterial supply.

It is a mistake, frequently committed, to attempt the early closure of wounds of this type; they should be left open, perhaps with continuous irrigation, after careful excision of all foreign material and dead or damaged tissue. Anti-gas serum, especially the polyvalent form which proved useful during the war, must be given in fairly large doses, both for prophylaxis and treatment.—I am, etc.,

London, W., Jan. 3rd.

NORMAN C. LAKE.

### TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—I should like to reply to the several criticisms of my previous letter.

Mr. Leeming might, in all fairness, have quoted the statement in my letter correctly, as it was not my own but taken from the Bradshaw Lecture by Sir Cuthbert Wallace. Mr. Hey Groves's figures did not refer to London hospitals, but to "all the available large hospitals in the kingdom." Sir Cuthbert Wallace gives figures from four London hospitals, and states that "the mortality of prostatectomy has fallen from 20.2 to 14.5 per cent., but that the total operative mortality has somewhat risen." The figures given by Mr. Leeming—of 3 per cent.—and those given by "Provincial Surgeon" of nil per cent., are those to which all surgeons aspire, and merely show that the mortality rate of many other surgeons must be much higher than one had imagined if the average mortality is 14.5, taking Sir Cuthbert Wallace's figures, and not considering Mr. Hey Groves's collective one of 40 per cent.

My intention was merely to point out that the mortality rates quoted in the Bradshaw Lecture are still too high and that the chief hope for improving them was by encouraging—and not discouraging—specialization in urology. I claim no originality for this suggestion, as I find on referring to the accepted translation of the Hippocratic oath the following sentence, "I will not cut a person who is suffering from stone, but will leave this to be done by practitioners of this work." This is the first mention of specialization in the history of medicine—and it is only surprising that so few of our large general hospitals have up to the present instituted special urological departments, such as flourish in America and on the Continent.—I am, etc.,

T. CAREY EVANS.

London, W., Jan. 5th.

### TETRA-ETHYL LEAD.

SIR,—“Medical Notes in Parliament,” in the JOURNAL of December 3rd, 1927 (p. 1059), included the following passage:

“One firm in this country has commenced blending tetra-ethyl lead with petrol on a commercial scale. The Factory Department of the Home Office is satisfied that adequate precautions are being taken for protecting workers concerned in the process.”

Following this comes a series of announcements in the public press of a special motor spirit well known to motorists on the other side of the Atlantic for its reputed “anti-knock” qualities under the term “ethyl gasoline.”

This heralding of a substance with the object of promoting its common use among a very large section of the population raises important and urgent issues as to its dangers, real or real, by reason of the presence of tetra-ethyl lead in the spirit, to which its principal “anti-knock” virtues are due.

Reference to this subject has already been made by you



in the JOURNAL (February 7th, 1925, p. 273) in an annotation entitled "A new motor danger." Reference was again made in the JOURNAL (March 6th, 1926, p. 442) to tetra-ethyl lead, in which emphasis was laid upon the particularly dangerous character of lead by reason of its capacity to produce cumulative effects, and thereby the very extensive and irreparable damage which might be produced before the first symptoms of poisoning appeared.

Switzerland took the lead in 1925, and boldly forbade the use of motor spirit containing any compound of lead (Ordinance dated April 7th, 1925). In America its use is permitted subject to regulations which provide for the giving of notice to the purchasing public and to garages that it is a poison, and must be handled with appropriate precaution; this despite the reports made by the following observers: (A) Robert A. Kehoe, on tetra-ethyl lead poisoning: "Clinical analysis of non-fatal cases."<sup>1</sup> (B) Charles Norris and Alexander O. Gettler on poisoning by tetra-ethyl lead: "Post-mortem and chemical findings."<sup>2</sup> (C) Frederick Flinn: "Some of the potential public health hazards from the use of ethyl gasoline."<sup>3</sup> Report B is an independent official record. The investigations and findings embodied in Reports A and C were made at the instance of the manufacturers themselves, who, in short, convict "ethyl gasoline" out of their own mouths whilst giving the clearest evidence of the grave dangers to all individuals concerned who may use this material—namely, motorists and workers in garages.

There are two aspects of this matter to which reference, curiously enough, has been omitted by all observers: the toxic influence of lead upon the gonads in both sexes, and the possibility of criminal misuse of this material. A third point for consideration is the character of the deposit in the exhaust system following the use of tetra-ethyl lead in conjunction with organic halides, which must give rise to the formation of lead halides in the engine and in the exhaust system. These lead halides (chloride, bromide), being comparatively soluble, are obviously toxic.

Legislation and regulation upon this subject are urgently called for to govern not only the concentration of tetra-ethyl lead in petrol, but also its distribution. The public should be instructed and warned in the handling of this material as in the case of all other poisonous substances. The potential users of this toxic product number over a million adult persons; the thousands of employees in garages being specially exposed to danger by continuous handling. —I am, etc.,

Hendon, N.W., Jan. 3rd.

MYER COPLANS.

\* Further references to this subject will be found at pages 61 and 64 this week.

#### TREATMENT OF CANCER BY RADIUM.

SIR,—My letter in your issue of December 17th, 1927 (p. 1163), raised a definite question—namely, the specific grounds on which Dr. Fletcher Shaw bases his criticism of radium in the treatment of carcinoma of the cervix uteri.

He replies (December 31st, p. 1244) by giving his own and Bonney's statistics, and suggests that British radiology might at least have furnished statistics on similar lines for radium. For their achievements and sins I have, as Dr. Fletcher Shaw knows, no responsibility, but I have a right, as one who is actively engaged in radium work, to suggest that many workers are not ignorant of a technique which has given results equal to those of surgery, even though it may not be a product of the particular clinic to which one is attached. (In parentheses I might add that the protagonists of British radiology in the past could easily retort to Dr. Fletcher Shaw's preference for British statistics by pointing out that a survey of all the literature on abdominal hysterectomy revealed an almost equally preponderating amount of foreign statistics.)

If I have implied in my original letter that radium is preferable to operation in operable cases I should like to correct it, because my personal experience is neither sufficiently wide nor lengthy. On the other hand, I do hold that in criticizing a statement made in a leading article of

a responsible medical journal the exact grounds of criticism should be given, that the whole weight of evidence—local, national, and even foreign—should be taken into account, and that personal experience be given its true value in relation to the whole.

Dr. Fletcher Shaw on a previous occasion<sup>1</sup> stated that he "clinically had concluded that radium was not of much value," and I suggest that this should be taken into account in assessing the true value of his criticism. I admit that in an analysis of his cases he softened the blow by saying that 41 per cent. of his cases treated by radium before operation were alive and well, as compared with 32 per cent.

Some of us are not insensible to the deficiencies of local conditions, but revolutions, such as have occurred in a comparatively short space of time, have not as a rule resulted in Utopian conditions.

Finally, I need hardly refer for serious consideration the admirable analysis of world statistics on cancer of the uterus (Reports on Public Health and Medical Subjects, No. 40), in which the whole of the evidence for and against is discussed.—I am, etc.,

Manchester, Jan. 7th.

G. E. BIRKETT.

#### ISOLATION FOR MEASLES.

SIR,—Your correspondent Dr. F. J. Child (p. 33) states that it is perfectly safe for an uncomplicated case of measles to mix in society fourteen days after the first appearance of the rash. May I state that in the Memorandum issued jointly by the Ministry of Health and the Board of Education in 1927, on the closure of and exclusion from school, the period of exclusion is three weeks from the appearance of the rash. This, I take it, is the official view and the one generally accepted.—I am, etc.,

Stourbridge, Jan. 7th.

GEOFFREY DUDLEY, M.O.H.

#### THE DURATION OF PREGNANCY.

SIR,—The following notes, I think, are of interest. The case described adds weight to the idea that the period of gestation is ten times the normal inter-menstrual period, and emphasizes the possibility of an unjust verdict being given in a case of legitimacy or affiliation where the medical evidence is that the child in question is "full time," meaning, presumably, being born after a period of 273 to 280 days.

On April 7th a patient, aged 30, presented herself at my surgery complaining of foul vaginal discharge. I diagnosed a two to three months' pregnancy with a dead ovum. On April 10th I thoroughly curetted, removing a quantity of extremely foul pus and fragments of necrotic tissue, placenta, membranes, etc. The uterus was flushed with a hot solution of lysol and afterwards swabbed with tincture of iodine. During the following fortnight daily vaginal douches were employed to minimize the foul odour. The patient made a rapid and uneventful recovery.

On August 8th the patient complained that she had not menstruated since the curettage and that the abdomen was "swelling." On examination I would have diagnosed a five months' pregnancy, but, believing that to be impossible, I estimated the date of her confinement to be about the beginning of February. She gave birth to a daughter, after a perfectly normal labour, on November 27th. The child cried lustily at birth, had a good crop of hair, was well coated with vernix caseosa, measured twenty inches in length, and weighed 7 lb. The finger and toe nails were fully developed and the child sucked vigorously on being put to the breast. In every way it appeared to be a "full-time" child.

The baby was born 231 days after the curettage. Coitus would be wellnigh impossible for the first fortnight; the patient thinks it did not occur for at least three weeks. If that is true, it would give a gestation period of 210 days—ten times the normal menstrual period for this patient, who states that before her pregnancy she menstruated regularly every three weeks.

I have looked through a number of midwifery books and the shortest period I can find tabulated in arriving at the average duration of pregnancy is 253 days. The statutes of Scotland, France, and Germany are said to allow a minimum period of 180 days. Is the child of 180 days' gestation expected to be normal in size and development, or moroly viable?—I am, etc.,

SIDNEY H. WADDY, F.R.F.P.S.Glas.,  
L.R.C.P. and S.Ed.

Huddersfield, Dec. 19th, 1927.

<sup>1</sup> Report of proceedings of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, *Lancet*, October 23rd, 1926, p. 856.

<sup>1</sup> *Journ. Amer. Med. Assoc.*, July 11th, 1925, p. 108.

<sup>2</sup> *Ibid.*, September 12th, 1925, 818.

<sup>3</sup> *Journ. Industr. Hyg.*, February, 1926, p. 51.

### VILLAGE SETTLEMENTS FOR THE CONSUMPTIVE.

SIR,—I have read with much interest your report of Dr. P. C. Varrier-Jones's paper on village settlements for the consumptive in the *BRITISH MEDICAL JOURNAL* of December 31st, 1927 (p. 1217). With your permission I would like to ask Dr. Varrier-Jones two questions. The first is: Precisely what occupations do the consumptives follow? The second is: How does a patient obtain admission to the settlement, and, if married, do his wife and family also enter it?

I must add that I think to enable individuals thus handicapped to succeed in becoming self-supporting in this way is a tremendous feat, which deserves the very highest praise. We see in the Poor Law hospitals a great deal of the difficulty a patient has, even when greatly improved or even, so far as physical examination can detect, healed, in resuming a normal self-supporting life.—I am, etc.,

Whipps Cross Hospital, Leytonstone, Jan. 1st.

J. C. MUIR.

\*\* We have referred this letter to Dr. Varrier-Jones, who replies as follows.

The occupations followed by consumptives in the Papworth Village Settlement are: carpentry and joinery; building, painting, and decorating; cabinet-making; upholstering; leather and fibre travelling goods; printing and bookbinding; sign and showcard writing; boot repairing and surgical bootmaking; gardening and pig-keeping; and poultry-farming. In addition, many patients, both male and female, are employed as clerks, book-keepers, cost clerks, and shorthand-typists in the offices of the Papworth Industries, the organization which controls the workshops of these various trades.

Patients may obtain admission in the following manner. Those who are eligible for treatment under the tuberculosis scheme of their local authority (for example, insured persons and ex-servico men receiving pensions for tuberculosis) should apply to the tuberculosis officer at their local dispensary, or to the medical officer of health at the public health department of the town or county in which they reside. Private patients should apply direct to the medical director.

The answer to the second part of Dr. Muir's question is that the wives and families of married patients are admitted to the Village Settlement when the patients are transferred to cottages. When this occurs all further financial responsibility on the part of the local authority sending such cases ceases.

### CONDITIONS OF PROFESSIONAL EXAMINATIONS.

SIR,—In the report of the proceedings of the General Medical Council (*SUPPLEMENT*, December 10th, 1927, p. 226) reference is made to the suggestion that all parts of the final examination should be completed within nineteen months. I wish to draw attention to a possible hardship if this regulation be made.

A man who has qualified by one of the examinations may, in later years, find that he wishes to obtain an "additional qualification." If he has to do this while fully occupied in earning his living in an appointment, or in practice, it may be impossible to find the time to complete the later examinations within the period. I suggest that in such a case, where the candidate is already qualified, the time limit should not apply.

I, for example, after doing the London course, qualified M.R.C.S., L.R.C.P. in 1914, and I now want to get the M.B., B.S. Lond. degree. I have no hope of completing this examination within nineteen months, as all the work has to be fitted in, a little here and a little there, as other more pressing work will allow.

Another example is that of a friend of mine who took the B.S. half of the examination, did two or three years R.A.M.C. service in Egypt, and was then able to get the M.B. portion finished on his return to England.

The regulations should not penalize the old stager who wants to make a step forward.—I am, etc.,

M.R.C.S., L.R.C.P., D.P.M., D.M.R.E.

London, S.W.10, Dec. 28th, 1927.

### X RAYS IN THE DIAGNOSIS OF CHRONIC APPENDICITIS.

SIR,—I was considerably surprised when reading the report of the discussion on chronic appendicitis (*BRITISH MEDICAL JOURNAL*, December 10th, 1927) to find so little reference to the use of x rays as an aid in the differential diagnosis of this condition. Mr. Fletcher and Professor Wilkie referred briefly to the subject at Edinburgh, and Dr. Bertwistle in the same issue of the *JOURNAL* (p. 1117) mentioned a few of the radiological signs of disease of the appendix.

It seems to me that in a disease where the differential diagnosis is so difficult and of such importance to the patient it is as well to have a clear idea of the limits of the value of an x-ray examination in such cases. When such a subject can be discussed at length by the Section of Surgery at the British Medical Association Meeting at Edinburgh without reference to the value of x rays in diagnosis one can only assume that those who took part believe the examination to be of so little use that it is not worthy of mention. If this be so, I venture to say that the radiological findings must have been misinterpreted in the past and that it would be well to inquire why such errors have occurred.

In naming one of the chief sources of error I should suggest incomplete examination. The symptoms and signs of chronic appendicitis have to be distinguished from those of gastric ulcer, duodenal ulcer, gall-bladder disease, disease of the urinary system, disease of the caecum, and disease of the female genital system; a complete examination must, therefore, include all these organs, and the point is to decide how to carry out such an examination with the least trouble and discomfort for the patient.

In order to judge the condition of the appendix it is necessary to fill it with barium; the patient must therefore be prepared thoroughly by a purge (preferably castor oil) overnight, followed by a light breakfast in the morning. Radiograms are then taken of the urinary tract and the gall-bladder region. Light diet is given during the remainder of the day, followed by one pint of a bread-and-milk barium meal next day. The important times for examination subsequent to the meal are: six, nine, twelve, thirty, and fifty-four hours; ordinary food and drink can be taken after the six-hour examination.

At six hours it is only necessary to see if the motility of the stomach is unusual. At nine hours the motility of the ileum is the important point, and it is advisable not to make a prolonged search for the appendix until the ileum is empty at twelve hours. A further examination at fifteen hours may be required when there is, as often happens, delayed emptying of the terminal ileum. At twelve hours the position and mobility of the caecum are noted in the erect position as well as in the supine. The position of the appendix in relation to the caecum and the relation of any tender points to the filled viscera are observed. In this examination the caecum must be lifted out of the pelvis before judging its mobility, and it is very unlikely that the appendix will be seen until this is done. It is usually possible to make the caecum rise by continued manual pressure in the left iliac fossa, or by putting the patient in a knee-elbow position. Should these methods fail inflation of the rectum with air will probably succeed. Inspection of the posterior aspect of the caecum by fluoroscopy in the oblique position is necessary before one can be certain that the appendix has not filled; it may be lying retrocaecally. The important points are, I consider, the mobility of the filled appendix and the question whether pressure applied *directly* over it produces pain; any kinks, constrictions, or dilatations must be permanent to be of any significance.

The examinations at thirty and fifty-four hours are included to complete the examination of the colon, and too much emphasis should not be laid on the emptying time of the appendix as an indication of disease. When all the barium has been evacuated, examination of the stomach and duodenum, to exclude the presence of ulceration, should follow as a routine. After this a second or confirmatory examination of the caecum can be made if necessary.

Secondary evidence of any gall-bladder disease will now be available from the original radiogram of the gall

bladder, and from the behaviour of the stomach and duodenum and of the colon at the hepatic flexure, and it can be judged whether investigation of the gall-bladder function after administration of dyo is warranted.

Thus, although the appendix may only occasionally show direct evidence of disease, very important information can be given as to the position and function of the caecum, and as to the presence or absence of disease in the stomach and duodenum or gall bladder. The pressure of an enlarged kidney or opaque urinary calculus or calcified glands can also be excluded. An adequate focal skin distance must, of course, be used for prolonged examination; with this precaution there is no danger of producing a skin reaction.—I am, etc.,

London, W.1, Dec. 23rd, 1927.

J. V. SPARKS.

#### MEDICAL REGISTRATION IN NEW ZEALAND.

SIR,—The difficulties in the way of medical registration in New Zealand should be known to all practitioners before coming to the country, in order to avoid, or be prepared for, irritation and disappointment.

The intending applicant for registration is required to fill in a form on which such questions appear as "What have you come here for?" and "Why do you want to live in New Zealand? Give reasons." The applicant is asked to give personal references from New Zealand and the country whence he has come. Next he must make a statutory declaration that he is the rightful owner of the diplomas handed over to the Registration Board for inspection, and this must be advertised in the daily press and paid for by the applicant. His personal referees are then written to and questioned about his character. He is required to pay about £6 for these privileges.

In about a month's time he gets what is termed a certificate of "provisional registration," covering a very limited period. This entitles him to practise *pro tem*, but is no earnest that his registration will be made permanent: in fact, during the present year an applicant for registration, who stated that he had been several years on the British Register, and to whom a temporary registration certificate was issued, was given another temporary certificate when the first had expired, and he, having committed himself to the purchase of a practice and residence, was subsequently prosecuted in the law courts by the police for practising without being on the register. Some months later a permanent registration certificate was issued to him, but meanwhile he had been caused much anxiety and his practice had suffered.

The permanent certificate is issued some months (up to five) after the original application, and until it is obtained the applicant is in a state of uncertainty as to whether his application is to be granted or not.

Contrast this with registration on the neighbouring Australian continent. In the eastern States, unless they have changed their method recently, about two weeks elapses from the time of application to the time of registration; the fee is about one-third of that in New Zealand, and the applicant is not treated as though he were a suspected criminal and the onus of proof lay on him to clear himself.

What is the object of this reactionary system? Is it, as has been stated by those connected with the profession, to prevent medical men from coming to live in New Zealand? It would indeed be a sad thing for the country if this were the case. It has but one medical school, and that in Dunedin, a town of some 70,000 inhabitants, where of necessity clinical opportunity is very limited.—I am, etc.,

New Zealand, November, 1927.

TRAVELLER.

#### THE PHYSIOLOGY OF DEFAECATION.

SIR,—The possibility of a connexion between the carcinomata of middle and later life and retention of faeces in the lower bowel deserves close attention. It seems conceivable that in such a state poisons may be constantly absorbed into the blood and induce in the cells of the body such a condition of tension that, on the slightest irritation, they assume perverted growth.

The cause of the retention is threefold: (1) the height of the seats of most closets, preventing the muscles of the abdomen exercising their natural expulsive force; (2) the small amount of pure water drunk daily—many people never drink it at all; (3) the absurd shame and false modesty that surround the performance of the act of defaecation. Among uncivilized races where the act is performed in the natural squatting position, they drink pure water, and there is no shame in accepting the necessity of a universal and natural function, cancer is practically unknown. The first two causes could be dealt with by proper education, and the third might be overcome if the cause of cancer were definitely proved to have a relation to retention.

That chronic constipation is the rule is the common knowledge of medical officers of large institutions—such as mental hospitals. On admission nearly all patients have the lower bowel loaded with scybala, and it is significant that among the large number of patients of advanced age in these institutions cancer is extremely rare—an immunity probably due to the attention to evacuation of the bowels that these patients—as inmates—necessarily receive.—I am, etc.,

Carbis Bay, Dec. 24th, 1927.

E. R. BARTON.

#### CHRONIC VINEGAR POISONING.

SIR,—I was much interested in the case of chronic vinegar poisoning reported by Dr. D. A. Urquhart in the *BRITISH MEDICAL JOURNAL* of December 31st, 1927 (p. 1226). I notice, however, that he states that there is a paucity of recorded cases where commercial vinegar has been consumed for a considerable number of years, and I therefore think that the following translated passages from the *Physiologie du goût* by Brillat-Savarin might be of interest:

"There circulates among women a fatal doctrine, which every year brings many a young person to the grave, to wit, that acids, and particularly vinegar, are preventives against obesity. No doubt continued use of acids is thinning, but only at the cost of freshness, health, and life; and though lemonade is the mildest of them all, few stomachs can for long absorb even it with impunity. . . . In 1776 I was at Dijon, taking a course of instruction to qualify me for the Faculty: a chemistry course under M. Guyton de Morveau, then attorney-general, and a course of domestic medicine under M. Maret, permanent secretary of the Academy, and the father of M. le Duc de Bassano. I there formed a sympathetic friendship with one of the loveliest girls I ever remember to have seen. . . .

"Louise was very pretty, and possessed, in a just proportion, the classic fullness of figure which delights all eyes and is the glory of the imitative arts. . . . One evening, looking closely at Louise, 'Dear friend,' I said, 'you are unwell; you seem to have grown thinner.' 'Oh, no,' she answered, smiling (but her smile seemed somehow tinged with melancholy), 'I am quite well; and if I am thinner, why I can afford to lose a little in that direction without being beggared.' . . . But after this conversation I began to watch my dear friend anxiously, and soon my fears were realized; I saw her colour fading, her cheeks growing hollow, her charms withering away. . . . I insisted on learning the truth, and she confessed that, tired of the jests of some of her girl friends, who assured her that in less than two years she would be fatter than Saint Christopher, and by the advice of other friends, she had sought means of thinning herself, and to that end had been drinking a glass of vinegar every morning for a month. . . . I shuddered when I heard her confession, for I knew the extent of the danger. . . . No time was lost; doctors were summoned; they examined and gave her medicine. Vain efforts! The sources of life were irremediably assailed; at the moment when the danger was first suspected there was already no more hope. And so, through listening to unwise counsels, dear Louise, reduced to the dreadful state that accompanies consumption, fell asleep for ever, when she was scarcely eighteen years old."

—I am, etc.,

London, W.1, Dec. 31st, 1927.

E. J. H. RORR.

#### POST-GRADUATION WORK IN VIENNA.

SIR,—While spending recently a few weeks in Vienna in post-graduation work I was struck with the scarcity of British medical men among the hundreds in attendance at the clinics of this wonderful medical centre. The first words said to me upon giving my address as London, when I registered at the offices, were, "By the way, there is an Englishman here who wants to know if one of his countrymen registers." I immediately sought him out. Incidentally I asked him why there were not more of our

countrymen in attendance. The only reason we could think of was that the advantages offered for perfecting oneself in any line of medicine or surgery are not known.

Some of the largest hospitals in the world are in Vienna. One great institution has 7,000 beds; another has over 4,000, and every bed is filled. More than seventy-five hospitals and clinics are open for clinical teaching. The material, while used very considerably as far as the patient is concerned, can be put to better advantage for teaching purposes than in many other countries. There are not so many medical students, but there is an abundance of patients for most instructive clinics. Medical and surgical instruction can be said to be abreast of the most advanced scientific learning of the day, if not in advance of most of it.

In one great hospital there are 4,000 necropsies annually. Upon visiting the class in pathology of a post-graduate school held in this laboratory I found about forty medical men from many countries listening for two hours to one of the greatest pathologists in the world. He had the pathological specimens of twelve bodies as material, and this is a daily occurrence. Vienna is probably the best place in the world for *post-mortem* experience, because the material is available and the staff of instructors is so well prepared for this kind of work.

There are more than three hundred instructors listed on the faculty of one post-graduate school. On the bulletin board I counted over three hundred courses, in every branch of medicine and surgery, forming and running at one time. For a stay of some weeks the expense is very moderate. If he must limit his time the visitor can arrange for any kind of private instruction with the best of instructors—at, of course, greater expense. While I have seen post-graduate work in many places I have never seen better opportunities than in Vienna. The professors, dozent, and doctors are most courteous, obliging, and helpful. All instruction may be arranged in English if desired.—I am, etc.,

Watford, Dec. 26th, 1927.

W. A. RUDLE, M.D.

#### ERGOSTEROL, VITAMIN D, AND RICKETS.

SIR,—Surely the number of rachitic children found among the breast-fed babies living in towns points to a deficiency of vitamin D in the human milk of town dwellers. This may be due to light starvation and absence of anti-rachitic substances in the usual diet of the mother. I would therefore be inclined to suggest, as a rational prophylactic measure against rickets, irradiation of the mother by means of ultra-violet rays whenever possible, and, failing that, ingestion of some activated substance. It is my belief that the introduction of the mercury vapour lamp into the armamentarium of the ante-natal clinician would save many a breast-fed child from rickets.—I am, etc.,

London, W.1, Dec. 21st, 1927.

P. BAUWENS.

### Obituary.

Dr. SEPTIMUS FARMER, who died on December 14th, 1927, at his residence in Ferryhill, co. Durham, at the age of 73 years, after a short illness, received his medical education at King's College Hospital, London, where he gained the junior and senior medical scholarships and many prizes. He obtained the diploma M.R.C.S.Eng. in 1880, the L.R.C.P. and L.M.Ed. in 1881, and the D.P.H. of the English Conjoint Board in 1891. He held the post of house-surgeon at King's College Hospital and for a period was assistant medical officer at Parkhurst Prison, later becoming house-surgeon to Chorley Dispensary and Hospital. He was for some years medical officer to Shap workhouse and district, and vaccination officer; on leaving that neighbourhood he was presented with an illuminated address. He was for a time in general practice at Hull, and later on at Marske-by-the-Sea. When the South African war broke out Dr. Farmer obtained a commission as civil surgeon, and served chiefly in No. 8 General Hospital, Bloem-

fontein; he was awarded the Queen's medal with four clasps. On his return he continued his military service in the Scottish district till he resigned his commission to resume general practice, first at Spennymoor and later at Ferryhill, where he resided for the last twenty-two years. He was surgeon to the Dean and Chapter Colliery, Ferryhill, and also held the posts of medical officer and public vaccinator to Sedgfield union, as well as that of police surgeon. He was a keen member of the British Medical Association, and had been the representative of the Bishop Auckland Division since 1923; he was chairman of the Division in 1924. He devoted much time to the St. John Ambulance Association; he was appointed an honorary associate of the Order of St. John of Jerusalem in December, 1917, and received the long service medal of the St. John Ambulance Brigade only five days before his death. He was a prominent Freemason, and was R.W.M. of his lodge (Rowlandson Ferryhill), also a P.P.J.G.D. His great personal popularity was shown by the very large attendance at his funeral.

Dr. JOHN ALEXANDER ENSKINE STUART, who died at Mirfield in the last week of December, 1927, at the age of 73, was a lineal descendant of the Regent Moray, and received his name Erskine in memory of his great-great-grandfather, who is described in Scott's *Guy Mannering* as having preached at the Old Greyfriars Church, Edinburgh. Dr. Stuart's great-uncle fought in 1822 one of the last duels on British soil, when he killed Sir Alexander Boswell, the son of the famous biographer; this incident is said to have been used by Scott in the duel in *St. Ronan's Well*. On his mother's side he was descended from the secretary of the Old Pretender. Dr. Stuart received his medical education at Edinburgh, where he was a pupil of the late Lord Lister. He obtained the diploma L.R.C.S. in 1876, and the L.R.C.P. in 1888. After practising for a time in the neighbourhood of Berwick and Windermere and holding the post of ship surgeon, he came to Batley in 1881, and for thirty years conducted an extensive practice in the district. For about twenty years he was medical officer of health for Batley, and performed great public service during the small-pox epidemics of 1903-4. In 1920 he retired and subsequently lived at Mirfield. During his early days at Batley he was medical adviser to Miss Ellen Nussey, who was a confidential friend of Charlotte Brontë. He acquired an intimate knowledge of the life of this author and her sisters, and his writings on the subject are admittedly authoritative, his best known books being *The Brontë Country* and *Literary Shrines of Yorkshire*. Since his retirement he was engaged in writing a third book on the possible identity of certain characters in the Brontë writings, which he had hoped to publish in the present year. He was one of the founders of the Brontë Society and a past president. He took an active interest in botanic and antiquarian studies, and was a member of the Spen Valley Literary Society and the Wakefield Diocesan Conference. He leaves a widow, two daughters, and a son.

The death took place, on December 23rd, 1927, of Dr. WILLIAM SCOTT at Ruthwell, Dumfriesshire, where he had carried on practice for the past forty years. He was a native of Banffshire and obtained the M.B. and C.M. degrees at Aberdeen University in 1883. After graduation he joined the Free Church Medical Mission at Livingstonia in Central Africa, and remained there two years. Returning to this country, he acted for a time as assistant in practice at Cromarty, and later took up practice at Ruthwell. At the time of his death he was 68 years of age, and was held in high estimation in the locality where he practised. He was a justice of the peace for Dumfriesshire, and took a prominent part in politics, being a member of the executive of the Dumfriesshire Liberal Association. He is survived by a family of eight, of whom five are doctors and one a woman dentist. His eldest son, Dr. William Scott, was for a time demonstrator of pathology in the University of Cambridge, and is now a medical officer at the Ministry of Health in London.

On December 23rd, 1927, there passed away, in the person of Dr. M. J. MAHONY, D.S.O., T.D., Stoneycroft, a distinguished soldier and doctor and a well beloved citizen of Liverpool. After taking his medical degree at the Royal University of Ireland Dr. Mahony settled in practice in the Old Swan district of Liverpool in 1892. He became medical adviser to the many Roman Catholic charitable institutions in the neighbourhood, and by his ability, cheerfulness, and sympathy soon won the devoted admiration of all classes and creeds. At the time of the South African war he joined the Volunteer Force as a combatant officer, and served with the Special Service Company attached to the 1st King's Regiment (Liverpool), being awarded the South African medal with four clasps. Shortly after his return home he resigned his combatant rank and became medical officer of his battalion. At the outbreak of the great war Dr. Mahony went to France with the 9th King's as major in the R.A.M.C. Later, in 1915, he was invalided home, but rejoined for active service with the 5th King's on the Somme in 1916. He was one of the first officers in the 55th Division to be awarded the D.S.O., and received his decoration on the field from Field-Marshal Haig. He was also awarded the Médaille de Reconnaissance Française. Dr. Mahony (a colleague writes) was one of the founders of the Hospice for the Dying, Old Swan, and he never spared himself in connexion with works of a charitable nature. He was greatly loved in a wide circle, and his funeral service was literally and obviously a tribute from loving friends.

Dr. THOMAS TOMBLESON BRUNYATT, who died on January 1st, at his home in Woodstock, at the age of 61, was a scholar of Christ Church, Oxford, and won an entrance scholarship in natural science at St. Mary's Hospital. He graduated M.B., B.Ch.Oxon. in 1892, and proceeded M.D. in 1894. After graduation he held the post of house-physician to the hospital, and subsequently commenced practice in Rochester, being appointed physician to St. Bartholomew's Hospital in that city. About twenty years ago he went to Woodstock in order to be nearer to his University, where he associated himself particularly with post-graduate work in connexion with the Radcliffe Infirmary. He leaves a widow and three children, of whom two are destined for the medical profession. A colleague writes: Dr. Brunyatt always retained his interest and ability in the science of mathematics, including its teaching. Throughout his life he was a keen lover of nature. In his early days he was no mean oar, and later an excellent golfer and tennis player. His life was lived in the admiration and affection of his colleagues, who will long treasure his memory, and his death evoked an extraordinary tribute of respect from the whole neighbourhood in which he worked.

Dr. JACOB SOARS CONEX, who died recently in Philadelphia at the age of 89, served as assistant surgeon in the 20th Pennsylvania Regiment in 1861, after which he transferred to the navy and took part in Dupont's expedition to Port Royal and the South Atlantic blockading activities during the American civil war. In 1866 he commenced civilian practice, and specialized in diseases of the throat and chest. He was professor of laryngology at the Jefferson Medical College, emeritus professor of diseases of the throat in Philadelphia, and consulting physician in a hospital for mental diseases in Pennsylvania. He was president of the Northern Medical Association in 1875, and published a number of treatises on diseases of the throat.

The following well known foreign medical men have recently died: Dr. HENRY MILLS HURD, emeritus professor of psychiatry at Johns Hopkins University, and formerly superintendent of the Johns Hopkins Hospital, and editor of the *Bulletin of the Johns Hopkins Hospital*; Dr. PRENANT, professor of histology in the Paris faculty of medicine; Dr. THEODOR BÜNINGER, director of the sana-

torium at Constanza, who introduced a method of treating heart diseases by intravenous injection of glucose; Dr. PAUL MANASSE, professor of oto-rhino-laryngology in the University of Würzburg, aged 62; Professor HANS LEO, formerly director of the Bonn Pharmacological Institute, aged 74; Professor GUOSS, honorary dean of the faculty of medicine at Nancy, aged 83; Dr. VINCENT RAMARONI, senior surgeon at the civil hospital at Bastia and Commander of the Crown of Italy; Dr. OTTO HILDEBRAND, emeritus director at the Charité Hospital and professor of surgery at Berlin University, aged 69; Professor B. BRAUNSCHWEIG, professor of ophthalmology at Halle University, aged 68; and Dr. JOSEPH THOMAYER, professor of neurology at the Prague faculty of medicine, and corresponding member of the Société de Neurologie of Paris.

THE LATE DR. ALEXANDER BLACKHALL-MORISON.—Dr. Robert Carswell (Wandsworth) writes: Perusal of the obituary notice in your issue of January 7th leads me to write that the late Dr. Blackhall-Morison was the third president of the National Medical Union, in succession to Mr. G. A. Wright of Manchester and Professor William Russell of Edinburgh. He joined the Union in 1915 largely as a tribute to the memory of his brother, Dr. Basil Gordon Morison of Islington, who was an original member. Becoming himself keenly interested in the work, he never lost an opportunity of diffusing, by voice or pen, a spirit of broadminded, cultured, and kindly independence, as far removed from bigotry on the one hand as from time-serving expediency on the other. His general attitude towards medical polity is well expressed in an entertaining little pamphlet, *Asculapius Bound and Unbound*, published by the Union in 1921, and obtainable from the secretary, Dr. E. H. Worth of Streatham.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

M.D.—BRANCH I (*Medicine*): Enid A. Ceiriog-Cadle, Gwendolen C. Cotton, W. Evans, Una C. Garvin, Alice M. C. Macpherson, A. G. T. Perkins, Evelyn N. Popper, T. W. Preston, W. G. Sears, H. K. Snell. BRANCH III (*Psychological Medicine*): I. Atkin, Florence M. Gamble. BRANCH IV (*Midwifery and Diseases of Women*): R. A. Brews, Dorothea A. C. Hunt, R. G. Maliphant.

### UNIVERSITY OF BIRMINGHAM.

THE following candidates have been approved at the examination indicated:

M.D.—L. C. Hill, A. V. Neale, J. A. Scott, W. Summers. M.R.C.—M. E. A. Allen, C. C. Crookson, L. H. Crosskey, J. F. Dnesbury, A. M. Ghaith, R. D'A. Gifford, D. V. Hague, S. K. Mansor, W. H. Shillock, F. Smith, R. W. W. Watson.

\* With honours.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

#### Lecture Arrangements.

IN addition to the six Hunterian lectures by Sir Arthur Keith on factors concerned in the growth of the human body, announced last week, the following further lectures will be given at the Royal College of Surgeons of England on the dates indicated at 5 p.m.:—January 30th—Professor W. E. M. Wardell: Certain aspects of cleft palate, with observations on the causes of defective speech and the remedies proposed for their treatment; February 1st—Mr. H. S. Souttar: New methods of surgical access to the brain; February 3rd—Mr. M. Miles Atkinson: The pathology, diagnosis, and treatment of abscess of the brain; February 6th—Sir Percy Sargent: The surgery of the posterior cranial fossa; February 8th—Mr. G. Grey Turner: The treatment of congenital defects of the bladder and urethra by implantation of the ureters into the bowel, with a record of 14 personal cases; February 10th—Mr. J. H. Sheldon: An undescribed disease of bone; February 13th—Dr. Adolphe Abrahams: The physiology of violent exercise in relation to the possibility of strain; February 15th—Mr. Alexander Fleming: Lysozyme, a bacteriolytic ferment normally present in tissues and secretions; February 17th—Dr. Ida C. Mann: The regional differentiation of the vertebrate retina; February 20th—Mr. C. E. Shattock: Pathological specimens in the museum; February 22nd—Mr. C. P. G. Wakeley: Investigations into the surgical diseases of the salivary glands, including their pathology and treatment; February 24th—Mr. W. D. Newcomb: The relationship between peptic ulceration and gastric carcinoma.



## The Services.

### DEATHS IN THE SERVICES.

**COLONEL FITZROY BERESFORD MACLEAN**, Army Medical Service (ret.), died at Olan on December 22nd, 1927, aged 73. He was born at Chatham on June 13th, 1854, the fourth son of Surgeon-General Andrew Maclean, A.M.D., of Drimmin, Morvern, and was a descendant of the famous old Highland family of Maclean of Duart, though the lands of Drimmin passed out of the possession of his family rather more than a century ago, about 1820. He was educated at Epsom College and at Guy's, and took the M.R.C.S. in 1877 and the L.R.C.P. (Ed.) in 1878. Entering the army as surgeon on March 6th, 1880, he attained the rank of colonel on February 6th, 1908, and retired on June 13th, 1911. During the great war he was re-employed as A.D.M.S. at Bedford. Colonel Maclean was one of a family of twelve, his eldest brother being the late Kaid Sir Harry Aubrey de Vere Maclean, K.C.M.G., commander-in-chief of the Sultan of Morocco's army. In 1889 he married Mary Norris, daughter of the Rev. J. Erskine, rector of Wycliffe, Yorkshire, who survives him. He was a member of the British Medical Association.

**Lieut.-Colonel Albert Halahan L'Estrange**, R.A.M.C. (ret.), died in Dublin on November 18th, 1927, aged 83. He was born on October 8th, 1844, and educated at the Ledwith School, Dublin, taking the L.R.C.S.I. and L.K.Q.C.P. in 1867. Entering the army as assistant surgeon on March 31st, 1866, he became surgeon-major after twelve years' service, and retired on April 25th, 1888. He served in the Perak campaign, in the Malay Peninsula, in 1875. As a regimental medical officer, in his early years of service, he served in the 8th Foot or King's Regiment, now the King's Regiment (Liverpool).

**Lieut.-Colonel Robert Basil Boothby Foster**, Indian Medical Service, died in Dublin of pneumonia on December 5th, 1927, aged 51. He was the second son of the late Rev. Robert Foster, chaplain of the Royal Hibernian Military School, and was educated at Trinity College, Dublin, where he graduated B.A. in 1899, and M.B., Ch.B., and B.A.O. in 1900. He took the D.P.H. at Cambridge in 1907. Entering the Indian Medical Service as lieutenant on January 29th, 1901, he became lieutenant-colonel on July 29th, 1920, and had recently been placed upon the selected list for promotion. He served in East Africa, in the Somaliland campaign of 1903-4 (medal and clasp); in the recent great war, 1914-18, in Egypt and Mesopotamia (star, medal, and Victory medal); and on the North-West frontier of India, Afghanistan, 1919 (medal and clasp). For several years past he had been in civil employ in Madras. In January, 1924, he was appointed superintendent and second surgeon of the Madras General Hospital, with attached duties as port and marine surgeon and professor of hygiene, but was on six months' leave at the time of his death. On his return to duty he was to have taken up the post of civil surgeon of Ootacamund. He married, in 1921, Millicent Wyndham Ball, who survives him.

## Medical News.

**MR. C. J. BOND**, C.M.G.; F.R.C.S., will give the Galton Lecture at the Rembrandt Hotel, Brompton Road, on Thursday, February 16th, when the Eugenics Society is giving the Galton anniversary dinner at 7.30 p.m. The subject of the lecture is "The distribution of natural capacity in the population and the need for a national stocktaking."

THE Hunterian Lecture will be delivered before the Hunterian Society of London at the Mansion House on Monday, January 16th, at 9 p.m., by Dr. Howard Kelly (of Johns Hopkins Hospital, Baltimore, U.S.A.), who has chosen as his subject "Rubbing and reasoning."

**DR. ANDREW BALFOUR**, director of the London School of Hygiene and Tropical Medicine, will lecture on behalf of the King Edward's Hospital Fund for London at the North London Collegiate School for Girls, Camden Road, on Thursday, January 26th, at 5 p.m., on "How science has made tropical countries healthy for white peoples."

THE annual general meeting of the Society of Superintendents of Tuberculosis Institutions will be held at 122, Harley Street, on Friday, January 20th, at 3 p.m. Dr. W. Brand will open a discussion on pros and cons of tuberculosis propaganda.

THE first of the present series of lectures arranged by the Fellowship of Medicine will be given on January 16th by Sir James Purves-Stewart at 11, Chandos Street, Cavendish Square, at 5 p.m., on acute drunkenness. At the Royal Eye Hospital, St. George's Circus, there will be a clinical demon-

stration by Mr. Letchworth on January 19th, at 3 p.m. The lecture and the demonstration are free to medical practitioners. Next week there will be a surgical demonstration and a medical demonstration in addition to a lecture and an ophthalmic demonstration. A special whole-day course in cardiology begins at the National Hospital for Diseases of the Heart on January 16th, and will last for a fortnight; the numbers are limited to twenty. On January 17th will be given the first of eight lecture-demonstrations on psychological medicine at the Bethlem Royal Hospital on Tuesdays and Saturdays, at 11 a.m. In February there will be five special courses—namely, a whole-day course, continuing for a fortnight, in diseases of children at the Paddington Green Children's Hospital and the Victoria Hospital for Children; an afternoon and evening course at the Lock Hospital, lasting four weeks; and an afternoon course in dermatology at St. John's Hospital from January 30th to February 25th; a whole-day course in medicine, surgery, and the specialties at Queen Mary's Hospital, Stratford, from February 20th to March 3rd; and a general course in neurology at the National Hospital, Queen Square, from January 30th to March 23rd, comprising clinical lectures and demonstrations, teaching in the out-patient department, pathological lectures and demonstrations, lectures on the anatomy and physiology of the nervous system, and a series of demonstrations of methods of clinical diagnosis in diseases of the nervous system. Further information, syllabuses, tickets, and copies of the *Post-Graduate Medical Journal* may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

A SPECIAL course in methods of examination and diagnosis will be given on Mondays and Wednesdays, at 1.30 p.m., at the Central London Throat, Nose, and Ear Hospital, Gray's Inn Road, W.C.1. The series opens on January 16th, when Mr. R. J. Cann discusses hearing tests, and ends on February 1st, when Mr. Norman MacKeth will deal with the examination of the larynx.

A POST-GRADUATE course in genito-urinary diseases will be given at St. Paul's Hospital, Endell Street, W.C.2, during February and March. The first lecture, by Mr. Frank Kidd, on February 2nd, at 4.30 p.m., will be on some new devices in urinary surgery. The course will conclude with one by Sir T. Carey Evans, on March 22nd, on stone in the bladder, with special reference to treatment by litholapaxy. No fee will be charged for attendance at the lectures, and medical practitioners and students are invited to attend any branch of the work in which they are interested. Tea will be served at 4 p.m.

IN the absence of Viscount Cave Sir John Bland-Sutton, Bt., presided at the quarterly meeting of the Grand Council of the British Empire Cancer Campaign, held on January 9th. The chairman reported that the King had graciously consented to become patron of the campaign. Sir Richard Garton, in submitting the report of the Finance Committee, announced that a trust fund had been created by the executors of the late Mr. William Johnston of Liverpool, to be known as "The Aileen Congreve Memorial Fund," which amounted to £18,147. Of this sum £16,000 would become a permanent trust, the interest being applied to cancer research work in Liverpool, through the scientific committee set up in connexion with the Lancashire, Cheshire, and North Wales Council of the campaign, now in process of formation. The chairman of the Finance Committee also reported that an anonymous donation of £10,000 had been received through Sir Basil Mayhew, and that the interest on this would be available for the general research work fund. A sum of £3,000 was granted towards the maintenance of the cancer research laboratories of the Middlesex Hospital, and £900 for the year's maintenance of the special radiological research department. The grant of £600 to the Cancer Research Committee of the London Association of the Medical Women's Federation was renewed for the ensuing year. Progress was reported in respect of the Cornwall Council of the campaign, from which a donation of £1,000 had been received, and an inaugural meeting had been held for the formation of a Nottingham Council of the campaign. It was announced that an international convention on cancer research was being convened for next July at the house of the Royal Society of Medicine, with Sir John Bland-Sutton as president, and that the work of the convention would be divided into the following sections: Pathological, Diagnosis, Medical Treatment, Surgical Treatment, Radiological Treatment, and Public Health and Statistics. Invitations are being sent to all parts of the world to those whose names are closely associated with modern research into the cancer problem, and all the universities and medical schools of the United Kingdom will be invited to send delegates. The chairman of the Convention Committee, Mr. J. P. Lockhart-Mummery, reported that Sir Richard Garton was making a generous donation towards the expenses of the convention, and that no part of the campaign's funds would be used in connexion with it.

THE King of Spain has conferred the Grand Cross of the Order of Civil Merit on Dr. Aldo Castellani, C.M.G., director of tropical medicine at the Ross Institute and Hospital, Putney, who has lately visited Madrid to lecture on the subject of malaria.

THE Minister of Health has issued a circular (No. 839) to county councils requesting them to accelerate the improvement of houses in rural districts in accordance with the provision of the Housing Act of 1926, which enables financial grants to be made, in approved cases, for the repair of dwellings in rural areas and the conversion into dwellings of buildings not previously used for that purpose. It is suggested that the opportunities afforded by the Act should be more widely advertised, and that there should be more active co-operation between the county and county district councils in dealing with rural housing.

DR. H. G. K. YOUNG, on relinquishing, through ill health, his practice at Braintree, which he carried on for twenty-two years, has been presented by his friends and patients with a Waterford cut-glass bowl and a cheque for £350.

DR. F. O'SULLIVAN of Cwm has been presented with a gold watch in recognition of the services rendered by him after the Cwm explosion. The watch bears an inscription recording that he was the first medical man to descend the Marino pits after the explosion on March 1st, 1927.

ACCORDING to the weekly diary card of the Royal Society of Medicine portraits of the presidents of the society from the foundation of the Medico-Chirurgical Society in 1805 up to the present time are being collected and framed for hanging in the president's room at 1, Wimpole Street. Portraits of the following presidents are missing: Edward Stanley, F.R.S., Joseph Hodgson, F.R.S., Caesar Henry Hawkins, F.R.S., Sir Charles Locock, Bt., M.D., F.R.S., Charles West, M.D., Andrew Whyte Barclay, M.D., George David Pollock. In order to make the historical collection complete gifts of engravings or photographs of the past presidents missing from the series, or information as to where they can be obtained, will be welcomed by the society.

MR. HENRY S. WELLCOME has presented a replica of the Lister collection at the Wellcome Historical Medical Museum to the American College of Surgeons in commemoration of the centenary of Lister's birth. The Board of Regents of the College passed a resolution of thanks to Mr. Wellcome, in which it is mentioned that this exhibit was the outstanding feature of the Lister centenary celebration of the College at its clinical congress in Detroit last October, when the presentation was formally made.

REPRINTS of papers published by members of the staff of the Middlesex Hospital Medical School during 1926 and 1927 have now been bound together in one volume, with an index, which may be consulted at the Library of the British Medical Association.

UNDER the will of the late Mr. A. B. Bosher the City of London Corporation have, after careful investigation, awarded the sums indicated to the following hospitals: £6,000 each to Guy's, London, and St. Thomas's; £5,000 to Middlesex; £4,000 to St. Mary's; £3,000 each to St. Bartholomew's, Royal National Orthopaedic, Royal Northern Group, St. George's, University College, and West London; £2,000 each to Charing Cross, King's College, Metropolitan, Royal Free, and Westminster; £1,000 each to City of London Hospital for Diseases of the Heart and Lungs, East London Hospital for Children, Hampstead General and N.W. London, London Fever, London Temperance, and Queen's Hospital for Children (and branch); £500 each to Belgrave Hospital for Children, East End Mothers' Lying-in Home, Elizabeth Garrett Anderson, London Lock, Miller General, Mother's Hospital (Salvation Army), Queen Charlotte's Maternity, and St. Paul's Hospital, Endell Street; £400 each to Central London Throat, Nose, and Ear, and Chelsea Hospital for Women; £300 each to St. John and St. Elizabeth, St. John's, Lewisham, and South-Eastern Hospital for Children; £250 each to Mildmay Mission and St. Peter's Hospital for Stone, etc.; £200 each to British Hospital for Mothers and Babies, the Hospital for Epilepsy and Paralysis, Kensington, Fulham, etc., General Hospital, North Islington Infant Welfare Wards, Paddington Green Children's, Samaritan Free Hospital for Women, and West End Hospital for Nervous Diseases; £100 each to Central London Ophthalmic, St. John's Hospital for Diseases of the Skin, and Streatham Babies'.

THE first case of chimney-sweep's cancer met with in Scandinavia is reported by Dr. Gustav Gnilberg of Oslo in the November-December issue of *Norsk Magazin for Lægevidenskaben*.

THE German Society for Combating Quackery will hold a congress on February 28th, on the occasion of the twenty-fifth anniversary of its foundation, when a discussion will be held on the best method of dealing with charlatanry.

THE date of the next congress known as *Journées Médicales de Paris* is May 19th, 1929. Further information can be obtained from the general secretary, Dr. Tixier, 18, Rue de Verneuil, Paris VIII.

ACCORDING to the New York correspondent of the *Times*, Mr. Albert D. Lasker and his wife have presented to the University of Chicago a million dollars as an initial gift towards the setting up of a "Lasker Foundation for Medical Research" to investigate the causes, nature, prevention, and cure of degenerative diseases.

IN a weekly bulletin issued by the city of New York Department of Health hospital superintendents have been reminded that all cases of miscarriage or abortion should be reported immediately by telephone to the department. It is stated that there has been some laxity and delay in reporting these cases, thus preventing investigation of any illegal operation that may have been performed.

THE following appointments have recently been made in French medical faculties. Bordeaux: Dr. Villenot, professor of anatomy in succession to the late Professor Picqué; Dr. Petges, professor of skin diseases and syphilis in succession to Professor Dubreuilh; and Dr. Tenlier, professor of ophthalmology in succession to Professor Lagrange. Lyons: Dr. Favre, professor of morbid anatomy in succession to Professor Paviot; and Dr. Froment, professor of medical pathology in succession to Professor Collet.

PROFESSOR ERICH HOFFMANN, director of the Skin Clinic at Bonn, has been elected an honorary member of the Medical Academy of Rome.

DR. A. LESAGE, a well known Paris paediatrist, has been elected a member of the Académie de Médecine in the place of the late Dr. Méry.

THE Société de Médecine de Le Mans and the Department of Sarthe recently celebrated its centenary, when an address was given by Dr. Paul Delaunay, the well known medical historian.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 2861, 2862, 2863, and 2864** (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

**EDITOR** of the **BRITISH MEDICAL JOURNAL**, *Litology Westcent, London.*

**FINANCIAL SECRETARY AND BUSINESS MANAGER** (Advertisements, etc.), *Articulate Westcent, London.*

**MEDICAL SECRETARY**, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Incillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associute, Edinburgh*; telephone: 24361 Edinburgh).

## QUERIES AND ANSWERS.

"B. D. F.," a medical man, married, suffering from hemiplegia, wishes to hear of a home or suitable hospital which offers moderate terms, with efficient nursing.

### DEATHS FROM LOCAL ANAESTHESIA.

DR. GEORGE CANUTT, professor of oto-rhino-laryngology at Strasbourg, would be glad to hear details sent him of any deaths from local anaesthesia. Letters should be addressed to him at the Clinic Oto-rhino-laryngologique, Hôpital Civil, Strasbourg.

### STERILIZATION OF SYRINGES.

IN reply to the inquiry by "Intramuscular" (November 12th, 1927, p. 905) as to keeping syringes and needles sterile without boiling, Dr. J. W. TOMM (Assaul, Bengal) cites an article by himself entitled "A useful hypodermic outfit," which was published in the *Indian Medical Gazette* of January, 1925 (p. 32), and reproduced in the *Tropical Diseases Bulletin* for October, 1925 (p. 775).

## FREQUENCY OF MICTURITION.

DR. EDMOND MURPHY (Cork) writes in reply to Dr. McWhirter's inquiry (JOURNAL, December 24th, 1927, p. 1214): I advise that in this case iodine be administered. Iodine tablets (B. W. and Co.) 0.03 gram—one to be taken night and morning and continued for some weeks—is a convenient method of administration.

## PREVENTION OF SCABIES.

"P. M. S." writes in reply to the inquiry published on November 12th, 1927, p. 936: The lady will be able to disinfect her garments easily if she follows these instructions. Take a large more or less airtight box out into the garden away from buildings. Sprinkle in the box half to one pint of petrol and quickly arrange her garments loosely in the box. Close the lid and leave for half an hour. If she has put the clothes in loosely this should be enough to kill all acari. With thicker woollen clothes more time will be required. I have never yet received complaints from those who have used this method with flimsy native silk clothes. It must not be forgotten that the mixture in the box is an explosive one.

## TREATMENT OF FLATULENCE.

DR. G. H. PEARCE, M.O.H. Batley, writes: In the BRITISH MEDICAL JOURNAL for October 1st, 1927 (p. 620) "West Country" asked for advice in the treatment of recurrent attacks of gastric and intestinal flatulence. On page 38 of the JOURNAL for January 7th, 1928, the subject is again referred to by Dr. I. V. Yoffa. I advise them to obtain a supply of taka diastase tablets, gr. 2½.

## TYPHOID MASTITIS.

DR. A. FORBES BROWN (Trinidad) refers to Schiffman's case of typhoid mastitis (see *Epitome*, November 19th, 1927, para. 468) and describes his personal experience of this condition. He writes: I went to bed with typhoid fever in England in January, 1927, and did not recover till the end of April, when I got up. After an interval of one month, my left nipple became very painful, and it and the areola enlarged. The indurated region was about the size of a pigeon's egg and very tender. The condition subsided in another month spontaneously. Since then I have developed a violent periostitis of the left tibia, which left the membrane thickened to about the size of a walnut. This subsided with daily diathermy. The most troublesome complication I have had is what appears to be peripractical neuritis. My tactile and hot and cold sensations are unimpaired, but I have a continual feeling of numbness and tingling in my feet, accentuated while walking. I have had this now for eight months, without the slightest improvement following diathermy, massage, strychnine, and iron. Has any member any suggestions to make?

## LETTERS, NOTES, ETC.

## CONJOINED TWINS.

DR. F. J. WALDO, J.P., conducted an inquest on December 27th, 1927, when born on December 10th, 1927, the bodies pointing in vertex, the bodies pointing in vertex would have been able to sit or stand, and hypostatic pneumonia was threatened. An attempt was therefore made on December 22nd by Mr. L. Bromley, surgeon to the neurological department of Guy's Hospital, to separate the heads. There was no partition between the two brains, which lay in contact; the circulatory systems were independent. Death followed the operation, and was attributed to the sudden change in pressure on the brain of one child, as the result of the inevitable displacement. The other child was very wasted and survival seemed unlikely. Sir Bernard Spillbury, who performed the necropsy, attributed death in both cases to shock. He said that the infants were two individuals in the sense that the essential organs were complete and separate. In theory they were capable of separate existences, and might be termed "conjoined twins." He agreed that the death of the smaller child would have endangered the life of the other one.

## THE VALUE OF LOCALIZED SINAPISMS.

DR. J. MARGOLYS (London, N.E.) writes to emphasize the value of local mustard applications to the spinal column. He reports the case of a timber porter, aged 43, who suffered severe pain in the right arm and hand, which became worse at night and prevented sleep. No cause was detected, and there was no limitation of movement or pain on deep pressure. Treatment by liniment and massage proved ineffective, and no abnormality was discovered by an x-ray examination. As a last resort a emulsion about two by three inches in size was fixed over the seventh cervical vertebra by strips of adhesive plaster. Two such applications, each lasting half an hour, relieved the pain entirely, and enabled the patient to return to work.

## PREGNANCY AND GLYCOSURIA.

DR. JOHN M. MUNRO (Odessa, Ont.) writes: For the information of Dr. D. M. Macdonald (October 1st, 1927, p. 620) and Dr. Zelik Green (October 22nd, p. 765), I may say that I had charge of Mrs. C., who had glycosuria and gave birth to a girl in her first confinement on June 6th, 1924, but in her second confinement she gave birth to a boy, 10½ lb., on August 12th, 1927. Glycosuria cleared up a few months after pregnancy in each case; and each delivery was also instrumental. There was no laceration and no infection; rapid recovery of both children and mother, all of whom are sugar-free.

## "B. COLI INFECTION OF THE DIGESTIVE SYSTEM."

MR. H. W. WEBBER (West Looe, Cornwall) reports a case which, though obscure at the time, seems now to have been due to *B. coli* infection of the digestive system, a condition described by H. Mallié (see *Epitome*, October 15th, 1927, para. 335). In the first week in September, 1926, a lad, aged 16, complained of weakness; he had been suffering from frontal headaches and constipation for several days. His tongue was thickly coated with a whitish-yellow fur; the pulse was 90, and the temperature 102° F. The abdomen was moderately distended and rather tympanitic; no enlargement of the spleen was found. The next morning the temperature had fallen to 98° F., but it rose in the evening to 101° F., the pulse ranging from 79 to 95 correspondingly; the headache was now so severe as to cause photophobia. A soap and water enema produced a copious, dry, bulky, whitish-yellow stool of offensive odour; no rose spots were visible, and there were no other symptoms beyond a slight cough. On the third day, which was perhaps the end of the first week since the illness started, the morning and afternoon temperatures were, respectively, 98.4° and 102°. Inspiratory moist sounds were heard at both pulmonary bases, and there was a fairly profuse eruption of rose-red papules over the buttocks and extensor surface of the forearms. The Widal reaction was negative as regards *B. typhosus* and *B. paratyphosus* B; the blood culture was negative for *B. typhosus*, *B. paratyphosus* A and B, and *B. coli*. The evening temperature now began to fall gradually and the headache became much less. The bronchial catarrh cleared up, but the rash persisted, as did the pale, hinkly, constipated stools. At the end of the first week, which was probably the tenth or eleventh day of the illness, the morning and evening temperatures were abnormal, the pulse 56 to 64, and all the rash had disappeared. The only remaining symptom was the pale, constipated condition of the stools; the urine was not bacteriologically examined. The patient gradually regained flesh and strength, and was convalescent by the end of the month.

## CHLOROFORM POISONING BY INGESTION.

DR. S. F. ... case of poisoning from 43, who suffered from pure chloroform one morning in mistake for a dose of cough mixture. He immediately felt a burning sensation in the throat and stomach, and vomited some mucus mixed with blood. He did some household work for half an hour and then took his usual meal of rice, pulses, and vegetables. A few minutes later he became drowsy and then unconscious, when his exertions breathing attracted attention. Dr. Chaudhuri found him about an hour after taking the drug in a condition like that of deep chloroform anaesthesia. The pupils were moderately dilated, did not respond to light, and the conjunctival reflex was entirely lost. The pulse was frequent, with a poor volume. Treatment consisted of gastric lavage with a weak solution of potassium permanganate, hypodermic injections of strychnine and camphor dissolved in ether, and rectal injections of whisky well diluted with water. The stomach could not be washed out successfully, since rice particles repeatedly blocked the eye of the stomach-tube. While this operation was in progress copious vomiting and involuntary evacuations occurred, and soon afterwards improvement was shown by the increased volume of the pulse and the return of conjunctival and pupillary reflexes. Further recovery was uneventful.

## COURT ETIQUETTE AS A CAUSE OF MADNESS.

DR. G. E. MOULD (Kimberworth, near Rotherham) writes in reference to the review (December 3rd, 1927, p. 1034) of Dr. Cabanès's book *Le Mal Héréditaire*: Unless I am greatly mistaken Philip V. of Spain was not descended from the female line, of Charles V. How else environment? To this, rather than to the eccentricities of the Bourbon line, the founder of the eugenicists, the lip of his Hapsburg ancestors, is the most virile and commanding figure among the rulers of the world.

Dr. Mould is correct in stating the descent in the female line of Philip V, who was the great-grandson of Philip IV. But no doubt Dr. Mould sympathizes with us in feeling how distressing his insistence on historical accuracy throws doubt on the ingenuous theory of Dr. Cabanès.

## 1928 MOTOR LICENCES.

To assist motorists in connexion with the renewal of car licences the Automobile Association has issued a booklet, *Your Motor Tax at a Glance*, which shows the various amounts due for licences, according to horse-power, either for the year or shorter periods. Information is also given concerning rebates obtainable in respect of old cars, refunds for surrendered licences, and the procedure for renewing licences. Copies may be obtained by sending a postcard to the Secretary, A. A. Fannum House, New Coventry Street, W.1, or to any of the A.A. area offices.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement column appears in the *Supplement* at page 11.

## An Address

ON

## THE TREATMENT OF EXOPHTHALMIC GOITRE.\*

BY

A. J. WALTON, M.S., F.R.C.S.,  
SURGEON, LONDON HOSPITAL.

THE necessity of a close association of medicine and surgery is nowhere more evident than in the treatment of exophthalmic goitre, and this must be my excuse, if an excuse is necessary, for addressing you upon a subject which is so largely medical. It is, indeed, only of recent years that operative treatment of this disease has been regarded as justifiable, for many cases are cured by medical measures, and formerly an operation was a dangerous and hazardous procedure. Even to-day surgery is only safe if combined with careful observation and preliminary treatment. It is therefore accepted by all workers in this field that no operation for exophthalmic goitre should be undertaken until a course of medical treatment has been given; to it the patient may react so well that no operation may be thought necessary, or she may improve to such a degree that the risks of operation are greatly diminished.

To operate upon a patient admitted to the hospital or nursing home the night before is to seek disaster. It may seem unnecessary to stress this point, but I am still occasionally asked to go down to the country to operate upon a case of exophthalmic goitre which I have never seen and which has never been prepared, usually with the added statement that the doctor's partner would like to give the anaesthetic and proposes to administer chloroform. To have acceded to such requests would have raised my mortality figures so high that I should not have dared to address you upon the subject.

A theoretical consideration of the views that have been held as to whether the symptoms are due to dysthyroidism or hyperthyroidism, and how they may best be controlled, would be too lengthy to enter into here, and I propose, therefore, only to discuss with you in detail the methods I now employ, in the belief that in the present state of our knowledge they give the best chance of a satisfactory issue.

Every patient is admitted to the nursing home or hospital for a period of preliminary observation, during which time she may or may not be told that an operation is contemplated. This is a matter which can only be decided in the individual case. Some patients who have had the disease for a long period and have received but little benefit will have heard of the value of operation, and will look forward eagerly to the possibility of obtaining relief thereby. A free discussion of the possibilities of the operation will generally do most to gain their confidence and calm their fears. Many are, however, extremely nervous, and are so easily distressed that it is better not to let them know that an operation is being considered. They can, however, only be kept in ignorance if there are near relatives with whom all the difficulties can be discussed. It is my custom to keep every patient in bed for a week with no treatment other than rest and a modified diet. During this time careful observations are made of the weight and appetite and of the presence of diarrhoea or vomiting. The pulse is carefully observed and the condition of the heart noted. The state of this organ is of the utmost importance in determining the value of surgical treatment. In the minor cases there is usually a rapid and forcible beat with no dilatation, although murmurs which are haemic in character may be present. Later there may be a certain amount of dilatation, but the beat is still regular and forcible. Where the toxæmia has been severe or long continued, auricular fibrillation may be present, and it is necessary to determine whether it can be controlled by preliminary medical treatment. It is important to determine how the patient sleeps at night and what is the condition of the nervous system. In certain cases an estimation of the basal metabolic rate

may be of considerable value, but it is not my custom to carry out this method of investigation as a routine measure. Not uncommonly it causes a good deal of nervous upset, and so may give a false idea of the general condition. At the end of a week it will be possible accurately to determine what is the patient's general state, and an index will be obtained whereby the surgeon can readily estimate the reaction to preparatory treatment.

At the end of a week treatment is commenced. The patient is still kept wholly at rest in bed, a light diet containing no stimulants is prescribed, and with stimulants must be included meat extracts, tea, and coffee; under modern conditions it is necessary to state that all tobacco must be cut out; otherwise the diet should be full and nourishing. At the same time large quantities of fluid should be given, and it is my own custom to administer daily one pint of rectal saline. This is given at one hour before the time of day at which the operation will ultimately be carried out. Thus, in cases in a private nursing home it is usually administered at 8 a.m., while in hospital it is given at 12.30 p.m. The reason for this time of administration will be shown later.

The careful employment of iodine is now known to be of the greatest value in controlling hyperthyroidism, although its use at one time was the subject of considerable controversy. The balance of experimental evidence seemed to show that the symptoms of exophthalmic goitre were due to hyperthyroidism, and the late Professor Koehler held the view that the administration of iodine would increase the symptoms or might even lead to hyperthyroidism in the case of patients with simple goitre. De Quervain discovered, however, that in certain varieties of exophthalmic goitre the iodine content of the thyroid gland was low, and sometimes, indeed, lower than that found with colloid goitre. Plummer and Boothby found that in certain cases of hyperthyroidism there was an insufficiency of iodine, and hence advocated the administration of some simple form of iodine in the routine treatment of exophthalmic goitre. The value of this drug has since been investigated by many observers, and we have been using it for a long period at the London Hospital. Plummer and Boothby advised the use of Lugol's solution—that is, 5 per cent. iodine and 10 per cent. potassium iodide in water; 10 minims are given daily. All my cases are given 3 minims of this drug three times a day, with results which are often remarkable. The pulse after a day or two not infrequently falls from 120 to 80, the patient becomes much calmer, and the nervous tremor and excitement may almost entirely disappear. Sleep is regained, the weight increases, and intestinal upsets may disappear. These results appear, however, only to be temporary, and my own experience closely agrees with that of Fraser—that if the drug is continued the symptoms tend to return, and that if the dose is increased not only may the beneficial results fail to appear, but the symptoms may even be exaggerated. This is not in accordance with the observations of all surgeons. Jackson states that he could often increase the dosage until 30 or even 40 or 50 minims were administered daily with good results. In all my cases where these large doses were tried the symptoms were increased. If the smaller dose was continued over a period of fourteen days the symptoms also began to return, and it was necessary to stop the drug for a period.

It is also of interest to note that the different varieties of goitre appear to react differently to the various forms of iodine. In my own experience the colloid goitres have been found to react best with the more simple compounds, such as iodide of iron, although these may have to be combined with an intestinal antiseptic. Rapidly increasing or recurring varieties of adenoparenchymatous goitre, on the other hand, fail to react to any form of iodine or iodides, but disappear with thyroid extract. It is hardly necessary to point out that patients suffering from myxoedema fail to improve with the administration of iodine, for they have no thyroid tissue to convert this into thyroxine; and yet it is not uncommon to meet with such cases which have been treated with collosol iodine, with, of course, no benefit. In my experience exophthalmic goitre improves only with Lugol's solution; iodides have but little effect, and thyroid extract has always seemed

\* Given to the Eastbourne Division of the British Medical Association.



definitely to increase the hyperthyroidism. In a considerable number of cases where the disease was in a very early stage and the symptoms slight, the improvement with the administration of 3 minims three daily has been so great that operation has been postponed and a continuation of the medical treatment tried. In such circumstances the administration of iodine has been reduced to 1 minim three times a day, in the hope that a definite balance could be obtained. With such methods other observers have claimed satisfactory results, but my own experience has rarely been satisfactory. Such patients have made very considerable improvement while in hospital, but on returning to their home life, even if they have not returned to work, there has generally been a gradual relapse, and an operation has had to be undertaken at a later date.

As a general rule the administration of Lugol's solution and the saline is sufficient to relieve all the symptoms, but in certain cases, and especially if there is considerable auricular fibrillation, the condition of the heart will require special treatment. In these severe toxic cases it is always my custom to seek the aid of the cardiologist. Dr. Parkinson has investigated many such by electrocardiograms, and has not uncommonly been able to restore the heart by the use of digitalis and quinidine. It is a fact of very great interest, to which attention has also been drawn by other observers, that a heart which is badly fibrillating may be temporarily restored to normal by the use of these drugs, and may apparently be permanently restored by operative treatment.

Occasionally it may be necessary to give sedative drugs in order to improve the patient's sleep, but as a general rule the nervousness will be so much reduced by the administration of Lugol's solution that quiet and easy sleep is obtained.

Of the value of x-ray treatment as a means of controlling hyperthyroidism I speak with some diffidence, as my experience appears to differ so considerably from that of many x-ray experts, and it is possible that my series includes only more severe or more advanced cases; but in all of my series where it has been tried it has been of little or no value, and has not, as many have claimed, been capable of controlling the hyperthyroidism to any required degree. Some surgeons have objected to its use, as they believed it caused so much fibrosis that if an operation were required later the difficulties would be considerably increased. If this had been my experience I should have regarded it as very strong evidence indeed of the value of x-rays in controlling the increased cellular growth of the gland, but I have never found any noticeable change after such treatment, although some of my earlier cases had been so vigorously treated elsewhere that the skin had been extensively burned. The cases in my series include some which have been treated elsewhere and have been sent on to me for operation as this method had failed; some which I have seen very early and have thought not yet suitable for operation; and certain cases where an operation has been performed but insufficient gland has been removed, and the improvement has only been partial. Of the two latter groups I have sent many cases to our x-ray department at the hospital, and they have been returned to me after a time as making no improvement. Cases of carcinoma, on the other hand, have shown an astonishing improvement. I have one or two in my series where the gland has been enlarged, hard, and irregular, where an operation has been performed and the nature of the growth proved, and where there has been secondary glandular involvement. With x-ray treatment the local symptoms have improved enormously, and some of the patients have lived from three to five years. I have come, therefore, to regard the x-rays as showing a remarkably selective influence between the overgrowth of a simple hyperthyroidism and a carcinomatous overgrowth.

#### *Selection of the Time of Operation.*

A careful choice of the time at which operation is performed is of considerable importance, both as regards the immediate risk and the ultimate prognosis. My cases are very rarely operated upon in the first six months of the disease, for it is in this period that they are most likely to react to medical forms of treatment. Some cases show very

acute symptoms even in this early stage, with rapid loss of weight, the presence of diarrhoea and vomiting, and distinct cardiac changes. An operation performed under such conditions is associated with considerable risk, but careful medical treatment with the use of Lugol's solution will generally lead to a rapid improvement of the symptoms. If the improvement is very marked it will probably be better to postpone the operation for a considerable period, but if, on the other hand, it is only slight, an operation may be considered necessary, while the improvement will be such that it can be safely performed.

All cases of Graves's disease tend to show a periodicity in the severity of their symptoms. Several observers have laid stress upon the fact that the symptoms are severe during the first six months; they then abate for a year or more, to become accentuated again later. There is, in addition, a shorter periodicity, the symptoms varying to a lesser degree almost from week to week. One of these shorter periods of severity is nearly always induced by any disturbance, such as removal to a nursing home or hospital, and it is chiefly for this reason that no operation should ever be performed within a day or two of the patient's entering such an institution. Both the long and the short periods are to-day to a very large extent controlled by the judicious administration of Lugol's solution, and hence it is less necessary to pay so close an attention to the time period. Before the introduction of this method of treatment it was necessary, after the admission of the patient, to watch her carefully until there was a period of abatement, and then to operate. Sometimes it might have been necessary to keep her in hospital three or four weeks before an operation was performed, but nowadays, the reaction to preliminary treatment is so definite that it is nearly always possible to operate at the end of a fortnight, the time of operation being selected according to the patient's symptoms rather than to any definite time period.

In more advanced cases secondary changes are not infrequently found in the heart and kidneys, and in some severe examples in my series there has been a profound degree of auricular fibrillation with the signs of cardiac failure. Such cases always carry with them a greater operative risk, but it is remarkable to what a degree their symptoms may be improved by a preliminary course of medical treatment and by the use of Lugol's solution. I have in my series some very interesting cases of women who had severe auricular fibrillation which entirely disappeared with rest and iodine, although it had reacted but little to the previous administration of quinidine. The auricular fibrillation occurred again immediately after operation, but it was again soon controlled, and the patients have since remained well. Although such cases are always more serious, it is well to remember that without operation they will probably progress, and that surgical treatment alone holds out any hope of definite improvement. It is true that even this measure may fail to bring about a complete cure in a seriously disorganized heart, but it will nearly always prevent the condition progressing.

Another fact upon which I have often laid stress is the reaction of these patients to heat, and it is my usual custom, therefore, to refuse to operate in the hotter periods of the summer. Possibly in the future preliminary medical treatment may also be able to overcome this difficulty, but even yet I do not feel safe in this respect, and still refuse to operate in the very hot periods.

#### *Prognosis with Different Types of the Disease.*

Clinically three varieties of this disease may be recognized. There is the condition which may occur as the end-result of a colloid goitre. The patient, usually a young girl, has for many years had a simple colloid goitre and then begins to develop the signs of hyperthyroidism. In such cases the thyroid is relatively big and the evidence of hyperthyroidism is often comparatively slight. Such patients react well to treatment, and the operation is not generally associated with much risk. The second type also occurs in young women, but shows evidence of hyperthyroidism from the beginning. It is characterized again by a relatively large thyroid, by marked exophthalmos and vascular changes, but the nervous element is comparatively



slight. These cases are as a rule much improved by preliminary medical treatment. They stand the operation well, and make good immediate post-operative progress. The third variety is seen more often in women at or about the age of the menopause. The thyroid is often smaller, harder, and more irregular. The most characteristic symptoms are seen on the nervous side, these patients being extremely restless, and often showing movements that are almost choreic. Mental symptoms are also very marked. They are generally excitable or melancholy, and sometimes even suicidal. They always stand operation less well than the last two varieties, and the post-operative progress is relatively slow. They also can be much improved by pre-operative treatment, and since the introduction of the more modern methods one is able to carry out operative treatment with a much happier mind.

#### *Choice of Anaesthetic.*

In this matter there is considerable divergence of opinion, but all are agreed that chloroform must never be used. It seems to be almost a specific poison. In former times, when the mortality was extremely high, many of these patients died in the preliminary stages of anaesthesia, death being entirely due to the use of chloroform. Many surgeons prefer a local anaesthetic or gas and oxygen. My own preference is for general anaesthesia with such highly nervous patients, and a light ether anaesthesia is always used. To lessen the distress to the patient of the removal to the theatre and of the early stages of induction, ether is administered by the rectum. On the day of the operation the rectal saline is replaced by a mixture of olive oil 3 oz. and pure ether 3 oz. It is for this reason that the saline is always administered three-quarters of an hour before the time at which the operation will ultimately be performed. Generally this amount is sufficient to induce a very satisfactory anaesthesia. The patient is taken into the theatre either completely under or showing a few of the unconscious movements found during the period of induction. The anaesthesia is then continued either with a small quantity of ether on an open mask or by the use of warmed ether vapour. It is usually found when the patient has recovered consciousness that she has had no knowledge whatever of being prepared for the operation, or indeed that the operation has been performed. It must always be remembered, however, that in so inducing anaesthesia the minimum amount must be given, and even in men I have never found it wise to give more than 3 oz. of ether in the rectal mixture.

#### *Method of Operating.*

In some of the more serious cases it was the custom to carry out a preliminary ligation of one or more of the arteries before considering resection. I have never performed this operation, but preferred, even before the introduction of Lugol's solution, to watch these cases carefully, and by selecting a time of operation to carry out a partial resection. With the modern methods of preliminary treatment ligation of the arteries alone will probably be abandoned. Wherever possible a considerable portion of the gland should be removed. My usual procedure is to excise one lobe, the isthmus, and the lower portion of the other lobe, and to ligature the vessels of the superior pole of this remaining lobe—that is to say, about three-quarters or rather less of one lobe is left, and even in this the circulation is controlled. Unless the left lobe is the bigger it is usually more convenient to remove the right lobe. If the patient is a bad operative risk, one may have to be content with the removal of only one lobe, but it is almost certain that such an operation, although followed by very considerable improvement, will not lead to a complete cure, and further operative steps will be required later. Some operators prefer to do a more symmetrical operation, which is really only an extensive form of the double wedge-resection which is carried out for colloid goitres. In my opinion this operation is more likely to give rise to haemorrhage, and therefore I prefer the removal as described above. A small drainage tube should always be inserted, and is left *in situ* until any post-operative reaction has abated.

#### *Post-operative Treatment.*

When the patient has been returned to bed the ether and olive oil are washed out from the rectum. As soon as consciousness returns the patient is given morphine and atropine, and I have no hesitation in repeating this drug sufficiently to control all post-operative restlessness. In some severe cases it may be necessary to give three or four injections ( $\frac{1}{4}$  grain) in the first twenty-four hours. The other important step is to administer large doses of fluid. As soon as the patient is conscious, fluid should be injected by the rectum. I prefer plain water to the usual saline, as I believe it is more easily absorbed. As soon as possible large quantities of fluid should be given by the mouth. With such measures the reaction after operation is often quite slight. The temperature may amount to  $99^{\circ}$  or  $100^{\circ}$ , but usually falls again to normal within a few days. The pulse, which immediately before operation may have fallen to 80 or 90, generally goes up again on the day of operation to 120, but rapidly falls, and is often down again to the pre-operative state within three or four days. I have not as a rule found it necessary to administer Lugol's solution within this period, but if there is a more marked reaction, very considerable benefit may be gained by its administration, and there is no doubt that it is a very useful aid in controlling post-operative hyperthyroidism. During this important post-operative stage the patients should always be kept as quiet as possible, and in hospital wards it is our custom to have them screened off from the rest of the ward, and also kept as cool as possible, electric fans being freely utilized.

#### *Operative Results.*

In spite of every care in the preparation there is still a very definite mortality which will vary according to the surgeon's method of selecting his cases for treatment. Advanced cases, where there are already secondary changes in the heart and other viscera, will stand operation somewhat badly, and hence, if a surgeon is prepared to attempt the cure of these serious and distressing cases, his operative mortality will be relatively high. Several series have been recorded in which the mortality was reduced to some 3 or 4 per cent., and Pemberton has published a group of over 1,000 cases where operative mortality was under 1 per cent. The usually accepted risk is about 5 per cent. In my own group there were 189 cases with 10 deaths, a mortality of just over 5 per cent., although it is less in the more recent cases. It has always been my custom to offer the help of operative treatment to very advanced cases in which there is no other hope of cure. With the use of Lugol's solution the outlook is greatly improved, and the mortality has been much reduced since its introduction. My series included 170 females and 19 males, approximately 1 in 10 males. In 1923, when writing on the same subject, I quoted the experience of Murray, that in recent years the proportion of males had been increasing, and stated that up to that time my experience had not been in accord with this. Since then, however, there has been a definite tendency in this direction, so that in the last 41 cases there have been 8 males, a ratio of 1 in 5.

In estimating the value of any operative procedure the end-results, and the progress towards such results, are of even more importance than the immediate mortality. Of my 189 cases 7 must be deducted as having been performed for too short a period to estimate the end-results of treatment. Of the remaining 182, 9 died as the result of operation, leaving 173 for investigation of their after-results. Of these, 95 (54.8 per cent.) are completely cured. They have no physical signs and no symptoms of their disease. The 95 have been observed for the following periods: for five years 47, for four years 12, for three years 8, for two years 14, and for one to two years 14. Forty-six (that is, 26.5 per cent.) are sufficiently cured to be able to live a normal life, performing their usual duties, and in the majority of cases earning their own living. They still, however, have a mild degree of tremor or some slight exophthalmos, or even a pulse which is easily increased in rapidity. Of the total, therefore, 81 per cent. have been converted from a condition of invalidism to people who are able to live normal lives. Some of the forty-six

who still have symptoms have been operated upon at a relatively short period, and will almost certainly continue to improve until they are completely cured. Three of the cases have developed a considerable hypertrophy of the remaining portion of the thyroid, and have had little or no improvement of their symptoms. It is probable that they may yet be improved by further operation, which is now contemplated. In addition to these, 3 others, who had apparently passed to a state of complete cure, relapsed owing to some severe mental stress, 2 of them as a result of having been exposed to air raids. These have since improved so much under medical treatment that no operation has been contemplated, although they still have some evidence of the disease; 8 have died since operation—one from pneumonia; one during a confinement; 2 six and four years respectively after the operation, apparently from conditions not connected with the thyroid; one developed carcinoma of the skin owing to an x-ray burn and has since died from this; 2 were said to have died from heart disease, which must be regarded as being dependent upon their Graves's disease; one developed diabetes and died, and although all symptoms of Graves's had disappeared there is so close a relationship between these two conditions that this fatality must be included as a post-operative possibility. In addition to the patient who died from diabetes, one other has diabetes, which is controlled by medical treatment, and she has no symptoms of exophthalmic goitre. She has therefore been included among the group who are relieved. Nineteen have been lost sight of.

These results may be tabulated thus:

Quite cured	...	...	...	...	...	94
Greatly relieved	...	...	...	...	...	46
No better	...	...	...	...	...	3
Died after operation...	...	...	...	...	...	9
Late deaths	...	...	...	...	...	8
Lost	...	...	...	...	...	19
Relapsed	...	...	...	...	...	3

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It is justifiable to claim, therefore, that as a result of operative treatment there will be an immediate mortality of about 5 per cent., a late mortality of under 2 per cent., a certainty of complete cure in about 55 per cent., and of sufficient relief for the patients to earn their own living in comfort in 81 per cent.—results which are unlikely to be obtained by medical treatment alone.

It is important, however, to realize that there is not an immediate cure as a result of operation. I have on several occasions pointed out that the post-operative progress passes through several stages, which may be classified as follows:

1. *The Stage of Reaction.*—This is the dangerous post-operative period, and it lasts from three to four days after operation, the symptoms in the majority of cases being due to a definite post-operative hyperthyroidism. With modern methods of operation it is much less in evidence. If the symptoms become serious they can generally be controlled by the administration of Lugol's solution, of large quantities of fluid, and of morphine.

2. *The Stage of Primary Improvement.*—Within a fortnight from operation a great improvement is nearly always manifest. Many patients before leaving hospital have a normal pulse with no tremor; they are eating and sleeping well, the exophthalmos may be much reduced, and the improvement from their condition on admission is often startling.

3. *The Stage of Primary Relapse.*—Nearly always on returning to home conditions there is a disappointing return of the symptoms. The relapse is slight in degree, but it is because of its presence that a rather prolonged convalescence is required, and that the patients must be carefully watched and treated for a considerable period. As a general rule, it does not last longer than four to six weeks, but if the case has been so severe that it has only been possible to remove a relatively small portion of the thyroid, the patient may permanently remain in this stage, and although showing improvement will not pass to a stage of complete cure. This is not uncommonly a difficulty with such cases. It is evident that further operation is required to bring about a cure, but the patient may be so much relieved that she refuses to go through the discomfort of a second operation.

4. *The Stage of Apparent Cure.*—After a few months these patients lose all their symptoms. There is no enlargement of the thyroid, all nervousness disappears, the pulse is normal, and the exophthalmos slowly disappears. The patients appear to be absolutely cured, and if everything is satisfactory they will pass on to a state where they are absolutely cured. It is only by having watched many cases, that one realizes that during this period any severe mental shock or upset may be followed by an enlargement of the remaining portion of the thyroid and by recurrence of the symptoms. It is very difficult to estimate how long this period lasts, but it would appear to persist for one or two years. At the end of this time the cure is apparently complete, for not only are the patients free from all symptoms, but they seem to be able to face all normal disturbances and upsets with no fear of a recurrence of the symptoms.

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## A Lecture

ON

## THE USE OF HYPERTONIC SOLUTIONS IN THE TREATMENT OF INCREASED INTRACRANIAL PRESSURE.\*

BY

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Two cardinal facts about the skull and its contents form the basis of a true understanding of the pathology of the intracranial pressure. The skull in the adult is a rigid case which is incapable of expansion, and the total volume of the intracranial contents is therefore constant. These contents may for practical purposes be regarded as three—the brain, the cerebro-spinal fluid, and the blood in the blood vessels. Since their total volume is constant, an increase in the volume of any one of them can only occur at the expense of the volumes of one or both of the others. For example, if the brain becomes enlarged by the growth of a tumour there must necessarily be a corresponding decrease in the volume of the blood or of the cerebro-spinal fluid, or of both. Such readjustments can only occur to a very limited extent without raising the intracranial pressure.

The most obvious way to reduce raised intracranial pressure is to abolish in part the rigidity of the skull—in other words, to perform a decompressive operation. This was till recently the only method available, and it is still the method of election in certain circumstances. There are, however, a number of conditions associated with increased intracranial pressure in the treatment of which such a serious operation is unjustifiable, and others again in which it is to be avoided if possible. My present object is to describe another method of lowering the intracranial pressure which has many therapeutic applications, and which can be used sometimes as a substitute for, and sometimes as an adjuvant to, craniectomy.

*The Physiological Action of Hypertonic Solutions.*

We owe to Weed the discovery that hypertonic solutions can be used to lower the intracranial pressure. Weed

\* Delivered to the South Middlesex Division of the British Medical Association.

injected intravenously into animals a concentrated solution of sodium chloride, and showed that a pronounced fall in the pressure of the spinal fluid occurred, and that if part of the skull were first removed shrinkage of the brain could be observed to follow the injection. Further investigations demonstrated the means by which these results were brought about. The intravenous injection of hypertonic solutions raises the osmotic tension of the blood, and so leads to the passage of water from the brain into the blood stream. There is an actual resorption of cerebro-spinal fluid, which passes up the perivascular spaces into the cerebral capillaries, and, according to some authorities, also passes back into the blood through the choroid plexuses. The result is a marked fall in the intracranial pressure. It was not long before other workers demonstrated that the same results could be achieved less directly by administering hypertonic solutions by way of the alimentary canal. These raise the osmotic tension of the blood by withdrawing water into the intestine.

#### *Modes of Administration.*

1. *Intravenous Injection.*—Intravenous injection is used when it is desired to lower the intracranial pressure as rapidly as possible. The most convenient hypertonic solution for intravenous use is a sterile solution of sodium chloride in distilled water. The maximal dose is 100 c.cm. of a 30 per cent. solution, and I have given this amount in certain conditions without ill effects. For most purposes, however, this is more than is necessary, and it is sufficient to give 70 to 100 c.cm. of a 15 per cent. solution, or half these amounts of a solution double the strength. Some workers employ concentrated solutions of glucose, for which certain advantages are claimed. It is said that after the intravenous injection of glucose the fall of intracranial pressure is slower and more sustained, and is less likely to be followed by a reactionary rise than after the use of sodium chloride. Moreover, glucose possesses nutritive value, and is of help in combating shock and acidosis. The maximal dose is 100 c.cm. of a 50 per cent. solution in normal saline. Whether sodium chloride or glucose solution is employed, it should be administered very slowly at a rate not exceeding 3 c.cm. a minute.

2. *Administration by the Mouth.*—To obtain comparable results by oral administration it is necessary to give large amounts either of sodium chloride or of magnesium sulphate. The dose of the former is 16 grams, given in 2-gram capsules with 80 c.cm. of water, and of the latter 3 ounces of a 50 per cent. solution. Oral administration possesses certain disadvantages, and I have not employed it to obtain a rapid reduction of intracranial pressure. Repeated doses of a half to one drachm of magnesium sulphate, however, may be given by the mouth when a mild continuous action is desirable.

3. *Rectal Administration.*—This is the most generally useful way of giving hypertonic solutions. The dose is 6 ounces of a 50 per cent. solution of magnesium sulphate, which should be run slowly into the rectum at body temperature. Unless it is retained for half an hour it will not produce its full effect and should be repeated an hour later.

Some points of importance in the use of hypertonic solutions must be mentioned. Since the method operates by dehydration the patient's intake of water must be restricted if the full effect is to be obtained. Solutions of magnesium sulphate should on no account be given intravenously, since, when administered by this route, they produce general anaesthesia and respiratory paralysis. The rectal injections, if repeated too frequently, may produce irritation of the rectum.

#### *Persistent Cerebral Contusion.*

We now come to the consideration of conditions which are amenable to treatment by means of hypertonic solutions. We owe to Trotter the recognition as a clinical entity of a condition which is perhaps best described as "persistent cerebral contusion." This is the result of a minor head injury—either a fall on the head which at the time gives rise to simple concussion or a localized injury not associated with loss of consciousness and produced by a

fall or a blow. Following such an accident a patient may develop a train of symptoms which are only too familiar, and which, since they are often extremely disabling, are of considerable medico-legal importance. The principal symptom is headache, which may not appear until the patient gets up, if he has been confined to bed following his injury. The headache is paroxysmal and is sometimes extremely severe. It is especially liable to be brought on by mental excitement, muscular exertion, and stooping—activities which often lead also to giddiness. The patient is usually nervous and irritable, and may develop a typical anxiety neurosis. There are as a rule no physical signs of a gross injury to the brain or of raised intracranial pressure, but in a considerable number of cases bradycardia is present. It is unusual for radiograms of the skull to show any abnormality.

The persistence of the symptoms, which may endure for months or years after the injury, is explained by reference to the pathology of the condition. A blow which does not fracture the skull may, owing to the elasticity of the calvarium, nevertheless produce a localized contusion of the brain. Such a contusion is characterized by the extravasation of blood and plasma from damaged vessels. Owing to the rigidity of the skull, the brain, as we have seen, can only swell at the expense of the cerebro-spinal fluid and the circulating blood. The localized area of oedema due to the contusion thus becomes surrounded by an area of impaired circulation, which prevents the removal of the exudate, a vicious circle being established which it is the object of treatment to break.

The prevention of persistent cerebral contusion is to be achieved only by the adequate treatment of the case in the early stages; but the method of treatment is the same whether the case is seen early or late. Rest is the first essential, and the patient should be absolutely confined to bed and not allowed to get up for any purpose. Hypertonic solutions are employed to lower the intracranial pressure and assist in the absorption of the exudate. In mild cases it may be sufficient to give half to one drachm doses of magnesium sulphate thrice daily by the mouth, and this may be usefully combined with 10 grains of potassium bromide. Intravenous injections of hypertonic saline, however, are more effective and should, if possible, be used in all cases. The usual dose is 100 c.cm. of 15 per cent. sodium chloride in distilled water, and this may be repeated in four or five days if necessary. In some cases one such injection is sufficient to free the patient from headache, and, since the treatment is curative, he may then be allowed to get up. If medical measures fail, a subtemporal decompression can usually be relied upon to relieve the symptoms, but it is hardly ever likely to be necessary if hypertonic solutions are given a fair trial. Early treatment of cerebral contusion is of great importance, since if the patient is given time to develop, in addition, an anxiety neurosis, he presents a much more difficult problem.

#### *Head Injuries in the Acute Stage.*

Cases of head injury in the acute stage present many difficulties, both of diagnosis and treatment, which can only be successfully met by the close co-operation of surgeon and neurologist. Hypertonic solutions are of definite value in treatment, whether or not operative intervention is undertaken. They can be used as an adjuvant to decompression to aid in the reduction of cerebral oedema. They may tide the patient over the difficult period when operation hangs in the balance, and so render decompression unnecessary; and they undoubtedly promote recovery and diminish the risk of sequelae in the milder cases of contusion and concussion in which operation is not indicated.

In all cases of severe injury the intravenous mode of administration should be used, and the glucose solution would seem to possess the advantage of combating acidosis and shock. Hypertonic solutions, however, should not be employed in any form if shock is profound, as indicated by low temperature and blood pressure, and a rapid or rising pulse rate. The treatment of head injuries by hypertonic solutions is the rational use of methods which in the form of free purgation with calomel and salines have been used empirically for many years.

*Intracranial Tumour.*

To explain how relief can be obtained by means of hypertonic solutions in cases of intracranial tumour it is necessary to give a brief account of the way in which a rise of intracranial pressure is brought about in this condition. We may recognize three factors which contribute to this result—the direct pressure of the tumour, the effect of the tumour upon the intracranial circulation, and the combination of both of these factors to produce internal hydrocephalus. It is easy to understand that the growth of a tumour within the brain raises the intracranial pressure in its immediate neighbourhood. In addition, by pressure upon surrounding veins, it raises the venous pressure locally, and in many cases throughout the whole cranial cavity. The local venous congestion leads to oedema of areas of brain surrounding the tumour, and so intensifies the local rise of pressure. The main causes of internal hydrocephalus in cases of intracranial tumour are obstruction to the free passage of fluid from the ventricles by the tumour, and the general rise of intracranial venous pressure, which leads to both increased formation and impaired absorption of cerebro-spinal fluid. Thus an intracranial tumour sets up a series of vicious circles whereby the intracranial pressure, once raised, tends to rise more and more.

The value of hypertonic solutions in cases of cerebral tumour lies in the fact that they break these vicious circles and permit a readjustment of the volumes of the intracranial contents which may last for a considerable time. This they do mainly by reducing the formation and increasing the absorption of cerebro-spinal fluid, and so temporarily relieving the hydrocephalus. The following are the chief indications for employing them.

1. *As an Aid to Diagnosis.*—Not uncommonly a patient with an intracranial tumour is in a semi-comatose condition when first seen, and is quite unable to co-operate in the examination of sensibility or the visual fields. In such cases two or three rectal injections of magnesium sulphate solution may be sufficient to restore the patient to consciousness and render a full examination possible.

2. *In Emergencies.*—If a patient with an intracranial tumour suddenly becomes comatose, as may occasionally happen after ventriculography or in other circumstances, an intravenous injection of hypertonic saline may reduce the intracranial pressure sufficiently long to permit operation to be performed.

3. *As Palliative Treatment.*—In inoperable cases or while a patient is awaiting operation it is often possible to relieve headaches and vomiting by giving magnesium sulphate either by the mouth or by the rectum.

*Cerebral Haemorrhage.*

Both Leonard Hill and Cushing showed a good many years ago that the injection of fluids under pressure into the subarachnoid space led to a rise of blood pressure. This response of the vasomotor centre to a rapid rise of intracranial pressure is responsible for yet another vicious circle in intracranial pathology. The majority of cerebral haemorrhages occur in patients whose blood pressure is already high, but the haemorrhage, by raising the intracranial pressure, tends to cause the blood pressure to rise still further, and this in turn favours the continuance of the bleeding, or may even result in further haemorrhages elsewhere. Thus a rising blood pressure in a patient with a cerebral haemorrhage may be taken to indicate that the bleeding is still continuing. On the strength of these facts it has been urged that venesection is contraindicated in cerebral haemorrhage, because the medulla is already threatened with anaemia, and to withdraw blood from circulation is to add to its difficulties. Those who hold this view advocate lumbar puncture as the correct treatment, since by this means the intracranial pressure can be directly reduced without restricting the blood supply to the medulla. When the intracranial pressure is lowered, it is said, the blood pressure will fall, and the bleeding is then likely to stop.

These arguments against venesection and in favour of lumbar puncture do not take account of all the circumstances. I have never seen benefit result from lumbar

puncture in a patient suffering from cerebral haemorrhage, and I believe it to be definitely contraindicated in such cases. There are two serious risks attaching to it. The fall of pressure in the spinal theca may lead either to the rupture of the haemorrhage into one of the ventricles or to the downward displacement of the contents of the posterior fossa into the foramen magnum, in either case with rapidly fatal results. Venesection, on the other hand, could hardly have enjoyed so enduring a reputation in the past as a mode of treatment of cerebral haemorrhage if its results were uniformly harmful. If it merely reduced the blood pressure without at the same time lowering the intracranial pressure it would clearly be a dangerous procedure. Actually, however, since the intracranial pressure is ultimately dependent on the blood pressure, a fall in the blood pressure leads to a reduction of the intracranial pressure. Moreover, a diminution in the volume of the circulating blood also leads to a fall of intracranial pressure. Hence the theoretical risk of increasing the medullary anaemia is compensated by the relief afforded by a lowered intracranial pressure. Further, we must place to the credit side of the transaction the tendency of the lowering of the blood pressure to check the haemorrhage, its relief of the strain upon the heart, and its influence in increasing the coagulability of the blood. Venesection is therefore a rational form of treatment for cerebral haemorrhage.

Hypertonic solutions have only a limited value in this condition. Intravenous injections are contraindicated as tending to raise the blood pressure, and it is doubtful if the rectal mode of administration can influence a haemorrhage which is still in progress. The rectal injections, however, may be of value as a means of reducing the intracranial pressure in patients in whom there is reason to believe that the haemorrhage has stopped but who show no signs of recovering consciousness. Free purgation reduces the intracranial pressure in exactly the same way as hypertonic solutions administered by the alimentary canal, and possesses the same physiological justification.

*Other Conditions.*

There are other conditions associated with increased intracranial pressure in the treatment of which hypertonic solutions are useful. In the post-operative treatment of cerebral abscess they may be used to reduce oedema of the brain around the abscess cavity, and so diminish a tendency to herniation and promote drainage. They are also of value for the relief of headache in epidemic encephalitis and meningitis. Other applications will suggest themselves, but enough has been said to show that Weed's discovery has rendered available therapeutic methods of the greatest value in diseases of the nervous system.

## EXPERIMENTS IN MALNUTRITION.\*

BY

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THE lines along which a diet may be inadequate so as to entail malnutrition are many. It may be insufficient in quantity or in quality. It may yield too little building material (protein mainly), too little fuel material (fats, carbohydrate, and surplus protein), or too little in the way of catalysts (mineral matter—for example, iron, iodine, calcium—and vitamins). The quality of the proteins may be poor—cereal proteins not having the biological value of meat or milk proteins. The diet may be inadequate because it has too little (or even perhaps too much) roughage, because the proportions between the different constituents are wrong, or because the way in which the food is presented is wrong.

It is clear from this that it is extremely difficult to work out experimentally the different possibilities of

\* A lecture delivered to the St. Pancras Division of the British Medical Association, November, 1927.

wrongness of diet. Only a few broad lines are to be illustrated here by experiments on animals. It is not maintained that all, or any, of them are directly applicable to the feeding of human beings. But they may point the way for observations to be made on human beings, and that is why they are now being offered.

1) Bread is an inadequate diet for a nursing mother rat

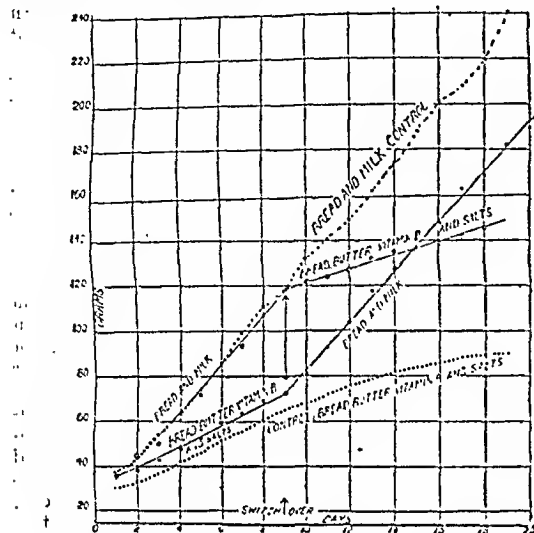


FIG. 1.—The growth rate of two sets of suckling rats when their mothers are on a poor diet (bread) and a good diet (bread and milk) respectively. At the ninth day, when the diets were changed in both cases—in one from good to poor and in the other from poor to good—a change in the rate of growth was almost immediate.

and her offspring during the nursing period. Fig. 1, for the data for which I am indebted to Dr. Gladys Hartwell, brings out the point very clearly. Suckling rats whose mothers are receiving bread grow at but half the rate of those whose mothers are on bread and milk. Moreover, there is an immediate response to a change in diet. Within twenty-four hours a change from a good to a bad diet, or from a bad to a good, shows up on the offspring's weight record.

Now the inadequacy of bread is not due mainly to its lack of vitamins A and D, to its poverty in vitamin B, nor to its lack of mineral matter. Young rats put on a diet of bread, mineral matter, butter, and marmite grow very slowly—approximately 1.42 grams per day. Such a diet is adequate as regards vitamins A, B, and D, and as regards salts. Others on a mixed diet grow at the rate of 4.7 grams per day, or about three and a quarter times as fast. (Figs. 2 and 3.) It may be that either the quantity or the quality

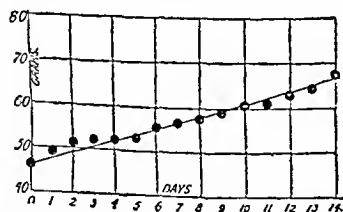


FIG. 2.—Slow growth on a diet of bread, salts, and materials to supply vitamins A, B, and D only (C is unnecessary for rats).

of the proteins is at fault. These possibilities can be tested (i) by adding gluten, the mixed proteins of white flour, and (ii) by adding an acknowledged first-class protein, such as casein, to a bread, salt, and vitamin diet, and observing the growth of the young. If the addition of gluten improves the growth (and it does—see Fig. 4), then bread is deficient in its protein content. If the addition of casein still further improves the growth rate (which is the case—see Fig. 5), then bread is deficient not only in the quantity but in the quality of its protein.

It is tempting to superimpose these four curves, as in

Fig. 6, so as to bring out more clearly the facts stated above, but scientifically it is not quite fair, because although the three upper growth rates were obtained from most carefully controlled material used simultaneously, the growth rate on bread alone was obtained the year before at a somewhat later date in the year and on stock slightly

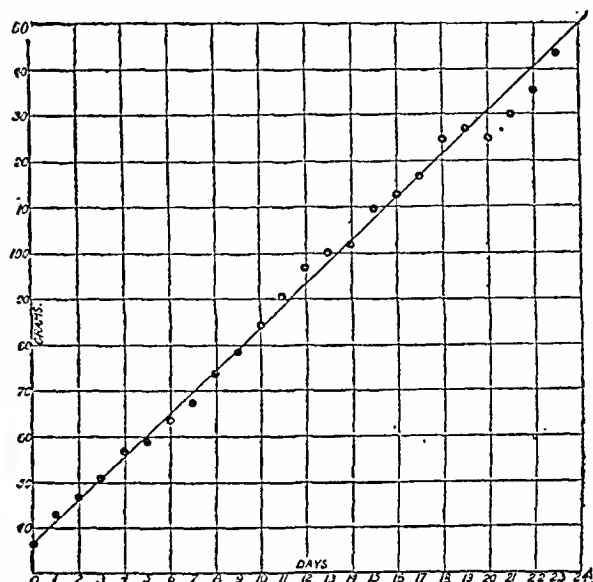


FIG. 3.—Maximal rate of growth on a mixed diet.

heavier. (The dotted line in Fig. 6 shows the actually observed growth rate.)

The inadequacy of bread is, apart from possible defects in vitamin and salt content, due both to the small quantity (8 to 10 per cent.) and poor quality of its protein. If this holds true for man—as is likely—there is nothing to be gained by using other wheat-flour foods such as macaroni, with its slightly higher proportion of gluten. What is needed is the addition of proteins which will “supplement” those of bread. Cereal proteins have but small amounts of lysine present in their molecules, while animal

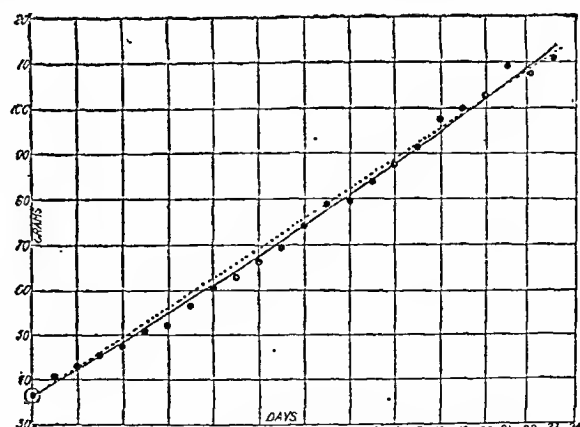


FIG. 4.—Growth rate on a diet of bread, salts, and vitamin containing materials to which extra protein from flour was added. (Compare Fig. 2.)

proteins, even gelatin, have relatively much larger amounts. Consequently, the addition of gelatin, which by itself is a useless protein,<sup>1,2</sup> to a wheat protein<sup>3</sup> or to bread<sup>4</sup> results in a mixture which has high food value. White bread supplemented with gelatin enables young rats to grow better than upon white bread plus gluten.<sup>4</sup>

The inadequacy of bread is shown not only in the growth rate of young animals, but in the deficiency of their coats. They become bald for a time, though they ultimately grow hair again. Their final coats on a bread diet are never



so thick as when the animals receive a control mixed diet. The fault lies with the low quantity of protein in the bread, for addition of extra gluten prevents the occurrence of baldness. So, too, do casein and gelatin; though addition of vitamin B does not.<sup>5</sup> An allied result is the paling of the pigmented areas of the animals' coats. Rapid growth with poverty of diet leads to greying of the hair, which darkens again very soon if satisfactory protein, such as casein, is supplied.<sup>6</sup>

A further interesting and significant fact is that the inadequacy of bread shows more clearly with males than with females. Normally the male rat is larger than the female, but upon an inadequate diet, such as bread, his growth rate is smaller. This is partly due to the nature of the protein, for if an animal protein is added to the diet the male regains his normal superiority, while if only gluten be added he does better than on bread alone, but only equals the female in weight. (It is interesting to note that gelatin supplements the proteins in bread in this respect too—the combination of two proteins, both poor, results in a pabulum which, if not quite first rate, is better than bread *plus* gluten.)

The extra growth of the male is dependent on another

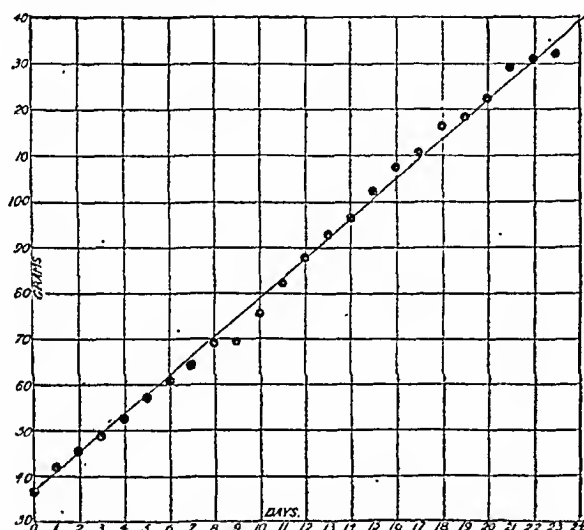


FIG. 5.—Growth rate on a diet of bread, salts, and vitamin containing materials to which casein from milk was added.

factor as well—vitamin B. The addition of a preparation from yeast containing no protein (though amino-acids are present) enables the male to resume his normal comparative stature.<sup>5</sup> Perhaps it is the co-operation of these two factors (better protein and more vitamin B) which accounts for the slightly improved growth when brown bread is used instead of white in experiments on malnutrition.

This raises at once the problem of the relative merits of brown and white breads. The main trouble of entering such a discussion is that the protagonists on each side have an odium for the other almost theological—a sure sign of the insecurity of the foundations of their beliefs.\*

There are some fundamental *ad hoc* experiments<sup>7</sup> on the relative values of brown and white bread which have rarely received attention from either party of combatants. Rats of highly stable stock were placed on a dietary of bread (white or brown), salt mixture, and water. The brown bread was baker's bread made from whole-meal from which a portion of the white flour had been removed—that is, it was "super" brown bread, and had more of the materials supplying vitamin B and protein than straight whole-meal bread. The experiments showed that white and brown breads are equally good—or perhaps we had better say equally bad—for the growth of female rats, for gestation and lactation. Only in the growth of the males was the brown bread superior. How bad they both were can be seen from the fact that males and females starting at about 40 grams would, on a normal diet, be well over

100 grams in weight at the end of four weeks, the females on brown or white bread weigh only about 55, the males on white 55 and on brown 70. Even the best grown animals on either bread grew at only half the rate of those on a mixed diet.

There is thus in these experiments little evidence except as to the badness of white and brown bread as the sole source of proteins and calories. The marked superiority of brown over white bread, claimed by its adherents, can be due only to its greater content of mineral matter—a point which the above experiments unfortunately do not settle. The results of the exclusive use of brown or white bread were so bad that it seemed not worth while to carry the experiments further.

The crying need at the present moment is for experiments comparable with those on the food value of milk carried out by Dr. Corry Mann<sup>8</sup> under the auspices of the Ministry of Health and the Medical Research Council. It will be remembered that in these experiments the boys in one of the houses of a charitable institution, all fed from the same central kitchen, received in addition to the normal

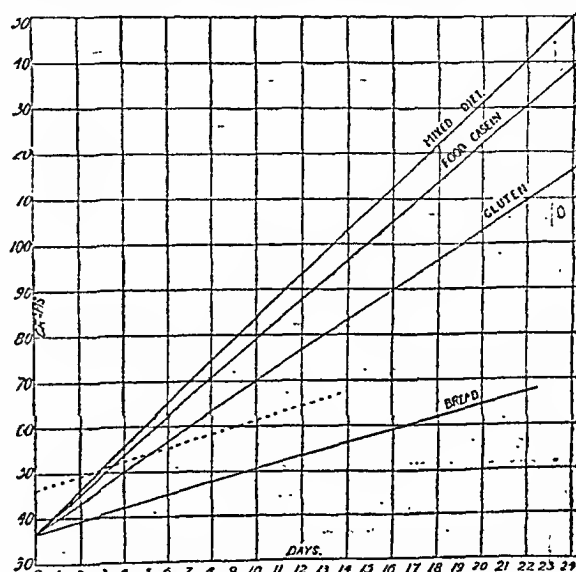


FIG. 6.—Superimposition of growth rates shown in Figs. 2 to 5. The actual growth rate on bread, salts, and vitamin containing materials is as shown on the dotted line.

diet one pint of milk per day. It would be easy, though somewhat costly, to carry out a similar experiment on the merits of brown bread in the feeding of growing boys. One house could have the white bread normally served substituted by brown bread, and the effects, if any, observed over a period of two or three years. Until such experiments have been carried out, and until they show a positive result, there seems no reason to act upon the advice of the enthusiasts for brown bread and compulsorily upset the dietetic habits of the nation.

A side issue of the experiments on malnutrition of the growing animal is, how long does it take for recovery? If the defective diet is given during the first half of the nursing period the answer is, not during the nursing period (see Fig. 1); if after weaning, recovery from its effects takes an unexpectedly long time.<sup>9</sup> Thus thirteen days' malnutrition, due to a deficit of quality and quantity of protein, but of nothing else, produces such a retardation of growth that it is seven weeks before the animals approximate in weight to the controls, though they receive a diet which promotes an optimal growth rate. In this human beings apparently behave very differently from the experimental pig rat: the results of five weeks' malnutrition may be obliterated in as little as six weeks. A possible reason for this difference is that a day is so much greater a percentage of a rat's life than of a human being's. Thirteen days is about one-tenth of a rat's growing period; five weeks, one two-hundredth of a child's.

It is not only in direct feeding of a young growing rat

\* See an acrimonious correspondence in the *Lancet*, November 26th and December 10th, 1927.

that the inadequacy of diet is made apparent. The same is true, as was stated above in the opening paragraph, during lactation. If the nursing mother rat has an inadequate diet it results at once in a slowing of the growth of the offspring.<sup>10</sup> A change in the diet from adequacy to inadequacy or vice versa results in a change in the rate of the growth of the young. (Fig. 1.) The problem at once arises: What is the best diet during the nursing period and after? As regards the brief period of nursing, bread and milk is the best yet investigated, and a mixed diet (kitchen scraps from the students' hostel) for the rest of the animal's existence. It is possible that a mixed diet would be equal to the bread and milk diet for the nursing period, but owing to technical difficulties

that has not yet been investigated. Fig. 7 shows the growth rates of suckling rats when their mothers are on different simple diets.<sup>11</sup> It will be noticed that bread and meat is nearly equal in value to bread alone, while bread alone, bread-and-butter, bread and dextrin are far behind. Meat alone gives a very poor growth, which may be due (1) to the impossibility of eating sufficient bulk of food, or (2) to the lack of balance between the excess of protein and the vitamin B in the diet (*vide infra*).

An attempt to improve the value of the diet of bread alone by adding a commercial protein led to a curious result which cannot be without significance in problems of human nutrition. When a mixture of one part by weight, or even less, of protein to three parts of bread is given, the young grow well for

about ten days and then begin to develop symptoms of a striking character.<sup>12</sup> There are violent tetanic spasms from time to time which leave the young animals exhausted. Should the diet be not at once changed there is a rapid loss in weight and the young die, whereas the mother is not markedly affected. She may lose weight, and if she does to any great extent the young are protected in part from disaster. Sometimes the fits are delayed till about the eighteenth day, when they are much more violent. The animal, in between the fits, walks on tiptoe, as though there were a permanent extensor spasm, and when the fits supervene dashes violently about the cage screaming, or rolls over in convulsions with the jaws locked in an open position. Death is the usual sequel. Fig. 8 shows the effect on growth rate when the symptoms come on early.

These results can be entirely avoided by giving large quantities of milk in the diet, and an extended investigation has fairly conclusively proved that it is the vitamin B content of the milk which obviates the trouble. Any preparation which contains vitamin B in considerable amount, such as marmite, juices of potato, tomato, or carrot, wheat germ extract, or soya bean extract, will prevent untoward happenings.<sup>13</sup> It has been shown that, to bring up offspring successfully, when there is much protein in the diet the nursing mother needs three to four times as much vitamin B as is necessary for growth and reproduction.<sup>14</sup> A tentative explanation,<sup>15</sup> once vigorously controverted<sup>16</sup> but now accepted,<sup>17</sup> is that vitamin B is essential as a catalyst for excessive protein metabolism.

That traces of such a condition should not make their appearance in the nursing of children is inconceivable, though up to the moment of this lecture we are unaware of any description of this. The old-fashioned but still common method of feeding the nursing mother on plenty of "strengthening food"—that is, a high protein diet—while cutting her off from vegetables and fruits, with the exception of the completely useless grape, is surely heading for trouble if nutritional work on animals has any bearing upon human nutrition. That they have such a bearing can hardly be denied, as work upon xerophthalmia (keratomalacia), beri-beri, scurvy, and rickets shows. It is true that results obtained upon animals under laboratory conditions of careful control have to be confirmed upon human beings under the much more difficult conditions of private practice, where the world is the laboratory and scientific controls are almost impossible. And sometimes the findings on human beings conflict with those of the laboratory,<sup>18</sup> though none the less the laboratory results must not be neglected. They may lead to the discovery of hitherto unrecognized symptoms of disease, may help to explain already known symptoms, and point the way to the prevention or cure of disease in human beings. It is in the hope that the results of the experiments upon nutrition briefly outlined above may be of value in clinical work that they are here presented.

#### Summary.

1. The inadequacy of bread as a diet is due mainly to the inadequacy of the quantity and quality of its protein.

2. Animal proteins, even gelatins, supplement the proteins of bread, and the mixture has a high biological value.

3. Males need more protein of high biological value and more vitamin B than females.

4. Both brown and white breads are, by themselves, poor articles of diet. There is as yet no direct evidence that in a mixed diet brown bread is superior to white.

5. There is strong evidence from animal work that for successful nursing of young the vitamin B content of the diet must be high.

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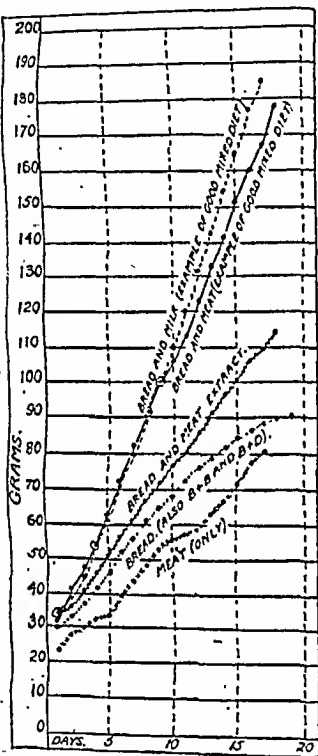


FIG. 7.—Growth rates of young when mothers are on different diets.

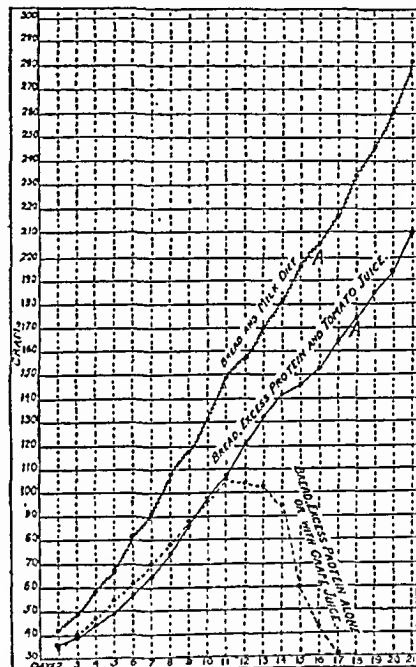


FIG. 8.—The effect of excess protein in the diet of a nursing mother on the offspring, and a method of counteracting it. The uppermost curve is a control curve with mothers on bread and milk. The curve which declines sharply after ten days records the weights of sucklings whose mothers have a diet of bread and excess of protein. The intermediate curve shows the effect of adding a source of vitamin B to the diet with excess of protein in it. It almost obliterates the evil effect of excess protein.

## Remarks

ON

## DISEASES OF FAULTY NUTRITION.\*

BY

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[AFTER observing that the functions of food were to rebuild the living tissues, to supply energy, and to preserve a proper medium in which the biochemical processes of the body could take place, Colonel McCarrison said that the failures of food to subserve these functions were brought about in a number of ways; that with which he would deal was the insufficient proportion of one or other of all three of the essential constituents of a diet—namely, suitable protein, inorganic salts, and vitamins. The first effect of such unsatisfactory foods was a low standard of physical efficiency; this prevailed in many parts of India, both in man and his domestic animals; minor manifestations of ill health might thus be produced which might escape observation, although, as Hopkins had said over twenty years ago, they "affect the health of individuals to a degree most important to themselves." In animals this subnormal nutrition was shown by loss of "condition," and by impairment of fertility and of the power to rear their young, which were prone to disease and had a high mortality. If the deficiency was more pronounced distinct disease was produced in man, such as keratomalacia, night-blindness, dental caries, polyneuritis, beri-beri, pellagra, scurvy, rickets, osteoporosis, slow healing of fractures, sterility, anaemias, some types of goitre, alimentary dystrophy, gastric atony, diarrhoea, constipation, intestinal stasis, colitis, unhealthy skin, disordered action of the adrenal glands, stone in the bladder, and vesical irritability. In domestic animals likewise there was a long list of disease conditions attributable to this cause; they were recognized by veterinarians to be due to deficiency in the diet, especially in mineral elements.]

The relation of malnutrition to disease had many aspects, and progress in its comprehension depended on the closest co-operation between students of human, of animal, and of plant nutrition. The fact that one of the most important means by which disease is brought about, both in man and animals, was by increasing susceptibility to infectious agents was illustrated by the following statement:]

During the past two and a half years 2,463 rats, living in my laboratories under conditions of perfect hygiene, have been fed on various faulty foods, while the daily average of control or well-fed stock rats was 865. The mortality in the ill-fed animals (excluding those that were killed on the conclusion of certain experiments) was 31.4 per cent., while in the well-fed animals it was less than 1 per cent. Of the former 13.5 per cent. died of lung diseases, chiefly pneumonia or broncho-pneumonia, while only 0.63 per cent. of the latter died from the same cause. Of the ill-fed animals 3.3 per cent. died of acute gastro-intestinal disease; of the well-fed only 0.09 per cent. During the same period 1,252 previously healthy pigeons were fed on various diets deficient in vitamins, the average number of stock or control well-fed birds being 331. Of the ill-fed birds 5.8 per cent. died of heart disease, chiefly pericarditis, while of the well-fed birds only 0.06 per cent. died from this cause; these figures being exclusive of 137 birds which developed true beri-beri with its accompanying heart disease. In the course of my own work I have seen true dysentery arise in ill-fed monkeys, while well-fed monkeys living in the same animal room escaped; and I have seen ill-fed pigeons become infected with *Bacillus suispestifer* and with the invisible virus of epithelioma contagiosum, while well-fed birds living in their immediate vicinity escaped these infections. The bacillus of mouse typhoid kills, on injection, over 90 per cent. of ill-fed mice, while it kills less than 10 per cent. of well-fed mice; the ill-fed mice are likewise less resistant to *B. pestis caviar* and to *botulinus* toxins. Birds are rendered susceptible to infection by anthrax when fed on food deficient in vitamin B, and rats to septic broncho-pneumonia when fed on food deficient in vitamin A; guinea-pigs, when fed on food deficient in vitamin C, die more readily from tuberculosis; ill-fed calves develop interstitial nephritis due to *B. coli* infection; swine suffer from tuberculosis, which can be eradicated from the herds by well-balanced vitamin-rich food; stock animals develop sarcosporidia from the same malnutritional cause. Man himself provides many examples of a like kind; I need but mention two: in northern Melanesia the native

diet has been shown to be deficient in suitable protein, mineral elements, and vitamins, and the poor physique of the native and their high death rate from respiratory and intestinal disease have been correlated with these deficiencies in the food; outbreak of broncho-pneumonia in children have been definitely traced to the inadequate ingestion of fat-soluble A, and have been caused to disappear by the adequate provision of this vitamin. There is good reason for the assumption that tuberculosis, leprosy, cholera, dysentery, plague, and malaria have often in India a malnutritional element in their genesis and course.

The following passages are taken from the concluding section of the paper.

Within recent years "the spectacular results which have attended the experimental study of vitamins have overshadowed much else in nutrition, both in the minds of the profession and the public" (Mendel, 1923). It may not be inappropriate, therefore, to refer to a class of disease which results from the lack of balance of various components of the food, each component in itself good. One example of the kind is afforded by the hyperplastic goitre which may result from an excess of butter in the food. The excess of butter, or of unsaturated fatty acid, causes thyroid hyperplasia by reason of the relative deficiency of iodine brought about by this excess; similarly, enlargements of the thyroid gland of the colloid type may be induced by an excess of lime; they are preventable by increasing the iodine ingested proportionately to this excess. Another example of much the same sort is that of stone in the bladder, which is brought about in rats by ill-balanced diets containing much oatmeal, whole-wheat flour, or white flour. To avoid "stone" the excess of these cereals must be compensated for by the consumption of appropriate amounts of milk. Those most excellent foods oatmeal and whole-wheat flour—the staple articles of diet of such vigorous races as the Scots and the Sikhs—may likewise prove harmful, by causing disturbance in the normal processes of calcification, when—but only when—the diets containing them are poor in vitamin D. These cereals are not in themselves complete foods; a fact of which the races using them as staple articles of diet are not wholly in ignorance—the Sikhs do not attempt to subsist on *atta* (whole-wheat flour) alone, nor the Scot on oatmeal. Any ill effect which these two foods may exercise is due to the failure suitably to combine them with other food materials which compensate for their defects. They are not to be condemned nor to be displaced from their prominent place in the dietaries of mankind for this reason. As well might we condemn the good fuel, petrol, for the overheating of the engines of our cars when we fail to supply them with sufficient oil, as to condemn the excellent wheat and oats when we fail to consume with them sufficient quantities of milk or other vitamin-rich foods, which are required by the human machine for its smooth and efficient running.

The same kind of misunderstanding surrounds the controversy which periodically rages over the relative values of white bread and bread made from whole-wheat flour. Both are excellent foods, though neither is a complete food; and since man requires a certain amount of suitable protein, of mineral salts, and of vitamins as well as of carbohydrates, the superiority of the one bread over the other, as the staple article of diet, lies in the extent to which it excels as a source of these essentials. Seeing, therefore, that white bread is notably more deficient in suitable protein, in vitamins (both A and B), and in certain essential salts, than bread made from whole-wheat flour, or, indeed, than any other single food entering into the dietaries of Western peoples—with the exception of sugars, starches, and fats which are marketed in the pure state (McCollum)—it is by this much the poorer foundation upon which to build a well-balanced diet. Those who can afford to build upon it, and who possess the requisite knowledge to build wisely, have little need to fear nutritional ailments, though their building is improvident, while those who cannot—and there are millions of such—are in grave danger of disease. Next, then, in importance to the quality of the various ingredients of our food is their right combination.

In experiments on rats I found that the well-balanced vitamin-rich diet of the Sikhs is superior to any synthetic diet I can devise, and to which vitamins in the form of yeast and cod-liver oil are added. I do not believe that human beings can have too much vitamins when they

\* Extracts from a paper opening a discussion on the subject at the seventh Congress of the Far Eastern Association of Tropical Medicine in Calcutta, December, 1927.

are taken in the form in which Nature provides them in well-balanced combinations of unsophisticated food materials. Some individuals appear to require more vitamins than others, size being an important factor in determining their requirements; some species of animals require more of a particular kind of vitamin than others; more are needed for reproduction than for growth, and more for optimum well-being than for the prevention of the named deficiency diseases; more are required by the lactating than by the non-lactating animal, and more for longevity than for a shorter life. The amount needed varies with the composition of the food, with its balance in other essentials, and with its digestibility; more of one vitamin is required when the food is very rich in another—as, for instance, more vitamin C when the food is rich in vitamin D; there is for optimum nutrition an ordered balance even amongst the vitamins themselves. In short, the amount of vitamins needed varies with the metabolic requirements of the individual; the attainment and maintenance of physical perfection, heavy work, reproduction, lactation, digestion, exposure to cold, infectious and debilitating diseases, are all indications for their liberal supply.

Before bringing this brief survey to an end I will refer to another aspect of the matter: the effect of vitamin deficiency in increasing the susceptibility to certain poisons, which the work of Smith, McClosky, and Hendrick has recently brought into prominence. Deficiency of vitamin A increases the susceptibility of mice to *botulinus* toxin, and also their susceptibility to mercuric chloride. Deficiency of the same vitamin induces in rats an enormously increased susceptibility to morphine, to ergotoxine, and, in lesser degree, to histamine. Deficiency of vitamin B like-

wise increases greatly the susceptibility of rats to ergotoxine and to pilocarpine. Stimulants of the central nervous system are all more toxic to rats receiving too little vitamin A than to well-fed animals.

Observations of this kind suggest that the ability of the tissues to detoxify certain poisons—both bacterial and other—is reduced by diets deficient in vitamins; while indicating that such diets increase the sensitivity of the nervous system and of its autonomic division to toxic agents. Not only may this be so, but the disturbances of metabolism which result from vitamin insufficiency may themselves give rise to toxic metabolites which exercise specific effects on certain organs and tissues of the body. This I believe to be the case in beri-beri. Most of us will probably agree that there is such a thing as a specific beri-beri-producing poison, though disagreeing as to whether it be produced in rice before this food is ingested, or in the intestine by some bacterial agent introduced with rice, or in the course of a disordered metabolism arising out of vitamin insufficiency. Our disagreements will not greatly matter so long as we recognize the prime importance of a sufficiency of the antineuritic fraction of vitamin B in preventing beri-beri.

The newer knowledge of nutrition is, I am convinced, the greatest advance in medical science since the days of Lister. When physicians, medical officers of health, and the lay public learn to apply the principles which this newer knowledge has to impart, when they know what malnutrition means, when they look upon it as they now look upon sepsis, and learn to avoid the one as much as they now avoid the other, then will this knowledge do for medicine what asepsis has done for surgery.

## PERNICIOUS ANAEMIA TREATED WITH LIVER DIET.

BY

F. A. PHILLIPS, M.D., B.Ch.CANTAB.

THE following case appears to be of some interest in view of the severity of the symptoms, the age of the patient, and the rapidity of the improvement with liver diet after a prolonged course of arsenic had failed to produce appreciable alteration in the blood count.

A widow, aged 68, had had no severe illness, though always delicate. She had undergone hysterectomy (with 2 double ovariectomy) at the age of 35, and had taken 1½ grains of thyroid extract daily for fourteen years for myxoedema. Her husband died three years ago; she had a "nervous breakdown" two years later, and was put on tablets of iron, arsenic, and strychnine for anaemia; these she took on and off until January, 1926.

In July, 1926, numbness and tingling of both feet with oedema occurred, and gradually extended up the legs. In January, 1927, she presented a very definite yellow tinge, complained of morning nausea, severe yellow-coloured diarrhoea, weakness, and breathlessness. The lips and mucous membranes were pale.

A blood count done by the Laboratories of Pathology and Public Health on November 12th, 1926, was as follows:

Red cells ...	1,670,000	Small mononuclears ...	39 per cent.
White cells ...	7,000	Polymorphonuclears ...	53 "
Haemoglobin ...	45 per cent.	Large mononuclears ...	6 "
Colour index ...	1.36	Eosinophils ...	2 "

Poikilocytosis markedly present.  
Anisocytosis and polychromasia present.

The blood pressure was 162/62. The heart and lungs were normal, the reflexes slightly exaggerated. There were no retinal haemorrhages. The urine was normal in colour and contained no albumin or sugar.

The removal, in January, 1927, of septic lower incisor teeth and a septic molar was followed by temporary improvement in her clinical condition. In April she had an attack of cystitis which necessitated treatment for ten days.

From May to September, 1927, she was taking arsenious acid tablets (gr. 1/20 twice daily after food), but although the clinical condition had improved somewhat, a blood count done on September 10th by the same pathologists showed no improvement.

Red cells ...	1,670,000	Small mononuclears ...	43 per cent.
White cells ...	2,500	Large mononuclears ...	45 "
Haemoglobin ...	45 per cent.	Polymorphs ...	50 "
Colour index ...	1.30	Eosinophils ...	1 "
		Mast cells ...	1 "

The red cells showed moderate variations in size, large average size; there was moderate poikilocytosis, slight polychromasia, and no abnormal white cells.

She was first seen by me on September 20th, 1927, and was then very yellow, weak, and breathless on exertion; she complained of palpitation, sore tongue, cructations after food, and tingling and numbness of the feet. The tongue was "beefy," dark red, and tender, the lips and mucous membranes pallid. There was a slight systolic murmur at the apex. There was no oedema of the feet, but cutaneous anaesthesia, both epieritic and protopathic, of both feet and legs up to the thigh. Heat and cold were well appreciated. The knee-jerks and ankle-jerks were normal, the plantar reflexes flexor; the skin over the feet was dry and atrophic. Vibration was appreciated in the tibiae.

A blood count by Dr. J. Bamforth of St. Thomas's Hospital, on October 11th, was as follows:

Total red cells ...	1,910,000	Polymorphs ...	38 per cent.
Total leucocytes ...	2,030	Small lymphocytes ...	44 "
Haemoglobin ...	42 per cent.	Large lymphocytes ...	8 "
Colour index ...	1.1	Eosinophils ...	2 "
		Large hyalines ...	7 "

There was much poikilocytosis and anisocytosis. Punctate basophilia was present; megakaryoblasts found. The blood count corresponded in all particulars with that of a true pernicious anaemia.

For a fortnight before the taking of this blood count the patient had been so weak and ill, and complained so bitterly of persistent diarrhoea, that the arsenic had been suspended and she was having only dilute hydrochloric acid (m xv three daily). She was then extremely weak and ill, and was only capable of leaving a sofa for meals, which was a necessity.

On October 11th a diet containing 7 oz. of calf's liver per diem was given, partly as raw sieved pulp and partly as cooked liver. The raw liver (4 oz. sieved weight) was given mixed with half a cupful of orange juice with water added, and taken at 11 a.m.; the cooked (3½ oz. fried) liver was taken as the evening meal with a rasber of bacon. Fresh fruit and vegetables were recommended and fats other than the bacon and butter were forbidden. Ostelin tablets (one thrice daily after food) were prescribed, the rest of the diet being to taste. At the end of a fortnight from the commencement of treatment improvement became evident. The lips were redder and the yellow tint paled. She was then able to walk freely about the room. Diarrhoea ceased, and she has since continued to improve. The cheeks are now no longer pallid.

On November 22nd a further blood count by Dr. Bamforth gave the following result:

Total red cells ...	5,580,000	Polymorphs ...	68 per cent.
Total leucocytes ...	7,200	Small lymphocytes ...	17 "
Haemoglobin ...	72 per cent.	Large lymphocytes ...	2 "
Colour index ...	0.65	Large hyalines ...	4 "
		Eosinophils ...	8 "
		Mast cells ...	1 "

No poikilocytosis or anisocytosis.

At present (December 2nd, 1927) the patient is apparently in good health, though thin; her appetite is not good, the lips and mucous membranes are no longer pale, the lemon tint has almost entirely disappeared.

She still complains of a feeling of breathlessness, but this was a feature of the "nervous breakdown" two years ago. Anaesthesia to pinprick is still present, but is patchy in distribution. Epieritic sensibility appears to show definite improvement. The feet are bluish in colour and the skin is dry and atrophic; numbness, tingling, and coldness of the feet are still complained of, though less so. Knee-jerks and ankle-jerks are present and equal; the plantar reflex is flexor. No retinal haemorrhages can be found.

She is now permitted to replace one portion of the liver with underdone steak or kidneys on three days a week, and, oddly enough, prefers to replace the cooked portion rather than the raw. The raw liver can also be conveniently given in sandwiches or in a jelly, which can be flavoured to taste with bovril, lemon, etc.

It is, of course, too early to make any claim to permanent effect, but the rapidity of improvement appears to be remarkable in a patient of this age.

My thanks are due to Dr. H. M. McCrea for his kindness in giving me full particulars of the patient's past history and treatment, and to Dr. J. Banforth for the blood counts.

## THE THYROID AND MANGANESE TREATMENT.

A SUGGESTION WITH REGARD TO ITS POSSIBLE MODE OF ACTION.

BY

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NEARLY three years have elapsed since this treatment was promulgated; it has been widely and successfully practised, and the time seems to have arrived for a tentative investigation as to its possible mode of action. Some good will have been gained if such an inquiry helps to dispel certain views which are quite misleading. For example, the reports of acute pneumonia being rapidly cured by rectal injections of a solution of potassium permanganate have led some to disagree with the title of the treatment and suggest that the thyroid substance may be unnecessary, the possibility being overlooked that, by using potassium permanganate in the way we do, the thyroid gland may be relieved of its load and be allowed to function normally. Yet this was clearly foreshadowed in a paper in this JOURNAL in 1925 (vol. i, p. 443), where, under the heading of "goitre," the following results of treatment were given.

**Parenchymatous Goitre.**—Four cases are reported to have quickly responded to the treatment, two of them without the use of thyroid extract. One is inclined to relapse, unless she keeps up the treatment occasionally.

**Exophthalmic Goitre.**—Three mild cases find themselves very much better, with increased weight, and diminution of symptoms, after a few weeks' to a few months' treatment. Two advanced cases describe themselves as "less nervy," and the swelling of the neck has diminished in size. One case of enlarged thyroid gland is reported as having been on the point of having the operation of thyroidectomy, but shortly after the treatment was used operation became unnecessary. In another very severe case no relief at all was obtained after five weeks' continuous treatment, with injections.

Since then nothing has been more obvious to numerous observers than the satisfactory reduction in the size of goitres, so that, whether the thyroid substance is produced by the individual directly, or whether it is necessary to administer it where greater inefficiency exists, the treatment need not be looked upon as incorrectly named.

Some have loosely ascribed its action to the liberated oxygen, without explaining how this occurs. That it cannot be due entirely to oxygen seems quite certain, or why should we not get similar good results from the use of sodium permanganate?

### Basic Principles Underlying Treatment.

In this paper it is suggested that an increase of oxidative processes in the tissues and fluids of the body is produced by the interaction of manganese, potassium, thyroid gland substance, and the liberated oxygen derived from the permanganate on reduction. In support of this hypothesis, the more recently acquired knowledge of the elements comprising the combination will be considered in conjunction with the accepted laws of oxidation. An argu-

ment will be adduced tending to show that a reinforced catalytic action must be set up in the blood and cells of the organism by which firmly established metabolites are expelled, to the relief of the autonomic nervous system and the internal secreting glands.

As biology teaches that life itself depends upon oxidation, so also biochemistry has taught that, when oxidation is incomplete or hampered, disordered function results; and as this is the very core of our subject, oxidation will be considered first.

### Oxidation.

Bayliss summarizes oxidation as follows:

"Oxidation in the tissues is due to the presence therein in the first place of an organic substance which is readily oxidizable by molecular oxygen. A part of the energy set free in this process is made use of to form from other molecules of the substance an unstable peroxide. Benzaldehyde undergoing oxidation in air is an instance of such reaction. The analogous substance present in cells corresponds to what was originally called by Bach an 'oxygenase,' because it is by its means that molecular oxygen is activated. This activation is produced by the agency of an enzyme, peroxidase, which is a colloidal hydroxide of iron or manganese, kept active, or protected from precipitation or aggregation, by a stable or hydrophile colloid. This enzyme decomposes the peroxide with the liberation of 'active' oxygen, with its powerful oxidizing properties. We are still in ignorance as to what this form of oxygen is, but there seems to be much evidence to show that electrical forces play an important part."—W. M. Bayliss: *The Nature of Enzyme Action*. Fourth edition, 1919, p. 158.

This quotation reminds us that both manganese and iron must be present in the tissues before complete oxidation processes can take place. Now, if some people are not obtaining a sufficiency of either of these two essentials to oxidation, the fact that the consumption of meat has increased so much among Western peoples in the last few years would suggest that it is not the iron content of the food which is at fault.

### Potassium.

Mathews of Chicago, who established the prime importance of potassium in the chemistry of the cell, writes:

"Another substance which is in some way concerned in the respiration of the cell is the element potassium. It has been found that in the presence of potassium hydrate, phloroglucin and similar substances undergo oxidation better than with the equivalent amount of sodium hydrate. This indicates that the potassium salt is more easily oxidized than the sodium. There must be some reason for the preference cells have for potassium over sodium. A general richness of potassium in cells of widely different character indicates that this element must be concerned with some fundamental process or condition in the cell, and it is possible that that process is respiration. But just why it is favourable, or what its real function is, it is impossible to state."—A. P. Mathews: *General Cytology*, Chicago, 1924, p. 55.

This, then, may account for the moderate success with the sodium salt.

### Manganese.

Manganese has been shown by Bayliss to be essential to oxidative processes; it is found in the ash of all enzymes, and is a most potent catalytic agent. It increases antibody formation.<sup>1</sup> It is essential to growth, not only to the body generally, but to the thyroid gland.<sup>2</sup> Manganese exists in deficient quantity in white flour; wholemeal flour is rich in it.<sup>3</sup> Artificial enzymes have been produced with alkaline solutions of manganese in gum arabic (Bertrand's "laccase").<sup>4</sup>

For some time it was hard to conceive how manganese entered the blood stream, seeing that it exists after reduction as the insoluble salt  $Mn_2O_3$ . But it has been suggested that it probably forms a laccase with the mucus of the bowel or stomach, taking the place of Bertrand's gum arabic, and enters the blood stream as colloids do.

### The Thyroid Gland.

The following appear to be the chief points in the later knowledge of this gland which are applicable to this subject.

1. The thyroid gland is generally considered to be the chief activator of oxidative processes, and is now given pride of place in the control of the endocrine system.

2. It is intimately concerned in regulating growth, and is profoundly affected by insufficiency in the food of growth-promoting factors of all kinds.



3. It is susceptible to toxic action even when the diet is not at fault, but more so when the diet is wrongly balanced.

4. When affected by toxins or ill-balanced diets it is so handicapped in its work as to be rendered physiologically subnormal and still more susceptible to toxic action.

5. It accordingly attempts a compensatory hypertrophy, sometimes succeeding, more often failing, and suffers from the usual effects of overstrain (that is, diffuse fibrosis), which induces a state of hypothyroidism (probably unregistrable by basal metabolic rate methods), of which the clinical signs may be so slight that they are only rendered apparent by the effects of thyroid therapy.

The last four paragraphs contain the gist of McCarrison's important paper (*Lancet*, April 30th, 1927, p. 916), in which he announced the origination of a new type of goitre in rats; by giving them diets resembling the average diet of Western nations he has caused serious changes to occur in their thyroid glands. Such an achievement may have widespread consequences, for human beings may be similarly affected. Need we wonder at so many women having unsymmetrical necks, and need we be surprised if thyroid therapy is found useful to a far-reaching degree?

This completes a short setting out of the basic principles which seem to underly this treatment. We have oxygen present in a form which may have great potentialities. Potassium is there to help the cellular interchange with a quickening of oxidative processes. Manganese, which is deficient in the modern human body, and which is indispensable for oxidation, is supplied in quantity and carries with it other necessary properties. Lastly, we have thyroid substance with all that it stands for to a generation which apparently is suffering from incipient hypothyroidism.

Here, then, is a formidable array of oxidizing agents, the combined action of which is likely to result in reinforced oxidative processes. This action might be compared to the fire on the domestic hearth, by substituting potassium for the paper, manganese for the wood, metabolites for the coal, and thyroid substance for the bellows. The potassium, or paper, sets up combustion; the manganese, or wood,

conveys the heat to the metabolites, or coal; if insufficient oxygen is present, or if the coal is of the foreign or "out-crop" quality familiar to all of us during the coal strike, the bellows, or thyroid substance, may be required before the whole of the material is consumed.

#### CONCLUSION.

It is the opinion of many who have used this treatment extensively—heightened in the case of those who know what has been effected during the last two years in certain farms where domestic animals suffering from sepsis have been treated on like principles—that when these drugs are combined in their action oxidative processes are greatly increased, with the following effects, though not necessarily always in this sequence.

1. Rapid reduction of infective agents and of toxic products in the blood and tissues.

2. This is followed by a lessening of the load on the thyroid gland, which quickly, or slowly, returns to its normal action according to the degree of injury it may have received.

3. The continued administration of thyroid substance provides for any deficiency of supply of thyroxine when the gland is seriously injured.

4. A purer blood supply also eases the strain on the other internal secreting organs, and more normal secretions are prepared. Where hormones of good quality have been secreted, or where vitamins in good quantity have been ingested, only to be neutralized by toxic products in the blood, this waste is quickly lessened or ceases altogether.

5. By the removal of the condition of nerve-block, conceivably brought about by organic compounds just as selective in their action, perhaps, as are the drugs atropine, digitalis, and aconite, the delicate balance of the autonomic nervous system is restored in so far as degenerative changes will allow.

#### REFERENCES.

<sup>1</sup> Walbum and Morsh: *Ann. de l'Inst. Pasteur*, 37, 1923, 396. <sup>2</sup> R. McCarrison: *Indian Med. Research Journ.*, January, 1927. <sup>3</sup> *Ibidem*: *Lancet*, April 30th, 1927, p. 916. <sup>4</sup> Bayliss: *Principles of General Physiology*, 1923, p. 585.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### PLACENTA PRAEVIA IN FOUR SUCCESSIVE PREGNANCIES.

THE following notes seem to be of sufficient interest to warrant publication.

In March, 1920, I was urgently summoned to an agricultural labourer's wife. I found that she was six months pregnant and had lost a large quantity of blood. She was very blanched, with a small, rapid pulse, and was very faint, but quite conscious. Examination showed a central placenta praevia with a lax os the size of a five-shilling piece. A little chloroform was at once administered, the hand put into the vagina, and in a couple of minutes the os was digitally expanded sufficiently to allow the edge of the placenta to be reached. The placenta was pushed aside, forceps put on, and the child delivered.

The next time I saw this woman was in response to an urgent summons in May, 1922. I found exactly the same state of affairs save that she was now seven months pregnant. I acted exactly as before, with the same result.

In April, 1923, there came another urgent summons; everything was as on the previous occasions save that she was eight months pregnant. I acted as before, and with the same result.

I next heard from her about the middle of November, 1927. She told me that she was expecting to be confined early in December, and asked if I would attend her; she had never troubled to engage me on the other occasions. I wrote saying that I would much prefer not to, and heard no more. On December 9th, however, I got an urgent message at 8 a.m. that she had lost a lot of blood, more than ever before. I went at once, and found her blanched and fainting; the os was about the size of half a crown. I plugged the vagina very tightly, put on a tight binder, and took her in my car to the maternity ward of the local hospital. She appeared to lose little after this, and two hours after admission I was able to do as on the three previous occasions.

The woman is now 40 years of age; her first placenta praevia was her tenth pregnancy. The durations of the

pregnancies were six, seven, eight, and nine months respectively; all the infants were dead. The question of performing a Caesarean section never really arose save perhaps in the last pregnancy, but if she again becomes pregnant, and information is given in time, section with removal of the uterus would probably be the best plan. I am aware that the classical method is to turn and bring down a leg, but in this woman's case, and in that of two other multiparae with central placenta praevia who were unconscious when first seen, and in whom the placenta was torn through centrally, and the forceps applied, it appeared to me that less blood would be lost by the method used than if turning were performed.

I realize that I have been very fortunate in not having to deal with severe haemorrhage with an undilated os.

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Shorborne, Dorset.

#### THE FORGOTTEN SWAB.

THE subject of this note is the first surgeon's swab as the second surgeon sees it. Case I gives an excellent example of the powers of the body in walling off a foreign body in the abdomen. Case II is perhaps unique, and I should be interested to hear if a similar case has been reported.

##### CASE I.

A married woman, aged 34, was admitted to hospital in May, 1926. Three days before admission she was seized with sudden acute pain in the lower part of the back, and a diagnosis of acute lumbago was made. She had been operated on in Calcutta a year previously for a ruptured ectopic gestation. There was no other history of note. On examination there was found a fixed, fluctuant, tender swelling arising out of the pelvis; per vaginam the same swelling could be felt and its fixity and fluid nature could more easily be demonstrated.

*Operation.*—The abdomen was opened by a right paramedian incision below the umbilicus, and a cyst the size of a grape fruit was found fixed in the pelvis; it extended upwards and was

attached to the promontory of the sacrum and fifth lumbar vertebra. The swelling was covered anteriorly by adherent omentum. The omentum was divided at the upper limit, and it was then seen that the lower aspect of the cyst was adherent to the upper surface of the bladder, and that two coils of small intestine were lying parallel across and adherent to the upper surface of the cyst. These adherent viscera were carefully stripped off and the cyst was then separated from its adhesion posteriorly to the peritoneum covering the posterior abdominal wall. The cyst was removed intact. The pelvis was drained and the wound closed after considerable difficulty in dealing with oozing from the bare areas of separated viscera. On opening the cyst it was found to be filled with thick yellow pus, and floating free was a large gauze swab measuring 8 by 6 inches. There was a perfect fibrous wall to the cyst. The patient made an uninterrupted recovery.

## CASE II.

A man, aged 27, admitted in December, 1927, had been kicked in the abdomen four years previously while playing football, and was operated on the same day in a hospital in the North of England for a ruptured spleen. For four days previous to admission to this hospital he had recurring attacks of colic, becoming more severe and associated with vomiting of increasing severity and frequency. On examination there was tenderness below and to the left of the umbilicus, and an indefinite soft mass was felt. During an attack of colic visible peristalsis was present. He vomited dark brown, foul-smelling fluid once after admission. There was no distension, but a small amount of free fluid in the abdomen. The diagnosis of a high obstruction in the jejunum was made, and he was operated on the same evening.

*Operation.*—A left paramedian incision below the umbilicus disclosed free clear fluid in the peritoneal cavity. Lying among coils of collapsed small intestine was a dusky red dilated coil of jejunum; this was delivered and found to contain a foreign body extending 6 inches along its lumen, and movable up and down the lumen. The loop was traced upwards for 9 inches and there found to be adherent over a considerable area to a fibrous nodular mass in the left hypochondrium. The intestine was incised and the foreign body removed; it was found to be a rolled-up gauze swab several layers thick, and when spread out measured 12 by 8 inches. The intestine was sutured and the wound closed. Recovery has been uninterrupted.

Presumably the mass in the left hypochondrium was inflammatory in nature, and was the former site of the swab, which had ulcerated through into a coil of small intestine forming part of the wall of the cavity walling it off. The swab had then been gradually drawn into the lumen by peristalsis and eventually rolled up till it was of sufficient diameter to cause symptoms of obstruction.

In conclusion it is interesting to note:

1. Both operations were acute emergencies.
2. Both swabs were very large.
3. Neither of the swabs was provided with a tape.
4. There may be a great deal in favour of the method of incorporating in every swab a small disc of lead, and a routine x-ray examination of every abdomen before the patient's discharge.
5. It is conceivable in the case of a small swab that the patient may be fortunate enough to pass it per anum.

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## A LUBRICANT FOR APPLYING ZINC IONIZATION TO THE MALE URETHRA.

In the treatment of certain non-specific forms of anterior urethritis we were confronted with the difficulty of finding a suitable lubricant (without which the electrode cannot be introduced) which would not impede the passage of the current or the zinc ions from the positive zinc intraurethral electrode to the urethral mucous membrane.

Experiment by one of us (B. B. S.) showed that liquid paraffin and vegetable oils, such as olive oil, did not conduct. Trial with a lubricant of glycerin and mucilage of gum tragacanth with phenol 3 per cent. as a preservative demonstrated that a strong current was required to overcome the resistance. Therefore one of us (C. F. O. W.) tried the conducting powers of each of the constituents of the above lubricant.

Taking a 1 per cent. solution of sodium chloride as a standard, and with the indicator of the instrument at a fixed mark, the galvanometer recorded 10 milliamps. With the original lubricant only 4 milliamps was recorded; with the gum tragacanth mucilage 6 milliamps; with the phenol 3 per cent. solution 8 milliamps; with the glycerin no current at all passed. The glycerin was therefore omitted, and 1 per cent. zinc sulphate added so that the zinc ion in

the lubricant would add to the germicidal action, the final composition being:

Phenol	...	...	...	3% (gr. 131)
Gum tragacanth	...	...	...	2.5% (1/4 oz.)
Zinc sulphate	...	...	...	1%
Aqua destillata	...	...	ad 100	(10 oz.)

This lubricant proved satisfactory, and it was found that the galvanometer now recorded 8 milliamps passing through the solution, and we consider that with this solution no buffer action can take place.

We are indebted to Mr. Randolph, dispenser at the Royal Northern Hospital, for preparing the various trial substances and the final solution selected.

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## Reports of Societies.

## PULMONARY AND GASTRO-INTESTINAL SEQUELS OF NASO-ORAL SEPSIS.

THE Sections of Laryngology, Medicine, and Odontology of the Royal Society of Medicine held a joint discussion on January 11th, with Mr. HAROLD BALMER, president of the first-named Section, in the chair, the subject being the influence of naso-oral sepsis on the lungs and gastro-intestinal tract.

Mr. EDWARD D. D. DAVIS, who opened for the Section of Laryngology, said that nasal sepsis could influence the lungs or lower respiratory tract: (1) by direct extension of the inflammation to the larynx, trachea, and bronchi, or infection through the blood and lymphatic streams; (2) by aggravating or increasing an existing pulmonary lesion; and (3) by being part of a general infection in which both the upper and the lower respiratory tract were involved. In 100 of his cases of nasal sinus suppuration the infection was confined to the nose in 90; the other patients had bronchitis, asthma, lung abscess, bronchiectasis, or a gastro-intestinal condition. Of 474 cases of definite pulmonary tuberculosis which he had examined as laryngologist at Mount Vernon Hospital he had found to his surprise that only five showed nasal sinus suppuration. A chronic nasal sinus suppuration should be regarded, he thought, as a potential chest case, and general measures similar to those for tuberculosis should be added to local treatment of the nose. Cases of gastro-intestinal infection arising from the nose had been rare in his experience. This was all the more surprising when it was remembered what large quantities of purulent discharge from the nose were constantly being swallowed, yet these patients did not complain of sickness, gastric pain, diarrhoea, or symptoms arising from infection of the gastro-intestinal tract. Loss of appetite and general malaise in such patients were considered to be due to the toxic effects of the suppuration. But cases of duodenal or gastric ulcer had been known to coexist with nasal sinus suppuration, and a marked improvement in the symptoms had resulted after treatment of the nose.

Mr. G. A. S. RIMOUT quoted cases of children with general debility and bronchial signs, but no tubercle bacilli were found; these patients invariably had enlarged and obviously infected tonsils and adenoids, generally marked dental caries, and very often definite infection of the antra of Highmore. The cases illustrated the need that every tuberculosis clinic should have a consultant laryngologist and otologist. The same necessity for team work was shown in regard to the relation of gastric ulcer to nasal and oral sepsis. The speaker had constantly noticed the association of oral sepsis with gastric conditions such as ulcer and carcinoma, and more especially pharyngeal and oesophageal carcinoma. It would seem that a preliminary condition, the result of naso-oral sepsis, preceded the establishment of gastric or duodenal ulcer, innocent or malignant, and the aid of the laryngologist might be all-important. Many patients complained of vague gastric discomfort, dyspepsia, and general malaise,

and on examination very severe tonsillar sepsis, combined with nasal sinusitis, was found; the symptoms cleared up after treatment of these conditions. He also emphasized the point that those who devoted themselves to diseases of the ear, throat, and nose should be careful to obtain from their patients a definite past history of any other inflammatory troubles, such as gastric ulcers and appendicitis, since such histories would probably show a close connexion between these conditions and naso-oral sepsis.

Dr. R. A. Young said that the chief conditions which had to be considered in that discussion were of streptococcal origin. There were six ways in which local septic disease in the mouth, nose, and pharynx might affect the respiratory mechanism: (1) direct spread of infection along mucous or submucous tissues; (2) mechanically by nasal obstruction; (3) inhalation of septic organisms from nose or mouth might lead to infective conditions of the bronchi or lungs; (4) the effects of the altered blood and immunity conditions induced by the absorption of toxic products from the local disease areas; (5) naso-oral sepsis leading to septicaemia or to infective endocarditis, in which case the lungs naturally became affected directly or indirectly; (6) the production of painful fibrositis of the muscles of the thoracic wall, leading to pleurodynia. There could be no doubt, Dr. Young continued, that laryngitis, tracheitis, and bronchitis might be caused, aggravated, or rendered chronic by nasal obstruction and nasal sepsis. The part played by disease of the nose in the genesis of asthma was a definite one, though it might be easily exaggerated. The fundamental condition in asthma was, no doubt, the abnormal sensitiveness of the bronchial nervous system. The nose was frequently one of the triggers which discharged the paroxysm, though not always the most important. The most obvious disease of the lungs influenced by naso-oral sepsis was ingestion or inhalation pneumonia. In lobar pneumonia and bronchopneumonia it was difficult to resist the conclusion that septic processes about the mouth and nose were likely to increase the severity of the condition and to promote the development of secondary or septic complications. Abscess and gangrene of the lungs were so often the result of septic processes that it was difficult not to regard naso-oral sepsis as taking some part in their development in many cases, while its importance in pulmonary tuberculosis was now well recognized. Diseases of the pleura were so generally secondary to pulmonary conditions that it would be difficult to establish any direct influence of naso-oral disease upon septic conditions of the pleura.

Dr. T. IZON BENNETT believed that the opinion of the majority of those who had been particularly interested in gastric and intestinal disease during recent years was that the swallowing of bacteria and pus from the teeth, nose, and mouth was by no means so frequent a cause of disease as was formerly supposed; in view of the multiplicity of organisms which were constantly taken into the stomach with the food it was hardly surprising that the addition of bacteria from other sources should usually have no pathological consequences. Following the work of Faber, however, he showed that when achylia gastrica was present the elimination of the possibility of swallowing bacteria from teeth, tonsils, adenoid tissues, or nasal sinuses was of importance. Naso-oral sepsis might also affect the lower parts of the alimentary canal by the passage of bacteria from the upper foci of infection along the blood stream to the wall of the bowel. The work of Rosenow in recent years had been chiefly responsible for the spread of interest in this subject. Dr. Bennett also mentioned the great increase in the number of cases of gastric and duodenal ulcer during recent years; the important question was whether this increase in incidence was to be assumed to be due to greater prevalence of sepsis in the mouth and throat. He had been specially impressed by the frequency with which patients with gastric and duodenal ulcer showed no objective signs of oral or nasopharyngeal sepsis except for the presence in their mouths of teeth which had received considerable dental treatment. The filling of devitalized and artificially anaesthetized teeth seemed to him contrary to all approved principles governing the surgical treatment of bone disease; it might possibly

have some direct relation to the increase in the numbers of cases of gastric and duodenal ulcer, cholecystitis, and appendicitis.

Mr. J. G. TURNER discussed the nature of dental sepsis—a condition in which food debris, chiefly bread, adhering to the teeth, was made putrid by bacteria. If sticky food could be eliminated, or the teeth properly cleaned, dental sepsis and its evil consequences would be prevented. The germs of dental sepsis were firmly attached to the surfaces of the teeth, and it required considerable violence to effect removal. If the teeth were smooth cylinders this violence might be applied, but their smallest recesses sufficed to harbour many organisms. The threat of sepsis persisted so long as teeth remained, even artificial teeth. The effect of early dental sepsis might be permanently impaired digestion or chronic infection of the lung. Infection might be of the surface or blood-borne; he attached greater importance than many to surface infection. Constant swallowing of the products of naso-oral sepsis might so interfere with digestion, perhaps by destroying vitamins, as to make the patient become subject practically to a deficiency disease.

Mr. ARTHUR BULLARD said that in the oral cavity the normal flora made the bacteriological investigation of disease much more difficult than in other parts of the body. It was difficult to be certain that the bacteriological findings in cultures revealed the causal organisms of the disease under investigation, because the micro-organisms isolated did not differ to any marked extent from those in the healthy mouth. The normal mouth flora consisted of two groups—the first containing easily cultivable organisms, and the other those not as a rule isolated if only the usual technique was employed. The most important organisms in the first group were the streptococci; in the second group the *Leptothrix buccalis* was of importance because of its connexion with tartar formation, and the so-called fusio-spiral organisms were of interest, though their share in infection was not well established. Infection of the alimentary tract from the naso-oral cavity was chiefly brought about by swallowing septic material. In course of time the infection became able to withstand the passage of the hydrochloric acid of the gastric juice, and the intestine also became involved. Infection of the respiratory tract was usually by inhalation of septic material. He urged that bacteriological examination of the sputum, and of naso-oral foci of infection, should always be made in chronic lung infections, since prophylactic vaccination, subsequent to the medical treatment of the lung condition, was of the greatest importance.

Dr. F. A. PICKWORTH sent a description of an interesting case of diplococcal infection of the sphenoid sinus with associated haemorrhages in the stomach. The point of interest in the necropsy was that in the vessels of the muscular layer, the submucosal vessels, and even in the stomach epithelium, there had been found a few scattered but undoubted cocci, resembling those which were remarkably prolific in the sinus membrane.

Dr. P. WATSON-WILLIAMS referred to the frequency of appendicitis in association with, and apparently due to, nasal sepsis. In a series of ninety cases of sepsis he found in 14 per cent. that there had been not merely a diagnosis of appendicitis, but an appendicectomy, and in two other cases there was a history of definite gastric ulcer treated by operation. The chronicity of these sepsis cases was an important feature. It was also remarkable that since about 1890 there had been an enormous increase in the number of cases of gastric and duodenal ulcer, and that at about the same time influenza became epidemic in this country. The increase in the cases of appendicitis and similar conditions was due to the same causes as the enormous increase in sinusitis, and he thought that the prevalence of influenza could not be disregarded in this connexion.

Dr. E. STOLKIND mentioned the importance of determining whether dental infection was primary or secondary, and recalled a number of cases under his observation affecting the digestive system and the lungs in which all the teeth had been extracted without benefit to the patient.

Sir J. DUNN-GRAVE disagreed with the opinion expressed by Mr. Davis that pus from the nose was unlikely to be inhaled into the larynx. On a close examination of

many of these cases he had seen the vocal cords plastered with a sticky greenish substance which he attributed to the inhalation of muco-pus from the nasal cavities.

Dr. T. A. CLARKE said that in a number of cases of carcinoma of the oesophagus almost every one showed that there had been dental sepsis.

Mr. A. F. MACCALLAN said that in nearly all cases of chronic suppuration in any part of the body, but especially in dental and tonsillar sepsis, certain changes in the eye were seen, including slight opacities in the periphery of the lens and in the vitreous. Out of seventy-four recent cases which, on certain significant changes being found in the eye, were referred for thorough examination to the dental surgeon, the laryngologist, or the physician, 90 per cent. revealed some form of sepsis.

Dr. WILLIAM HILL thought that most rhinologists would agree that the occasions on which they were consulted by the physician in reference to nasal disease were very much more frequent than those on which they themselves referred a case of nasal disease to the physician. It was difficult to prove a connexion between the condition in the nose and in the respiratory and gastro-intestinal tracts, but his impression was that there were not many cases to be explained in that way.

Mr. CYRIL HERSFORD thought there were a large number of cases of gastro-intestinal and respiratory disease which were due to oral sepsis. A diseased condition of the stomach or respiratory tract could often be traced with certainty to nasal or throat infection.

### PELVIC INFLAMMATION IN WOMEN.

At a meeting of the Forfarshire Medical Association on November 25th, 1927, at University College, Dundee, the president, Dr. T. F. DEWAN, in the chair, the opening address for the session 1927-28, on pelvic inflammation in women, was delivered by Dr. J. M. MUNRO KERR, regius professor of midwifery in the University of Glasgow.

Professor Munro Kerr referred first to puerperal infections, which, according to his statistics, accounted for 55 to 60 per cent. of all pelvic inflammations. As regards very acute puerperal infection which terminated fatally in a matter of a few days, owing to the quantity and character of the lethal dose of the poison and the entire absence of resistance, he questioned very much if it was possible to do anything, either medically or surgically, to save the patients. In the less acute conditions, which ran a varying course of weeks, or sometimes months, he was satisfied that a radical operation, such as removing the uterus and tubes, often proved successful in saving life. The difficulty he and others had experienced was in deciding which cases should be chosen for such radical treatment, for a considerable number of patients recovered up to a point, and at the worst developed a chronic pelvic inflammation. As regards gonorrhoeal infections, Professor Munro Kerr showed how seldom such cases were fatal, and how few required abdominal section. The chronic gonorrhoeal infections, according to his statistics, were 40 to 45 per cent. of all pelvic inflammations. He then referred to tuberculous infections and to the danger of surgical procedures where there was extensive "matting" of bowel and tubes. In a number of these grave examples of tuberculous salpingitis he had found that x rays proved a most satisfactory method of treatment. He next discussed some of the infections of the genital tract in unmarried women and when there was no possibility of gonorrhoeal infection. These cases often showed uterine catarrh, hydrosalpinx, salpingo-oöphoritis, or even cystic disease of the ovaries. Many were undoubtedly ascending infections of *B. coli communis*, although he admitted that it was possible that others occurred through the blood stream, as in the majority of cases of tuberculous salpingitis. He then discussed the chronic inflammatory infections of the pelvis, referring in the first instance to hydrosalpinx, with its special features of hydrops tubae profluens and the occasional occurrence of torsion of the pedicle owing to the light adhesions which existed in the surrounding structures; resection of the tube in this condition often proved successful. The sclerosed tubes were not generally associated with marked symptoms, and rarely had acute attacks of

pelvic inflammation, differing in this respect from the pyosalpinx, with its recurrent acute manifestations. As regards pyosalpinx there was a quiescent and acute phase, each presenting distinct features. The pathology of the acute attack was of particular importance: it consisted in a "peritubal inflammation," probably the result of a fresh infection from the bowel. Rupture of a pyosalpinx was extremely rare, and torsion almost impossible. It was important to operate only in the quiescent phase. He illustrated this by statistics connected with his department in the Royal Infirmary, Glasgow, for the years 1919-26:

Total number of cases	...	...	...	...	286
Puerperal origin (estimated)	...	...	...	...	60%
Treated medically after first attack	...	...	...	...	78
Abdominal section:					
In quiescent phase	...	...	...	...	192
Mortality nil...	...	...	...	...	0%
In acute phase	...	...	...	...	24
Mortality 9	...	...	...	...	45%

The acute phase should be treated by ordinary medical remedies, such as rest, vaginal douches, electric baths, and fomentations; it might be necessary in a few cases to drain through the vaginal vault. Some weeks later a radical operation should be performed. The special features of appendicitis and diverticulitis in women were referred to, as also were the inflammatory conditions of the mesentery. Finally, Professor Munro Kerr showed slides illustrating the surgical procedures employed for the various inflammatory conditions.

### SERUM PROPHYLAXIS AND THERAPY IN THE SPECIFIC FEVERS.

At a meeting of the Nottingham Medico-Chirurgical Society on January 4th Dr. J. D. ROLLESTON delivered an address on modern methods in the prevention and treatment of fevers, referring particularly to diphtheria, scarlet fever, and measles.

Dr. Rolleston maintained that active immunization was the best method of prevention of diphtheria, as, apart from operative measures, which were not always practicable, treatment of the carrier was usually ineffectual. Active immunization against diphtheria was specially indicated for nurses in fever hospitals, and in schools, orphanages, and other collections of children. In view, however, of the fact that diphtheria antitoxin, if used in time, was an infallible remedy for the disease, Dr. Rolleston did not consider that there was the same justification for making active immunization against diphtheria compulsory as there was in the case of vaccination against small-pox. He alluded to the possibility of toxin-antitoxin rendering the individual hypersensitive to subsequent therapeutic doses of serum, and the necessity of employing an appropriate method of desensitization in such cases. The chief recent advance in the treatment of diphtheria was the use of a refined serum whereby the incidence and severity of serum sickness were reduced to a minimum. He denounced the doctrine that diphtheria antitoxin was useless after the fifth day of disease, and stated that in his series of 3,000 personal cases no fewer than 539, or 17.9 per cent., received their first injection on admission to hospital after the fifth day, with the result that the mortality was only 5.5 per cent. The presence of membrane in the throat, nose, or elsewhere, however late the disease, should be regarded as an indication for serotherapy. Local treatment in diphtheria was unnecessary in the great majority of cases—it had been used in only 12.13 per cent. of his series—and should be reserved for older children and adults. Dr. Rolleston did not consider that alcohol had any therapeutic value in diphtheria, and his practice had shown that it could be abandoned without any prejudicial effect. In view of the mild character of the disease in this country, immunization against scarlet fever, whether active or passive, was unnecessary, but might be required if it assumed the severe form met with in certain European countries, especially Poland. The antitoxin treatment of scarlet fever was of great value, but need not be employed except in cases of some severity. Its early use in such cases was even more important than the early use of antitoxin in diphtheria. In dealing with measles,

Dr. Rolleston said that serum prophylaxis was most suitable for children under the age of 3, or those debilitated by tuberculosis or other diseases. It was not necessary in private practice or in hospitals with a hygienic environment, when the disease usually ran a mild course. The serum treatment of measles was still in the experimental stage.

### HYDROPS TUBAE PROFLUENS.

At a meeting of the North of England Obstetrical and Gynaecological Society in Manchester on December 16th, 1927, the president, Professor W. FLECHER SNAW, in the chair, Professor MILES PHILLIPS (Sheffield) showed a specimen of hydrops tubae profluens.

Professor Phillips said that the patient, a 6-paras aged 42, complained of attacks of pain in the right lower abdomen lasting two to seven days, at intervals of three to six weeks. She stated that a swelling, about the size of an orange, had formed on the right side when the pain was severe; there was then a gush of thin bluish fluid from the vagina, the pain ceased, and the swelling disappeared. This occasionally happened on the left side. Nine months after the last confinement, fourteen years previously, she had had inflammation of the womb and ovaries. Menstruation lasted for two to seven days, and occurred every twenty-four to twenty-six days; there had been increased loss during the last thirteen years. There was constant greenish-yellow discharge, but no vulvitis; indefinite adnexal swellings were detected. At an operation bilateral hydrosalpinx was found larger on the left side: the uterus and both appendages were displaced. When a piece of silk-worm gut was passed through the uterus into the tubes clear fluid escaped. The cavity of the hydrosalpinges did not communicate with the cystic ovaries.

Professor DONALD said there might be a valve action at the uterine end of the tube; he had never known pus thin enough to escape. Dr. K. BAILEY had seen a patient with a large right hydrosalpinx who had had an intermittent discharge for eighteen months. Professor BLAIR BELL said that he had noted an intermittent discharge as a rule in malignant disease of the tube. Dr. WILLETT suggested that the rise of tension could sometimes overcome the retention of fluid, and asked if there were any adhesions. Professor PHILLIPS, in reply, said there were no adhesions and likened the retention to urinary retention with overflow.

### Haematometra and Tuberculosis.

Professor D. DOUGLAS (Manchester) read a note on three cases of haematometra associated with tuberculosis.

The first patient was aged 37, and had been married for seven years. She had had primary amenorrhoea till the age of 30, and since then slight loss every five to six weeks. She had poor health, and as a child had been an in-patient at a children's hospital for a month. The uterus was enlarged to about the size of a four months' pregnancy, and the appendages were adherent. Panhysterectomy was performed. The uterus contained a single cavity full of blood, and the left tube was also distended with blood. No communication was made out between the uterine cavity, the cervical canal, and the right tube. Microscopically there was found an adenomyomatous condition of the right uterine cornu, with necrotic areas with giant cells.

The second patient was 31 years old, and had been married for two years. There was primary amenorrhoea, and there had been tuberculous enteritis in infancy. She had had pain in the lower abdomen for ten years. The uterus was enlarged to the size of a two months' pregnancy; it was hard and fixed, and there were adhesions in the pelvis. Subtotal hysterectomy was performed, with removal of both appendages. The uterus contained two cavities, the larger on the right side and communicating with the right tube, which was closed at its outer end. The left tube was closed except the interstitial portion, and showed chronic interstitial salpingitis. Microscopically necrotic areas and giant cells were seen.

The third patient, aged 22, was single, and had primary amenorrhoea; there was a family history of tuberculosis. The uterus was enlarged and cystic. She had had an acute attack of pain while awaiting admission to hospital and was treated by appendicectomy. The uterus removed by subtotal hysterectomy was asymmetrical, the right portion being larger than the left. It contained two cavities, the right being filled with blood and the left with pus, necrotic material, and giant cells.

Professor Douglas said that all specimens showed atresia associated with chronic infection. The question was whether the chronic infection in early life was the cause of maldevelopment; he was inclined to conclude that this was the case.

Professor MILES PHILLIPS believed that a condition of obliterative endometritis occurred in the region of the internal os. He had once reported a hydrometra the size of a seven months' pregnancy due to tuberculosis. Miss IVENS had had a case of a single woman who developed amenorrhoea after normal menstruation. The uterus reached the umbilicus, and was filled with blood. The obstruction was at the external os, and there was no evidence of tuberculosis. She described another case which had caseous material in the cavity; she curetted this, and the patient afterwards menstruated. Dr. LEITH MURRAY had in two cases established communication between the haematometra and the cervix with a curette. Dr. DOUGLAS replied that none of his specimens showed infection of the lower part of the uterine wall.

At a meeting of the Brighton and Sussex Medico-Chirurgical Society on January 5th, with the president, Dr. DONALD HALL, in the chair, Mr. G. W. BERESFORD read a paper on gastric ulcer, illustrated by diagrams, specimens, and microscopical slides. Mr. Beresford said that while duodenal ulcer was usually dealt with by gastro-jejunostomy, gastric ulceration was more serious, and the treatment presented a difficult problem. The most important contributory causes were unsuitable and irritating foods, perhaps the increased consumption of sugar leading to gastritis, mental overexertion and worry affecting the innervation of the stomach, and focal infection from the teeth or intestinal tract. Acute ulceration was less common than it was ten or twelve years previously. It tended to early healing, and the treatment was entirely medical: even severe haemorrhage was not an indication for surgical intervention. Probably owing to the presence of lymphoid follicles along the lesser curve 84 per cent. of chronic gastric ulcers (Moynihan) were situated in this region. The main symptoms were periodicity of attacks of epigastric pain and vomiting, coming one, two, or three hours after food. The x-rays were the only certain method of diagnosis. Haematemesis was not usual, but when present was of serious import; Bulmer's recent figures showed that the mortality from haematemesis was very high. Medical treatment should be given for all cases except where there was a suspicion of carcinoma, or where a course of medical treatment had failed, or where there had been an attack of haematemesis, in perforation or mechanical deformity of pylorus or stomach; it should consist of Sippy's diet, with rest in bed. The aim of surgical treatment was to remove the chronic infection. Gastro-jejunostomy, with excision or cauterization of the ulcer, should be adopted for non-adherent ulcers, and subtotal gastrectomy for large and fixed ulcers.

### TWINS AND TRIPLETS.

At a meeting of the Royal Society on January 19th a paper, by Mr. R. A. FISHER, on "Triplet children in Great Britain and Ireland," was communicated by Sir ARTHUR KEITH. Existing data on twins, Mr. Fisher said, had given rise to much difference of opinion on heredity of twinning tendency; moreover, good measurements were exceedingly scanty. In order to obtain data from a fresh source, in the collection of which adequate safeguards could be taken against the chief causes seeming to have vitiated twin material, an inquiry was commenced on triplet cases recorded as recipients of the Royal Bounty. Results of measurements, and of genealogical inquiries on three years' data from this source, were given. Six physical measurements taken on 117 children showed correlation between pairs of unlike sex conformable with that obtained by the author from Lauterbach's measurements on twins, and with that between adult brothers and sisters. Pairs of like sex were more highly correlated, the results being well fitted by the supposition that about 54 per cent. of the surviving like-sex pairs were monozygotic in origin, and that these had a correlation 0.94. Relationship data confirmed paternal influence, and sex distribution of related twins strongly suggested that this was confined to causation of di-embryony. If maternal influence conditions both dizygotism and di-embryony, the slightly higher values obtained from these and other data for maternal influence indicated that, contrary to Weinberg, di-embryony was the more strongly inherited phenomenon—a view in accord with the large-known effect of the mother's age on dizygotism.



## Reviews.

### COMMON DISEASES OF THE SKIN.

*The Common Diseases of the Skin*,<sup>1</sup> by Dr. R. CRANSTON LOW, is one of the best introductions to its subject for the use of students that have appeared for some time. Dermatology is by no means an easy subject to teach, as all those who have laboured to impart a knowledge of it to students have long since discovered. It does not lend itself to clear definition and easy classification. The various pathological alterations in the skin often merge insensibly into one another, and it may be difficult to mark the dividing line between them. Sometimes their etiology is doubtful and even dual, and we have heard dermatologists of deservedly great reputation and of overwhelming experience remark, in confidence, that the more cases they see the fewer they can diagnose. That is a generalization which need not be taken too literally, but in any case Dr. Cranston Low has overcome all his difficulties remarkably well. He has made the subject as clear and straightforward as is possible, and his book, which is founded on the lectures which he periodically delivers to the students of the Royal Infirmary, carries on well the fine teaching tradition that has always distinguished the Edinburgh school; one may justifiably exclaim—fortunate are the students who hear such good lectures. There is not much room for originality in an elementary book of this character, but Dr. Cranston Low has left the impress of his personality on most of the chapters, and is skilful in putting forward novel aspects of old problems. We would particularly direct the reader's attention to the chapters on dermatitis venenata and alopecia areata. His theory of the nervous origin of the latter complaint, although far from proved, at any rate affords an attractive working hypothesis.

Most of the recent advances in dermatology are noted in these pages, but we are rather surprised that there is no mention of the recently introduced method of treating ringworm of the scalp by means of thallium acetate given internally. It seems probable that notwithstanding its drawbacks it will find a permanent place in the treatment of this disease in children who are too young for x-ray treatment. We are also rather surprised to find that Dr. Low says (p. 184) that "the local application of the rays (ultra-violet) to the lupus lesion has been practically given up now. Daily radiation of the whole body even in extensive and long-standing cases holds out the best hope of cure." This is contrary to the experience of most dermatologists, who, while acknowledging that general irradiation is a most valuable help, still find in the Finsen lamp, applied locally, their mainstay in the treatment of lupus. These, however, are but slight blemishes in an excellent work, which is clearly written, well printed, easy to handle, and by no means too long. The illustrations, also, eight of which are in colour, are good and well reproduced. We feel sure that Dr. Cranston Low's book will be warmly welcomed by students and practitioners alike, and we wish it every success.

### A TEXT-BOOK OF CLINICAL NEUROLOGY.

In his *Text-book of Clinical Neurology*<sup>2</sup> Dr. ISRAEL WECHSLER has attempted a presentation of this field of medicine based upon "an anatomico-pathological substratum." In the present stage of our knowledge with regard to the etiology of nervous diseases such a task is bound to be difficult and far from the possibility of completion. From a mass of clinical material presenting only occasionally clearly cut syndromes, various disease entities have been subtracted, relying for their identification in some cases upon their course and characteristic limitations,

in others upon associated pathological changes in the nervous system. As it must be admitted that their recognition is still based during life almost entirely upon clinical findings it is open to doubt whether anything is to be gained from a presentation of neurology according to a scheme derived from *post-mortem* results.

In his introduction Dr. Wechsler lays stress on the opinion that "it is unwise to draw conclusions before the whole examination is complete"; "diagnostic interpretation," he writes, "has no place either in taking a history or eliciting objective findings"; after this excellent advice it is disappointing to find that in his first hundred pages "the interpretation of signs and symptoms" to which these are devoted is in terms of purely clinical concepts; as an example reference may be made to the description of the Argyll Robertson phenomenon (p. 74), which is inadequate. The order the author follows is sometimes baffling—we find sections on the "cerebellar syndrome" and the precise anatomy of the cranial nerves towards the end of the book, far divorced from his introductory pages on focal signs and symptoms and their interpretation. It is surprising in a manual of clinical neurology that only two pages should be given to progressive muscular atrophy when five are devoted to syringomyelia, twenty-three to compression of the spinal cord, and thirteen even to the technique and findings of the needle puncture.

It is disappointing also to come across the terms protopathic and epieritic sensibility still receiving currency in connexion with the regeneration of peripheral nerves (p. 240); the section on vascular disturbances of the brain could have borrowed much that would have been enlightening from Trotter's description of the intracranial circulation.

The book is pleasingly paragraphed and the illustrations, introduced in commendable moderation, are very valuable, if occasionally (as on p. 178) atypical.

### TREATMENT OF GONORRHOEA.

Most specialists in genito-urinary surgery are only too glad to give up all interest in gonorrhoea and its treatment as soon as they find themselves sufficiently occupied with more interesting work, and it is seldom that a surgeon of the calibre of A. L. WOLBARST is stimulated to write a textbook on the subject. Far from being depressed with his task, he maintains, in his preface to *Gonococcal Infection in the Male*,<sup>3</sup> that considerable advances have been made in our knowledge of the treatment of male gonorrhoea, and its complications. He considers that those advances chiefly lie in "physical therapy, intravenous and local medication, protein therapy, and, most important of all, in the epochal work of Belfield and his associates, on the seminal vesicles." Some of us may harbour doubts as to whether any substantial progress has been achieved in the treatment of chronic gonorrhoea, but whether we share Wolbarst's optimism or not we cannot do otherwise than welcome this work. It is only by the enthusiasm and industry of such men as he that the present insuperable difficulties associated with the treatment of chronic gonorrhoea will eventually be overcome.

The book is intended primarily for the general practitioner, and for this reason particular emphasis is laid on many points in diagnosis and treatment with which the specialist is already familiar. Whether the general practitioner will be prepared to provide himself with the armamentarium that the author considers necessary for the treatment of the disease is, of course, another matter. But all will agree that if the ravages of gonorrhoea are to be reduced to a minimum the standard of treatment must be materially raised. Many patients are not in a position to afford the fees of the specialist and will dislike the idea of attending a clinic. At present patients are too often discharged as cured whilst they are still capable of infecting other people. The author of this book has given special prominence, therefore, to such points as tests of

<sup>3</sup> *Gonococcal Infection in the Male*. By ABR. L. WOLBARST, M.D. London: Henry Kimpton. 1927. (Roy. 8vo, pp. 237; 89 figures, including 7 coloured plates. 25s. net.)

<sup>1</sup> *The Common Diseases of the Skin*. By R. Cranston Low, M.D., F.R.C.P. Edinburgh and London: Oliver and Boyd. 1927. (Cr. 8vo, pp. xii + 223; 19 figures, 49 plates. 14s. net.)

<sup>2</sup> *Text-book of Clinical Neurology*. By Israel B. Wechsler, M.D. Philadelphia and London: W. B. Saunders Co. 1927. (Med. 8vo, pp. 725; 127 figures. 32s. 6d. net.)

cure and the identification of the gonococcus in films. There is also an excellent chapter on diathermy, a method of treatment that has apparently found an even wider field of application in America than it has in this country. Not only are such complications as epididymitis and rheumatism dealt with by this means, but also uncomplicated anterior urethritis. Two methods of applying the current to the anterior urethra are described, the first by means of an intraurethral electrode, and the second through the medium of two lateral electrodes fitted to the external aspect of the penis.

The book is well illustrated, and the text is sufficiently complete and clearly written to be readily understood by those who are not experts. It is certain that every practitioner who reads Dr. Wolbarst's book can acquire an up-to-date and complete knowledge of the treatment of gonorrhoea, but whether amidst all his other activities he will be able to afford the time, or be in a position to acquire the instruments necessary for handling these cases, is a matter of considerable doubt.

### BASAL METABOLISM.

Dr. EUGENE F. Du Bois, whose reputation as an investigator in the subject is well established, has brought out a revised edition of *Basal Metabolism in Health and Disease*.<sup>4</sup> His avowed object is to bring basal metabolism into the domain of clinical medicine, and his book presents the subject in a manner at once authoritative and easy to read. It is divided into two parts. The first, dealing with metabolism in health, contains much on the methods of investigation, the general principles of the respiratory apparatus, the estimation of the surface area of the body; the estimation of normal standards, and the theories of basal metabolism. A brief history of the study of respiratory metabolism is followed by an account of the metabolism of carbohydrates, fat, and protein; that dealing with the second begins with the sentence "it is difficult to arouse much interest in fats," but at once proceeds to prove the reverse by a clear statement, including a summary of Bloor's review of normal fat metabolism. The metabolism of mixtures of protein, fat, and carbohydrates in the body is then considered with the help of a triangular map of the metabolism, somewhat resembling the food map of Irving Fisher. The science of metabolism has been built up on observations made on students and physiologists, who are the best experimental subjects for this purpose. In discussing the factors influencing normal metabolism, such as sex, age, and size, which are considered in detail, Dr. Du Bois accepts the view that the constancy of the basal metabolism in an individual is probably inherited from remote ancestry thousands of centuries ago. The first part closes with a discussion of the theories of basal metabolism.

The second part, dealing with metabolism in disease, begins with undernutrition, a subject which comes under consideration also in connexion with the variations of metabolism presented in different cases of diabetes mellitus. Going on to discuss obesity Dr. Du Bois remarks, "We do not yet know why certain individuals grow fat. Perhaps it would be more accurate to say that we do not know why all the individuals in this overnourished community do not grow fat." In simple or exogenous obesity there is not any endocrine disturbance, and the fault lies either in too much food or too much laziness, and there is not any striking abnormality of metabolism. A summary of the available data about the metabolism in diabetes mellitus is given, and it is concluded that in mild cases it is normal, and that in severe cases it may be low from undernutrition, or high from the influence of ketosis or as a result of the storage of carbohydrates.

A full discussion of metabolism in thyroid diseases is preceded by a useful summary of the present state of knowledge, including that about toxic adenoma. There is a broad-minded consideration of the diagnostic reliability of basal metabolism, which, though generally regarded as

the best index of thyroid activity, should, as a laboratory method, be checked by clinical observation. The interesting question whether hyperthyroidism or dysthyroidism is the essential factor in exophthalmic goitre is left in a state of philosophic doubt. The metabolism in diseases of the adrenals, pituitary, gonads, blood, heart, kidneys, and in fever is discussed in subsequent chapters, and the concluding chapter in this valuable record of personal research, wide critical reading, and thought is devoted to the effects of drugs on basal metabolism.

### SEX PROBLEMS.

AFTER reading the five books which Dr. W. L. HOWARD has simultaneously offered to the public the reviewer is left with the feeling that the floor has been sprinkled with disinfectant, that a new and stiff broom has thoroughly swept the corners, and that the windows have been opened to admit the fresh winds and sunlight. The author has courageously tackled the fundamental facts and problems of everyday life. The facts are chiefly from observation of American life, yet with just a little less exaggeration they would apply with equal force to English life.

On the rather startlingly yellow paper covers of the books there appears this sentence: "There is a tremendous power for good and happiness in this book." This statement is true, for the author really gets to the root causes of the sexual unhappiness of our times. In the volume on *Sex Hygiene*<sup>5</sup> he has done his utmost to impress the laity with the innumerable possibilities of infection, and the variety of illnesses directly attributable to venereal diseases. These warnings should have a salutary effect on the indiscretions of youth and age, but might possibly give rise to ungrounded suspicions in innocent families. In *Facts for the Married*<sup>6</sup> and *Sex Problems Solved*<sup>7</sup> there is a clear and outspoken discussion of the many and ordinary difficulties which every married couple has to face. Some pay bitterly for their experience, some never solve their difficulties; for a few, who have knowledge, the path is easier. These books supply the requisite knowledge. Most men and women would be helped by reading them, not only to control their own sex lives and so achieve the happiest results, but also to give understanding advice to their children. The *Confidential Chats with Boys*<sup>8</sup> is interestingly written in colloquial language. Facts about the origin of life and about sex are stated clearly, without prudery, and with an understanding of the boy's point of view. There is no pornographic appeal. The *Confidential Chats with Girls*<sup>9</sup> is not quite so good. The main outlines are sound, but all the "don'ts" for the adolescent would be apt to weary. It would be more desirable for mothers to absorb the information, and then use their knowledge tactfully to control their growing girls.

All the books suffer from the same faults of discursiveness and redundancy. The author considers them "chats," and possibly as such they may carry their points more effectively to the laity than more concise treatises. There is no quackery in them, and many times are readers advised to appeal to a reputable doctor when faced with difficulties, but implored in no circumstances to have dealings with quacks. Throughout there is a strong appeal to all that is highest in humanity. Dr. Howard has made an honest effort to grapple with the fundamental difficulties of life as we live it to-day. So many popular books on medicine are now being written that it is incumbent on the general practitioner to be himself in a position to advise individuals as to the benefit or otherwise to be derived from reading certain books. Practitioners can advise their patients to read these books, and, indeed, the practitioner's time would not be wasted were he himself to glance through *Facts for the Married* and *Sex Problems Solved*. So many of the ailments which find their way to the consulting room under the guise of ordinary medicine have their real origin in some sexual trouble.

<sup>4</sup> *Basal Metabolism in Health and Disease*. By Eugene F. Du Bois, M.D. Second edition. London: Baillière, Tindall and Cox. 1927. (Med. 8vo, pp. viii + 431; 92 figures; 1 plate. 22s. 6d. net.)

<sup>5</sup> *Plain Facts on Sex Hygiene*. <sup>6</sup> *Facts for the Married*. <sup>7</sup> *Sex Problems Solved*. <sup>8</sup> *Confidential Chats with Boys*. <sup>9</sup> *Confidential Chats with Girls*. By William Lee Howard, M.D. London: Rider and Co. 1927. (Cr. 8vo. 2s. 6d. net each volume.)

## NOTES ON BOOKS.

THE treatment of pernicious anaemia by liver extract has been stimulated by the well known work of Dr. G. R. Minot in this connexion, and it will be recalled that at the Annual Meeting of the British Medical Association in Edinburgh last summer a joint paper on this subject was contributed by Drs. Minot and W. P. Murphy. A pamphlet compiled by Miss FLORENCE IRWIN, warden of the Stranmillis Training College, Belfast, entitled *Recipes for Drs. Minot and Murphy's Liver Diet*, will, therefore, be of interest to nurses or domestic cooks who have to cater for these patients. It contains a copy of the diet recommended by Dr. Minot for Addison's anaemia, and a number of recipes, including one for grilled and toasted liver, potato and tomato stuffed with liver, liver tea, raw liver juice, and liver sandwiches. The pamphlet can be obtained from the Northern Whig, Limited, Belfast (price 1s.).

Professor J. ARTHUR THOMSON is a successful writer of popular books on science. As professor of natural history he considers man to come within the ambit of his studies, and in order to encourage man to be as superbly healthy as wild animals he has compiled his book *Towards Health*.<sup>10</sup> As to what can be done to improve present conditions, he suggests, first, education towards health, and, secondly, he emphasizes the possibilities of eugenics; he lays stress on the indispensableness of rational and social selection, commends all the existing societies that make for health, last, and above all, the strengthening of the hands of the medical officer of health. On each of these propositions Professor Thomson writes warily and with due avoidance of extremism at either end. Thus in education he thinks that natural history is not to be compared as a discipline with Latin prose. But he would like three subjects to be included in every curriculum: the history of our race, the world in which we live, and the laws of health and happiness. In eugenics he finds that infanticide and the sterilization of the unfit are inconsistent with the present state of social sentiment; but that in marriage man should go where good health is, avoiding defects such as deaf-mutism, mental instability, diabetes, and epilepsy. Undesirables should be segregated, and more rational social selection should take the place of the ever-lessening natural selection. To advertise health Professor Thomson recommends—he says “in all seriousness”—the utilization of men and women from different avocations as itinerant apostles, whose encouraging presence would make health appear the most desirable thing in the world, and the institution of an order of merit for outstanding health. In discussing the respective merits of the competitive and the co-operative systems, Professor Thomson says: “One of the deepest problems of the statesman is to guide the communal co-operative evolution so that it does not involve jettisoning the rewards of competitive individualism, and adds epigrammatically, “Heaven help us from going to the bees!”

STEVENS's *Text-book of Therapeutics*,<sup>11</sup> first published in 1895, has now reached its seventh edition. It also is a large volume; three-quarters of it is devoted to pharmacology and materia medica, whilst the last quarter deals with applied therapeutics. The new edition, which has been revised to conform to the tenth edition of the *United States Pharmacopoeia*, contains an account of all the more important new drugs that have been introduced into therapeutics during the last five years. The section on pharmacology, which occupies about two-thirds of the book, is very complete, and gives an account of most of the drugs used in medicine. The book would, indeed, have been improved by a more rigorous selection of the drugs noticed, and there is, in fact, little relation between the space given to the various drugs and their importance in therapeutics. The book seems to have been planned as a work of reference rather than a student's textbook, and as a reference book it should be found useful, even though the information concerning the more important drugs is somewhat scanty.

Professor VICTOR SCHILLING's book on blood formation and its clinical significance,<sup>12</sup> has now appeared in a joint fifth and sixth edition, combining, not unsuccessfully, the characteristics of a textbook and a reference book. It deals with a subject which is difficult, because so much speculation still remains unreplaced by established fact. The volume consists of four main sections, and includes accounts of the technique of blood

examination, the developmental evolution of the various cell types, the principles of diagnosis and prognosis of pathological conditions of the blood, including certain which are peculiar to tropical countries, and the employment of differential blood counts in distinguishing between the various diseases. While it is possible that research will in time sweep away some views which are to-day admittedly provisional, this book will, nevertheless, be of considerable value to those who require a simple and practical account of the present position of haematology.

*The Treatise on Orthopaedic Surgery*,<sup>13</sup> by ROYAL WHITMAN of New York is one of the best in the English language. We reviewed the seventh edition in our issue of February 9th, 1924 (p. 240), and there is little to add about the eighth, what we then wrote, except that the book has again grown bigger, for the pages are increased from 993 to 1,061, and the illustrations from 877 to 954; this is evidence that space has not been spared to bring this edition up to date. As the author states in his preface, those procedures with which his name is so closely associated—namely, astraglectomy with backward displacement of the foot, and the abduction treatment of injuries at and about the hip-joint—have been described in greater detail than formerly, and the chapter originally headed “military,” but now called collateral orthopaedics, “has been expanded to supplement the bibliographical, statistical, anatomical, and clinical data that qualify it as a book of reference.” We can assure the author that he is right to assume that his book has gained in interest and authority with each succeeding issue.

<sup>13</sup> *A Treatise on Orthopaedic Surgery*. By Royal Whitman, M.D., M.R.C.S., F.A.C.S. Eighth edition, thoroughly revised. London: H. Kimpton, 1927. (Med. 8vo, pp. xii + 1061; 954 figures. 45s. net.)

## PREPARATIONS AND APPLIANCES.

PLASMOQUINE.  
THE results obtained with plasmoquine during recent years have aroused great interest among all those engaged in tropical medicine. Plasmoquine is an alkyl-amino-6-methoxy-quinoline salt. This synthetic drug is the result of a long series of investigations carried out on a canary infection allied to malaria. In that infection plasmoquine was found to have sixty times as great a parasitotropic effect as quinine. The action of plasmoquine in human malaria has been discussed at meetings of various societies during the past year (BRITISH MEDICAL JOURNAL, 1927 i, 466; *Proc. Roy. Soc. Med.*, xx, 919, 1927), and the general opinion has been that the drug promises to be of considerable value.

Plasmoquine is given in doses of 0.02 gram three to five times a day, and it has a powerful action in benign and quartan malaria, but is less efficacious in subtertian malaria. The disadvantage of the drug is its liability to produce a severe cyanosis; this effect has occurred after doses of 0.05 gram plasmoquine two or three times a day. This cyanosis, however, is rare when plasmoquine and quinine are given in combination, and for this reason this mixture, which is termed plasmoquine compound, is preferred by many workers. A special merit of plasmoquine is that it acts on the gametocytes (sexual forms) more powerfully than on the schizonts, whereas the reverse is true of quinine. This explains the special values of combined therapy with the two drugs.

Any advance in malarial therapy is, of course, an event of great importance for that great majority of the human race which lives in malarial countries. There seems to be a general agreement that plasmoquine is a valuable new drug, but time will be necessary before any final estimate can be made of its worth. The introduction of this drug is, however, an event of great importance, because it marks the beginning of the synthetic chemotherapy of malaria.

The sample of the drug we have received from Bayer Products Ltd., is plasmoquine compound, and each tablet contains 0.005 gram plasmoquine and 0.065 gram quinine. We would point out that the composition of the tablets is printed on the label in type so small as to be almost illegible without a lens, and also that the inscription contains an error in that the tablets are stated to contain  $1\frac{1}{2}$  grain plasmoquine, whereas the real content is  $1\frac{1}{12}$  grain.

“SULPHOSTAB.”  
The product known as sulphostab (Boots) has the formula dihydroxy-diamino-arseno-benzol sodium formaldehyde bisulphite, and therefore is apparently of the same chemical composition as the compound sulfarsenol, which also is known as sulpharsphenamine. This drug has the same general actions as sulpharsphenamine, but has the special advantage that it can be given subcutaneously, and therefore is particularly convenient for the treatment of congenital syphilis in young children. Messrs. Boots's preparation has been approved by the Ministry of Health for use in public institutions.

<sup>10</sup> *Towards Health*. By J. Arthur Thomson, M.A., LL.D. London: Methuen and Co., Ltd. 1927. (Cr. 8vo, pp. viii + 242; 4 diagrams, 7s. 6d. net.)  
<sup>11</sup> *A Text-book of Therapeutics*. By A. A. Stevens, A.M., M.D. Seventh edition, entirely reset. Philadelphia and London: W. B. Saunders Company, 1927. (Med. 8vo, pp. 758, 30s. net.)  
<sup>12</sup> *Das Blutbild und seine klinische Verwertung*. Von Professor Dr. Victor Schilling. Fünfte und sechste, überarbeitete Auflage. Jena: G. Fischer, 1926. (6½ x 3½, pp. viii + 232; 50 figures, 4 plates. M.14.)





David Gillings



# British Medical Journal.

SATURDAY, JANUARY 21st, 1928.

SIR DAWSON WILLIAMS,

EDITOR OF THE "BRITISH MEDICAL JOURNAL"  
1898-1928.

"Who, not content that former worth stand fast,  
Looks forward, persevering to the last,  
From well to better, daily self-surpassed."

IN our issue of December 24th last there appeared a laconic paragraph announcing that Sir Dawson Williams, C.B.E., M.D., LL.D., D.Litt., D.Sc., would shortly relinquish the editorship of the *British Medical Journal* on completing thirty years' service in that post. He was appointed Editor by the Council of the British Medical Association on January 19th, 1898, and before then had been closely connected with the Editorial Department for seventeen years. His period of service has thus extended over nearly half a century.

The resignation by a great man of an office of great influence and responsibility in the world of medicine is an event not lightly to be passed over, and least of all in the professional organ which he has conducted for so many years with such conspicuous ability and devotion. Of Sir Dawson Williams it can be said truly that for the greater part of his life he has lived for this *Journal*, and through it for the advancement of medical science and practice and the well-being of the individual doctor. That is a record of which he, and we, may well be proud. In all that long time—as those knew best who were nearest the middle of things—there was scarcely a single development, whereby the British Medical Association grew in strength and numbers and became more useful to the profession in its scientific and corporate relations, which did not owe much to his foresight, his tact, and his sagacity, so that over and over again it happened that when seeming to follow he led, and the event proved the soundness of his judgement. During the Insurance Bill crisis of sixteen years ago no man helped more, in circumstances of peculiar difficulty, to keep the profession on an even keel through stormy waters. Again, in the anxious years of the great war, with a depleted staff, he did inestimable work for military medicine and surgery, and, by his understanding of their trials and their needs, for the thousands of medical men risking their lives and livelihood abroad or carrying on against heavy odds in civil practice.

In an issue that is sent to press at the moment of leave-taking we will not try to sum up a long career so full of purpose and of achievement, or to do justice to a character so striking. Moreover, though none of its leaders is held in higher general esteem by our profession, his reticence and self-effacement are such that the full range of Sir Dawson Williams's activities and influence is known to few, and time is needed to see his life-work in true perspective. We may nevertheless recall here the thumbnail sketch of him drawn by another great and wise man. Speaking at a complimentary luncheon in 1921, Sir Clifford Allbutt said that if one tried to put into a word or into a few words the character the Editor set before his friends,

he thought they would feel that that blend of width of view and sympathy and a fine kind of understanding and knowledge of the world was summed up in a single word—wisdom. Dawson Williams, he said, was a particularly wise man. A just saying, to which we may be allowed to add that with this broad and balanced outlook on medicine, on letters, and on life, the Editor of the *British Medical Journal* has combined endless care for detail, thus fulfilling Dr. Johnson's definition of the true strong and sound mind as the mind that can embrace equally great things and small.

Sir Dawson Williams has received many distinctions, from the Crown and from learned bodies, and the British Medical Association has awarded him the highest honour in its bestowal—the gold medal of merit. In the past few weeks high and just tributes to himself and his life-work have been paid in the columns of our chief contemporaries, notably in leading articles in the *Lancet* of December 31st and the *Times* of January 2nd. "We are in a position of peculiar ability," writes the Editor of the *Lancet*, "to gauge the statesmanship, the patience, and the courage displayed by him in many positions of difficulty and deliency throughout a period of revolutionary changes in our science, our art, and our everyday machinery, every one of which changes has been reflected in the labours of the British Medical Association; and we are expressing the opinion of all when we point to him not only as the mainstay of the Association throughout his extended term of service, but as a great champion of our profession." And the *Times* says: "During thirty difficult years Sir Dawson has represented all that is best, most sane, and most progressive in modern medicine. To his lot it fell to mould and form the ideas of the great majority of doctors in this country during the time in which science entered into partnership with clinical study. Many heads were turned in these days and false prophets abounded; but the *British Medical Journal*, while welcoming the new, at no time lost sight of the value of the old."

Now that Sir Dawson Williams has given up the helm, further public acknowledgement will no doubt be made of his long and splendid services to the British Medical Association and the profession, to medical science and medical literature. His colleagues at headquarters, to whom he has been a valued counsellor and the most loyal and considerate of friends, are confident that in his well-earned leisure they may still turn now and then to that ripe judgement in moments of doubt or difficulty. As for the paper of which he has been the guiding and directing head for more than a generation, and to which he has dedicated his life, we of the editorial staff will do our best to keep it what he has made it; moving with the times, but holding, as far as we can, to the tradition built up by one who, in the words of the leading daily newspaper, "saw the practice of medicine whole and upheld his vision, week after week, with a constancy and a courage which have their reward to-day in the great reputation throughout the world of the journal which he served." It will be difficult to follow him, but his successor has had one advantage—daily and hourly work, for eleven years, with a great editor and a great gentleman.

The portrait reproduced on the plate facing this page is from a photograph taken in the Editor's room at Tavistock Square, and presented to Sir Dawson Williams by his immediate colleagues on January 19th, the last day of his editorship.

## NUTRITION AND MALNUTRITION.

IN this week's issue there appear full reports of two lectures, the one on "Experiments in malnutrition" by Professor V. H. Mottram, the other by Colonel Robert McCarrison on "Diseases of faulty nutrition." The two articles are in a sense complementary. Professor Mottram's standpoint is that of the laboratory worker who is in a position to present the clean-cut evidence of the carefully controlled laboratory experiment. Colonel McCarrison speaks, for the most part, as a clinician; he views a more extended field, and on that account the focus he can bring to bear on any individual set of observations is less sharp. Needless to say, both standpoints are entirely necessary to medical science.

So much is now being said and written about nutrition that it is desirable to try to take stock of some of the fundamentals of the present position. One very notable point is raised by both lecturers. Nutritional defects may be of many kinds; a proper diet is necessarily a balanced one. If, therefore, attention is concentrated upon one or two factors only—upon vitamins, for instance—and the remainder are neglected, we defeat our own ends just as surely as we should do if we clung to Rubner's teaching that an efficient diet need possess only an adequate calorie value. It is necessary that we should constantly remind ourselves that every factor must be taken into consideration—calories, a proper carbohydrate and fat balance, a sufficiency of protein and of essential amino-acids, inorganic material, vitamins, roughage, and palatability. It seems, perhaps, absurd that such elementary considerations should need to be stressed. Many factors, however, often operating in a subtle way, affect the food supply of a large community. Price fluctuations, commercial processes, the ignorant or unscrupulous "booming" of products for trade purposes, all play a part—a small one for those who in any case enjoy a varied diet, a very large one for the great majority for whom straiter means dictate more or less rigid limits in choice of food.

In view of the present bread controversy, it is very interesting to note that Professor Mottram finds that, by themselves, brown and white bread are about equally bad. His experiments, in fact, throw a new light on the traditional bread-and-water diet as a means of correction. It would appear that the type of bread eaten might quite safely be dictated by convenience or by personal preference, provided other sources of protein are available. The bread question, in fact, need only arise for those who, like Squire Western, have to deal with recalcitrant daughters.

On the occasion of the presentation to him of the gold medal of the Society of Apothecaries, Sir Gowland Hopkins lately advanced the rather provocative thesis that mankind, as a whole, had never been properly nourished. Whether the data for the final proof or disproof of such a statement will ever be forthcoming is doubtful; nevertheless, quite a good case could be made out in its favour. It must be conceded at once that a certain section of every community has always done very well on the whole, because it can take whatever food instinct or caprice may dictate. Probably the "strong man" of the primitive tribe, certainly the mediaeval nobleman and the modern sensible and well-to-do citizen, have all they need to eat. But the weaker members of the savage tribe may well have often been short of protein. We read in *Piers*

*Plowman* of the struggles of the mediaeval peasant for a balanced diet: the labourers

"Deigned not to dine today on night-old worts,  
May no penny ale please them, nor a piece of bacon  
But it be fresh flesh or fish, fried or y-baked."

Again, from Huxley's *Life of Hume* it is clear that scurvy was very common among the poorer class of the Scottish Lowlands during the winter months.

Colonel McCarrison cites examples to show that serious nutritional defects are the lot of many communities at the present time; and the same point is forcibly brought home by McCay's admirable monograph on the jail dietaries of the United Provinces of India, in which he discusses the diets of several Indian tribes (apart from jail inmates). Colonel McCarrison further develops the thesis that, short of conditions which are recognized as "deficiency diseases," malnutrition of any type may lead, both in man and in domestic animals, to a lowered resistance to many types of infection. He quotes some interesting figures, drawn from the disease and mortality rates of a large rat population and a smaller bird population, kept on a deficient diet. (Unfortunately it is not stated in what respects the diet of the former was deficient.) He gives, too, a long list of ailments, based evidently on clinical observations, which may follow upon malnutrition of various kinds. Other examples, such as the improvement of cases of pyuria in infants by administering large quantities of vitamin C, may be taken from works like *Avitaminosen*, by György. The main difficulty in appraising such evidence is, of course, to be sure that the many possible sources of error have been eliminated. Such considerations as heredity, immunity, and environmental conditions other than diet have a knack of playing havoc with the most convincing sets of figures. Should, however, this view prove to be substantially correct it is clearly of the utmost importance. From the point of view of the community the worst diseases are those that cripple the young adult; he or she then becomes a "passenger," unproductive, yet not eliminated. Should it prove feasible to lower the incidence of such diseases as tuberculosis or rheumatic myocarditis, by dietetic adjustments, to neglect to do so would be culpable.

If, however, adjustments are to be made on an extensive scale they must be thought out in relation to the diet as a whole. The haphazard addition of this or that factor—be it vitamin, salt, or energy-yielding substance—is very likely to be useless, and may be quite definitely dangerous. For example, Hopkins has found that excess of vitamin A in a diet causes, in rats, cessation of growth and other conditions very plainly pathological. Matters may be adjusted by increasing the amounts of vitamin B. The ill effects of partial carbohydrate starvation on children of a certain type are well known; again, Mellanby has clearly shown the undesirability of excessive amounts of oatmeal. The "booming" of one or another food material is almost certain to prove an ineffective measure, and its failure will necessarily bring discredit on all concerned.

Clearly the fundamental steps must be taken—as they are being taken—by the biochemist, who is in a position to produce unequivocal evidence based on rigidly controlled experiments. The value, too, of work such as that done by Corry Mann on dietaries of institutions, and by Mrs. Mellanby on the incidence and prevention of dental caries, can hardly be over-estimated.

## ZOOLOGICAL NOMENCLATURE.

ZOOLOGICAL nomenclature has always been a bugbear of teachers and students of medical zoology. Perhaps the most annoying feature of this nomenclature was the inflexible working of the law of priority. As our readers know, the rules governing nomenclature are framed by the International Commission on Zoological Nomenclature, a body appointed by the International Zoological Congress, which meets about once in every ten years. The last meeting was held at Budapest in September of last year, and at this meeting a very important amendment to the law of priority was adopted. This law now reads:

"The valid name of a genus or species can be only that name under which it was first designated on the condition: (a) that (prior to January 1st, 1931) this name was published and accompanied by an indication, or a definition, or a description; and (b) that the author has applied the principles of binary nomenclature. (c) But no generic name nor specific name published after December 31st, 1930, shall have any status of availability (hence also of validity) under the rules, unless and until it is published either (1) with a summary of characters (*seu* diagnosis; *seu* definition; *seu* condensed description) which differentiate or distinguish the genus or species from other genera or species; (2) or with a definite bibliographic reference to such summary of characters (*seu* diagnosis, etc.); and further (3), in the case of a generic name, with the definite unambiguous designation of the type species (*seu* genotype; *seu* autogenotype; *seu* orthotype)."

This revision of the law is intended to inhibit two of the most important factors which hitherto have produced confusion in the names of animals; and although several years of grace have been granted before it becomes operative, it is to be hoped that authors will give immediate effect to it. The congress also recommended that an author who publishes a name as new should definitely state that it is new, and that this statement should be made in only one (the first) publication, and that the date of publication should not be added to its name on first publication. It is also requested that authors who quote a generic or specific name should add at least once the author and year of publication of the quoted name, or give a full bibliographic reference. While this revision of the law of priority and the accompanying recommendations should do much to clarify the position in the future, it leaves the past untouched, and the confusion which existed in the names of the parasites is still much as it was. Readers will remember that Professor Leiper last year drew attention to the deplorable state of confusion which existed in the nomenclature of the commoner helminths. This has to a certain extent been corrected by the adoption of an *ad hoc* list of names which shall be accepted irrespective of the law of priority. The subject was discussed recently at the annual meeting of British zoologists, held at the Zoological Society's office in Regent's Park, and it was there unanimously agreed that the following resolution should be brought to the attention of the Nomenclature Committee: "That this meeting of British zoologists is in favour of a substantial extension of the lists of *nomina conservanda*." It is gratifying to find that this meeting has given its influential support to a position which the BRITISH MEDICAL JOURNAL advocated a year ago, and we hope that, while the position has been regulated so far as future names are concerned, a similar state of affairs may soon be in operation for the old confusing nomenclature of the past.

## DREAMS.

AN interest in dreams has been manifested by mankind from time immemorial, but it has been much intensified since Freud astonished the psychological world with his theory that sleeping thought is not, as had been generally held, a meaningless conglomeration of psychical processes, but that it is, on the contrary, the disguised expression of repressed wishes originating, with few exceptions, from

infantile sexual tendencies. This theory is intimately bound up with its author's conceptions of mental development and of the causation of the neuroses and psychoses, and it has for this reason stimulated widespread discussion, the development of numerous divergent schools of psychopathology, and a vast output of literature—good, bad, and indifferent. The problem of dreams itself naturally interests not only psycho-pathologists, but academic psychologists and educationists as well, and that this subject still attracts the attention of many psychological writers is evidenced from the fact that we have received three small volumes, all by non-medical observers, dealing with it from various points of view. Dr. George H. Green, whose interests are primarily educational, writes on the dream with which many of us are personally acquainted—namely, *The Terror-Dream*,<sup>1</sup> or what is more commonly known to the uninitiated as the "nightmare." It seems curious at first sight that the author should regard a dream out of which we wake up in a state of terrible anguish as a wish-fulfilling dream. This, however, is the view he does take, and from what he tells us it may in some instances be such as he believes. Briefly, he considers a terror dream to be an incomplete dream; he regards its manifest content as a statement of the condition which makes possible the fulfilment of hidden wishes, but considers that it does not pass on to fulfilment because the statement of the condition (dream content) evokes an emotional state (fear) which results in waking. We must confess that when the writer endeavours to apply this theory to the battle dreams of war-shocked soldiers we feel that he is stretching it to breaking point. Dr. Green expresses the hope that the study of terror dreams may afford a clue to the nature of failures of adaptation to the school and to the home, and thus make it possible to discover means of assisting the child to better adaptations. In contrast to this view Mr. R. F. Fortune, in his volume on *Mind in Sleep*,<sup>2</sup> maintains that the wish-fulfilment hypothesis is only valid for some dreams. Having obtained evidence of thirty dreams from two children, aged 5 and 6 respectively, he has come to the conclusion that the theories of childhood sexuality and invariable wish-fulfilment of children's dreams appear to be unfounded. Twenty per cent. were wish-fulfillments, 27 per cent. were conflicts between wishes and fear, mostly with frustration. The remainder were mainly concerned with pugnacity, rivalry, and fear. The writer does not consider that any of these dreams could possibly be interpreted in either the Oedipus or Electra complex pattern by any fair-minded observer. He entirely dissents from the view that nightmares or terror dreams are wish-fulfillments. In concluding his book Mr. Fortune expresses the belief that "it is legitimate to infer the conjunction of covert censorship and covert affective selection of submergent in cases that share the linguistic symbolism and general structural opposition to conscious thought characteristic of dreams in which censorship and affective selection of submergent appear overtly conjoined, and in which there can be little doubt of the mechanism involved." We should hesitate to express an opinion as to the validity or otherwise of this hypothesis, but the language in which it is formulated reminds us of a remark attributed to William James by Dr. F. C. S. Schiller, to the effect that "the natural enemy of any subject is the professor thereof!" We do not wish, however, to deter those who are interested in dreams from making themselves acquainted with this book on account of the intricacies of its concluding sentence; apart from this unhappy combination of words the book is readable, and contains a number of observations which those who have some knowledge of current theories of dreams will find

<sup>1</sup> *The Terror-Dream*. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1927. (Cr. 8vo, pp. 126. 5s. net.)

<sup>2</sup> *The Mind in Sleep*. London: Same publishers. (Cr. 8vo, pp. xii + 114. 5s. net.)

interesting. We come now to the third book: It certainly cannot be said that *Dreams*,<sup>3</sup> by Mr. Percy Goldthwaite Stiles, is enveloped in an atmosphere of professorial obscurity. The author has an engaging style, and what he writes makes pleasant reading. He says he is not a trained psychologist, and has not made any extended study of dream literature, preferring to remain an amateur rather than attempt to qualify as an expert in this field. The present collection of dreams was begun in 1897, and from that time down to the present there have been no very large gaps in the series. The writer does not pretend to pose as an oracle where the dreams of others are concerned. During the last few years he has made sketches to give prominence to certain features of his dream stories. Many of these drawings are included in the text; they are very quaint, and enhance the charm of the book. As the result of his studies Mr. Stiles finds the dreaming personality to be egotistical, and the prevailing mood to be one of self-satisfaction. The dreamer thinks that he reasons admirably when his logic is grossly at fault, and even in those exceptional passages in which there is sharp self-ridicule there is an underlying conviction of his own importance. More commonly he is impudent and aggressive, displaying an excess of self-confidence. The psychology of dreaming, says the author, is nearly akin to that of "yellow journalism." He concludes with the generalization: "To sleep is to contract. To dream is to be committed to crass egotism and to sitting in the seat of the scornful. We wake to a broader vision, a more patient philosophy, a kindlier idealism." No one, whatever particular dream theory he may hold, will feel that he has wasted his time in reading this entertaining book. Perhaps it is all the better because the author is unhampered by theories.

#### INTRACRANIAL CAPACITY.

ANTHROPOLOGISTS find that the estimation of the cranial contents when only a few fragments of the skull are available calls for very special skill and judgement. In using any one method it will often be necessary to make some assumption, possibly several, which may seriously affect the result. It is therefore very desirable to have more than one method of estimation available, and Professor Drennan of the University of Capetown, whose essay in praise of anatomy is published elsewhere in this issue (p. 109), has recently contributed to *Nature* an ingenious plan which he has applied with apparent success to the bones of the Piltdown skull. On examining the endocranial aspect of Barlow's casts of the bones Professor Drennan was struck by the size and clearness of outline of the grooves for the middle meningeal vessels on the parietal fragments, and of the transverse sulci—that is to say, the grooves for the transverse venous blood sinuses—on the occipital fragment. On inspection of the corresponding grooves in the baboon and in the gorilla it was seen that in both they were narrower than in man, and narrower in the baboon than in the gorilla. This afforded evidence that the size of the venous sinus grooves (transverse sulci) is related to the capacity of the cranium, as was to be expected, seeing that these sulci lodge the veins which convey practically all the venous blood returning from the brain. Larger channels must be needed for the larger amount of blood returning from the larger brain. He put this hypothesis to a practical test; the relation of the width of the sulci to the cranial capacity was ascertained in thirty-two skulls, and a regression formula for the calculation of the cranial capacity in terms of the width obtained. Estimated from this formula the cranial capacity of the Piltdown skull came out at 1,415 c.cm.; the latest calculations of the capacity by other methods are: by Dr. Smith Woodward

and Professor Elliot Smith 1,300 c.cm., and by Sir Arthur Keith 1,400 c.cm. The agreement, therefore, is fairly close, although a table given by Professor Drennan shows that there are considerable variations in individual skulls, so that the value of the method is not absolute.

#### THE CARE OF EYE DEFECTS.

THE report of the departmental committee appointed by the Minister of Health and the Secretary of State for Scotland on the Optical Practitioners (Registration) Bill, 1927,<sup>1</sup> was summarized in our issue of January 7th, at page 26. It consists of three reports—the first signed by nine of the thirteen members of the committee, a second issued by three members, and a third by a single member dated ten weeks earlier than the date of the other reports. The committee has been commendably expeditious, for it was appointed on March 31st and reported on December 17th of last year. It took evidence from fifty-five persons and organizations, but the evidence, described as "very voluminous," has not been printed. It will be recalled that of the many shopkeepers—jewellers, pharmacists, and opticians—who hold themselves out as "sight-testers," certain groups combined themselves into trade societies, and these societies declaimed against the laxity of the law which allowed all and sundry to "test sight," and urged that for the sake of the nation's eyes they themselves should be enrolled upon a State register of official sight-testers. That was the gist of the aim of one of these bills—the Optical Practitioners (Registration) Bill, 1927. When this bill was before Parliament the Minister of Health referred the matter to a committee, representative of all parties concerned, for a considered opinion on the desirability or otherwise of such new registration. Our concern is with the Majority report. It is agreed therein that present conditions are unsatisfactory. The sale of cheap spectacles is said to be enormous. There exist a considerable number of opticians "the reality of whose qualifications does not always correspond with the high-sounding titles which they assume." It is therefore concluded that "there is a *prima facie* case for setting up a State register in order to produce some sort of order out of the present chaos." But for all that it is considered that such a register is not desirable policy. To set up a register prohibiting practice to any but the registered would be against public interest, because at its initiation this would involve the inclusion of practically all opticians. A limited register that did not prohibit unregistered practice would be useless, if not dangerous, unless it were made a condition of entry that every candidate should prove to the satisfaction of the board his ability to exclude the possibility of the existence of disease before prescribing spectacles. The committee found further "that it would be necessary not only to impose restrictions on registered opticians in their way of treatment, of advertising, and of using confusing or misleading titles, but that it is imperative that they should be prohibited from using drugs. Such a restriction would in effect severely limit the class of patients whom opticians would be capable of treating." The report does not end with this conclusion. The final paragraph lays great emphasis on what is a virtual promise on the part of the medical profession that at no distant date there shall be a sufficient service of medical practitioners well trained in ophthalmology to meet the necessities of the situation. The work of the British Medical Association is admittedly the ground for this expectation. During the past few years the Association has done much to encourage medical practitioners, and particularly the newer generation, to

<sup>3</sup> *Dreams*. Harvard University Press. London: Milford. (Post 8vo, pp. 80; illustrated. 7s. net.)

<sup>1</sup> Report of the Committee appointed by the Minister of Health and the Secretary of State for Scotland on the Optical Practitioners (Registration) Bill, 1927. Cmd. 2599. London: H.M. Stationery Office. 6d. net.

cultivate this work; it has prepared a list, of no mean proportions, containing the names of those competent in this work and willing to undertake it; and at the last meeting of the Representative Body the Association agreed to the provision of clinics where insured persons might receive expert attention under conditions economically possible. We have published in the SUPPLEMENT lately some few criticisms of this policy from correspondents. Their concern appears to arise in part from a fear that clinics may destroy private consultations, and in part from a belief that "clinics" meant costly central buildings. But the arrangements in view are that the private consultations and the clinics should run together; and that where this would be convenient the clinics should be worked at the doctor's own house by his car-marking, by arrangement, one evening a week or so for a group of patients. The evidence given by the Association as to the existing and projected provision of expert treatment of eye conditions by medical practitioners without doubt impressed the departmental committee, and it is the duty of those concerned to expedite the arrangements. Economic conditions have swayed many approved societies in favour of arrangements with opticians. But there is some ground for the belief that the work could be done by doctors under arrangements that would in the end prove the more economical financially (by reason of a more judicious prescribing of glasses); and this irrespective of the advantage that will accrue from preventive measures that may be initiated by expert eye examination. There is a growing volume of ophthalmic work to be done. The public reads to-day as it never read before. Modern industry demands good eyesight. Bad or poor sight means poor work and additional risks of injury. It is conceded on all hands that the best for all persons is that the care of their eyes should be undertaken by trained medical practitioners. Let it not be said that there is a lack in the response of our profession to this call.

#### MEDICAL HAGIOLOGY.

THE Fellows and guests who were received by Sir James and Lady Berry at the social evening of the Royal Society of Medicine on January 16th found themselves immediately in a mediaeval atmosphere. The library was adorned with representations of saints, in the shape of statues, frescoes, prints, and tokens (the exhibits having been lent by the Wellcome Historical Medical Museum and by Miss Marie Roche), and in the Barnes Hall Dr. Jane Walker gave an address on the surprisingly extensive calendar of medical and surgical canonizations. The outstanding patron saint of medicine was admittedly St. Luke, though Dr. Walker thought that he was now rather discredited as a doctor, for his gospel had been examined from the medical point of view and declared to show no signs of the possession of any special medical skill or knowledge. At the same time, she thought there were professional touches in the narrative; for example, the omission of the fact, recorded by the other synoptists, that the woman with the issue of blood had spent all her money upon physicians and was nothing the better for it, but rather worse. Again, there was the description of Peter's wife's mother as sick of a fever. There were people, however, who declared that St. Thomas, an honest and reverent sceptic, would be more appropriate as the patron saint of the medical profession. Another great figure was St. Pantaleone, the physician who suffered martyrdom for his faith in the reign of Galerius Maximus. In mediaeval representations he was shown wearing the long robes of a physician. The story of St. Cosmo and St. Damian has lately been recalled by their selection as supporters for the arms of the Royal Society of Medicine, but Dr. Walker related their curious history and showed equally curious pictures to illustrate it. Then came the

group of virgin martyrs—St. Margaret, St. Barbara, and St. Catherine. The first of these was the patron saint of pregnancy, for the reason that she had delivered herself successfully out of the dragon. In the picture by Van der Goes in the Uffizi at Florence she was shown in the tryptich standing at the top of the dragon, having emerged from its head. St. Barbara was invoked against all accidents arising from explosions of gunpowder. The arrows which pierced St. Sebastian were always regarded as the emblems of pestilence—the psalmist's "arrow that flieth at noontide"—and there was hardly a town in Europe which was not reputed to have been spared the horrors of pestilence by the intercessions of this saint. Another of the plague saints was St. Roche, who was also the patron saint of the sick in hospitals because, at his birth at Montpellier in the thirteenth century, he had a small red cross on his breast. Next came St. Lucy, the virgin martyr of Syracuse in Sicily, and patroness against diseases of the eyes. She had plucked out her own eyes because her lover had admired them inordinately. St. Agatha was the protectress against diseases of the breast, because her own breasts had been cut off by her persecutors when they failed to achieve her dishonour. St. Catherine of Alexandria, carefully distinguished from the noble lady of Siena, was patron saint against diseases of the tongue. She, like many of these saints, was subjected to various tortures, from which she was miraculously delivered, but in her case, as in that of Cosmo and Damian, beheading was apparently final and conclusive. Then there was St. Apollonia, potent against toothache, who had her own teeth pulled out with pincers for refusing to worship a statue. St. Erasmus, bishop and martyr, was the patron saint of sufferers from stomach-ache and allied disorders. The method of his martyrdom was peculiar; he was cut open, and his entrails were wound off on a sort of wheel. Sufferers from throat affections sought the intercession of St. Blaise of San Biagio, who had miraculously saved a child from the consequences of swallowing a fish-bone; and patients with lung diseases had St. Ansanio of Siena, though it was not known how he got his patronal qualification. Dr. Walker confessed to some fear lest the title of her address should have led any to infer that it included those great practitioners of the art of medicine who, apart from their skill in their profession, have been so full of grace and holiness as to merit the title of saint. Medicine, indeed, had had its real saints, and they had been mostly moderns.

#### TREATMENT OF FRACTURES.

WE agree with a writer in the current number of the *St. Bartholomew's Hospital Journal*, that it is a pity there is not a special ward for the treatment of fractures in that, and indeed in every general, hospital. When the general hospital in question has a medical school attached we think that the need for a special ward for these cases is still more crying, for without it the chance of students learning the modern treatment of fractures of the lower extremities must be very small. The author of the article, Mr. H. B. Stallard, whose remarks are addressed in particular to nurses, says that it is not unusual for a patient suffering from fracture of the femur to have his pelvis raised independently of the rest of the extremity, so that the nurse may reach the buttocks and lumbar region; nor for one whose spine has been fractured to be rolled over for dressing purposes; and that in these and other ways attempts to immobilize a fracture are frustrated. Various beds and frames have been devised with much ingenuity for the purpose of maintaining correction and preventing movement between fragments of fractured bones while allowing the necessary access to the other parts of the patient to secure cleanliness and preservation



of the skin. The bed described and illustrated diagrammatically by Mr. Stallard would, with such modifications as actual practice is sure to indicate, no doubt be useful. The pattern of the particular machine employed is, however, of much less moment than familiarity with its working, and a due appreciation of the principles involved, on the part of surgeons and nurses. Attention to details and accurate adjustment are of the first importance in securing that *restitutio ad integrum* which is so necessary for the patient, especially if he be a manual worker whose earning power depends upon his physical efficiency. The advantages of a special "fracture ward" seem to us so obvious as to be beyond dispute. Nevertheless, they are not universally conceded, and may need to be re-stated. They were practically admitted by the speakers in a discussion on this subject at the Annual Meeting at Bath in 1926. Among those speakers were general surgeons from various parts of the kingdom as well as orthopaedic specialists. The experiences of the war were still fresh in all minds, and it was hoped that the lessons learnt and the huge experience gained in treating gunshot fractures might not be wasted or forgotten, but made useful in the treatment of the injuries of civil life, which have been so much increased in number and severity by the growth of motor traffic. If a whole ward were devoted to the care of fractures it is only too likely that the beds would be kept full, and then all concerned would become expert and assiduous in fracture treatment from the moment of admission of a case till its discharge. A case of abdominal section after the stitches are tied generally needs none but trivial surgical attention until convalescence, but a case of fracture of one or more important bones may need frequent readjustment if the best result is to be secured; and house officers and sisters have to be experienced and alert to perceive when all is not right and to take the necessary steps to remedy the ill. To insist on the importance of  $x$  rays in this connexion should be unnecessary, but at the risk of tediousness we would insist that no fracture should be assumed to be properly "set" until stereoscopic  $x$  rays, or two plates taken at right angles to one another, have shown the position of parts to be satisfactory while in the retentive appliance.

#### JOHN HUNTER.

THE Mansion House, the building of which was completed at about the time John Hunter settled in London, was the scene of the delivery of the Hunterian Lecture on Monday evening, within a month of the bicentenary of Hunter's birth, by Dr. Howard Kelly of Baltimore. The lecture, delivered under the auspices of the Hunterian Society, was a rapid review of the history of surgery leading up to Hunter. Dr. Kelly acknowledged his indebtedness to two of the greatest of medical historians—the late Sir Clifford Allbutt and Dr. Fielding H. Garrison, editor of the *Index Medicus*. He took as his text three words: *τησις* (meaning the rub and wear of daily contact with facts) *μετά λογος* (meaning the spiritual essence, the ideal, the larger conception). He regarded these master words as significant of the Hunterian philosophy. A search back through John Hunter's intellectual ancestry carried one right away to our Hippocratic forefather. To the island of Cos we owed the beginning of clinical instruction and the example of the open mind, the rejection of superstitious follies, and the alert and highly trained use of the senses. Long afterwards came Galen, the speculative philosopher, with one of the most encyclopaedic minds of antiquity, *facile princeps* as physician, biologist, anatomist, and founder of experimental medicine. But the lecturer also pointed out the mischiefs which arose out of Galenical doctrine, with its dogmatism and assumption of infallibility—mischiefs which became most clearly apparent long ages afterwards in the treatment meted out

to Copernicus, Tycho Brahe, and Galileo. Not the wisdom of Galen, but his dogmatism, characterized for long the stupid autocrats of our precious heritage. But shafts of light shone through the darkness, especially from the thirteenth century onwards, until the steady gleam of Hunter's torch rose at length above the horizon. The fore-runners of Hunter were often humble and unlettered men, and their place in the revival had been too rarely sung, but they helped to break down the notion that the Almighty had exhausted Himself when He created Gálon! The lecturer mentioned the names of several of them—Roger of Salerno, Langfranc, Mondino de Luzzi (who introduced dissection into the teaching of anatomy in place of the more dogmatic statements taken from Galen), and, above all, Ambroise Paré. Two other names, nearer to the time of Hunter, were also mentioned—Richard Wiseman (1622-76) and William Cheselden (1688-1752). The lecturer spoke next of what he called the spring tide in the world of thought in the eighteenth century. New elements seemed to come raining upon the earth during the time of Hunter. The greatest natural philosopher, Isaac Newton, died the year before Hunter was born. The beginnings of the science of chemistry belonged to this era, which saw the work of Priestley and Lavoisier, to be followed later by Humphry Davy. Geology became an everyday science through James Hutton, John Playfair, and others. There were great developments, too, in botany, while in astronomy Herschel and his gifted sister were riveting attention upon the heavens. There was also stirring a moral regeneration, beginning in the revival of religion. On the work of Hunter himself the lecturer did not dwell, but he spoke of his greatness as an experimentalist, which was revealed continually in his numerous letters to his pupils, his almost unparalleled avidity for knowledge, his tremendous energy and industry, his greatness as a naturalist, and his many important contributions, especially to comparative anatomy and pathology. Finally, Dr. Howard Kelly touched upon some of the great men of the post-Hunterian era, and said that the names of John Hunter and Joseph Lister must jointly ever be held in greatest honour. He concluded by delivering a fraternal message from William Mayo, and by presenting to the society a letter written by Hunter which had been in the possession of the family of one of Dr. Kelly's pupils in the United States, but which it was thought should properly find a place in the Hunter collection in this country. The feelings of the large and distinguished company towards the lecturer were expressed by Mr. T. H. Openshaw and Dr. H. A. Ellis, and in his reply Dr. Kelly repeated a long and charming description, furnished him by an American colleague who had studied at Glasgow, of the late Sir William MacEwen's methods in clinical teaching.

THE Morison Lecture before the Royal College of Physicians of Edinburgh will be delivered in the Hall of the College, Queen Street, Edinburgh, by Dr. George M. Robertson on Wednesday, January 25th, at 5 p.m.; the subject will be "The teaching of psychiatry in Edinburgh and Sir Alexander Morison."

A SPECIAL meeting of the Council of the Charity Organization Society to discuss the question of "The voluntary hospitals and the public authorities" will be held at Denison House, 296, Vauxhall Bridge Road, S.W. (three minutes from Victoria Station), on Monday, February 13th, at 3.30 p.m. The chair will be taken by Lord Dawson of Penn, and the speakers will be Sir William Hamer, Dr. E. Graham Little, M.P., and Dr. Humphrey Nockolds. It is hoped that representatives of the voluntary hospitals and public authorities of London and Greater London will take part in the discussion.

## THE VALUE OF ANATOMY.

BY

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THE interesting address by Sir Berkeley Moynihan on "The approach to surgery," published in the *BRITISH MEDICAL JOURNAL* of October 8th, 1927, emanating as it does from such an authoritative source as the President of the Royal College of Surgeons of England, commands the serious attention of those of us who are engaged in the teaching of anatomy. His strictures on the present-day teaching of anatomy, supported as they are by Sir Arthur Keith, the distinguished curator of the same institution,<sup>1</sup> surely constitute a challenge to all anatomists. Unless someone attempts to meet the charges they will pass for true, and the temple of anatomy will be destroyed and false gods may be set up in its stead.

It is not quite clear whether the distinguished President, when he advised a limited study of anatomy, was directing his advice only to those who wished to specialize in surgery, or whether he wished his remarks to apply as well to the general undergraduate approach to the surgical side of the medical qualification. The mere fact that he addressed his words to undergraduates, and to those who are responsible for their teaching, leads one to believe that they were meant to apply in this case also, and that he is on the side of those who would restrict the opportunities for the study of anatomy.

I venture to think that his views will not meet with the approval of all surgeons, but it is as an anatomist that I wish to challenge them, because I think that there is a great danger of the position of anatomy in the medical curriculum being still further jeopardized. It is already wedged in, in many schools, between the clamorous preliminary sciences, that precede it, and the actively growing clinical subjects, such as bacteriology, that succeed it.

The gravamen of the charge against anatomy would appear to be that anatomists do not teach sufficient function, for it cannot surely be maintained that they neglect this entirely. I do not think that it is fully realized what an enormous amount of knowledge of function is presented by anatomy without acknowledgement. An accurate knowledge of the attachment of muscles makes the functional result of their contraction obvious. Nay, more, as the surgeons must admit, this is almost the sole means of explaining the displacement of the parts in a case of fracture, and a consideration of the relative anatomical position of the structures is the guide in treatment. So it is with the joints, the action of which is determined by the shape of the bony surfaces involved, and by the position of the ligaments, such as the hinge ligaments. There is no need to repeat platitudes about the nerves and blood vessels. Suffice it to say that we seem to have inherited too easily a vast tradition of knowledge, which, like the art of walking, we do not appreciate till there is a danger of our losing it.

The case must be different with regard to such organs as the kidney. The anatomist seems to me to have done his duty when he has located its position and relations and described its structure. It remains for someone with an entirely different training, based on chemistry and physics, to deal with its function, and someone else with a still different training and opportunity to discuss the various derangements of structure and function. It is surely not necessary, in these days, to defend the many advantages of legitimate specialization. Whilst it is no doubt true to say that many of the great masters in the past successfully combined a number of subjects, all of them necessarily limited in outlook, it is no longer right to aim at being "a Jack of all trades and master of none."

It is difficult, therefore, to understand what Sir Arthur Keith meant when he stated in the paper referred to above: "Sponser or later—and the sooner the better if the student is to be served—a new dividing line has to be drawn between the departments of anatomy and physiology, and that dividing line should not separate structure from function." Surely there is a case for separating the

teaching and study of human biology on structural and functional lines. The former method of approach depends on a training with the scalpel and the microscope, the latter on a knowledge of chemistry and physics. The sterility which, after a fruitful start, has come over histology in the hands of the physiologists is largely the result of its having been placed in uncongenial surroundings. There are signs of a rejuvenation in this subject now that it is being restored, in so many schools, to its proper place—namely, in closer relationship to anatomy than to physiology.

Nothing that is said above is to be taken as indicating that the teacher of anatomy should not avail himself of every opportunity of suggesting in a word that structure and function are invariably harmoniously related, and that our interpretation of the reactions of tissues to disease is predetermined by the conceptions we have already formed of the two former. Nor can one afford to neglect the light that is shed on all aspects of disease by a knowledge of morphology in its widest sense. In this last connexion it is only necessary to refer to the knowledge of, and control over, pituitary disease that is being gained by suitable co-ordination of researches into the anatomical, developmental, morphological, physiological, pathological, and clinical phenomena of this curious organ. But it is not possible to expect that any one man could be suitably qualified to discuss all these aspects of this one problem. A certain amount of isolation is therefore unavoidable, and in fact has its advantages, provided some means of co-ordination can be evolved lest the student be unable to see the wood for the trees.

The second charge is that anatomy is a somewhat lifeless subject. This must be true in so far as it is necessitated by the nature of the material, but I doubt if the mental effort necessary on the part of the student to transfer the knowledge gained from the dead body into terms of the living patient is any more difficult than in the case of pathology. Nor is it scientifically or pedagogically less sound to teach the living structure from the dead than to transfer by analogy the results of observations and experiments on the lower animals to the case of man, as is done in so many of the other medical sciences. The fact remains that anatomists, like all other medical teachers, are attempting as far as possible to adjust their teaching to its ultimate purpose—namely, the education of the efficient medical practitioner.

The study of anatomy is often regarded as the mere memorizing of a vast number of relatively useless and even meaningless facts, and, taught at its worst, it is possible to look on anatomy in this light. There is a greater danger of this happening if the anatomist or even the physiologist has not had sufficient clinical experience. It is apt to be forgotten, however, that anatomy is one of the most accurate descriptive sciences, and a training in the art of putting into words the appearances of things seen must be of no small virtue for medicine, whose advance depends on accurately recorded observations.

Apart altogether from the great intrinsic value of the facts of anatomy, one of the greatest advantages which accrue from its study is the training which it gives for the hands. My own experience is that students come from school and from their previous training utterly devoid of any manual skill. A comparison between a man's first efforts at dissection and his last is a sufficient demonstration of the great development of his sense of touch and of his manipulative, not to mention artistic, skill that has been acquired in the interval. This is sure to stand the future practitioner in good stead, for in his practice he will have ample need to use his hands. Yet the medical curriculum is not over strong in the training which it provides in this direction, for in the existing circumstances a large part of even the surgical training is received in the galleries of operating theatres. It is true that it is an inspiration to see the highest flights of anatomical craftsmanship being executed on the living by masters like Sir Harold Stiles, but the masters have one day to be understudied by the interested spectators, and we are here discussing the best methods of approach to the ideal surgeon.

As I see it there seems to be a confusion of ideals as regards the type of training necessary to make a good

<sup>1</sup> Sir Arthur Keith, *BRITISH MEDICAL JOURNAL*, September 4th, 1926, p. 410.

doctor or surgeon. Whilst it is always desirable to introduce students to the methods employed in research, this should not be done at the expense of a good technical training in the procedures that are known to make efficient practitioners. Although the two ideals are compatible and constitute the essence of good teaching, yet there are times when one aspect is apt to be overstressed. There is a danger that, in emphasizing the value of an experimental training for the surgeon with a view to qualifying him for research, we may neglect to make the good craftsman, which is just as important, at least for the patient.

It is not as if the experiments undertaken had always much of intellectual virtue in them. The pedagogic practice of shaking two known solutions in a test tube and getting some foregone conclusion is of doubtful value, nor is there much to be gained over reading in making an analysis by rule of thumb. There is little training in technique and less in judgement in the usual routine tissue observations, following as they do cut-and-dried lines. There is room, therefore, for much putting of the house in order, but there is no need for holshervistic methods, nor are all the defects to be laid at the door of anatomy, nor can all the reforms be made at her expense. The use of living models by anatomists is a step in the right direction, but the next step must be the rewriting of the textbooks of anatomy with a new orientation towards the other medical subjects, and paying more regard to the relative importance of the various details, and to the limited time at the student's disposal.

Nevertheless, and without feeling unduly complacent, anatomists have every right to review their two thousand years of continuous scientific teaching and study with a good deal of satisfaction. Although some would hold that the golden age is past, there is little need to disparage a subject that has for so long been regarded as the basis of pure art and the foundation of scientific medicine. Even the moderns need not despair of a science that in recent times has given birth to the hefty twins morphology and embryology, which have provided the thunder for the theory of evolution that has transformed human thought. Nay, more, anatomy is still fertile and pregnant with the new science of physical anthropology, which if it fulfils its promise will revolutionize medicine with the light which it may throw on the human constitution and its structural predispositions to disease.

Even if the lean years appear to have fallen upon some countries it is a consolation to know that, in American schemes of medical education, anatomical laboratories are rightly dominant and productive, so that the sun of traditional anatomy is apparently not yet set.

## CANCER OF THE RECTUM.

### ANALYSIS OF RESULTS OF OPERATION.

Of all deaths registered as due to cancer of the digestive tract the largest proportion occur within the rectum. In this situation cancer is readily accessible both for diagnosis and treatment, yet surgeons have often complained that about half the cases when first brought to their attention have advanced too far to warrant an attempt at radical removal. Since education seems so necessary on this subject it is fortunate that the Ministry of Health Departmental Committee on Cancer decided to choose cancer of the rectum for special statistical investigation. The report of this committee has now been published.<sup>1</sup> As with previous reports, such as those on cancer of the breast and uterus, the method adopted has been a comprehensive survey of the literature, in this case embracing the publications from ten different countries concerning nearly 6,000 cases of cancer of the rectum. We propose to quote briefly the conclusions of the report, and then to comment on certain important questions which this statistical analysis raises for discussion.

#### Main Deductions.

The findings of the inquiry are as follows:

1. On the average a period of twelve months elapsed between the occurrence of the first symptom of the disease and the patient coming to operation.

2. Rather less than half the cases when seen by the surgeons were considered to be operable.

3. About one-sixth of all the patients who underwent a radical operation died as the result of such operation or from causes connected with it.

4. There is evidence, though limited, to show that the mortality from operations is much higher than the average among those patients who are in an advanced stage of the disease.

5. Two out of five of those submitted to radical operation were alive three years afterwards.

To put the whole conclusion in one sentence—patients come to the surgeon too late, radical removal is itself a serious risk, and less than half of those who submit to it are alive three years afterwards.

#### The Questions at Issue.

Faced with this sombre picture we are entitled to ask if any advantage is gained by surgical treatment. How long will a patient with cancer of the rectum survive if he receives only palliative treatment, and how does his expectation of life compare with the average patient who enjoys the full benefits of surgical skill?

When the Ministry of Health report is searched for an answer to this question some details are found which seem to be well worth bringing more clearly into view. Thus, an analysis of 2,543 cases submitted to radical operation during the past fifty to sixty years shows that the average number of years of life for each patient up to the end of five years after operation was 2.53. This may be regarded as the expectation of life for the average treated case destined to die within five years. The figure for the untreated case (obtained by a modification of the survivorship table in Dr. Greenwood's "Natural duration of cancer," Report No. 33) is 1.69; so that, on the average, radical operation prolongs the life of a patient by 0.9 year (for patients dying within five years), or, in other words, the patient submitting to radical operation but dying within five years has an advantage of 59 per cent. over the untreated patient.

Whether or not the treated patient will receive the full benefit of this advantage from surgical intervention appears to depend to an unexpected degree upon the nationality of his surgeon. This fact is strikingly illustrated in Table 9, which gives the published results for six countries since 1890. Of 2,344 patients with regard to whom the necessary information is available 39.9 per cent. are estimated as having been alive three years after operation, but when grouped according to their country of origin the percentage is found to vary from 26.9 to 51.4 per cent. It is gratifying to find that England heads the list with the highest percentage of three-year survivors. But a careful study of other sections of the report will suggest many reasons for the wide range of variation in the operative results of different countries, two of which—the standard of operability and the type of operation performed—are of particular importance in this connexion.

At present there are no generally accepted criteria of operability in cancer of the rectum, each surgeon being guided largely by his own personal experience and the type of operation he practises. Obviously a cautious interpretation of the operability standard is likely to produce better statistical results. The whole question of operability is discussed in the report, and 5,231 cases are reviewed from this point of view, but this part of the abstractor's labour has been comparatively barren. It would not be too much to say that operability in cancer of the rectum could only be expressed in exact figures when statisticians have found a way of measuring surgical initiative and experience, and assessing the operative facilities available in any particular circumstances. The type of operation performed, however, is eminently a subject for statistical analysis, and in this respect the report offers useful figures, though not perhaps so large as could be wished.

#### Chief Types of the Radical Operation.

The radical treatment of cancer of the rectum has come to be standardized into three chief types of operation—the perineal, the sacral, and the combined or abdomino-perineal. When the results are considered in relation to

<sup>1</sup> Ministry of Health. Reports on Public Health and Medical Subjects. No. 45. H.M. Stationery Office. 1927. Price 1s. 6d.

the type of radical operation employed, those of the perineal and sacral operations are found to be practically the same up to the end of the second year, but the perineal operation has often an advantage over the sacral. The distinction between the results of sacral and perineal operations is not of much importance, particularly because the report does not define what is to be included in a "sacral operation," although it gives a general account of the perineal and combined operations. The comparison which is of most interest is that between the combined operation (involving both an abdominal and perineal operation) and the perineal excision. Unfortunately, the figures for the combined operation are too small to allow of any final deductions, but in so far as they may be trusted they show that the operative mortality rate for the combined operation is much higher than for other operations. In Table IV the operative mortality from the perineal operation is stated as 17.4 per cent., from the sacral 15.4 per cent., and from the combined 32 per cent. When the influence of the type of operation on survival is compared the results of the combined operation appear to be worse than those of the other two types up to the end of the second year after operation. At about this period they begin to improve, and at the end of the third year they are nearly the same as those of the perineal operation, and better than those of the sacral. The figures for the combined operation are, however, very small, and the above deductions must therefore be regarded as merely tentative.

Before leaving the subject of operations attention must be drawn to the useful section of the report dealing with operative mortality, which for 5,240 cases of radical operation is shown to be 16.5 per cent. When the sexes are considered separately the operative mortality for 860 males is found to be 18.9 per cent., while for 538 females it is 15 per cent. As already stated, the operative mortality for the combined operation is approximately double that of the perineal. Sepsis was found to be much the most important immediate cause of operative deaths, being responsible for nearly half the deaths from operation. Shock and collapse, the next cause in order of importance, only account for a little more than half the deaths due to sepsis.

#### *Symptomatology.*

The fact that in such a high proportion of cases a correct diagnosis of cancer of the rectum is only made when the tumour has passed the stage of operability indicates the importance of focusing attention on the early signs and symptoms of malignant disease of the bowel. For this region of the body there is no one symptom to suggest cancer; a decision to proceed to proctoscopic or sigmoidoscopic examination must be based upon a grouping of signs and symptoms, of which the most important are irregularity of stool, pain, and blood in the motions. These were found in 84.5 per cent. of the 1,244 cases considered from this point of view. Of the later indications of the disease, irregularity of stool, blood in the motions, and pain are found to be the commonest in the order named. These facts clearly demonstrate the great importance of performing a thorough examination, at the first opportunity, of all patients, or at any rate of those over 30 years old, who suffer from blood or pain at stool, constipation or diarrhoea, or pain in the anal canal, rectum, perineum, sacrum, or abdomen. The absence of peculiar symptoms and signs undoubtedly adds to the difficulty of diagnosis, but (to quote the concluding paragraphs of the report) "it does not in any way absolve the patient's medical attendant from the duty of carrying out a thorough examination at the earliest possible moment if any of the chief early indications just enumerated be present. The statement often made that cancer of the rectum is a painless disease, at any rate in its earlier stages, is in direct opposition to the evidence contained in the literature, and this gives us grounds for hoping that the earlier recognition of the disease is not an aim impossible of achievement."

#### *The Outlook.*

We have given the main conclusions of this report and commented on some of the more important practical questions which are raised. After reading a book the reader who has faithfully followed the detail of every page is

entitled to ask, when he comes to the end and seeks a place for the newcomer on his shelves, "Where does this book stand in relation to its fellows?" A certain degree of detachment is necessary; the book must be viewed in relation to what has come before and is likely to come after; its limitations as well as its achievements must be considered. Viewed as a whole in this attitude of mind we observe that this report only deals with published cases and takes cognizance only of a fraction of that mass of unrecorded experience which forms the daily practice of surgeon and physician treating rectal cancer; that during the period surveyed (almost from the beginning of radical surgery for rectal cancer) improvements and modifications have changed surgical technique so rapidly that any system of classification of operability or operation must be very elastic and conclusions most cautious; and finally, that the particular point in time at which this summary has been completed (though convenient for readers living in 1928) is not actually a suitable one in the history of rectal surgery. In a few more years, after a wider experience has been gained, it will be possible to assess more accurately the relative merit of different surgical practices on which the present report is unable to speak with sufficient authority.

Now that its position on the shelf has been decided we should remind ourselves, before consigning it to its place of reference, of the main lessons it has to teach us for the present and immediate future. Turning to the preface of this report we find these words by Sir George Newman: "In the meanwhile, there are ample indications as to the lines along which progress may be made in the control of cancer at this site—namely (a) the recording in future cases by the surgeons concerned of full details, such as are indicated in this report, in order to provide them with those complete data upon which alone the rational treatment of the disease may be founded; (b) the education of the public and of the medical profession in those already established facts which will conduce to discovery and treatment of the disease while there is still hope of permanent cure; and (c) the development by all suitable means of those facilities for diagnosis and treatment which have proved effective in the past."

## England and Wales.

### SOCIETY OF BRITISH NEUROLOGICAL SURGEONS: LONDON MEETING.

THE third meeting of the Society of British Neurological Surgeons was held in London last month. Sir Charles Ballance, retiring from the presidency, was appointed honorary president, and Mr. Wilfred Trotter was elected president. It was announced that Dr. W. W. Keen (Philadelphia) had been made an emeritus member, and Professor Harvey Cushing (Boston) and Dr. C. H. Frazier (Philadelphia) honorary members. In the morning Mr. H. S. Souttar operated at the London Hospital, using his craniotome, and cut a large frontal flap, under local anaesthesia, in an exploration for a parasagittal cerebral tumour. Cases and apparatus were subsequently demonstrated by Mr. Souttar. The later proceedings took place at the Institute of Anatomy, University College. Professor Elliot Smith, in a most instructive address, reviewed some of the commonly neglected points in intracranial anatomy of interest to the neurological surgeon, referring to the work of Dr. Harris on the development of the diploë, the course of the abducens nerve, and to his own work on the visual area and the relations of the carotid arteries to the optic chiasma. Papers were then read by Mr. Broster, on a case of suprapneal virility, with operative findings; by Mr. H. C. Cairns, on the effect of trauma in disclosing new clinical signs in neurological cases; and by Mr. Julian Taylor, on the nature of bone invasion and proliferation in cases of meningeal tumour. A discussion on the surgery of head injuries brought to light a very general conservatism with respect to early operation, except in cases where a localized haemorrhage could be diagnosed, and in cases of penetrating wounds. The following morning was devoted to the display of patients by the London members,

and to a demonstration by Dr. H. A. Harris of the preparations in the museum of the Instituto of Anatomy, University College.

#### THE FLOOD DISASTER IN LONDON.

In the absence of Mr. Chamberlain, Sir Kingsley Wood presided over a conference at the Ministry of Health on January 16th to review the situation resulting from the recent flood disaster in London. Sir Kingsley Wood said that their immediate duty was to settle what action should be taken to prevent any recurrence of such loss of life and widespread damage, and that any question of reconstructing the government of London, or erecting new and extensive engineering works, was not a present issue. Mr. J. M. Gatti, chairman of the London County Council, explained that the only responsibility of the Council was that imposed by the Metropolis Management Thames River (Prevention of Floods) Amendment Act, 1879, under which the Council might require owners of riverside premises to construct flood prevention works in accordance with plans prepared or approved by the Council. The height of such works had originally been fixed at 17 ft. 6 in. above the datum line, and in January, 1881, in consequence of a record tide, was raised to 18 ft. The height of the tide on January 7th, 1928, had been 18 ft. 5 in., the previous highest having been reached in 1884 and 1881, when it was 17 ft. 6 in. on each occasion. Immediate steps were being taken to construct emergency works, but until these were completed occupation of basements in low-lying areas adjacent to the river would be dangerous at times of spring tides. Lord Ritchie, chairman of the Port of London Authority, stated that, while normally in the last hour of a flood tide a rise of not more than 1 ft. in the river level might be anticipated, there was an actual rise of 2 ft. in the last hour of the tide during the recent flood: an unprecedented occurrence. He said he was not aware that any height was prescribed for the banks from the westward boundary of the county of London in Hammer-smith and Wandsworth to the Port Authority's boundary at Teddington. These banks were maintained by the riparian owners, including municipal authorities, the Port Authority, Government Departments, and private owners. The actual level of the banks for this portion of the river varied, and was in places considerably below the limit prescribed in the county of London. The question of the desirability of raising the level of the banks required consideration in view of the large expense entailed and the improbability of the recurrence of such a tide. Lord Desborough, chairman of the Thames Conservancy, stated that the height of the tide was not greatly affected by the volume of river water coming down from the upper reaches. He suggested that data relating to North Sea tides should be carefully collected and the likelihood of recurrence of a similar set of circumstances be scientifically examined. Evidence was given by the mayors of the boroughs most concerned, and Sir Kingsley Wood, replying, welcomed the assurance by the London County Council that a fresh survey would be made of the river defences.

#### ILLUMINATION IN MINES.

At the annual meeting of the Institution of Mining Engineers, held in London on January 10th, Dr. J. S. Haldane demonstrated with Mr. R. V. Wheeler a new lamp-room photometer for checking at the colliery the amount of illumination actually given by a safety lamp. With its help he showed the great differences which exist between various forms of safety lamps in the illumination actually given at the place where it is needed. Dr. Haldane said that these differences were partly due to variations of the light emanating from the source, partly to the manner in which this light was concentrated in the direction required by means of reflectors or glasses, and partly to alterations in the distance of the lamp from the illuminated surface, which last factor, he added, might be very important, seeing that the illumination of a surface varied inversely as the square of the distance of the lamp. Besides the other advantages of a good illumination with what was now a practically attainable increase in local lighting, the inconveniences, suffering, and expenditure caused by miners' nystagmus, said Dr. Haldane, could be avoided completely. This was confirmed by the experience

with electric cap lamps in American coal mines. These lamps, owing to their nearness to the surface requiring illumination, and partly also to the concentration of the light on that surface by a reflector, gave an illumination far superior to that of the hand safety lamps still commonly used in European coal mines, and miners' nystagmus was absent from the coal-mining population of the United States. In the photometer which he showed, shadows produced by a standard candle and by the lamp under test were projected side by side on an opaque white surface, and by sliding the lamp along a graduated scale the relative illumination was measured within a range sufficient for all practical mining purposes. He also demonstrated with this photometer the improvements in the light given by the flame safety lamps when there was proper selection of the oil or spirit, the wick, and the burner, and better ventilation of the flame by increasing the length of the gauze, using a coarser gauze, or directing the air currents in the lamp more suitably. Another point was the unsatisfactory illumination given by ordinary two-volt electric hand lamps, and the greatly increased illumination with higher voltages. The idea, he said, was to have a photometer so simple that the man in charge of the lamps at the colliery would be able to see exactly what standard was needed, and so test the efficiency of his lamps.

#### BRECON WAR MEMORIAL HOSPITAL.

The opening of the Breconshire War Memorial Hospital on January 11th was saddened by the sudden death during the proceedings of Lord Glanusk, to whose efforts this hospital in a great measure owes its existence. When it was decided that the memorial to Breconshire men who fell in the war should take this form, Lord Glanusk presided over the committee, provided a site for the hospital, gave very effective help in raising the money required for its erection, and collected over £7,000 towards the endowment fund. Apart from the building expenses, the cost of completely equipping the hospital amounted to £2,500, and thirty-six donations, each of £62 10s., have already been received towards the endowment of its thirty-six beds and four cots. In the course of a deeply moving speech Lord Glanusk became seriously ill, and the last words he uttered dealt with the essential, but often overlooked, importance of providing for the continued maintenance of newly erected medical institutions. His final sentences were: "It is not sufficient to set up a cenotaph, a statue, a tablet, or even a hospital. No one can seriously look at these buildings here to-day and say, 'There, at last it is finished; we have paid our debt.' This memorial hospital is a very small portion of the debt that we owe, but, in my mind, a hospital is so fitting a memorial to the fallen because it enables us, day by day and year by year, to continue to pay what we owe by seeing that the hospital is properly financed."

## Scotland.

#### FOOD CONTROL IN SCOTLAND.

An address on the control of food in the interests of public health was given by Mr. Arthur Gofton, chief veterinary inspector for Edinburgh, on January 5th. The lecturer said that the town councils and county councils were responsible for the enforcement of the law relating to food, and in Scotland these were supervised by the Board of Health. The public health regulations in Scotland differed somewhat from those in England. In Scotland there was a system of inspection of all carcasses of animals slaughtered for human food, and in addition a fixed standard had been laid down as a guide for the whole country as regards judging the soundness or fitness of meat for human food; this had not, however, as yet been practicable in England. The reason was that in Scotland the burghs had the power to erect abattoirs and to prohibit the use of private establishments, a power which was not enjoyed by local authorities in England, where the multiplicity of private establishments prevented the adoption of a fixed standard. During 1926 the total amount of meat condemned in slaughter-houses was 146 tons. Speaking of the milk supply in Edinburgh, he said that



40 per cent. was produced within the city's boundaries, and precautions were taken to ensure that it should be clean and free from disease, and also to inspect milk produced outside the city. Over a considerable period of years approximately 8.5 per cent. of the milk brought into the city had been found to be infected with tubercle bacilli; this fact showed the very great need that existed for systematic inspection.

#### THE DAVID ELDER INFIRMARY, GOVAN.

On December 16th last the David Elder Infirmary in the parish of Govan was formally handed over by the trustees to the managers of the Western Infirmary, Glasgow, represented by Colonel Roxburgh. The forging of this beneficent link, which co-ordinates the general hospital services in Western Glasgow north and south of the River Clyde, is fitly commemorated by Dr. David Murray in a brief but interesting account of him whose name the Infirmary will perpetuate in the place where so much of his work was done. David Elder was born in the neighbourhood of Kinross in 1785. He learned the trade of a wright, went to Edinburgh, and later to Paisley and elsewhere, in pursuit of his avocation, and in 1821 became manager of Mr. Robert Napier's engineering works at Camlachie. Here, in the early days, he constructed a marine engine so good that it wore out three hulls. In 1840 he moved with the firm to the great shipbuilding yard at Govan, thenceforth carried on under the name of Robert Napier and Sons. He resided at Kingston, close by Govan, during the rest of his life. When the business of the firm extended to iron shipbuilding Mr. Elder organized the work. He was the founder of marine engineering on the Clyde, "the father of that very solid work that set the Clyde thoroughly upon its feet." He contributed materially to the success of the Cunard Steamship Company. Like James Watt, he was interested in music and the organ. An organ which he built for himself is preserved in the nurses' dining room of the Infirmary. Alexander Elder, David Elder's third son, became resident engineer in Liverpool of the Royal African Mail Company, formed one of the partnership of Elder, Dempster and Company, and established the British and African Steam Navigation Company. He founded the David Elder Infirmary as a memorial to his father and mother, and desired that his trustees, on its completion, should hand it over to any body of trustees whom they might, in their absolute discretion, think proper. The trustees decided that the managers of the Western Infirmary were a suitable body. An agreement was accordingly drawn up and the transfer took place as stated. The present Infirmary contains 42 beds. If the Western managers see fit to extend it, it shall not be beyond 300 beds. Additional accommodation, so far as possible, is to be by one-story buildings, so as not to interfere with light and air. The Endowment Fund, amounting to upwards of £60,000, was handed over to the Western managers, along with the hospital, equipment, and land. This drawing together of the north and the south is of happy augury, especially in this era of recognized shortage of beds, when hospital co-ordination is greatly needed.

#### TRAINING FOR THE BLIND.

The Scottish Education Department and the Scottish Board of Health have recently issued a joint memorandum in regard to the training of the blind. The advisory committee do not consider satisfactory the present methods, by which each institution has adopted practice suitable to the industrial conditions of its own locality. It is recommended that technical instruction should be given in special craft schools where the whole attention of the staff could be devoted to the production of good workmen and good workmanship, and that one or two central technical schools for the training of the blind should be established in Scotland. This would be also useful in the teaching of blind persons who wish to carry on work subsequently at home and do not desire training for work only suitable in a factory. In the meantime, the committee thinks that certain institutions could make provision to meet these needs, including the Aberdeen Asylum for the Blind, the Royal Dundee Institution for the Blind, the Royal Glasgow Asylum and School for the Blind, and the Royal Blind Asylum and School at Edinburgh. The advisory committee

also considers that it would be well to secure greater uniformity in regard to such matters as the age of commencing training, the means of testing the capacity of trainees and selecting suitable occupations for them, and the cost of training and of maintenance during the period of training. It is suggested that towards the end of a blind child's school life the school authorities should communicate with training authorities so that no break may take place between the school and training institution. Similarly, it is advised that the training authorities should, about six months before the completion of training, get into touch with employment agencies in order to provide immediate and suitable employment for the trained blind person.

## Ireland.

#### PUBLIC HEALTH CONGRESS IN DUBLIN.

The Royal Institute of Public Health will hold a congress in Dublin from August 15th to 20th, at the invitation of the Government of the Irish Free State and with the cordial support of the University of Dublin, the National University of Ireland, the Royal Colleges of Physicians and Surgeons in Ireland, and the Apothecaries Hall of Ireland. It is hoped that the congress may assist the Government of the Irish Free State in placing the public health of the community on a good progressive basis, and interest those entrusted with executive duties. The work of the congress will be conducted in four sections: (1) State Medicine—(a) Municipal, county, and port sanitary; (b) Epidemiology; (c) Tuberculosis; and (d) Housing of the working classes, including town planning. (2) Bacteriology, Pathology, and Biochemistry. (3) Maternity and Child Welfare, and School Medical Inspection. (4) Production and Control of Milk and Food. Delegates are being invited from Governments, municipalities, and other public bodies and universities of England, Scotland, and Ireland, as well as from France, Belgium, Italy, and the United States of America. The honorary president is His Excellency the Governor-General of the Irish Free State, and the president is the Minister for Local Government and Public Health, Dublin.

#### MEMORIAL TO SIR JOHN WALTON BROWNE.

The Bishop of Down and Connor and Dromore dedicated, on January 8th, a pillar in Belfast Cathedral, which was specially carved in memory of the late Sir John Walton Browne, who died in December, 1923. The ceremony was attended by many members of the medical profession in Belfast and of the Nursing Council of Northern Ireland. The Dean of Belfast read an account of the services rendered by Sir John Browne, and an address was given by Mr. Harold Balme, F.R.C.S., ex-president of Shantung University, on the contribution of Christian thought to the science and practice of medicine. An obituary notice of Sir John Browne appeared in our issue of December 29th, 1923 (p. 1278).

#### MEDICAL OFFICER OF HEALTH FOR MEATH.

The proposed appointment of a county medical officer of health was considered at a recent committee meeting of the Meath County Council, at which Dr. McDonnell, of the Department of Local Government and Public Health, was present. It was reported that on agreeing to the appointment of a doctor at a salary of £500, the county council would be entitled to be recouped £250. Having fully considered the matter the committee recommended the county council to postpone the appointment for six months in view of possible changes in the system of Poor Law administration following the report of the Poor Law Commission. A letter was subsequently received from the Department of Local Government and Public Health stating that it would be seen from the report of the Poor Law Commission, now published, that it did not deal with public health administration. The question of the appointment of a county medical officer of health should, accordingly, be considered. After discussion the suggestion to adjourn further consideration for six months was adopted.

## Correspondence.

### THE INFECTION OF BARBADOS WITH MALARIA.

SIR,—The interesting note on the infection of Barbados with malaria which appeared in the *BRITISH MEDICAL JOURNAL* of January 14th (p. 66) has reminded me of my visit to that island early in 1914, and of what I wrote thereafter in an article entitled "*Tropical problems of the New World*," contributed to the *Transactions of the Royal Society of Tropical Medicine and Hygiene*, and afterwards published in my book, *War against Tropical Disease*. The quotation which I append seems very apposite at the present time:

"We observe the large number of small craft, mostly schooners, tied up alongside the wharves and lying in the carenage. We enquire whence they come, and we are told that they hail from the neighbouring islands, British Guiana, and the Orinoco. At once we are confronted by an interesting problem. Locally acquired malaria is unknown in Barbados, for the simple reason that anophelines are not present in the island. Why are they not in evidence? Granting for the moment that there are no suitable breeding places for them, or that natural enemies abound and prevent them propagating themselves, how comes it that they are not introduced by these small craft, hailing from regions where they are common, and very often infected with the malarial parasite?"

"It is true that the anopheline is not nearly so good a traveller or seafarer as the bumpy stegomyia, but still we know that he, or rather she, can be carried long distances on steamers, as, for example, from Bombay to Trieste, and occasionally from the Southern Nile to the desert areas of the Sudan.

"I questioned Dr. Bridger, the able and energetic Port Health Officer of Bridgetown, on this matter. He told me that he had searched the vessels for them, but had never been successful in finding them. In a letter which he sent me some time ago, he says:

"I have myself often wondered that mosquitoes do not find their way here on these craft; but have never yet discovered one, though I have looked for them both before and since you referred to the matter. We have about half a dozen white men—natives of Saba—who are masters, and usually owners, of these craft, and I have discussed with them this question. They tell me that lying alongside the wharves in British Guiana (Georgetown), mosquitoes come on board in large numbers—probably many anophelines among them, for malaria is quite common there—but on getting to sea they disappear entirely, as a result, in their opinion, of the strong breeze blowing them away. Barbados is to windward of all the neighbouring malarious ports, and therefore sailing vessels have to "beat," as it is called. Making these several tacks they would get swept by the wind first on the one side and then on the other.

"It is conceivable that every mosquito on deck or in the living compartments, which are only deck houses, could be swept away, as they are very fragile. As to those which may be concealed in the hold, we must conclude that the tight battening of the hatches, for not less than thirty-six hours, must be sufficient to kill them."

"It may be so, it probably is so, but I would like to see a few ideal breeding places artificially constructed in close proximity to the wharves. It would be very interesting to observe what such a kind of trapping produced. I suggested this manoeuvre, but was told that it would immediately result in a campaign of calumny, and that any hapless medical man who tried it would run the risk of being accused of enticing deadly insects to the island!

"Barbados is justly proud of a fine conservatism, but it may be, and is, carried too far in sanitary matters."

It is evident from your note that it has been carried too far, and with deplorable results. Had the trap pools been adopted it is at least possible that the anopheline infestation might have been nipped in the bud, and that thereby a number of lives might have been saved and much loss of time and money prevented. It is the old story, repeated again and again in our colonial history, of shutting the stable door after the steed has been stolen. Considering how much knowledge we possess on the ways in which tropical disease can be prevented, there is no excuse for the negligence too often shown, more especially by small and isolated communities, who are apt to view the hygienic reformer askance and to adopt an ostrich-like policy which, as in the case of Barbados, may lead to disaster. Let us hope that island groups like Bermuda, the Seychelles, and Fiji will take due warning from what

has happened to "Little England," even though admittedly they are not so much exposed to the risk of infection by malaria.—I am, etc.,

London, W.C.1, Jan. 14th.

ANDREW BALFOUR.

P.S.—Dr. H. M. Hanschell has kindly permitted me to say that, when he was in Barbados in 1907, he found mosquitos, of undetermined genus and species, present in the fore-peaks of schooners lying alongside the wharves at Bridgetown.—A.B.

### POISONING BY VOLATILE LEAD SALTS.

SIR,—The discussion on tetra-ethyl lead in your issue of January 14th (pp. 61, 74) induces me to quote a case of acute lead poisoning occurring in men engaged in an occupation not usually associated with lead poisoning.

A man, aged 25; called at my surgery on June 29th, 1927, complaining of acute spasmodic abdominal pain, which had lasted a fortnight. He had a blue line on the margin of the gums, and a trace of albumin in the urine. As he was a furnaceman at a steel works I could not understand how he had come in contact with lead, until he informed me that in the ore used for the manufacture of steel there was a small proportion of lead. When the furnace or retort was opened to run off the molten metal fumes arose which were inhaled. I concluded that there was volatile lead in the fumes, and that this was the source of the poisoning.

The case was notified to the Home Office in a letter giving some details. Soon after this my patient informed me that a medical examination was made of the other workers, and several more cases were discovered. The diagnosis of lead poisoning was confirmed in my case by the medical referee.

Here, then, we have men working in the open air poisoned by volatile lead. No doubt the proportion of lead in the fumes must have been very high to give rise to the acute form of lead poisoning, but this was a salutary feature which led to the discovery of the condition.

As you and Dr. Myer Coplans point out, the symptoms of poisoning by tetra-ethyl lead are not prominent and specific, but obscure and indefinite. The poisoning is slow and insidious, and much irremediable damage may be done to a great number of individuals before steps are taken to protect the public. "Wait and see" is not a justifiable policy in dealing with a poison like lead, likely to be sprayed all over the country and especially concentrated in big towns.

Samuel Butler's vision in *Erewhon* of men becoming slaves to machines is surely passing into an actuality in these days, when they are prepared to run grave risks of nervous and mental disease in order to improve the running of their machines.—I am, etc.,

Warrington, Jan. 15th.

J. S. MANSON.

### ISOLATION FOR MEASLES.

SIR,—Part the Ministry of Health and the Board of Education, I agree with Dr. F. J. Child that it is perfectly safe for an uncomplicated case of measles to mix in society fourteen days after the first appearance of the rash. For many years before I left the service of the Metropolitan Asylums Board (in 1926) my practice was to release cases of measles from isolation at the end of the period mentioned. I dealt with scores of cases in that way, and never found one that gave evidence of infection.

Frederic H. Thomson of the Tottenham, and Dr. J. D. Rolleston of the Western Hospital, Fulham, bear me out in this practice. The former writes of measles that "when the rash commences to fade the disease is evidently less infectious, if infectious at all, and when the rash has faded such evidence as there is suggests that the infecting power has ceased." (*The Diagnosis and Treatment of the Infectious Diseases*, 1924.) The latter states that the patient "may be released from isolation a fortnight after the appearance of the rash if no complications have developed." (*Acute Infectious Diseases*, 1925.)

The question is of importance in hospital administration. The addition of another week to the isolation period of

a fortnight is virtually to diminish by one-third the number of beds set apart for the disease, and adds to the cost of the maintenance of the patients.—I am, etc.,

Hemlingford Abbots, Hunts, Jan. 15th.

E. W. GOODALL.

#### FATALITY RATES OF SMALL-POX IN THE VACCINATED AND UNVACCINATED.

SIR,—In the JOURNAL of January 14th (p. 74) Dr. R. P. Garrow draws attention to the fact that the fatality rate among the vaccinated cases of small-pox occurring in England and Wales in the years 1923 to 1926 at ages over 15 was apparently higher than among the unvaccinated cases, and he asks for a possible explanation. The explanation can be found in (1) the widely different age distributions of the groups compared, and (2) the smallness of the actual numbers of deaths dealt with. If we include the small groups of the revaccinated with the much larger totals who were vaccinated only in childhood, and add together the returns for the four years 1923-26, the contrast in age distributions is readily seen in the following table.

Age Group.	Vaccinated Cases.			Unvaccinated Cases.		
	No. of cases.	No. of Deaths.		No. of cases.	No. of Deaths.	
		Actual.	Expected in 1 year.		Actual.	Expected in 1 year.
Under 15	46			10,298	17	
15—	114	1	0.31	2,932	—	7.92
20—	165	—	0.58	1,342	1	4.70
25—	170	—	0.54	821	1	3.16
30—	218	—	1.15	462	—	2.06
35—	394	3	2.12	285	—	1.54
40—	1,301	3	9.82	425	—	3.21
50—	1,204	4	17.83	253	1	3.80
60—	449	—	15.02	78	—	2.61
70—	91	2	7.64	12	1	0.98
80—	5	—	0.94	—	—	—
Total over 15	4,124	13	55.97	6,616	4	29.98

The extraordinary difference between the distributions of ages in these two groups (which can be still more clearly seen by plotting them graphically) provides, perhaps, the strongest presumptive evidence that has as yet been secured of the efficacy of vaccination in protecting against the disease for a period of years, since it is precisely what would be expected if the protection afforded by vaccination in childhood wanes with advancing life. It is, I believe, impossible to explain it in any other way.

If we assume for the moment that small-pox of the prevalent mild type is never fatal in itself, and that these two populations are selected at random from the general population of England and Wales, and subject to the ordinary chances of death at each age group as calculated in English Life Table No. 9 for 1920-22, we can easily estimate the number of deaths which would be expected in each population in the course of a year or a fraction of a year. Confining attention to ages over 15, as Dr. Garrow has done, and assuming the populations to consist of equal numbers of males and females at each age, I have used the mean of the probabilities of dying "q" from the life tables for males and females at the central ages of each of the above age groups, and multiplied these by the numbers in the respective age groups, thus obtaining the numbers of deaths to be expected in one year, as given in the above table. Adding these up, it appears that the expected deaths from all causes in the vaccinated cases over 15 in one year would be 56, and in the unvaccinated over 15 the expected deaths in one year would be 30. It follows that within a period of two months from the onset of small-pox we should expect, from the ordinary chances of death in the population, to have

one-sixth of these numbers of deaths occurring—that is, 9 among the vaccinated and 5 among the unvaccinated—and these would be subject in the totals dealt with to probable errors of  $\pm 2.0$  and  $\pm 1.3$  respectively, owing to the mere fact of random sampling. This means that we might naturally expect, from pure chance, any number of deaths between 4 and 14 in the vaccinated, and between 2 and 8 in the unvaccinated, to occur within two months of the onset of small-pox. The actual deaths which were attributed to small-pox in the two groups were 13 and 4 respectively, both of which lie within the limits calculated above.

It seems probable that most deaths occurring within two months of the onset of small-pox would be attributed to small-pox as primary cause, and if the recorded deaths do actually represent all the deaths which occurred within that period it may be concluded that the prevalent mild type of small-pox is not really responsible for increasing the chances of death in persons affected to any measurable degree. This has, I think, an interesting bearing upon the final suggestion in Dr. Garrow's letter. However this may be, it can be definitely stated that these figures provide no evidence of any significant difference, either way, between the mortality rates in the vaccinated and unvaccinated cases at ages over 15, though satisfactory evidence has, I think, been previously obtained for the efficacy of vaccination in reducing fatality in the severer forms of the disease, as Dr. Garrow believes.—I am, etc.,

University College, London, Jan. 15th.

PERCY STOKES.

SIR,—Dr. Garrow's inquiry is very easily answered. It is generally known that the immunity conferred by vaccination lasts for a limited time only. The period is variously estimated as between ten and thirteen years. By selecting cases over 15 Dr. Garrow is careful to include all cases vaccinated in infancy, but no longer protected. His statement, that "the fatality rate among vaccinated cases was just five times as great as among unvaccinated cases," is, therefore, grossly misleading.

It is, in my opinion, most regrettable that a medical man occupying a responsible position should broadcast in the medical press such an assertion, which he must be aware will be quoted, on his authority and without context, by the antivaccinist press. This kind of action can do nothing but handicap his colleagues who are engaged in combating the present epidemic of small-pox, with its serious burden on the public funds, the loss of wages involved, and the damage to industry, quite apart from the detriment to public health, which in my recent experience is becoming more serious as the infection is passed through the human medium.—I am, etc.,

FRED. E. WYNNE,  
M.O.H., Sheffield.

January 16th.

SIR,—Dr. Garrow draws attention to the anomalous fact that for the four years 1923-26 the fatality of "small-pox," in the age period "over 15 years," has been five times greater in the vaccinated class than in the unvaccinated, and he invites explanations. I submit that the explanation is as follows:

The figures for "small-pox," which he quotes from the Ministry of Health's report, are: 4,010 vaccinated cases with 13 deaths (=case mortality of 0.32 per cent.) and 6,915 unvaccinated cases with 4 deaths (=case mortality of 0.06 per cent.).

To begin with, the case mortality is so trifling in either group that it at once arouses suspicion of a "catch" somewhere. The "catch" is, that under the term "small-pox" we are including two varieties of the disease so utterly different as regards their case mortality that, for statistical purposes, they are two distinct diseases, and it is most misleading to include them together under the same heading. Indeed, to do so can only lead to a definite *reductio ad absurdum*, and make confusion worse confounded. There should be little practical difficulty in keeping the statistics for the two varieties separate, because I doubt if there has been a single outbreak of small-pox, say in the past ten years, where there was any real doubt as to which variety of small-pox was being dealt with.

If the figures are analysed and sorted out into (1) variola

major and (2) variola minor, we find that we have under (1) an insignificant minority of, say, under a hundred cases of variola major with most of the 13 deaths, and an overwhelming majority of nearly 10,000 cases of variola minor with practically no deaths. The few deaths that have been attributed to variola minor are usually due to some inter-current complication, and, if these be deducted, we find that variola minor is, for practical purposes, a non-fatal disease in vaccinated and unvaccinated persons alike. As regards the cases and deaths in the small variola major group, it so happens that the few isolated outbreaks which have occurred in the years in question have been among adults rather than among children. But adults in most parts of the country are still, on the whole, a vaccinated class; therefore, it is not very surprising that many of these cases have been in vaccinated persons.

If the statistics for variola major and variola minor were kept separate and distinct, as they certainly ought to be, I have little doubt we should find that in variola major the vaccinated cases would show a definitely lower case mortality than would the unvaccinated cases. But so long as these two varieties of small-pox are "lumped" together the overwhelming majority of non-fatal variola minor cases quite invalidates any fatality rates which may be based on them.—I am, etc.,

Health Offices, Leicester, Jan. 16th.

C. KILICK MILLARD.

SIR,—The letter of Dr. Garrow raises a very interesting question, one of many which have been vexing the minds of those who have watched events in connexion with small-pox and vaccination in recent years. I, in common with all others of our profession, was educated medically in the orthodox fashion: small-pox was a disease which was contracted by unvaccinated persons, and was with them a terrible and fatal malady; in the rare event of a vaccinated person being attacked, the disease was a trifle and of no importance.

Here are a few of the questions in connexion with vaccination which are worrying me. Will any of our members who have studied the subject give me answers?

(1) That raised by Dr. Garrow: How is it that small-pox is five times as likely to be fatal in the vaccinated as in the unvaccinated?

(2) How is it that as the percentage of people vaccinated has steadily fallen (from about 85 in 1870 to about 40 in 1925) the number of people attacked with variola has declined *pari passu* and the case mortality percentage has progressively lessened? The years of least vaccination have been the years of least small-pox and of least mortality.

(3) How is it that in some of our best vaccinated towns—for example, Bombay and Calcutta—small-pox is rife, whilst in some of our worst vaccinated towns, such as Leicester, it is almost unknown?

(4) How is it that something like 80 per cent. of the cases admitted into the Metropolitan Asylums Board small-pox hospitals have been vaccinated, whilst only 20 per cent. have not been vaccinated?

(5) How is it that in Germany, the best vaccinated country in the world, there are more deaths in proportion to the population than in England—for example, in 1919, 28 deaths in England, 707 in Germany; in 1920, 30 deaths in England, 354 in Germany. In Germany in 1919 there were 5,012 cases of small-pox with 707 deaths; in England in 1925 there were 5,363 cases of small-pox with 6 deaths. What is the explanation?

(6) Is it possible to explain the lessened incidence and fatality of small-pox on the same grounds as the lessened incidence and fatality of other infectious fevers—namely, as due to improved hygiene and administrative control?

These are just a few points in connexion with the subject which are puzzling me, and to which I want answers. I am in doubt, and I want to know the truth. Will some of the experts help me?—I am, etc.,

Hove, Jan. 16th.

L. A. PARRY.

\*\* We think that Dr. Parry, in his desire for enlightenment, would have been wiser not to introduce assumptions of fact into the framework of his questions.

#### ULTRA-VIOLET RAYS AND CATARACT.

SIR,—The controversy on this interesting subject is no doubt intelligible to the writers, but is by no means clear to the reader.

I have no doubt that undue exposure to ultra-violet rays will rapidly produce cataract and other serious conditions

in the interior of the eye. The following case will explain this issue:

X., aged 35, a Marconi operator at Basra in the great war, came to me with a well developed Morgagnian cataract in one eye and distant vision reduced to 6/9 in the other. He had been frequently examining with the naked eye the sparking apparatus of the generator, which is intense. At first he complained of muscae volitantes and, later, the development of cataract. In the best eye the vitreous had a large number of floating bodies; nothing else was visible. There was no history of noticeable hyperaemia of the conjunctiva.

Assuming, as I do, that the whole condition was due to undue exposure to the ultra-violet rays, it will be seen that it is not merely cataract we have to deal with, but the equally, if not more, profound changes as indicated by the development of the crowd of floating bodies in the vitreous. This case would make me hesitate to use ultra-violet rays in the treatment of any condition of the eye.

As regards the treatment of the early stage of cataract the controversy is not easily understood, because the issues have not been cleared. First, what is the rationale of the action of remedies? Secondly, what is the stage of development submitted to treatment as indicated (a) by what can be seen with the ophthalmoscope, and (b) by what the patient complains of, and the degree of what he complains, as indicated by the range of his distant vision? If these issues are not clearly stated the controversy cannot be intelligible.

As regards the rationale of treatment (I have done a good deal of work on this subject), if you assume that the satisfactory result is due to the hyperaemia induced and the time it is maintained, no matter by what means it is induced and maintained, and that the rapidity of the result depends on the degree of hyperaemia induced and maintained, in my observation you will be right. Since I wrote my first paper on this subject, close on twenty years ago, all the methods and prescriptions which have come into the field have the same action—namely, the induction of hyperaemia.

I do not agree with the pessimists who hold that nothing can be done for the early stage of cataract. I hold that over 95 per cent. of the cases of senile cataract in the early stage—that is, when distant vision has not been reduced below 6/12—are curable, that the cure is enduring, and that the patient is not submitted to any risks in the process or to much inconvenience; and that this is the greatest triumph in the whole history of the treatment of cataract.—I am, etc.,

HENRY SMITH, C.I.E.,  
Lieut.-Colonel, I.M.S.(ret.).

Sidcup, Jan. 7th.

#### TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—To those interested in the discussion on prostatectomy the following figures of St. Peter's Hospital may prove instructive:

Year.	Prostatectomy.		Deaths.	Percentage.
	Cases.			
1907 ... ..	70	.....	4	5.7
1908 ... ..	63	.....	5	7.9
1909 ... ..	80	.....	5	6.2
1910 ... ..	82	.....	8	9.7

In the year 1910 seventy-nine cases were treated by suprapubic prostatectomy and three by perineal prostatectomy. Of the former, five were two-stage operations. I have no details in regard to the preceding years.

The above figures of work done seventeen to twenty years ago are so far ahead of the modern figures for general surgeons, as given by Sir Cuthbert Wallace, that they lend some support to the contention of Sir T. Carey Evans that the expert genito-urinary surgeon is likely to obtain the best results.

There is no doubt in my own mind that those cases where the operation is done quickly do the best. No more mystery is attached to prostatectomy than to any other operation, but a surgeon who performs a given operation frequently should be more expert than the one who performs it occasionally. Again, the actual operation is only part of the story; the pre- and post-operative treatment are of vital importance, and it is by neglect therein that most cases are lost.

A distinguished Scottish general surgeon told me that the

difficultly he experienced in regard to all urinary cases was that what he learnt at one he forgot before he got another.

In the cases I have seen, packing the cavity for haemorrhage has been necessary in less than 1 per cent. There does not seem to be sufficient reason for inflicting the discomfort of packing on the other 99 per cent.

Spinal anaesthesia combined with morphine and scopolamine is most useful, as, apart from the diminution of shock, it enables the patient to resume his normal diet, and more or less his normal mode of living, immediately after the operation.

The figures I have quoted deal with prostatectomy by the "blind" method. I suggest it would be very helpful in this discussion if the staff of St. Peter's Hospital would give us the most recent figures, which would include those of the "open" method.

There is a suggestion in Mr. Ralph's letter that Sir Peter Freyer removed only easy adenomata. This is quite wrong. He removed, so far as it was possible, every form of enlargement by the same method of enucleation.—I am, etc.,  
Warrington, Jan. 7th. W. H. C. PATRICK.

SIR,—I note that in Sir Cutlbert Wallace's interesting address on prostatic enlargement in the *JOURNAL* of November 19th, 1927, he states, "I am unaware, however, that a man has ever begotten a child after a prostatectomy." May I relate the following instance? In March, 1917, I removed an oxalate stone and the prostate in a gentleman of 60. In February, 1919, his wife bore him a healthy girl. There was no doubt as to the paternity.—I am, etc.,  
C. C. ELLIOTT,  
December 27th, 1927. Lecturer on Surgery, University of Capetown.

#### INJECTIONS FOR VARICOSE VEINS.

SIR,—I would like to indicate four points which, so far as I can make out, have not been mentioned in connexion with this method of treatment by means of sclerosing solutions combined, in most cases, with some local anaesthetic.

(1) Where there is an associated varicose dermatitis do not make the injection through the skin of such affected area, but go through healthy superficial skin, if necessary at the periphery of the patch of dermatitis.

(2) There are frequently cases that show small, very superficial, bulgings of the varicose veins, almost without any skin between the outside and the wall of the vein, or in some the vein itself is similarly placed for a part of its course. It is as well not to make the injection at such points, but choose a spot where the vein lies deeper. My reason for this caution is that there appears to be a tendency for any site that is very superficial, and is treated by injections, to become ulcerated, its proximity to the surface predisposing to septic infection by trauma or otherwise.

(3) Where there is an associated puer the injection is best made at some distance from the former through healthy skin.

(4) As regards site of injection, choose one that will not be subjected to pressure afterwards by clothing, etc. My reason for this is that, as the effect of the local anaesthetic, which is usually combined with the sclerosing solution, wears off in several hours, the site of the injection becomes hypersensitive to pressure for some days afterwards.

I have used this method of treatment extensively in dealing with varicose dermatitis and varicose ulcers, with very favourable results.—I am, etc.,  
Leicester, Jan. 9th. F. A. E. SILLCOCK, M.D., D.P.H.

#### DRAINING THE SEPTIC UTERUS.

SIR,—The intrauterine injection of glycerin for the promotion of drainage in septic conditions has not received the attention which I believe it merits, and therefore I welcome the paper of Dr. A. Remington Hobbs in your issue of December 31st, 1927 (p. 1223).

In an article entitled "An adjunct to intrauterine irrigation in puerperal fever," published in the *Lancet* of October 31st, 1903, I advocated the injection of an ounce of glycerin containing 3 per cent. of formalin through the double-channel tube, to follow each intrauterine douche when such was used in uterine sepsis. The objects in view were (1) to promote drainage by the extraction of fluids and the stimulation of uterine contraction, and (2) the

application of an efficient and unirritating antiseptic. The need for some method of drying the uterine cavity was made apparent to me by the occurrence of a rise in temperature following each intrauterine douche in a case of puerperal sepsis. Glycerin or alcohol injections seemed the only way of achieving this, and glycerin was chosen as being preferable. The results were, and have continued to be, excellent in suitable cases—that is to say, cases in which the fever is a result of absorption of toxins from the uterine cavity or its lining membrane.

In an annotation in the same issue of the *Lancet* it was suggested that this method was not free from risk, as in a few cases death, and in some others haemoglobinuria, had occurred from the use of intrauterine glycerin injections. In a letter in the next issue I maintained that the uterine conditions in which I used the glycerin prevented any risk of absorption and resulting haemoglobinuria, but it seems that the editorial warning prevented any further use of the method until the present able advocacy of Dr. Remington Hobbs.

I hope Dr. Hobbs will be able to show that the use of glycerin, as he advocates it, is without any risk of embolism or of ill effect on the kidneys, and if so I am sure that this method of treating sepsis within the puerperal uterus will prove of great value. The addition of an antiseptic—either formalin, which in glycerin is unirritating, or acriflavine, which is very soluble in glycerin—would, I believe, increase the value of his treatment.—I am, etc.,  
Glasgow, Jan. 6th. DAVID WATSON.

#### THE PREVENTIVE FRAME OF MIND IN MIDWIFERY.

SIR,—Dr. Johnstone's paper on the preventive frame of mind in midwifery (January 7th, p. 6) is really a rehash of a former outburst by Dr. Munro Kerr. Its burden is that midwifery to be safe must be, under the compulsion of the Board of Health, in the hands of nurses and specialists; that the general practitioner cannot and should not be trusted with this work, as his record of sepsis and mutilation is so bad; the which sepsis and mutilation are due to needless interference with normal processes. The people who can pay are to be in nursing homes; those who cannot in maternity homes. I gather, however, that the student is still to be instructed, and even more intensively instructed, in midwifery. He has to "live, move, and have his being" in maternity hospitals. Why? For it is clear that he is not to have any midwifery the moment he ceases to be a student.

Now I wish to say that the safest place, it would seem, for any midwifery is the East End Lying-in Hospital, London. The sepsis and death rate there are practically nil. Yet its work is done by general practitioners entirely. Again, statistics show that the sepsis and death rates in the country generally are lowest among midwives and highest among the specialists. I have repeatedly asked our specialist critics for their private sepsis rates after honestly giving my own, and never yet have I had a reply. I did not think it was so bad as that. I can only say that the published statistics of the hospitals where they "live, move, and have their being" are pitiful compared with the London home. The root cause of maternal mortality is in the housing conditions. The solution is to provide proper maternity homes where the patient may have her own practitioner to attend her.

We shall never advance one step by unduly exalting the specialist or degrading the general practitioner. That way lies extinction for both. I am astonished at the blindness of the eye that cannot see this.—I am, etc.,  
Glasgow, Jan. 7th. JAMES COOK, M.B.

#### RECORDS OF CANCER CASES.

SIR,—I have just filled in a death certificate, and in the space for cause of death have written "carcinoma of liver"; that is all. It reads like fate, and as though we are resigned to our fate.

Of course, I know that thousands of industrious people are trying to find out the meaning of cancer, and why some people die of old age, others of sepsis, and some of cancer. It seems to me that they are working in the dark.



Why don't they collect more data to work on? I hate notifying anything, but cancer should be notifiable, not with the idea of preventing infection, but in order to collect statistics about the lives of cancer patients. It should be an elaborate form of notification, recording everything medically worth knowing about these people—what diseases they have suffered from, age of parents when married, and size of family.

It would be much more worth while doing this than trying to keep records of all one's insured patients, and writing in their record cards "cough," "cough," and "cough." Records of the life-history of cancer subjects might throw some light on the etiology of cancer, or at least on its relation to other diseases and circumstances of life.—I am, etc.,

Bingham, Jan. 4th.

E. GRANGER.

## Medico-Legal.

### CHLOROFORM FOR CONVULSIONS.

NEWSPAPER reports of a recent inquest in the Birmingham area, concerning the death of a child aged 3 years, leave a rather disquieting impression. There was nothing noteworthy about the case. The child, it appears, had severe convulsions, and the father fetched a medical man, who found the patient stiff and insensible and ordered a mustard bath, but this had no effect. The doctor then, after auscultating the child's heart, administered chloroform by the drop method on a piece of linen. After a time the breathing became quieter and began to fail. The doctor then tried artificial respiration and massaged the heart, pursuing his efforts, but without success, for something like an hour and a half. The father made no suggestion of any improper treatment; indeed, he declared himself satisfied that the doctor did everything in his power to save the child. Medical evidence was given by the local practitioner who performed the necropsy, and by his partner who assisted him. The first of these two witnesses thought that the cause of death was heart failure due to the inhalation of chloroform; the second concurred, and added that, in his opinion, the child had not had an overdose of chloroform, but had probably died in the early stages of the anaesthetic. Each of these witnesses was questioned by the coroner regarding the propriety of administering chloroform for severe infantile convulsions. The first said that this treatment was given in the medical textbooks. He used to employ the method himself, but had abandoned it because of an alarming experience he once had. The method of administering the chloroform in this case, as described by the child's father, seemed to him a proper one. Answering the medical man whose treatment was in question, he agreed that Dr. Still said that the administration of an anaesthetic was a proper treatment for convulsions. The other doctor, asked by the coroner if a child having a violent attack of convulsions was a fit and proper subject for an anaesthetic, replied that there was a difference of opinion among doctors. His own view was that it was not wise to do so, and he would not do it himself. The coroner, having thus led on two medical men to criticize the treatment given by one of their colleagues, went a little further in the course of his summing up, for he balanced their opinion—that it is unwise to give chloroform to a child in convulsions—against the other view generally taught in the textbooks and put into practice by doctors called upon to deal with these emergencies. He then delivered judgement on this point of therapeutics as follows: "The case has shown, I think, that it is not wise for a medical man to give chloroform to a child in a convulsed condition." He suggested, however, that the jury ought to hesitate before deciding that any blame attached to the doctor, and the jury, after a few minutes' deliberation, returned a verdict in accordance with the medical evidence, adding that the anaesthetic, in their opinion, was skillfully and properly administered. It seems to us, with all respect to the coroner, that an inquest is not an appropriate setting for the discussion of a medical question such as this, and that, having elicited from two medical witnesses that they disagreed with the generally accepted view, he should have refrained from indicating to the jury that in his opinion they were right and their brother practitioner wrong. The matter is one rather for debate in a medical society or in the columns of a medical journal.

## Obituary.

Dr. FREDERICK GORDON BROWN, who practised in the City of London for many years, died at Chigwell, Essex, on January 15th, at the advanced age of 85. He was the son of the late Dr. Thomas Brown, who practised in Wormwood Street, and was born in the city, being educated at Merchant Taylors' School and St. Thomas's Hospital. In 1863 he obtained the diplomas: L.S.A., M.R.C.S., and L.M. For more than fifty-two years he was a medical officer of the City of London Union, and for over twenty-eight years was surgeon to the City of London Police. He retired in September, 1914, but acted for various younger men during the war in order to release them for war service. He was for some time medical officer in charge of the 7th Royal Fusiliers. Dr. Gordon Brown was a prominent Freemason, being a Past Grand Officer of the Grand Lodge of England. He was also the senior Past Master of the Society of Apothecaries of London, and a former president of the Hunterian Society.

Dr. ALEXANDER CAMERON MILLER, who died suddenly on December 31st, 1927, at the age of 66, was born at Fort William and received his medical education at Edinburgh, where he graduated M.B., C.M. in 1883, and proceeded M.D. with honours in 1888. After holding appointments at Banff as assistant visiting surgeon to the Chalmers Hospital, and assistant physician to the Banff Dispensary, he commenced practice in Fort William, and soon won high esteem. He was consulting physician to the Inverness-shire Sanatorium, surgeon to the Belford Hospital, and a member of the Highlands and Islands Consultative Council of the Scottish Board of Health. He was also medical officer of health for the Ardgour and Kingairloch, Fort William Burgh and Kilmallie District, parochial medical officer and vaccinator for Kilmallie, Ardgour, and Kilmorivag, medical referee under the Workmen's Compensation and Teachers' Superannuation Acts, medical officer to the Post Office, and certifying factory surgeon. He held the commission of lieutenant-colonel R.A.M.C.(T.), and had received the Territorial Decoration. During the war he was chairman of the district medical board. He was a Fellow of the Royal Society of Edinburgh and of the Society of Antiquaries of Scotland; he was also a justice of the peace. He took great interest in Freemasonry, and at a recent meeting of the Brethren of Lodge Fort William No. 43 was presented with a Past Master's jewel on vacating the chair. Dr. Miller was a member of the Inverness Division of the British Medical Association.

## Universities and Colleges.

### UNIVERSITY OF LIVERPOOL.

The following candidates have been approved at the examination indicated:

D.P.H.—V. H. Atkinson, Annie T. Deane, Sybil O. Edwards, A. N. Malhotra.

### UNIVERSITY OF MANCHESTER.

PROFESSOR J. S. B. STOPFORD, M.D., has been appointed Pro-Vice-Chancellor in succession to Professor A. S. Peake.

### UNIVERSITY OF SHEFFIELD.

The following candidates have been approved at the examination indicated:

M.D.—Marion Hirst.  
F.P.S., Ch.B.—(Part II): H. Brookes, A. O. Flint, P. B. Lee-Potter, V. E. A. Marwood. (Part I): W. Alcock, Doris Butler, Dorothy Colver, R. D. Dewar, T. E. Gumpert, K. J. G. Milne (with distinction in Public Health), T. K. Owen, G. B. Thomas, W. A. Timperley, Joan J. J. Wallace.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on January 12th, when the President, Sir Berkeley Moynihan, was in the chair. Congratulations were given to Sir Percy Sargent and Sir Frederic Hallett on having received the honour of knighthood from His Majesty.

#### Diplomas.

Diplomas of Membership were granted to six candidates who have now complied with the regulations.

Diplomas were granted, jointly with the Royal College of Physicians, in Psychological Medicine to nine candidates, in Laryngology and Otology to sixteen candidates.

A report was read from the Board of Examiners in Anatomy and Physiology for the Fellowship stating that at the examination concluded on December 17th, 1927, 169 candidates were examined, of whom 51 were approved and 118 rejected.

A report on the proposal to hold Primary Fellowship examinations in Canada or consideration.

A vote of late mediaeval gorillas, 20 of chimpanzees, and 12 of baboons. A vote of thanks was also given to Mr. Arthur Cheate and Mr. V. E. Negus for the gift of a copy of their model of the right and left labyrinths, the model being based on investigations carried out in the Museum laboratories by Mr. Negus.

#### Presentation.

The offer of Mr. Lawrence Piek, M.R.C.S., to present to the College a portrait of his father, the late Mr. T. Pickering Piek, Vice-President of the College in 1895 and 1898, painted by the late Phil Morris and hung in the Royal Academy exhibition of 1895, was accepted with thanks.

#### John Hunter Bicentenary.

The President reported that the Hunterian Oration would be delivered by Sir H. J. Waring at 4 p.m. on February 14th; that the Festival dinner would be arranged for 8 p.m. on that day; that on February 16th there would be a reception in the College from 3 to 5 p.m., followed by the Thomas Vicary Lecture by Dr. G. C. Penney at 5 p.m. on "The homes of Hunter"; that a special display of Hunterian specimens would be arranged by Sir Arthur Keith, and that Hunterian relics would be shown by Mr. Victor Flarr, the Librarian.

## The Services.

#### TERRITORIAL DECORATION.

THE KING has conferred the Territorial Decoration upon the following officers of the R.A.M.C.T.: Major E. L. Paton (ret.) and Major F. R. Humphreys (ret.).

#### GREENWICH HOSPITAL PENSION.

SURGEON CAPTAIN H. E. SOUTH, R.N. (ret.), has been awarded the Greenwich Hospital pension of £50 a year, in the vacancy caused by the death of Fleet Surgeon S. Keays, R.N. (ret.).

## Medical News.

THE festival dinner of the Royal National Orthopaedic Hospital will be held at the Mansion House, on the invitation of the Lord Mayor, on Monday, January 30th, at 8 p.m., when H.R.H. Prince Henry will preside.

THE Industrial Welfare Society will hold a conference on accident prevention at the Hotel Metropole, London, on January 27th, when papers will be read on "Accident prevention—works discipline and co-operation," and "The competitive spirit in accident prevention." After lunch a visit will be paid to the Home Office Industrial Museum.

A PROVINCIAL meeting of the Maternity and Child Welfare Group of the Society of Medical Officers of Health will be held in Edinburgh, from January 26th to 28th inclusive. Papers will be read on the food requirements of infants, some types of persisting cough in young children, some common surgical conditions in early childhood, amniotic dermatitis as a cause of dysuria in infants, chemical investigations upon the blood of rachitic infants exposed to ultra-violet rays, and the value of measuring infants at a welfare centre. There will also be clinical meetings and a lecture-demonstration on congenital syphilis. Further information may be obtained from Dr. Margaret Emslie, 22, Wimpole Street, W.1.

DR. W. A. POTTS will lecture for the Fellowship of Medicine on January 23rd, at 5 o'clock, at the house of the Medical Society of London, 11, Chandos Street, on mental defect and its importance to the community. On the same date Mr. MacCallan will give a clinical demonstration at 3 p.m. at the Royal Eye Hospital, Southwark, and Mr. Mortimer Woolf will give a general surgical demonstration at Queen Mary's Hospital, Stratford, E.15, at 2 p.m.; on January 26th, at 1.30 p.m., Sir Thomas Horder will demonstrate at St. Bartholomew's Hospital. The lecture and demonstrations are free to medical practitioners. The remaining six lecture-demonstrations on psychological medicine at the Bethlem Royal Hospital will be given on Tuesdays and Saturdays at 11 a.m. On February 6th a four weeks' course in venereal diseases will begin at the London Lock Hospital, and consist of clinical instruction in the out-patient department; formal lectures will be delivered if there is an entry of six. The London School of Dermatology (St. John's Hospital) will hold a four weeks' course from

January 30th to February 25th comprising clinical instruction in the out-patient department throughout the week, and lectures on Tuesdays and Thursdays at 5 p.m.; practical pathological demonstrations can be arranged if desired. There will be a combined children's course from February 6th to 18th at the Paddington Green Hospital and the Victoria Hospital for Children, with morning and afternoon sessions. From February 20th to March 3rd an all-day course will be given at the Queen Mary's Hospital, Stratford, E., in medicine, surgery, and the specialties. An eight weeks' course will be held from January 30th to March 23rd at the National Hospital, Queen Square, in neurology, anatomy, and physiology of the nervous system, and demonstrations of pathology and of methods of clinical diagnosis. Syllabuses, tickets, and copies of the *Post-graduate Medical Journal* may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Royal Sanitary Institute has arranged a course of lectures and demonstrations for smoke inspectors, commencing on January 30th, and including the regulations for the omission or prevention of smoke, the chemical and physical processes concerned, and the possibilities of smoke prevention. Visits will be paid to various works and institutions, and examinations will be held during 1928 in London, Newcastle, Manchester, Birmingham, and elsewhere. Similar courses and examinations are provided for meat and food inspectors.

THE winter exhibition of the Royal Academy of Arts, which opened to the public on January 12th, consists of the works of recently deceased academicians and associates, and also of the sixty-three Old Masters recently bequeathed to the nation by Lord Iveagh, which are to be kept permanently at Kenwood, Hampstead. It is a very fine collection and contains good examples of the work of Rembrandt, Van Dyck, Reynolds, Gainsborough, Romney, Turner, and many other celebrated painters. The greater part of the exhibition consists of works by Sir Luke Fildes, Mark Fisher, Ambrose McEvoy, John William North, Frederic Cayley Robinson, Sir J. J. Shannon, and Solomon J. Solomon. McEvoy is represented by a large number of paintings, and of this comprehensive collection of his works the portraits of women are the most successful, his gift for graceful lines and his characteristic lighting being well adapted to the portrayal of women. Medical visitors will be interested in the painting by Solomon J. Solomon of a dinner party at the house of Ernest Hart, sometime Editor of the *BRITISH MEDICAL JOURNAL*, in which the guests, all of them distinguished physicians or surgeons, are drinking the health of their host. Their names are Sir William Broadbent, Sir Anderson Critchett, Sir Victor Horsley, Sir Lander Brunton, Sir Joseph Fayrer, Sir Spencer Wells, Sir Henry Thompson, Sir James Paget, and Sir Richard Quain. The picture was exhibited at the Royal Academy in 1893. There are also portraits, by Luke Fildes, of Sir Frederick Treves and Dr. Thomas Buzzard, father of the new regius professor at Oxford.

AUTHORITY has now been given by the Home Office for the provision on British steam fishing vessels of a preparation of cocaine in castor oil with mercuric chloride for the purpose of first-aid treatment in cases of injury to the eye, subject to certain conditions. The previous authority to keep a supply of a compound tincture of chloroform and morphia and of tincture of opium is revoked.

THE December issue of the *Kenya and East African Medical Journal* contains an article by Mr. C. B. Symes, entomologist to the medical department in Kenya, on a simple method of differentiating the anopheline mosquitos, both in their adult and larval forms, with a view to assisting medical officers engaged in malaria prevention.

THE *Gazette des Hôpitaux*, founded by Fabre of Marseilles in 1828, has recently issued a centenary number, with portraits of the founder and the present editorial staff.

WE have received a copy of the first issue, dated October 15th, 1927, of a new fortnightly periodical entitled *Bibliographia Medica Chirurgica*, and published at Madrid under the editorship of Dr. Leon Cardenal y Pujals, professor of surgical pathology and director of the Clinical Hospital of the faculty of medicine at Madrid. In addition to short papers and medical news the issue consists of abstracts from the current literature of all departments of medicine and surgery, arranged according to an ingenious plan by which abstracts can be filed according to their subject.

It is announced that a gift of approximately £39,000 has been made to the Johns Hopkins University and Hospital at Baltimore to endow a five years' investigation into the causes and possible cure of the common cold.

PROFESSOR BERGMARK has contributed to the *Acta Medica Scandinavica* for December 31st, 1927, a memoir, in French, of Professor Karl Petré, who died last October. An obituary notice of Professor Petré appeared in our issue of December 24th (p. 1210).



## A Clinical Lecture

ON

## THE TREATMENT OF URINARY SEPSIS.

GIVEN AT THE ROYAL VICTORIA INFIRMARY,  
NEWCASTLE-UPON-TYNE,

BY

R. J. WILLAN, M.V.O., F.R.C.S.,

HONORARY SURGEON AND LECTURER IN SURGERY TO THE ROYAL  
VICTORIA INFIRMARY, NEWCASTLE-UPON-TYNE.

(With Special Plate.)

Acute inflammation of the urinary tract is anything but a rare disease; too often the response to treatment is disappointing, whereupon the sequel of the acute stage, chronic urinary sepsis, becomes one of the common ailments met with in general practice. The treatment of the chronic stage is not an easy problem, and often little is done to assist such patients.

A typical history given by a patient tells of an attempt made by the doctor to treat the usual symptoms of frequency of micturition and dysuria; that much medicine had been swallowed, and perhaps the bladder had been washed out, or a vaccine had been employed; that no permanent good had accrued, and the sorely disappointed patient had gone to another doctor, who carried out an exactly similar programme to his predecessor.

The condition attacks either sex, and at any age, though it predominates in females. It usually affects both kidneys. In my experience the great majority of cases of urinary sepsis are "descending" infections. The function of the kidneys is to eliminate waste products, including any bacteria, which may be present in the blood stream.

That a kidney is able to eliminate micro-organisms without any damage being done to that kidney is an established fact. Probably the alternative usually happens, when the extruded pyogenic bacteria gain a footing in some situation in the urinary tract—for example, in the solid part of the kidney (causing pyelonephritis); in the mucous membrane of the renal pelvis (causing pyelitis); in the mucous membrane of the ureter (causing ureteritis); in the mucous membrane of the bladder (causing cystitis); or, rarely, in the mucous membrane of the urethra (causing urethritis).

If bacteria are circulating in the blood stream, and have damaged the patient's filtering apparatus, it is the medical man's duty first to endeavour to discover the focus of entry of the bacteria, and secondly to ascertain the extent of the damage which has already been done. The commonest foci of sepsis are found either in the teeth or the tonsils, but the focus may be in the ear, the air sinuses, or, in the case of females, it may be in the uterus, associated or not with pregnancy.

I will relate some clinical examples of acute and chronic urinary sepsis, with the treatment employed in each case.

## ACUTE URINARY SEPSIS.

During the acute stage of the condition it is not always possible to treat the causative focus, because the doctor must concentrate upon giving the patient relief by treating the symptoms. The urine is invariably hyperacid, and the acute symptoms will persist until its reaction is less acid, or even alkaline. This can best be effected by giving 30 grains of potassium citrate every two or three hours, and by auto-irrigation of the urinary tract—that is, by making the patient drink. The best diuretic is Contrexéville water, up to two bottles a day, though barley water or plain water are also good. Care, however, must be taken that the urine reaction is not kept alkaline by undue continuation with the potassium citrate. The hyperacid septic urine pouring down the ureters infects, and later digests, a fan-shaped area of mucous membrane on the bladder base in front of each ureteric orifice, forming an area of ulceration; later, if highly alkaline urine is continually pouring over these ulcers, the phosphates are deposited upon them, and the terribly distressing condition of "alkaline phos-

phato cystitis" develops. Where the patient is of ordinary intelligence this can be avoided by giving him or her a book of litmus paper with instructions to diminish the alkaline mixture dose when the litmus paper indicates that the urine has become neutral. If it can be managed, the urine in all stages of the treatment of urinary sepsis should be kept faintly acid.

Somo urinary antiseptic should be given, either salol, 5 grains three times a day, when the urine reaction is alkaline, or hexamine, 10 grains three times a day, when the reaction is acid. The application of linseed meal poultices every six hours to an affected loin seldom fails to relieve acute renal pain.

If an obvious septic focus—for example, a dental focus—can be easily dealt with, the acute stage can often be cut short by dealing with it forthwith. A saline purge should also be given. The diet should consist of milk, eggs, and fish; meat, and irritants to the urinary tract such as coffee, condiments, pickles, etc., should be avoided.

It is far from easy to demonstrate the causative organism of acute urinary sepsis. Probably staphylococci or streptococci are the commonest bacteria, but unless a bacteriological examination is made in the early stages of the illness the chance of recognition of the actual organism is gone, for the ubiquitous *Bacillus coli communis* is quickly on the scene when the other bacteria disappear or are masked. This is the reason why the treatment of urinary sepsis by vaccines is so terribly disappointing, for only the secondary infection, not the primary infection, is found, the original organism still being at work, though bacteriologically it is masked by the *B. coli communis*.

## Clinical Examples.

A typical history of a case of acute urinary sepsis which yielded to treatment is as follows:

## CASE I.

A woman, aged 28, was taken suddenly ill with shivering and acute pain which radiated to both groins, accompanied by strangury, with blood and pus in the urine. I saw her four weeks later, by which time she had recovered from the acute stage, but she still had frequency of micturition, acute pain after micturition, and a heavy deposit of pus in the urine.

A routine examination showed marked follicular tonsillitis, though the patient denied having had any "sore throat."

Cystoscopy showed a fan-shaped area of ulceration in front of the ureteric orifices, the apex of the fan being at each orifice. The case was referred to a laryngologist, who removed two highly offensive tonsils. Within one month not only had the patient's symptoms disappeared, but the bladder ulceration had healed, and all pus cells had disappeared from the urine.

I now give a history of two typical cases of alkaline phosphatic cystitis. The first of these was one of mild degree easily cured, while in the other the condition was very advanced.

## CASE II.

A married woman, aged 25, gave a typical history of cystitis extending over two years. Her doctor's letter on her condition on admission to the Royal Victoria Infirmary, Newcastle-upon-Tyne, in September, 1924, is worth quoting:

"This patient appears to have suffered from cystitis ever since her confinement of three years ago.

"She complains to me of pain during and after micturition, and of passing blood, slime, and gravel. She brought a piece of fairly hard material which she said she had passed per urethram. It was apparently phosphatic. Effervescence took place on the addition of pure nitric acid. She said she passed several pieces, which sometimes stuck in the urethra and took a lot of dislodging with the finger. The size of the pieces was that of a pen or split pea. Gravel was also passed in quantity. On examining the urine I found it was alkaline and contained much mucus and a fairly large piece of bladder mucous membrane, but little pus. Since putting her on to hexamine and daily wash-outs with boracic lotion she has improved considerably, but still passes an occasional piece of phosphate debris. This morning, when the catheter was passed on her, I could not feel a stone, but rather think she must have one or more."

Cystoscopy showed phosphates encrusted upon ulcers on the base of the bladder. These were scraped away under vision, by cystoscopy, by a "spoon" introduced through the urethra. The urine was kept acid, and the patient was completely well six weeks later, by which time all pus cells had disappeared from the urine.

## CASE III.

A spinster, aged 21, came in August, 1924, to the Royal Victoria Infirmary, Newcastle-upon-Tyne, complaining of passing urine every few minutes night and day; she brought with her a large pill-box



full of pieces of phosphate grit (some of them large) which she was accustomed to pass daily. Two years previously she had had a typical acute attack of urinary sepsis, and on close questioning I found she had been taking some medicine, and the same medicine, for the whole of the two years. Doubtless this medicine contained potassium citrate. She had dental sepsis; the urine was alkaline, and contained blood and pus; no abnormal shadows were seen on a radiogram of the urinary tract.

The dental sepsis was first attended to. As the bladder capacity was under one ounce, cystoscopy under a general anaesthetic was necessary. The surface of the bladder was found to be studded with ulcers, upon each of which were earnest patches of phosphatic deposit—that is, she had the condition of alkaline phosphatic cystitis. The deposits proved too extensive to remove by through the urethra, so this was effected through a suprapubic approach.

Life is now tolerable for her, for her bladder capacity is 5 ounces, she can work, and she is only disturbed once at night to micturate. Her urine is acid, but still contains pus. Cystoscopy shows a small ulcer on the right lateral wall of the bladder; this is not covered by phosphates. The bladder is being irrigated twice weekly, and she is having hexamine with acid phosphate of soda. I have every hope that the ulcer will eventually heal and that she will be completely cured.

There is a valuable lesson to be learnt from these two cases, and it is that the potassium citrate treatment was overdone; had this drug been confined to the acute stage only, the phosphates would almost certainly never have been deposited on the ulcers formed in the acute stage, after the hyperacid urine had digested the bladder mucous membrane. Immediately the acute stage was over care should have been taken to keep the urine faintly acid.

#### CHRONIC URINARY SEPSIS.

The successful treatment of a case of chronic urinary sepsis depends upon a correct appreciation of the location and extent of the inflammation, and such a diagnosis cannot be made without routine cystoscopy and pyelography.

Cystoscopy will indicate the condition of the bladder; ureteral catheterization will enable the urine collected from each kidney to be examined for pus cells; while pyelography will prove whether the sepsis is merely pyelitis or pyelonephritis, or whether extensive destruction of the solid part of the kidney has taken place. I invariably make a double pyelography, and in no single instance have I seen any ill effects from both kidneys being "pyelogrammed" at the same time.

For the benefit of those who are not familiar with the making of a pyelogram I may say that a ureteral catheter is passed, under vision, by means of the cystoscope up the ureter into the pelvis of the kidney. The ureters are insensitive to the passage of the ureteral catheter; therefore the only discomfort of catheterization of the ureters is the introduction of the cystoscope into the bladder. A solution opaque to x rays (I employ sodium iodide solution) is injected with a syringe through the hollow ureteral catheter into the pelvis of the kidney, and the patient is x-rayed. A pyelogram should only be taken in a patient who is fully conscious; it is a dangerous proceeding to distend the renal pelvis of an unconscious person. The radiogram shows up the hollow part of the kidney, and an interpretation can be made by an estimation of the shape and size of the renal pelvis and calyces.

It is essential to watch the reaction of the patient's urine, for it should be kept just faintly acid. I use sufficient doses of potassium citrate to reduce the acidity, or, alternatively, use acid phosphate of soda to keep the reaction acid. In addition, salol 5 grains must be given thrice a day if the urine is alkaline, and alternatively hexamine, 8 grains thrice a day, when the urine is acid; of the two I prefer the hexamine, largely because of the constipating effect of salol.

A routine general examination of the patient should be undertaken to find a possible focus of sepsis. The diet should be light, red meat being taken only seldom. Urinary tract irritants such as coffee, condiments, pickles, etc., should be avoided. Care should be taken to avoid constipation. Diuresis is an important factor in treatment, and Contrexéville water is a valuable help.

#### Example of Chronic Pyelitis.

A married woman, aged 38, had had for three years periodic attacks of left-sided renal pain associated with frequency of micturition, haematuria, and some pain after micturition. In the acute stage there was a continuous temperature of 100°, and she

was confined to bed. Bacteriologically a pure culture of *B. coli communis* was obtained, and prolonged vaccine treatment has proved useless. Her teeth showed evidence of pyorrhoea.

A routine radiogram of the urinary tract showed normal shadows; the urine contained pus and some blood; cystoscopy showed ulceration of the left ureteric orifice, with a slight degree of basal cystitis; pyelography of both kidneys showed that the solid portion of the kidney remained unaffected. Urine collected from the left kidney contained pus; urine from the right kidney was normal.

A diagnosis of left-sided pyelitis was made and the dental sepsis attended to. The patient's condition improved, but progress was slow, so the left renal pelvis was irrigated with a 1 in 10,000 solution of silver nitrate through a ureteral catheter every three weeks on six occasions. No anaesthetic was used, for apart from the discomfort of passing the cystoscope the treatment was painless. The patient carried on her ordinary life the day following each treatment.

Now, three months later, the patient is cured of her symptoms, and no pus cells can be found on microscopic examination of her urine. The silver nitrate effected a cure by destroying the organisms in the mucous membrane of the pelvis.

#### Example of Chronic Pyelonephritis.

A married woman, aged 55, had for two years complained of ill health, associated with attacks of increased frequency of micturition, together with smarting pain during the act. She had occasionally "a mild backache," but the vesical symptoms predominated.

The urine contained pus, and bacteriologically *B. coli communis* in pure culture was found. An autogenous vaccine failed to improve matters.

Cystoscopy showed a mild degree of cystitis, while pyelography showed certain changes in the renal calyces, which were conclusive evidence of a chronic pyelonephritis. The urine collected from each kidney contained pus cells.

The renal pelvis were irrigated on four occasions with a 1 in 10,000 solution of silver nitrate; she has remained quite well and free from all abnormal symptoms and signs for the last three months, and a permanent cure seems assured. No anaesthetic was ever necessary, and the patient was up and about on the following morning after each treatment.

Fortunately for the patient the infection must have been in the apices of the pyramids, and probably it had not penetrated deeply into the solid tissue.

#### Example of Infected Hydronephrosis.

In March, 1924, three months after a confinement, a married woman, aged 25, had an acute attack of right renal colic, with the typical severe pain, vomiting, and strangury. She got over the acute stage, but she never recovered her health, and was frequently ailing. She had an indefinite ache in the right flank; there was neither frequency nor haematuria, but she had lost weight, and the urine contained pus. Bacteriologically, *B. coli communis* was repeatedly found in pure culture; prolonged treatment by vaccines failed to give any relief.

Cystoscopy showed a basal cystitis, being much worse on the right half of the base of the bladder. Pyelography (see Fig. 1) showed the right kidney to be disorganized; the shadows were normal on the left side. The urine from the right kidney contained pus; that collected from the left kidney was free from pus cells. The phenolsulphonphthalein excretion from the left kidney was 5 per cent. (a normal amount).

Right nephrectomy was performed; the removed kidney contained infected urine, but there was no actual pyonephrosis.

The photograph of the specimen (Fig. 2) shows that the kidney was disorganized and incapable of recovery. It is possible that if early treatment of the kidney had been undertaken in this case the condition might never have progressed beyond the stage of pyelonephritis, although clinically there was never any indication of a very serious condition. The pyelonephritis was the initial stage of the infected hydronephrosis.

The patient has made an uneventful recovery; six months later she is fat and well and the urine is normal, the microscope now failing to detect any pus cells, showing that the basal cystitis has healed.

#### Example of Pyonephrosis.

A spinster, aged 22, for six years had had increased frequency of micturition with pain during and after the act. Two years ago she began to have pain in the back, but more particularly in the right flank. Six months before admission she had haematuria. She had tenderness in the right flank, the urine contained albumin, blood, and pus, but x rays disclosed nothing abnormal in the urinary tract.

Cystoscopy showed a general cystitis, also that a thick column of pus was extruded from the right ureteric orifice, this giving the appearance of toothpaste being squeezed out of a metal tube. The urine from the left kidney was free from pus and the renal function tests showed it to be functionally good. A pyelogram was not made. The right kidney was removed by operation and she did well.

The removed kidney (Fig. 3) showed the last stage of sepsis, being disorganized; it is possible that by treatment in the early stage it might have been saved. I was unable to find the primary focus of the sepsis.



R. J. WILLAN: TREATMENT OF URINARY SEPSIS.

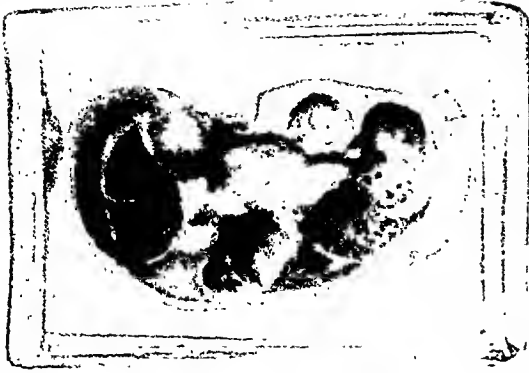


FIG. 2.—Infected hydronephrosis removed by operation (see Fig. 1).



FIG. 3.—Kidney completely disorganized by the standing sepsis.



FIG. 1.—Pyelogram showing normal left side with right hydronephrosis (see Fig. 2).

S. GILBERT SCOTT: METHOD OF DEALING  
WITH A SWALLOWED OBJECT.  
(See p. 123.)



FIG. 1.

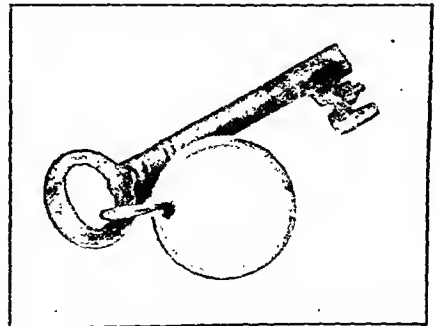


FIG. 2.

ROY WARD: INOPERABLE SARCOMATA TREATED WITH RADIUM.



FIG. 1.



FIG. 2.



FIG. 5.

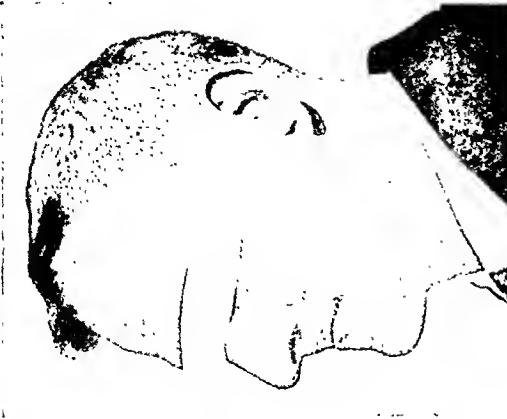


FIG. 6.



FIG. 3.

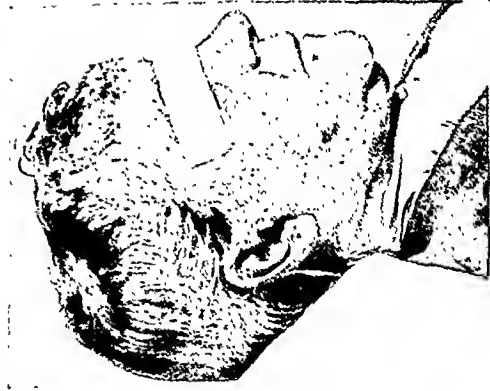


FIG. 4.

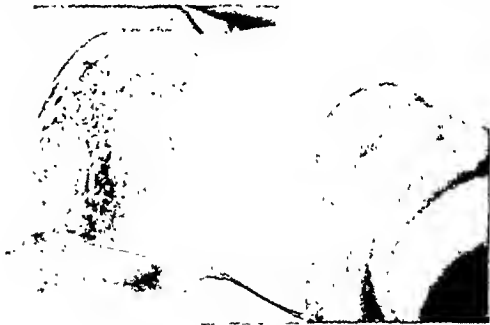


FIG. 7.



FIG. 8.

*Primary or "Residual" Cystitis.*

By this is meant an inflammation of the urinary tract entirely confined to the bladder; either it is a primary cystitis, or it is secondary to pyelitis, pyelonephritis, etc., which has been cured. Cystoscopy shows the cystitis, while the urine obtained from each kidney (by means of a ureteral catheter) is free from pus. If the bladder is constantly reinfected by septic urine, then the source of the sepsis in the kidney must be attacked before local treatment to the bladder is of any use.

Primary or residual cystitis, with or without ulceration, can be cured, or at any rate the distressing symptoms can be abated, by treatment with antiseptic emulsions. The details of the treatment are as follows.

Twice weekly a catheter is passed and the bladder distended under the usual strict aseptic precautions with either solution 1 or solution 2. The iodoform emulsion (No. 2) is too irritating to use too often. Solution 1 is used three times to one of solution 2—that is, solution 1 is used on the 3rd, 6th, 10th, 17th, 20th, and 24th days of a month, while solution 2 is used on the 13th and 27th days of a month. The solution is allowed to remain in the bladder for thirty minutes, when it is micturated. I carry out the treatment for eight weeks, or longer if a cure has not then been obtained. The composition of the solutions is as follows.

*Silver-Iodide Emulsion, or Solution 1.*

Potassium iodide ... 21.66 grams in 150 c.cm. water.  
Silver nitrate ... 21.66 grams in 150 c.cm. water.

These solutions are mixed with 150 c.cm. of mucilage of Irish moss.

*Iodoform Emulsion, or Solution 2.*

Iodoform ... 45 grams  
Glycerin ... 315 grams.  
Aq. dest. ... 90 c.cm.

The emulsions are made up for me by Messrs. Brady and Martin, Newcastle-upon-Tyne.

*Examples of Primary or Residual Cystitis.*

## CASE A.

A married woman, aged 48, had had for twenty years periodic attacks of cystitis, obviously exacerbations of a chronic cystitis. She had had three severe ones during the previous twelve months. There was increased frequency of micturition day and night accompanied by pain; she took very little fluid as "she was afraid to." The urine contained albumin and pus cells.

Medicines, vaccines, and the ordinary bladder irrigations had all failed to cure her.

Cystoscopy showed neutre ulcerative cystitis in a contracted bladder; the pyelograms were normal, and urine collected from each kidney was free from pus cells.

The view taken was that the trouble was now entirely in the bladder, and that if the ulcers could be induced to heal she would be cured. She was treated by the emulsions and she quickly responded to treatment.

## CASE B.

A married woman, aged 75, had for some years been troubled with severe attacks of urinary strangury accompanied by pain and hæmaturia. So neutre was the pain that she was frequently reduced to tears, and life was a misery to herself and her relations. Treatment was of no avail and nothing could be done to relieve her distress, even morphine having no beneficial effect.

Cystoscopy showed general ulcerative cystitis; the ureters were not catheterized, as the bladder distension occasioned distress to the patient.

Although a diagnosis of primary or residual cystitis was not definitely established, treatment by the emulsions was recommended and carried on for three months; by the end of that time the pain, strangury, and hæmaturia had disappeared. Her urine contained pus cells, therefore she was not cured, but the relief of her symptoms restored her interest and pleasure in life. Her degree of relief can be gauged by a recently received letter, where she states:

"I thought I would like you to know how grateful I feel for all you did for me. I've had no pain for four months—before that, I had it pretty badly for over four years. Of course, I know it will probably return, at my age, but it is something to be free for a time, and I feel most grateful.

"Please do not think it necessary to answer this note. I just thought I would like you to know how thankful I feel."

## TREATMENT.

Comparatively little can be said of the "dosage" owing to the varied situations and extent of the growths, but the treatment must be vigorous. Both needles and surface applicators are employed and a large quantity of radium should be used. Speaking in general terms, it is best to give a maximum dose at the first exposure; if it be necessary to repeat the treatment the strength of the subsequent exposure must be diminished.

Surface applicators are rectangular, square, or circular, with superficial areas ranging from 1 to 30 sq. cm. The applicators used in these cases are of two strengths, containing either 1.25 or 2.50 mg. of radium element per square centimetre. They are disposed in such fashion as to obtain a cross-fire of focal radiation in all parts of the growth. All external applicators should be screened with 2 mm. of lead or its equivalent, and covered with rubber. These are applied over a thick layer of wool. The needles used contain 1, 2.5, 5, 7.5, 10, or 25 mg. of radium element, their lengths varying from 1.2 to 4 cm. and the wall of the needle varying from 0.5 to 0.5 mm. of platinum or 1 mm. of silver. Recently needles with a wall of 0.4 mm. of Monel metal have also been used.

The action of large doses is to produce progressive degeneration. It has been suggested that with very small doses it is possible there may be stimulation of certain types of growth, but there is no certain evidence on this point. The time factor has been much discussed of late. At the Radium Institute the principle underlying the treatment is to give a large dose for a comparatively short time—seldom longer than forty-eight hours. It seems, however, quite possible that weaker doses for a longer time would give equally good results. There are many obvious difficulties in keeping needles in some situations for perhaps a week; a very common and serious complication is that of sepsis. Tissues subjected to radium rays are very susceptible to attack by bacteria, and every aseptic precaution should be taken when introducing needles into any tumours.

*Case 1.*—A woman, aged 62. On May 21st, 1913, a swelling of the right clavicle was explored and found to be an inoperable sarcoma. When seen at the Radium Institute on June 6th there

## INOPERABLE SARCOMATA TREATED WITH RADIUM.

BY

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(With Special Plate.)

The object of this paper is to give the clinical data of a series of thirty cases of sarcomata treated at the London Radium Institute. All the growths recorded were inoperable, and only those cases in which a histological investigation had been made are included. There might be added many cases of sarcomata diagnosed clinically, by x rays or by the subsequent progress of the disease, and such cases might prove of considerable interest to the less critical. It has been difficult to get information about many patients treated before the "follow-up" scheme was introduced at the Radium Institute.

The treatment of all forms of sarcomata is best carried out by the use of gamma radiation. Certain known clinical facts are as follows:

1. Many sarcomata will disappear under the effect of gamma radiation, the malignant cells being destroyed by doses which do not harm the surrounding tissues.

2. Some sarcomata are more susceptible to the rays than others. In the case of lymphosarcomata too great an importance should not be attached to the rapid disappearance of the primary growth, and the patient should be kept under observation for some considerable time so that the appearance of any metastases may be promptly dealt with.

3. The same type of tumour in different parts of the body does not always react in the same way.

4. Radium rays have only a local effect. Separate metastases may be treated, but widely disseminated recurrences when present will eventually gain the upper hand.

5. There comes a time when tumours which have previously reacted well will no longer respond to radiation, even when there is no evidence of metastases.

6. Relief of symptoms and prolongation of life are seen in most cases, and some patients remain in good health for long periods, the growth becoming shrunken and fibrosed.

was a firm prominent tumour growing from the superior and posterior surfaces of the right clavicle, filling up the outer three-quarters of the right supraclavicular fossa. The tumour measured 10 by 6 by 2 cm. (see Fig. 1). The tumour rapidly disappeared under radium treatment (see Fig. 2). Her doctor reported on November 3rd, 1927, that the patient was in excellent health.

*Case 2.*—A man, aged 31. In August, 1912, a growth was removed from the right side of the neck. In June, 1913, a recurrence was removed at St. Bartholomew's Hospital. He had further operations for recurrence in December, 1913, and March, 1915. In July, 1916, microscopical section showed mixed spindle- and round-celled sarcoma. When seen at the Radium Institute on July 3rd, 1916, there was a hard fixed mass 5 by 6 cm. involving the right sterno-mastoid muscle. He received radium treatment with steady improvement until February, 1922, and then remained in good health until May, 1926, when the growth recurred and extended deeply until, in January, 1927, infiltration of the growth caused gradual paralysis of the tenth, eleventh, and twelfth nerves, and the cervical sympathetic. The patient died on March 8th, 1927.

*Case 3.*—A woman, aged 50. On September 18th, 1916, an operation was performed for the removal of a round-celled sarcoma of the ethmoidal region. This resulted in an apparent cure, but on March 19th, 1918, when the patient first came to the Radium Institute, she had a smooth oval fixed swelling 4 by 5 cm. in the right temporal fossa. All three swellings disappeared under treatment, but a second hard mass appeared between the right globe of the eye and orbit, and later a third swelling appeared in the right temporal fossa. All three swellings disappeared under radium treatment, and she remained well until May, 1923, when a tumour developed on her head. Since this time there have appeared at intervals at least a dozen different tumours of the scalp, which have disappeared rapidly under radium treatment. She was last seen at the Radium Institute on October 31st, 1927, when she was treated for a tumour in the right suboccipital region. Her general health was excellent.

*Case 4.*—A woman, aged 65. In March, 1920, the left upper jaw was excised for a sarcoma. She first attended the Radium Institute on December 6th, 1920, complaining of diplopia. On examination a nodule was seen in the region of the inferior turbinate. Treatment was continued until June, 1922. In December, 1926, she returned. A mass of glands below the angle of the left jaw, and a swelling of the left side of the soft palate, were present. Treatment was continued. She was last examined on October 31st, 1927. Her general health was excellent. The mass of glands in the neck had disappeared, but the tumour in the mouth is still present, although much smaller.

*Case 5.*—A woman, aged 35. A tumour of the sternum was explored and found inoperable. When first seen at the Radium Institute on September 24th, 1921, there was a prominent, diffuse, irregular-shaped tender swelling over the centre of the sternum and extending on the third and fourth costal cartilages. The mass measured 6 by 4 cm. and there were palpable glands in both axillae. X-ray examination showed an abnormal shadow at the hilum of the right lung. The growth disappeared completely under treatment, but in December, 1923, three secondary metastatic growths appeared in the chest wall, and glands were palpable in both axillae. All these swellings disappeared under treatment. In July, 1924, enlarged glands appeared in both sides of the neck. Those glands in the right side responded well to treatment, but those in the left side persisted for some months, causing much swelling of the left arm and forearm. They responded to further treatment, and in May, 1925, when the patient was examined, there was no evidence of disease anywhere. However, in February, 1926, there were signs of metastatic growth both in the mediastinum and spine. After an initial improvement the patient began to go downhill in spite of treatment, and died on November 11th, 1926.

*Case 6.*—A woman, aged 64, first noticed a lump in the left groin in August, 1921. In January, 1922, an attempt was made at the Elizabeth Garrett Anderson Hospital to remove this mass. This was found impossible owing to the fact that the femoral vessels were involved in the growth. Microscopical report showed the growth to be a small round-celled sarcoma. Radium treatment was commenced on February 13th, 1922, and continued at intervals. The patient remained in excellent health until March, 1925, when the growth gained the upper hand in spite of treatment, and the patient died on May 17th, 1925.

*Case 7.*—A youth, aged 17. On November 15th, 1922, a spindle-celled sarcoma was removed from the nasopharynx. Recurrence speedily took place. Radium treatment was commenced on January 19th, 1923. The growth responded well at first, but in October, 1923, the growth became so large that it interfered with swallowing and breathing. Each radium treatment caused apparent disappearance of the growth for a short time. The growth was thus kept in check with repeated applications of radium and the boy remained in excellent general health. In October, 1927, he was referred back to the University College Hospital with a view to having the growth excised.

*Case 8.*—A woman, aged 45. In November, 1922, an operation was performed at the Central London Throat and Ear Hospital for a sarcoma affecting the left antrum of Highmore and turbinate bones. This was followed by a recurrence, and on February 12th, 1923, she was admitted to the Radium Institute for treatment. She improved steadily, and radium treatment kept the growth under control until July, 1927, when the tumour began to spread along the upper alveolar margin. She was last seen on October 27th, and, although there was a little change in the local condition, her general health was failing and she looked ill and cachectic.

*Case 9.*—A man, aged 78. On June 9th, 1923, a lymphosarcoma was removed from the left orbital cavity. It was found to spring from the periosteum of the orbit, and infiltrated the inner and upper external ocular muscles and periosteum, but not the globe itself. When first treated, on June 25th, 1923, at the Radium Institute, there was a small vascular nodule at the inner extremity of the upper eyelid. On August 12th, 1925, two metastatic growths were present, one growing from the chest wall, and the other from the abdominal wall. These disappeared rapidly under treatment. In August, 1925, another growth appeared over the left scapula. This responded well to treatment, but in December, 1926, there were signs of growth in the cellular tissue between the rectum and bladder. This caused retention of urine. Brouchitis followed, and the patient died in January, 1927.

*Case 10.*—A woman, aged 48. In April, 1923, a mass of glands was excised from the left inguinal region for supposed tuberculous adenitis. A recurrence speedily took place and was excised in October, 1923, at the Royal Northern Hospital. The microscopical section gave the appearance of a sarcoma of high malignancy. The growth recurred again, and when first admitted to the Radium Institute for treatment she had a hard fixed mass in the left inguinal region, and oedema of the leg. Treatment at intervals has arrested the progress of the disease. On examination on October 23rd, 1927, there was some thickening to be felt. She complained of some pain in this region, but there was no evidence of active disease and she was in excellent general health.

*Case 11.*—On March 17th, 1924, an osteosarcoma was removed from the left malar bone of a girl aged 5 at Walthamstow Hospital. It recurred rapidly, and on June 7th, when she was first seen at the Radium Institute, the tumour was much larger than it was prior to its removal. She was treated at intervals until March, 1925, when treatment was discontinued as there was no apparent disease present. She was last examined on October 26th, 1927, when there was no evidence of recurrence.

*Case 12.*—A boy, aged 4. On May 22nd, 1924, a section was taken from a tumour, which appeared to arise from the superior maxilla. Microscopical investigation showed it to be a fibrosarcoma. He was treated at the Radium Institute on July 14th, 1924, on account of a local recurrence. Treatment was continued at intervals until February, 1925. On November 1st, 1927, the father reported that the child was now in hospital, having had an operation on the nose for a supposed recurrence.

*Case 13.*—A woman, aged 41. In 1917 a sarcoma in the mid-line of the neck was excised. In 1921 an operation for recurrence was performed. On June 2nd, 1924, a further recurrence was removed. When examined at the Radium Institute on September 1st, 1924, there was a hard resistance felt in the region of the scar and there were palpable glands in both supraclavicular fossae. Under treatment the disease was kept in check, but in October, 1927, it was reported that the patient had had the skull trephined for a secondary sarcoma of the brain, and she was not expected to recover.

*Case 14.*—A woman, aged 64. On October 1st, 1924, a sarcoma of the skull was explored and found to be inoperable. X-rays showed invasion of the cranial bones by the growth and loss of continuity of the bony outline. She was first treated at the Radium Institute on October 20th, 1924. Over the upper surface of the right parietal bone there was a conical swelling 8 cm. in diameter, pulpy to the touch, and fixed to the surrounding structures. (See Fig. 3.) No glands were palpable. She responded remarkably well. She was last heard of on November 2nd, 1927, when her doctor wrote: "I have to report very favourably. The crater has taken a long time to granulate over, but is now covered with fine granulation tissue, which occasionally crusts over, but her general condition is excellent." (See Fig. 4.)

*Case 15.*—A woman, aged 34. On September 24th, 1924, a tumour of the cheek 1 inch in diameter and half an inch in thickness was excised at the Prince of Wales's Hospital, Tottenham. The tumour recurred, and the patient was admitted to the Radium Institute on November 10th, 1924. The treatment was continued at intervals until October, 1926, when on examination no evidence of disease could be detected. This patient was seen last on October 26th, 1927, when she was found to be in excellent health and free from recurrence.

*Case 16.*—A girl, aged 3. On November 4th, 1924, a small round-celled sarcoma was removed from the leg beneath the soleus muscle. When seen at the Radium Institute there was a large palpable gland in the groin, although there was no sign of local recurrence. This disappeared after treatment, and the patient remained well until March, 1925, when recurrences appeared in the groin and in the popliteal space. This was followed by improvement, and when examined in June, 1925, there was no evidence of disease. Recurrences in the calf muscles, popliteal space, and groin occurred later in the year. The child's condition became rapidly worse, and she died in August, 1926.

*Case 17.*—A man, aged 44. In February, 1924, a small growth in the region of the right upper canine fossa was excised at St. Bartholomew's Hospital. This recurred in June, 1924, and in August was treated with diathermy. When first treated at the Radium Institute, on December 10th, 1924, the patient presented the following appearance. (See Fig. 5, taken after 22 needles had been inserted into the palate and superior maxilla.) There was marked swelling of the upper lip and cheeks, especially the left; the swelling was hard to the touch, and had definite margins; the floor of the nose was bulged upwards; the anterior half of the palate was occupied by a hard nodular growth; at a point corresponding to the foramen incisum there was a small sequestrum. Both antra were completely dark to transillumina-

tion. This patient responded well to radium treatment. (See Fig. 6.) He was last seen on October 27th, 1927, when he was in excellent health and there was no sign of disease.

**Case 18.**—A woman, aged 56. On January 11th, 1925, a tumour of the left patella was explored and found inoperable. A piece was excised for microscopical examination and found to be sarcoma. It was thought that even a high amputation would be hopeless; in any case the patient's health was not good enough to stand the operation. Radium treatment was therefore advised. She was first seen at the Radium Institute on January 27th, 1925. A prominent purple soft hemispherical swelling was present over the left patella. The skin was ulcerated and there was a discharging wound. (See Fig. 7.) There was considerable infiltration of the soft tissues on the inner aspect of the knee-joint, and commencing rarefaction of the left internal condyle. There were no glands palpable at this time, but in May, 1925, a gland was removed from Scarpa's triangle, and on microscopical examination proved to be sarcoma. Radium treatment was continued. General improvement in the local condition followed. In March, 1926, the contour of the knee was almost normal, and the patient was in excellent health. (See Fig. 8.) In September, 1927, the patient wrote to say that her general condition continued to improve, and that she was able to walk half a mile with the aid of sticks.

**Case 19.**—A woman, aged 64. In October, 1924, an inoperable sarcoma of the ethmoidal region and left antrum was diagnosed and confirmed by microscopical section. In December, 1924, as much growth as possible was removed through a modified lateral rhinotomy. She was first treated at the Radium Institute on February 4th, 1925. The whole of the left side of the face was infiltrated with growth, and there were palpable glands on both sides of the neck. The disease was very advanced and did not respond to radium treatment. The patient died on August 17th, 1925, without deriving any benefit from the treatment.

**Case 20.**—A woman, aged 34. On January 2nd, 1925, a growth in the region of the left ascending ramus of the jaw was explored at St. George's Hospital, and found to be inoperable. Microscopical section showed the tumour to be a spindle-celled sarcoma. She was first treated at the Radium Institute on March 30th, 1925, when she had a hard, smooth, fixed rounded mass measuring 12 cm. in diameter. Treatment was followed by almost complete disappearance of the tumour, and the patient remained in good health for about a year, when the growth started to gain the upper hand in spite of treatment. The patient died in August, 1927.

**Case 21.**—A woman, aged 53. On April 14th, 1925, a round-celled sarcoma, spheroidal in shape and half an inch in diameter, was removed from the right middle turbinate. Recurrence took place, and on May 25th, 1925, a piece was removed for section at Guy's Hospital. She was treated at the Radium Institute on June 17th, and five weeks later the tumour had diminished in size to such an extent that the case was considered operable. Excision was performed at Guy's Hospital on July 29th, and she was readmitted to the Radium Institute on August 12th, 1925, for prophylactic treatment. There was no sign of disease when she was last examined on October 26th, 1927.

**Case 22.**—A man, aged 53. On January 6th, 1925, a mass of glands was removed from the right side of the neck. Recurrence speedily took place. On July 8th, 1925, the mass was explored, and found to be inoperable. Microscopical examination showed the growth to be lymphosarcoma. He first attended the Radium Institute on July 15th, 1925, and treatment was continued at intervals. Radium treatment was followed by a general improvement until the disease was apparently cured. He was last examined on October 27th, 1927, when he was found to be in perfect health, and no sign of disease could be detected.

**Case 23.**—A man, aged 23. In August, 1924, Syme's amputation was performed for a sarcoma of the foot. A year later this was followed by secondary growths in the popliteal fossa and in the groin. The recurrence in the popliteal region was excised. When first seen at the Radium Institute on August 24th, 1925, there were a number of glands palpable in the groin, but there was no popliteal fossa in the popliteal space. Both the groin and the popliteal fossa were irradiated with large quantities of radium. All signs of disease disappeared, and the patient remained quite well until October 19th, 1927, when a solitary hard gland appeared in the left groin, and on microscopical examination proved to be sarcomatous.

**Case 24.**—A man, aged 54. On July 27th, 1925, a mass of cervical glands was removed at the Prince of Wales's Hospital, Tottenham, and when examined under the microscope was found to be a lymphosarcoma of the small-celled type. When first seen at the Radium Institute on September 4th, 1925, he had a recurrence at the operation site. The enlarged cervical glands disappeared under radium treatment, and he remained well until April, 1926. Recurrence took place a few months later, and the patient died on January 1st, 1927.

**Case 25.**—A woman, aged 38. The patient first attended the Radium Institute on October 19th, 1925. She had a sarcoma of the right ethmoidal region, which disappeared entirely under radium treatment. In April, 1926, she complained of pressure beneath the right eye, and on examination was found to have a recurrence involving the right maxillary sinus and ethmoidal region. Excision of the superior maxilla was advised; this was done, but unfortunately the patient died shortly after the operation.

**Case 26.**—A woman, aged 43. On November 3rd, 1925, an exploratory operation at the Norfolk and Norwich Hospital revealed an inoperable spindle-celled sarcoma growing from the right orbital

plate. She was first treated at the Radium Institute on December 9th, 1925, and subsequently had three further applications of radium at two-monthly intervals. The growth did not respond well, and gained the upper hand in spite of treatment. The patient died on August 29th, 1926.

**Case 27.**—A man, aged 52. On November 10th, 1925, the region of the left wrist-joint was explored at the Royal United Hospital, Bath, and an inoperable osteosarcoma of the lower end of the radius was discovered. This was proved by microscopical section. Amputation was advised but refused. He first attended the Radium Institute on February 1st, 1926; x rays showed a pathological fracture of the lower third of the radius with dislocation of the wrist-joint. There was much pain, and the patient was unable to use his arm in any way. The circumference of the wrist at the site of the tumour was 9½ in. There were no glands palpable in the axilla. Amputation was again advised, but operation was refused. Radium appears to have arrested the progress of the disease. He was last examined on October 28th, 1927. He has been working as a general labourer for the past twelve months. His general health is excellent. There are no glands palpable in the axilla. The tumour has become bony hard, and measures 8½ in. in circumference.

**Case 28.**—A man, aged 45. On April 15th, 1926, the patient had an operation at the Central London Throat Hospital for a sarcoma of the left antrum of Highmore. On September 16th, 1926, an operation for recurrence was performed at the same hospital. Before attending the Radium Institute he was treated with radium in May and October, 1926. Recurrence speedily took place, and when admitted to the Radium Institute on November 16th, 1926, the growth filled the left nasal cavity. The whole of the left side of the cheek was swollen, and the alveolar margin of the jaw was thickened by the growth. The case responded well to treatment. He was last seen on November 3rd, 1927. His general health was excellent. Radiation appears to be checking the progress of the disease, as there are no definite signs of recurrence at present.

**Case 29.**—A boy, aged 12. This patient was first seen at the Radium Institute on September 27th, 1926. He had a sarcoma of the nasal septum, which perforated the hard palate and extended into the surrounding tissues. Although he improved to a remarkable degree at first, and remained fairly well for about six months, the disease started to gain the upper hand, and when seen on September 5th, 1927, he was much worse, and it was thought wise to discontinue radium treatment owing to the extensive infiltration of the growth into the bony structures.

**Case 30.**—A woman, aged 20. A growth was removed from this patient's left nostril in July, 1926, at the Bolingbroke Hospital. Recurrence speedily took place, and in September, 1926, a similar operation was again performed. She attended the Radium Institute on March 31st, 1927. She then had a firm, well defined mass, 5 cm. in diameter, continuous with the anterior surface of the right upper jaw. Growth was also visible in the right nostril, and in the floor of the nose. Microscopical section showed the tumour to be a round-celled sarcoma. The growth responded rapidly to radium treatment. She was last seen on October 28th, 1927. She was then in excellent health, and there were no signs or symptoms of disease.

#### RESULTS.

The results of radium treatment can only be judged by the number of years the patient lives after the first treatment. This gives some idea of the prolongation of life to be expected.

Summary of Cases; showing Period of Survival after First Treatment.

Case No.	Period since First Treated.	Result.
1	14 yrs. 5 mths.	Living; no evidence of disease.
2	10 " 7 "	Died.
3	9 " 7 "	Living; disease kept in check.
4	6 " 11 "	Living; disease kept in check.
5	5 " 2 "	Died.
7	4 " 10 "	Living; disease kept in check.
8	4 " 9 "	Living; going downhill.
10	4 " 0 "	Living; no evidence of disease.
9	3 " 7 "	Died.
11	3 " 5 "	Living; no evidence of disease.
12	3 " 4 "	Living; disease kept in check.
6	3 " 3 "	Died.
13	3 " 1 "	Living; going downhill now.
14	3 " 0 "	Living; no evidence of disease.
15	3 " 0 "	Living; no evidence of disease.
17	2 " 11 "	Living; no evidence of disease.
20	2 " 8 "	Living; no evidence of disease.
21	2 " 5 "	Died.
22	2 " 3 "	Living; case became operable, and operation apparently successful.
23	2 " 2 "	Living; no evidence of disease.
16	1 " 9 "	Died.
27	1 " 9 "	Living; no evidence of disease.
24	1 " 4 "	Died.
28	1 " 1 "	Living; no evidence of disease.
29	1 " 0 "	Living; going downhill; derived no benefit.
25	— " 10 "	Died; derived no benefit.
19	— " 7 "	Died; derived no benefit.
30	— " 7 "	Living; no evidence of disease.
26	— " 6 "	Died following operation.



# THE METABOLISM AND ACIDITY OF THE FOETAL TISSUES AND FLUIDS.\*

BY

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In the course of our studies on the nature of malignant neoplasia we have obtained and have published<sup>1,2</sup> evidence in support of our original hypothesis, and in particular of that part of it which assumed that the chorionic epithelium of the placenta is a malignant tissue.

In this paper we present further observations along the same lines, which, moreover, are of considerable obstetrical interest, both from physiological and pathological points of view.

It will be useful first briefly to consider current views concerning the carbohydrate supply of the foetus.

## Current Views of the Carbohydrate Supply of the Foetus.

A large number of observers have investigated what is called the glycogenic function of the placenta since Claude Bernard<sup>3</sup> in 1859 first demonstrated glycogen in the pregnant uterus of the rabbit; and it appears that considerable confusion has been caused by the inclusion of the maternal decidua basalis in the term "placenta." The placenta should be regarded as an entirely foetal structure, and the maternal decidua as auxiliary only to the functions of the placenta proper. This is further emphasized by the observations of Driessen,<sup>12</sup> who showed that glycogen is stored in the premenstrual endometrium (in which a decidual reaction occurs), as in the decidua of pregnancy.

Chipman,<sup>10</sup> and Loelhead and Cramer,<sup>13</sup> a little later, showed conclusively that glycogen is found only in the maternal decidua and never in the foetal—that is, the true—placenta.

According to Chipman, whose investigations were microchemical in nature, the quantity of glycogen is greatest in the deepest part of the decidua—that is, the part adjacent to the uterine musculature—and the maximum is reached about the sixteenth day of pregnancy (approximately half-term) in the rabbit. Subsequently, there is gradual diminution until full-term, when only a mere trace is to be detected. Chipman observed an inverse relationship in regard to the quantity of glycogen in the foetal liver, so the accumulation of glycogen in the decidua in the first half of gestation came to be called "the glycogenic function of the 'placenta.'" Loelhead and Cramer, employing chemical methods, obtained results similar to those of Chipman, and stated that the maximum glycogen content in the decidua is reached on the eighteenth day of pregnancy in the rabbit, when the glycogen in this tissue amounts to 5.5 per cent. of the total (? dry) weight. These authors believe that the glycogen stored in the decidua is absorbed by the placenta in the form of simpler carbohydrates produced by enzymes.

It is clear, then, that carbohydrates are presented to the chorionic epithelium of the placenta in two forms: (a) glucose contained in the maternal blood that fills the sinuses surrounding the villi; (b) glucose derived from glycogen contained in the decidua.

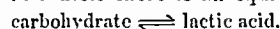
Slemons,<sup>21</sup> whose investigations were concerned with a quantitative estimate of the glucose in the foetal and maternal circulations of the human subject, stated that the glucose contents of the maternal and foetal bloods at full-

term are practically the same: out of 24 cases examined, in 5 they were identical, and the mean glucose value for the maternal blood was 0.132 per cent., and for the foetal 0.115 per cent. Slemons concluded that this finding indicates that glucose is diffused entirely from the maternal to the foetal circulation. While glucose certainly must so diffuse, it is likely that the chorion also derives some glucose from the glycogen of the decidua, although, of course, this mechanism could not operate at the end of pregnancy, when the glycogen has disappeared from the decidua.

## The Carbohydrate Metabolism of Malignant Neoplasms.

To Otto Warburg<sup>25</sup> of Berlin is due the credit of demonstrating fully the importance of glucolysis in the metabolism of malignant neoplasms. Warburg has shown—and his findings have been confirmed by ourselves and others—that this is a process which differentiates between malignant and non-malignant tissues, and, further, between malignant neoplasms, benign neoplasms, and normal tissues.

When the processes which supply energy to the cell are considered, glucolysis is found to yield more energy, with the exception of oxidation reactions, than any other process—for examples, proteolysis and lipolysis. Meyerhof<sup>26</sup> has shown that in muscle there is an equilibrium:



The forward reaction, glucolysis, proceeds freely, but the reverse reaction requires a supply of energy, and, therefore, proceeds only when respiration is taking place simultaneously.

The net amount of glucolysis depends on the amount of respiration taking place—one molecule of oxygen respired furnishing enough energy to bring about the resynthesis to carbohydrate of approximately two molecules of lactic acid.

If the respiration is high in comparison with the glucolytic power, there will be little net glucolysis. If the converse obtain, then appreciable glucolysis will take place under aerobic, as well as under anaerobic, conditions.

Malignant neoplasms, unlike the somatic tissues from which they arise, can glucolyse even under aerobic conditions. This is due to the glucolytic power being large in comparison with the function of respiration. In normal tissues the respiration, which does not differ greatly from that of malignant tissues, is sufficient to cause the resynthesis of the limited products of glucolysis, which can be observed under anaerobic conditions. Warburg's findings may be summarized thus:

(A) Glucolysis can occur to a considerable extent only in growing tissues.

(B) Glucolysis occurs to a considerable extent under aerobic conditions only in malignant tissue, with the exception of retina, erythrocytes, and leucocytes. Benign tumours show some aerobic glucolysis, but in a more limited degree.

## The Carbohydrate Metabolism of the Placenta.

The active elements in so far as the function of the placenta is concerned consist of the various parts of the chorionic epithelium—Langhans' layer and the syncytium. It is to be noted in the human subject that the epithelium, especially the syncytium, is, relatively to the size of the ovum, of far greater extent in the early stages of gestation than in the later, when, except for a thin layer of syncytium, it tends to disappear. In the human subject, therefore, account must be taken of the duration of pregnancy at the time when experimental investigations are conducted. In some animals, such as the rabbit, the trophoblastic cells persist throughout the whole of pregnancy.

The experimental methods of Warburg have been used by several workers in the study of placental and related tissues. Negelein,<sup>22</sup> working in Warburg's laboratory, has examined the "aussere Haut" of the fertilization sac in the rat, and later<sup>27</sup> the same investigator re-examined the metabolism of this tissue, using rat serum as a medium instead of the horse serum earlier employed. The structure described by Negelein as the outer layer of the fertilization sac has been identified by us from the author's photomicrograph as resembling maternal mucosa; it shows

\* This investigation was undertaken on behalf of the Liverpool Medical Research Organization: Director, Professor Blair Bell, the University, Liverpool.

no aerobic glycolysis. The "innero Haut" examined by Negelein<sup>22</sup> consisted, in our opinion, of the fused amnion and chorion; in this case the aerobic glycolysis was not measured. Thus Negelein does not appear to have studied the invading cells of the trophoblast.

Murphy and Hawkins<sup>21</sup> worked with rat placenta at mid-term and near full-term, using Ringer's solution, containing glucose, as the medium. They concluded that the metabolism of the placenta resembles that of a frankly malignant tumour. In connexion with the results of Negelein, quoted above, it is interesting to note that the wall of a pregnant uterus and the embryonic membranes were found by Murphy and Hawkins to show the type of behaviour usual to embryonic somatic tissues—that is, little or no aerobic glycolysis was observed. Loeser<sup>17</sup> has studied the glycolytic power of human placenta in Ringer's solution. Two experiments are quoted—one with a young placenta, and the other with the same tissue at full-term. The results of these experiments are recorded below.

Our own investigations were carried out with the type of apparatus used by Warburg, to whom we are much indebted for demonstrating his methods to us. The experimental details are fully described in Warburg's papers. The method used is a manometric one. A slice of the tissue under investigation, thin enough to allow adequate diffusion of the metabolites throughout, is shaken to and fro in a suitable medium, maintained at a temperature of 37.5° C., and the gas exchange is observed. Several slices, each in its own vessel with manometer attached, are required for a complete experiment. The gas space in the apparatus is filled with oxygen or nitrogen containing 5 per cent. CO<sub>2</sub>. By this means the medium is maintained at a physiological pH, the pH being determined by the concentration of bicarbonate ions in the liquid and the dissolved carbon dioxide derived from the gas mixture.

The results so far obtained with human placental tissues are given in Table I. In three cases human amniotic fluid was used as the medium, and in the remaining two human serum. The nature of the tissue used was checked by histological examination.

The most important value in connexion with the quantitative expression of the results is the magnitude of U—the corrected aerobic glycolysis which is given by the equation—

$$U = Q \frac{N_2}{M} - 2Q_0$$

where  $Q \frac{N_2}{M}$  is the anaerobic glycolysis of the tissue and

$Q_0$  the respiration. For the full significance of this relation the publication of Warburg<sup>23</sup> should be consulted. It suffices to state that normal and embryonic somatic tissues give zero or negative values for U, benign neoplasms give zero or small positive values, and malignant neoplasms larger positive values.

It may be noted that, calculated on this basis, the results of Murphy and Hawkins on rat placenta give a value  $U + 0.3$ , and those of Loeser<sup>17</sup> a value  $U = -4.2$  for a young human placenta, and  $U = +1.0$  for a full-term placenta. In both these cases Ringer's solution was used as the medium.

TABLE I.—Human Placenta containing Chorionic Epithelium.

Age.	Respiration Q <sub>02</sub>	Aerobic Glycolysis Q <sub>02</sub> M.	Anaerobic Glycolysis N <sub>2</sub> Q <sub>M</sub>	U.
Medium—Human serum.				
Full-term ...	2.3	1.0	5.3	+0.7
Full-term ...	1.8	0.0	3.9	+0.3
Medium—Amniotic fluid.				
Twenty-four weeks ...	0.3	1.8	—	(>1.0)

TABLE I (continued).—Human Placenta containing no Chorionic Epithelium.

Medium—Amniotic fluid.				
Age.	Q <sub>02</sub>	Q <sub>02</sub> M.	N <sub>2</sub> Q <sub>M</sub>	U.
Eighteen weeks ...	4.1	0.2	5.5	-2.7
Twenty-four weeks ...	4.0	0.2	5.5	-2.5

Experiments were also conducted with rabbit placental tissues at and before half-term, using horse serum as the medium, and similar results were obtained; that is to say, placentas containing chorionic epithelium gave positive values of U; on the other hand, placentas containing no chorionic epithelium, and likewise the fused amnion and chorion, gave negative values.

These observations demonstrate the ability of placenta containing chorionic epithelium to split glucose into lactic acid under aerobic conditions; but before a quantitative estimate is made as to the malignant character of the metabolism of the invading trophoblast, it should be pointed out that in the tissue slices used in these experiments the chorionic epithelium was mixed with foetal mesoderm, which shows little or no corrected aerobic glycolysis. Probably, approximately only one-fifth of the volume of tissue examined was composed of the epithelial cells of the chorion. In these circumstances the evidence obtained is in favour of the view that the chorionic epithelium possesses malignant properties in regard to glycolytic behaviour.

#### The Process of Infiltration.

The chorionic epithelium, like malignant neoplasms, has the power of infiltrating the differentiated tissues with which it is in contact; this process has been the subject of much speculation, and is still a matter for further investigation.

The work of Bierich,<sup>7</sup> and of Bierich and Rosenheim,<sup>8</sup> however, concerning the mode of extension of cancer of the skin, induced in mice by tar, is of considerable interest in this respect. These observers found that there are certain characteristic changes in the collagen fibres preceding infiltration.

Experiments with acids and bases and mixtures of these with salts were made on the dorsal skin of mice, and changes in the collagen fibres were produced; but, according to these authors, the only reagent which produced exactly the same change as that seen in the presence of cancer was lactic acid. Alkalis produce an entirely different appearance.

This work, if confirmed, is highly significant in view of the lactic acid produced by malignant growths, and by the trophoblast, especially in the earlier stages of pregnancy.

#### The Hydrogen-ion Concentration of Foetal Tissues.

**The pH Value of the Placenta.**—Experiments have been conducted to obtain information concerning the pH value of the placentas of rabbits. In each case the placental tissues were examined by means of the glass electrode, employing the technique of Kerridge,<sup>15</sup> after having been placed into liquid air immediately on excision. The pH measurements of the rabbit's placenta in different stages of pregnancy are shown in Table II.

TABLE II.

Number of days pregnant...	20	23	26	29
pH of placentae ...	6.12	6.59	6.76 6.87	6.97

It will be seen that the placenta has an acid reaction, and that over a period of pregnancy from twenty to twenty-nine days the pH value rises considerably, the placenta tending towards a neutral reaction at full-term. In the case of a human placenta obtained at full-term by a Caesarean operation the pH value was found to be 6.99, which is practically that of neutrality. One of us (H. M., unpublished) has demonstrated that malignant neoplasms also show a pH value on the acid side of neutrality.

*The pH Values of Foetal Somatic Tissues.*—The reactions of foetal tissues of a number of rabbits at different stages of development have been examined, and results have been obtained similar in extent and variation to those recorded in the case of rabbits' placentae. In every case the pH value of the foetal tissues examined was lower than the pH value of the corresponding maternal tissue.

Thus far we have considered the pH values of different foetal somatic tissues, and we have seen that in all cases these are considerably lower than the maternal tissues. We have also examined the placenta. Moreover, we have shown that the placental metabolism with regard to the production of lactic acid by aerobic glycolysis resembles that of malignant tissues which are also acid in nature.

We now pass on to the consideration of the foetal blood as compared with the maternal. The pH values of the bloods from umbilical veins and arteries and from the maternal arteries and veins at full-term have been examined, together with their sugar and lactic acid contents. The oxygen content and alkali reserve have also been estimated. It is to be noted that somatic tissues, whether maternal or foetal, exhibit a lower pH value than the blood supplying the tissues concerned. The amniotic fluid, too, has been studied.

#### *The Glucose Content of the Foetal Blood and Amniotic Fluid.*

It occurred to us that considerable light might be thrown on the nature of the carbohydrate metabolism of the foetal tissues if the glucose content of the blood entering and leaving the foetus were estimated at the same time as the corresponding values of maternal arterial and venous blood.

The earliest work on the simultaneous determination of glucose values in arterial and venous blood in the adult appears to have been done by Claude Bernard in 1877.<sup>6</sup> Since then many workers, including one of us,<sup>22</sup> have confirmed his findings. We have already drawn attention to the investigations of Slemmons,<sup>21</sup> who found a slightly lower value in the foetal than in the maternal circulation. Unfortunately it was impossible to obtain sufficient blood from the various sources to perform complete chemical analyses in any single case, but we have had enough material to calculate a mean value for the glucose content of arterial and venous bloods in the maternal and foetal circulations, respectively, from a series of cases; the results are recorded in Table III. In all cases the glucose was estimated at once by Folin and Wu's method.

TABLE III.—Glucose Values.

Number of Case.	Maternal Artery.	Maternal Vein.	Umbilical Vein.	Umbilical Artery.
11	131	117	72	66
12	95	84	71	60
14	127	127	109	99
*16	88	89	75	48
21	100	97	89	81
23	110	105	81	70
Mean values ..	112.6	106.0	84.4	75.2

\* Caesarean section. This case is excluded from the mean.

It will be seen from these results that the arterial values—the umbilical vein functioning as an artery—in each case are richer in glucose than the corresponding venous values, that the difference in arterial and venous values is greater and more constant in the foetal circulation than in the maternal circulation, and that the maternal blood contains considerably more glucose than the foetal blood.

It is interesting to note that in the determination of lactic acid the opposite state of affairs is found: a low glucose value invariably accompanies a high lactic acid value, and conversely a high glucose value accompanies a low lactic acid value. This may be seen at a glance in Table IX. The assumption is that lactic acid is formed at the expense of glucose. The sugar content of a series of specimens of amniotic fluid from the parturient woman gave a mean value of 18 mg. per 100 c.cm.

#### *The Lactic Acid Content of Foetal and Maternal Blood.*

The lactic acid content of blood obtained from the umbilical vein and artery in cases of normal labour was determined; and, owing to the difficulty of obtaining blood from the uterine vessels, except in cases of Caesarean section, blood was also collected from the vein and artery in the arm of the mother at the time of delivery. A modification of Clausen's<sup>11</sup> method, as used by Warburg (private communication), was employed. The method gave a yield of 93 per cent. lactic acid when standardized against pure zinc lactate. The results obtained are given in Table IV.

TABLE IV.—Lactic Acid in mg. per 100 grams of Blood.

Number of Case.	Maternal Artery.	Maternal Vein.	Umbilical Vein.	Umbilical Artery.
1	—	42	74	87
2	25	30	47.5	62
3	34.5	—	35	42
4	33	42	65	73
5	29.5	25	37.5	63.5
6	24	27	52	48
7	35	45	54	101
8	22	24.5	34	39
9	15.5	25	40	41
10	25	49	45.5	65
11	32	42	65	63
12	48.5	49	75.5	97.5
13	56	54	64	77
14	42	45.5	73	100
15	—	35	42	61
Mean ...	32.5	38	54	68

It will be seen that the lactic acid concentration in the foetal circulation is considerably higher than that in the maternal circulation. Further, the concentration of lactic acid in the blood leaving the foetus (the umbilical artery) is greater, except in three cases (6, 9, and 11, where the differences lie within the limits of experimental error), than that entering. It must, however, be remembered that the umbilical arterial blood is venous in function and composition, and that in the general maternal circulation the venous blood contains more lactic acid than the corresponding arterial blood.

The results obtained from cases in which Caesarean section was performed (Table V) suffice to show that the high lactic acid content in the foetal circulation is not due to special circumstances attending delivery. The pH values of the bloods are also given in Table V.

TABLE V.—Lactic Acid in mg. per 100 grams of Blood. Cases of Caesarean Section.

No. of Case.		Maternal Artery.	Maternal Vein.	Umbilical Vein.	Umbilical Artery.	Ovarian Vein.
16	Lactic acid ...	28	35	42	50	36
	pH ...	7.44	7.34	7.07	7.03	7.19
17	Lactic acid ...	28.5	29	71	—	34
	pH ...	7.34	7.30	7.12	—	7.30

In connexion with the lactic acid values given above for human cases, it is interesting to note that Loeser,<sup>17</sup> employing the method of Mendel and Goldscheider,<sup>18</sup> in two cases, found the lactic acid content of the umbilical vein to be higher than that of the mother's arm vein, and that of the umbilical artery to be slightly higher than that of the vein. All the determinations by Loeser show a lower level of lactic acid content than ours.

Bokelmann,<sup>9</sup> using Clausen's method, finds that the lactic acid content of the blood from the mother's cubital vein immediately before and after parturition averages

45 mg. per 100 c.cm. The variations are similar to those observed by us, although the values are for the most part higher than ours.

Measurements of the pH Values of Umbilical and Maternal Blood.

Measurements have been made of the pH values by means of the glass electrode. In order to prevent loss of carbon dioxide each sample of blood was kept under liquid paraffin. The pH values for a number of cases after normal labour are included in Table VI.

TABLE VI.—pH of Umbilical and Maternal Blood at 15°C.

Case No.	pH Values.			
	Maternal.		Umbilical.	
	Artery.	Vein.	Vein.	Artery.
6	7.33	7.33	7.17	(6.57)
7	7.43	7.43	7.19	—
14	7.31	7.27	7.14	7.02
8	7.28	7.28	7.15	7.03
20	7.25	7.29	7.13	7.09
15	—	7.29	7.10	—
19	—	—	7.14	7.04
Mean ...	7.32	7.31	7.15	7.02

It will be seen that whilst there is but a slight difference in the pH values of the blood from the maternal vein and artery—the vein having a slightly lower pH value—there is an appreciable difference between these and that of the blood from the umbilical vein and artery, both of which are more acid in this respect than the blood in the maternal circulation.

The lower pH values observed in the umbilical blood, as compared with the maternal blood, agree qualitatively with the lactic acid estimations; furthermore, the pH of the umbilical artery is appreciably lower than that of the umbilical vein, and this also agrees with the fact that the lactic acid content of the blood from the umbilical artery is usually bigger than that from the vein.

The Lactic Acid Content and pH Value of Amniotic Fluid.

As illustrative of the current teaching in regard to the reaction of the amniotic fluid, Whitridge Williams<sup>21</sup> may be quoted. He states: "According to Hoppe Soyler, the amniotic fluid is clear, alkaline in reaction . . ." (italics ours). A few analyses similar to those described above have been carried out with full-term human amniotic fluid. The results given below confirm the findings of Mendel<sup>22</sup> in regard to the pH value of this fluid; it is undoubtedly acid in reaction.

TABLE VII.—The Lactic Acid Content and pH Value of Amniotic Fluid.

Case No.		Umbilical Vein.	Umbilical Artery.	Amniotic Fluid.
21	Lactic acid	—	—	55
	pH ... ..	—	—	5.93
22	Lactic acid	—	—	32.1
	pH ... ..	—	—	5.67
19	Lactic acid	42.5	64	63
	pH ... ..	7.14	7.04	6.50

So far as these figures go there does not seem to be a complete relation between the pH value of amniotic fluid and its lactic acid content.

As already mentioned, the sugar content of a series of specimens of amniotic fluid from the parturient woman gave a mean value of 18 mg. per 100 c.cm.

The Alkali Reserve and the Oxygen Content of Foetal Blood.

The hydrogen-ion concentration of a fluid such as the blood, which contains only weak acids and their salts, has been shown to be equal to  $\frac{(H_2CO_3)}{(NaHCO_3)} \times K$ , where K is a constant, and the brackets denote concentrations. The significance of this equation is more apparent if it be written as follows:  $K = (H) \times \frac{(NaHCO_3)}{(H_2CO_3)}$ . If there is an increase in the hydrogen ions, which we have shown to be the case in foetal blood, there must be a decrease in the fraction  $\frac{NaHCO_3}{H_2CO_3}$ , since the value of K does not alter. This can be effected in two ways, either by decreasing the amount of  $NaHCO_3$ , or by increasing the amount of  $H_2CO_3$ .

The amount of  $NaHCO_3$  which is present in the blood is termed the "alkali reserve," and it is calculated as the amount of  $CO_2$  which can be taken up by blood at a pressure of 40 mm. of  $CO_2$ —that is, the tension of  $CO_2$ , normally existent in the alveolar air.

We have succeeded in determining the alkali reserve of the blood in both the umbilical artery and vein by Van Slyke's method. Our object has been to determine whether the increase in the hydrogen ions which we have observed is due to alterations in the numerator or the denominator of the fraction in question. It might conceivably be due to either, and, if there were an increase in  $H_2CO_3$  only, we should expect to find a normal or relatively high alkali reserve, in response to an attempt by nature to increase the  $NaHCO_3$  of the blood with high tensions of  $CO_2$ .

As a matter of fact, we have found a low alkali reserve in the foetal blood as compared with the maternal (Table VIII). This we consider to be due to neutralization of  $NaHCO_3$  by excess of non-volatile acids, and we know that there is a higher level of lactic acid in the foetal blood (Table IV). We therefore conclude that the depletion of the alkali reserve observed is in whole or in part dependent on the presence of excess of lactic acid.

It will be noticed that the alkali reserve of the umbilical artery is higher than that of the vein. This is just the reverse of the values found in the maternal circulation, but we must remember that the umbilical vein is really arterial in function, and the umbilical artery venous.

The oxygen contents of foetal bloods have also been estimated by Van Slyke's method, and they are found to approximate corresponding values in the maternal circulation, in those cases that have breathed. Here again we must bear in mind the fact that the umbilical vein is arterial in function. It will be noted that although the oxygen content of the foetal circulation is much less than that of the maternal circulation in the cases in which the foetus did not breathe, the difference between the values obtained for arterial and venous blood is the same.

TABLE VIII.—Alkali Reserve and Oxygen Content of Foetal Blood. (Mean Values.)

	Oxygen Content, vols. per cent.		CO <sub>2</sub> Combining Power, vols. per cent.	
	A.	B.	A.	B.
Maternal artery (radial) ...	18.87		40.45	
Maternal vein (median cephalic)	15.44		43.45	
	A.	B.	A.	B.
Umbilical vein ...	18.78	9.02	36.9	37.7
Umbilical artery ...	17.6	5.85	37.7	40.0

A = Those that have breathed. B = Those that have not breathed, including two cases of Caesarean section in which the blood was obtained before the delivery of the child.

Table IX summarizes the related findings in the foregoing investigations. The connexion of the production of

lactic acid with the diminution of sugar, the oxygen content and alkali reserve, together with the pH values, are all of importance in drawing final conclusions concerning the mechanisms involved.

TABLE IX.—Summarizing Table of All Experiments.\*  
Human cases—mean values.

	Glucose mg. per cent.	Lactic Acid, mg. per cent.	Oxygen, vol. per cent.	Alkali Reserve.	pH.
Maternal artery ...	112.6	32.5	18.87	40.45	7.32
Maternal vein ...	106.0	28.0	15.44	43.45	7.31
			A. B.	A. B.	
Umbilical vein ...	84.4	51.0	18.78 9.02	36.9 37.7	7.15
Umbilical artery ...	75.2	68.0	17.6 5.85	37.7 40.0	7.02

\* In all the cases summarized in this table parturition was normal, except for the administration of anaesthesia in some.

A = Those that have breathed. B = Those that have not breathed.

#### Discussion of Results.

These investigations, designed primarily with the idea of examining as far as possible the function of the placenta in regard to the glucose metabolism and the production of lactic acid in aerobic conditions, which has been shown to be a special function of malignant neoplasms, have yielded interesting results.

First, the placental tissues have been examined in regard to aerobic glycolysis *in vitro*, and the chorionic epithelium alone has been found to have an action similar to that observed in the case of malignant neoplasms.

Secondly, the pH values obtained in regard to the placenta agree very closely with those obtained by one of us for malignant tissues (unpublished), and, moreover, it has been demonstrated that the younger the placenta the lower the pH value.

Thirdly, the blood concerned in the foetal circulation at full-term has been studied. It is much more difficult to draw final conclusions from observations made in this connexion, for the actual excretion of lactic acid into the maternal circulation cannot be deduced.

There are for decision two main issues: the extent to which the foetal metabolism is responsible for the lactic acid in the blood of the umbilical vessels, and the part, if any, played by metabolism of the chorionic epithelium in this respect.

With regard to the first, the view may be held that the chorionic epithelium at full-term acts merely as a semi-permeable membrane (as is suggested, for instance, by Loehhead),<sup>18</sup> and at this period has neither selective activities like the renal epithelium, which is capable of concentrating urea, nor anabolic functions like the mammary epithelium, which after birth carries on the metabolic functions probably possessed by the placenta earlier in the gestation period. If, then, it be possible to exclude such active processes in regard to the syncytium of the full-term placenta, we may draw the conclusion that the lactic acid content of the umbilical vessels is then mainly of foetal origin.

The argument to be adduced in such circumstances is as follows:

The differences between the blood of the umbilical vein and artery obtained at delivery allow us to state that from each 100 c.cm. of blood passing through the foetus, the foetus on the average abstracts 3.2 c.cm. of oxygen and 9.2 mg. of sugar; 14 mg. of lactic acid are excreted, and the pH is lowered from 7.15 to 7.02.

Diffusion across the chorion is not an instantaneous process, and it must be expected, therefore, that the level in the umbilical circulation of a substance which is being actively removed by the foetus should be lower than its level in the maternal circulation. This is actually found to be the case for oxygen and sugar, while for lactic acid, which is being excreted by the foetus, the converse holds good.

As regards the pH level, this is lowered on passage through the foetus, probably mainly owing to the lactic

acid production, although the carbon dioxide resulting from respiration will doubtless contribute to the lowering. The bicarbonate concentration (alkali reserve) is probably slightly lower in the foetal circulation than in the maternal, while the pH is considerably lower; thus the carbon dioxide is higher in the foetal circulation, and we must, therefore, suppose that carbon dioxide is actively excreted to the maternal circulation.

The source of the lactic acid produced by the foetus at full-term is difficult to determine, since there is so little muscular movement and there is no evidence that at full-term foetal somatic epithelial tissues can glycolyse when well oxygenated. The chorionic epithelium can, of course, glycolyse, but at full-term in the human subject this tissue is reduced in amount, and therefore it may be surmised that its contribution of lactic acid is negligible compared with that of the foetus. If we had been considering a much earlier stage of pregnancy we should expect this state of affairs to be reversed; the trophoblast would be producing a relatively large amount of lactic acid, although at an early stage the foetus itself might show aerobic glycolysis in its somatic epithelial tissues.

There are two further points on which emphasis may be laid before a final conclusion is considered. First, it will be observed that the differences in lactic acid and oxygen contents between the foetal arterial and venous blood are of the same order as those which occur in the arterial and venous blood of the arm of the mother at full-term. The foetus is sufficiently supplied with oxygen, and there is no reason to suppose that its epithelial tissues glycolyse. Secondly, there is a period of many weeks' duration before the foetal circulation is established, when the chorion is particularly active, and in all probability shows its highest rate of glycolysis.

It is, however, as already indicated, difficult to arrive at a quantitative conclusion in the matter of the cause of the high lactic acid concentrations in the umbilical circulation at full-term, although there can be no doubt as to the importance of this finding.

#### SUMMARY AND CONCLUSIONS.

1. It has been shown that the chorionic epithelium behaves functionally like a malignant neoplasm.

(a) The pH value is on the acid side as compared with normal tissues, and the acidity is greatest in the earlier periods of pregnancy.

(b) This tissue, like cancerous neoplasms, has the power of aerobic glycolysis with the production of lactic acid. It has been suggested by Bierich that the infiltrating properties of malignant disease are due to the presence of lactic acid. If this be so, the same explanation probably obtains in regard to the invasive power of the syncytium.

2. A high lactic acid associated with a low glucose content has been found in the foetal blood; and a reduction in the pH, together with a diminution in the alkali reserve, has been demonstrated.

3. Certain foetal somatic tissues have been examined and have been shown to be acid in regard to their pH value.

4. The amniotic fluid has a low pH, and this is not entirely related to the lactic acid content.

5. There appears to be no deficiency in oxygen consumption so far as the foetus is concerned.

6. The source of origin of the lactic acid in the umbilical blood has been discussed.

7. The connexion between these findings and pathological states of the foetus and mother (toxæmias) has not yet been determined.

We wish to record our gratitude to Professor W. C. M. Lewis, in whose laboratories, and under whose direction, most of the chemical work has been conducted. We are also indebted to Mr. S. B. Herd, Mr. M. Datnow, and house-surgeons to the obstetrical and gynaecological department at the Royal Infirmary, for the collection of material, and for help in other ways.

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## HEREDITARY ICTERUS, OR FAMILIAL ACHOLURIC JAUNDICE.

BY

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WARRINGTON.

THE following is a description of a family, some members of which show very distinctly an icteric tinge in the skin and conjunctivae. The title "hereditary icterus" would seem to be more accurate than the alternative "familial acholuric jaundice," for there was no splenic enlargement, and the jaundice does not affect either the duration or enjoyment of life.

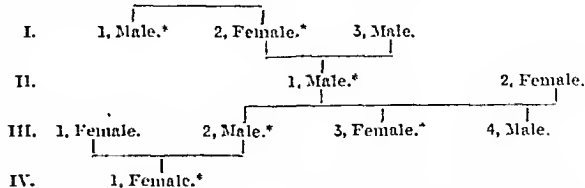
Attention was first directed to a girl (IV 1), aged 10 years, about seven years ago. She was brought to me by her mother on account of jaundice. At the time this was thought to be an attack of catarrhal jaundice. There had been some slight malaise, but no prominent symptoms. On a subsequent occasion three years later she was seen on account of the same condition. In May, 1927, she was brought again for examination on account of jaundice and for an opinion as to her fitness for entry to a training college. She had now grown into a well made, strongly built young woman, full of vigour and with a zest for games. The skin and conjunctivae showed a distinct icteric tinge. The faeces were normal and the urine was free from bile. There was no enlargement of the spleen, and all the other organs were normal. Her mother informed me that when her daughter was bathing in the sea the parts of the body not covered by the bathing dress (neck, shoulders, and legs) became intensely red. It may be conjectured that this showed an abnormal sensitiveness of the skin to exposure to sunlight. A diagnosis of haemolytic jaundice was made, and a consultation was arranged with Dr. T. H. Oliver of Manchester. He saw her on June 2nd, agreed with the diagnosis, and arranged to have the blood examined at the clinical laboratory of the Manchester Royal Infirmary.

As I was aware that the girl's father (III 2), aged 49, also had a yellow tinge in his skin and conjunctivae, Dr. Oliver agreed to see him and arrange for a blood examination. After examination on June 16th Dr. Oliver decided that the father had the same condition as the daughter, but in a lesser degree. The father has a sister, aged 50, who has a yellow skin. She had an operation for gall stones some years ago, but no information is obtainable as to whether stones were found or not. She still has the yellow tinge in her skin.

The father informed me that he had a brother (III 4) living in another town who was quite pale and free from yellowness in the skin. I arranged to examine both brothers together in the daylight and so make a comparison. This was striking; the one was indeed a yellow man, while the other was a pale-face. Owing to the kindness and interest of Dr. Oliver, the pale brother's blood was examined at the Manchester Royal Infirmary. The results of the three blood examinations are given in detail. On making further inquiry into the history of the family, the father of my first patient informed me that his father,

who died in 1909, aged 64, had a yellow skin, but that his mother was pale and clear-skinned. He also remembers that his father's mother was yellow-skinned (she died in 1897, aged 78), and that his paternal grand-uncle was yellow-skinned. He died aged 81. My informant cannot remember his father's father.

A pedigree chart based on this information and on the facts observed can be constructed as follows (the members of the family who had yellow skins are indicated by an asterisk):



In estimating the value of the father's (III 2) observations on his grand-uncle and grandmother (I 1 and I 2) account of their advanced years must be taken into consideration, for they would then show some of the yellowing due to age, but this factor can be discounted in the other affected members in the pedigree.

### Blood Examinations for Fragility of Red Corpuscles and Bilirubin Content of Serum.

IV 1.		III 2.		III 4.	
Solution Sod. Sulphate.	Haemo-lysis.	Solution Sod. Sulphate.	Haemo-lysis.	Solution Sod. Chloride.	Haemo-lysis.
2% ...	10%	2% ...	5%	0.46% ...	Beginning
1.75% ...	20%	1.75% ...	15%	0.4% ...	100%
1.5% ...	40%	1.5% ...	25%		
1.4% ...	50%	1.4% ...	40%		
1.3% ...	70%	1.3% ...	70%		
1.2% ...	80%	1.2% ...	90%		
1.1% ...	90%	1.1% ...	100%		
1.0% ...	100%				

of corpuscles because haemolysis is not equal to 0.75%. Blood serum: 10 units direct reaction. Urine: No bile salts or bilirubin.

III 2 shows increased fragility of corpuscles. Haemolysis is not usually complete until solution is equal to 0.75%. Blood serum: 5.7 units of bilirubin—van den Bergh's indirect reaction. Urine: No bile salts or bilirubin.

III 4 shows very slight increase in fragility of corpuscles. Blood serum: 1.4 units of bilirubin.

### Commentary.

There will be general agreement that we have here an abnormal yellowing of the skin which has been transmitted through four generations. This yellowing is due to an abnormal increase of bilirubin in the blood serum arising from the destruction of abnormally fragile red corpuscles. The increase is greatest in IV 1, less in III 2, and almost normal in III 4.

According to van den Bergh the bilirubin content of normal human serum varies from 1 in 1,000,000 to 1 in 400,000, and taking as his unit 1 in 200,000, it would appear that the normal physiological limit varies from 0.2 to 0.5 of a unit, with an average of 0.3. Thus IV 1 has thirty times, and III 2 seventeen times, the average amount of bilirubin without signs of ill health, except the icteric tinge in the skin and conjunctivae. III 4 has five times the average amount, and in him the skin colour appears quite normal.

In 1905 Gilbert and Lereboullet<sup>1</sup> estimated the bilirubin content in the blood serum of 60 persons (31 men and 29 women), and came to the conclusion that there was a condition of simple familial cholaemia wherein the bilirubin content of the serum was more than double that in the normal physiological state. Although they used the term "familial" they did not show that the condition can be transmitted through the generations by genetic continuity. They also remarked that persons so affected showed the characteristics of the "bilicue temperament." These are commonly supposed to be instability, ill temper,

depression (the jaundiced outlook), but in the enses hero described the temperament is placid, pleasant, and cheerful, in spite of the high blood content of bilirubin.

I am greatly obliged to Dr. T. H. Oliver of Manchester for his kindly help and assistance, and Drs. W. M. Roberts, G. F. Langford, and G. S. Smith for the laboratory work.

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## OBSERVATIONS ON THE COMBINED ACTION OF COLLOIDAL LEAD AND RADIATION ON TUMOURS.\*

BY

J. C. MOTTRAM, M.B.LOND., D.P.H.CANTAB.

(From the Research Laboratory, the Radium Institute, London.)

THERE is evidence that the inoculation of colloidal lead into the circulation gives rise to thrombosis of the blood vessels of tumours.<sup>1</sup> Radiation also causes interference with the blood supply and thrombosis apart from its direct destructive

Similarly, three-quarters of the lethal dose of radiation—that is, fifteen minutes—never caused the tumour to disappear, though a temporary slowing of the rate of growth occurs, as seen by comparing Charts 1 and 3.

Combining these two treatments two sets of experiments were carried out. In one set the lead inoculation was given first and the radiation after varying intervals of time. In the other set the radiation preceded the inoculation of lead. When the radiation was given first mice were grafted with small pieces of T/63 into both flanks. When one of these had grown to 5 by 5 or 6 by 4 mm. superficial area it was radiated for fifteen minutes. After intervals of 1, 2, 3, 4, and 5 days 0.06 c.cm. of lead per gram of weight (mouse) was inoculated into the tail vein. The tumour on the other side served as a control.

In the experiments when lead colloid was given first mice were grafted as before. The lead was inoculated when one of the tumours measured 5 by 5 mm. or less, and the radium applied within a few hours, or later, when the tumour had grown to 5 by 5 mm. Long intervals between lead and radiation were difficult to arrange, because it was not possible to know precisely how long a small nodule

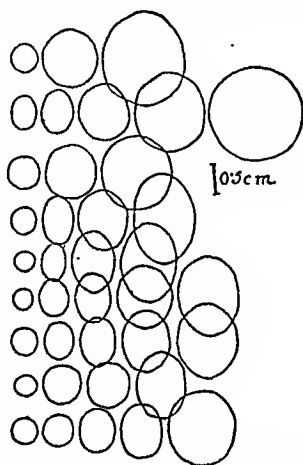


CHART 1.—Showing the normal rate of growth of T/63, measurements being made three times a week. (As also in all subsequent charts.)

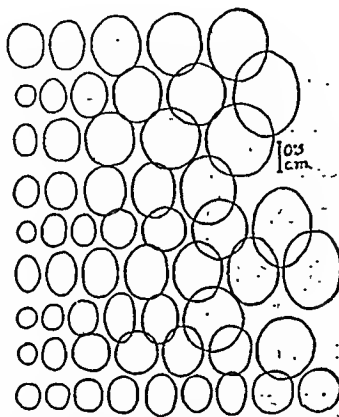


CHART 2.—Showing the rate of growth in animals which have had 0.06 c.cm. of lead colloid per gram of mouse inoculated into the tail vein at the time of the first measurement.

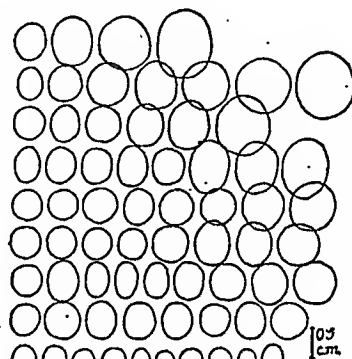


CHART 3.—Showing the rate of growth of tumours exposed to fifteen minutes' radiation at the time of the first measurement.

action on tumour cells.<sup>2</sup> Experiments have therefore been carried out to see whether, by combining these two therapeutic measures, tumours can be made to disappear by such doses that the toxic effects of lead on the patient would be avoided, and likewise the destructive action of radiation on normal tissues and its other harmful effects.

### EXPERIMENTAL DETAILS.

The mouse tumour T/63 was used. This tumour having once grown to a measurable size has never been observed to regress. Its disappearance is, therefore, certain evidence that it is the experimental conditions which are adversely affecting the tumour, and not concomitant immunity. The colloidal lead, containing 0.5 per cent. of lead, was supplied by British Colloids, Ltd. Radiation was obtained from a radium applicator of 110 mg.  $\text{RaBr}_2 \cdot 4\text{H}_2\text{O}$ , having an area of 2 by 2 cm. and screened with 0.15 mm. of silver. Preliminary observations showed that 0.08 c.cm. of lead colloid per gram of weight (mouse) was approximately the lethal dose. Previous work had shown that twenty minutes *in vivo* exposure to a T/63 tumour measuring 5 by 5 mm. was just sufficient to cause it to disappear. It was decided to work with three-quarters of these doses in each case. For lead an inoculation of 0.06 for each gram of mouse weight never caused death. It did, however, affect the general health of the animal, as shown by a decrease in weight beginning on the third or fourth day, with recovery on about the tenth day; the decrease amounted to about 10 per cent. There was also a slight slowing of the rate of growth of the tumour, as seen by comparing Charts 1 and 2.

would take to grow to 5 by 5 mm. after lead treatment. The results of all these experiments are given in the following table. Each + or — represents a treated tumour.

Table of Results.  
Radium Exposure before Lead Inoculation.

Days' Interval.	Tumours Grew.	Tumours Disappeared.
5	++	
4	+++++	
3	+++++	
2	++++++	
1	++	

Lead Inoculation before Radium Exposure.

Days' Interval.	Tumours Grew.	Tumours Disappeared.
0	++++	
1	++++	
2	+++++	
3	++++++	-----
4	+++++	---
5	+	
7	+++	
12	+	

The table shows that when the radiation precedes the lead treatment up to an interval of 5 days, no disappear-

\* A paper read at the British Institute of Radiology on January 19th.

ances of tumours occurred. When the lead inoculation was first given with intervals of 0, 1, 2, 5, 7, and 12 days, there were also no disappearances; but with intervals of 3 and 4 days, 8 complete disappearances of the treated tumours occurred out of 22.

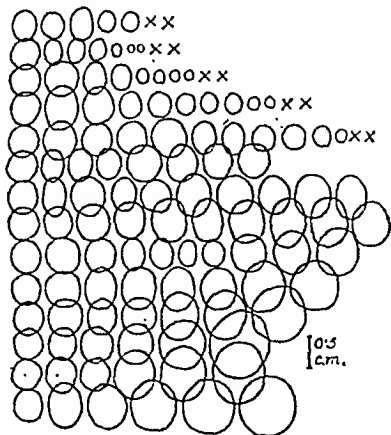


CHART 4.—x=Disappearance of tumour

The growth of these 22 tumours is shown in Charts 4 and 5.

#### COMMENT.

The above results show that the combination of these two therapeutic measures will cause a tumour to disappear, using doses which, by themselves, do not produce this effect, but only result in temporary retardation of growth.

It has been suggested that this effect may be due to both treatments acting upon the blood vessels of the tumour and interfering with its supply of blood. In the case of radia-

tion this action has been shown first to occur about 4 days after exposure.<sup>2</sup> Since the best effects of the combined action are obtained with intervals of 3 and 4 days, it follows that lead must begin to act on the blood supply of the tumour about 7 to 8 days after inoculation, provided, of course, that lead acts in this manner. It has also been suggested that radiation has greater action after lead treatment on account of the secondary radiation arising from the lead deposited in the tumour. If this is so, it can hardly be due to any increase in density of the tumour, as the amount of lead present is too small to alter this

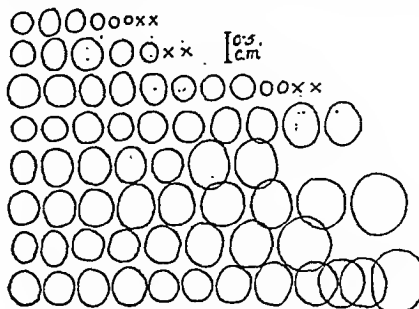


CHART 5.—x=Disappearance of tumour.

appreciably. It might, however, be due to the characteristic secondary radiation from the lead, as this is a new factor with qualitative difference. The results support the view that this combination of treatment should be given a trial in the case of patients suffering from cancer. The radium used was on loan from the Medical Research Council.

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## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A METHOD OF DEALING WITH A SWALLOWED OBJECT.

(With Special Plate.)

THE following case is of interest inasmuch as it indicates a practical method of dealing with opaque objects that have been accidentally swallowed.

The patient, a schoolboy aged 12, was brought to me with the history of having swallowed the key of his tuckbox. He had placed it in his mouth while unpacking the contents of the box. A school pal gave him a friendly slap on the back, and down went the key, ring, label, and all. The x-ray examination clearly displayed them in the stomach (Fig. 1).

It occurred to me that I might here make use of the method I devised for gastric investigation after an opaque meal—namely, radioscopic palpation. I found that I had full control over the foreign body by manipulation through the abdominal wall. I proceeded to manoeuvre the key through the pylorus. As the handle of the key was directed towards the pylorus a complete turning round was necessary. With careful manipulation the wards of the key—that is to say, the lock end—were persuaded to engage in the pylorus. However, the ring and metal disc, both about the size of a two-shilling piece, could not be induced to pass.

The lad was then told to go out and eat as big a lunch as he could without any fluids. To him this was a pleasing suggestion. The manoeuvre proved successful, for at the second examination, some three hours later, the key could be seen in the small intestine. A dose of castor oil was ordered, and the key was safely delivered the next day *per vias naturales* (Fig. 2).

It is, of course, quite possible that it would have passed out of the stomach without the assistance here described, but the anxiety of the parents was certainly curtailed, and it is quite conceivable that, in cases where the swallowed object is of an awkward shape or of large size, the possibility of being able to get the most suitable presentation to engage the pylorus is of some value.

S. GILBERT SCOTT, M.R.C.S., L.R.C.P.,  
D.M.R.E.Camb.,

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London Hospital.

#### TOTAL HEPATOPTOSIS.

I BELIEVE the condition of total hepatoptosis is not a common one, and this is my reason for recording such a case in an old woman, aged 75, whom I recently attended in a terminal illness for congestion of the lungs.

I had this patient under observation for some years, and from her figure and fullness of the abdomen I suspected she might have an ovarian tumour. From time to time I attended her for slight malaise and noted that she had some oedema of both feet and legs, which, together with the fullness of the abdomen in an otherwise spare woman, rather suggested an abdominal tumour, but she persistently declined a general examination.

In December, 1927, I was summoned to see her for a chill and a chest condition; a general examination disclosed a tumour which appeared to occupy the whole of the abdominal cavity, the more so as the patient was in the sitting posture propped up in bed. The tumour was smooth and even in outline and extended upwards to the costal margin; laterally it occupied the right flank, and reached the mid-Poupart line on the left. In the downward direction the tumour ended about two inches below the umbilicus, its most dependent part being an edge which conformed to the line of the liver, with the notch between the lobes. On palpating the mass I could get my fingers well underneath it, and quite easily and clearly delineate the liver edge across the hypogastrium through the thin flaccid abdominal wall. The liver could be raised upwards to bring the anterior margin in close apposition to the

bus its sharp edge and making the inferior nobile, allowing considerable range of movement, and there was no tenderness or pain on examination. The right hypochondrium had a resonant note, in place of the usual liver dullness.

Besides the wandering liver, examination of this patient showed curvature of the spine, a condition which is occasionally associated with hepatoptosis, also an enlarged thyroid gland. The woman had borne six children, and the abdominal wall was lax and pendulous—another associated condition.

Apparently the patient was unaware of this unusual abdominal content; the only physical sign arising therefrom appeared to be the oedema of the feet and legs, possibly due to interference with the inferior vena cava. The liver was in a position of anteversion with slight rotation to the right.

Shenington, Oxon.

A. ALAN FORTY, M.R.C.S., L.R.C.P.

### RUPTURED ECTOPIC GESTATION OCCURRING ON BOTH SIDES.

The following case appears to be of sufficient interest to warrant recording.

The patient, a married woman, aged 31, was admitted to the Hull Royal Infirmary on December 5th, 1927. She gave a history of having had no children or miscarriages, but had been operated on for a ruptured ectopic gestation on the right side six years ago. In October she missed one period, and seven days later started with a discharge of blood and mucus by the vagina, which never ceased. During this period she had a dull aching pain in the left iliac fossa. Three days before admission she experienced a rather more acute attack of pain, but her medical attendant, who saw her, states that she was not collapsed. During these last three days her doctor noticed a swelling above the symphysis, which gradually increased in size, and which he satisfied himself was not related to the bladder. The patient also had some pain, and frequency of micturition.

When admitted the patient showed no anaemia, but on examination there was a rather tense character, extending up to the vagina revealed a slight fullness of the abdominal swelling could not be differentiated from the uterus. The cervix was soft to the touch. Examination was not very tender.

A tentative diagnosis of ruptured ectopic pregnancy was made, and the patient was operated on two days after admission. On opening the abdomen there was a cavity filled with old blood-clot, shut off by adhesions caused by the former operation on the right side, and by omentum extending down over the bowel above. There was an ectopic gestation, two and a half months old, present in the left tube, but no free bleeding point was found.

The interest in this case lies in the facts that (1) a ruptured gestation occurred in both tubes; (2) there was considerable difficulty in diagnosis, as the bleeding was very slow, and it was not easy to fix any definite time for the rupture.

I am indebted to Mr. Robert Grieve, who operated on the case, for his courtesy in allowing me to publish it.

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Senior House-Surgeon, Hull Royal Infirmary.

## Reports of Societies.

### DIATHERMY IN RELATION TO CIRCULATORY DISTURBANCES.

A MEETING of the Section of Electro-Therapeutics of the Royal Society of Medicine was held on January 20th, with Sir HENRY GAUVAIN in the chair.

Professor SIDNEY RUSS opened a discussion on diathermy in relation to circulatory disturbances, more particularly high blood pressure, from the point of view of the physicist. He described the conditions governing the action of high-frequency currents, referring especially to some recent observations of d'Arsonval on the way in which heat was generated in body fluids by such currents' passage, one conclusion being that the efficiency of heating in the dielectric circuit was dependent upon the voltage. The ionic action of a current was of two kinds, oscillatory and rotatory; both played their part in the generation of heat. Professor RUSS showed how infinitesimal was the range of these oscillations—equal to a molecular diameter. He emphasized the importance, in the clinical use of diathermy, of maintaining a check on the voltage employed. The question of the distribution of high-frequency currents throughout the tissues was one upon which further investigation was needed, but one accidental experience appeared to prove that nerve tissue provided an unusually good conducting path for weak high-frequency currents. On one occasion in his laboratory a high-frequency current of less than 0.2 ampere was passed from hand to hand for less than thirty seconds; one of the persons concerned said that she felt "pins and needles," and next morning a large part of the surface of her arm was devoid of sensation. This effect could never have been produced with so small a current unless the bulk of the current had followed the nerve.

Dr. T. F. COTTON dealt with the results of diathermy in disturbances of the cardio-vascular system. The value of the treatment, he said, depended entirely upon the production of heat within the body; there was general agreement that no other special effect came into play. Lewis had lately advanced the view that the reaction of dilatation of the arterioles, venules, and capillaries to changes of temperature was dual; there was a direct

influence of heat evidenced in a lessening of tone of the walls of the small blood vessels, and also an indirect (and predominating) influence of heat in increasing the concentration of vaso-dilator substances in the tissue spaces. This renetivo hyperaemia, with increased blood flow, was the mechanism of fine adjustment which governed the nutrition of the tissues. It was probable that the deeper vessels reacted in a manner similar to that of the cutaneous vessels, and, this being the case, diathermy in the treatment of disturbances of the cardio-vascular system had a direct relation to the physiological facts. It followed from this explanation of the mechanism of response of the blood vessels to heat that when constrictor influences predominated and caused alteration in the peripheral circulation, with eventual pathological changes, the release of these vaso-dilator substances, causing the small vessels to dilate, brought about the restoration of the normal circulation and blood supply to the tissues. Diathermy, therefore, seemed to have an appropriate part to play in the treatment of such conditions. Theoretically, also, in such a disturbance as was found in intermittent claudication diathermy should be a valuable remedial agent, and it was true that in many cases there was symptomatic improvement, but others, for some reason, were refractory, and did not benefit. Another condition in which constrictor influences predominated was acrocyanosis, but here diathermy failed to relieve the venous stasis more than temporarily. The treatment, spread over a number of weeks, had not proved sufficient to control the constrictor influences, which might be of central origin. With regard to high blood pressure and its treatment by diathermy, the speaker thought that patients with hypertension might be divided into two main groups—namely, those with symptoms directly due to the high blood pressure, and those with symptoms due to other causes. Patients in the first category were decidedly better when the blood pressure was lowered 20 mm. Hg, or thereabouts, as a result of diathermy. The second group—namely, that of patients with symptoms due to other causes—included those with signs of renal insufficiency predominating, and it was not rational to give them treatment which had as its main object the lowering of the blood pressure. Diathermy should not be given in hypertension with renal disease predominating. The group also included patients with symptoms of myocardial exhaustion due to auricular fibrillation. The blood-pressure level could be affected in these patients by slowing or altering the rate with digitalis, but no good, in his opinion, could come from diathermy. Diathermy, however, might be a valuable therapeutic agent in patients with high blood pressure and symptoms of angina. Dr. COTTON looked upon angina as itself a symptom of myocardial exhaustion, frequently associated with coronary changes; when such patients had high blood pressure, and this was reduced to a lower level or to normal, the heart had probably less work to do and the circulation was more easily maintained. Unfortunately, many such patients did not do well under diathermy, and it might be that the group of patients with angina who did not improve were patients with coronary disease, on account of which the vessels were refractory to heat. There was, however, another type of angina, sometimes called secondary, in which there was no structural disease, but probably a nutritional disturbance of the heart function which might be of toxic origin, and here diathermy was likely to be helpful after any foci of infection had been removed.

Dr. JUSTINA WILSON gave an account of the symptoms and course of chronic constitutional hypertonia, illustrating it from her experience of various cases. In uncomplicated high blood pressure diathermy might be valuable, and most helpful of all in intermittent claudication, but to be really effectual she thought it should be combined with careful treatment of the lymphatics. Light superficial stroking of the lymphatics of the skin, combined with a thorough vibratory treatment of the deeper lymphatics, was a useful adjuvant. In cases of angina diathermy should be given only with very careful precautions, with treatments certainly not every day, with small amounts of current, and with not over-long sittings.

Dr. AGNES SAVILL described a long-standing case of angina in which relief had invariably been afforded by

ten to fifteen minutes' high-frequency or condenser cone application. The blood pressure, which was high, dropped by some 5 to 10 mm. Hg on the diathermic applications, and the pulse had an entirely different "feel" afterwards. She added that she had found diathermy with a high-voltage apparatus of singular benefit as a tonic in the over-tired state in a person with moderately low blood pressure.

Dr. ADOLF SCHOTT (Bad Nauheim) referred to two cases of arterial hypertension and angina pectoris which showed strikingly different reactions to diathermy. In one case it did good, and in the other not only failed to benefit, but appeared to intensify the attacks. His experience showed that there was extreme individual variation in the response to diathermy.

Dr. E. P. CUMBERBATCH mentioned some experimental work at his clinic at St. Bartholomew's Hospital with apparatus providing variable voltage and frequency of oscillation; it had been found that changes in the voltage and in the frequency did not appear to affect the distribution of the heat. He protested against the continued use of the term "high frequency." High frequencies were only used in therapeutics in so far as they produced heat within the body, and therefore "diathermy" was the correct term by which to designate the treatment. He thought the dilatation of vessels produced by diathermy was of trifling moment, and that the most important factor was the acceleration of the circulation through the heated tissues. Possibly the action of heat upon the blood was to lower its viscosity.

Dr. G. B. BATTEN spoke as one who had had experience of the Ondin resonator since 1896, and joined issue with Dr. Cumberbatch with regard to the claim that the whole of the therapeutic effect in diathermy was attributable to heat, which accounted, no doubt, for the major effect, and could easily be measured by physicists and clinicians. But he believed that other effects must follow from the oscillatory action of the current.

Professor RUSS, in his reply, however, appeared to agree with Dr. Cumberbatch, and said that heat was undoubtedly generated by the atomic and molecular oscillations in the current field.

### APICAL INFECTION OF TEETH.

At the meeting of the Section of Odontology of the Royal Society of Medicine on January 23rd, with Mr. W. RUSSTON in the chair, a paper was read by Mr. ARTHUR BULLEID on apical infection.

Mr. Bulleid mentioned that some time ago he was present at an examination when a well known examiner asked the candidate, "What is the significance of a granuloma to a patient?" He himself did not know, the candidate did not know, and he rather doubted whether the examiner knew, but it struck him that this was a suitable field for bacteriological investigation, and through the good offices of that particular examiner he was able to obtain a grant from the Medical Research Council for the work. Apical infection might be classified as follows: (1) The rarefied area—diffuse osteitis; (2) the chronic abscess, with or without a sinus; (3) the granuloma, with or without epithelial cell elements; (4) the dental cyst. The "rarefied area" was an area of osteitis which, radiographically, showed no definite line of demarcation from the surrounding bone. The "chronic abscess" appeared radiographically as an area of osteitis with rather more demarcation, and the granuloma might consist almost entirely of granulation tissue, with more or less fibrous connective tissue; it might or might not contain epithelial cell elements. If no epithelial cells were present no stimulus could convert the granuloma into a dental cyst. If the radiologist could tell definitely from his skiagrams exactly what type of apical infection was present, and not merely report osteitis only, much progress would be made, because the pathological significance to be attached to these different varieties of osteitis differed. The rarefied area and the chronic abscess were much more detrimental, he thought, than the granuloma, in that they denoted higher virulence of the infecting micro-organisms and less resistance on the part of the tissues. Granuloma, on the other hand, indicated definite tissue resistance to infection, the virulence of which

was lowered by drainage down the root canals in a vast number of cases. After describing the technique employed in his bacteriological investigation, Mr. Bulleid said that in only a small proportion of teeth removed in the hope that osteitis present at the apex would reveal itself as an attached granuloma on extraction was this found to be the case. The largest number of granulomata were found on septic routes in which drainage down the canal was possible, and he was coming to the conclusion that the actual formation of the granuloma was largely dependent on this question of drainage. The important bacteriological items of interest up to now revealed by this investigation were as follows:

(1) In no single case did proteolytic organisms get through the apex into the substance of the granuloma, though they were demonstrated in cultures from the root canals in all the septic roots examined.

(2) Streptococci were present in all the cases, and were of all types.

(3) In two cases *B. fusiformis* was isolated in the anaerobic cultures.

(4) In four cases the *Leptothrix buccalis* was found in anaerobic culture, but never by itself alone.

(5) In two cases aerobic cultures were sterile, but anaerobic cultures revealed the infecting micro-organisms—in one case a streptococcus and *B. fusiformis*, in the other a streptococcus and *Leptothrix buccalis*.

(6) In eight cases staphylococci were isolated, in addition to streptococci, and no other organisms were present.

He had noticed that when streptococci and staphylococci were found together there did not appear to be much fibrous tissue in the granuloma. When the *Leptothrix buccalis* was isolated in culture the granuloma was extremely fibrous, and he wondered whether the presence of this organism indicated an attempt at calcification to overcome the infection. Mr. Bulleid's general conclusions were that granulomata were most commonly found on dead teeth when there was drainage, and that their presence was evidence of tissue resistance. Of root-filled dead teeth those most likely to show apical osteitis were those with root fillings right to the apex, or nearly so, and those most likely to show no osteitis were without root fillings, or had only partially filled canals. If osteitis was present in skiagrams at the apices of dead teeth with no root canal fillings, or only partially filled canals, then, in a certain proportion of such cases, extraction would demonstrate an adherent granuloma.

### SERUM TREATMENT IN ANTHRAX.

At a pathological meeting of the Liverpool Medical Institution on November 17th, 1927, Mr. G. C. E. SIMPSON read a note on the serum treatment of anthrax.

Mr. Simpson recalled that he had previously described twelve successive cases of anthrax successfully treated by the use of serum (BRITISH MEDICAL JOURNAL, 1920, vol. ii, p. 821). He advocated the intravenous route in severe cases, and stated that in all amenable diseases serum, to be successful, should be given early and in large doses. Only in the *Oxford System of Medicine* and in *Osler and McCrae's Modern Medicine* was an adequate dosage of serum advocated. Of his five further successful cases one was very severe, the pustule being in the neck and laryngeal symptoms prominent. After 280 c.cm. of serum had been administered in thirty hours the pustule was excised freely to relieve local congestion. In spite of a further 160 c.cm. in the next twenty-four hours (of apyrexia) the infection was apparently disseminated and progressed extremely rapidly, but was checked by the administration of 720 c.cm. in a period of forty-eight hours; 0.6 gram of neokharivan had also been administered, and might have played a part. Mr. Simpson reiterated his belief in the early intravenous use of the serum without excision in this disease.

### Splenomedullary Leukaemia in an X-ray Worker.

Dr. HOWEL EVANS read a note on a case of splenomedullary leukaemia occurring in an x-ray worker. A man, now aged 46, joined the army in 1914 and served as an assistant in various military hospitals until 1925. He was for the greater part of this time in charge of the x-ray apparatus, and performed the routine radiological examinations in these hospitals. Symptoms of substernal pain and dyspnoea began in 1924, a period of ten years after



exposure first began. The splenomegaly and blood changes were first observed in 1925, a few weeks after he ceased x-ray work. After temporary improvement by a course of x-ray treatment the patient improved, but again relapsed, and was now moribund. Dr. Evans summarized the literature, stating that this was the ninth case of leukaemia reported in x-ray and radium workers against an exactly equal number of cases of aplastic anaemia—a much better recognized condition. Of the nine cases of leukaemia five were lymphatic, three splenomedullary, and in one the type was not stated. Seven of the nine occurred in x-ray workers and two in radium workers. Dr. Evans said that in the present state of knowledge it was impossible to affirm definitely the relation of radiations to leukaemia, but the gradually increasing number of reports of such cases was suspicious, and the question was a matter of considerable importance from the radiologist's point of view.

### THE MEDICAL WITNESS.

In a paper on "The medical practitioner in relation to the administration of justice," read at the Royal Institute of Public Health on January 18th, Mr. ROLAND BURROWS, LL.D., said that great resentment was often caused by cross-examination, not so much by the manner of counsel (though on occasional counsel did seem to have overstepped the limits of decorum), but by the fact that a medical witness should be cross-examined at all. He did not think there was strong ground for that feeling. If a witness were called by one party the other side should have the opportunity of checking the evidence given, and in principle there was nothing that differentiated the medical witness from any other expert. He did not see how it would be to the advantage of the administration of justice if experts were to give their evidence in the form of a report, either written or oral. A written report was never so weighty as evidence given by a competent witness, and cross-examination was of advantage to the competent and truthful witness. What, asked Mr. Burrows, should a doctor do if duty to his patient seemed to conflict with duty to the court? The rule had been laid down that no medical man could refuse to answer a relevant question. In other words, the cause of justice was paramount. No one, he thought, would claim that a medical man called as a witness on behalf of his patient ought to confine himself to such matters as furthered his patient's interests and refuse to answer if cross-examined on matters which might tell against his patient. In, for instance, a divorce suit where a doctor had attended one party and was subpoenaed by the other, circumstances pressed with peculiar hardship on him. Such questions must be regarded in the light of all the considerations, and not merely on the injury that a general rule must inflict in particular cases. He did not think that there was sufficient cause for amending the present rule—that a medical man must not refuse to answer relevant questions. The medical practitioner who was a witness should know in outline what the case was about, so as to get some idea of the way in which his evidence would assist the court. He should consider how far his evidence consisted of observed facts, and how much of inference from those facts. Inference easily glided into opinion, and opinion into hypothesis. Every expert should confine himself, at any rate in the first instance, to facts, and to inferences that could certainly be based upon those facts, leaving the less certain inferences and his opinions to be given if demanded. A witness was in a strong position who said, "I have observed certain facts. It follows from those facts that such and such a state of affairs exists or that such and such a conclusion must be drawn." He should be prepared to justify those facts both positively and negatively—that is, not merely that he had observed them, but had established the non-existence of other facts which, if they existed, would have affected the matter. If his opportunities for observation had not been sufficient to enable him to draw one out of several possible inferences, then a frank statement on the matter would do him no harm—unless he was woefully negligent or unskilful—and he should then state his inference, not as a certainty, but as an opinion.

LORD JUSTICE ATKIN, who presided, said there was no class of expert whose evidence was regarded more sympathetically than the medical practitioner, whether general practitioner or specialist. In numerous cases that came before the courts justice could not be done without the evidence of the doctor, and the actions in which the medical evidence was relied upon seemed to be increasing day by day. In an extraordinary range of cases the rights and liabilities of the parties depended upon a true appreciation of the medical facts. He had often sympathized with the doctor who went into court to give evidence in which he thoroughly believed, but who had not thoroughly equipped himself to face the cross-examination. Before going into the box a doctor should take account with himself and see whether he had observed everything, and whether he was speaking to anything more than he had observed. A golden rule to observe in the witness-box was: "If you are not sure of a thing, say so." The court would respect a witness for doing this, and the witness would be in a firmer position. It was a good thing to say: "It may be so, but I am not sure," or, "That is not the inference that I draw, but it is an inference that possibly could be drawn." It was a great mistake to be too positive. Judges trusted the doctor because they believed him to be a witness of truth, and in ninety-nine cases out of one hundred doctors deserved to be trusted. Any doctor who observed these rules could face with equanimity the duty of giving evidence. On the question of observing medical confidence, continued Lord Justice Atkin, the law was that a doctor was not privileged to maintain his patient's confidence. There might be difference of opinion as to whether that ought to be the law or not. It was necessary to weigh the claims of justice on the one side, and on the other the claims of public health. In some cases, especially in connexion with venereal disease, he was of opinion that the claims of public health far outweighed the claims of justice, and he would be quite glad to see even the very small change in the law that was sought to be introduced by Dr. Graham Little's bill.

### JAMES MACKENZIE INSTITUTE.

#### *Diagnosis of the "Acute Abdomen."*

ON December 20th, 1927, at the James Mackenzie Institute for Clinical Research, St. Andrews, Professor JOHN MANNORN, Regius Professor of Surgery in the University of Aberdeen, read a paper on some pitfalls in the diagnosis of acute abdominal conditions.

So rapid, he said, had been the advance of surgical technique that it had outstripped the practitioner's powers of diagnosis. Indeed, if the successful treatment of a case depended more on accurate diagnosis than upon safe surgical technique, diagnostic skill in abdominal disease would have developed further than it had to-day. In recent years laboratories had furnished many aids to diagnosis, and it was impossible to overestimate their value; but they should never be made to supersede a good clinical opinion, which should still be the dominant factor in deciding what a patient was suffering from. In acute abdominal disease it was indeed fortunate that the outstanding clinical feature was often that of peritonitis, which was usually easy of recognition, and the early recognition of peritonitis had been the means of saving more lives than anything else. Perforation of the stomach and duodenum illustrated this in a most striking manner, but in the symptoms of this catastrophe there were some fallacies. In the earlier stages liver dullness and resonance in the flanks were often present, and the site of greatest tenderness in a number of them was the right iliac fossa, owing to the irritation of the gastric contents which had been guided by the colon to that neighbourhood. Closely simulating perforation was acute pancreatitis, but there were certain points of difference which, when kept in view, should lead to an accurate diagnosis, at any rate in the fulminating type. Even congenital hypertrophic stenosis of the pylorus might be closely simulated by other congenital conditions. The lecturer then discussed pitfalls in the diagnosis of acute conditions of the gall bladder, acute intestinal obstruction, acute appendicitis, and tumours of the colon.

## Rebicus.

### RECENT ADVANCES IN TROPICAL MEDICINE.

The bulk of the literature called forth by the rapid strides made in our knowledge of the diseases of warm climates has grown so great that the tropical practitioner finds difficulty in keeping pace with it. An attempt has accordingly been made to meet the situation as in perhaps no other branch of medicine by the summaries published in the *Bulletins of the Bureau of Tropical Diseases* (now the *Bureau of Hygiene and Tropical Diseases*). For many, however, the volume of these summaries is becoming almost overwhelming, so that the book entitled *Recent Advances in Tropical Medicine* by Sir LEONARD ROGERS will be most welcome. It will be read not only by those concerned more immediately with tropical diseases, but by others who more wish to make themselves acquainted with the present position. In twenty-three chapters the author deals in turn with each disease upon which research has thrown fresh light in recent years, be it in connexion with etiology, distribution, diagnosis, or treatment; at the end of each chapter a list of references to recent authors is given.

The book is eminently readable; the historical method adopted adds considerably to its interest, while at the same time, under diagnosis and treatment, it is full of important practical points. The scope of such a work must, of course, have limits, but some reference to one or two other diseases, such as tularaemia and epidemic jaundice, might perhaps have added to its value as a handbook.

### THE UNITED STATES SURGICAL HISTORY OF THE WORLD WAR.

The eleventh volume of the history of *The Medical Department of the United States Army in the World War* contains in Part One sections concerned respectively with general surgery, orthopaedic surgery, and neuro-surgery, prepared under the direction of Major-General M. W. IRELAND, the Surgeon-General. The vast scale on which this history has been planned and is being written is indicated by the fact that the 1,324 pages now under notice form only Part One of the eleventh volume.

Section II, which is devoted to orthopaedic surgery, consists of only two hundred pages, in which the history of the formation and training of the Orthopaedic Division is related. The relative brevity of this section is probably to be explained by the inclusion in the section of general surgery of the records of injuries and their results, and comprising nearly all those bone and joint injuries the treatment of which so largely occupied the surgeons of the Orthopaedic Division, the formation of which was due to the farseeing action of the American Orthopaedic Association at its meeting in Washington in 1916. The resolutions then passed were presented to the Surgeon-General of the United States Army, and the suggestions embodied therein were accepted by him.

When the United States entered into the war orthopaedic courses for young general surgeons were started in Boston, New York, Philadelphia, and Washington, and for the Southern States in Oklahoma City. Moreover, a number of young surgeons were sent to Great Britain to be trained in special orthopaedic work in the hospitals under the direction of Sir Robert Jones. Of this training the history says: "It was a graduate school of the most thorough and practical type, and made possible the training of men in a short time to do efficient work not only for the British Army, but also for the American Army when they were transferred." A smaller group of orthopaedic surgeons from the United States went direct to France with the American Red Cross base hospital and did excellent work.

A "Manual of Splints" was published, and, working largely on the experience of British surgeons such as

Robert Jones and Maurice Sinclair, the types of splints were standardized and finally reduced to ten. Large numbers of these splints were manufactured. By the end of October, 1918, the United States Army authorities had ordered nearly half a million splints, of which nearly a quarter of a million had been supplied.

In a chapter on the foot and its relation to military service the soldier's foot is considered. Troubles due to flat-foot and bad posture seem to have been more common in the army of the United States than in the British forces, and called for quite an elaborate organization for their relief and cure. Interesting details are given of the special boots and modifications of soles which were found useful for flat-foot and for pes cavus.

The chapter on fractures caused by projectiles is well illustrated and instructive. The United States, unlike other combatants, had, in considering the later stages of treatment, to keep in view the necessity of providing for adequate care of fractures, etc., on the voyage home across the Atlantic. Therefore orthopaedic surgery in embarkation hospitals has a chapter to itself, in which late treatment is dealt with and some of the weak points in the treatment of fractures, between the battlefield and the hospital ship, are pointed out.

The use of autogenous bone grafts for non-union in atrophic long bones and in chronic suppurative osteitis fully justified itself, as is abundantly shown by the excellent illustrations of Chapter V, which is worth very careful perusal.

The care of amputation cases and the provision of prostheses for them came under the Orthopaedic Division. As in other armies, it was found that one of the chief causes of difficulty was the ignorance of, or indifference shown by, military surgeons to the problems of prosthetic surgery. The conclusions come to on this subject by the American orthopaedic surgeons are much the same as those reached by our own. Only five cases of cinematization of stumps were recorded; the results were not encouraging. The provisional appliances provided by the United States authorities appear, judging by the illustrations, to have been more elaborate than those used in Great Britain. Permanent prostheses are not described in this volume.

The name of the officer responsible for each chapter of the general, surgical, and neuro-surgical sections of this volume is appended to each, but no authors' names are given in the orthopaedic section. A list of names, without specification of their contributions, is given in the preface.

Colonel Elliott G. Brackett, M.C., of Boston, who edited the section, was chief of the Division of Orthopaedic Surgery in the Surgeon-General's office during the war.

### PHYSICAL EXAMINATION IN SURGERY.

THERE are indications, in more than one direction, of a reaction against the predominant influence of the accessory means of diagnosis which have become so numerous in clinical work during the last few years. *Demonstrations of Physical Signs in Clinical Surgery*,<sup>2</sup> by HAMILTON BAILEY, has apparently been written, to some extent at least, under the influence of this reaction. The old-fashioned clinical instinct appears to be dying out and the *tactus eruditus* is nearly extinct. The modern graduate of medicine, when called to an urgent case, has been pictured as driving up to the patient's house, followed by a pantechnicon containing a fully equipped x-ray installation and a laboratory with a staff of assistants, without which he would be unable to formulate a diagnosis. The accessory means of diagnosis are not to be despised, but they have undoubtedly diverted the attention of the student from the time-honoured and primarily important methods of inspection, palpation, and auscultation which he will find indispensable in actual practice. Mr. Bailey's book will serve to give prominence to this point of view. It describes the ordinary methods of physical examination in their numerous modes of application in the diagnosis of the principal diseases and injuries of the several regions of

<sup>1</sup> *Recent Advances in Tropical Medicine*. By Sir Leonard Rogers, C.B.E., M.D., B.S. Lond., F.R.C.P., F.R.S., Indian Medical Service. (Fet.), London: J. and A. Churchill, 1928. (5½ x 8½, pp. viii + 328; 11 figures. 12s. 6d. net.)

<sup>2</sup> *The Medical Department of the United States Army in the World War*. Volume XI: *Surgery, Part One*. Prepared under the direction of Major-General M. W. Ireland. Washington: Government Printing Office, 1927. (Sup. roy. 8vo, pp. xxxiv + 1324; 237 figures. 4 dollars.)

<sup>3</sup> *Demonstrations of Physical Signs in Clinical Surgery*. By Hamilton Bailey, F.R.C.S. Eng. Bristol: J. Wright and Sons, Ltd.; London: Simpkin Marshall, Hamilton, Kent and Co., Ltd. 1927. (Roy. 8vo, pp. xv + 217; 261 figures. 21s. net.)

the body, the descriptions being mainly pictorial, by means of numerous excellent photographs of actual patients undergoing examination. The figures are accompanied by brief verbal descriptions and observations on differential diagnosis, and give a singularly vivid impression of the methods described. The student will find this work, which is the outcome of a series of demonstrations on the elicitation of physical signs, a useful reminder of the teaching he has received, or should have received, in the hospital and out-patient department.

### CLINICAL PEDIATRICS.

PROFESSOR NEFF of Kansas University is responsible for the eighth volume of *Clinical Pediatrics*,<sup>4</sup> which deals with diseases of the digestive system of childhood. It is intended more as an aid to the general practitioner than a work of reference, and as such should fulfil its purpose. There are chapters on typhoid and paratyphoid fevers, on acute surgical diseases of the intestines, and on poisoning both by food and other substances. The classifications adopted are, on the whole, simple and clear. There is, perhaps, a tendency to be unduly dogmatic in the difficult field of treatment, particularly of the dyspeptic disorders of infancy, and to minimize the difficulties and the uncertainties of prognosis. There is a chapter on the liver, biliary tract, and pancreas, so brief that such a subject as recurrent partial liver atrophy is not mentioned; perhaps this section is to be fully considered in another volume.

The ninth volume, which is on diseases of the respiratory system, has been written by Drs. FUNKHOUSER and McALLEY of Emory University, Atlanta. The first part is devoted to diseases of the nose and throat, and the last to general therapeutics. Some subjects are incompletely described; little, for example, is said of bronchiectasis as a clinical entity; the treatment of empyema is not considered, but referred to the surgeon. There are a number of illustrations, but some are of little interest; it seems hardly necessary to make a picture of the taking of rectal temperature.

The tenth volume, on nutrition and development, is by Professor ROYSTER, who states that his object has been to visualize for the general practitioner the processes of digestion and metabolism, together with the phenomena of growth and development of all stages of childhood up to puberty. The several food elements are enumerated, and the part played by each explained. Chemical and biological processes are described in a simple, straightforward way, and the problems of growth and development are succinctly set out. Pellagra is included under diseases of nutrition, and there is a chapter on erythroedema. Useful tables dealing with diet, food values, and the chemical composition of food materials are given, both in the text and in the appendix. The volume may safely be recommended as a clear and interesting exposition of a difficult subject, and should fulfil the purpose for which it has been written.

Whether the general practitioner, to whom it is addressed, should be advised to obtain the whole of this large system, is another matter. He might do better with one of the accepted textbooks on diseases of children.

### THE VITAL FUNCTION OF ELECTROLYTES.

THE importance of electrolyte equilibria in the persistence and function of the living cell is acknowledged by every student of biology. Much remarkable experimental work has contributed to emphasize the importance of this branch of physico-chemistry, but at the same time a great deal of plausible argument has been built upon a too loose employment of the language of electrolytic dissociation in relation to biological problems. The subject is essentially a quantitative one, towards whose solution exact measurement rather than qualitative deduction must be applied.

Dr. ZONDEK attempts in his book on electrolytes in physiology, pathology, and therapeutics<sup>5</sup> to define the biological problems with precision and to throw light on the practical utilization of the principles defined. It should be directly useful to the student of these subjects, since the discussions of the many biological problems which the chemistry of electrolytes has invaded are prefaced by adequate explanations of the purely physico-chemical principles involved. It is not possible in a brief review to indicate the multitude of subjects brought within the province of these discussions. They range from the significance of electrolytes in colloidal phenomena, in cell function, in acid-base regulation of blood and tissues, to the electrical phenomena exhibited by tissues, and the inorganic changes evidenced in many pathological conditions. The book is a serious attempt to survey the field.

### WHAT IS CHARACTER?

It seems to be characteristic of the human being that the less he has to say the greater his length in saying it. On this principle Dr. ROBACK has compiled a monumental tome, entitled *The Psychology of Character*.<sup>6</sup> He is rightly anxious to define his terms and to distinguish between personality, temperament, and character. But the reader does not get Dr. Roback's definition of character until the 563rd page, when he is dismissed to ponder the statement that character is "the psychophysical disposition to inhibit instinctive tendencies in keeping with fundamental principles of action." It is true that Dr. Roback, in the previous 562 pages, sets himself to supply the student with a "comprehensive volume showing what contributions have been made to the field of character in its widest sense"; and in doing so has, as he says, compressed practically a whole library into the compass of a single book. But it seems to us that in combining his two aims he shows a tendency to fall between two stools. In his desire to formulate a definition of character, he attempts to criticize adversely, but far too sketchily, the views of innumerable psychologists or psychiatrists. At the same time, his personal views mar his presentation to the student of the "contributions that have been made to the field of character." The criticism is incomplete, the exposition too long-winded; so that it is doubtful whether the social worker and the educator will rise refreshed, with a broadened outlook, from a perusal of the volume. They will have learnt, at all events, that Dr. Roback is contemptuous of behaviourists; and that he regards Freudians as excavators endowed with special skill in unearthing valuable relics, who take the strangest hazards in explaining the history and nature of these relics. Those who attribute character to the interaction of the endocrine glands make, it is said, many a bold statement which scarcely bears examination. They are invited first to establish the relationship between the endocrine secretions and temperament, before investigating the more debatable question with reference to character.

Dr. Roback is at pains to dissociate character from ethics and religion; at the same time he gives the reader the impression that there is something good in character, and seems to doubt the possibility of a disreputable character. It may be suggested that philosophers can be divided into two classes: those with a single idea whereby they explain everything in the universe, and those who, seeing some good in all systems, become so discursive that they drown clarity in an ocean of words. Dr. Roback belongs to the latter class.

### THE EARLIER INHABITANTS OF LONDON.

THE proper pride of a Londoner is responsible for the title of Professor F. G. PARSONS's book *The Earlier Inhabitants of London*.<sup>7</sup> Because he is a Londoner he centres a fascinating study of racial development as nearly as may be

<sup>4</sup> *Clinical Pediatrics*. Supervising Editor: Royal Storrs Haynes, Ph.B., M.D. Vol. VIII, Diseases of the Digestive System of Childhood. By Frank C. Neff, M.D. Vol. IX, Diseases of the Respiratory System in Infants and Children. By William L. Funkhouser, M.D., F.A.C.P., and H. O. McAllely, D.S., M.D. Vol. X, Nutrition and Development. By Lawrence T. Royster, M.D. New York and London: D. Appleton and Co., 1927. (Roy. 8vo, Vol. VIII, pp. xx + 359, 51 figures; Vol. IX, pp. xvii + 316, 65 figures; Vol. X, pp. xv + 310, 75 figures. 16s. each volume.)

<sup>5</sup> *Die Elektrolyte: Ihre Bedeutung für Physiologie, Pathologie und Therapie*. Von Dr. med. S. G. Zondek. Berlin: J. Springer. 1927. (Sup. roy. 8vo, pp. viii + 365; 28 figures. R.M.24.)

<sup>6</sup> *The Psychology of Character*. By Dr. A. A. Roback. The International Library of Psychology, Philosophy, and Scientific Method. London: Hegan Paul, Trench, Trubner and Co., Ltd.; New York: Harcourt, Brace and Co., Inc. 1927. (Demy 8vo, pp. xvi + 555. 21s. net.)

<sup>7</sup> *The Earlier Inhabitants of London*. By F. G. Parsons, F.R.C.S., F.S.A. London: Cecil Palmer. 1927. (Demy 8vo, pp. 240; 23 figures. 10s. 6d. net.)

on London and its inhabitants; and if the title be somewhat misleading one would gladly be many times misled through such a succession of interesting chapters as the author provides. To arrive at his limit of "early," which is set at the death of Harold, Professor Parsons begins with the "earliest human evidence which we have about London's site," part of a female skull found in Cornhill, rivalling, as is thought, in antiquity even the famous Piltown skull. But the land sank, and this scant evidence was followed by a lapse of time geological in its immensity; until re-emergence occurred between 3000 and 1800 B.C., leaving the level of the Thames some sixty feet higher than it now is. A rapid resettlement, leaving a broad shallow marsh-bordered river, brings us to the beginning of history—such history as the archaeologist reads in flints and graves and the anthropologist reconstructs from bones and from biological observation of living people. Palaeolithic and Neolithic man, including the "river-bad race," "pile dwellers," the Mediterranean or Long Barrow race, the Alpine and the Nordic races; the Beaker Folk and the Bronze Age people; the Celt, the Roman, the Saxon, and the Dane; the Men of Kent, and the Kentish Men—all these live again in Professor Parsons's scholarly review of the anthropology of the early Londoner, and their influence in shaping his characteristics is weighed with calm discrimination. No evidence is overlooked—history and legend, place names, tribal names, and surnames, old camps and trackways, graves and grave furniture, survival of ancient words, black hair and blue eyes, and, by no means least, the laboriously acquired evidence of accurate cranial measurements; all are taken into account and duly weighed.

The book is not written for the professed anatomist; it is written for the amateur and the historical investigator. We think, with Professor Parsons, that the historian will be greatly helped by the anthropological knowledge here so clearly put forward. The amateur, the man who already loves his subject and so finds life distractingly full of interest, will welcome this short volume with delight in the discussion as to where Caesar crossed the Thames—for on that depends the vexed question of the antiquity of London—and in the author's high estimate of the Frankish Voyage. The grammarian, however, may ask for a little more clarity of expression; there are one or two rather bad faults in this respect—for example, on pages 183 and 215.

For ourselves, we have read the book with the greatest interest, and to any who seek in intellectual pleasures relief from the daily round, or to those who are bored with life, we recommend it strongly. It will open realms of research of fascinating interest.

### NOTES ON BOOKS.

THE last quarterly number of the *Annals of Medical History* opens with a well illustrated account of pygmies, dwarfs, and hunchbacks in ancient Egypt by Mr. Warren R. Dawson, who points out that the pygmies were the normally small races of mankind brought from the interior of Africa, whereas the dwarfs were Egyptian achondroplastics. Mr. Bruno Meisner of Ann Arbor traces the history of tuberculosis from 3000 B.C. to A.D. 420, producing evidence that it was one of the commonest diseases of classical antiquity, and that its infectivity, heredity, and bovine relations were recognized. The article is furnished with over 200 references. Dr. J. G. de Lint of The Hague, who was president of the Sixth International Congress of the History of Medicine, held at Leyden and Amsterdam last July, writes on the treatment of abdominal wounds from ancient times down to the sixteenth century, and on the "Chirurgia Magna" of Guy de Chauliac, following this up by a separate account of the representations in the Utrecht manuscript of this surgeon's instruments for cutting off a portion of the uvula. In his scholarly essay on patristic medicine, with 119 references, Dr. Stephen D'Issey shows the interest the Fathers of the Church took in things medical, and the services they rendered, by storing in their compilations much lore which otherwise would have been lost. Dr. Roy L. Moodie provides illustrated notes on Pott's disease and mastoiditis in ancient Peru. The articles on less ancient history are of special interest to the numerous readers who bear the name of Sir

William Osler in grateful memory on many accounts, including his services to medical history. On the cover of this instalment is the portrait of Richard Burton, and Dr. F. R. Packard writes an editorial describing Osler's interest in the author of "The Anatomy of Melancholy," as manifested by some papers of his recently published in the *Proceedings of the Oxford Bibliographical Society*. Richard Bright appears on the frontispiece, and is the subject of two addresses given in the spring of this year, the centenary of the publication of his classical work. Dr. Burton Chance supplies an ophthalmologist's appreciation, and Professor H. A. Christian of Boston speaks on kidney disease as described by Bright in the light of the knowledge of a century later. In picturing what Bright was doing a hundred years ago in the wards and post-mortem room he rather pathetically says that his activities were probably much the same as those of a present-day hospital physician, "except in so far as autopsies are concerned, for the making of post-mortem examinations is a privilege rarely, if at all, granted to the visiting physicians of to-day." The editor writes on Emile Littré (1800-81), of dictionary fame, who was a hospital intern and extern for ten years, wrote a monograph on cholera, and brought out an edition of Hippocrates, but never passed any examination or obtained any medical degree.

Dr. H. A. HARE'S *Text-Book of Practical Therapeutics*,<sup>9</sup> one of the oldest of such books in America, has now reached its twentieth edition. Its world-wide reputation is evident by the fact that it has passed through four Chinese editions. It is a big book, and deals both with pharmacology and therapeutics. It is only about three years since the last edition appeared, and no very extensive changes have been made in the present edition; among the new drugs included are trypanamide, novarsol, and ephedrine. In both parts the arrangement is alphabetical—a method which, though it may be convenient for reference, tends to destroy continuity. The number of drugs mentioned seems somewhat excessive. The account of the treatment of diseases is perhaps the most interesting part of the book, and is well illustrated. There is also a section devoted to remedial measures other than drugs. This deals with baths, massage, and heliotherapy; it is a rather unusual feature in textbooks on therapeutics.

In *The Polynuclear Count*<sup>10</sup> Dr. W. E. COOKE and Professor ERIC PONDER describe the nucleus of the neutrophil polymorphonuclear leucocyte in health and disease, continuing a line of medicine familiar to most under the term of the "Arneth count," and providing a simpler and apparently more effective classification. After a chapter on the technique of blood examination and cell differentiation the authors show how their simpler classification may be applied to the diagnosis of various diseases, and a final chapter is devoted to the macrocyte. Professor JOHN HAY contributes an introduction in which he refers to Dr. Cooke's book on *The Arneth Count*, which was published in 1914. He believes that the new classification should be of special interest to general practitioners, as well as to haematologists. The book is clearly written and well illustrated with plates and diagrams; a useful bibliography is appended, and the information contained has a definite practical value from the point of view of clinical medicine.

The textbook of Professor LIPSCHÜTZ dealing with the internal secretions of the sex glands has now been translated into Spanish.<sup>11</sup> We reviewed the English edition on October 25th, 1924 (p. 769). Professor F. H. A. MARSHALL's preface to the English edition is also translated, and a special prologue has been written for the Spanish version by Dr. G. MARAÑÓN of the Royal Academy of Medicine, Madrid.

*James Cyril Dalnalyon Allan: A Memoir*, by D. F., printed privately at the University Press, Edinburgh, has been produced—so says the foreword—to satisfy a wish for a reminder of one who in his day made many friends, a public schoolboy and an Edinburgh graduate who, during a short, eventful life, seems to have preserved the high ideals of his medical calling with which he set out on his journey. The volume consists largely of extracts from letters written by Dr. Allan in Christmas Island, Hong-Kong, and in France, and are descriptive of life and of conditions of practice in those places. The

<sup>9</sup> *A Text-Book of Practical Therapeutics*. By Hobart Amory Hare, B.Sc., M.D., LL.D. Twentieth edition, enlarged. London: H. Kington, 1927. (6 x 9), pp. x + 1094; 158 figures, 8 plates. 56s. net.)

<sup>10</sup> *The Polynuclear Count*. By W. E. Cooke, M.D. Liverp., and Eric Ponder, M.D., D.Sc. Ed. With an introduction by John Hay, D.L., M.D. London: G. Griffin and Co., Ltd. 1927. (Med. 8vo, pp. vii + 89; 25 figures, 6s. net.)

<sup>11</sup> *Las Secretiones Internas de las Glándulas Sexuales*. Por Alexander Lipschütz. Edición revisada, aumentada y puesta al día por el autor. Un prefacio por F. H. A. Marshall, F.R.S., y un ensayo, para la edición Española, por el Dr. Gregorio Marañón. Traducción directa del Inglés por el Dr. T. Martínez Nevot. Madrid: J. Morata, 1928. (64 x 91, pp. xxxiii + 492; 142 figures, 25 ptas.)

<sup>12</sup> *Annals of Medical History*, Vol. IX, No. 4. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc.; London: Baillière, Tindall and Cox, 1927. (81 x 124, pp. 315-424; index, illustrated. Subscription in Great Britain 42s., a volume of four numbers.)

letters are written in a racy literary style, effervescent with good spirits, and are stamped by a broad humanity. These extracts have been chosen with a fine discrimination, and show the writer to have been a man of varied attainments, who combined a strong sense of his duty to his fellow men with a healthy determination to get the very best out of life. By remaining anonymous D. F. has artistically contrived that all the light is shed upon the one central arresting figure of this admirable memoir. Copies (price 3s. 6d., postage 5d.) may be obtained from Messrs. Douglas and Foulis, 9, Castle Street, Edinburgh, or from Messrs. Macniven and Wallace, 138, Princes Street, Edinburgh.

## INFLUENCE OF AMOUNT OF MILK CONSUMPTION ON THE RATE OF GROWTH OF SCHOOL CHILDREN.

PRELIMINARY REPORT BY

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DURING the past few years a number of tests have been carried out in America<sup>1 2 3</sup> to determine the nutritive value of milk for children. More recently a test under exact conditions in a labour colony for boys, where the whole diet was controlled, was carried out by Dr. Corry Mann<sup>4</sup> for the Medical Research Council. The results of all these tests, which are in general agreement, have demonstrated the high nutritive value of milk for growth.

In 1926-27 a large-scale test was carried out in schools in seven cities and towns in Scotland and in Belfast to determine whether the results obtained by Corry Mann under the rather special conditions of an institutional school would be obtained in children attending elementary schools and receiving the varied and changing diet of the ordinary working class household.

The tests were conducted under the auspices of a committee appointed by the Scottish Board of Health, with Sir Leslie Mackenzie as chairman. The committee consisted of the school medical officers for the cities and towns where the work was carried out. The collection of data was undertaken by four women medical officers. The clinical examination of the children was made by the late Dr. Cruickshank of the Scottish Board of Health and the school medical officers. A repeat test is at present being undertaken under the supervision of Dr. Gerald Leighton, Scottish Board of Health, and a full report will be issued when the new test is completed. The results obtained to date, however, so strongly confirm those of Corry Mann and previous workers, which are of such importance in public health, that it has been thought advisable to issue the present interim report.

### Method.

At each centre four groups of children were taken, each numbering from forty to fifty, according to the size of the classes in the school. One group received whole milk, a second separated milk, and a third a biscuit of the same energy-yielding value as the separated milk. The fourth group, which acted as control, received no supplementary feeding. The test began at the end of November and finished at the end of June. The Belfast test did not begin till the end of January; it is, therefore, not included in the results of the seven months' experiment.

At Peterhead and Greenock the children were between 5 and 6 years of age, at Dundee and Edinburgh between 8 and 9 years, and at Aberdeen and Paisley between 13 and 14 years. Glasgow and Belfast had a series of groups of each of the three ages. There were thus under test children at the beginning, the middle, and the end of school life.

The 5- to 6-year-old children received three-quarters of a pint of milk per school day, the 8 to 9 one pint, and the 13 to 14 one and a quarter pints. The milk was given at school.

\* The Chairman of the Investigation Committee is Sir Leslie Mackenzie, M.D., LL.D., of the Scottish Board of Health, to whom we are indebted for the report.

Owing to unforeseen difficulties the tests in Glasgow had to be rearranged about three months after they had been begun, and the whole milk group was dropped. The Glasgow data, therefore, are limited to the control, biscuit, and separated milk groups.

### Weights and Heights.

It was intended to weigh the children with only one layer of underclothing. This was found to be impracticable. The children were therefore weighed in indoor clothing, without shoes, and there are considerable fluctuations in the weight figures, even those taken on successive days. The average weight of clothing was ascertained month by month and the necessary addition or deduction made in the final weight figure. Owing to these circumstances the records of individual weights are not so reliable an indication of the influence of milk as the figures showing the increase in height.

The weights were recorded to the nearest quarter-pound. The heights were recorded to the nearest quarter-inch, the children being measured without shoes. The measurements were taken on three consecutive days at the beginning and end of the test, and at intervals of about one month during its progress.

Before the results were calculated such cards were rejected as showed absence due to serious illness, about 25 per cent. of missed feeds, doubtful increases in weight or height, etc. This accounts for the decreased number of children available for the final analysis.

The average increase in height and weight has been worked out per group at each age and in each centre, giving the following results.

TABLE I.—Average Increase in Height (Inches).

	Controls.	Biscuit.	Separated Milk.	Whole Milk.
Age 5-6:				
Peterhead ... ..	1.425	1.392	1.568	1.550
Greenock ... ..	1.470	1.455	1.525	1.543
Glasgow ... ..	1.267	1.101	1.500	—
Age 8-9:				
Edinburgh ... ..	1.224	1.285	1.457	1.483
Dundee ... ..	0.972	0.931	1.209	1.105
Glasgow ... ..	1.125	1.089	1.297	—
Age 13-14:				
Aberdeen ... ..	1.395	1.263	1.602	1.622
Paisley ... ..	0.889	0.841	1.292	1.365
Glasgow ... ..	1.145	1.265	1.734	—

TABLE II.—Average Increase in Weight (lb.).

	Controls.	Biscuit.	Separated Milk.	Whole Milk.
Age 5-6:				
Peterhead ... ..	1.773	1.973	2.983	2.741
Greenock ... ..	1.595	1.200	1.969	1.994
Glasgow ... ..	2.784	2.234	2.407	—
Age 8-9:				
Edinburgh ... ..	2.132	2.972	3.238	3.330
Dundee ... ..	2.433	2.404	2.659	2.556
Glasgow ... ..	2.292	2.265	3.471	—
Age 13-14:				
Aberdeen ... ..	5.212	4.939	4.790	5.837
Paisley ... ..	3.586	3.934	5.242	4.821
Glasgow ... ..	3.855	4.809	5.959	—

The height increases when all the groups at one age, irrespective of locality, are combined, show very strikingly the influence of the milk supplement in aiding growth, and the failure of the biscuit supplement.

At every age the increase in height of the whole milk or the separated milk groups is significantly greater than that of the biscuit or control groups, while the difference in increase in height between the two milk groups is insignificant. The supplementary biscuit, on the other hand, fails to exercise any significant stimulus in the 8-year-old group, and in the 13- and 5-year-old groups has an almost significantly retarding effect.

As the milk groups (whether separated or whole) showed a distinct improvement in growth over the non-milk (that is, biscuit and control) groups, the figures of



TABLE III.—Showing the Mean Increase (in Inches) in Each Group at Each Age, with the Probable Error.  
Age 13.

Group I.	Group II.	Mean I.	Mean II.	M. I - M. II.	Probable Error.	Remarks.
Biscuits	Controls	1.1279	1.2175	- 0.0836	= 0.0401	Biscuits almost significantly worse.
Whole milk	Controls	1.5122	1.2175	- 0.2917	= 0.0153	Whole milk significantly better.
Separated milk	Controls	1.5521	1.2175	- 0.3319	= 0.0117	Separated milk significantly better.
Separated milk	Biscuits	1.5524	1.1279	- 0.4245	= 0.0444	Separated milk significantly better.
Whole milk	Biscuits	1.5122	1.1279	- 0.3313	= 0.0493	Whole milk significantly better.
Whole milk	Separated milk	1.5122	1.5524	- 0.0402	= 0.0507	No significant difference.

## Age 8.

Biscuits	Controls	1.1160	1.1000	- 0.0150	= 0.0278	No significant difference.
Whole milk	Controls	1.3233	1.1000	- 0.2233	= 0.0318	Whole milk significantly better.
Separated milk	Controls	1.3355	1.1000	- 0.2355	= 0.0254	Separated milk significantly better.
Separated milk	Biscuits	1.3355	1.1160	- 0.2195	= 0.0281	Separated milk significantly better.
Whole milk	Biscuits	1.3233	1.1160	- 0.2073	= 0.0340	Whole milk significantly better.
Whole milk	Separated milk	1.3233	1.3355	- 0.0122	= 0.0321	No significant difference.

## Age 5.

Biscuits	Controls	1.2443	1.4026	- 0.0583	= 0.0291	Biscuits almost significantly worse.
Whole milk	Controls	1.5158	1.4026	- 0.1432	= 0.0293	Whole milk significantly better.
Separated milk	Controls	1.5697	1.4026	- 0.1671	= 0.0295	Separated milk significantly better.
Separated milk	Biscuits	1.5697	1.2443	- 0.2254	= 0.0303	Separated milk significantly better.
Whole milk	Biscuits	1.5458	1.2443	- 0.2015	= 0.0305	Whole milk significantly better.
Whole milk	Separated milk	1.5458	1.5697	- 0.0239	= 0.0209	No significant difference.

the average increase at all ages were arranged into two groups, with the following results.

TABLE IV.—Average Increase. (All Ages.)

	Milk Groups.	Non-Milk Groups.
Average increase in height ...	1.470 in. ....	1.212 in.
Average increase in weight ...	3.617 lb. ....	2.974 lb.

This seven months' experiment thus shows an average monthly increase of 0.17 in. and 0.42 lb. in the non-milk groups, and of 0.21 in. and 0.52 lb. in the milk groups. In the much lengthier experiment by Curry Mann the corresponding figures were 0.15 in. and 0.32 lb. for all boys on the basal diet, and 0.22 in. and 0.58 lb. for all boys receiving the supplement of one pint of pasteurized milk every day; the milk group increases in height in both experiments, thus approximating very closely in spite of the Scottish children receiving the supplement only five days a week.

The children in the different groups at the various centres were examined at the end of the experiment and clinical observations made. Independent reports were also handed in by the headmasters of the schools. These clinical reports, which cannot be expressed in figures, show that at most of the centres the children who had received milk appeared to be in better condition than those receiving no milk. It was noted that, on the whole, they had glossier hair and clearer complexions, and held themselves more erect. At other centres this difference was less marked, and in Glasgow no distinct difference could be detected. The most marked improvement in the children in the milk groups was shown in children who had been in poor condition at the beginning of the test.

From the particulars gathered as to the home dietary of 626 households, it would seem that the average milk consumption in the home was 2.5 pints per head per week. The total milk consumption of the children under test in these homes was then calculated on the assumption that the average consumption per head in the household to which the child belonged was the home consumption of that child, to which was added the amount received at school. The rate of growth of children receiving more than the average of the total milk consumption (home plus school) was compared with that of children receiving less than the average.

TABLE V.—Showing the Average Rate of Increase in Height in the "Over Average" and "Under Average" Milk Consumption Groups.

	Age 5-6.	Age 8-9.	Age 13-14.
Increase in height of "over average" group	1.58 in.	1.37 in.	1.51 in.
Increase in height of "under average" group	1.44 in.	1.19 in.	1.21 in.
Percentage increase of "over average" to "under average" group	9.4	15.5	24.2

## Conclusions.

From this survey of the data it seems probable that, in the final report, it will be possible to draw the following conclusions:

1. The addition of the milk to the diet of school children during the seven months' experimental period has been accompanied by a rate of growth as indicated by an increase in both height and weight 20 per cent. greater than that in children not receiving the extra milk.
2. This increase in rate of growth has been accompanied by an improvement in the general condition of many of the children receiving milk.
3. Separated milk is of great value for promoting growth. Its nutritive value for children would appear to be underestimated.

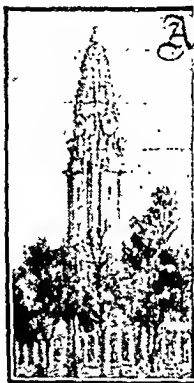
The writer wishes to record his indebtedness to Miss M. L. Clark, who has prepared the above tables, for valuable services in connexion with the supervision of the tests during their progress. Dr. Lewis D. Cruickshank, who superintended the investigation from the administrative side on behalf of the committee, died towards the end of the test period, and we can only record our profound regret that we have not had the continued advantage of his intimate knowledge of school and social conditions.

The cost of the above tests was defrayed by a grant made by the Empire Marketing Board to the Rowett Research Institute, Aberdeen.

## REFERENCES.

- <sup>1</sup> McCollum (1923): Proc. World's Dairy Congress, p. 421. <sup>2</sup> Chaney (1923): Amer. Journ. Dis. Child., 26, 337. <sup>3</sup> Morgan, Hatfield, and Tanner (1926): Ibid., 32, 639. <sup>4</sup> Curry Mann (1926): Diets for Boys during the School Age, Medical Research Council Special Reports Series, No. 105.

# NINETY-SIXTH ANNUAL MEETING of the British Medical Association, CARDIFF, 1928.



TOWER OF CARDIFF  
CITY HALL.

AS already announced, the ninety-sixth Annual Meeting of the British Medical Association will be held in Cardiff next summer under the presidency of Sir Ewen Maclean, M.D., F.R.C.P., Professor of Obstetrics and Gynaecology in the Welsh National School of Medicine, who will deliver his address to the Association on the evening of Tuesday, July 24th. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 20th. The names of the Presidents and other officers of the Scientific Sections were published in last week's SUPPLEMENT, together with some preliminary notes on the programme for the Annual Meeting; further details will be announced from time to time as the arrangements take shape. On the last day of the meeting (Saturday, July 28th) there will be excursions to places of interest in the neighbourhood. We publish below the second of a series of historical and descriptive articles on the city and its medical institutions, written for the occasion by Dr. Donald Paterson. The first appeared on December 3rd, 1927.

## CARDIFF: A BRIEF OUTLINE OF ITS HISTORY.

CARDIFF is the capital of the county of Glamorgan, a shire of "long and ancient time," part of the far older territorial division of the diocese of Llandaff, which has its bishop seated at Llandaff. The district of which Cardiff is the natural centre was part of the old tribal division of Morganwg, long held under its Welsh rulers in practical independence of the rest of Wales, largely because the mountain barrier of its northern limit decreed its isolation. Archaeology tells us that the cultures of prehistoric times reached it mainly from the opposite shore of the Bristol Channel and from Ireland, rather than from the *massif* of the central and northern uplands which has done much to preserve the independence and the language of Wales. Its lower relief, the possession of rich agricultural land and an indented coast-line with tidal harbours, made the plain of Glamorgan from early times a region of immigration from England and the sea.

On the origin of Cardiff history sheds no light. There is not even a local tradition to add a salt of human interest and to invite criticism from the historian. Yet its situation with a sheltered roadstead must have proved attractive to the early traders who frequented the coast. It occupied a Roman site, and its position—not on the sea, but on a navigable river a mile from its mouth—presents advantages, military and commercial, generally associated with an ancient settlement.

Cardiff is known to be the site of a Roman station, though its Roman name has not come down to us. The

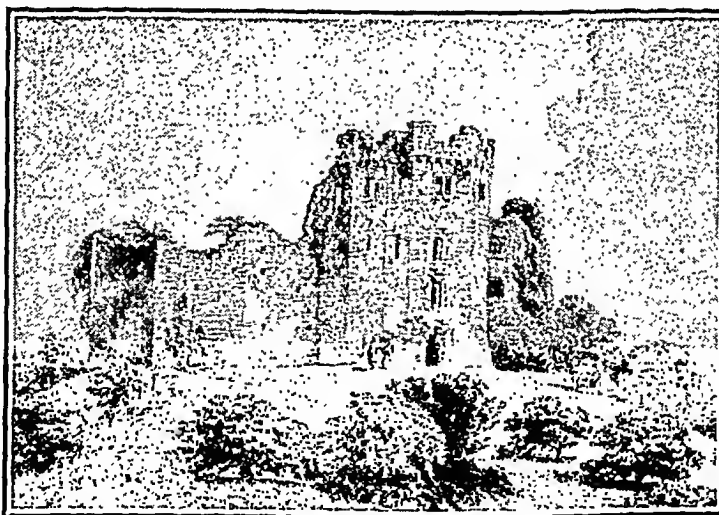
spado has brought to light its existence in the first century A.D., its occupation being military in character, probably dependent on the legionary fortress at Caerleon on the Usk. The Roman Empire was held together by its roads, and the position of Cardiff on the river Taff, in the middle of the great sheltered plain between the

Rhymney and the Ely rivers, made it a suitable site for one of the many forts built at strategic points throughout Wales in the early days of the Roman occupation. It was reconstructed and enlarged about the end of the third century, possibly in connexion with Gaelic migrations from Ireland to South Wales at that period, and the site was still occupied towards the end of the fourth century.

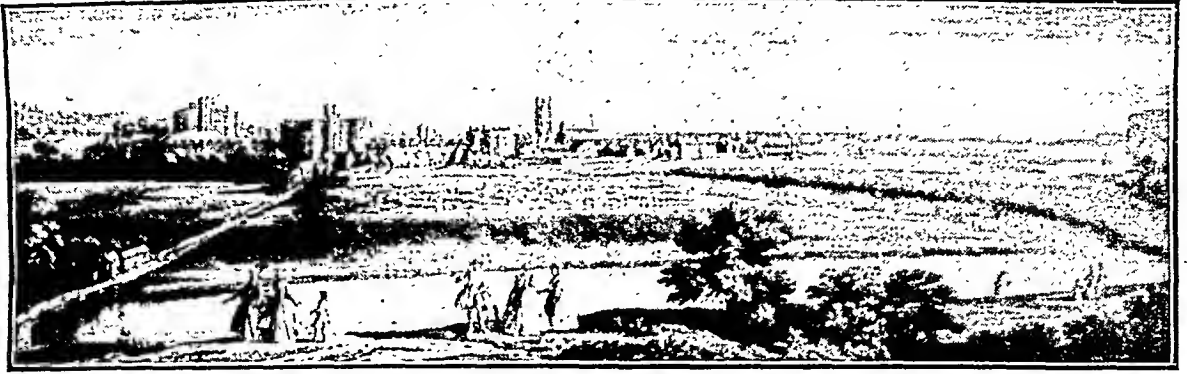
With the departure of the Romans the fort fell into decay, having perhaps suffered, like other sites, in the general chaos from incursions of Irish sea-rovers.

Liko a haunted spot, it remained unoccupied for several centuries, until the practical Norman set up his castle-mound within its walls.

Written record and the well known Ogham stones attest the presence of Irish Gaels during and after the Roman period, and their speech prevailed into the seventh century. In the Age of the Saints, when community had been established between the ancient British and Irish Churches, when the monastic school at Llantwit Major flourished and Celtic missionaries wandered far afield, the estuary of the Taff doubtless formed a stage in the Pilgrim's Way to the Continent from Ireland.



CARDIFF CASTLE: THE KEEP, 1840.



NORTH-WEST CARDIFF IN THE EIGHTEENTH CENTURY.

The coming of the Nordic peoples brought fresh immigrations to the shores of Glamorgan. The Saxons probably filtered across from the opposite shore of the Severn estuary, as the men of Somerset and Devon have always done. Their Viking kinsmen, after establishing themselves in the seaports of Ireland, organized their commerce and embraced the Bristol Channel in their wide activities. Bristol, the great seaport of the West, owed its rise to this trade, and the same may perhaps be said of Cardiff. Danish ships were frequently seen in the Severn Sea in the tenth century, and in Glamorgan their place-names are remarkable alike for their wide adoption and persistence. In the saga of *Burnt Njall* the slaying of Kol, who was finally discovered settled in Brekland (Wales)—the fitting close of the famous blood feud—may well have been staged at no great distance from Cardiff.

Of the arrival of the Norman *advenae* in Cardiff little that is authentic has come down. The fact of Cardiff being a bridge-town, with free access to the sea, made its early possession desirable. The change perhaps made little difference to the inhabitants and did not involve a breach of continuity. It is fairly certain that when William the Conqueror himself paid his visit to Wales he ordered the great castle-mound of Cardiff to be built, placing it in the keeping of his kinsman Robert Fitzhamon, who subsequently completed the conquest of Glamorgan when the troublous early years of Rufus's reign had passed. In the settlement Fitzhamon retained the rich agricultural land of the low country for his own followers, who held it by service of "castle-guard" at Cardiff; many of them were already holders of fees across the water in Somerset and Devon. The hill districts, mainly forest and pasture, he left on easy terms to Welsh chieftains, in whose hands they remained for nearly two hundred years after the Norman conquest.

When the written record comes in we find Cardiff fully formed as a town, styled a borough with legal administrative machinery, palisaded for defence, the seat of trade, and in possession of a castle which fired the imagination of the writers of Arthurian romance. A seigniorial borough, Fitzhamon probably conferred its first charter. His son and grandson granted it extensive privileges, and the latter extended it by founding a new borough outside the town. This independent community was eventually absorbed in the larger community, as happened in the case of the earlier French "new boroughs" at Norwich, Shrewsbury, Nottingham, and other places.

Fitzhamon established in Glamorgan what was later known as a Marcher-lordship, in which the law of the March was the feudal law of France—an *imperium in imperio* much coveted by great nobles. The lords of the march owed homage, but no service, to the king, and regarded themselves as little short of uncrowned kings; when Edward I visited Glamorgan, Gilbert de Clare, the "Red Earl," received him almost as a brother sovereign. The Welsh March was the most thoroughly Normanized part of the whole kingdom. In Glamorgan alone were some forty castles, some of the largest and some of the smallest in Britain, and their remains continue

to form an attractive feature of the county in the present day.

Cardiff became the *caput* or head of the lordship, and from his castle at Cardiff, where he held court and had his chancery, the chief lord maintained the balance in the never-ending struggle between the agriculturist of the low country and the Welsh pastoralist of the hills. Risings of the Welsh broke out at intervals, notably at the death of a chief lord, perhaps because the Celt loves to celebrate a funeral; sometimes, no doubt, deliberately provoked to furnish excuse for conquest. In these upheavals Cardiff did not always escape.

In the mediæval period the history of Cardiff is linked up with the fortunes of the lordship of Glamorgan. Its chief lords held the castle and town of Bristol as well as Cardiff, and this did much to promote the close relations between the two seaports which remained such an important factor in the social and economic life of Cardiff down to modern times.

The most able of the chief lords was Robert Consul, Earl of Gloucester, who married Fitzhamon's heiress. A natural son of Henry I, his royal father promoted the match, and, according to the old rhymed chronicle, conducted negotiations with the lady herself, who at first made some demur. Her scruples were, however, allayed, and William of Malmesbury tells us "she was devoted to her husband and blest with a numerous and beautiful family." Robert was a man of affairs, a statesman, and a soldier in the difficult days of Stephen. By his moderation he conciliated the Welsh and gained their confidence. He was, moreover, a magnificent patron of letters, and did much to promote the intellectual movements of his time. Among the men of letters who frequented his court at Gloucester and Bristol and Cardiff was Geoffrey of Monmouth, who resided at Llandaff for a time and died there. Geoffrey dedicated to him his famous *History of the Kings of Britain*, a work which, however little its value as history, made the Arthurian legends fashionable and revealed the possibilities of Celtic romance.

Half a century later Archbishop Baldwin of Canterbury passed through Cardiff on his journey through Wales to preach the Third Crusade. He was accompanied by Giraldus Cambrensis, one of the most remarkable men of letters of his time, and an entertaining writer of freshness and charm, who has left an account in his "Itinerary through Wales." Giraldus admired the "noble castle" at Cardiff, and relates of Henry II that when he spent a night there on his way back from Ireland, and was about to resume his journey on Sunday morning, he was upbraided by a native for breach of Lord's Day observance and warned of the grave consequences. Giraldus had a great struggle for the See of St. David's and paid visits to Rome, where he entertained the Pope with the Latin "howlers" of his archbishop (not Baldwin), which are still paraded in modern dress, but he was not made bishop.

Robert's son William had not the qualities of his father. He distinguished himself by being captured, along with his countess and young son, by Ivor Bach, a neighbouring

Welsh chieftain, who sealed Cardiff Castle by night and carried his prisoners to the hills. John, afterwards King, married his heiress. The lady, however, did not please him after a while, and he divorced her, though he stuck to her revenues for a time.

The thirteenth century saw the lordship in the strong hands of the de Clares, who took most of the Welsh lordships into their own possession. Gilbert, the "Red Earl," played a prominent part in the barons' war, and when Simon de Montfort crossed the Usk and ravaged his lands it is more than likely that Cardiff suffered in the process.

The town attained its maximum under the de Clares. With the fall of young Gilbert de Clare at Bannockburn the lordship went to the Despencers, the arrogant favourites of the incapable Edward II, who wandered in the neighbourhood and was captured not far from Cardiff, to end his career in the tragedy of Berkeley. Cardiff had fallen upon evil days. There were long and frequent minorities in the lordship in which the guardians looked after their own interests rather than the welfare of the people. The visitation of the Black Death in 1348-49, followed by lesser epidemics in the same century, took heavy toll of the town, and in the rising of Owen Glyndwr in 1403-4, in which economic destruction took place on a large scale, part of it was laid waste. From this it did not recover for several centuries. From being a "Market of the Staple" and a leading port in the kingdom for a period in the fourteenth century, it dwindled in the eighteenth to being "a creek" in the port of Bristol, and its population remained not much more than 1,500 until the industrial revolution infused new life into it.

Under Henry VIII the Marcher-lordships came to an end. Latterly they had but served to perpetuate the worst form of anarchy. Henry abolished the law of the March and substituted English law, a change that was welcome and productive of the best results.

The effect, however, was not immediate. Piracy had long been rife in the Bristol Channel, and in the days of Elizabeth Cardiff became a general resort of pirates and adventurers who plundered on the high seas. Many of its prominent citizens were not ill disposed to the practices, and even a high sheriff took a hand. It was urged in excuse that Cardiff "had always protected that class." The Government finally had to move. Many suspected pirates and their accomplices were examined by commissioners, and some of the ringleaders, including the high sheriff, were convicted and heavily fined, in spite of their plea that there was "a difference in law in the matter of spoils done on the sea." Smuggling, however, continued to flourish along the coast for a long time in the "creeks" which were "members of the port of Cardiff."

In the Civil War, Cardiff, following the lead of the West Country, was, on the whole, on the side of the King, though it changed sides more than once. Charles in his wanderings visited the town, but he made little impression, and he went on his way to the north. The defeat of the Royalists by Horton's Brigade at St. Fagans, near Cardiff, did much to keep the neighbourhood quiet.

Cardiff had little to do with the Church. Most of the land in the neighbourhood had been gifted by its early Norman lords to great abbeys which they had founded on their English estates. The Bishop of Llandaff continued to hold his manor or lordship of Llandaff, with some special privileges which were settled by a concord with Robert of Gloucester.

The long period of eclipse which set in in the fifteenth century is perhaps responsible for the old town retaining much of its early form and many of the streets their original names. Its size and shape can readily be made out on the modern map, as the section of the canal from the Castle to the Monument occupies practically the site of the Town Ditch, its eastern boundary. The area within the old town formed roughly a segment of a circle with its arc resting on the Taff, its western boundary. Here the river had seriously encroached on the town and destroyed the old church of St. Mary, and it was found necessary to divert it into the present "straight cut"

before the construction of the Great Western Railway. Except in a few instances the streets largely retain their old lines. Some have changed their names, a few more than once, but there is a persistence of old names which does something to recall the atmosphere of mediæval times.

The eighteenth century saw a new and greater immigration, which was to change the face of the county. It began by arrivals from the English Midlands to exploit the mineral wealth of the hills. The discovery of the previous century that iron ore could be smelted by mineral fuel led to works being established along the northern boundary of the county, where coal and ironstone cropped out and carboniferous limestone was abundant. The iron trade became for a time the important industry of the district. The iron was first carried down on the backs of mules to be shipped from the Taff, which was navigable at high water as far as the Old Quay. The construction of a canal replaced this primitive method of shipment. With the increased demand for coal for steam-raising purposes, especially in ships, greater facilities for its export were provided by cutting docks on the moors to the east of the river, and the modern port of Cardiff began to take shape.

In 1840 the first cargo of South Wales steam coal was exported from Cardiff. Its excellence as steam-generating fuel and its freedom from smoke marked its superiority for steam purposes. Its sale and export is the main industry upon which the district depends, and the phenomenal increase in the volume of trade has led to the rapid rise of the port and its emergence as the economic capital of a province.

Cardiff's export trade has brought it into relation with all parts of the globe, and in consequence it has drawn its inhabitants from many quarters, and is the most cosmopolitan of cities. All its citizens unite in a determination to advance the interests of the city which they have helped to make. In this they but serve to furnish another illustration of the old truth—that the history of this country has been "largely a history of elements absorbed and assimilated from without."

## VITAL STATISTICS FOR ENGLAND AND WALES, 1927.

WE are indebted to the Registrar-General for the following statement regarding the birth rates and death rates and the rates of infantile mortality in England and Wales and in certain parts of the country during 1927. The statement is issued for the information of medical officers of health. The birth rate and infantile mortality rate for London have been provisionally corrected for transfers.

### ENGLAND AND WALES.

*Birth Rate, Death Rate, and Infantile Mortality during the Year 1927 (Provisional Figures).*

	Birth Rate per 1,000 Total Population.	Deaths per 1,000 Population (Crude Rate).	Deaths under One Year per 1,000 Births.
England and Wales ... ..	16.7	12.3	69
107 county boroughs and great towns, including London	17.2	12.3	71
155 smaller towns (populations from 20,000 to 50,000 in 1921)	16.5	11.4	68
London ... ..	15.1	11.9	59

The death rate for England and Wales relates to the whole population, but that for London and the two groups of towns to the civil population only.

### England and Wales.

The birth rate is 1.1 per 1,000 below that of 1926, and is the lowest rate recorded since the establishment of civil registration. The death rate is 0.7 per 1,000 above that of 1926, the excess being due to the high mortality of the first and fourth quarters of the year. The infantile mortality rate is equal to that of 1923, the lowest on record; the rate in 1926 was 70 per 1,000 births.

## British Medical Journal.

SATURDAY, JANUARY 28TH, 1928.

### THE RIGHT OF THE UNBORN CHILD.

THIS country has never lacked able men endowed with courage enough to pass beyond the bounds of the particular subject which, whether by upbringing or owing to the nature of their avocations, they are assumed to have a special right to discuss. In these days there is a certain danger that such men may be tempted, by the opportunity afforded in the press, to cover too wide a field, and there are perhaps too many scholars and men of science laying down the law in our newspapers upon almost everything—from vitamins to birth control. There are very few men now living who have, by solid achievements in various branches of research, established a higher claim to be heard by the general public upon certain matters of national importance than Professor Karl Pearson; he has not lectured the public in the columns of the newspapers, but in the form he has chosen for publication has treated them with the same respect as he has treated his scientific colleagues, choosing a vehicle large enough to contain evidence as well as conclusions. The lecture he addressed last year to an audience of teachers in London County Council schools, which has since been published in pamphlet form,<sup>1</sup> is a model of the way in which intelligent persons without technical training ought to be addressed upon a subject of the highest importance.

The case Professor Pearson seeks to establish is that, as a consequence of herd organization, the selective action of the struggle for existence as between individuals has been greatly weakened. Hence, if good or bad individual characters are inherited, there is a serious risk of intra-racial deterioration. "Civilized man has largely destroyed crude Natural Selection; must this end by civilization itself once more destroying civilized man? In my own mind and in a growing number of other minds the opinion is strong that it must inevitably do so, unless civilization can find a method of doing for itself what Natural Selection did for man during his ascent—insuring that he shall breed only from his best." Professor Pearson sets out an adequate sample of the evidence that both good and bad qualities do run in families. Such a particular instance as the following is well calculated to impress the most indifferent. The hereditary transmission of haemophilia is beyond the reach of civil—mainly, perhaps, owing to the work of Bulloch and Fildes which was published by the Galton Laboratory—and Professor Pearson has quoted a good pedigree. "Here," he writes, "is the pedigree of a small family of bleeders or haemophiliacs. Of the 14 males who were sufferers only two reached adult life. IV.12 was never able to follow any calling, and bled to death at the age of 30. V.2 has survived to be 23; his elder brother died of cerebral haemorrhage when a few years old; his younger brother had to have a milk tooth extracted; the extraction was postponed until he was 10, then at last he had to go to a dentist, the

tooth was extracted, and he bled to death. Now what of this young man of 23? I will cite a few words from a letter I received recently from him: 'I am at present engaged to be married to a strong healthy girl and we are very eager to know all that we can about the inheritability of this disease.' Neither of these young people seems to have considered that both had moral responsibility to their unborn children and to their nation before they got engaged. Is that 'strong healthy girl' to be the mother of many generations of haemophiliac sons and haemophilia-carrying daughters? "

The conclusion of the whole matter is that the unborn have the right to be well born. "The acceptance of that *mos* is, to my mind, the sole condition that will suffice to save modern civilized nations, which perforce suspend the control of Natural Selection, from dying out, as the earlier civilizations without such a knowledge as ours of Nature's laws have invariably died out." What is needed is the growth of a belief, which might ultimately, so far as its prohibitive element is concerned, find legislative expression: that it is wrong for the carriers of hereditary bad qualities to bear or beget children, and a point of honour for those who can transmit racially valuable qualities not to abstain from parenthood. It will be said, in the first place, that this is an old story. In a sense it is indeed a very old story. But there is some difference between speculations, even those of Plato, and well grounded inductions; the share of Professor Pearson in proving that the story is not only old, but true, has been very large. In the second place, it will be argued that, even if the story is true, either nothing can be done or any action would be at the cost of doing certain harm for the sake of uncertain benefit. A few of the objections of this class are dealt with by Professor Pearson. He quotes the late Olive Schreiner as having urged that the prevention of the births of the hereditarily deformed and diseased would lessen the material for exhibiting that human sympathy which is the cement of social life, and cogently retorts that, even without the hereditary quota of suffering, there can never lack material which will be food for our sympathy. Olive Schreiner's argument as cited by Professor Pearson does not seem the most forcible way of stating the counter-case.

We have little sympathy with what may be called the anti-eugenic school, but possibly they hold that hard cases make bad law, and that if one begins by ostracizing or, *a fortiori*, penalizing the reproduction of the bleeder or the lobster-clawed, one will end by discouraging parenthood in types which may be valuable, but are, at the moment, unpopular (like heretics in sixteenth century Spain), and that, on the way, something will have been lost. They would, perhaps, quote—not, indeed, to Professor Pearson, but to those lesser men who might seek to give legislative expression to his ideas—the words of Nathaniel Hawthorne's character: "Bigotry; self-conceit; an insolent curiosity; a meddlesome temper; a cold-blooded criticism, founded on a shallow interpretation of half-perceptions; a monstrous scepticism in regard to any conscience or any wisdom, except one's own; a most irreverent propensity to thrust Providence aside, and substitute one's self in its awful place;—out of these, and other motives as miserable as these, comes your idea of duty! But, beware, sir! With all your fancied acuteness, you step blind-fold into these affairs." There is some force in this argument until the world is better educated, and Professor Pearson's teaching is the best way to deprive the argument of validity.

<sup>1</sup> *The Right of the Unborn Child.* By Karl Pearson, F.R.S. Eugenics Lecture Series, No. XIV. London: Cambridge University Press. 3s. net.)



The second objection with which Professor Pearson deals—namely, that some very great men have suffered from gross mental or physical defect—is not, we think, quite adequately discussed by him. "I admit," he writes, "that certain men whom the world terms great have had such defects, but I deny the inference that physical inferiority is the source of genius." This is rather *ad captandum*, for the present-day disciples of Nordau are not a large percentage of the population. It happens to be a fact that some men of great ability were weaklings. As Macaulay put it: "At Landen two poor sickly beings, who, in a rude state of society, would have been regarded as too puny to bear any part in combats, were the souls of two great armies. In some heathen countries they would have been exposed while infants. . . . It is probable that, among the hundred and twenty thousand soldiers who were marshalled round Neerwinden under all the standards of Western Europe, the two feeblest in body were the hunchbacked dwarf who urged forward the fiery onset of France, and the asthmatic skeleton who covered the slow retreat of England." It may be argued—we think that Galton and Professor Pearson have proved it to be a sound argument—that the proportion of able men produced by physically healthy stocks is much greater than that produced by unhealthy stocks; but those who believe in the unique value of human personality can still retort that the practice of eugenic principles would in fact have deprived the world of some choice spirits.

We did not, however, set out to discuss the pros and cons of eugenics as a national programme, but merely to call attention to a masterly exposition of the creed of our greatest living eugenicist. We hope this pamphlet will be read by all educated men, particularly by members of our profession, whose advice is often sought upon such matters.

## MILK AND THE RATE OF GROWTH OF SCHOOL CHILDREN.

Milk has been held to be the best single food, containing as it does all the ingredients of a balanced diet. It is rich in vitamins, and its high calcium content is in a readily usable form. For sucklings of the same species it furnishes a complete dietary. In the growing child it promotes nutrition, whether consumed by itself or as an ingredient of other foods. For adults, too, it is beneficial, though to a more limited extent. For all ages of life it has been generally agreed that milk is, in varying degrees, beneficial.

A substance so approved by current opinion has appeared to the Legislature to merit protection, and also to demand it. Owing to its composition it is readily sophisticated; owing to its method of production it is liable to contamination; and, being usually consumed raw, it may easily convey infection. Further, it is difficult for the consumer to check minor variations in quality. A number of safeguarding statutes and regulations, dealing either wholly or partly with milk, have therefore come into force in the United Kingdom within recent years. Under the Sale of Food and Drugs Act, 1889, several Sale of Milk Regulations were made, covering both England and Scotland. Under the Public Health (Regulations as to Food) Act, 1907, regulations were made with regard to milk and cream, condensed milk, and dried milk, also affecting both countries. The Milk and Dairies (Scotland) Act, 1914, and the Milk and Dairies

(Consolidation) Act, 1915, with its Milk and Dairies Order of 1926, which related to England, protected milk by empowering the appointment of veterinary inspectors, providing for the inspection of dairies, prescribing the methods of dealing with the milk of diseased cows, with infectious diseases in dairy employees, and other matters. The Milk and Dairies (Amendment) Act of 1922, which applied to both countries, was the charter for graded milks, and by Orders made under it certified milk, Grade A milk, and pasteurized and other milks came into existence. The Public Health Condensed Milk (Amendment) Regulations, and similar regulations dealing with dried milk, made at Edinburgh at the end of last year, are devoted to the protection of infants from milks which are not suitable for them.

While all these administrative measures were excellent in promoting the supply of milk of good quality, in its natural state, and free from infective germs, it was felt that some basic things had been taken for granted, and that questions remained as to the precise influence exercised by milk on growth and nutrition, and as to its value as a supplemental food substance as distinguished from a sole diet. The Scottish Board of Health, recognizing this, and introducing the experimental method into the administrative field, has applied itself to the first principles involved, and has approached the problem of milk consumption at first hand. A series of tests had already been carried out by Dr. Corry Mann in England under the Medical Research Council, in which it had been shown that of two groups of boys, one consuming a basal diet and the other a diet supplemented by pasteurized milk, the latter group grew more rapidly. These findings were put to the proof by the Board under a greyer sky and on a different racial strain. They appointed a committee of experts, under Sir Leslie Mackenzie, to carry out an investigation. Groups of children were selected at the ages 5 to 6, 8 to 9, and 13 to 14 in seven Scottish towns. In each town four groups were taken, each consisting of forty to fifty children. Group 1 received an ordinary diet, Group 2 a diet supplemented by biscuit, Group 3 a diet supplemented by separated milk, and Group 4 a diet supplemented by whole milk. The foods were given to the children in school and carefully supervised. The work was continued for seven months, ending in June last. Each child was weighed to a quarter of a pound and its height measured to a quarter of an inch. A preliminary report on the work of the committee by Dr. J. Boyd Orr, chairman of the Research Committee of the Scottish Milk and Health Association, which is printed at page 140 of this issue, sets forth the results of the inquiry up to the present time. It is being carried on elsewhere on similar lines, and a repeat test is being undertaken, the results of which will be announced in due course.

General tables in Dr. Orr's report, which should be consulted, show the average increase in height and weight, and the mean increase in height, in each group at each age, with the probable error. In the group results, as shown in Table IV, where the milk groups are contrasted with the non-milk groups, the average increase in height of the milk groups for the period of seven months was 1.470 inches, as contrasted with 1.212 inches for the non-milk groups. Since the milk given in school was an accessory article of diet only, it was necessary to ascertain also the home milk consumption. This was done in 626 households, and the total milk figure was arrived at for each child. For the age

groups 5 to 6, 8 to 9, and 13 to 14 the increase in height of those whose total milk consumption was over average was 1.58 inches, 1.37 inches, and 1.51 inches, as contrasted with 1.44 inches, 1.19 inches, and 1.21 inches for those whose total milk consumption was under average.

The conclusions provisionally drawn by Dr. Orr are to the effect that the addition of the milk to the diet has been accompanied by a rate of growth 20 per cent. greater than that in children not receiving the extra milk; that this increase has been accompanied by an improvement in the general condition of many of the children receiving milk; and that separated milk is of great value for promoting growth. These findings confirm the current opinion as to the value of milk. They bring out, in addition, the novel result that, as an accessory, separated milk is in general as good as whole milk for producing growth, and sometimes better. Biscuits as a food are far behind. The inferiority of the cereal as compared with milk finds an interesting commentary in the fact that the aggressive and dominant races of the world have usually been milk consumers, while the docile and subject peoples have principally fed on grain.

As already noted, the inquiry is still proceeding, and it would be proper to reserve a final opinion until it is completed. The report, however, though described as "preliminary," reaches conclusions which, we think, will stand. It should revive the consumption of milk in Scotland, where, along with porridge, it was in past days the national food of the people, and should encourage its use in England to a greater extent than is now the case.

### CLINICAL DIFFERENCES IN TUBERCULOSIS.

For the prevention of a disease it is of greater importance to have a thorough understanding of its epidemiology than of its bacteriology. It is of more value to the practitioner of preventive medicine to know how infection is spread and under what conditions the disease arises than to be acquainted with the particular organism that is the cause of it. There are many diseases—of which small-pox and typhus may be cited as examples—whose etiology is obscure, yet which can be kept under control with wonderful success; there are others, of which we may cite tuberculosis as one of the chief, which, in spite of our knowledge of their bacteriology, offer the greatest difficulty to efficient control. The truth is, we know too little about the conditions under which tuberculosis arises to be able to lay down infallible measures for its control. To justify this statement we have merely to consider the enormous reduction in the mortality from tuberculosis in this country that has occurred during the last century—a reduction that commenced long before the science of preventive medicine was born. Not until a thorough study has been made of the epidemiology of the disease shall we be able—in man at least—to gain complete control over it.

As a contribution to this study the Hermann M. Biggs Memorial Tuberculosis Lecture delivered in America by Professor S. Lyle Cummins of Cardiff is of considerable interest. Many years ago, it will be remembered, Professor Cummins was struck by the high incidence of tuberculosis amongst the Sudanese troops in Egypt, and on inquiry he ascertained that though in their native country they rarely became tuberculous, as soon as they were brought into contact with civilization they exhibited a high degree of susceptibility to the disease. This is not an isolated

observation. Metchnikoff noted a similar relationship in the Kalmuks, Borrel amongst the Senegalese troops brought to France, Coleman amongst the American Indians, and so on. The whole subject has been ably reviewed by Bushnell in his *Study on the Epidemiology of Tuberculosis*.

Professor Cummins draws attention not only to the high mortality from tuberculosis of these primitive tribes when brought into contact with civilization, but to the entirely different clinical type that the disease assumes in them. He divides, in fact, human tuberculosis into two main types—"natural" tuberculosis and "modified" tuberculosis. "Natural" tuberculosis, which is seen in adults of primitive tribes brought under civilized conditions and in infants of civilized peoples, is characterized by an acute, rapidly generalizing disease; pathologically the usual picture is one of enormously enlarged caseating glands at the portal of infection—generally the tracheo-bronchial group—miliary tuberculosis, and often diffuse caseous pneumonia; there is no fibrous tissue reaction, no attempt at localization of the lesions, and no tendency towards healing. "Modified" tuberculosis, on the other hand, which is seen in children and adults of peoples that have long been civilized, is characterized by a chronic, slowly progressing disease; pathologically the lesions are often confined to one organ—generally the apex of the lung—they excite a marked fibrous tissue reaction, and they may undergo spontaneous healing. "Natural" tuberculosis is the clinical type seen in persons who have never been in contact with tuberculosis, and who have consequently never been called on to protect themselves against it; "modified" tuberculosis is the clinical type seen in persons who have long been in contact with tuberculosis, and have learnt to defend themselves more or less against it. "Natural" tuberculosis is a disease of the highly susceptible; "modified" tuberculosis is a disease of the relatively immune.

If this teaching is correct it has an important bearing on the prevention of this disease. In this country both types of tuberculosis are seen, and, according to Professor Cummins, the measures taken to protect against the two types are different. "Natural" tuberculosis, which affects chiefly infants, and less frequently adults living in isolated districts, is due to infection for the first time with too large a dose of bacilli; the virgin tissues are overwhelmed and put forth no resistance; the disease therefore rapidly gains ground, and proves fatal in the course of a few weeks or months. "Modified" tuberculosis occurs in those people who have been infected previously, often on several occasions, who have withstood the disease, but who later, from one cause or another—generally unfavourable environmental or social conditions—temporarily lose their resistance; the disease spreads slowly, and may not prove fatal for years. To protect against "natural" tuberculosis there must be—in Sheldon Dudley's phrase—an endeavour to lower the "infective potential" of the environment; to ensure as far as possible that the amount of infective material with which infants are brought into contact is minimal; in this way the tissues are spared an overwhelming dose, and learn to respond to the attack of the bacillus. To protect against "modified" tuberculosis, on the other hand, it is necessary to do everything to raise the standard of living, to improve the social and housing conditions, to diminish alcoholism, worry, and overwork, and to keep the resistance of the body at as high a level as possible.

## LONDON UNIVERSITY CHAIR OF PUBLIC HEALTH.

The decision of the University of London to establish a chair of public health tenable at the London School of Hygiene and Tropical Medicine is an event of considerable importance, both as regards the University and the school, and also from the point of view of the Empire. The organization of the work of the school in advance of the building of its house had already gone as far as the setting up of divisions, each under professorial charge, for bacteriology and immunology, for epidemiology and vital statistics, and for medical zoology, the last named covering much of the programme of work in tropical medicine and hygiene. The new public health division will be concerned with such teaching and research as is not already envisaged by the other divisions, and will bring into effect the recommendation of the Athlone Committee in 1921, that all instruction in public health subjects should be concentrated in one central institution. Although the new professorial appointment will not take full effect until the beginning of next year, the professor will in the meantime be permitted to take his seat on the council of the school, and advise on the organization and equipment of the new division. It is proposed that the scheme of teaching should comprise the principles and practice of preventive medicine, and general sanitation and administration in relation to public health. This would imply general courses both in the prevention of infectious and non-infectious diseases controllable by administrative measures or hygienic safeguards, and also in the functions of health authorities and their officers, including the relation of medical practitioners to the State. The special courses would relate to such subjects as the hygiene of childbirth, infancy, education, mental and industrial conditions, tuberculosis, and venereal disease. There will also be special courses in the large group of subjects dealt with by sanitary authorities—as, for example, water supplies, sewage disposal, food control, sanitary law and administration, applied physiology, and the history of hygiene. The duties of the new chair will not be light. Its holder will be responsible for training post-graduate students from all parts of the Empire, and will be expected to suggest, guide, and supervise research. He will have also a great part to play in developing the relations of the school with local authorities in this country, and in securing their co-operation. An important duty will be the organization of the outdoor courses of study forming part of the necessary training of a prospective medical officer of health, and of refresher courses for those already holding posts in the public health service. An announcement about the new chair appeared in the advertisement columns of our issue for January 14th, and is repeated this week. It is hoped to secure for it a man with the breadth of vision to recognize it as a great opportunity of service to the world.

## ALCOHOL AND LONGEVITY.

EARLY last year (March 19th, p. 528) we published a leading article on Professor Raymond Pearl's book *Alcohol and Longevity*, which we described as a valuable contribution to knowledge, worthy of its author's high reputation. He has now published in *Nature* of January 7th a paper giving the results of a statistical analysis made by himself and Miss Agnes L. Bacon of some of the protocols of necropsies at Johns Hopkins Hospital. The first 7,500 records have been extracted, but of these 3,906 recorded no information as to the habits of the deceased with respect to the use of alcohol. Of the remainder (taking only persons of 20 or more at the time of death) 518 were reported to be abstainers, 1,309 moderate drinkers, and 791 heavy drinkers. The authors have worked out the distributions of ages at death, distinguishing between whites and coloured persons. The results are these. Among white males there is no significant difference between the

ages at death of abstainers and moderate drinkers, but both had significantly higher mean ages at death than the heavy drinkers. Among coloured males the mean length of life was greatest for the heavy drinkers. Among white females the abstainers and moderate drinkers had an advantage over the heavy drinkers. Among coloured females the heavy drinkers also had the lowest average length of life, but the differences within this group are not statistically significant. The authors are of opinion that these results essentially confirm the main conclusion of Professor Pearl's book mentioned above, which was that moderate drinking does not shorten life. The authors recognize, of course, that they are dealing with very select material. Deaths in hospital are not a random sample of deaths in general (wholly apart from economic or social selection, particular diseases are over- and others under-represented in a "hospital population"), and cases subjected to post-mortem examination are not a random sample of all cases in hospital. Finally, in this particular series, the proportion of cases which could not be included owing to lack of details as to drinking habits was large. With regard to this last point, the authors state that the data used appeared to be "a fair sample of the autopsied population." We presume they mean by this that both in age distribution and in the classification of the causes of death the sample used did not differ in any statistically significant way from the sample rejected. The authors will, no doubt, eventually report in greater detail upon this analysis. It does not appear to us that, in this short article, sufficient evidence is adduced to entitle us to endorse the authors' conclusion. For instance, we do not, on the facts presented, see how such a criticism as the following can be met. It has often been said, probably with truth, that the relatively high fatality of lobar pneumonia in hospital experience—relatively, for instance, to that in such data as the Leipzig State Insurance experience—is due to the presence in the hospital population of alcoholic adults of from 40 to 60 in whom the prognosis is extremely unfavourable. If, therefore, we took equal numbers of deaths of alcoholics and abstainers we should expect to find in the former group a relatively greater number of persons from 40 to 60, and a relatively smaller number of young persons, so that the mean age at death of the alcoholics would tend to be higher. We do not see how in such a case the truth could be ascertained without a knowledge of the "exposed to risk"—that is, the whole number of patients. This difficulty must surely affect other comparisons. Thus, suppose, for the sake of argument merely, that the regular use of alcohol predisposes to the development of malignant disease. This would presumably result in a larger and larger "bag" of alcoholics with advancing age, so that a comparison of the mean ages of dead persons with cancer ought, on the hypothesis, to show a higher mean age for the alcoholics. In sum, we do not see how any analysis of hospital deaths can either strengthen or weaken arguments based upon a knowledge of what the actuary calls the exposed to risk. So accomplished a statistician as Professor Pearl is, of course, aware of these difficulties, and, as remarked above, we should welcome a more detailed exposition of his reasons for attaching importance to the mean ages at death of patients upon whom necropsies have been performed in hospitals.

## POST-ENCEPHALITIC RESPIRATORY DISORDERS.

THE new issue of the *Journal of Neurology and Psychopathology*<sup>1</sup> contains a paper by Drs. Aldren Turner and Macdonald Critchley on post-encephalitic respiratory disturbances, regarded especially in the light of their

<sup>1</sup> *Journal of Neurology and Psychopathology*, January, 1928. Published quarterly by the British Medical Association, Tavistock Square, London, W.C.1. Price: Single numbers, 8s. 6d. net; subscription, 30s. per annum. Post free.

prognostic significance and sequelae. It is pointed out that most of the literature which deals with the respiratory disorders associated with epidemic encephalitis has been of a purely descriptive nature, and that no attempt has been made to trace the results in patients suffering from such disorders, or to arrive at their prognostic significance. In a previous article on the subject, published in 1925, the authors modified the original classification of Marie and Lévy, and made three categories: (1) disorders of respiratory rate, (2) disorders of respiratory rhythm, and (3) respiratory ties. The first group included cases of tachypnoea and of bradypnoea; the second, cases of breath-holding spells, apnoeic pauses, and Cheyne-Stokes respiration; the third group comprised such disorders as spasmodic cough, involuntary yawning, blowing, sniffing, etc. The authors have been able to follow up these cases, and to examine many others showing similar respiratory troubles, the object being to determine the ultimate fate of such patients. References to the subject in the literature are scanty; one of the most recent is in the Medical Research Council's report on the epidemic of encephalitis in Sheffield in 1924, where Hall and Gurney Yates recorded their belief that respiratory manifestations, occurring not during the acute phase but as an after-effect, were not usually preceded by anything similar in the primary attack, and that they were not of such serious importance to life; the fate of the patient as regards respiratory disorder was not, however, dealt with. The material upon which the authors base their present analysis comprises primarily the original seven cases reported in their first paper, and twenty-two others, most of which occurred in the practice of the National Hospital, Queen Square. The outcome of these cases has been considered under five main heads—namely, (a) cases of complete cure; (b) cases in which respiration became normal although the mental concomitants were unchanged or had become worse (ten cases); (c) cases in which respiration improved, without, however, any corresponding alteration in the associated manifestations; (d) cases in which respiratory disorders persisted unchanged; and (e) fatal cases in which death occurred during the phase of respiratory disorder. The authors have only met with two cases in which the cure could be regarded as complete; one of these was actually the severest case of paroxysmal breathing they ever encountered. The completeness of the recovery was dramatic. While in a mental hospital the patient developed a severe attack of influenza; when this passed away his breathing was almost normal; he rapidly regained weight, the hallucinations and delusions from which he suffered left him entirely, and he gradually recovered. The authors recall a similar case reported by Fiamberti in which breathing became normal after an attack of paratyphoid fever. In thirteen cases the respiratory disorder was unchanged. In one such case, a girl of 12, who had suffered from encephalitis some time in 1924, about two years later had attacks of dyspnoea and audible tachypnoea; fifteen months after leaving hospital she developed narcoleptic-like attacks following the paroxysms of tachypnoea without any preceding fatigue. The unconsciousness came on suddenly, was irresistible, resembled normal sleep in character, and was promptly terminated by extraneous stimuli. Death may supervene in cases of acute encephalitis with respiratory disorders, but is less common in cases of chronic or subacute encephalitis. The authors report two fatal cases. Although the number of cases which form the basis of this paper is too small to justify definite conclusions as regards prognosis, it is thought possible that they constitute a representative example of post-encephalitic respiratory disorders in general. In the twenty-nine cases investigated almost every variety of known breathing anomaly was represented. The authors are of opinion that the character of the breathing anomaly does not materially alter the prognosis.

The proportion of recoveries appears to be greater in cases with a progressive Parkinsonian state than in those without such manifestation. They emphasize also the fact that the recovery rate apparently does not depend upon any particular treatment. Improvement, when it occurs, seems to be spontaneous.

#### HEALTH AND EDUCATION.

IN our issues of January 7th and 14th last (pp. 28 and 62) we gave a summary of several of the papers dealing with medical aspects of educational matters which were read at the conference of educational organizations then being held at University College, London. At the same time, according to custom, the North of England Education Conference was taking place at Scarborough. At this latter conference Dr. R. H. Crowley, Senior Medical Officer of the Board of Education, introduced the subject of "Health in relation to education." His paper is important in that it draws attention to two matters in this connexion which are becoming of more and more immediate and practical concern to those engaged in health and educational work. One of these is the teaching of hygiene in the schools; the other is the special attention required by the child of subnormal or abnormal mentality. Each of these subjects is worthy of the best thought of the medical and the teaching professions, and must necessarily require their cordial co-operation. The present position of the former subject is reviewed by Sir George Newman in the chapter headed "Health teaching in schools" of his annual report as Chief Medical Officer of the Board of Education, issued last November under the title of "The health of the school child," and referred to in the issues of the JOURNAL of December 10th and 17th, 1927 (pp. 1106 and 1159). The position is not as satisfactory as it should be. Under some local education authorities (notably Hornsey, where lessons in personal and domestic hygiene have been given systematically to every child in the elementary schools for nearly twenty-five years) effective instruction in health matters has been widely given for a considerable number of years. Under other authorities (unhappily, London is one) such instruction was at one time provided, but has latterly been neglected or abandoned. Under still others no attention has ever been paid to the subject at all, except possibly by the good sense of individual teachers, in spite of the fact that it is among the subjects prescribed by the Education Code, and is held by the Board to be of such importance "that no one would propose its omission from the curriculum." In view of these recent pronouncements, and of the fact that the Board of Education is publishing almost immediately a special handbook of suggestions to teachers on the teaching of hygiene, it is to be expected that fuller attention will be given to training school children in the art and science of health. The other matter to which Dr. Crowley drew attention in his address was the special needs of the mentally maladjusted child. Of late years the varieties of mental defect have become more clearly differentiated and understood; it has been realized that the "difficult" or "nervous" child, whose conduct in the school or home reveals a lack of harmony or stability, needs at least as much individual consideration and help as does the child who is mentally deficient in the technical sense. There are two movements now in progress through which such consideration and help may be forthcoming. Practical developments as well as theoretical investigation may be expected by the appointment of psychologists by local authorities, singly or in combination; and we strongly commend such appointments to the consideration of education authorities. London showed their value long ago, but other authorities have been very slow to follow this example. Further, such activities as those of the Central Association for Mental Welfare, and of the more recently formed Child

Guidance Council, are to be welcomed. The former deals mainly, though not exclusively, with the mentally defective child, the latter with the "difficult" child or adolescent. The Child Guidance Council is at present adequately financed and is under suitable auspices. The development of its action will be sympathetically watched by the medical profession, and it should be helpful to, and helped by, education authorities.

#### WILLIAM H. WELCH, M.D.

FRIENDS of Professor W. H. Welch in this country—and they are those who have met him—may have noticed that on May 4th last he was presented with the Kober medal for research in scientific medicine of the Association of American Physicians by Dr. G. M. Kober, the founder of the medal, which, first awarded in 1925 to Hideyo Noguchi, was given to Theobald Smith in 1926. The full account of the ceremony, with the speeches, has now become available in an advance print from the *Transactions of the Association of American Physicians*, and it is natural to find some items of interesting history in the remarks of the donor and recipient, as they have been friends for close on forty years. Dr. Kober, who was born in 1850—the same year as Professor Welch—is a well known authority on public health, and is believed to have been the first to point out the agency of flies in the transmission of typhoid fever (1895), and to have published the first record of the use of tincture of iodine in a gunshot wound of the knee-joint (1876). He designated Professor Welch as the "father of scientific medicine in America," and touched on his services to pathology, public health, the history of medicine, and especially on his labours, since 1886, to improve medical education; and so to have been instrumental in making American medicine what it is now. As founder of the *Journal of Experimental Medicine*, as constant adviser of the Rockefeller Foundation, inspiring teacher, researcher, example of culture, and the instigator of whole-time professorships, he had made American medicine his debtor. In his reply Professor Welch mentioned that he was the sole survivor of the small group of men—Osler and Pepper from Philadelphia, F. Minot and R. Fitz from Boston, and Draper, Kinnicut, and Delafield from New York—who, in January, 1886, founded the Association of American Physicians, and referred to its first president, Delafield, as having "in an eminent degree the gift of *mulum-in-parvo* speech." He went on to claim the privilege of years, and to give a few words of advice and precept—not, he admitted, conspicuously exemplified in his own career. He exhorted his hearers not to allow anything to divert them from their professional and scientific work, and while maintaining a spirit of co-operation to resist the call to give general addresses, especially at a distance, not to serve on committees, not to assume time-consuming administrative duties, or to show visitors round laboratories and clinics, for "the active scientific investigator should be at least as inaccessible to the intrusion of casual visitors as the financier or the railway president."

#### 'BULLETIN OF HYGIENE.'

THE *Bulletin of Hygiene*, like its elder brother the *Tropical Diseases Bulletin* (now in its twenty-fifth volume), is published by the Bureau of Hygiene and Tropical Diseases, which is an institution of the Colonial Office; it deals with subjects of interest to medical officers at home as well as in the tropics. There appears to be no other publication in the English language which surveys similarly the whole field of hygiene by signed abstracts (with illustrations) of current literature, the abstractors including many well known active and retired medical officers of health. The only other journal at all comparable is the

German *Zentralblatt für die Gesamte Hygiene*, which, in an attempt to cover an enormous field, including subjects only distantly related to hygiene, is compelled to shorten many of its abstracts, which consequently convey little information. The *Bulletin of Hygiene* appears once each month; it concentrates upon the literature in the English, French, and German languages, though in 1927 forty-six papers in other languages were also noticed; its abstracts are of sufficient length to make them of value to those who cannot consult the originals; and it is the practice of the abstractors to add helpful remarks indicating where the views expressed support or are at variance with the observations of other workers. The *Bulletin of Hygiene* is now entering its third year. The first two volumes included sections devoted to hygiene in the tropics, but from the commencement of 1928 those aspects of hygiene and sanitation, such as malaria prevention, which are of importance solely or chiefly in the tropics, will be dealt with in the *Tropical Diseases Bulletin*, the newer journal restricting itself to subjects of general interest. The January number, just published, has sections dealing with dental hygiene, milk, light therapy, cancer, epidemic nervous diseases, rheumatic diseases, scarlet fever, and an illustrated article by Dr. Daukes on popular health education in Germany—the fourth of a series of articles on health propaganda. The *Bulletin* has an interest for practitioners as well as for specialist health officers; it keeps its readers well posted in current literature, and is a useful work of reference when information on a particular subject is required.

#### EX AMERICA SEMPER ALIQUID NOVI.

WE confess that we were unacquainted with the science of legislative anthropology. It seems, however, to be a fascinating study—no less, indeed, than the investigation of the legislative, political, sociological, psychological, and physical status of members of the American Congress. Dr. Arthur MacDonald, of the Congressional Apartments, Washington, has kindly given us some particulars of the science; and he tells us that the data are not only of general importance, but help to show the degree in which the different statuses are related or depend upon each other. It appears that every member of Congress who allows his anthropological measurements to be taken for scientific purposes is entitled to gratuitous examination by eleven leading Washington specialists. As Dr. MacDonald says, not only will members of Congress be able in this way to provide in advance against any latent weaknesses unknown to their family practitioners; they will also set an example to the "labouring man" to spend a nominal sum in obtaining similar advice from specialists for each vital organ, under State supervision. Every hour spent in these examinations, it is stated, may add years to the Congressman's life, and by sparing him from pain, suffering, and sickness increase his efficiency in the public service. Each of the specialists sends a report to Dr. MacDonald, who furnishes a copy to the member if desired. Besides these reports and the anthropological measurements, a record is kept of the legislative activities of the member: the number of bills he has introduced and carried, the petitions he has presented, and the frequency (not length) of the remarks he has made from the floor of the House. The legislative status of the member is estimated by the difficulty of the bills he has introduced, and particularly by the number of such bills that have passed into law, and vanished, presumably, into the limbo where, we have been told, a large amount of American legislation disappears. It may be that Dr. MacDonald is right in thinking that the physical measurements of members of Congress represent the anthropological status of the whole country much better than measurements of any other body of men. Some, how-



ever, may be disappointed not to find in his summary of legislative anthropology any evidence of provision of psycho-analysis for the members. Their subconscious attitude towards, say, the Volstead law might do much to elucidate American mentality.

#### AN ENGLISH HOSPITAL IN FORMOSA.

SOME light on medical practice in Formosa is thrown by Dr. P. Cheal, medical officer in charge of the English Presbyterian Mission Hospital at Tainan in that island. The hospital contains 150 beds, and the staff includes three medical practitioners (one a Japanese), two trained nurses, and nine probationers. There are also six student dispensers, comparable with dressers in a teaching hospital in Great Britain, one pathological assistant, and one man in charge of ultra-violet ray treatment. The student dispensers give all anaesthetics, and chloroform is used almost exclusively, usually with the Vernon-Harcourt apparatus; serious difficulties hardly ever occur. About 2,600 in-patients are treated annually. Since the local therapeutic fashion favours injections, not a few cases of morphine poisoning have to be dealt with. Intussusceptions form a large portion of acute surgical cases, and treatment by rapid lateral anastomosis, leaving the mass in position for subsequent absorption, has proved satisfactory. Gastric ulcer and duodenal ulcer are common, and gastro-enterostomy is almost invariably satisfactory. When these patients are left to medical treatment they receive such a multiplicity of drugs from their numerous medical attendants that the stomach has very little chance of escaping inflammation, even apart from the disease. Some acute surgical cases received into the hospital are complicated by the fact that a Chinese practitioner, without any qualifications, professional or otherwise, has opened the abdomen, decided that the affair was beyond his skill, hastily sewn up the wound, and sent the patient away on a long journey, possibly on a rough bamboo stretcher. Patients with acute surgical disorders not infrequently pass into a chronic condition before entering hospital, owing to the custom of inquiring at a temple what would be the most favourable time for the eventful step; the temple authorities often advise a delay of some weeks. Cancer and tuberculosis form a large proportion of chronic surgical cases; pulmonary tuberculosis is very prevalent, and the closely shut houses give little chance for the sufferer to recover. Malaria is still common in the island, though the Japanese are eradicating it from the city. Ankylostomiasis is almost universal among the islanders. Rheumatism, apart from the gonorrhoeal variety, is rare, but valvular lesions of the heart are very frequent. Measles is not notifiable, and therefore very prevalent; as the children are usually untreated and allowed to run about freely, distressing sequelae occur, including gross sloughing of the skin, muscle, and even the bones of the face. Leprosy is common and of a rather slow type. Necropsies are seldom possible owing to a strong local prejudice against them. The great prevalence of syphilis accounts for many cases of foetal death; obstructed labour, due to growth or rickety pelvis, is common. Cancer of the uterus—both body and cervix—is very frequent, and vaginal hysterectomy is performed whenever possible. Dr. Cheal adds that this hospital has always been self-supporting; all the patients who can afford to do so pay a small sum daily.

THE Hunterian Oration will be delivered in the theatre of the Royal College of Surgeons of England, Lincoln's Inn Fields, by Sir H. J. Waring on Tuesday, February 14th, at 4 o'clock. Fellows and Members of the College are invited to attend.

## Nova et Vetera.

### VENERELOGICAL EPISODES.

#### I.—The Fama of Syphilis.

KNOWLEDGE of syphilis spread rapidly in the late fifteenth century; before its close Aberdeen had civic regulations dealing with it, and Edinburgh used Inchkeith as an isolation station. The following quaint document, translated from the Dundee records, exhibits another aspect.

"In the year 1527 on the fifteenth day of July, before the Bailies' Court of Dundee, in presence of William Lowson, John Walker and David Alexander and William Cathro, the two sergeants:—that Alexander Blak, junior, carver, has sold to David Wedderburn his maritagium with the profit thereof for xx<sup>li</sup> money of Scotland, of which sum he acknowledges himself to have received xliii<sup>s</sup> in payment, and the said David will pay the remainder on completion of the marriage (maritagii); and the said Alexander will receive in marriage (maritagio) any woman offered by the said David, whomsoever David shall please, lacking these diseases viz:—le bock et cragynour (Poek and grangore) and free from ill repute, notwithstanding that she may be squint or lame: and if the said Alexander shall refuse to accept in marriage the person so offered as above by the said David, that he shall pay xliii<sup>s</sup> to the said David for the said sum of xx<sup>li</sup> and for costs, damages and expenses incurred in the suit."

The Latin transcript of this document has been printed in *The Wedderburn Book*, 1898, vol. ii, p. 209.

#### II.—An Epidemic of Syphilis Insontium.

Patrick Blair, M.D., F.R.S., whose personal story must wait another occasion, practised in Dundee and then in Coupar Angus before, in the "15," he accompanied the Jacobites to Preston; reprieved on the morning set for his execution, he went to Boston, Linces, where he died in 1728. On July 6th, 1713, from Coupar he wrote to Richard Mead a letter "on some epidemical diseases in Scotland," from which the following may be extracted.

"The third distemper is, what I suppose you have got no account of, being as yet but little known in this country (where it took its rise) except in a few corners thereof. We general compute its date to commence at the famous battle of Killychrankie, soon after which it began to appear. It has not as yet spread far, but wherever it takes it is very infectious. It is a common received opinion that the *Lues Venerea* is not any ways propagated but by impure concubitus, and yet this distemper is the very same with it, except its not being introduced by a coitus, nor preceded by a *Gonorrhea*, neither for the most part accompanied with *Buboes* nor *Chankers*. It spares none, affects the sucklings, violently seizes those under age, and such as can be no ways suspected to have a *Lues Venerea*: It is generally known four ways. First by *nocturnal pains*, which degenerate into *Nods*. Secondly, by an *Ezuceration* of the throat, landing in a *Carious Palate* and falling off the nose. Thirdly, *Cacoethes* ulcers over all the body. Fourthly, *Cotylidones* here and there upon the body, or dry *Pustules* unequal in the surface, not unlike the fruit of the *Rubus Idaeus*, commonly called with us the *Sivvans* (from which the disease takes its name) being much of the same red fleshy colour with that fruit when ripe. The *Cotylidones* affect most parts of the body except the pudenda in both sexes, by which alone it may be distinguished from the *Lues Venerea*: This distemper is so contagious that if any servant labouring under it (as it is generally that rank of people that are most affected by it) do take care of children, be in more frequent converse with other servants, or in a word, if their bed-cloaths be mixed with those of the rest of the family, it seldom goes off without communicating itself to some one or other of them. This I have known by experience, and generally those have been either sucklings, or underlings, as I have said, about ten or twelve years of age, and sometimes those of betwixt twenty and thirty, whose behaviour could give no ground to suspect its being venereal.

"... I can find nothing more reasonable than that after the battle of Killychrankie, when, the soldiers, being dispersed all over our Highlands, had a greater occasion of diffusing their impurities in those parts of the country than ever before, and of infecting the females there. Now Highland nurses being always much valued by those in the Lowlands, because of the wholesomeness of their food, had in all probability communicated it to the children on their breasts upon whom it appeared with that variety of symptoms I've told you of. Again, those children it seems by the effluvia, or transpirations from their body, communicated it to their dry nurses, as we call those who take care of them after weaning. . . .

"It is very observable that altho' this distemper has been raging among us these 24 years past, yet it has not much exceeded the bounds of 4 or 5 parishes to this hour. So favourable is a good Providence in restraining the progress of a distemper, which otherways might prove very noxious to a whole country, and in saving the better rank of people from its infection. I have of late been inform'd that it now rages near to Inverness and Inverlochy, which must have been communicated to the inhabitants of those Highland countries by the soldiers."—Blair's *Miscellaneous Observations*, 1718, p. 87.

### III.—Dr. De Ballin.

Dr. De Ballin is a name in the Dundee Directory for 1845, and recently, during a search in the *Advertiser* of 1841 for information on a quite separate subject, this name was noticed in the advertisement columns, thus:

"Dr. De Ballin M.D. Graduate of the Universities of Copenhagen and Salamanca and late Surgeon to the Napolcon Forces, Member of the Legion of Honour &c.

"Begg to intimate to his Friends and the Public that he has passed the greater part of his professional career with the French Army during its active exertions under Napoleon, and which he accompanied in its various hostile campaigns throughout Spain, Portugal, Russia, Germany &c. and only terminated his connexion with it after the sanguinary conflict and final ruin of the Emperor on the Plains of Waterloo. From the above it is evident Dr. De B. has enjoyed the most extensive opportunities of acquiring a thorough and practical knowledge of his profession and of all diseases incident to the human frame—more particularly those which attach themselves to the libertine habits of a predatory army, viz: venereal diseases.

"The gross ignorance which British practitioners have displayed in the cure of this disease has had the effect of throwing its treatment almost entirely into the hands of *quack doctors*, who, by pretended *specifics* and glib promises of speedy cure, have, less harmlessly, succeeded in extracting fees from the pockets of their victims, than irrecoverably ruining their health. The cause of this is to be ascribed to their *ignorance* of the *varieties* of it. They have only by extent and not in kind.

"ITCH OINTMENT which will effect a cure in one night to be had at 2s. per box, instead of 2s. 9d. & 4s. 6d.

"DULLNESS OF HEARING can be cured in most instances. Also SORE LEGS cured if ever of so long standing.

"Dr. De B. has practised in Dundee these eleven years past and may be consulted on the nature and treatment of all diseases, with confidence of relief, at his house, Thorter Row, from ten morning till ten at night."

R. C. B.

## PROPOSED LONDON CLINIC FOR RHEUMATIC DISEASES.

### APPEAL BY BRITISH RED CROSS SOCIETY.

THE British Red Cross Society is proposing to establish in thickly populated centres throughout the country clinics for the treatment of rheumatism in adult sufferers. It is taking this action on representations made by large industrial bodies, including friendly societies and trade unions, and supported by members of the medical profession. The first clinic is to be in London, where an option has been secured on a suitable building close to Portland Road station, and so within easy access from the great northern termini. To adapt and equip the building a sum of £40,000 is necessary, about £15,000 of which has been already promised, including donations of £5,000 from the British Red Cross Society itself, £6,500 as a "first instalment" from an anonymous benefactor, and 500 guineas each from the London Insurance Committee and three large approved society organizations.

It will be recalled that in March of last year a conference on the provision of spa treatment for insured persons was summoned by the British Medical Association,<sup>1</sup> and was attended not only by medical men interested in the subject, but by representatives of industrial workers, when the question of providing increased facilities for the diagnosis and treatment of rheumatic diseases was closely explored. Shortly afterwards there appeared in the *Times* a letter, signed by several eminent medical men, drawing attention to the wide prevalence of rheumatism among employed persons and the handicap thus laid upon industry, and

pleading that clinics for physical treatment should be established in London and elsewhere for the investigation, diagnosis, and treatment of rheumatic conditions, especially in the early stages. In the late summer a number of medical men and others interested in the subject attended the inauguration of a German committee on industrial rheumatism in Berlin, and visited various city clinics and spas in Germany.<sup>2</sup> The British Committee on Rheumatism—a committee of the International Society of Medical Hydrology—issued in November a memorandum outlining the problem and the opportunity, which memorandum was published in our pages,<sup>3</sup> and has been reprinted therefrom as a leaflet for circulation by the British Red Cross Society in furtherance of its appeal.

### PLANS FOR THE LONDON CLINIC.

The committee of the British Red Cross Society, which is urging the claims of the London clinic upon the public, includes, under the chairmanship of the Hon. Sir Arthur Stanley, a number of medical representatives, Lord Dawson of Penn, Sir Humphry Rolleston, Sir William Hale-White, Sir Thomas Horder, and Sir William Wilcox; also such trade union and approved society leaders as Mr. W. A. Appleton, Mr. C. G. Izard, and Mr. P. Rockliff, together with representatives of the Council of the Red Cross, such as Lieut.-Colonel A. R. Aldridge and Sir Edward Stewart.

The proposed clinic will be under a managing committee, appointed by the Red Cross, to which representatives of the medical profession and of industrial organizations will be co-opted. All treatment will be given, under the supervision of a medical director, by a staff having expert knowledge of physical methods of therapeutics. There will be provision for men and women (in separate blocks) of baths and vapour treatment, locally and generally applied, of manipulation and exercises, of heat, light, and ultra-violet radiation, and of the usual electrical applications, including diathermy. The majority of the patients will be required to make from ten to fifteen attendances, spread over periods varying up to a month or six weeks, and it is estimated that the total number of individual patients treated in a year will be approximately 12,000.

It is hoped to make the clinic, when once established, self-supporting, for it is believed that a great majority of those attending will be able and willing to pay a reasonable fee for treatment, while with regard to insured persons a definite undertaking has been given by the Ministry of Health that the insurance regulations will be amended to enable approved societies to pay capitation rates on behalf of their members when treatment at such a clinic becomes available. The plan of the proposed building shows the basement given up to pool and slipper baths, the ground floor to accommodation for douches and vapour treatment, as well as administration, and the first floor to rooms for special electrical and other treatment, x-ray work, and a laboratory.

### SPEECHES IN SUPPORT.

On Wednesday of this week a press luncheon took place, on the invitation of Sir Arthur Stanley, at the Royal Automobile Club, when speeches in support and exposition of the scheme were made. The first was by Sir WILLIAM WILCOX, who said that the Ministry of Health report in 1924 on the incidence of rheumatic diseases was one of the most valuable ever issued by that department. It revealed the astounding fact that something like one-sixth of the sick-absence in industry was due to this cause. The prevalence of rheumatism had never before been statistically demonstrated. This clinic, he added, was not launching out upon an unknown sea, for already a considerable Continental experience was available to show that such clinics did have a large and direct effect on the reduction of invalidity. One could prophesy almost with certainty that when this movement had reached its full fruition crippling rheumatism would be almost unknown.

Sir WILLIAM HALE-WHITE mentioned that at Guy's, in the massage department—which, in spite of its restricted name, included all the treatments proposed to be given at

<sup>1</sup> BRITISH MEDICAL JOURNAL, SUPPLEMENT, March 12th, 1927, p. 85.

<sup>2</sup> BRITISH MEDICAL JOURNAL, September 17th, 1927, p. 502.

<sup>3</sup> *Ibid.*, November 12th, p. 893.

this new clinic—2,350 patients put in 53,500 attendances in a year. This was about one in twenty-five of the adults who entered either the in-patient or the out-patient department at Guy's. The figure showed alike the prevalence of the conditions which the clinic was to treat and the value of such facilities as it offered.

Three brief addresses welcoming the scheme were also delivered by representatives of industrial organizations. Mr. W. A. APPLETON mentioned that in an approved society of 100,000 members with which he had to deal about 8 per cent. of the sickness expenditure was due to rheumatic diseases. He added that those who represented the workers would not be satisfied with a London clinic; they would demand clinics in Manchester, Glasgow, Cardiff, and elsewhere. Mr. H. LESSER and Mr. P. ROCKLIFF described their recent visit to the Continent, where, in Berlin alone, they found forty-six of these clinics. Not content with the glowing testimonies of those in charge, they interviewed the workmen, employers, and insurance society officials, and everybody consulted had not the least doubt about the results. Mr. Rockliff said that although Germany had many spas, it had been found impracticable there, as it would be found here, to send workpeople to them in any numbers. The spas were for the well-to-do. The alternative was the city clinic, which in Germany, Holland, Czechoslovakia, and elsewhere was abundantly justifying itself.

Professor LEONARD HILL declared that the advent of such clinics was one more sign that more profound changes than had yet been dreamed of were to be wrought by preventive medicine; and Dr. FORTESCUE FOX spoke of the happy circumstance that the scheme should have secured the goodwill and friendly co-operation of industrial organizations, of the Ministry of Health, and, not least, of the British Red Cross Society.

It was announced that the British Red Cross Society, at its headquarters at 19, Berkeley Street, London, W.1, would gratefully receive donations, large or small, for the "Rheumatic Clinic Fund."

## Scotland.

### FOOD SUPERVISION IN SCOTLAND.

A PAMPHLET entitled "The supervision of the food supply and the handling and storage of food" has now been added by the Scottish Board of Health to the number of the reprints from its annual reports on questions of public interest. The Board states that the problems of food supply are of comparatively recent growth in Scotland. In the past, when the food of the people was simple, consisting chiefly of porridge, milk, bread, fish, and meat, the question of prolonged storage did not arise, but with the increasing complexity of food it became customary to make use of preservatives and other devices. Some of the methods introduced were good and others of doubtful utility, but all needed watching, and in consequence of the gross adulterations of the nineteenth century the Sale of Food and Drugs Act of 1875 was put into operation. It was one of the earliest statutes passed to ensure or promote food purity. The principal Scottish Act concerned with milk, a foodstuff peculiarly liable to contamination, is the Milk and Dairies (Scotland) Act, which was passed in 1914, but delayed in coming into operation till 1925. This Act provides for the appointment of veterinary inspectors by local authorities, and renders this compulsory if the Board of Health so requires. It is intended that veterinary inspectors, wherever possible, should be whole-time officials. Local authorities must adopt dairy by-laws, for which the Board has issued a model. In approving by-laws the policy of the Board has been to show the utmost consideration for the dairy industry. The conditions governing the production of higher grade milk are referred to in the brochure. It is stated that as a result of local enterprize the herds in Lerwick and Scalloway have been made tuberculosis-free. Interesting examples of milk-borne infection are cited. An outbreak of dysentery, due to milk, which occurred in the West of Scotland in 1926, was credibly

traced to Mesopotamia, the farmer who was the presumptive source of infection having contracted the disease while on military service there. Under meat inspection reference is made to the discovery of foot-and-mouth disease in carcasses imported from Holland, as a result of which the importation of meat from the Continent was prohibited. Preservatives are dealt with at some length. It is noted that antiseptics, which were a boon to surgery, have been disadvantageous to food preservation. The ancient and well tried methods of smoking, drying, and salting were replaced by chemical compounds, some of which were hurtful in themselves, while others merely served as a mask for bacterial contamination. With regard to shops in which food is handled, it is asserted that a notable improvement in cleanliness has been effected in recent years. Some shops, however, are still below standard, especially fish-and-chip shops, ice-cream shops, and dwelling-houses used as shops, examples of which are quoted.

### PROPOSED CREMATORIUM FOR EDINBURGH.

A well attended public meeting, convened by the Edinburgh Cremation Society, was held in the Goold Hall, Edinburgh, on January 16th, to discuss the erection of a crematorium in Edinburgh; many people who desired to gain admittance to the hall were unable to do so. The chairman, Lord Salvesen, stated that for many years he had presided over the Cremation Society, and he showed by statistics how badly Scotland lagged behind other countries in providing facilities for the disposal of the dead by cremation. England had now seventeen crematoriums, in many instances managed by municipalities; Germany had seventy-seven, and Switzerland seventeen. In Scotland there was only one crematorium, which was situated near Glasgow. In all the Scandinavian countries public opinion had also forced the authorities to provide crematoriums, so that there were three in Denmark and three in Sweden; on the other side of the Atlantic there were something like eighty-three. The Edinburgh society had been searching for a site for many years. In order to provide burial for the yearly number of those who died, 500 acres had to be added annually to the existing cemeteries in Great Britain; the loss of this land was becoming a serious drawback in a country so densely populated as England and the lowlands of Scotland. The need for crematoriums had also become much more acute in consequence of the modern demand for ground for playing fields in the neighbourhood of cities. A motion was unanimously passed requesting the Edinburgh Town Council to grant a suitable site for a crematorium and to do everything possible to facilitate its erection. Dr. William Robertson, M.O.H. for Edinburgh, said that he was present to give the meeting the official imprimatur of support and the assurance that the Public Health Committee of the Town Council was heartily in favour of the proposal. The chairman added that a piece of land, in every respect suitable for the purpose, near Warriston was now at the disposal of the town council.

### ROYAL INFIRMARY, EDINBURGH.

The report on the Royal Infirmary of Edinburgh for the year ending September 30th, 1927, was submitted to the General Court of Contributors held on January 4th. The total number of patients treated had been 18,713, an increase of 1,689 on the figure for the preceding year. The average daily number of patients in hospital had been 903. The average time spent by each patient in hospital was 17.09 days, as against 19.08 days in the preceding year. Of the cases admitted 8,232 were from the city of Edinburgh and 9,611 from other places. The number of out-patients who attended was 61,582. That the pressure on the accommodation still continued was shown by the fact that during the year there had been an average of 2,109 persons awaiting admission to the wards. The total ordinary income had been £111,495, as compared with £107,200 in the previous year. Voluntary contributions formed the greater part of this income, amounting to £69,320. Of this sum the League of Subscribers had collected £21,420, and it is reckoned that the membership of this body now amounts to 100,000 persons, distributed throughout 1,418 groups. Since the inauguration of the

league in 1919 a total sum of £159,000 has been collected by it for the Infirmary. The sum contributed by employees in collieries and oil works amounted to £10,267, an increase of £554 on the former year's figure, which was abnormally low. The cost per occupied bed for the year was £155 12s. 9d., and the average cost of each patient was £7 10s. 2d. It was reported that the fund for the new extension scheme, which is contemplated when the ground adjoining the hospital becomes available in the course of the next five years, now amounted to £17,145.

#### GLASGOW VICTORIA INFIRMARY.

The annual meeting of the ladies' auxiliary association in connexion with the Glasgow Victoria Infirmary was held on January 18th. It was announced that 5,419 patients had been treated in the infirmary during the past year, besides 3,583 minor surgical cases which were treated as out-patients. The income produced by subscriptions had amounted to £26,734, but the ordinary income had fallen short of the ordinary expenditure by £1,931, which had therefore to be made up out of legacies. It was intimated that since the opening of the new wing of the hospital at Langside an additional £14,000 per annum was required for the support of the hospital.

#### SOCIAL HYGIENE IN SCOTLAND.

The twelfth annual report of the British Social Hygiene Council, dealing with the period from June, 1926, to May, 1927, contains a detailed analysis of five years' work in regard to venereal disease in Scotland. The report shows that the number of new cases of venereal disease reported in 1925-26 was 10,420, while in 1924-25 it was 10,576. There were 3,913 new cases of syphilis in 1925-26, including 1,890 males and 1,923 females. In 1924-25 the number had been 4,058, including 2,181 males and 1,877 females.

## England and Wales.

#### THE REGISTRAR-GENERAL'S DECENNIAL SUPPLEMENT.

The second part of the Registrar-General's decennial Supplement, which covers the period 1921-23 and deals with the mortality of men in different occupations, with their fertility, and with the mortality of their infants, was published on Monday.<sup>1</sup> The first part, consisting of a report by the Government Actuary on life tables based on the population of England and Wales, and the average number of deaths, was issued at the end of last September, and a notice of it appeared in our issue of October 1st, p. 607. Among other interesting matter bearing upon the general health of the country the document issued this week supplies answers to such questions as "Which are the most unhealthy occupations?" and "In which sections of the community is the birth rate high or the infant mortality low?" Mortality by social class has been made a special feature of the report. This investigation shows the differential incidence of the several diseases upon the five social groups into which the male working population has been divided. While giving statistical proof to some differences of common knowledge it has revealed others hitherto unsuspected. Thus the tabulation of deaths from cancer, by site, indicates that cancers of certain parts of the body are very much more frequent in the poorer sections of society, while from those of other sites all classes suffer very much alike. Of these two groups, which account for almost equal numbers of deaths, the first includes the alimentary tract from mouth to stomach (but not the intestine), the skin, and the larynx, all other cancers affecting rich and poor indifferently. Such a phenomenon raises the question to what extent this high mortality from cancer of the upper alimentary tract is preventable. The higher incidence of mortality from high living and excessive drinking amongst the more well-to-do is shown in the death rates from appendicitis, diabetes (in later life), and alcoholism (cirrhosis of the liver), while the high rates from tuberculosis known to exist among the poor are clearly demonstrated. The lengthy section devoted

to the mortality of the separate occupations, 178 in number, indicates the diseases incidental to the various trades. Gas stokers, puddlers, glass workers in processes involving exposure to intense heat, cotton spinners, and chimney-sweeps are liable to skin cancer. Tin miners and cutlery grinders suffer severely from phthisis, their mortality from this disease being respectively twelve and eight times the average. Textile workers, almost without exception, are subject to degenerative changes of the kidneys, heart, and blood vessels. Clergymen are shown to be exceptionally healthy, but barristers have a much less favourable mortality record, and their death rate from appendicitis is the highest of any of the occupations dealt with. The section on fertility shows that the birth rate increases from the highest to the lowest in the social scale. Infantile mortality, as would be expected, is highest among the poorer classes, and in the last ten years this excess has somewhat increased, though for all classes alike remarkable reductions are recorded. We hope to discuss some of the contents of this report on a future occasion.

#### SMALL-POX AMONG CASUALS.

In view of recent reports of the occurrence of small-pox among casuals, the Minister of Health has issued a circular (No. 859) to boards of guardians in England and Wales in order to facilitate the detection of any case of this disease appearing in a casual ward. The Minister directs that from now until March 31st all casuals shall be specially examined to ensure that no case of small-pox is overlooked, and in view of the additional work and responsibility incurred by the medical officer the Minister will be prepared to consider any application by a board of guardians for sanction of the payment of reasonable additional remuneration. Stripping to the waist is regarded as an essential part of the medical examination, and, in the event of any suspicious skin eruption being discovered, the medical officer of health of the district must be consulted. Any febrile condition, especially if accompanied by symptoms resembling those of influenza, should also be regarded with suspicion. In the event of a case of small-pox being discovered, the medical officer of health for the district should be informed at once, so that prompt arrangements may be made for isolation in a small-pox hospital; and all contacts among casuals and the staff should be offered vaccination or revaccination, unless already protected in this way. It is added that only circumstances of grave urgency justify the admission, or the retention, of patients suffering from small-pox in a Poor Law institution, and in such exceptional cases special isolation precautions must be taken.

#### LEEDS GENERAL INFIRMARY.

The statistical tables for the year ending December 31st, 1927, show an increase in the work undertaken in the various departments of the General Infirmary at Leeds. The total number of in-patients treated during the year reached the figure of 13,048, as compared with 12,688 during the previous year. Of these, 4,537 were general surgical cases, 2,894 medical, 1,170 ophthalmic, 1,682 aural, and 626 gynaecological; in the orthopaedic department the numbers were 901, and cases admitted as "accident cases" amounted to 1,238. It is to be noted that of the total of 13,048 cases admitted 2,558 were those of children. The daily average of patients in the wards of the main institution was 474, and at the two semi-convalescent hospitals 84, giving a total of 558 as compared with 555 for the previous year, the highest figure being 598 and the lowest 436. The out-patient department shows in total attendances an increase from 298,141 to 306,648. The infirmary, in all its departments, is working to the limits of its present capacity. It is, of course, the only general hospital in Leeds, and a substantial increase in accommodation is a matter of urgent necessity. The only consideration which causes the board to delay carrying out extensions is that of finance. It is hoped that in the near future a block for patients who can afford to pay for attendance may be provided, and this will tend to lessen the pressure on the beds to some extent, as it is believed that there are many patients at present admitted to the general wards who would be able and willing to meet the charges entitling them to admission to the paying block.

<sup>1</sup> The Registrar-General's Decennial Supplement, 1921. Part II, Occupational Mortality, Fertility and Infantile Mortality. H.M. Stationery Office, 1928. 7s. 6d. net.

But apart from this another ward block is required, and a great appeal for funds must shortly be made.

The distribution of prizes in connexion with the Leeds School of Nursing is an annual event always looked forward to with interest and with pleasure by all who, either as teachers or as students, are connected with it. On this occasion the ceremony was of a particularly pleasing character, for the prizes were distributed by Dame Maud McCarthy, and an address was given by Major J. H. Boith, M.C., better known as "Ian Hay." The chair was taken by Mr. T. F. Braime, the treasurer of the infirmary, who commented with gratitude on the excellent work of those who had instructed the nurses. Dame Maud McCarthy in a short speech reminded the meeting that the first nurse to be decorated on the field during the war for conspicuous bravery was trained in Leeds. While St. Thomas's Hospital would always be remembered as the home of Florence Nightingale, the General Infirmary at Leeds would for all time be known as the first training school in Britain to arrange with a university for a diploma of nursing. Major Boith gave a most useful and delightful address, characterized by great common sense, much humour, and by a profound appreciation of the fine work which is being carried on by nurses all over the world.

#### UNIVERSITY COLLEGE HOSPITAL: CLINIC FOR MENTAL DEFICIENCY.

Dr. A. F. Tredgold has been appointed an associate physician of University College Hospital in psychological medicine, and will hold a special clinic for conditions of delayed and incomplete mental development and for cases of mental deficiency, retardation, and allied conditions. This will be the first clinic for such cases established at a hospital with a medical school. It is hoped that it will not only afford opportunities for students to gain a knowledge of mental deficiency and allied conditions which have hitherto not been available; but will also constitute a further step towards bringing psychological medicine into touch with general medicine. Dr. Tredgold will hold his clinic in the out-patient department of the hospital on Thursdays at 11 a.m., commencing on February 2nd.

#### CENTRAL MIDWIVES BOARD.

The Central Midwives Board for England and Wales met on January 5th, when a special session was followed by the ordinary monthly meeting. A letter was read from the Ministry of Health stating that it had received a copy of a resolution passed by the Executive Committee of the General Medical Council, to the effect that it was expedient that the rules of the Board should include provisions restricting the drugs and solutions to be used by midwives in their practice. The letter stated also that it appeared to the Minister to be desirable that the Board should be prepared to give authoritative guidance as to the drugs which might properly be carried and administered by midwives in normal and in exceptional circumstances, and suggesting that such guidance might suitably be embodied in an advisory memorandum, which need not be incorporated in the rules. The memorandum was approved, and a copy ordered to be sent to the Ministry of Health. A letter was read from the Medical Secretary of the British Medical Association informing the Board that the Council of the Association had set up a special committee to consider and report on the causation of puerperal morbidity and mortality, and on the administrative action, if any, that should be taken in connexion with this matter. It stated also that the committee had decided, before drawing up its report, to hold a conference on January 11th, at which the various aspects of the problem could be discussed, and that the Council invited the Board to send two representatives to the conference. Miss Pollard and Miss Pearson were appointed as the representatives at this conference, and Dr. Jervis was appointed to represent the Board at the congress of the Royal Sanitary Institute in July next. A resolution was received from the Northampton Maternity and Infant Welfare Association expressing much concern at the number of maternal deaths occurring in connexion with childbirth, and suggesting to the Board that some of these fatalities might be

averted if the midwives were instructed to notify to the medical officer of health all cases they have undertaken to attend, and to urge the women to visit a pre-natal clinic. The following reply was agreed on: (1) That compulsory notification by midwives to the local supervising authority of all cases which they had undertaken to attend would be tantamount to compulsory notification of pregnancy, a principle which hitherto the Board had found itself unable to support; (2) that, in the opinion of the Board, if midwives strictly observe the Board's rules their patients will receive proper and adequate ante-natal attention. Approval as lecturers was granted to Major P. C. Field, R.A.M.C., Dr. G. R. Nolan, and (*pro tem.*) to Dr. C. C. Holman. A letter was received from the Ministry of Health approving the rules of the Board until January, 1929.

## Ireland.

#### HOSPITAL AMALGAMATION IN BELFAST.

THE board of management of the Royal Victoria Hospital, Belfast, decided unanimously on December 18th, 1927, to accede to the proposal of the Maternity Hospital for amalgamation; it was further decided that a joint effort should be made to raise the necessary £100,000 within one year. A general meeting of the life governors and annual subscribers of the Royal Victoria Hospital was held in the King Edward Memorial Hall on January 16th, when the Marquess of Dufferin and Ava, chairman of the board of management, presided, and letters were read from the Right Hon. J. M. Andrews, Minister of Labour, and Dr. R. W. Livingstone, Vice-Chancellor of the Queen's University, Belfast, supporting the scheme. The chairman explained that the present Maternity Hospital, with its twenty-five beds, could not meet the needs of the population of Ulster; it was necessary to provide a well equipped and fairly large hospital with at least a hundred beds, and this would entail an expenditure of £100,000. The matter was urgent, for in order to obtain the grant from the Ministry of Labour it was essential that the building should be started in the spring. The Duchess of Abercorn had promised to become president of the campaign and to give her personal support in the task of collecting the money. Professor J. A. Lindsay said that the people did not realize that they had only one little maternity hospital, exclusive of Poor Law accommodation, to meet the needs of the city and province, while Dublin had 250 maternity beds. The tendency of medical science, perhaps more marked in the United States of America and in Canada, was to associate this particular work with the great hospitals, and a movement of this kind was progressing in Ireland. The amalgamation could also be recommended on the score of economy; a bed cost £130 per annum in the Royal Victoria Hospital and £170 in the old Maternity Hospital. It was regrettable that at present the majority of students had to go elsewhere for maternity training. The new hospital would also have all the advantages of their special departments and laboratories. Professor C. G. Lowry stated that the maternity death rate could only be reduced by better education, proper ante-natal supervision, and more hospital accommodation. Many women were living in lodgings, and houses occupied by other families, and in unsuitable surroundings. The greatest toll of death was taken from the working class families, and the disability rate was also serious. The Rev. W. A. Watson, B.D., supported the proposal from the point of view of students and nurses. The chairman, in putting the resolution to the meeting, announced that every step taken in connexion with the scheme would have the approval of the present board of the Maternity Hospital. The resolution of the board of management of the Royal Victoria Hospital was then unanimously endorsed by the meeting.

A meeting of the Association of the Belfast Maternity Hospital was held on January 18th. Professor Lindsay, chairman of the board of governors of the hospital, presided, and gave an account of the history of the hospital and of the proposal to amalgamate with the Royal Victoria



Hospital. He said that the advantages were numerous and of many kinds. The Maternity Hospital was the second oldest charity in Belfast, and had done good work; many would remember the original building in Clifton Street, with eight beds. The institution had carried on for more than a hundred years. Largely owing to the efforts of the late Mr. H. Ewart, the hospital had been transferred from Clifton Street to its present buildings in Townsend Street, but it was desired to advance with the times and to build a new maternity hospital in the grounds of the present Royal Victoria Hospital, which had been made available by the City Council. A resolution of approval, moved by Lady Clarke and seconded by Lady Byers, was carried unanimously. The chairman intimated that a "Relations Committee" was to be established and that the position of the Maternity Hospital was to be recognized in every respect.

## Correspondence.

JOHN THOMSON.

SIR,—Several of the friends and old pupils of the late Dr. John Thomson are anxious to establish some permanent memorial of his great services to pediatrics in this country and to perpetuate the memory of a very lovable personality.

We have been asked to serve as a committee to give effect to this object, and those who are in sympathy with it are invited to send subscriptions to Dr. C. McNeil (44, Heriot Row, Edinburgh) or to Dr. Robert Hutchison (32, Devonshire Place, W.1), who are acting as treasurers. The form of the memorial has not yet been determined, and must depend, to some extent, upon the amount obtained in response to this appeal.—We are, etc.,

(Signed) THOS. BARLOW,  
LEONARD FINDLAY,  
ROBT. HUTCHISON,  
CHARLES McNEIL,  
GEO. F. STILL.

January 18th.

### FATALITY RATES OF SMALL-POX.

SIR,—Dr. Killick Millard (January 21st, p. 115) seems to me to have hit the right nail on the head with his usual neatness and precision. There are certain arithmetical consequences of the (in my opinion and that of Dr. Millard) misleading calculations to which Dr. Garrow seemed to attach some importance which are worth noting. In what follows I use the phrase "variola minor" to avoid having to keep on writing some such phrase as "the present non-irritant variety of small-pox which prevails in the North and Midlands."

Let us suppose for a moment that variola minor is not a killing disease and that in "classical" small-pox, or variola major, the fatality rate is  $p_1$  per cent. for vaccinated persons and  $p_2$  per cent. for unvaccinated persons. Now suppose that there are  $a$  and  $b$  cases of variola major amongst vaccinated and unvaccinated persons respectively, and  $A$  and  $B$  cases of variola minor. Then the fatality rate on the vaccinated will be  $p_1 a / (a + A)$  and on the unvaccinated  $p_2 b / (b + B)$ . If only variola major were in question (which was substantially the epidemiological state of affairs a generation ago)  $A = B = 0$ , and if  $p_2$  is really greater than  $p_1$  the statistics will (subject to the ordinary fluctuations of sampling) show the advantage of the vaccinated. But if the amount of variola major tends to be small and that of variola minor tends to be large, we can neglect  $a$  in comparison with  $A$  and  $b$  in comparison with  $B$ , and our fatality rates will virtually become  $p_1 A / A$  and  $p_2 B / B$ —that is, in words, the fatality rate is the ratio of the deaths from one kind of illness to the cases occurring of another kind. I suppose a similar absurdity might arise if we related deaths from lobar pneumonia to cases of all forms of pneumonia in young children.

Now if vaccination did not protect at all against attack by variola minor (as, of course, the antivaccinators would

claim),  $B$  would still increase faster than  $A$  because the number of unvaccinated persons is increasing faster than the number of vaccinated owing to neglect of vaccination. So that, so long as variola minor is the reigning type, the more years we add together the more shall we relatively diminish the fraction  $p_2 b / B$ , in comparison with  $p_1 a / A$ . If vaccination does protect against attack by variola minor the same result will be produced, but more quickly. The result is clearly inevitable, provided any vaccinated persons die of variola major, even if  $p_2$  is much larger than  $p_1$ .

Dr. Stocks's valuable letter strongly supports the contentions that: (1) Vaccination does protect against attack by variola minor, and (2) that the fatality of variola minor is negligible. (The fact that one or two of the cases in his series—for example, some of the London deaths—were certainly examples of variola major does not weaken his case; virtually he is dealing with statistics of variola minor.) It may be noted in confirmation (the confirmation is not of much importance, because of the small absolute numbers of deaths) that between January, 1923, and June, 1927, 31,484 cases of small-pox were notified in England and Wales and 35 in London—that is, 0.11 per cent. of the total. In the same period 57 deaths were recorded, 5, or 8.8 per cent., in London, so that if London had her proper quota of cases she had eighty times her proper share of the deaths!

The answer, then, to Dr. Garrow's question is, that these fatality rates are, statistically speaking, quite worthless.—I am, etc.,

Loughton, Jan. 21st.

MAJOR GREENWOOD.

SIR,—The smallness of the numbers of fatal cases of small-pox in the recent epidemics is such that no useful deductions can be made from them. The striking point in the figures given by Dr. Stocks (January 21st, p. 115) is the age distribution in the two groups, vaccinated and unvaccinated. Forty per cent. of the population are said to be vaccinated. In the age group "under 15" only 46 cases have occurred among the vaccinated. The remaining 60 per cent. (unvaccinated) have provided 10,298 cases. If the proportions had been the same in the two groups the numbers in the first group should have been 6,865 instead of 46.

The age incidence in small-pox among the unvaccinated is the same now as in pre-vaccination days, but is reversed in the case of the vaccinated. What factor is there to account for this except vaccination?—I am, etc.,

Birmingham, Jan. 22nd.

ROBERT ANDERSON, M.D.

SIR,—My attention has been drawn to a slight error in the tabular statement in my letter of January 14th. The 94 cases in the year 1926 whose vaccination state is classified as doubtful are not included in the figure 3,116 as stated in the footnote to the table. This means that the total number of cases for the four years is 10,925, instead of 11,019. This slip does not affect the fatality figures in the vaccinated and unvaccinated.—I am, etc.,

Chesterfield, Jan. 20th.

R. P. GARROW.

### ISOLATION FOR MEASLES.

SIR,—Debré and Joannon, who, after Nicolle, are the leading exponents on the Continent of the prophylaxis of measles by modern methods, write as follows:

"La contagiosité paraît commencer avec les manifestations catarrhales, elle cesse sûrement lors de la chute thermique, elle paraît souvent prendre fin plus tôt, après la pleue efflorescence de l'éruption. . . . Il ne semble pas que la contagiosité survive à l'éruption, alors même qu'existent des complications. . . . L'existence de porteurs de germes convalescents est improbable. On n'a pas signalé de convalescent semant autour de lui la contagion." (*La Rougeole*, Paris, 1926, p. 147.)

These views are reflected in the recently issued Code of the American Public Health Association. The period of communicability of measles is therein laid down as being "during the period of catarrhal symptoms and until the

<sup>1</sup> Report of Chief Medical Officer of the Ministry of Health for 1926, p. 36.

cessation of abnormal mucous membrane secretions—minimum period of nine days; from four days before to five days after the appearance of the rash." (Italics mine.) Isolation is enjoined "during the period of communicability."

One of the main arguments against the compulsory notification of measles is that such notification is commonly only feasible in practice when the rash has appeared—that is, after the most infective pre-exanthem, or Koplik's spots, stage has passed, and when, therefore, most of the damage has been done.

I have released from isolation large numbers of cases of measles from seven to ten days after the full appearance of the rash. I have never seen or heard of a return case as a result of this procedure. A careful study over a number of years of cases of measles treated under conditions of "bed isolation" has shown beyond any reasonable doubt that a case of measles has ceased to be infective certainly by the time the rash has faded.—I am, etc.,

E. H. R. HARRIES,

Medical Superintendent, Birmingham City Hospitals.

January 23rd.

### QUININE IN OBSTETRIC PRACTICE.

SIR,—I note in your issue of November 5th, 1927 (p. 827), a comment on the use of quinine bilydrochloride in obstetrics, which induces me to give my experience in a country where malaria is fairly prevalent.

I have practised in three places in Rhodesia during the past eighteen years, in all of which malaria (subtertian variety) occurs, coupled with blackwater fever, in from 1 to 3 per cent. of the population. In the last locality only, where I have been for twelve years, has there been an appreciable amount of midwifery work. The population is a scattered and widely isolated one, and consists principally of farmers and workers in small mines. I have been single-handed, and over 80 miles from the nearest brother practitioner. In case of any emergency during labour such a position causes anxiety.

The well known liability of malaria to break out during the puerperium adds to one's anxiety. Malaria is not easy of diagnosis here by the microscope in ordinary cases—a large proportion of clinically typical malarias giving negative results in the hands of experts. The difficulty in making the differential diagnosis of any rise of temperature during the puerperium is therefore obvious when there is no certain means of separating it, and when active measures are, or may be, all-important. Hence, owing to my general experience with the use of quinine, I early adopted the procedure of advising as a prophylactic measure, when engaging to attend a confinement, a regular course of quinine. So very satisfactory was this in eliminating rises of temperature that I then adopted the advice as a systematic method, making it a strict condition with my patients. Some who had experience in the country took it quite willingly; others made all sorts of excuses, but I refused to take care of them unless they acceded. The advice was followed up by strict inquiries later.

I found that with this I had no patients, except in otherwise complicated cases, who showed a rise of temperature which gave me any anxiety. Most never exceeded the normal line on the chart. I may say that I have been urgently called to attend during confinement patients who had not engaged me previously, and their puerperium has not been so satisfactory. In one case blackwater fever complicated labour.

I further noted, with at first a little surprise, that such patients as had undergone the course of quinine had a consistently easier time during labour, and their general condition was better throughout the lying-in period.

My rule is *de rigueur*, whether patients have had malaria previously or not. The minimum I require is  $2\frac{1}{2}$  grains of quinine hydrochloride (the salt in general use) daily for six weeks prior to the expected date of confinement, and 5 grains for the last week of pregnancy. With some, knowing their history and the relative malariousness of the house site, I may advise more.

It will be noted that this is a prophylactic procedure entirely. We do not know yet what cells the quinine stimulates to throw off an attack of malaria; but we do

know, though it is a specific, that the action of quinine is not, as was believed up to about 1917, a direct one on the parasite in the blood. It may be those reticulo-endothelial cells or it may be some other defensive mechanism which is stimulated and reinforced. At any rate, I am, after many years' experience, convinced of its value in cutting out malarial rises of temperature. So satisfied am I of the value of the method that it is tempting to suggest that quinine is not only a prophylactic against malaria germs, but also against other and bacterial micro-organisms, which may be latent or adventitiously introduced during the exposure to infection in the course of labour. On the other hand, this may seem, I am well aware, like egotism, but I can nevertheless with confidence recommend experiment of such a simple measure, not only in malarial countries, but in general obstetric practice. I hope some obstetric specialist will submit it to comparative test with series of cases.—I am, etc.,

Sinoia, S. Rhodesia, Dec. 8th, 1927.

W. M. HEWETSON.

### THE INFECTION OF BARBADOS WITH MALARIA.

SIR,—With reference to Dr. Andrew Balfour's postscript to his letter in your issue of January 21st, I trust you will permit me to record how it came about that I found mosquitos in the fore-peak of a schooner alongside the wharf in the carenage at Bridgetown, Barbados, in the autumn of 1907. While acting for Dr. Bridger (to whom I am still indebted for very much kindness and much valuable instruction) as port health officer I came often into official and friendly relations with those splendid (and charming) British seamen, the white masters of the small "inter-colonial" schooners. They are natives of Saba, and claim descent from the buccaneers.

One of them told me, among much that was interesting and exciting, that it was no use looking over so keenly for mosquitos in his schooner—they must be roused out. He took me on board, and after I had peered closely with eyes, and felt stealthily with hands, inside the fore-peak and found no mosquitos, he thrust a cloth in and flapping it around in the dark fore-peak at once roused mosquitos. Though we then killed some of them I regret that I identified them no further than that they were mosquitos, but not stegomyia.—I am, etc.,

London, W.1, Jan. 21st.

H. M. HANSCHALL.

### TREATMENT OF VARICOSE VEINS BY INJECTION.

SIR,—Considering that the majority of the surgeons in England look with disfavour on the treatment of varicose veins by injection, and discourage this treatment, I feel that my personal experience of it may be of use to medical men in general, and especially to fellow sufferers.

I have suffered from varicose veins since I was 21 years of age, but with great care I managed not to be inconvenienced by pain or throbbing till about my 56th year. I am now 59, and have had a good deal of pain for two or three years. I have always been a very active man and done much walking, and I began to think I should have to stop this. My father died of embolism from phlebitis of varicose veins and one of my relations has had embolism twice from the same cause, but has fortunately recovered; another has had phlebitis.

It will be seen from the above that I have a bad family history in this respect, and would not, therefore, be an ideal patient for the treatment. I have undergone the treatment, and have had nine or ten injections in all. Beyond the fact that I had some bearable pain and some oedema I have suffered no inconvenience, and have carried on a large practice all the time. My varicose veins are gone and my legs are absolutely comfortable, and I can walk any distance with comfort.

The doctor who gave me the injections told me he had given over 2,000 without any embolism or like trouble. From my own experience, and his, I am of opinion that the treatment is most efficacious, and that the risk is infinitesimal, being much less than if the veins are left alone or operated on in the usual way. Personally, I should

always go to an expert for the treatment, but I see no reason why any medical man should not learn the treatment if he takes the trouble to study under an expert.—I am, etc.,

January 13th.

VENOUS.

#### CLINICAL TEACHING IN EDINBURGH.

SIR,—I read with much surprise in the *JOURNAL* of January 14th (p. 71) the remarks under "Scotland" referring to clinical teaching in Edinburgh. Whilst the report is substantially correct, I think it is necessary to point out that the "dissatisfaction" in the Edinburgh Medical School at the moment is not so pronounced. I would also point out that, in my opinion, the questions are questions which concern only Edinburgh, and which need not bother much the profession in general. As your correspondent, however, has thought fit to ventilate the matter in the *JOURNAL* it is perhaps advisable, for more than one reason, to supplement his statement.

The first reason is that the Medical School of Edinburgh is the largest medical school in the country. Another, that, historically and constitutionally, it is peculiar, and differs from all the rest. It is perhaps well for your readers to know that the plan followed in medical education in Edinburgh is a plan determined by (1) the Royal College of Surgeons; (2) the Royal College of Physicians; (3) the Managers of the Royal Infirmary of Edinburgh; (4) the Governing Board of the School of Medicine of the Royal Colleges; and (5) the University Court—by the latter to a very slight and partial extent, in actual fact. It may also be usefully pointed out for the information of the profession at large that the Board of Management of the Royal Infirmary of Edinburgh cannot appoint anyone to be a physician or surgeon to the hospital unless he be a Fellow of one of the Edinburgh Royal Colleges.

Recently many of these aspects of matters in Edinburgh seem to have been lost sight of. In some curious and inexplicable way the university authorities seem to have overlooked the fact that the practising professors of their faculty of medicine are clinical officers to the Edinburgh Royal Infirmary solely by the grace of its managing board, provided they are Fellows, by examination or by election, of the College of Surgeons or the College of Physicians of Edinburgh.

The matters in dispute are temporary, and will be settled very readily by the governing bodies concerned, with the help, no doubt, of their legal members, if necessary. Your readers, therefore, Sir, have no reason to fear that the Medical School of Edinburgh has "lost its nerve" or is in any parlous condition from any cause.—I am, etc.,

CIVIS UNIVERSITATIS EDINBURGENSIS.

Edinburgh, Jan. 15th.

#### MECHANICAL MEDICINE.

SIR,—A patient of mine developed pyrexial bronchitis a few days before her confinement on January 1st. Chloroform had to be administered during delivery, after which she ran a temperature round about 102° F. for three days. The lochia were normal, there was no trace of septic infection, and there is no doubt that the pyrexia was entirely due to the bronchitis. However, since it occurred during the puerperium, I asked the county medical officer of health to advise whether the case must be notified. He quoted the regulations: "Puerperal pyrexia means any febrile condition . . . occurring in a woman within twenty-one days after childbirth or miscarriage, in which a temperature of 100.4° F., or more, has been sustained during a period of twenty-four hours, or has recurred during that period," and said that, accordingly, the case must be notified. When filling in the notification form I had to put the date of the onset of the disease as December 29th, 1927 (the day on which the bronchitis developed), and the date of the birth of the child as January 1st, 1928, which really means that this case of "puerperal pyrexia" began three days before labour commenced!

To me it seems monstrous that any medical man should be compelled to certify such an absurdity; but it is all part of the intolerable position into which we have partly drifted, and partly been pushed, during the last fifteen

years or so. We have to give panel certificates, most humorously marked "confidential," to women suffering from dysmenorrhoea, menorrhagia, advanced pregnancy, miscarriage, and certain intimate diseases. These "confidential" certificates are then handed to the agents of the societies, who are nearly always men, and pass afterwards into the hands of clerks or office boys. It must be extremely gratifying to these patients to have to disclose thus information which, in the old days, was regarded as secret between doctor and patient.

Again, under the Midwives Act, 1918, we attend patients when called in by a midwife, our fees for this being paid by the county councils; but claims have to be sent in within two months from the date upon which the service is rendered, otherwise the fees are not paid. Many medical men have had fees disallowed because their claims were made outside the two months, though why this period is insisted upon nobody seems to know. The usual custom in this country is for accounts to be rendered quarterly, and there seems to be no reason why these claims should not be submitted in the same way. It is very easy for a busy practitioner to overlook a claim at the end of such an unusual period as two months. It has been held that the Minister of Health is legally right in refusing to allow claims not rendered within the prescribed period, but it savours of sharp practice to mulct a man of money he has honestly earned.

We occasionally give certificates to insured patients stating that it is necessary for them to be examined by an ophthalmic surgeon. Many of these certificates are ignored altogether, or the patient is sent to an oculist; or a rather more favourite method is for the approved society to write and ask upon what grounds we consider the services of an ophthalmic surgeon necessary.

It would be easy to multiply instances of how compulsion is put upon us, our opinions are flouted, our *bona fides* are questioned, and we ourselves are held up to ridicule and abuse in the lay press. We accept all this without protest, and are apparently too apathetic to raise any defence in our own behalf. Surely the time has come when the profession as a whole might take a firm stand against these ever-increasing burdens, restrictions, and humiliations. The prestige of the medical practitioner is declining rapidly, and it is not difficult to see that within a few years, unless something is done, we shall become automata, handing out certificates, notifying diseases, and diagnosing and treating according to orders received.—I am, etc.,

STANLEY L. BRIMBLECOMBE.

Stoke-under-Ham, Somerset, Jan. 10th.

#### THEORIES OF SUGGESTION.

SIR,—I have read with great interest the report of Dr. William Brown's discourse to the Royal Society of Medicine on theories of suggestion (January 14th, p. 53). I was especially astonished at the view of suggestion held by some of those who took part in the discussion which followed. One of the speakers (Dr. R. D. Gillespie) expressed surprise that the championship of suggestion came from "so intelligent a source" as Dr. Brown, and thought it "extremely improbable that suggestion treatment in its former vogue would ever return, seeing that suggestion depended on lack of criticism on the part of the person to whom suggestions were made."

Surely psychotherapy has developed beyond the mere rivalry of its individual schools. Suggestion is, of course, but one of the methods of psychotherapy, yet it is a very powerful one. We have been too tardy in recognizing its widespread use—often with considerable effect—by unqualified persons in "quack," religious, and other methods of treatment, some of which boast a scientific basis. We regard analysis, properly carried out, as being free from the element of suggestion, but the very fact of going to consult a psychotherapist must liberate an important suggestion in the patient's mind. The physiological effect of suggestion presents many aspects for measurement and observation, such as sphygmomanometry, changes in basal metabolic rate, changes in secretion of digestive juice, and many more. Indeed, we are but at the beginning of knowledge

about an important therapeutical aid which has been applied in treatment since the dawn of medicine—one which is constantly in use, consciously or subconsciously, by every member of our profession.

It would be idle to apply suggestion without regard to the indications for its use, as also to postulate that its use is limited to those of poorly developed intellect. The co-operation of an intelligent patient in a rational form of treatment is surely of the utmost value.—I am, etc.,

Liverpool, Jan. 15th.

S. BARTON HALL.

#### TREATMENT OF "TENNIS ELBOW."

SIR,—I can endorse what Mr. Mills has said in his article on "tennis elbow" in your issue of January 7th (p. 12) as to the efficacy of manipulation of the elbow.

One manipulation which I find very effective is to place the patient on his back, with his arm just off the table. His hand, midway between pronation and supination, is held between the operator's legs. The elbow rests in the operator's hands, and is passively flexed and extended several times. Then, when the muscles are relaxed, the elbow is sharply forced a little further into extension. So far I have not found it necessary to use an anaesthetic.

The clicking sound can hardly be due to a bone going back into place, as the same sound can be produced in the normal elbow, and is in no way different from that produced by many people when they crack their finger or other joints.—I am, etc.,

London, W.1, Jan. 11th.

THOMAS MARLIN.

#### MEDICAL REGISTRATION IN NEW ZEALAND.

SIR,—To those of us who are hoping eventually to practise medicine in the most favoured part of the British Empire—New Zealand—"Traveller's" letter in the BRITISH MEDICAL JOURNAL of January 14th (p. 77) is most disquieting.

I can hardly think that the New Zealand Registration Board can overlook the *Medical Register*. That, and no number of diplomas, gives us our charter to practise.

No difficulties are raised about New Zealand graduates practising in this country, and they are met by their colleagues here on equal and healthy competitive terms.

I suggest that the whole subject of reciprocity of the Home Country with New Zealand should be taken up by the British Medical Association, and that the New Zealand Registration Board be reminded that we are all fellow citizens of one Empire.—I am, etc.,

January 14th.

MAJOR I.M.S.(RET.).

#### TREATMENT OF ACUTE PNEUMONIA.

SIR,—I was very much interested to read the memorandum on this subject by Drs. Hitchens and Gibson (JOURNAL, January 14th, p. 52) as it confirms my own experience—namely, that sodium nucleinate often works wonders in cutting short the duration of an attack of pneumonia, provided that, as in the case reported, there is a previously robust patient to be dealt with and treatment can be begun early. But, unfortunately, the converse holds true—for example, that if one has poor material to work on sodium nucleinate is often of very little use, however early it is given. Last winter I used this drug, plus the other usual methods of treatment (expectorants, cardiac stimulants, etc.), with the most depressing results—a 75 per cent. mortality. This winter I have abandoned sodium nucleinate and have used a 1 in 7,000 solution of potassium permanganate given per rectum four-hourly; with this treatment I had three deaths in twenty-five cases of lobar and broncho-pneumonia in debilitated children, to some of whom I was called in when they were almost moribund. I have now added pneumococcus vaccine (Parke, Davis and Co.) to my armamentarium, and have had no further deaths amongst my cases—thirteen in number.—I am, etc.,

A. A. HEARNE, M.D., D.P.H., D.T.M. and H.  
Sunderland, Jan. 15th.

#### TYPHOID IMMUNIZATION BY THE MOUTH IN SOUTH AFRICA.

SIR,—In your issue of December 3rd, 1927 (p. 1050), there is a note on this subject under the heading "Union of South Africa (from our correspondent in Pretoria)." I am a little surprised that your correspondent should make no reference to the work which has been done in Pretoria itself. In the annual health report of the medical officer of health for Pretoria municipality for the years 1925-26 and 1926-27 there are brief references to the use of this method in the case of Europeans as well as natives.

In 1925 Dr. Adrianus Pyper, bacteriologist to the municipality, at my request prepared the antityphoid vaccine in pill form in accordance with the method advocated by Besredka, and since that date has furnished us with regular supplies. These antityphoid pills have been given, together with bile pills, to some 922 Europeans and 1,464 coloured persons in this town. We have observed no ill effects following their administration, and we have had no instance of a person contracting typhoid to whom the pills had been given within a few days of exposure to infection.

Our present practice is to provide this form of immunization for all persons living in a house in which a case of typhoid has occurred; the pills are sometimes given also to persons living in the immediate vicinity. In certain special cases, where sanitary conditions are particularly bad, and the conservancy system of sewage disposal is still in force, immunization has been offered to all the inhabitants of the area, and has been generally accepted.

A further very interesting use of this form of immunization has been in the treatment of typhoid fever carriers. Altogether, fourteen native intestinal carriers have been treated, each receiving an antityphoid pill containing approximately forty thousand million dead bacilli, together with a bile pill on three successive mornings before breakfast. In all cases the carrier condition had been proved by cultivation of the typhoid bacillus from the faeces. After the treatment no typhoid bacilli were present in the faeces, and in those persons who remained under observation they were shown to remain absent by repeated examinations.

For all the bacteriological work in these investigations Dr. Pyper is responsible. Typhoid fever has been endemic in Pretoria for the last forty years, and although the incidence has been greatly reduced in recent years, and the death rate even more so, it is still more prevalent than it ought to be and in comparison with some of the other large towns in the Union. It was on account of this special prevalence that I was led to introduce the system of oral immunization here.—I am, etc.,

J. J. BOYD, M.D., D.P.H.,  
Medical Officer of Health.

Pretoria, Jan. 3rd.

#### TREATMENT OF CANCER BY RADIUM.

SIR,—Dr. Birkett (January 14th, p. 75) has, I fear, misread my original letter and seems to be under the impression that it was written in opposition to the use of radium. Far from it; I should be only too thankful if the radium institutes of London and Manchester could be stimulated to record their results, and still more thankful if those results confirmed those of Stockholm and New York.

The sole reason for my first letter was to take exception to a phrase in one of your leading articles which inferred that those surgeons who operated upon cases of carcinoma of the cervix did so because they "have not had or not taken the opportunity of seeing what is being done in London, Manchester, etc.," when, as a matter of fact, neither London nor Manchester give any information about the work they are doing. The subsequent correspondence has failed to elicit a single fact from either of these centres; and it is to be hoped the writer of the article will, in future, modify his enthusiasm to correspond with the facts.—I am, etc.,

Manchester, Jan. 23rd.

WM. FLETCHER SHAW.

Out of 92 candidates elected to the assembly:  
M. O. Chacko, P. G. Sawmy, H. P. N. Siané, E. E. M. Steen,  
Forrester, Chelliah,  
3. Russell,  
t. E. P. N.  
uer, J. M.  
Anders.



## Obituary.

SIR DYCE DUCKWORTH, Bt., M.D., LL.D.,

Consulting Physician to St. Bartholomew's Hospital; Emeritus Treasurer of the Royal College of Physicians of London.

WE have to record the death, in his eighty-eighth year, of Sir Dyce Duckworth, who was for many years physician to St. Bartholomew's Hospital, and had long been a distinguished figure in the medical world of London.

Dyce Duckworth was the youngest son of Robinson Duckworth of Huddersfield, and the younger brother of the Rev. Canon Duckworth, D.D., well known as the Subdean of Westminster. His mother was Elizabeth Forbes, daughter of William Nicol, a naval surgeon, of Stonehaven, N.B. Dyce Duckworth was born at Liverpool on November 21st, 1840, and was educated at the Royal Institution School of that town. He afterwards proceeded

to Edinburgh University, where he graduated M.B. in 1862 and proceeded M.D. in the following year, his thesis being awarded the gold medal. Coming to London, he continued his medical studies at St. Bartholomew's Hospital, but as there appeared to be no likelihood of any opening for a young physician he entered the Royal Navy, serving as assistant surgeon in 1864-65. The unexpected death of Dr. Henry Jeaffreson from typhus and the resignation of Dr. Martin gave opportunities to Dr. Church (now Sir William Church) and Dr. Duckworth which they were not slow to take advantage of. Duckworth became medical tutor and was elected assistant physician in 1869, full physician in 1883, and afterwards lecturer on medicine. During his tenure of office as assistant physician he was placed in charge of the department for diseases of the skin. He was appointed consulting physician in 1906. In 1870 he was elected a Fellow of the Royal College of Physicians of London, and from 1884 until 1923 he filled the important and honourable office of Treasurer of the College, whose representative he was on the General Medical Council from 1886 until 1901, when he resigned. He was senior Censor in 1803, Lumleian Lecturer in 1896, and Harveian Orator in 1898. In 1923 he was made Emeritus Treasurer. He acted as physician to King Edward VII, then Prince of Wales, from 1890 to 1901.

He received the honour of knighthood from Queen Victoria in 1886 on the occasion of the opening of the Examination Hall on the Embankment, and he was created a baronet in 1909. He was also a Knight of Justice and Almoner of the Order of St. John of Jerusalem. He was an honorary M.D. of the Medical College of Ohio, M.D. *honoris causa* of the old Royal University of Ireland and of Belfast University, honorary Fellow of the Royal College of Physicians of Ireland (1887), honorary member of the Royal Medical Society, Edinburgh, and LL.D. of the University of Edinburgh (1890). He was also a corresponding member of the Académie de Médecine of Paris.

Sir Dyce Duckworth served as president of the Clinical Society in 1892. He acted as examiner in medicine at Edinburgh, Durham, and Victoria Universities, as well as at the Conjoint Examining Board for England. He was also physician to the Seamen's Hospital at Greenwich. From 1900 to 1911 he was medical referee to H.M. Treasury, and from 1904 to 1910 he was medical adviser to the

Pensions Commutation Board. Sir Dyce Duckworth edited Warburton Beggie's works for the New Sydenham Society; wrote a treatise on gout, which was published in 1889 and was translated into French and German; and published in 1915 a volume of collected addresses and papers under the title *Views on some Social Subjects*. He was formerly a member of the British Medical Association, and served as President of the Section of Medicine at the Annual Meeting in Birmingham in 1890. He also delivered the address in medicine when the Association met in Carlisle for its Annual Meeting in 1896, his subject on that occasion being the prognosis of disease.

Sir Dyce Duckworth was one of the last physicians of an age which has passed. Courtlly, slow, quiet in manner, soft in speech and earnest in gesture, he was always correctly dressed in a frock-coat and top-hat, which would have looked as much out of place in an open car as it was *de rigueur* in a carriage drawn by two fine horses. In

politics a Tory, by religious profession an Anglican and a good Churchman, he did not suffer gladly the trend of modern manners. He disliked the intrusion of women into the medical profession, and maintained stoutly that the proper place for them was at home, or at most as nurses. Professionally his opinion was greatly valued—early in life as a dermatologist and later as a physician, especially for the gout. He was a good teacher in the wards of St. Bartholomew's Hospital—rather deliberate in making his rounds, but very careful in coming to an opinion, which generally proved to be correct. He brought with him to the hospital the great traditions of clinical teaching for which the Edinburgh school has so long been famous. His moral influence in the school was all for good, and by his example he set a high standard of professional honesty. He lived for many years in Grafton Street, Piccadilly, in the house which is now Quaritch's bookshop.

He was twice married, first to Annie Alicia, the widow of

John Smith of Micklem Hall, Dorking, and secondly to Ada, the younger daughter of Arthur Fuller of The Rookery, Dorking, having issue by both marriages. He is succeeded in the title by his son Edward Dyce, of the Indian Civil Service, a judge in Burma, who was born in 1875.

The funeral service took place on January 23rd at St. Peter's, Eaton Square, and was attended by the President and many Fellows of the Royal College of Physicians, and a large number of representatives of institutions, medical and other, with which Sir Dyce Duckworth had been connected during his long career. A memorial service was held on the same day in the church of St. Bartholomew-the-Less, within the precincts of the hospital he served for so many years; the hospitaler and vicar, the Rev. J. L. Douglas, officiated. The interment took place at Betchworth, Surrey.

Sir FRANCIS CHAMPNEYS, Bt., has been good enough to send the following personal appreciation:

As one who has known Sir Dyce Duckworth for some fifty-five years, as a student, as a colleague, as a friend in relation to work at St. Bartholomew's Hospital, and at the Royal College of Physicians, I gladly add a few personal notes to his memoir, in which his work as a physician will



Photograph by

[Elliott and Fry, Ltd.]

SIR DYCE DUCKWORTH, Bt.

be appraised by others more competent than myself. Although Sir Dyce was an importation into this country from Scotland he quickly and thoroughly identified himself with his new surroundings, both at St. Bartholomew's Hospital and at the College of Physicians, and became an enthusiastic member of both bodies. His presence was handsome and dignified; he was always kind, courteous, and friendly, thorough and painstaking in all that he undertook. Had he occupied the presidential chair of the College he would have upheld its stately traditions; and indeed, as it was, he seemed, as treasurer over a very long period, to embody its ancient and cultured spirit. He was essentially a friendly and kindly man, and I know of no enemies of his. His health had been failing for some years, rapidly of late, and the end was a happy release. He will long be remembered as a fine specimen of the cultured physician of the last century.

"A. C." writes: Fitting regard has been paid to the great qualities of Sir Dyce Duckworth both as a man and as a physician, but special attention should be drawn to his abiding affection for the College of Physicians, of which he was treasurer for nearly forty years. No man ever served the College with more unswerving loyalty and fidelity. He was always at his post, and his dictum, "The best only is good enough for the College," expressed his veneration for it and what he gave to it in the shape of personal service. For many years few figures were better known at the College, and the many with whom he came into contact could not fail to be impressed with his charming and dignified old-world courtesy. In appearance, in manner, and in all his dealings with others he was always the "great gentleman."

#### BASIL THORN LANG, M.A., B.Ch., F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital.

We have to announce with deep regret the untimely death, on January 18th, from pneumonia, of Mr. Basil Lang, a very able ophthalmic surgeon and a man of great attainments and originality of mind, with a singular gift for anything mechanical, whether it bore directly upon his professional work or not.

Basil Thorn Lang was born in London on October 3rd, 1880. He was the only son of Mr. William Lang, F.R.C.S., consulting ophthalmic surgeon to the Middlesex Hospital and to the Royal London Ophthalmic Hospital, Moorfields, whom all ophthalmologists hold in the highest regard. From Abbotsholme School in Derbyshire Basil Lang went to Trinity College, Cambridge, and graduated B.A. in 1902, with first-class honours in the Natural Sciences Tripos. He then continued his medical studies at St. Bartholomew's Hospital, and having qualified as M.R.C.S., L.R.C.P. Lond. in 1906, proceeded next year to the M.A. and B.Ch. degrees at Cambridge. In 1910, after serving as house-surgeon and ophthalmic house-surgeon at St. Bartholomew's, he obtained the F.R.C.S. Eng. diploma and spent the following years in preparation for his life-work, holding at one time or another clinical assistantships in the eye departments at St. Bartholomew's and the Middlesex Hospitals, at Moorfields, and at the Royal Westminster and Central London Ophthalmic Hospitals. The varied experience of these posts, reinforced by private practice with his father in Cavendish Square, and by wide reading and visits to foreign clinics, made him familiar with every phase of eye work. No new knowledge or technical improvement in ophthalmology escaped him, and his inventive mind was ever alert for possibilities of further advance. But a single branch of medicine was too narrow a field for his abounding energy and fertile brain: new methods, new ideas, new contrivances were the breath of his life. In particular he was an adept with electrical apparatus and in colour photography, and during the war, when holding a commission as captain, R.A.M.C., he devised and fitted up a mobile x-ray plant, and invented a most ingenious range-finder for locating enemy aeroplanes.

After the war he resumed his practice and became assistant surgeon to the Western Ophthalmic Hospital and chief assistant in a number of eye departments; he acted also as honorary ophthalmic surgeon to St. Andrew's Hospital, Dollis Hill, and to the Newspaper Press Fund.

Later he was appointed surgeon to Moorfields (as his father had been for thirty years), and quite recently was elected to the visiting staff of the Royal Northern Hospital, Holloway Road. His occasional writings on ophthalmology were marked by care and accuracy of expression, and his book *The Routine Examination of the Eye* (reviewed in our issue of April 4th, 1925) is a clear and trustworthy guide inspired by his father's methodical teaching.

Basil Lang took endless trouble for his patients, poor or rich, and would go any distance to serve a friend. Those who knew him best looked upon him as a man of astonishing capacity who, although he achieved a great deal, never quite did full justice to his powers, and sowed much with both hands for others to reap.

We are indebted to Mr. W. T. HOLMES SPICER, F.R.C.S., consulting ophthalmic surgeon to St. Bartholomew's Hospital and to the Royal London Ophthalmic Hospital, Moorfields, for the following tribute to his old pupil:

The news of the death of Basil Lang came to his friends as a great shock; he was known to have had some weakness of heart during the war for which he had been invalided home, and he had more recently suffered from arthritis of his wrists, but it was hoped that he had recovered.

My association with him began with his dressership and house-surgeoney in the eye department at St. Bartholomew's, and afterwards during a long period of years when he was my chief assistant. Even at that early time he was obviously no ordinary man, but one intent on pushing inquiry to its furthest limits—an iconoclast perhaps, but always a searcher after the Truth as he saw it. His war service was unfortunately cut short because of his breakdown in health, but he organized the service of the portable giant magnet for use at the front, whereby a fragment of iron or steel could be removed very soon after its penetration into the eye.

He spent a good deal of time and thought in the making of gadgets, time savers, and devices for the better working of things in common use, and he often came to his work in the afternoon hurrying with a new idea; he would take out his pencil, and on the fresh white blotting-paper on the desk would sketch out his idea. He was a skilled draughtsman and engineer, and would not hesitate to take to pieces a new bit of mechanism, such as a Browning pistol, to show how it worked, and would put it together again. His mind was so full of ideas that he never had the time nor the patience to carry them out. The one great exception was a complete and very elaborate perimeter, which was no sooner completed than he was dissatisfied with it, and which for this reason missed success. He had so much of the spirit of the inventor and engineer that one often felt that he had not chosen to follow his instincts in entering medicine.

As an ophthalmologist he was more interested in the physical than in the biological side, and in his teaching to the students his theme tended generally towards the subject of refraction and its minute correction rather than to the clinical aspect. His demonstrations were clear and logical, and not above the intelligence of his hearers. He held very advanced views on the origins of sepsis and the use of vaccines, and if we did not always see alike in these matters he was perfectly loyal in carrying out my views. He would sometimes disappear, and would return with a cackle of triumph, having been to the physics laboratory or elsewhere to verify some point or discuss some problem. His patients did not suffer from these absences, as he was a quick and accurate worker. He had the voice and laugh of a "loud speaker": he had to be quelled occasionally in a friendly way when his own voice filled the room and made other people difficult to hear; but he never resented it. He was a very pleasant and loyal worker, and whether at the hospital or on the links he was always a good fellow and an amusing companion.

Even during the depressing time of his illness, or later, when the condition of his wrists made operating difficult, he was not visibly depressed, and would discuss his latest form of vaccination with obvious pleasure. His spirit was undaunted, and he was looking forward to new fields of work in his post at the Royal Northern when the end came. He will be missed by a large number of friends.

## Medical News.

THE Royal College of Physicians of London will be closed during February for internal painting and decorating.

THE annual dinner of past and present students of the Royal London Ophthalmic Hospital will be held at the Langham Hotel, Portland Place, on Wednesday, February 8th, at 7 for 7.30 o'clock, with Sir Wilmot Horringham in the chair. Applications (with remittance 15s.) for tickets should be made to Sir William Lister, 24, Devonshire Place, W.1.

THE annual meeting of the Medical Officers of Schools Association will be held at 11, Chandos Street, W.1, on Friday, February 10th, at 5 p.m., when Dr. A. A. Mumford will read a paper on the school medical officer of the future.

At the next meeting of the Royal Anthropological Institute on Tuesday, February 14th, at 8.30 p.m., at 52, Upper Bedford Place, W.C., a paper on the increasing size of the skull, illustrated with lantern slides, will be read by Professor F. G. Parsons.

THE Glasgow Burgh panel and local medical committees are giving a complimentary dinner to Dr. J. G. McCutcheon, in the Locarno Club, Glasgow, on February 14th. This function is to mark Dr. McCutcheon's services on behalf of the medical profession in Glasgow and the West of Scotland. If any have been omitted and wish to be present they are asked to communicate with the secretary of the Glasgow Burgh Panel Committee, 257, West George Street, Glasgow.

THE Tavistock Square Clinic for Functional Nervous Disorders will celebrate the seventh anniversary of its foundation by a festival dinner at the Mayfair Hotel, London, on February 6th, with Mr. Douglas O. Malcolm in the chair. The speakers will be Viscount Lascelles, K.G., and the Countess of Iveagh, M.P. After dinner there will be a performance of the play "Suppressed Desires" by Susan Glaspell and George Cook.

A COURSE of lecture-demonstrations has begun at St. James's Hospital, Rathman, commenced by the South-West London Post-graduate Medical Society, and will continue until March; with the exception of the first, all demonstrations will be given on Wednesday afternoons. Sir Hector Mackenzie opened the course on January 25th with an account of the medical aspects of goitre, and next Wednesday the surgical side will be considered by Mr. T. P. Danhill. On February 8th a visit will be paid to the Wellcome Historical Medical Museum, and on the 15th a demonstration on blood transfusion will be given by Dr. Stanley Wyard. The "radiographic values in bones and joints" form the subject of a lantern demonstration by Major Maurice Sinclair on February 22nd, and Mr. M. S. Mayon will discuss some common disorders of the eyes met with in general practice on Thursday, March 1st. Dr. C. G. Lakin will take for his subject, on March 7th, the medical dyspepsias, and Mr. Norman Lako will consider the surgical dyspepsias on the following Wednesday. The concluding demonstration will be given by Sir Bernard Spilsbury, on March 21st, at the Battersea mortuary, and will relate to post-mortem examination. Particulars of membership of the association and other details of the course may be obtained from the secretary, Dr. R. J. Saunders, 10, Lyford Road, Wandsworth Common, S.W.18.

THE Fellowship of Medicino announces that on January 30th, at 5 p.m., Dr. Vincent Coates will lecture at the Medical Society of London on the principles of spa treatment. On January 31st, at 10 a.m., Dr. Barrell will give a special clinical demonstration at the Brompton Hospital for Consumption; on February 2nd Mr. W. H. Trethowan will demonstrate at the Royal National Orthopaedic Hospital at 2 p.m.; and on February 3rd Mr. W. H. McMullen will give a lecture-demonstration on the causes and treatment of lacrimation, at 5 p.m., at the Royal Westminster Ophthalmic Hospital. The lecture and demonstrations are free to medical practitioners. From January 30th to February 25th the London School of Dermatology (St. John's Hospital) will hold a course, comprising clinical instruction in the out-patient department and lectures, on Tuesdays and Thursdays at 5 p.m. Practical pathological demonstrations can also be arranged. A four weeks' course in venereal diseases, occupying the afternoons and evenings, will start at the London Lock Hospital on February 6th, and consist of clinical instruction and formal lectures. From February 6th to 18th a combined course in diseases of children will be undertaken by the Paddington Green Children's Hospital and the Victoria Hospital for Children; and at the Queen Mary's Hospital, Stratford, from February 20th to March 3rd, there will be an all-day course in medicine, surgery, and the specialties. An eight weeks' course will begin on January 30th at the National Hospital, Queen Square, comprising neurology, the anatomy and physiology of the nervous system, methods of

examination, and demonstrations in pathology. Syllabuses, tickets, copies of the *Post-graduate Medical Journal*, and particulars of the general course work may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

The Birmingham Public Health Committee has presented to Dr. W. H. Davison an engrossed copy of its resolution, in book form, regretting his resignation as assistant medical officer, and congratulating him on his appointment to the city coronership.

PROFESSOR PORTMANN of Bordeaux is to be associated with Professor Mourot of Montpellier as reporter on the subject of "The anatomical structure of the ear and its influence on the course of suppurative of the middle ear" at the first International Congress of Oto-Laryngology at Copenhagen next July; a preliminary announcement of this congress appeared in our issue of December 10th, 1927 (p. 1125). Messrs. Bennett, travel agents, 65, Haymarket, S.W.1, have been appointed by the Danish Committee to arrange excursions, and will shortly send out particulars to all who have joined the British Committee, the honorary secretaries of which are Messrs. J. S. Fraser (Edinburgh), F. W. Watkyn-Thomas and Lionel Colledge (London), to whom inquiries should be addressed. Dr. G. V. T. Borries, 10, Cristian IX's Gade, Copenhagen K., is in charge of the arrangements for the anatomo-pathological museum, and Dr. F. Nersk, 3, Nytorv, Copenhagen K., is arranging an exhibition of instruments; they invite contributions, and applications should be made as soon as possible.

A MEDICAL post-graduate course will be held at Innsbruck, from March 12th to 18th, and deal with general medicine, surgery, gynaecology, and the specialties. Further information may be obtained from Dr. G. B. Gruber, dean of the medical faculty of Innsbruck University.

THE annual congress known as the Journées Médicales Belges, organized by *Bruxelles-Médical*, will be held at Brussels from April 21st to 25th, under the presidency of Professor Auguste Slosse, director of the Brussels Institut de Physiologie. Papers will be read by Gley of Paris, Bardier of Toulouse, Pantrier of Strasbourg, Donati of Turin, N. Flesinger and Mathien-Pierre Weil of Paris, Egas Moniz of Lisbon, and Bastos of Madrid.

The sixth International Congress of Thalassotherapy will be held at Bucarest and Constantza from May 22nd to 30th, under the presidency of Dr. Theobari, professor of clinical therapeutics. The principal subject for discussion will be Pott's disease and thalassotherapy. The congress will be followed by excursions to Constantinople, Athens, and Delphi. Further information can be obtained from the general secretary, Dr. Leo, 50 Avenue du Président Wilson, Paris XVI<sup>e</sup>.

THE following appointments have recently been made in foreign medical faculties; Dr. Læwen of Marburg, professor of surgery at Königsberg; Dr. Meixner, professor of medical jurisprudence at Innsbruck; Dr. Emil Ritter von Sckramlik of Freiburg, professor of physiology at Graz; and Dr. Zimmermann, professor of anatomy at Berne.

DR. BÉCLÈRE has been elected president and Professor Quénu vice-president of the Académie de Médecine for 1928.

DR. CHAMPY has been nominated professor of histology in the Paris faculty of medicine in succession to the late Professor Prenant.

THE prize of the Marchisava Foundation of the value of 8,000 lire for the best work on morbid anatomy and experimental pathology has been awarded to Professor Soli, who holds the chair of morbid anatomy at Palermo, for his investigations on arterio-sclerosis produced by *Spiroptera sanguinolenta*, and Professor Brancati, of the Surgical Clinic of Rome, for his investigations on internal ear cancer.

*The World's Health*, which is the monthly review of the League of Red Cross Societies, published in English, French, and Spanish, contains information about the latest developments in health and welfare work throughout the world. The January issue includes an illustrated article on the floods in Liechtenstein; a description of the French National Board of Public Health, created by a decree in December, 1924; details about public health work in Spain; and notes on the medical first-aid section in connexion with the American Legion in Paris and the "immigrants' hotel" at Buenos Aires. The *World's Health* may be obtained from the League of Red Cross Societies, 2, Avenue Velasquez, Paris VIII<sup>e</sup>; yearly subscription 10s.

The Health and Cleanliness Council aims at the diffusion of information about the advantages of cleanliness, which it promotes also by co-operating with other interested organizations. It has issued over sixty posters, leaflets, and booklets, and has recently published a bulletin. The advisory board includes Drs. G. F. Buchanan and Eric Pritchard, Mrs. Sophia S. Frick, and Professors Bostock Hill and Kenwood. Information about the work of the council may be obtained from the secretary, 5, Tavistock square, W.C.1.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

**ORIGINAL ARTICLES** and **LETTERS** forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring **REPRINTS** of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to **ADVERTISEMENTS**, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the *British Medical Journal* are **MUSEUM 9861, 9862, 9863, and 9864** (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

**EDITOR** of the *British Medical Journal*, *Aitology Westcent, London.*

**FINANCIAL SECRETARY AND BUSINESS MANAGER** (Advertisements, etc.), *Articulate Westcent, London.*

**MEDICAL SECRETARY**, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Racillux, Dublin*); telephone: 4737 (Dublin), and of the Scottish Office, 6, Drumshough Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephono: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### CLEANING DENTURES.

"T. M." asks for advice about the cleaning of carbollized dentures. We have referred the inquiry to a dental surgeon, who recommends the following procedure: Brush the denture (metal or vulcanite) with a stiff brush, preferably on a lath, using an abrasive such as fine pumice. If the denture is previously soaked in commercial hydrochloric acid the deposit will come off more easily, but even then it may require scraping as well as brushing. There is no solvent that I am aware of for removing this carbollized or tarry deposit.

#### TREATMENT OF VULVITIS.

"R." asks for suggestions for the treatment of a splinter, aged 60, who for the past six years has suffered from vulvitis, which is steadily growing worse. Both labia are swollen, inflamed, painful, and exceedingly tender. Lotions, ointments, powders, and oils have all failed to relieve the moist eczematous condition, which has now spread to the mons veneris. No abnormality has been found in the urine, nor is there any suggestion of venereal disease. A dermatologist has recently failed to give any relief.

#### PAINLESS NATURAL LABOUR.

DR. ALFRED A. MASSEK (Peuistone) writes: I was interested to read Dr. A. Burn's note on the above case in the *BRITISH MEDICAL JOURNAL* of January 21st (p. 120). I was called about eight days ago to a primipara, aged 24 years, who was on a visit to some relatives in this town. Four hours before my visit she had felt a gush of fluid, which she thought was urine, and the next thing she felt wrong was a downward straining. There was followed almost immediately by the birth of a full-term child weighing 8 lb. Even at the time the head passed over the perineum no actual pain was felt. On arrival a few minutes later I found the patient and child well, and the afterbirth came normally in fifteen minutes.

DR. A. PATTON (Widnes) writes: In reply to Dr. Burn's inquiry, I attended a patient in 1913 similar in every respect, except that she was not a primipara. This same patient had an almost painless labour at each confinement, and I think her first was reported in the *JOURNAL* about 1911 by Dr. Mann, Dungannon, co. Tyrone. The occurrence must be very rare.

#### TREATMENT OF ULCERS OF THE MOUTH.

DR. T. W. PRESTON (London) writes in reply to "X. Y. Z.": I believe these cases are often associated with hypochlorhydria, and I have treated them successfully by the exhibition, after meals, of a solution of pepsin in dilute hydrochloric acid with half a pint of water. I recommend the application of pepsin to the ulcer. If there is any indication for arsenic I suggest the taking of tablets of arsenic, iron, and strychnine. The diet should be rich in vitamins, particularly B. If these measures fail, intramuscular injections of Witte's peptone are worth trying.

SURGEON REAR-ADMIRAL V. G. THORPE writes: "X. Y. Z." is probably the subject of parathyroid deficiency. A tablet of calcium lactate, gr. v, which is quite tasteless, allowed to dissolve slowly in the mouth, three or four times a day, would probably, by its local and general action, effect a cure.

### LETTERS, NOTES, ETC.

#### TRAUMATIC RUPTURE OF THE DUODENUM.

DR. J. M. STONE (Douglas, Isle of Man) writes to record the following instance of recovery from traumatic rupture of the duodenum, in view of the unfavourable statistics quoted by Dr. C. J. A. Woodroffe on December 31st, 1927 (p. 1225). A deck hand, aged 17, while engaged in a trawler on the Irish Sea on November 12th, 1927, was pinned between two heavy masses of wood across the upper abdomen. He subsequently complained of severe epigastric pain, and vomited a watery fluid containing blood. On admission to Noble's Isle of Man Hospital, Douglas, seven and a half hours after the accident, he was in a state of shock, the temperature being 96.4° F., the pulse 1:8, and the respirations 40. He was suffering from severe epigastric pain, and the abdominal muscles were absolutely rigid. The abdomen was not markedly tender, distended, or tympanitic, except over an area corresponding to the fundus of the stomach; a rectal examination was negative. Dr. C. S. Panton opened the abdomen and discovered that the duodenum had been completely severed, just distal to the pyloroduodenal con junction. The severed extremities had retracted so far as to render apposition impossible. The ends of the duodenum were, therefore, sutured across and posterior gastro-jejunostomy was performed. Recovery was interrupted by the occurrence of a slight left pleural effusion and a small empyreumatic abscess, which discharged spontaneously. The patient left the hospital in good health on December 28th.

#### THERAPEUTIC VALUE OF LUMBAR PUNCTURE.

DR. M. F. McELLIGOTT (Lodge, near Wrotham) reports a case of broncho-pneumonia in a child aged 6 years, in which remarkable benefit followed lumbar puncture. In addition to the usual pulmonary signs and symptoms, developing meningitis was suggested by well marked intolerance of light, entaneous hyperaesthesia, apathy and mental dullness, a pronounced Kernig's sign, and an obvious backward drooping of the head when it was raised from the pillow. Lumbar puncture was performed for diagnostic purposes, and several drachms of cerebro-spinal fluid under pressure were removed. The fluid was approximately normal, but was consistent with acute pneumonia, with signs of cerebral irritation. The following morning the child was mentally alert with a normal temperature, and subsequent progress to recovery was rapid. Dr. McElligott adds: Meningitis without meningitis is a recognized complication of pneumonia, and the question whether lumbar puncture saved this patient from meningitis is debatable. I think, however, that there is absolutely no doubt about its favourable effect on the course of the primary affection, and would strongly advocate early withdrawal of cerebro-spinal fluid in cases of pneumonia with a suggestion of meningeal complication. A moderate respiratory rate and constipation persisted throughout the child's illness.

#### FAMILIAL CARCINOMA OF THE BREAST.

DR. H. M. MORAN (Sydney, Australia) records the history of a family in which four out of six sisters have or had cancer of the breast. An unmarried woman, aged 47, was referred to him in July, 1926, for inoperable cancer of the right breast, with a large foul-smelling ulcerating mass. She was treated with radium needles and deep x-rays. The local condition in June, 1927, was entirely clear, but "rheumatic" pains of metastases in her spine persisted. She resumed her work in June, 1927. In August, 1926, a married sister, aged 58, consulted him for a very swollen brawny arm. She had advanced cancer of the left breast with "peau d'orange" extending down the back below the level of the left scapula. Treatment was out of the question, though at that time this patient had an air of robust health and though at that time this patient had an air of robust health and had lost little or no weight. Since then it was reported that she had lost little or no weight. Another married sister died at the age of 36 of cancer of the breast without operation or radiation. A fourth married sister died, aged 47, about two years ago from recurrence of cancer of the breast, which had been operated on three years before. There are two remaining sisters, aged 54 and 51 years, who are alive and free from cancer. The father died at the age of 68, following an operation for "tumour of the abdomen"; the mother died from pneumonia at 62. Both the patients seen by Dr. Moran suspected the nature of their trouble, but refused to take medical advice until compelled—in the one case by the disagreeable odour, in the other by the enormously increasing size of her arm.

#### CANCER OF THE RECTUM.

##### A Correction.

THE opening sentence of our review on January 21st (p. 110) of the report issued by the Ministry of Health on cancer of the rectum contained an erroneous statement that the largest proportion of the deaths due to cancer of the digestive system occurred within the rectum. It would appear from the statistics of deaths in England and Wales for 1925 that the total mortality figure for cancer of the stomach was 9,786, whereas cancer of the rectum was recorded in 4,267 cases.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 31.

# TREATMENT OF PERNICIOUS ANAEMIA BY LIVER.\*

BY

H. F. BREWER, M.B., B.CH., A. Q. WELLS, M.B., B.CH.,

AND

F. R. FRASER, M.D., F.R.C.P.

(From the Medical Professorial Unit, St. Bartholomew's Hospital.)

In August, 1926, Minot and Murphy<sup>1</sup> reported that they had obtained good results in the treatment of pernicious anaemia by means of a generous diet rich in animal proteins and especially in liver, and a year later they published a further report<sup>2</sup> on a series of 105 cases. In their second report they confirmed the good results obtained and emphasized the importance of the liver in the diet, and they were further able to announce that a non-protein

Anderson and Spriggs<sup>3</sup> reported that they had successfully treated two cases by liver feeding, and Spence,<sup>4</sup> at a meeting of the Newcastle and Northern Counties Medical Society in November, 1927, reported the results in 20 cases.

We have been able to treat 19 cases of pernicious anaemia by the administration of liver, but in 6 of these the disease was in the remission stage, and in 4 others methods of treatment other than liver administration were employed in addition, or the observations were incomplete, so that a valuation of the treatment in them is not possible at present. Nine cases came under observation in the stage of relapse or before the first remission, and in them there were no other methods of treatment that interfered with the estimation of the value of treatment by liver.

## Results.

### CASE I (Chart 1).

A woman, aged 47. First attack in 1920. Admitted on August 25th, 1927, in the second relapse. Subjective and objective

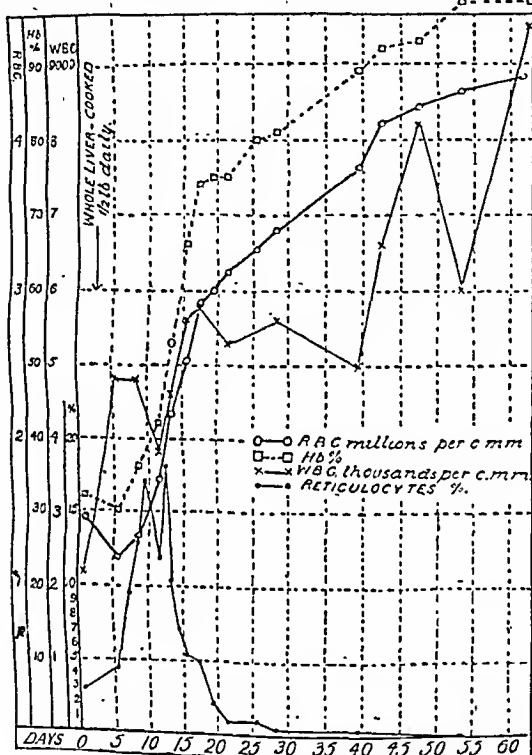


CHART 1.—CASE I.

fraction of liver had been prepared by Cohn that appeared to have the same influence as the whole liver in bringing about a remission in the symptoms and a striking improvement in the blood picture. They were led to try the influence of diet, and especially of liver feeding, for a number of reasons. The similarity of pernicious anaemia in many of its symptoms and signs to pellagra, sprue, and beri-beri suggested that, like these diseases, pernicious anaemia might be associated with a faulty diet. The improvement noted in cases of sprue when liver soup was administered, and the observations of Whipple<sup>5</sup> and his associates that liver feeding exerted a striking influence on the regeneration of the haemoglobin in severe secondary anaemia produced by repeated bleedings in dogs, pointed to liver as likely to have a specially favourable influence, although it is probably a defect in the development of the cells rather than of the haemoglobin that is present in pernicious anaemia. At the meeting of the British Medical Association in Edinburgh last year a paper by Minot and Murphy<sup>3</sup> was read reporting on the results in 125 cases, and a number of papers have appeared in the literature of other countries in the last few months. In this country

\* This article is based on a paper by Professor Fraser opening a discussion on "The treatment of pernicious anaemia" at the Medical Society of London on January 23rd, 1928 (see p. 178).

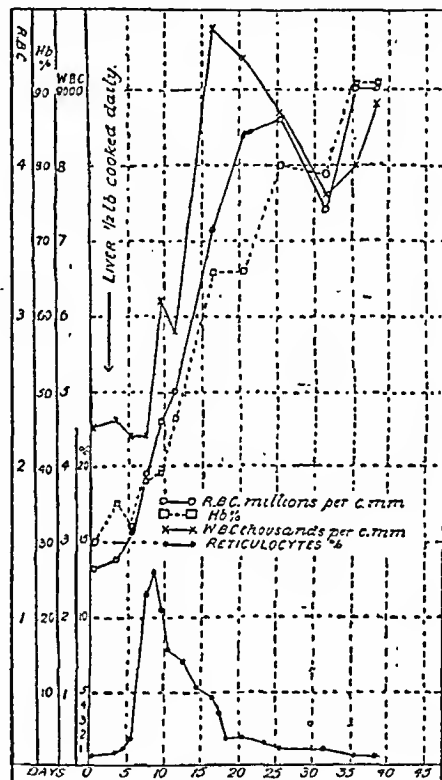


CHART 2.—CASE II.

evidence of involvement of nervous system. Achlorhydria present. Indirect van den Bergh test, 1 unit. Red blood cells numbered 1,470,000 per c.mm.; haemoglobin 32 per cent.; white blood cells 2,200. Megaloblasts present. Price-Jones curve positive.

Treatment: The patient was given  $\frac{1}{2}$  lb. cooked liver daily. On the tenth day of treatment the percentage of reticulated red cells had risen to 18.0, and at the end of two months the blood count showed red blood cells 4,410,000; haemoglobin 98 per cent.; white blood cells 9,500.

### CASE II (Chart 2).

A woman, aged 37, admitted on July 29th, 1927, in first attack. Subjective and objective evidence of involvement of nervous system. Achlorhydria present. Red blood cells numbered 1,320,000; haemoglobin 30 per cent.; white blood cells 4,500. Megaloblasts present.

Treatment: She was given  $\frac{1}{2}$  lb. cooked liver daily. On the seventh day of treatment the percentage of reticulated red cells had risen to 13.0, and at the end of ten weeks the blood count was, red blood cells 4,850,000; haemoglobin 90 per cent.; white blood cells 6,600.

### CASE III.

A man, aged 58, admitted on September 16th, 1927, in first attack. Subjective and objective evidence of involvement of nervous system. Achlorhydria present. Indirect van den Bergh test, 0.7 unit. Red blood cells 2,160,000; haemoglobin 69 per cent.; white blood cells 3,750. Megaloblasts present. Price-Jones curve positive.

Treatment: Patient was given  $\frac{1}{2}$  lb. cooked liver daily. He had been receiving arsenic by the mouth for four days before admission; this was stopped for nine days before liver was commenced.



On the eighth day of treatment the percentage of reticulated red cells had risen to 5.0, and at the end of seven weeks the blood count was, red blood cells 4,530,000; haemoglobin 98 per cent.; white blood cells 7,000.

## CASE IV.

A woman, aged 45. First attack commenced in 1921. Admitted on June 10th, 1927, in the fourth relapse. In the previous remissions there is no note of the haemoglobin reaching a higher figure than 75 per cent. The tongue showed atrophy of the mucous membrane. There was subjective and objective evidence of involvement of the nervous system. Spleen palpable. Achlorhydria present. Indirect van den Bergh test, 4 units. Megaloblasts present. Price-Jones curve positive.

On June 23rd she was given 200 c.cm. of blood intravenously, and on July 11th received a further 600 c.cm. On July 12th the blood count showed red blood cells 2,100,000; haemoglobin 45 per cent.; white cells 3,600. On July 15th the red cells numbered 1,700,000; haemoglobin 50 per cent.; white cells 3,000. On July 20th liver treatment was commenced— $\frac{1}{2}$  lb. cooked liver daily. On the seventh day of treatment the percentage of reticulated red cells had risen to 5.0, and at the end of seven weeks the blood count was, red cells 4,350,000; haemoglobin 96 per cent.; white cells 8,800.

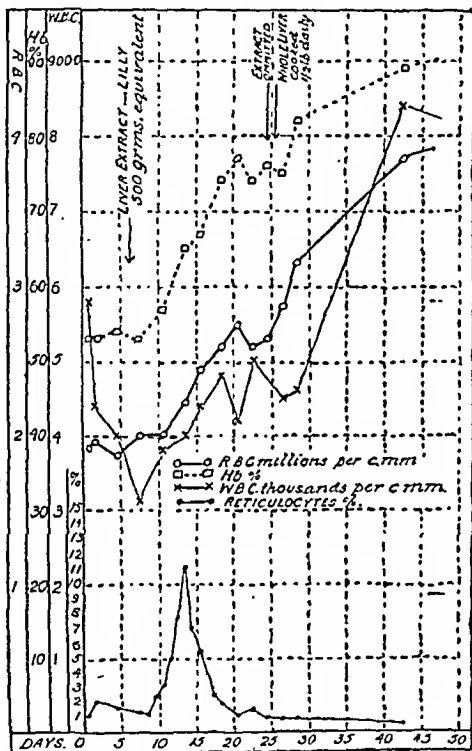


CHART 3.—Case V.

Through the kindness of Dr. Minot and the committee on pernicious anaemia of the Harvard Medical School, who were controlling the preparation of a liver extract, we received a small supply of an extract prepared by Eli Lilly and Co., by the method devised by Cohn.<sup>5</sup> The effect of this extract is seen in the next two cases.

## CASE V (Chart 3).

A man, aged 60, admitted on September 29th, 1927, in the first relapse. Mental disturbances pronounced, and subjective and objective evidence of involvement of nervous system. Tongue smooth. Achlorhydria present. Indirect van den Bergh test, 0.6 unit. Red blood cells numbered 1,920,000; haemoglobin 53 per cent.; white cells 4,000. Megaloblasts present. Price-Jones curve positive.

Treatment: Extract (Lilly) equivalent to 500 grams of liver daily. On the eighth day of treatment the percentage of reticulated red cells had increased to 11.2, and the red cells and haemoglobin rose rapidly. The extract was stopped on the nineteenth day, and  $\frac{1}{2}$  lb. of liver daily was substituted. After thirteen weeks of treatment the blood count was, red cells 4,290,000; haemoglobin 97 per cent.; white cells 7,100.

## CASE VI (Chart 4).

A woman, aged 56, admitted on October 11th, 1927, in second relapse. Subjective and objective evidence of involvement of nervous system. Achlorhydria present. Indirect van den Bergh test, 1.5 units. Red cells numbered 2,310,000 haemoglobin 56 per cent.; white cells 3,400. Normoblasts present. Price-Jones curve positive.

Treatment: Extract (Lilly) equivalent to 500 grams of liver daily. On the eighth day of treatment the percentage of reticulated red cells had risen to 6.8. The extract was stopped after twelve days, and  $\frac{1}{2}$  lb. of liver daily was substituted. After thirteen weeks the blood count was, red cells 4,810,000; haemoglobin 95 per cent.; white cells 5,400.

A small quantity of liver extract was prepared in the Medical Research Council's laboratories by a modification of Cohn's process, and the next case illustrates the effect of this extract.

## CASE VII (Chart 5).

A woman, aged 34, admitted on November 14th, 1927, in first relapse. Subjective and objective evidence of slight involvement of nervous system. Achlorhydria present. Liver enlarged and spleen palpable. Indirect van den Bergh test, 1.2 units. Red cells 1,830,000; haemoglobin 38 per cent.; white cells 3,900. Megaloblasts present. Price-Jones curve positive.

Treatment: Extract (M.R.C.) equivalent to 500 grams of liver daily. On the thirteenth day of treatment the percentage of reticulated red cells had risen to 16.6. The extract was stopped

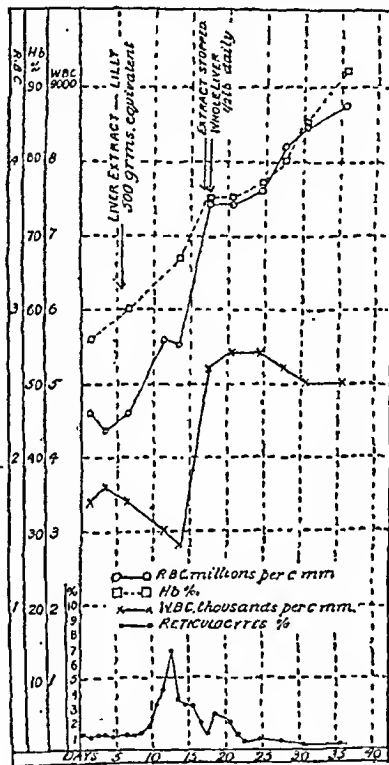


CHART 4.—Case VI.

after twenty-two days, and  $\frac{1}{2}$  lb. of liver was substituted. After ten weeks of treatment the blood count was, red blood cells 4,660,000; haemoglobin 92 per cent.; white cells 11,200.

In a discussion such as this it is not possible to include many observations of interest that have been made in these cases, but the results in general agree with the reports of Minot and Murphy and their colleagues.<sup>10 11</sup> They found that in a few days after commencing liver treatment the percentage of reticulated red cells began to rise, and that it reached a maximum a few days later and then declined rapidly, and that a little after the commencement of the rise in the number of reticulated cells the total red cells and haemoglobin began to increase, and the total red cells and haemoglobin continued to increase after the fall in the number of reticulated cells. The improvement in the general condition of the patients has been very striking, and commenced as a rule with the beginning of the rise in the reticulated cells. The feeling of weakness and depression quickly disappeared and the appetite returned, but the more definite symptoms, such as dyspnoea, palpitations, headache, cramps, and numbness, only gradually disappeared as the red cell count and the haemoglobin approached normal. In the cases with mental disturbances the improvement that occurred in a few days, and that amounted almost to a change in temperament, was remarkable.

In two cases in which it has not been possible to make any other diagnosis than that of pernicious anaemia, although there were reasons for uncertainty in making this diagnosis, the treatment by liver has failed.

## CASE VIII.

A man, aged 48, admitted on October 18th, 1927, in the first attack. There was marked dental sepsis, but no history of sore tongue. Nor did the tongue show evidence of previous glossitis. Apart from some tingling in the fingers there was no subjective or objective evidence of involvement of the nervous system. Achlorhydria present. Indirect van den Bergh test, 0.4 unit. Red blood cells numbered 930,000 per c.mm.; haemoglobin 19 per cent.; white cells 4,600. Megaloblasts present. Price-Jones curve positive. The teeth were removed and he was treated by liver extract equivalent to 500 grams daily, and for a few days 1,000 grams, and later whole liver (½ lb. daily) for three months without any response. Hydrochloric acid was given, and on two occasions he received blood transfusions. The red cells and haemoglobin rose after each transfusion, but there was no increase in the reticulated red cells. This patient is still under observation.

## CASE IX.

A man, aged 61, admitted on July 12th, 1927, in first attack. No evidence of glossitis. Apart from occasional numbness in the fingers there was no subjective or objective evidence of involvement of the nervous system. There was considerable dental sepsis and pyorrhoea. Achlorhydria present. Indirect van den Bergh test, 0.7 unit. Red blood cells 1,000,000; haemoglobin 25 per cent.; white cells 8,600. Megaloblasts present. Price-Jones curve not typical of pernicious anaemia. There was a temporary response to each of three blood transfusions, but no response to ½ lb. of liver daily. The liver treatment was continued for eight weeks and was stopped because of a recurrence of acute gout. He died on October 27th, 1927, and except for the absence of any degenerative changes in the nervous system the autopsy findings were compatible with a diagnosis of pernicious anaemia.

Of the remaining ten patients, who either commenced liver treatment in the remission stage or received other forms of treatment in addition, seven have remained well during the three to six months that they have been under observation, and four of them have red cell counts of over 5,000,000, two of over 4,000,000, and one of 3,500,000. One patient was not able to take satisfactory amounts of liver, but after five weeks of treatment felt well; the blood count showed red cells 3,140,000 per c.mm., haemoglobin 96 per cent. Another patient, who responded with a rise in the reticulated cells, was suffering from severe heart failure, and the treatment was abandoned. The last patient came under observation when on treatment with arsenic, and was entering on a remission with a raised percentage of reticulated red cells that dropped in a few days. Treatment with ½ lb. of liver daily was commenced shortly after, and he remained well for four months. He then developed acute appendicitis with perforation and general peritonitis, and died. A blood count on his readmission two days before his death showed red cells 5,120,000; haemoglobin 95 per cent.; white cells 13,400.

## COMMENT.

In view of the natural remissions that occur in this disease it is difficult to prove conclusively from the small series of cases reported here that liver treatment is of value. If, however, we consider these cases in conjunction with the 125 cases reported by Minot and Murphy, there is a remarkable uniformity in the improvement following this treatment. Above all, Cases I to VII confirm the reports of Minot and Murphy—that if treatment is commenced in the first attack, or in the stage of relapse, the reticulated red cells increase in a few days after the commencement of liver treatment with a striking regu-

larity, and this increase is followed by a steady rise in the total red cell count and in the haemoglobin. This characteristic response does not occur in patients with secondary anaemia or leukaemia. These facts seem to point to a therapeutic action of great value. The work of Cohn, and the discovery that a non-protein, iron-free extract of liver has the same action as whole liver, points to a therapeutic principle of which we have hitherto had no knowledge or suggestion. It is obviously too early to form any conclusions on the value of this treatment in maintaining the patients in this improved state or in preventing relapses, but the results obtained in America are most encouraging.

The studies of Peabody<sup>12</sup> on the bone marrow in the stages of relapse and of remission indicate that in the relapse stage the marrow is packed with megaloblasts, and that when the red blood cells increase in the circulating

blood during the remission the number of megaloblasts in the marrow decreases, and the marrow approaches the usual normoblastic type. The reticulated red cells that appear temporarily in the circulation after commencing liver treatment are young cells,<sup>13</sup> and are mainly larger than the normal erythrocyte, and Peabody suggests that liver acts by stimulating the immature megaloblastic cells that pack the marrow to develop to maturity. The approach to the normoblastic type of blood cell formation occurs later.

It is still uncertain what effect liver treatment has on the changes in the nervous system. It is not to be expected that objective signs of degenerative changes should disappear, and though in our experience evidence of progressive degeneration has appeared during liver treatment, it is possible that the process ceases after the treatment has been continued for some time, as Minot and Murphy believe.<sup>2</sup> There is less doubt as to the effect on the achlorhydria which is constantly present. There is no evidence that it disappears as the result of this treatment, and there is evidence that it persists in spite of liver treatment,<sup>2</sup> and that it is present

long before the development of the anaemia.<sup>14</sup> It would appear probable, therefore, that liver treatment exerts a specific influence on the faulty development of the red cells, but there is no evidence that it affects the underlying abnormality that is present in those patients who develop pernicious anaemia, and of which the achlorhydria is a manifestation.

For this reason it is as important as it was formerly to pay attention to the general condition of the patient, to treat septic conditions, and to administer hydrochloric acid. Our patients have all been given hydrochloric acid after the immediate effects of the liver have been observed. Following the advice of Minot and Murphy we have given the patients a generous, well balanced diet, with plenty of vegetables and red meat, in addition to the liver. Considerable difficulty has been experienced in producing an active extract on a commercial scale, and until an efficient extract can be put on the market in considerable quantity, and at a suitably low price, treatment by whole liver must be continued. Most of the patients have taken the rather large quantities of liver (½ lb. daily) without difficulty, and have, as a rule, preferred it stewed, though fried liver and liver soup are agreeable variations. The raw juice mixed with orange juice has proved useful, especially in the more seriously ill patients. "Cooked liver," as Minot and Murphy<sup>2</sup> state, "may be served in any way that pleases

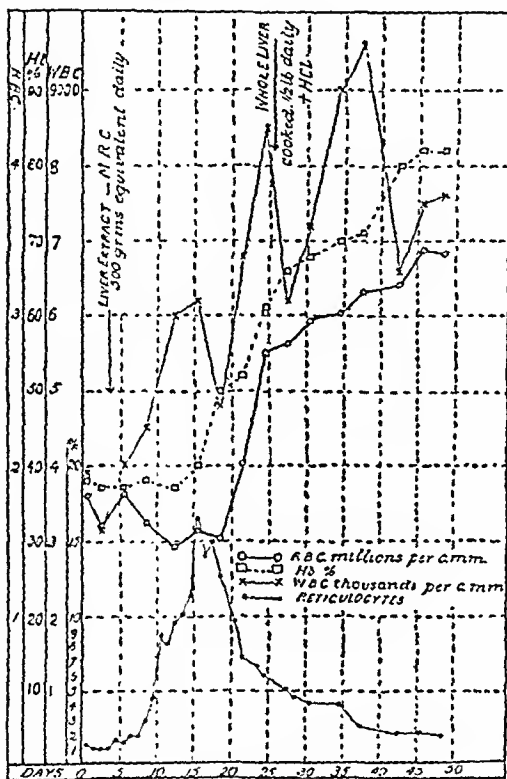


CHART 5.—Case VII.

On the eighth day of treatment the percentage of reticulated red cells had risen to 5.0, and at the end of seven weeks the blood count was, red blood cells 4,530,000; haemoglobin 98 per cent.; white blood cells 7,000.

## CASE IV.

A woman, aged 45. First attack commenced in 1921. Admitted on June 10th, 1927, in the fourth relapse. In the previous remissions there is no note of the haemoglobin reaching a higher figure than 75 per cent. The tongue showed atrophy of the mucous membrane. There was subjective and objective evidence of involvement of the nervous system. Spleen palpable. Achlorhydria present. Indirect van den Bergh test, 4 units. Megaloblasts present. Price-Jones curve positive.

On June 23rd she was given 200 c.cm. of blood intravenously, and on July 11th received a further 600 c.cm. On July 12th the blood count showed red blood cells 2,100,000; haemoglobin 45 per cent.; white cells 3,600. On July 15th the red cells numbered 1,700,000; haemoglobin 50 per cent.; white cells 3,000. On July 20th liver treatment was commenced— $\frac{1}{2}$  lb. cooked liver daily. On the seventh day of treatment the percentage of reticulated red cells had risen to 5.0, and at the end of seven weeks the blood count was, red cells 4,350,000; haemoglobin 96 per cent.; white cells 8,800.

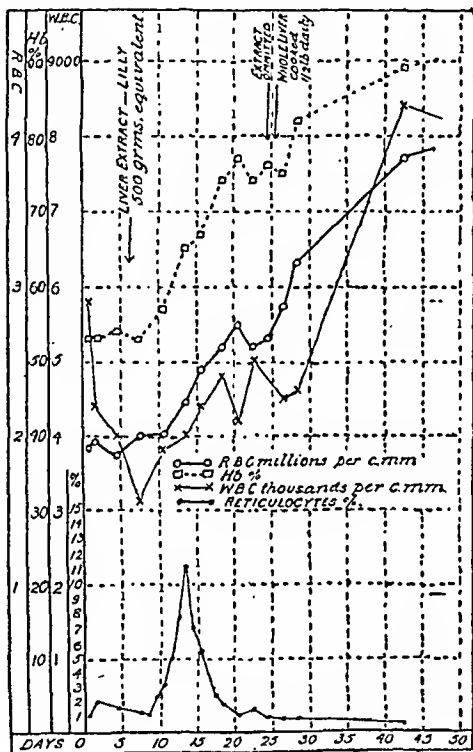


CHART 3.—Case V.

Through the kindness of Dr. Minot and the committee on pernicious anaemia of the Harvard Medical School, who were controlling the preparation of a liver extract, we received a small supply of an extract prepared by Eli Lilly and Co., by the method devised by Cohn.<sup>8</sup> The effect of this extract is seen in the next two cases.

## CASE V (Chart 3).

A man, aged 60, admitted on September 29th, 1927, in the first relapse. Mental disturbances pronounced, and subjective and objective evidence of involvement of nervous system. Tongue smooth. Achlorhydria present. Indirect van den Bergh test, 0.6 unit. Red blood cells numbered 1,920,000; haemoglobin 53 per cent.; white cells 4,000. Megaloblasts present. Price-Jones curve positive.

Treatment: Extract (Lilly) equivalent to 500 grams of liver daily. On the eighth day of treatment the percentage of reticulated red cells had increased to 11.2, and the red cells and haemoglobin rose rapidly. The extract was stopped on the nineteenth day, and  $\frac{1}{2}$  lb. of liver daily was substituted. After thirteen weeks of treatment the blood count was, red cells 4,290,000; haemoglobin 97 per cent.; white cells 7,100.

## CASE VI (Chart 4).

A woman, aged 56, admitted on October 11th, 1927, in second relapse. Subjective and objective evidence of involvement of nervous system. Achlorhydria present. Indirect van den Bergh test, 1.5 units. Red cells numbered 2,310,000 haemoglobin 56 per cent.; white cells 3,400. Normoblasts present. Price-Jones curve positive.

Treatment: Extract (Lilly) equivalent to 500 grams of liver daily. On the eighth day of treatment the percentage of reticulated red cells had risen to 6.8. The extract was stopped after twelve days, and  $\frac{1}{2}$  lb. of liver daily was substituted. After thirteen weeks the blood count was, red cells 4,810,000; haemoglobin 95 per cent.; white cells 5,400.

A small quantity of liver extract was prepared in the Medical Research Council's laboratories by a modification of Cohn's process, and the next case illustrates the effect of this extract.

## CASE VII (Chart 5).

A woman, aged 34, admitted on November 14th, 1927, in first relapse. Subjective and objective evidence of slight involvement of nervous system. Achlorhydria present. Liver enlarged and spleen palpable. Indirect van den Bergh test, 1.2 units. Red cell 1,830,000; haemoglobin 38 per cent.; white cells 3,900. Megaloblasts present. Price-Jones curve positive.

Treatment: Extract (M.R.C.) equivalent to 500 grams of liver daily. On the thirteenth day of treatment the percentage of reticulated red cells had risen to 16.6. The extract was stopped

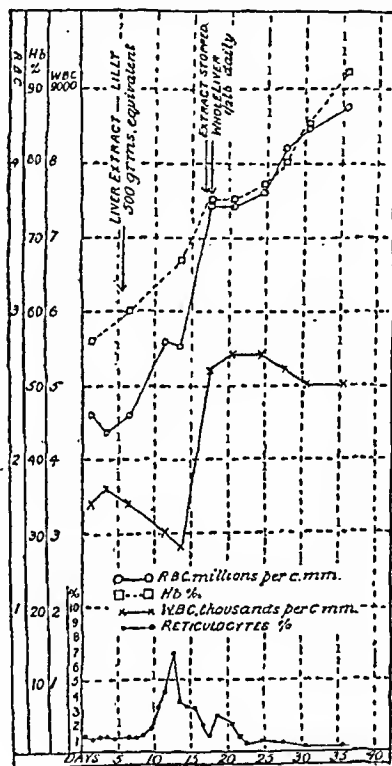


CHART 4.—Case VI.

after twenty-two days, and  $\frac{1}{2}$  lb. of liver was substituted. After ten weeks of treatment the blood count was, red blood cells 4,660,000; haemoglobin 92 per cent.; white cells 11,200.

In a discussion such as this it is not possible to include many observations of interest that have been made in these cases, but the results in general agree with the reports of Minot and Murphy and their colleagues.<sup>9, 10, 11</sup> They found that in a few days after commencing liver treatment the percentage of reticulated red cells began to rise, and that it reached a maximum a few days later and then declined rapidly, and that a little after the commencement of the rise in the number of reticulated cells the total red cells and haemoglobin began to increase, and the total red cells and haemoglobin after the fall in the number of reticulated cells. The improvement in the general condition of the patients has been very striking, and commenced as a rule with the beginning of the rise in the reticulated cells. The feeling of weakness and depression quickly disappeared and the appetite returned, but the more definite symptoms, such as dyspnoea, palpitations, headache, cramps, and numbness, only gradually disappeared as the red cell count and the haemoglobin approached normal. In the cases with mental disturbances the improvement that occurred in a few days, and that amounted almost to a change in temperament, was remarkable.

In two cases in which it has not been possible to make any other diagnosis than that of pernicious anaemia, although there were reasons for uncertainty in making this diagnosis, the treatment by liver has failed.

## CASE VIII.

A man, aged 48, admitted on October 18th, 1927, in the first attack. There was marked dental sepsis, but no history of sore tongue, nor did the tongue show evidence of previous glossitis. Apart from some tingling in the fingers there was no subjective or objective evidence of involvement of the nervous system. Achlorhydria present. Indirect van den Bergh test, 0.4 unit. Red blood cells numbered 930,000 per c.mm.; haemoglobin 19 per cent.; white cells 4,600. Megaloblasts present. Price-Jones curve positive. The teeth were removed and he was treated by liver extract equivalent to 500 grams daily, and for a few days 1,000 grams, and later whole liver (½ lb. daily) for three months without any response. Hydrochloric acid was given, and on two occasions he received blood transfusions. The red cells and haemoglobin rose after each transfusion, but there was no increase in the reticulated red cells. This patient is still under observation.

## CASE IX.

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Of the remaining ten patients, who either commenced liver treatment in the remission stage or received other forms of treatment in addition, seven have remained well during the three to six months that they have been under observation, and four of them have red cell counts of over 5,000,000, two of over 4,000,000, and one of 3,500,000. One patient was not able to take satisfactory amounts of liver, but after five weeks of treatment felt well; the blood count showed red cells 3,140,000 per c.mm., haemoglobin 96 per cent. Another patient, who responded with a rise in the reticulated cells, was suffering from severe heart failure, and the treatment was abandoned. The last patient came under observation when on treatment with arsenic, and was entering on a remission with a raised percentage of reticulated red cells that dropped in a few days. Treatment with ½ lb. of liver daily was commenced shortly after, and he remained well for four months. He then developed acute appendicitis with perforation and general peritonitis, and died. A blood count on his readmission two days before his death showed red cells 5,120,000; haemoglobin 95 per cent.; white cells 13,400.

## COMMENT.

In view of the natural remissions that occur in this disease it is difficult to prove conclusively from the small series of cases reported here that liver treatment is of value. If, however, we consider these cases in conjunction with the 125 cases reported by Minot and Murphy, there is a remarkable uniformity in the improvement following this treatment. Above all, Cases I to VII confirm the reports of Minot and Murphy—that if treatment is commenced in the first attack, or in the stage of relapse, the reticulated red cells increase in a few days after the commencement of liver treatment with a striking regu-

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The studies of Peabody<sup>12</sup> on the bone marrow in the stages of relapse and of remission indicate that in the relapse stage the marrow is packed with megaloblasts, and that when the red blood cells increase in the circulating

blood during the remission the number of megaloblasts in the marrow decreases, and the marrow approaches the usual normoblastic type. The reticulated red cells that appear temporarily in the circulation after commencing liver treatment are young cells,<sup>13</sup> and are mainly larger than the normal erythrocyte, and Peabody suggests that liver acts by stimulating the immature megaloblastic cells that pack the marrow to develop to maturity. The approach to the normoblastic type of blood cell formation occurs later.

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For this reason it is as important as it was formerly to pay attention to the general condition of the patient, to treat septic conditions, and to administer hydrochloric acid. Our patients have all been given hydrochloric acid after the immediate effects of the liver have been observed. Following the advice of Minot and Murphy we have given the patients a generous, well balanced diet, with plenty of vegetables and red meat, in addition to the liver. Considerable difficulty has been experienced in producing an active extract on a commercial scale, and until an efficient extract can be put on the market in considerable quantity, and at a suitably low price, treatment by whole liver must be continued. Most of the patients have taken the rather large quantities of liver (½ lb. daily) without difficulty, and have, as a rule, preferred it stewed, though fried liver and liver soup are agreeable variations. The raw juice mixed with orange juice has proved useful, especially in the more seriously ill patients. "Cooked liver," as Minot and Murphy<sup>2</sup> state, "may be served in any way that pleases

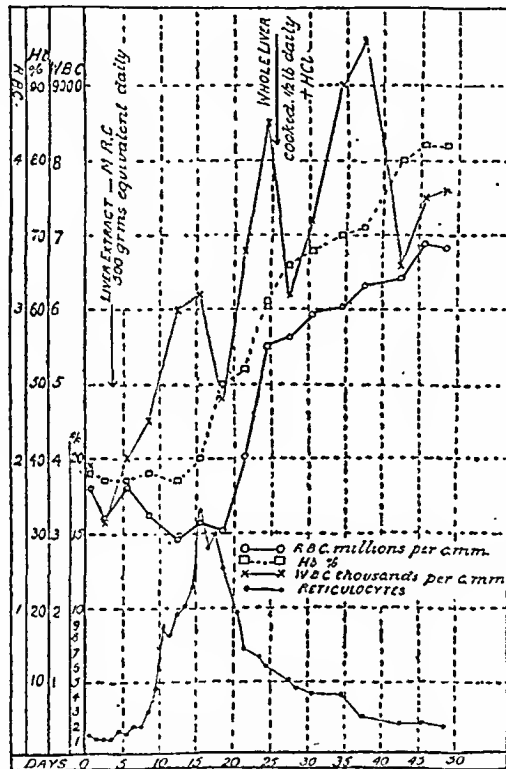


CHART 5.—Case VII.

the patient, but prolonged boiling is to be avoided.<sup>11</sup> There is evidence that a smaller quantity of liver is sufficient to maintain the improved condition, and that the dose should be reduced when the blood picture approaches the normal.

#### SUMMARY.

Nineteen patients with pernicious anaemia have been treated with whole liver or a liver extract. Nine of them were in the first attack or in a relapse, and seven of these showed a prompt response to treatment, with a temporary rise in the percentage of reticulated red cells in the circulating blood, and a steady increase in the total red cells and the haemoglobin. The reason for the failure of the treatment in the other two patients is not clear.

Ten patients commenced treatment during the remission stage or received other forms of treatment in addition, so that observations on the immediate effects of the treatment were not possible. The condition of these patients at the end of varying periods of treatment (up to six months) affords confirmatory evidence of the value of this treatment.

Our thanks are due to the physicians of St. Bartholomew's Hospital and others who kindly enabled us to make these observations on their patients.

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## THE TREATMENT OF GASTRIC ULCER.\*

BY

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It is possible to-day to cure the majority of cases of gastric and duodenal ulcer without having recourse to surgical intervention, and since the surgical treatment of this disease is attended by a definite, if small, immediate mortality, and by an even more definite percentage of subsequent relapses and complications that are often of a nature far more serious than those encountered in patients treated by purely medical methods, the present position is a grave one. The frequency of these cases is greater every year, and the problem of treatment one upon which practitioners as a whole remain in considerable doubt. I do not propose to bring before you any statistics, nor to go deeply into theories of causation or into experimental work bearing upon the etiology of peptic ulceration, but I am going to outline the treatment which ten years' experience has shown me to yield excellent results in a very large proportion of cases.

#### Removal of Septic Foci.

The first step in the treatment of gastric ulcer is one which must be adopted in every case, whatever the decision may be as to whether the general treatment is to be on medical or surgical lines. I refer to the eradication of septic foci in the mouth and elsewhere.

Oral sepsis is probably the most important cause of gastric and duodenal ulcer, bacterial emboli being carried from the region of the dental roots by the blood stream to the region of the pylorus and lesser curvature. The work of Rosenow, of Haden, of Christophe, and a score of others, may be quoted as supporting this view, which

\* An address to the Hampstead Division of the British Medical Association on January 12th, 1928.

is very widely held in all countries at the present day. In addition to dental sepsis, or in its absence, chronic sepsis of the tonsils, nasopharynx, and nasal sinuses must be eliminated. Cases have been observed by many clinicians in which the recurrent attacks of pain in patients with chronic ulcer have corresponded with acute exacerbations in chronically infected tonsils. In a few cases chronic appendicitis and chronic disease of the gall bladder appear to be important factors, and I have on more than one occasion received the assistance of my surgical colleagues in removing a factor of this type without any surgical treatment being applied to the ulcer which has subsequently responded well to purely medical treatment. It often, perhaps usually, happens that the removal of these septic foci is better effected after a few weeks' treatment rather than at once. It would, for example, be foolish to subject a patient recovering from a severe haematemesis to the risk of extensive dental extractions; but in all cases focal sepsis must be eliminated at some stage if a permanent successful result is sought and I place it in this early and prominent position in order that its importance may not be overlooked.

#### Choice of Cases Requiring Surgical Treatment.

In spite of my opening words concerning the efficacy of medical treatment, I do not wish it to be imagined that such treatment is to be applied without restriction. On the contrary, I feel that in every case seen for the first time the physician should ask himself whether surgical treatment should be employed immediately. For whereas to-day hundreds of cases are sent to the surgeons without any real attempt at medical treatment ever having been made, others are allowed to linger in the hands of physicians when nothing but surgical treatment can help them.

The following cases call for surgical treatment as soon as it is safe for it to be undertaken:

1. All cases with a high degree of pyloric or duodenal stenosis, or with marked hour-glass deformity of a permanent nature.
2. All cases with deep ulceration involving adherence to or excavation of neighbouring structures, such as the pancreas or liver.

In the first of these groups there is mechanical defect which can only be put right by mechanical means. In the second group there is evidence of ulceration so deep that healing can hardly be expected, and amputation—that is, surgical treatment—is called for.

We now come to four further groups of very different type:

3. Cases which have relapsed after a thorough course of medical treatment.
4. Cases which have recurred in spite of treatment during many years.
5. Cases in which there has been recurrent and dangerous haemorrhage in spite of careful medical treatment.

To fall into one of these groups a case must have had previous and unsuccessful medical treatment, and it requires considerable judgement for a physician to decide whether the previous medical treatment has been such as to justify the abandonment of all but operative intervention at the time when the patient comes under his care. If a patient has been properly treated and still relapses, a new line of treatment must be adopted. If a case has gone on relapsing for many years the ulcer will probably be so callous that healing is problematical, but increasing experience has taught me that it is so rare for these cases to have received what, in my opinion, can be described as thorough treatment that I hesitate more and more to ask for surgical intervention until I have satisfied myself that they are incapable of healing when given drastic treatment on the lines I shall indicate.

6. Cases in which proper medical treatment is impossible, owing to the patient's habits and economic position.

This is an important group, but it is certainly less numerous than I used to believe. We are too ready to assume that the working man cannot devote the time and effort necessary for dieting himself on proper lines, and many such patients, if they can be got to grasp the seriousness of the position, will carry out medical treatment



fully and thoroughly and give results which a few years ago were impossible. There are, however, certain reckless and greedy individuals who are incapable in any circumstances of following a simple line of dietetic treatment. If by chance they have diabetes they die; if, on the other hand, they suffer from peptic ulceration it is more in their interest to endeavour to get them cured by surgical means than to waste their time and that of their doctor by giving instructions which they will not attempt to obey.

We are now left with the cases suitable for medical treatment—an enormous group constituting probably more than 80 per cent. of all who come under observation. Alvarez, in a recent article, stated that he had never seen a case of gastric or duodenal ulcer which had been properly treated before coming to him. I cannot personally corroborate this. I know that I have seen at least two cases which I considered to have been well treated, and probably I have seen half a dozen during the last ten years, but I doubt whether I have seen more. It is usually so easy to point to factors such as injudicious food, or to an amount of alkali which could not possibly have affected the gastric juice, or to residual septic stumps in the mouth, the removal of which no one had ever suggested, that it is extremely rare to encounter a case in which it cannot immediately be demonstrated that previous treatment has been obviously incomplete and faulty.

#### GENERAL MEDICAL TREATMENT.

The first question which arises in general medical treatment is whether the patient is to be kept in bed or allowed to be up and about. A patient in bed requires less food, and, by confining these cases to bed for a week or two, treatment can be started on a lower total diet than otherwise. Further, it is difficult to make a patient realize that he is being seriously treated for a very grave disease if he is allowed to go about his business from the start. For these reasons—and the second is probably even more important than the first—I usually urge patients to abandon work for three weeks, of which the first ten days at least are spent in bed, either at home, or in hospital, or in a nursing home, but it must be admitted that many cases selected from amongst the more intelligent classes can be well treated without any interruption of their work.

The two main objects of medical treatment are: (a) to secure the most complete rest for the stomach compatible with sufficient nutrition for the body, and (b) the choice and administration of food and drugs in such a manner that contamination of the ulcer with acid gastric juice is prevented. It is to the late Bertram W. Sippy of Chicago that we owe the full recognition of the logical importance of these factors, and to him must be given the credit for their successful application. The use of alkalis dates back for centuries, and the use of frequent and graduated feeds in gastric ulcer has been going on probably for fifty years; but during the last decade the treatment of these cases has become infinitely more successful than it was before the war, and though considerable variation will be found in the exact regimes employed by various authorities, examination of the more successful reveals the fact that they are on the lines which Sippy so strenuously and successfully advocated. I claim no unique merit for the alkalis and foods which I suggest, nor do I imply that no variation from them can be made. Clearly many such variations can be made, and providing that treatment remains thorough, to the point of extreme caution, the result will probably be the same. I give, therefore, a specimen scheme of treatment which I know from frequent experience to be effective in the majority of cases. This does not refer to cases with any grave complications, but to patients in whom haemorrhage, if present at all, is in the form of slight occult bleeding, and the x-ray evidence of ulceration, however deep, is without signs of adhesions to, or penetration into, other organs. In the following table are set out the diets to be used in such cases during the first three weeks.

#### Peptic Ulcer Diets.

##### First Week.

Glitzed milk, egg and milk, Benger's food, arrowroot, ovaltine, Glaxo, milky coffee, or strained white vegetable soups. One of these to be given every hour from 7 a.m. till 9 p.m. Amount not to exceed an ounce, or an ounce and a half. Cream to be added to six feeds.

##### Second Week.

The same foods are to be used, but the amount may be increased to two, and two and a half ounces. Alternate feeds may be omitted twice in the morning and twice in the afternoon. One dry rusk to be given at 8 a.m. and 7 p.m. Two tablespoonfuls of milk pudding as an addition to lunch. A lightly cooked egg at breakfast and supper gradually.

##### Third Week.

Three tiny meals, with two-hourly feeds between.

**Breakfast.**—Lightly cooked egg, milky coffee, 3 oz.; one rusk with butter.

**Lunch.**—Milky soup with a beaten egg in it, 4 oz.; milk pudding with cream, 3 oz.

**Supper.**—One poached egg, one rusk, ovaltine, or junket with cream.

Three 1 oz. feeds of fluids originally used to be given in addition to these meals, at intervals of two hours.

It will be observed that at first the feeds are entirely fluid, and are given every hour, but that at the end of three weeks they have assumed the nature of three very small meals, with two-hourly fluid feeds in between. The type of diet indicated in the third week must be continued for months to come—that is, the meals must remain very light, and the patient in no circumstances is to go longer than two hours without taking either a small milky feed, or, if this be impossible, munching a dry biscuit. The bulk of the main meals may be cautiously increased, but reliance should be put on cream and olive oil to increase the caloric value, rather than use being made of more bulky articles of diet. Pounded fish or minced chicken, in small amounts, with potato mashed with milk, are to be added once a day from the fourth week onwards, and a little ingenuity makes it easy to add small delicacies to the diet without transgressing the rules of safety. Fish, egg, and cheese soufflés are valuable additions, and the patient must be gradually taught to use his knife and fork and his teeth as substitutes for the mincing machine.

#### Drug Treatment.

During the time this dietetic treatment is in progress various drugs are employed as a further aid. Of these, the first is atropine, either as such, or in the form of tincture of belladonna. It is my custom to give seven drops of tincture of belladonna in a little water as soon as the patient wakes in the morning. At that moment the drug can reach a considerable part of the surface of the stomach, and a useful effect is achieved as regards diminishing the gastric secretion. Once food has been taken it is no use giving belladonna, except in such large doses that a central effect is obtained, and this will be accompanied by such dryness of the mouth that the treatment will have to be stopped. Apart from this initial dose of belladonna, reliance must be placed on the use of alkalis throughout the treatment, taken half-way between the feeds, whether these are being given hourly or less often. The strongest neutralizing salts are those of magnesia, with bismuth oxy-carbonate as the next most valuable; the former has the disadvantage of being laxative, and the latter is very expensive. A useful formula for the early stages is as follows: Magnesii carbonas ponderosus, magnesii carbonas levis, bismuth oxy-carbonate in equal parts, 1 drachm to be taken between feeds. If this proves too relaxing the magnesia should be diminished and the bismuth salt increased, or sodium bicarbonate, calcium lactate, or prepared chalk used as partial substitutes. Various emulsions of magnesium hydroxide, such as the mist. magnesii of Parke, Davis and Company, or Martindale's well known emulsion, are useful; but I find that patients generally prefer powder preparations to fluid ones. During the taking of alkalis additional water may be required on account of thirst. This may always be conceded, and thirst does not become serious if the bowels are not relaxed. Care must be taken to avoid alkalosis. Loss of appetite, headache, vomiting, or even general convulsions have been observed in certain cases in which the use of alkalis had been pushed to an extreme degree, especially in patients where renal deficiency or pyloric stenosis was present. Such complications must be looked for with care, and at any suspicion that the absorption of alkalis is producing a general toxæmia, the administration should be stopped, and neutral phosphates of magnesia and calcium

employed in preference to the alkalis. It must be noted here that sodium bicarbonate is probably the most dangerous of the alkalis as regards its capacity for producing alkalosis, and as it is generally considered that, after neutralizing the gastric acid, this salt has a tendency to stimulate late secretion, I have, in common with many other observers, practically given up its use. I may add that with this practice, and with the further precaution of instructing patients in the later weeks to abstain from the use of alkalis on two days in every month, I have never observed a case in which these symptoms caused any anxiety.

#### *Duration and Control of Treatment.*

How long is this rigorous treatment to be continued? I cannot give a definite answer in weeks, months, or even years, but if in the first place the patient is told that for proper medical treatment he must give up, before attempting work, a fraction of the time which he would require if a surgical operation was contemplated, the doctor will usually within a month be in the satisfactory position of being able to allow him to resume work under conditions which the patient himself will admit are not intolerable. He will then be on small meals, deprived of second helpings and of all raw fruits and vegetables, and of a certain number of cooked foods, such as tough meat and green vegetables which are of an indigestible nature, with small two-hourly feeds to be taken from a pocket flask, and a certain amount of alkaline powder to be taken in addition.

This he has got to go on doing for a long time. The entire absence of symptoms in such cases is a factor which makes carelessness a perpetual temptation, both to the patient and to his medical adviser. We all know the chronic nature and tendency to relapses of these ulcers, but they are so hidden from our view that again and again we tend to become careless. We should think of them in the same way that we think of a chronic ulcer on the leg, and remember that permanent healing cannot be expected in either case without months of careful treatment, in which rest is the all-important factor. In the case of the stomach rest means diminished peristalsis and secretion, and it can easily be obtained by the method here outlined, and there is no excuse for allowing patients to disregard it.

There are certain means of controlling treatment which are highly important. The first is periodic x-ray examination, and since its introduction we have had the experience of seeing deeply penetrating ulcers diminish, and finally become completely obliterated. Nicholas and Moncrieff have reported a series of such cases at Middlesex Hospital during the last twelve months. White, Crohn, Moutier and Porcher, and Maclean, Jones, and Fildes have subsequently made communications to a similar effect. It must be realized that the disappearance of an ulcer, seen by the x rays, is evidence of healing, but not of cure. The best that can have happened during the early months is that the ulcer crater has been bridged over by granulation tissue of a relatively friable nature, and months must elapse before this bridge is converted into a tough, permanent scar.

The other form of control which is most necessary is periodic review of the case as a whole. The moment which, in my experience, decides whether the patient is to be cured or not is at some time at the end of three or four weeks, when, free of all symptoms, he is made to realize the grave potential danger of his position, and the absolute necessity for prolonged after-care. It is, however, a mistake to believe that such prolonged after-care involves any real hardship. Patients of all classes are very willing to continue treatment when once they understand their real position, and the reason why so many relapses have occurred in the past is because the patients have not been made to understand the nature of their disease and the simplicity of the precautions which will lead to cure, if thoroughly applied.

#### *Alcohol and Smoking.*

Patients always require instructions about the use of alcohol, and it is difficult to justify extreme rigour in this respect. It would seem that the same rules must be used concerning alcohol as are employed when making choice

among other foods—that is, highly irritating things such as liqueurs or the stronger alcoholic wines must be forbidden, also alcoholic drinks which in their nature are bulky. Beer and cider fall into this latter category and are better avoided, but there does not seem to be any real reason why a glass of light wine should not be allowed at meal times after the early weeks of treatment have been successfully completed.

Smoking falls into a very different category. There is a growing body of opinion which holds the view that nicotine or some other poisons absorbed from tobacco smoke can play a very deleterious part in these cases. Whether cigarettes are worse than pipe tobacco it is difficult to say, but it is a striking fact that duodenal ulcer is commoner among cigarette smokers than among abstainers. As an example, it may be pointed out that in the hospital class of patient duodenal ulcer is scarcely ever seen amongst women, whilst in women in more well-to-do circumstances it is becoming very common, and it may well be that cigarette smoking is the explanation. I always make it a rule to persuade my patients to give up smoking if they can possibly manage it, and many of them say that the very frequent feeds in the early weeks of treatment are of great assistance towards breaking the habit. There is also a strong consensus of opinion amongst patients that they feel rapid relief when smoking is stopped. Accepting this, it must be admitted that nicotine can be at most a contributory factor in the disease.

#### *TREATMENT OF COMPLICATIONS.*

Of complications the most frequent is hæmorrhage. The treatment of hæmorrhage is, in my opinion, always medical, and consists essentially of complete starvation by the mouth, together with the use of sedatives in sufficient amount to produce what is practically a twilight sleep during several days. At the end of that time feeding, which has hitherto consisted simply of rectal salines, may be very cautiously begun with sips of water, albumin water, and glucose water by the mouth, with a slow and gradual progress towards the treatment given to ordinary cases during their first week. Great caution is necessary in these cases, and when convalescence is reached the fact that a dangerous hæmorrhage has occurred should always lead the doctor to discuss the possible need of surgical treatment with a greater bias towards excision than if there had been no such complication. Operation at a period when hæmorrhage is still threatening the patient's life is, in my opinion, not justifiable. However alarming these cases may be—and admittedly there are few conditions so liable to promote panic amongst those surrounding the patient—operative intervention is always an added risk in a condition which can easily be shown to carry a surprisingly low mortality. Of the last fifty cases of severe hæmorrhage or melaena which I have seen, only one patient died, and he died, not through hæmorrhage, but from secondary cerebral thrombosis. I have, however, had partial gastrectomy performed on several such cases during convalescence, it having been clear that the ulcer was of a type in which healing under purely medical treatment could not reasonably be expected.

The second common complication—perforation—is one which, of course, calls always for immediate surgical treatment, and it is interesting to observe that such treatment has become more and more conservative in recent years, often consisting of nothing more than the immediate closure of the perforation, with subsequent medical treatment of the case.

Pyloric stenosis and hour-glass deformity of the stomach are usually complications calling for surgical aid. The only word that may be added here is that care must be used to distinguish between deformity due to spasm alone and to distinguish a true cicatricial character. Repeated x-ray examination between intervals of medical treatment will always supply the answer to this doubt.

I have not hitherto mentioned the question of malignant transformation occurring in chronic peptic ulcers. So far as I am aware—and it is a problem into which I have made long and careful inquiry—such transformation never takes place. In order to preserve strict scientific accuracy this statement may be qualified by saying that cancerous

change in a chronic ulcer is certainly no commoner than is primary cancer of the duodenum. We all know that rare instances of the latter disease have been reported, but they are so rare that pathologists usually say that they do not occur at all. The fact about the supposed malignant degeneration of gastric ulcers is that cancer of the stomach occasionally arises in the form of a malignant ulcer. These cases are malignant from the outset, although in elderly patients their progress may be slow. When a case with a short history is encountered in a middle-aged or elderly person, who produces an x-ray picture showing a large ulcer, usually not very deep, on the lesser curvature of the stomach, the possibility should always be considered of this being malignant, and if there is any doubt operation becomes desirable.

The subject of complications is in itself a huge one, and any proper discussion of it is bound to bring us to the problem of what may be called "the unsuccessful gastro-enterostomy." It is not my intention to enter into these cases at any length, but it is only right to realize, when one is discussing the alternative lines of treatment in cases of peptic ulcer, that there is no group of patients so calculated to fill both the physician and the surgeon with despair as that group in which a gastro-enterostomy has been performed and the operation has not been a success. Their symptoms are often far more trying than those of any ordinary case. I have seen such patients die of haemorrhage five, eight, fourteen, and even seventeen years after their operation. I have had cases which responded to medical treatment in a dramatic manner; I have had others in which constant relapses occurred; and in all of them I have come to realize that further operation is more difficult and uncertain than in any case where surgery has not previously been undertaken. I read articles by surgeons who write of reconstituting the original state of affairs, but in my experience this is an exceedingly difficult proceeding. I have seen cases where excision of large portions of the stomach and jejunum was successfully accomplished, and in others the shock of this operation has proved too much. There is little doubt that the position of these cases is a very serious one, and what is even more serious is that this operation is being light-heartedly performed by inexperienced surgeons in all parts of the country to-day. The problem, however, is primarily one for discussion among surgeons, and cannot be dealt with here at greater length.

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## THE TREATMENT OF ASTHMA,

AND AN IMPROVEMENT OF THE PEPTONED AGAR SERUM.

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ASTHMA is a constitutional condition, being one of a family of allergic disorders, and may be regarded as inherited. The family are all characterized by a state of sensitization. Whatever form the sensitization takes in a parent or grandparent, asthma may result in one or more of the offspring. A child which develops an allergic state on first contact with a foreign protein has been sensitized in the mother's uterus. Many cases of asthma are difficult to trace, and are put down as "acquired," but a remark of Salter<sup>1</sup> may be opportune here.

"It is a curious fact," he says, "that several brothers and sisters in a family may be asthmatic without the parents being so. This would seem to suggest, in respect of disease, a principle with which the breeders of cattle are familiar: that certain combinations produce certain results, and lead to the creation of certain peculiarities . . . just as we sometimes see a family of red-haired children, both the parents of which have black hair."

It will be seen, therefore, how difficult it is to prove that asthma may be acquired. It may be dormant for many years. As Peshkin<sup>2</sup> correctly says, "the various etiologic protein sensitizations are merely the exciting factors, and not the basic cause of asthma." He also says that protein sensitization does not entirely explain the various manifestations connected with allergy. For instance, "10 per cent. of the children with asthma who were skin-sensitive to various proteins showed no etiologic connexion between protein sensitization and asthma."

When it is said that asthma may be due to toxic conditions simply, does not the question arise of how many toxic conditions are found without asthma, and how many cases of asthma there are without any toxic condition? In toxæmia there is usually hyperpæsis, but the opposite is found in asthma. Again, asthma is said to be nervous in origin, that the parasympathetic overacts. Why should it do so? We have the fact brought out by Auer and Lewis<sup>3</sup> that anaphylaxis in animals occurs after section of the vagi, and destruction of the cord and medulla. T. Lewis,<sup>4</sup> in his recent work, says that substances such as egg and fish, in susceptible persons, cause asthma, urticaria, etc. "That these manifestations are brought about also through a mechanism similar to that involved in animal anaphylaxis is open to little doubt, though the manner in which susceptibility is acquired remains unknown." Let us note that in both there is eosinophilia, and that relief is obtained through atropine.

In many asthmatics there are produced in the body substances, pathological but possibly also normal, which produce the attacks. Outside the body, matter or influences of all kinds, antigenic and non-antigenic, are swallowed or inhaled, etc., and act in the same way. The non-antigenic substances arouse asthma by changing the character or metabolism of certain of the proteins. Modifications of all sorts are found. Asthma is sometimes divided up into "kinds"—perhaps ten or more different kinds may be given. There is, however, but one kind, as the constitutions of all persons differ, and thus the various exciting substances differ, and they vary from time to time. One or two instances of the latter I may give.

A lady, aged 43, consulted me in 1925. She said she had very bad asthma from horses and cats, but from no other source. Her skin had never been tested, and in doing so it reacted strongly to horse dander and cat hair, but to nothing else. Her statement was therefore correct, so far. Then she went to France for a month or two, and remained well for a little time. She then wrote me that she had contracted bronchitis and a violent attack of asthma, though she had not been near either horses or cats. This astonished her very much.

In another case, a boy, aged 12, was brought to me from India, and his mother said he never had asthma in the warm weather in India, but on coming to this climate it came on, and it was solely produced by cold. In the warm days of last August violent asthma came on. It was the first time in warm weather.

Many other instances might be given.

## Histamine.

Lately a good deal of fresh work has been done on histamine. Last March, Best, Dale, Dudley, and Thorpe<sup>5</sup> stated that they had recovered histamine from liver and lung, which seemed to justify the expectation that this potent base was widely distributed in the tissues. It was found that 1.58 mg. of pure histamine had been isolated per kilogram of liver and 27.64 mg. per kilogram of lung. For the lungs this is a very high content. It may be released at the moment of death, but they doubt this. "It is conceivable," they write, "that the lung acts as an organ of internal secretion with respect to histamine, or that it merely captures histamine which has escaped into the venous blood." T. Lewis<sup>6</sup> considers that histamine (or H-substance) is released from the cells of the skin in local injury, and from the tissue cells in general anaphylaxis. "A fundamental fact in the anaphylactic reaction is the liberation of H-substance."

Now histamine in a certain quantity may be released from the cells in anaphylaxis, but that it is held inactive in the normal state is obvious, for, as Dale says, "if suddenly released into the circulation of an animal, it would have a profound shock-like action." On May 27th, 1922, in this JOURNAL I recalled that it had been found by Hanke and Koessler that peptone which was perfectly

histamine-free produced the typical peptono shock. Histamine shock is shorn of the following characteristics of peptono shock: extensive katabolism of body tissues, incoagulability of the blood, swelling of liver in dogs, pyrexia and desensitization. I also added the following remark, which is anticipatory: "In the katabolism of tissue connected with anaphylactic or anaphylactoid shock it is quite possible that histamine may be produced where co-oxidation ceases." It is evident that in anaphylactic shock histamine may be produced, but it is only one constituent of the process.

#### Nasal Disease and Asthma.

It will be found in consulting the works of nasal specialists that they usually agree in advocating treatment of all abnormal nasal conditions in asthma. This is perhaps only natural. If we consult the works of physicians, much less nasal treatment is recommended. Brodie and Dixon<sup>7</sup> discovered that the most important reflex is from the nasal mucous membrane. They found that the bronchial muscles were innervated by two sets of fibres, both of which ran in the vagus—a constrictor and a dilator set. When the upper and posterior part of the nasal septum was exposed to electrical, mechanical, or chemical excitation, bronchial spasm resulted. Section of the vagus entirely abolished the results. Francis<sup>8</sup> showed that on touching certain points on the septum there ensued a considerable reduction of blood pressure, and on touching other points the pressure was raised. The higher the septum was touched with the cautery, the greater was the reduction of pressure; he attributes this action to a stimulation of the sympathetic fibres, and inhibition of vaso-constrictor action. Salter mentions sneezing, nothing more.

It is evident, however, that normally there is a strong reflex connexion between the nose and the lungs. I have known asthma greatly relieved by applying cocaine to the septum and turbinals. Peshkin<sup>9</sup> states that in chronic nasal discharge, mouth-breathing, etc., in children, their removal does not relieve the asthma, but may even initiate it. The same is true, he says, of the removal of tonsils and adenoids. I have known tonsils and adenoids, when removed, to be followed by good enough results, when the patients were under treatment. Benefit may also be got (with the patients under asthma treatment) by freeing the nasal passages from obstruction, such as that caused by the middle turbinal in contact with the septum, and clearing the ethmoidal or other sinus, if need be. With polypi we encounter a more difficult problem. I have several times noticed that their removal was followed by asthma. To give an instance.

In 1925 a gentleman, aged 52, consulted me. His nose had given him great trouble for many years. Polypi were present in both nostrils. He told me that he had never had asthma, but his sister had. I thought he might have the polypi removed, and sent him to an eminent nasal man. He then told me how greatly relieved he was. But in about two months he wrote saying that he had asthma for the first time. It recurred often.

If the polypi are recent, sometimes removal is advisable.

#### The Role of Vaccines.

Vaccines, autogenous and stock, have been in general use for many years, as a rule non-specifically. I doubt if it is warrantable to use them except in cases which are either definitely associated with, or else dependent upon, micro-organisms. Organisms in any part of the body may excite asthma, which possibly may be relieved by a vaccine, but it is generally in connexion with bronchitis that we find them. Is it the organism here that excites the asthma? A remark by Poulton<sup>10</sup> is noteworthy. He says "It is more probable that the inflammation irritates the nerve endings in the mucous membrane of the bronchi, so as to produce a reflex local contraction in the muscles." However originated, it is necessary to relieve the inflammation as much as possible, and for this reason vaccines are given, but they do not markedly reduce the inflammation. They may be prophylactic, however. It may be mentioned that some asthmatic patients are very sensitive to vaccines, and it has been shown by Warren Crowe<sup>11</sup> that

peptono (Armour's No. 2) is the best desensitizer. He writes:

"Peptono is the method which offers the best chance of success. . . . It is most gratifying to . . . find patients who for weeks perhaps have been only able to take minute doses, perhaps 50,000 or 100,000 germs, whose symptoms constantly trouble them, who are unwell and ailing all the time with headache and loss of appetite, suddenly and dramatically, after a few doses of peptone, improve out of all knowledge. No one who has not seen it would believe that the effect of peptone treatment would be so striking."

Local infection of any part of the body should be cleared if possible.

Koessler, Lewis, and Walker<sup>12</sup> found that a mixture of micro-organisms from bronchial secretion, when grown in a blood broth, glycerol, amino-acid medium, forms substances which cause bronchial contraction in the living pithed guinea-pig, and arterial constriction *in vitro*. Histamine was rarely found, and the poisons are chemically unknown. Ekinan and Wilmer<sup>13</sup> found that many patients develop a sensitization to their own respiratory secretions. When the filtrate from the secretion is used hypodermically relief is sometimes experienced, but severe asthmatic seizures also occur.

#### Specific Treatment.

Some time ago, after the work of Chandler Walker, what may be termed the specific treatment of asthma began to be practised with much zest by the Americans. A great many substances, mostly proteins, were tested on the skin. The same thing was done in this country by Coke. Desensitization was attempted by the complete withdrawal of those substances which seemed from the skin tests to affect the patient, and also by the giving of minute quantities of the food by the mouth, or the hypodermic injection of very small dilutions of the substance. About 50 per cent. of the cases tested were said to give positive results. Of these a large proportion occurred in children and young persons, so that the majority of adults were negative. It is difficult to see how the positive cases could usually be treated by the mouth or by hypodermic injection, as they were nearly all multisensitive, some being positive to a great many substances. It is not necessary to go into any detail, but it may be said that the method has largely broken down. Nevertheless, a clear light has been thrown on the *modus operandi* of many of these substances, and some excellent results have been obtained, so that it is unjust to depreciate it. It is a distinct advance in our knowledge, and the time may come when definitely specific cases can be made to respond more to specific therapy, though at present a considerable number do not do so.

#### Improvement of Peptoned Agar Serum.

As asthma is a sensitization, any substance which desensitizes may be termed "specific," just as there are specifics for the exciting substances. Peptone is the best desensitizer we know of at present, though its action is much greater in some cases than in others. It desensitizes the body generally, apart from antigens. It is stated by McIntosh<sup>14</sup> that, if one does not use a specific antigen, the results "depend chiefly on the general tissue reaction and the leucocyto response." Peptone produces both these factors, and also an unknown change. In certain cases which are irresponsive to any form of treatment (as known) it excites speedy improvement, yet there are other cases which respond but little. Armour's No. 2 peptone is best, as it contains no histamine, and has primary and secondary proteoses. Adam,<sup>15</sup> in the last edition of his work on asthma, says: "I prefer . . . peptone treatment to any other mode of desensitization." In some cases the peptone is assisted by an iodine mixture.

As the incubation of the patient's blood with peptone, which I recommended in 1924, failed after a time owing to some change in the peptone,\* it was recommended last March<sup>16</sup> to make the serum of the patient anaphylactic with agar, then add powdered peptone, and then phenol. It is unnecessary here to go into the reasons for this, as they will be found in the works of Karsner and Ecker, and Dale and Kellaway, mentioned in the paper. I have found that the slight precipitation which occurs after

\* The peptone may be better now. I have not tested it since



adding phenol is a drawback, and now recommend the following method: Incubate the agar serum for about two hours at 37° C. Then a 30 per cent. solution of peptone is taken, and 4 c.cm. of it is mixed with 2½ minims of phenol (measured) for each ounce of the peptoned agar serum. No precipitate will be found in this peptone solution.\* It is then poured into the agar serum, and mixed up with it, when the colloidal solution remains perfectly clear. It is unnecessary to incubate further. It is best to use the patient's own serum, as it contains some appropriate antibody, more or less.

When a case has been thoroughly examined, the diet, etc., arranged, and any endocrine defect attended to, first try intravenous injection of peptone (5 per cent.) up to 2½ or 3 c.cm.; if after a time, say four to five weeks, but little improvement is found, carefully and slowly introduce into the vein peptoned agar serum (½ c.cm. up to 3½ or 4 c.cm.) when, in many cases, excellent results will be obtained.

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## THE FIXATION OF ANTISEPTICS BY DRESSINGS AND TISSUES:

ITS IMPORTANCE IN WOUND TREATMENT, WITH SPECIAL REFERENCE TO ACRIFLAVINE.

BY

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THE application of an antiseptic to infected tissues by means of wet dressings ought to be regulated by a knowledge of several factors. These comprise principally, of course, the relative toxic effects of the drug on the tissues and on the pathogenic organisms, and the influence exerted on antiseptic action by the presence of exudate. But it is also of importance to know the extent to which dressings and the tissues may fix the chemical substances employed, since upon this will largely depend the amount of antiseptic remaining free to act upon the organisms disposed at or near the surface of the wound. The latter point is dealt with in the present communication, and it is shown that with a certain class of antiseptics, to which acriflavine belongs, the capacity of the cotton dressings to absorb the drug must be taken into account in determining the strength of solution which is to be employed.

Experiments to measure the absorptive capacity of gauze for acriflavine, phenol, and mercuric chloride were carried out by soaking swabs of absorbent gauze of average size (5 grams) in measured amounts of solution of determined strengths. The swabs had been previously well washed in distilled water and dried. After soaking for various periods the swabs were removed from the solutions and as much fluid as possible was allowed to drain away in the course of a minute. Then an estimation was made of the concentration of the substance in the fluid expressed by firmly wringing out the swab, and also the concentration remaining in the fluid residue in which the gauze had been soaked. When fixation of the antiseptic by the gauze had occurred the amount which was subsequently given off when the swab was soaked in distilled water was also determined.

In the first instance the behaviour of gauze when treated with solutions of sodium chloride, mercuric chloride, and phenol was investigated. Quantitative titrations were carried out in each

\* The 30 per cent. peptone solution may be made by heating peptone in saline at about 90° C. for a considerable time, shaking up, adding 0.5 per cent. phenol, allowing to stand for a few days and filtering. If necessary it can be obtained clear and sterile from Martindale (10, New Cavendish Street, W.1) in any amount, however small.

instance according to standard methods; silver nitrate being used for sodium chloride, potassium iodide for mercuric chloride, and bromine water for phenol. The same procedure was followed in each case, and the sodium chloride experiment will alone be dealt with in detail. A 5-gram swab, previously autoclaved and sterilized at 25 lb. pressure for two hours, was placed in a beaker containing 100 c.cm. 0.85 per cent. NaCl solution, and allowed to soak for one hour. It was then removed and allowed to drip into a beaker for one minute before being wrung out into a second beaker. (It should be noted that from a 5-gram swab dripping wet some 35 c.cm. of fluid can be expressed, while approximately 6 c.cm. of water are firmly held.) The swab was found to have no affinity for the sodium chloride. Similar results were obtained when a swab was soaked in mercuric chloride 1 in 1,000 for one hour, or in 4 per cent. phenol for forty-eight hours.

The absorption of acriflavine was estimated by comparing in uniform test-tubes the tint of 5 c.cm. of the expressed fluid, or the residue, with a series of standards consisting of 5 c.cm. of the following strengths, 1 in 1,000, 1 in 2,000, 1 in 3,000, down to 1 in 10,000, 1 in 20,000, 1 in 30,000, down to 1 in 100,000, in 0.85 per cent. saline. The disturbing effect of fluorescence was overcome by adding 0.3 c.cm. strong hydrochloric acid to each tube. In this way a brownish-yellow colour was obtained which could be easily matched. When kept in the dark the depth of colour of the solutions remained constant for about a fortnight. The results were in sharp contrast to those with the previously mentioned substances. Thus on soaking a 5-gram swab in 100 c.cm. 1 in 1,000 acriflavine solution—that is, about three times as much fluid as the gauze will hold without dripping—there was a rapid absorption for the first three minutes, when the concentration of the dye in the residue was reduced to 1 in 1,200, and to 1 in 1,600 in the fluid expressed from the swab. The gauze thereafter continued to absorb at a much reduced rate until the saturation point was reached in about twenty-four hours, when the residue and the fluid expressed from the swab were both reduced to a concentration of 1 in 1,800.

In view of the active absorptive power of the gauze for acriflavine it appeared that if a number of swabs were successively soaked in a limited quantity of the solution, the antiseptic property of the latter would rapidly become reduced to a low level. As the procedure was one likely to be followed in actual practice when wounds were being treated with the antiseptic it was decided to carry out quantitative experiments. Nine 5-gram swabs were soaked successively in 500 c.cm. acriflavine 1 in 1,000 for periods of three minutes; each swab on removal was allowed to drip into the fluid for one minute. After the removal of the sixth swab the concentration of the residual fluid had fallen to 1 in 1,300, and after the ninth to 1 in 4,000. The first, third, and ninth swabs were placed in Petri dishes for twenty-four hours in a cool place in order to allow of maximal fixation of the antiseptic and to prevent evaporation. These swabs were then wrung out into separate beakers. (There was little difference in the concentration of the dye obtained at the beginning and the end of wringing of each swab.) The fluid wrung from the first swab was of strength 1 in 1,400, from the sixth 1 in 2,000, and from the ninth 1 in 4,000. Therefore the concentration of flavine in the fluid wrung from the last swab is such as has a powerful antiseptic action. When six swabs were simultaneously soaked for three minutes in 250 c.cm. 1 in 1,000 acriflavine—nearly the minimum amount of fluid capable of efficiently soaking such a number of swabs—the residue was reduced in strength to 1 in 3,000, and the fluid expressed from the swabs after ten minutes contained slightly less than 1 in 3,000.

A marked impoverishment in antiseptic property of the available fluid occurred when six swabs were simultaneously soaked for three minutes in 250 c.cm. of 1 in 2,000 acriflavine. The residue was reduced to a strength slightly in excess of 1 in 20,000 and the fluid wrung from the swabs to about 1 in 30,000.

The experiments were then repeated with a 5-gram swab soaked in 100 c.cm. of a 1 in 5,000 solution of acriflavine, since this strength has been frequently recommended for use with gauze swabs. After three minutes the concentration in the residue was reduced to 1 in 9,000, and that in the fluid wrung from the swab to between 1 in 10,000 and 1 in 20,000. The saturation point of the gauze was approximately reached after soaking for twenty-four hours; then both the residue and the fluid wrung from the swab showed a concentration slightly greater than 1 in 20,000. When six 5-gram swabs were soaked successively in a solution of 500 c.cm. of acriflavine 1 in 5,000 for periods of three minutes each the residue was found to be reduced to a concentration of 1 in 100,000, which is approximately the limit at which antiseptic action takes place. When six swabs were added simultaneously to 500 c.cm. of acriflavine 1 in 5,000 and allowed to soak for three minutes the residue was reduced to a concentration of 1 in 20,000, and the fluid wrung from the swabs to rather less than 1 in 30,000. Accordingly, when a number of swabs are soaked either successively or simultaneously in an amount of 1 in 5,000 solution of acriflavine, which is double that sufficient to saturate the swabs with fluid, the available antiseptic becomes reduced nearly to an ineffective level.

A gauze swab saturated by soaking for about seventy-two hours in three successive portions of 100 c.cm. of acriflavine 1 in 1,000, and afterwards wrung out and dried, holds the dye with considerable firmness. But when a swab so treated was then soaked for twenty-four hours in 100 c.cm. of 0.85 per cent. saline the concentration in the fluid was 1 in 6,000. A similar experiment carried out with a swab saturated in acriflavine 1 in 5,000 imparted to the fluid a concentration of the drug of 1 in 20,000.

In order to form some estimate of the capacity of the tissues to fix the various antiseptics experiments were carried out with minced ox muscle. The tissue was left in running water for twenty-four hours to remove haemoglobin and other soluble



material which might interfere with to be tested. The washed tissue in for a definite time in 100 c.c.m. of chloride, phenol, or acriflavine) of remaining in the solutions estimated. After soaking 5 grams of the treated muscle in 1 in 1,000 mercuric chloride for twenty-four hours the antiseptic could not be detected in the fluid. Five grams of minced muscle after soaking in 100 c.c.m. of 4 per cent. phenol for twenty-four hours reduced the strength to approximately 3.7 per cent. A solution of acriflavine 1 in 1,000 was reduced in strength after one hour to 1 in 1,200, and after twenty-four hours to 1 in 1,400, and a solution of acriflavine 1 in 5,000 fell in an hour to a concentration of 1 in 8,000 and in twenty-four hours to 1 in 10,000. Thus, as measured by such methods, the amount of antiseptic which is fixed by the tissues is in the case of acriflavine much the same as that fixed by gauze; phenol, although not fixed by gauze, is markedly fixed by tissue, whereas mercuric chloride is very powerfully fixed by the latter.

#### Conclusions.

1. In the treatment of wounds with an antiseptic such as acriflavine allowance must be made for the considerable affinity of cotton dressings for this class of antiseptic. (On the other hand, phenol and mercuric chloride have practically no affinity for cotton.)

2. The concentration of the acriflavine solution should be such that after the gauze has satisfied its affinity for the antiseptic there is still a sufficient concentration left free to act in the tissues. It follows, therefore, that the swab must be applied dripping wet and not wrung out. Quantitative experiments have been carried out by soaking gauze swabs in approximately three times the amount of solution which can be taken up, and estimating the concentration of the antiseptic in the fluid expressed. It has been found that after three minutes' soaking in 1 in 1,000 acriflavine solution the fluid expressible from the gauze contains 1 in 1,600 of the antiseptic, and even after twenty-four hours' soaking the fluid expressed contains 1 in 1,800. When a 1 in 5,000 solution is employed under similar conditions the fluid expressed from the gauze after three minutes' soaking contains 1 in 9,000 of the dye, and after twenty-four hours' soaking the fluid expressed contains 1 in 20,000. The above concentrations employed according to this procedure have been shown to give a dressing which is very satisfactory for treating septic infections without inhibiting healing.<sup>1</sup>

3. When a lesser proportion of the solution is used, or when swabs are soaked successively in the fluid, there is great danger in the case of the 1 in 5,000 concentration that the amount of antiseptic available may be reduced to an ineffective level.

4. Experiments on the fixation of antiseptics by tissues have shown that minced and washed muscle, while it absorbs mercuric chloride very actively, has a definite though much less marked affinity for phenol and acriflavine, the last being absorbed to a slightly less extent than by gauze.

I have to thank Dr. C. H. Browning for his criticisms and suggestions in the course of the work.

#### REFERENCE.

- <sup>1</sup> Bennett, Blacklock, and Browning: *BRITISH MEDICAL JOURNAL*, 1922, ii, p. 305. Graham: *Ibid.*, 1925, ii, p. 826.

## CURVATURES OF THE SPINE FOLLOWING ENCEPHALITIS LETHARGICA.

BY

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In addition to the characteristic attitudes which are so frequent a sequel of the disease, encephalitis lethargica in young patients is occasionally followed by definite localized spinal curvatures. Only these definite curvatures are here considered. They have their origin in abnormal muscular contraction, and in this respect differ from all other forms of spinal deformity; for spastic conditions such as hemiplegia and spastic diplegia do not give rise to spinal curvatures.

Five examples of the condition have come under my observation: in four the symptoms of the preceding illness were characteristic of encephalitis lethargica; in the fifth

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the initial symptoms, although probably due to that disease, were of a somewhat anomalous nature. All the cases were in children or young adolescents.

#### Antero-posterior Curvatures.

Perhaps the most striking and characteristic deformity, seen in two cases, is an arched curve of the cervical spine, convex backwards, which carries the head forwards; the arch of the curve may be of so high a grade as to bring the chin into firm contact with the front of the chest. It is clearly evident that this posture is not due to a mere falling forwards of the head by its own weight, but is brought about by a contraction of the anterior and antero-lateral muscles of the cervical spine, which can be felt as firmly contracted muscular masses on each side of the neck; the sterno-mastoids remain perfectly lax. On attempting to bend the head still further forwards, and thus increase the curve, the posterior spinal muscles are found to contract. Thus the head is held in its now posture by the combined action of the muscles at the front and the back of the spine. A lateral view of this deformity, with the strongly arched neck and powerfully contracted muscles, presents so unusual an appearance as to suggest the designation of "pony neck." By steady manual pressure the resistance of the muscles can be overcome in a few moments, and the deformity partly or completely reduced. The passive raising of the head is accompanied by the appearance of a deep depression in the neighbourhood of the seventh cervical vertebra; this is due to the pivotal movement backwards of the cervical spine as a whole upon the rest of the spinal column.

Another type of deformity is a curve convex backwards in the dorsal region—a dorsal kyphosis. By this curve an inclination forwards of the upper part of the body is brought about, somewhat resembling that seen in the cognate condition of paralysis agitans; but the curvature is of a more localized character than that seen in paralysis agitans.

#### Lateral Curvatures.

Lateral curvatures may occur in any region of the spine, causing very diverse deformities; they are associated with rotation, but are not accompanied by regular compensatory curves such as are seen in scoliosis. The curvature may be localized to a few vertebrae, but is never angular.

The deformities produced may be extreme; in one case a lateral curve of the cervical spine brought the ear into firm contact with the top of the shoulder, the curvature being caused by a unilateral contraction of the prevertebral cervical muscles; the sterno-mastoid and trapezius remaining unaffected.

#### General Characters of the Curvatures.

Notwithstanding their diverse character, the curvatures present certain features in common. In all of the observed cases, examination led to the belief that they were caused by a contraction of a section of the prevertebral muscles; by a bilateral contraction causing an antero-lateral curve, and a unilateral contraction bringing about a lateral curve. By traction and pressure the curves may be partly or completely straightened out, but as time goes on the vertebrae tend to become wedge-shaped and distorted, as shown by skiagraphic examination; reduction is thus rendered more difficult and incomplete.

The curvatures are associated with a hypertonus of the muscles of the limbs and the uncurved portion of the spine; the tendon reflexes may be increased; clonic movements may be present, and, occasionally, deformities of the limbs. The mental condition may be fairly good.

#### Pathology.

In all of the observed cases the contraction of a special muscle group was found responsible for the curves—namely, that of the prevertebral muscles. The explanation of this phenomenon is probably to be found in the tendency of encephalitis lethargica to attack the mid-brain, the substantia nigra, and the lenticular nucleus—that is to say, those regions of the brain that preside over the postural reflexes and automatic muscular movements of the body. Owing to the damage sustained by these regions there is an impairment of the highest and most

lately acquired reflexes—namely, those subserving the erect posture; and there is a consequent release of a more primitive or ancestral form of postural reflex—namely, that approximating to the quadrupedal type; or, more precisely, to a type intermediate between the quadrupedal and the erect—namely, that of the anthropoid. In the quadruped the action of the provertebral muscles must be of great importance in preventing hyperextension of the spine by the weight of the body, and these muscles must constantly be brought into play in such movements as running and jumping; in the anthropoid in particular the spine is flexed and the head held low.

The contraction of the prevertebral muscles in the cases under consideration may thus represent a return to a more primitive posture of the spine; their sectional and sometimes unilateral contraction corresponds to the scattered nature of the lesions in encephalitis lethargica, and is thus of a focal character.

It may be

assumed that the primitive postural reflexes are relatively more potent in the young, and tend to become obsolete as life advances; this explains the occurrence of the localized curvatures in young subjects.

It lies outside the scope of this paper to discuss the relationship of the lesions in the lenticular nucleus, the substantia nigra, and the mid-brain to the hypertonus, the attitudes, and the localized curvatures. Investigation of the morbid anatomy of the type of case here described may perhaps throw light on this question.

#### Treatment.

Treatment is of more avail than the appearance of the cases would suggest. Corrective apparatus should be employed, having for its object the gradual overcoming of the resistance of the muscles, the reduction of the curve, and the prevention of osseous deformity. For the cervical



FIG. 1.—Antero-posterior curve of cervical spine.



FIG. 2.—Effect of chin-strap in correcting deformity. The chin-strap is attached to a jury-mast (not shown in illustration).



FIG. 3.—Posture after two months' treatment. Retentive apparatus is still necessary.

curves a poroplastic or celluloid jacket should be used; with a jury-mast and Sayre's chin-sling; in some cases (as, for example, when salivation is present) a frontal band passed round a pulley at the top of the jury-mast is better tolerated. Reduction should be by stages, the straps being gradually tightened; at the beginning it may be advisable for the apparatus to be worn only for a period each day. Patience and some ingenuity may be required, but the results reward the trouble; in two cases in which the carriage of the head had brought the chin into contact with the front of the chest, the children can now hold their

heads erect unaided. For the kyphosis and the lateral curves a poroplastic jacket should be used, applied with the patient suspended; as the curve improves, the jacket should be remodelled. The jackets should be well perforated, as the patients sweat freely.

#### Prognosis.

The general prognosis appears doubtful. In one case the condition progressed

in spite of treatment; the child became bed-ridden and died of intercurrent disease. Two cases show improvement, and in two the condition remains stationary.

Several cases have been observed in which, after an anomalous acute illness, children have developed an extreme lateral curvature, which has disappeared in a few weeks. Such cases are probably examples of an aberrant type of encephalitis lethargica, but their nature is at present doubtful.

#### Conclusions.

The spinal curvatures following encephalitis lethargica are due to a localized contraction of the prevertebral muscles, brought into play by the release of a primitive postural reflex, locally restricted in its operation. Treatment by means of corrective apparatus is followed by material improvement.

## TETANUS IN A BOY: RECOVERY.

BY

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The following details of a case of tetanus in a boy who, while on a visit to Newfoundland, met with a slight accident, appear to merit publication in view of his complete recovery after prolonged treatment.

On August 11th, 1926, a schoolboy, aged 15 years and 10 months, fell on some stones in pasture land where animals had been grazing, and received a wound on the back of the right forearm. This was cleaned immediately and tincture of iodine applied, but ten days later he noticed stiffness of the jaw and difficulty in chewing. On August 22nd the stiffness had increased, and by the next day had become so definite that he could open his mouth very little. He was then on board ship returning home, and was treated by Dr. McCarthy until August 30th. Stiffness of the jaw muscles continued the same until August 24th, when it increased and he became unable to chew. Tetanus was diagnosed, and an

injection of 1,500 units of antitetanic serum was given, this dose being repeated two days later.

On August 25th, the fourteenth day, it was noticed that he had bitten his tongue, and on the 27th he felt stiffness between the shoulder blades. On August 28th the stiffness of the back increased, and on August 30th he received an injection of 3,000 units of serum. An extra effort was made to speed up the ship to enable larger doses of serum to be given.

The boy was seen by one of us (J. D. C.) on August 30th, late in the evening, when it was obvious that it was a case of tetanus, but no spasms were noticed that night. On the following morning he was seen again and one spasm of the masseters was noted. He was then examined by both of us: marked rigidity of the masseters was present, and the boy was unable to open his mouth more than a quarter to half an inch. He was examined for erupting wisdom teeth, but none were seen. He was able to flex his neck, but contraction of the facial muscles caused the appearance of risus sardonicus. There was some rigidity of the spinal muscles, but no spasms were noted round the muscles of the arm at any time, even on exciting the muscles. The knee-jerks were then fairly active. The pulse was slightly increased, but the temperature was normal. Active tetanus was diagnosed, and energetic treatment was considered necessary.

A general anaesthetic was administered on August 31st, the twentieth day, in order to inject serum intrathecally. On this occasion some difficulty was experienced in getting into the cerebro-spinal canal. An anaesthetic was given again on the

following morning for a similar purpose, and to excise the wound by removing the skin and subcutaneous tissue, the wound being swabbed with antitetanic serum and undiluted chloramine. The cerebro-spinal fluid which was withdrawn showed a few polymorphonuclear leucocytes, but no organisms were found in films or on culture. This reaction was ascribed to the serum given the day previously. The fluid withdrawn on this day failed to give tetanus to a mouse inoculated with it, so that presumably any toxin was by now neutralized.

Treatment given.	Day of Disease.	Intra-thecal.	Intra-venous.	Intra-muscular.	Sub-cutaneous.
August 31st	20th	1,200	10,000	3,000	—
September 1st	21st	1,500	6,000	—	2,000
September 2nd	22nd	—	10,000	—	—
September 3rd	23rd	—	10,000	—	—
September 4th	24th	—	9,500	—	500*
September 5th	25th	—	9,500	—	500*
September 6th	26th	—	Form stopped	—	—

\* Desensitizing dose.

Restlessness and vomiting came on after the anaesthetic on August 31st (twentieth day), possibly post-anaesthetic; this continued till the twenty-second day, during which he was still restless, but the vomiting ceased in the morning. The pulse rate was now very slow but regular: in the morning of this day 52 was the lowest rate.

From the thirteenth day to the twenty-fourth day of the disease chewing was practically impossible, and fluid nourishment only was attempted to be given by the mouth. From the twentieth day to the twenty-third day vomiting was almost incessant, and liquids, such as grape juice and lime water, were not retained completely.

**Medicinal Treatment.**—Calomel 1/10 grain was given at intervals on the night of September 1st (2 grains in all), but some of this was vomited. To overcome the restlessness on the night of September 3rd an enema containing 15 grains of chloral hydrate and 1/2 drachm of sodium bicarbonate in 4 ounces of water was given; this was retained and he passed a good night. A mixture of chloral hydrate and potassium bromide (5 grains of each) was given subsequently for two days, three times a day. He settled down well after this, and from this time his convalescence became assured.

On the twenty-fifth day of the disease the patient began to masticate his food fairly freely; he became more restful, and the tonic spasm of his masseters and abdominal muscles practically disappeared. Convalescence now became assured, and within five weeks the patient was able to return to school. At this time all symptoms had disappeared; the mouth could be opened widely and the natural facial expression was present. The knee-jerks alone showed slightly increased activity.

This case of tetanus, in which well marked spasms of the masseters and abdominal muscles were associated with persistent vomiting, was cured by repeated doses of serum given chiefly intravenously and intrathecally. To accomplish this nearly 100,000 units of antitetanic serum had to be administered before the symptoms were finally subdued.

## FOREIGN BODY IN THE OESOPHAGUS: DIFFICULT REMOVAL.

BY

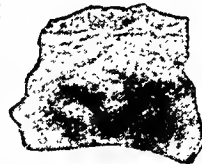
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The chief reason for placing the following case on record is the difficulty experienced in exactly locating the swallowed toothplate, in spite of the fact that a radiograph distinctly showed its presence, and also in removing it.

A woman, aged 64, was admitted to the Manchester Royal Infirmary on March 5th, 1927, with the following history. Fourteen weeks previously she had swallowed a portion of a dental plate; since that time she had been an inmate of another institution, where on two occasions oesophagoscopy had been performed, without, however, revealing the foreign body. A bougie had also been passed and met with no obstruction; a radiograph had not shown very definitely whether the toothplate was present or not.

A radiograph taken the day after admission to the Infirmary showed the toothplate very clearly at about the level of the sternal notch. Oesophagoscopy under local anaesthesia failed to reveal the plate, but a mass of granulation tissue at the level of the sternal notch was seen, from which haemorrhage was brisk enough to prevent further examination. Five days later, under local anaesthesia, the oesophagoscope was very cautiously passed again; the plate was felt in the granulations and was removed from their lower end with forceps. On attempting to remove the plate from its new position it was found to be too large to pass the site of the granulations; it was therefore released in order that an effort might be made to so place it that its narrowest width was crosswise. In attempting this the plate slipped downwards and was not seen again owing to the blood which was coursing freely from the granular area.



Toothplate: Half scale.

The patient was given a week's rest and the tube was again passed, a radiograph having shown the plate to be now about two inches above the diaphragm. To the surprise of the operator no foreign body could be seen, although a radiograph taken soon afterwards showed the foreign body still in the same place. After a further week's rest, under general anaesthesia a further examination was made, and again ended in failure.

It was now determined to try retrograde oesophagoscopy. One week later, therefore, the patient, having swallowed a length of silk, a gastrostomy was performed by Mr. Bryce, the silk thread brought out, the oesophagoscope passed on it to the cardia and a little over two inches up the oesophagus, when the plate was seen and removed at once without any difficulty.

The gastrostomy wound was kept open for ten days for the purpose of feeding and for giving rest to the oesophagus. The patient was now able to swallow any kind of food, and had apparently made a complete recovery. Whether the contraction of the granular area will bring about a stricture the future will show.

The case must be regarded as a relative failure because the foreign body was not removed *per vias naturales*, for it would be supposed that anything which had got into the gullet from above could also be removed from above. I cannot condemn too strongly the use of the bougie. In the case of an irregularly shaped foreign body it may easily drive the same into the oesophageal wall and cause impaction, or even perforation. The bougie should only be used under inspection with the oesophagoscope, and then only for treatment of strictures, not of foreign bodies.

The failure to find the plate on the third and fourth examinations was due to the facts that its thin upper border fitted closely the posterior oesophageal wall, that its colour was exactly that of the gullet, and that possibly a fold may also have obscured things.

The silk thread was used to guide the oesophagoscope quickly, because sometimes it is not easy to find the cardiac opening from below.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ACUTE INTESITINAL OBSTRUCTION BY BANDS. IN CHILDREN.

Two cases of acute intestinal obstruction in children were admitted to the Worthing Hospital under my care, the one in December, 1922, and the other in June, 1927. Both cases were sent in by Dr. Thompson of Lancing, with the diagnosis of acute appendicitis, and in each case I operated through a gridiron incision, expecting to find an acutely inflamed appendix. In both patients physical signs predominated in the right iliac fossa, for reasons which will be obvious when the findings at operation are read.

Both patients recovered. The condition of Case 1 was dangerous for some twenty-one days after resection at primary operation, owing to broncho-pneumonia, and his stay in hospital was more than three months. Case 2 spent only fourteen days in hospital.

#### CASE 1.

A boy, aged 8 years, admitted on December 7th, 1922, had abdominal pain (umbilical and hypogastric) for two days. The child was obviously ill. There was general rigidity of the

abdomen, and very little movement on respiration. Under the anaesthetic tense coils of small intestine were felt in the hypogastrium and to the left. A gridiron incision was made, and free fluid was found in the peritoneum. Neither caecum nor appendix could be delivered through the wound, which was therefore enlarged downwards by division of muscle fibres. A coil of gangrenous small intestine then presented in the wound. This loop of about 6 inches of ileum, close to its termination, was strangled tightly under the appendix, the lip of which was fixed firmly to a breaking down calcareous gland in the mesentery, just central to that of the portion of gut involved. The appendix was taut and was the only agent of strangulation. It was excised; resection of the gangrenous intestine, invagination of the small portion of remaining terminal ileum by purse-string suture into the caecum, fixation to the peritoneum of the proximal free end of the ileum, with a tube fixed into it, and closure of the wound completed the operation.

The child's condition was serious for some three weeks, mainly on account of broncho-pneumonia, but this resolved and the general condition became excellent. On March 22nd, 1923, I performed a lateral anastomosis between the terminal portion of the ileum and the ascending colon, and excised the ileostomy opening. The bowels acted on the third day, the wound healed satisfactorily, and the child was soon able to go home. In November, 1927, Dr. Thompson reported that his condition was excellent.

## CASE II.

A boy, aged 3 years, was admitted on June 2nd, 1927, with a history of twenty-four hours' severe abdominal pain and frequent vomiting. The bowels were stated to have acted on the day of admission and on the previous day. The child looked ill; the temperature was 100.4°, pulse 114, respirations 26. The tongue was dry and furred. The abdomen moved satisfactorily on respiration; there was no rigidity, and tenderness in the right iliac fossa was elicited only after very careful examination. Immediate operation was decided on. Following a gridiron incision, free fluid was seen to be present in the peritoneum, and coils of small intestine appeared to be abnormally distended. The appendix was excised. Except that it appeared cyanosed, it seemed normal and hardly sufficient to account for the symptoms, general condition, and signs of peritoneal reaction.

Investigation of the terminal portion of the ileum revealed a condition almost identical with that found in Case I, with the following differences. The constricting band was a tag-like, fibrous structure, about three-eighths of an inch in length, binding to the mesial aspect of the caecum a portion of the ileum, which should have been about 8 inches distant from the ileo-caecal valve. The strangulated gut was damaged much less severely, and on division of the constricting band rapidly recovered colour and was replaced in the abdomen without any doubt as to its viability.

The bowels acted in a few hours; the child made an uneventful recovery and left hospital on the fourteenth day.

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## FATAL POISONING BY BORAX.

It may be of interest to record this case of poisoning by borax; the signs and symptoms were almost similar to those described by Mr. Donald Currie in the JOURNAL of January 14th (p. 48) as erythroderma or "pink disease."

On January 1st, 1928, I was summoned to a case of precipitate labour, the child having been born an hour previously. On January 12th mother and child appeared to be well. Breast fed.

About 6 p.m. on January 15th a message from the nurse stated that the child was dying. I found the child had wasted extremely during the three days which had passed since my last visit; he was unconscious and the eyelids were closed. The thighs were fully flexed close to the abdomen, and the legs were fully flexed on the thighs, the feet being inverted. The arms were pressed close to the trunk, the forearms being fully flexed on to the arms, so that each clenched hand was pressed to the side of the head, just below and touching the ears. The heart beats were normal, but the respiratory rhythm was irregular. The temperature was subnormal—96° F. in the rectum. The finger-nails and terminal phalanges of the left hand were coloured a bright red, as if painted; the forefinger was red and swollen as far as the wrist, in marked contrast to the fingers of the right hand. The coloured fingers were tender. Pressure failed to elicit response on the right hand. A red ring surrounded the anus; the entire scrotum and the lips had the same abnormal colouring. A spot of red was visible at the external extremity of the upper eyelid on the right side. The feet were normal.

I found that during the previous five or six days the child had consumed about one and a half drachms of borax and boric acid, in the form of honey and borax and glycerin of borax, administered to prevent thrush, on the advice of the nurse. Bowel washings had the same "cooked spinach" appearance described by Mr. Currie. In the last washing there were three or four inches of what appeared to be a narrow mucus cast coloured green.

A semi-comatose condition persisted for the next three days; during the last two of these the child appeared to be reviving and took milk, but died suddenly on the afternoon of the third day.

The necropsy appearances were as follows: There was post-mortem staining of the same pink colour; the muscles and arterial blood were pink. The brain was normal, but the ventricles were

empty. The lungs were normal and expanded, and the heart was normal and empty, as was the bladder. The intestines were almost empty and normal. The pylorus was unaffected, but the duodenum had extremely thin walls and was empty. The stomach contained about 1 ounce of a substance having the appearance of honey; it was yellow, opaque, and moderately thin. The liver and kidneys were dark, the latter being congested with spots of haemorrhage under the capsule, which stripped easily.

Borax has been described as a brain and nerve poison, even in what is commonly regarded as the medicinal dose; many cases of obscure illness may be attributed to its administration. A dummy teat dipped in glycerin of borax may convey from 1½ to 2 grains of borax to a child's mouth, all of which is swallowed. It is, however, twenty years since I saw so severe a case as the one recorded here.

Luton.

JOHN BIRCH, M.R.C.S., L.R.C.P. Lond.

## HYPERPYREXIA IN TERMINAL CHRONIC NEPHRITIS.

We think the following case is of sufficient interest to be recorded.

A woman, aged 24, now suffering from chronic nephritis, had scarlet fever during childhood. Two years ago uraemia developed with hyperpyrexia (temperature 110° F.), from which she recovered. She has now been ill for the past five weeks, and her temperature has been continually above 110°; on two occasions the thermometer has been found broken after removing it from the axilla. Many different thermometers by various makers were tried. The patient has appeared to be fairly comfortable throughout in spite of passing not more than 4 to 6 ounces of urine a day. She has frequently asked for solid food and to be allowed up; she has not been delirious nor comatose during the present illness.

According to Tidy, hyperpyrexia occurs in blackwater fever (103° to 105°), malaria (104° to 106°), rheumatic fever (104°), pericarditis (103°), sunstroke (110° to 112°), and haemorrhage into the pons (105°), but we have found no mention of hyperpyrexia appearing in the terminal stages of a chronic nephritis.

HOWEL B. PIERCE, M.B., Ch.B.  
JOHN F. SCALES, L.R.C.P. & S.I.  
G. L. PIERCE, L.R.C.P. Ed.

Mountain Ash.

## VESICAL BILHARZIA: DOUBLE INFECTION.

I HAVE read with much interest the memorandum by Dr. H. Fairbairn, in the JOURNAL of January 14th (p. 52), about vesical bilharzia, in which he mentions cases showing the double infection with *S. haematobium* and *S. mansoni*. We can confirm this from our work at the C.M.S. Hospital, Old Cairo, Egypt, where we have frequently seen patients with this double infection.

In 1926, in a paper on Egyptian splenomegaly and its relation to schistosomiasis, I drew attention to the fact that, though it is not at all common to find lateral-spined ova in the urine, yet we get a good number of cases showing this condition. I especially pointed out in that paper how far more limited throughout the country of Egypt the distribution of *S. mansoni* infection is than that of *S. haematobium* infection. For instance, we constantly get numbers of cases of rectal schistosomiasis from districts where there is no *S. mansoni* infection, and on microscopical examination they invariably show the terminal-spined ova, proving the cause to be *S. haematobium*. Also, quite a number of patients with vesical symptoms, coming from the region of the Delta, where end-canal are plentiful and where *S. mansoni* infection exists as well as *S. haematobium* infection, show the lateral-spined ova as well as the terminal-spined variety in the urine.

It was for these reasons that I suggested that the usual classification of the disease into urinary schistosomiasis and intestinal schistosomiasis was perhaps a mistake, and that a better definition might be:

(1) Schistosomiasis caused by *Schistosoma haematobium* (commonly called urinary schistosomiasis).

(2) Schistosomiasis caused by *Schistosoma mansoni* (commonly called intestinal schistosomiasis and including visceral schistosomiasis).

Bromley, Kent.

ROBERT B. COLEMAN.

<sup>1</sup> Transactions of the Royal Society of Tropical Medicine and Hygiene, vol. xx, No. 3, June, 1926.

### BILATERAL EMBOLISM OF THE CENTRAL RETINAL ARTERY.

BILATERAL embolism of the central retinal artery is a sufficiently rare condition to merit the mention of the following case.

A farm labourer, aged 74, was sent to see me in February, 1927, having lost the sight of the right eye three months earlier, and having suddenly lost the sight in the left eye a few days previously. The patient himself informed me that up to three months before he had always had exceptionally good sight, but that suddenly one day he noticed that there was something wrong with his vision on the right side, and that on covering his left eye he found that he was completely blind in the right. Apparently he did not think it necessary to seek advice about the trouble, and continued with his work until a few days previously, when suddenly, whilst in the house, everything became black, and he found himself totally blind. The pupils were fixed, dilated, regular, and there was no reaction to light, nor any perception of light. The media of both eyes were clear, but the fundus of the right eye showed a pallid, clear-edged disc; many of the vessels usually radiating from it were obliterated, while those remaining were represented by mere threads. There was some faint brownish pigmentation at the macula. The left eye showed the typical picture of recent retinal embolism—the disc pale, the vessels diminished in calibre, a general pallor of the fundus, with the "cherry-red spot" at the macula.

From the history of the sudden and complete blindness in the right eye three months before, together with the typical ophthalmoscopic picture in both eyes, there is no doubt that there had been an embolism of the central retinal artery in the right eye, followed about three months later by another retinal embolism in the left eye.

Embolism of the central retinal artery is practically always unilateral, and I note that only three cases of bilateral embolism were observed at the Tübingen eye clinic in a period of thirty-seven years.

It is noteworthy that, although this condition might be expected to occur more commonly in the aged, it is found most frequently in persons under 60 years of age, and often in quite young people, particularly of the female sex. Heart lesions, endarteritis, etc., are given as the usual causes of this unfortunate condition—in the case here recorded there was advanced cardio-vascular trouble—but in about 30 per cent. of cases, according to Lehor, no demonstrable cause can be found, particularly among the younger patients. If seen early, attempts can be made by massage, tapping the anterior chamber, and the inhalation of amyl nitrite to promote dilatation of the retinal vessels and a larger blood flow into the eye, in the hope that the clot may be moved from the main branch into one of its smaller ramifications, thus limiting the area of retina affected. To achieve this, however, the cases must be seen very early, and few successful results have been reported.

Carnarvon.

T. G. WYNNE PARRY, M.R.C.S., D.O.M.S.

## Reports of Societies.

### THE LIVER DIET TREATMENT OF PERNICIOUS ANAEMIA.

At a meeting of the Medical Society of London on January 23rd, with Mr. H. W. CARSON in the chair, a discussion took place on the treatment of pernicious anaemia, more especially with liver diet. It was opened by Professor F. R. FRASER in a paper the substance of which appears at page 165.

Sir WILLIAM WILCOX, continuing the discussion, agreed that the liver treatment of pernicious anaemia had completely altered the general view as to the treatment of the disease, and possibly as to the disease itself. It was extraordinary that, just as with fasting in glycosuria, this simple observation should have been delayed so long. It was not, however, a chance discovery, but the result of a gradual evolution, following upon the demonstration that various protein foods improved the blood after haemorrhage. In many cases of pernicious anaemia the yellow tint of the sclerotics had been observed, the swelling up of the liver when relapses occurred, and the appearance of toxic jaundice. Therefore, it was not remarkable that liver treatment should be of value in pernicious anaemia, seeing that the liver suffered so much in this disease. In sprue, which very closely resembled pernicious anaemia, successful treatment in Ceylon by liver soup had been in vogue for

many years. The speaker, having now tried liver treatment in several cases of pernicious anaemia, could agree that the way in which patients improved was striking, as was also the tolerance to liver they exhibited. Under the treatment the jaundice cleared up and the icterus index quickly fell to normal. The liver also seemed to act as an intestinal corrective, obviating the necessity for aperients. The stools, which in pernicious anaemia were usually most offensive, became more or less normal. In these severe cases of pernicious anaemia the lymphocytes approached the polynuclear cells in percentage, sometimes even exceeding them, in which case there was the great difficulty of distinguishing it from leukaemia, but under liver treatment both the total leucocytes and the differential count became normal. This was shown in the account of a case by F. A. Philipps in the *BRITISH MEDICAL JOURNAL* (January 21st, p. 93). There seemed to be no adequate explanation why liver acted in this way, but the discovery was of great value, not only in the treatment of this disease, but as opening up a new field of therapeutics. At the same time, it was not well to throw aside entirely what was learnt about pernicious anaemia before the value of liver was discovered. Pernicious anaemia began very insidiously; it was an altered blood condition due to some toxæmia in the body, and early diagnosis was essential, so that any septic focus in the body could be eradicated. The teeth, nasal sinuses, and tonsils particularly should be examined, and very often, when a case was just beginning to show signs, if the underlying septic infection could be discovered and eradicated, this progressive and previously fatal disease could be nipped in the bud. Sir William Wilcox thought that in a case of pernicious anaemia with the haemoglobin 40 per cent. or lower, transfusion would still have a place in treatment, since it would raise the haemoglobin perhaps by 5 to 10 per cent., and the patient would then be able to take advantage of the liver treatment. Hydrochloric acid was still undoubtedly of value in addition to liver treatment. Treatment of pernicious anaemia by arsenic had been a sheet anchor for many years, and he, as a toxicologist, had always doubted whether some of the nervous symptoms which the patient presented were the result of the disease or of the treatment. Undoubtedly the giving of large doses of arsenic in the past in these cases did give rise to neuritis and other signs of arsenical poisoning. He thought the discovery of liver treatment really marked the oxid of arsenic and of the arsenobenzol derivatives which had been recommended for pernicious anaemia. He had never seen these derivatives do any permanent good, though cases of temporary improvement had been observed.

Dr. HERBERT FRENCH mentioned a case of pernicious anaemia treated only with liver; it showed the same kind of result as the cases described by Professor Fraser. There was a rapid improvement in haemoglobin, from 35 to 95 per cent. in seven weeks. Liver was tried in different forms, but the patient preferred it uncooked. Thin slices of raw liver were given in sandwiches with lettuce or watercress, and of these the patient could eat almost any quantity. The other lines of treatment must not be forgotten, and probably must be used in addition to liver in certain cases. He strongly advocated transfusion for pernicious anaemia, but not merely when the haemoglobin had become diminished to 30 per cent.; it should be used much sooner. If there was too long a delay before transfusing it would be found that the patient merely received so much haemoglobin, and did not build upon that haemoglobin for himself. On the other hand, if transfusion were performed in an early stage of pernicious anaemia, with a haemoglobin of 55 per cent., the patient, receiving 7 or 8 per cent. of haemoglobin in this way, was able to build thereon, so that in two weeks, instead of having 62 or 63 per cent., he would have perhaps 68 or 70 per cent.; after a second transfusion he would build again to a higher level, and so on. The haemoglobin with early transfusion was maintained in a way which was not the case when transfusion was employed late in the course of the disease. Disappointments in blood transfusion were due to delay in using it. This transfusion treatment was worth while, even though it was not curative. Dr. French also favoured arsenical treatment; if he suffered from pernicious



anaemia he would prefer to be treated by transfusion—probably three transfusions in six weeks—but also by arsenic given in the usual way, and certainly now by liver in addition. He mentioned one experience with the salvarsan treatment of pernicious anaemia—a treatment which, he agreed, did not seem to be of any particular use. But years ago it was given in the case of a patient at Guy's, a woman who was in her fifth relapse and appeared certain to die. The red cells had fallen to about 600,000 per c.mm. This was at a time when salvarsan treatment was in vogue; it was given in the old-fashioned way with a Y-tube, and by an error the salvarsan was given in three places subcutaneously. The operation was stopped, hot fomentations were applied, and it was felt that the case had been bungled. The patient developed three large sores on her arm where there had been collections of salvarsan subcutaneously, and one of them proceeded to abscess formation. But, curiously enough, the blood count improved, and presently the patient left the hospital with a total red cell count of 5,000,000. Possibly this was an illustration of the value of alternative sepsis!

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Dr. R. A. YOUNG said that everyone who had used the liver treatment of pernicious anaemia would be impressed by its dramatic value. He had had one rather striking case, in a man, aged 44, with a typical Addisonian anaemia, who was extremely ill on arrival at the hospital. He was given a few small N.A.B. injections, then two or three blood transfusions, also hydrochloric acid, and arsenic by the mouth, but the improvement was very slight. He was then put on half a pound of raw liver daily, and a remarkable improvement occurred. This man, like many of these patients, preferred raw to cooked liver, and it was given him with lemon or orange juice. The improvement in the blood picture was striking and persistent. The man had at first a rather high eosinophil count—8 per cent.—but this, before the liver treatment was started, dropped to 3.5, at which level it remained for some time. After liver treatment it went up to 26 per cent., and caused some misgiving, but after six weeks' convalescence away from hospital the eosinophils fell to 5 per cent.

Dr. GOODHART spoke of some experiences with liver extracts, some of them "home-made," and said that he did not think the making of extracts on a small scale was a practicable proposition. The results of liver treatment in his experience had been roughly comparable with those brought forward by Professor Fraser, though perhaps not quite so satisfactory. About ten cases had been treated with liver extracts, and in only three of these so far had the red blood count gone up to over 4,000,000; the haemoglobin had risen more quickly in proportion, but the leucopenia had remained. In one or two instances patients had become extremely nauseated owing to the liver.

Dr. F. PARKES WEBER asked whether liver diet had been used in cases of acute aplastic anaemia. One theory with regard to certain cases of this condition was that they were of exactly the same nature as pernicious anaemia, but without any effort on the part of the bone marrow to regenerate. These patients could be kept alive by blood transfusion, and therefore there was time, should such a case be met with, to try liver diet. There was also a class of cases, not so very rare, of chronic aplastic anaemia

in children in which the blood picture might sometimes resemble that of pernicious anaemia. At present he had one typical case under his care; the patient had been kept alive by repeated transfusions, and liver diet was being tried, so far without sufficiently marked improvement for him to be sure that the case was going to react favourably.

Mr. ZACHARY CORE asked how far liver treatment had been tried in secondary anaemias, and mentioned one case of profound secondary anaemia in which blood transfusion had had no effect, but a remarkable change was brought about within a fortnight after liver treatment was started.

Dr. C. E. LAKIN mentioned the case of a woman with splenic anaemia, in which operation was contraindicated; she was put on liver treatment, with marked results so far as the blood count was concerned, though the spleen itself appeared unaffected. He had also seen a case of a man over 80 years old with pernicious anaemia, who found it very difficult at first to take liver; after three weeks of the treatment, however, his red blood count went up by 500,000.

Dr. W. LANGDON BROWN mentioned a case of pernicious anaemia in a woman in whom, on liver treatment, there was improvement in all respects except that the leucopenia persisted, so that he could not regard her as a cured case. He would not be inclined to give up hydrochloric acid in favour of the treatment by liver extract.

In the subsequent discussion Sir LEONARD ROGERS mentioned, with regard to the parallel between pernicious anaemia and sprue, that cases of sprue responded generally to a single transfusion, and did not require repetitions. Dr. BROWNING ALEXANDER thought that the value of liver treatment might be tested in other conditions, notably in other anaemias; he urged that research should proceed on the lines of liver efficiency tests. Dr. P. B. SPURGIN gave details of a recipe which he had worked out for preparing liver soup economically and palatably.

Professor FRASER, replying, said that the answer to the question as to the action of liver extract was simply that it stimulated the immature megakaryoblasts to proceed to maturity. With regard to secondary anaemia, he and those associated with him had tested a number of cases, and they had not reacted. Beef, calf, and pig liver seemed equally good; birds' liver of various kinds acted, but not so well. He advised his patients to exert ingenuity in finding new ways of preparing liver. Several most elaborate ways of preparing liver had been quoted in the *Journal of the American Medical Association* during the past year—even including liver cocktails.

### CUTANEOUS MYCOSES IN THE TROPICS.

At a joint meeting of the Section of Tropical Diseases and Parasitology with the Sections of Dermatology and Comparative Medicine, of the Royal Society of Medicine, on January 25th, Dr. J. M. H. MACLEOD, president of the Section of Dermatology, in the chair, a special discussion was held on cutaneous mycoses in the tropics.

Mr. J. RAMSBOTTOM, opening the discussion, dealt with the scientific principles underlying the modern classification of the fungi. Many of the systems in use were useless from the point of view of the systematic mycologist. Mr. Ramsbottom discussed these and explained the meaning and significance of the various structures seen in cultures. In the course of his address he made the suggestion that it was possible that some of the parasitic genera of fungi, such as trichophyton, might have free-living, non-parasitic stages.

Dr. A. WHITFIELD said that so far as he knew only one tropical mycosis—dhobi itch—had become thoroughly established in this country. He had cultivated the fungus epidermophyton on numerous occasions, and he had observed that it was essentially a parasite of clean people. It was present in many Turkish baths and public schools in Britain, and it attacked the skin of the toes and the groin, as a rule. Unlike ringworm of the head, it conduced to the introduction of streptococci with a consequent lymphangitis of the leg. Patients who contracted it in Turkish baths often mistook it for a sweat rash, and this hindered prompt treatment; it could also be spread by means of bath towels, bath mats, and similar means. The

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Dr. WALTER BROADBENT reported two cases treated only with liver; in both the results had been very good. In the first case the red cells at the beginning of the liver treatment were 2,800,000 per c.mm. and the haemoglobin 48 per cent.; in six weeks the red cell count was 5,340,000 and the haemoglobin 102 per cent. This patient had been under treatment since 1924, mainly on hydrochloric acid and very little arsenic; since hydrochloric acid came in the speaker had practically abandoned arsenic, except for relapses. The other case had been under the same hydrochloric acid regime since 1921, with occasional courses of arsenic and a few N.A.B. injections. He was going downhill when liver treatment began; the red cells were 1,760,000 and the haemoglobin 30 per cent. Two months after liver treatment was started the red cells were 4,600,000 per c.mm. and the haemoglobin 60 per cent. The patient was a man, aged 60, who had dingy yellowish hair, but since the liver treatment his hair and moustache had changed to a pure white.

Dr. R. A. YOUNG said that everyone who had used the liver treatment of pernicious anaemia would be impressed by its dramatic value. He had had one rather striking case, in a man, aged 44, with a typical Addisonian anaemia, who was extremely ill on arrival at the hospital. He was given a few small N.A.B. injections, then two or three blood transfusions, also hydrochloric acid, and arsenic by the mouth, but the improvement was very slight. He was then put on half a pound of raw liver daily, and a remarkable improvement occurred. This man, like many of these patients, preferred raw to cooked liver, and it was given him with lemon or orange juice. The improvement in the blood picture was striking and persistent. The man had at first a rather high eosinophil count—8 per cent.—but this, before the liver treatment was started, dropped to 3.5, at which level it remained for some time. After liver treatment it went up to 26 per cent., and caused some misgiving, but after six weeks' convalescence away from hospital the eosinophils fell to 5 per cent.

Dr. GOODHART spoke of some experiences with liver extracts, some of them "home-made," and said that he did not think the making of extracts on a small scale was a practicable proposition. The results of liver treatment in his experience had been roughly comparable with those brought forward by Professor Fraser, though perhaps not quite so satisfactory. About ten cases had been treated with liver extracts, and in only three of these so far had the red blood count gone up to over 4,000,000; the haemoglobin had risen more quickly in proportion, but the leucopenia had remained. In one or two instances patients had become extremely nauseated owing to the liver.

Dr. F. PARKES WEBER asked whether liver diet had been used in cases of acute aplastic anaemia. One theory with regard to certain cases of this condition was that they were of exactly the same nature as pernicious anaemia, but without any effort on the part of the bone marrow to regenerate. These patients could be kept alive by blood transfusion, and therefore there was time, should such a case be met with, to try liver diet. There was also a class of cases, not so very rare, of chronic aplastic anaemia

in children in which the blood picture might sometimes resemble that of pernicious anaemia. At present he had one typical case under his care; the patient had been kept alive by repeated transfusions, and liver diet was being tried, so far without sufficiently marked improvement for him to be sure that the case was going to react favourably.

Mr. ZACHARY COKE asked how far liver treatment had been tried in secondary anaemias, and mentioned one case of profound secondary anaemia in which blood transfusion had had no effect, but a remarkable change was brought about within a fortnight after liver treatment was started.

Dr. G. B. LAKIN mentioned the case of a woman with splenic anaemia, in which operation was contraindicated; she was put on liver treatment, with marked results so far as the blood count was concerned, though the spleen itself appeared unaffected. He had also seen a case of a man over 80 years old with pernicious anaemia, who found it very difficult at first to take liver; after three weeks of the treatment, however, his red blood count went up by 500,000.

Dr. W. LANGDON BROWN mentioned a case of pernicious anaemia in a woman in whom, on liver treatment, there was improvement in all respects except that the leucopenia persisted, so that he could not regard her as a cured case. He would not be inclined to give up hydrochloric acid in favour of the treatment by liver extract.

In the subsequent discussion Sir LEONARD ROGERS mentioned, with regard to the parallel between pernicious anaemia and sprue, that cases of sprue responded generally to a single transfusion, and did not require repetitions. Dr. BROWNING ALEXANDER thought that the value of liver treatment might be tested in other conditions, notably in other anaemias; he urged that research should proceed on the lines of liver efficiency tests. Dr. P. B. SPURGIN gave details of a recipe which he had worked out for preparing liver soup economically and palatably.

Professor FRASER, replying, said that the answer to the question as to the action of liver extract was simply that it stimulated the immature megaloblasts to proceed to maturity. With regard to secondary anaemia, he and those associated with him had tested a number of cases, and they had not reacted. Beef, calf, and pig liver seemed equally good; birds' liver of various kinds acted, but not so well. He advised his patients to exert ingenuity in finding new ways of preparing liver. Several most elaborate ways of preparing liver had been quoted in the *Journal of the American Medical Association* during the past year—even including liver cocktails.

### CUTANEOUS MYCOSES IN THE TROPICS.

At a joint meeting of the Section of Tropical Diseases and Parasitology with the Sections of Dermatology and Comparative Medicine, of the Royal Society of Medicine, on January 25th, Dr. J. M. H. MACLEOD, president of the Section of Dermatology, in the chair, a special discussion was held on cutaneous mycoses in the tropics.

Mr. J. RAMSBOTTOM, opening the discussion, dealt with the scientific principles underlying the modern classification of the fungi. Many of the systems in use were useless from the point of view of the systematic mycologist. Mr. Ramsbottom discussed these and explained the meaning and significance of the various structures seen in cultures. In the course of his address he made the suggestion that it was possible that some of the parasitic genera of fungi, such as trichophyton, might have free-living, non-parasitic stages.

Dr. A. WHITFIELD said that so far as he knew only one tropical mycosis—dhobi itch—had become thoroughly established in this country. He had cultivated the fungus epidermophyton on numerous occasions, and he had observed that it was essentially a parasite of clean people. It was present in many Turkish baths and public schools in Britain, and it attacked the skin of the toes and the groin, as a rule. Unlike ringworm of the head, it conduced to the introduction of streptococci with a consequent lymphangitis of the leg. Patients who contracted it in Turkish baths often mistook it for a sweat rash, and this hindered prompt treatment; it could also be spread by means of bath towels, bath mats, and similar means. The

disease simulated a simpler vesicular eczema, and he had coined the expression "eczematoid ringworm" to describe it. He had also recovered from the horny layer of the toe a species of penicillium which produced a lesion identical with that of epidermophyton. He recorded a case of an eczematoid infection of the ear due to aspergillus, which had been contracted by a patient while bathing in stagnant water in India.

Dr. P. MANSON-BARN agreed with Mr. Ramsbottom that the present classification in medical mycology was unnecessarily complicated and that too many species existed. The most important tropical mycosis was *madura* foot, a disease which closely resembled actinomycosis, and which was caused by a nearly related species of fungus, *Discomyces madurae*. A second condition found also on the foot and legs, in South America, and termed "mossy foot," was due to a species of hyphomycete. Blastomycosis was a term given to a cutaneous infection due to yeasts which gained access to the tissues through some wound; they clinically resembled lupus verrucosus, and, as a rule, the infection remained localized. Closely related to this was sporotrichosis, characterized by gummatous swellings of the skin which break down and cause deep ulcers. Among the cutaneous afflictions of the tropics, dhobi itch had the claim to prior place. It produced very characteristic lesions, which began as rounded papules spreading peripherally and producing a festooned border covered with thick scales. The irritation might be excessive, although the lesions often disappeared in cold weather, to reappear when sweating became severe. The disease could be satisfactorily relieved, at any rate temporarily, by the use of calcium sulphide (which must be fresh). Another very common condition in the tropics was pityriasis versicolor. There was no need for the artificial differentiation, so often used, of patches of different colour. Sir Patrick Manson, he recalled, had on one occasion converted a case of tinea nigra into one of tinea alba by the use of a cake of soap. The disease usually occupied a large area of the body and was caused by two species of eudermophyton. Other mycotic conditions which he briefly discussed were pinta (a disease of South America, spreading from an initial focus and becoming hyperpigmented—white, red, blue, or black); Hong-Kong foot (a mycotic condition of the feet in summer, probably identical with Dr. Whitfield's cases); and prickly heat (a miliary-like eruption, most probably due to a small yeast or monilia). He concluded by pleading again for a simplification and rationalization of the nomenclature of medical mycology.

Dr. G. B. DOWLING drew attention to the experiments which the chairman and he had conducted on seborrhoeic dermatitis. They had been able to show that this was a fungus disease due to the so-called "bottle bacillus."

Dr. MACLEOD demonstrated a series of photographs of mycological conditions of the skin, including cases of fungus diseases of the nails.

### DIPHTHERIA CARRIERS.

At a meeting of the Section of Epidemiology of the Royal Society of Medicine on January 27th, with Dr. S. MONKTON COPPEMAN presiding, some observations on diphtheria carriers, undertaken at the North-Eastern Hospital of the Metropolitan Asylums Board, were described by Dr. J. E. MCCARTNEY, with whom was associated in the laboratory work Dr. W. C. HARVEY.

Dr. McCartney said that up to the present observations had been made on over 350 carriers. They were examined twice weekly; swabs were taken from the throat, from each nostril, and, when necessary, from the ear. It had been found that ordinary over-night incubation in the bacteriological examination of cultures from carriers was not sufficient; some cases, negative when examined after twenty-four hours, had become positive after forty-eight hours' incubation. The reason was that diphtheria bacilli were present in carriers in a "lag" state. When swabs were made from clinical diphtheria the organisms were actively proliferating, and on transference to a culture medium immediately began to grow, but this condition did not obtain in carriers. In this investigation a carrier was

taken as one who harboured virulent diphtheria bacilli twelve weeks, or longer, after the commencement of the clinical disease—an arbitrary but a convenient period. It was considered important to examine the upper respiratory passages of the carriers to see whether clinical findings could be correlated with bacteriological observations. In this series 288 carriers were so examined, and, as controls, 300 diphtheria cases were examined in the fourth or fifth week of the disease, and 100 convalescent diphtheria cases immediately before discharge, when it might be presumed, having had the requisite number of swabs taken, that they were free from bacilli. Some recognizable clinical departure from the normal in the upper respiratory passages was found in 273 of the 288 carriers as follows: In throat only, 63; in nose only, 67; in throat and nose, 141; in ear only, 2. Thus in 75 per cent. of these cases there was some abnormality in the nose, either alone or associated with a throat condition. In the age groups (leaving out the two ear cases) six were under 1 year old, 171 between the ages of 1 and 5, seventy between 5 and 10 years, seventeen between 10 and 15 years, and seven over 15. The average duration of the carrier state in relation to the clinical site of the abnormality was as follows:

Nose only affected...	...	...	...	24.3 weeks
Both nose and throat	...	...	...	23.5 "
Throat only	...	...	...	19.0 "
Ear, nose, and throat	...	...	...	37.0 "
Ear and throat	...	...	...	31.0 "
Ear and nose	...	...	...	27.1 "
Nothing abnormal found	...	...	...	18.0 "

The 300 diphtheria patients who were examined as controls yielded entirely different results. Here the proportion of cases showing abnormal conditions in the nose was very much smaller than among the carriers. In 91 the throat only was affected, in 41 the nose only, in 87 the throat and nose were affected, and in 81 there was nothing abnormal. These were cases in the fourth or fifth week of the disease, when some abnormality might have been expected to be present on account of the lesion which had been observed in the throat. Of these 300 cases 13 subsequently became carriers—that is, continued to harbour bacilli after the twelfth week from the onset of the clinical disease—and in all these cases there was some abnormality. Of the 100 diphtheria convalescents who were examined just before discharge, 45 showed an abnormality only of the throat, 3 of the nose only, 4 of the throat and nose, and in 48 there was nothing abnormal. Enlarged tonsils, in the speaker's experience, did not interfere with the elimination of diphtheria bacilli, provided they were not unhealthy and the crypts not occluded. The carrier state in diphtheria was due, therefore, to the presence of some pathological condition or abnormality whereby the organism was enabled to survive. If such conditions could be removed or corrected the carrier state would disappear. Previous workers had recognized that nasal carriers were refractory to cure. It seemed as if in such carriers, although the immunological mechanism was in order, and they were healthy people, all Schick-negative, yet the diphtheria organism was able to live in the respiratory passages. It did not live directly upon the living tissue, but on the products of the inflammatory reaction and on the secretion of rhinorrhoea. The speaker added some remarks on the intermittency of diphtheria bacilli in carriers. It appeared from his investigations that failure to isolate the organisms might extend over long periods of time, although the patient was still infective. Even three negative culture results were not sufficient to establish that a carrier was completely free from infection.

Dr. W. C. HARVEY added some details of the laboratory work in this investigation, mentioning that in each case the diphtheria bacilli were tested for virulence by the intracutaneous method in the guinea-pig.

The PRESIDENT (Dr. Copeman) said he had not realized that the question of carriers appertained so predominantly to the nose, and asked for any specific reasons why this should be, also for information as to methods of treatment adopted. Dr. FORDY CATGER said that while no very new facts came out in this investigation it did present for the first time something of a statistical nature to back up views already held. The difficulty was to draw the line



between normal and abnormal, especially in the nose and throat. Dr. GRAHAM FORBES thought that the paper would be particularly useful to those who had to do with the carrier child in schools. It was significant how prevalent was the carrier condition among children of pre-school age. After giving some figures relating to the epidemic years 1921-22, he said that a rising carrier rate might predict a period of high epidemic prevalence, followed by a period of low carrier rate. Dr. R. A. O'BRIEN had been struck in his own work by the distinction between sparse and profuse carriers. The question was whether sparse carriers tended to become profuse, and whether the one carrier was as much a public danger as the other.

Dr. E. W. GOODALL said that the great question to be settled was when it was safe to discharge patients from hospital. Was it possible by this widespread—and incidentally costly—investigation to lower the return case rate? The return case rate was already not high—under 2 per cent. Dr. R. J. CANN spoke of the work at the clinic recently established at Guy's by the London County Council for the discovery and treatment of child carriers. To perform twelve weeks' consecutive swabbing in order to obtain a carrier definition was a difficult matter with these out-patient children, and reliance was placed on three weeks' consecutive positive swabs obtained at the clinic, these being, in most cases, in addition to profuse positive swabs obtained by the school medical officer earlier. One abnormal condition met with in the nose more often than might be supposed was the presence of a foreign body. Dr. J. D. ROLLESTON said that return cases of diphtheria were not very common, and there appeared to be little difference in the return case rate as between hospitals which did and hospitals which did not systematically take throat swabbings before discharge. Dr. J. A. GLOVER said that in his work on cerebro-spinal fever he had found that the most common nasal defect was an obstinate contact between the posterior end of the inferior turbinate and a deflected septum; it was almost possible to detect a carrier by the shape of the nose. There was no doubt that the meningococcus lived firmly entrenched in that obstinate contact. With regard to intermittency, he recollected examining a man for fifteen weeks consecutively—fourteen negative results being followed by a positive.

After further discussion Dr. McCARTNEY, in his reply, gave some particulars of treatment. General applications of ultra-violet rays had been tried without success upon a series of carriers. In cases of pure throat carriers tonsillectomy gave good results. The nasal carrier was a more difficult problem; but one useful method was to get rid of the rhinitis by using a mild alkaline douche, containing sodium carbonate, common salt, and sodium biborate, which cleared up the crusts considerably.

### THE SPRINGS OF NAUHEIM.

At the Batherological Section of the Royal Society of Medicine on January 26th Dr. ADOLF SCHOTT, a member of a family long associated with researches on the waters of Nauheim, gave an account of some recent work on the carbon dioxide thermo-saline springs of this German spa.

Dr. Schott's special study has been concerned with the mode of action of the baths on subcutaneous  $\text{CO}_2$  and  $\text{O}_2$  tensions, which tensions are dependent on the conditions of circulation and respiration. He had applied in a modified form the ingenious method of Campbell, who showed that after the injection of  $\text{N}_2$  or air into subcutaneous tissue spaces an equilibrium of tension was established between the injected air and the tissues, and that, this equilibrium being maintained,  $\text{CO}_2$  and  $\text{O}_2$  tensions remained approximately constant over a considerable time. Dr. Schott had investigated in the subcutaneous tissue of rabbits the effect upon these tensions of the standing effervescent and running effervescent Nauheim baths of 80-86° F., for durations of eight to forty-five minutes. The results showed invariably a considerable decrease of  $\text{CO}_2$  tension under the skin, the minimum tension being observed usually from thirty minutes to an hour after the bath. The oxygen tension, on the other hand, correspondingly increased in 50 per cent. of the experiments,

and in the remainder was unaffected by the bath. The results were interpreted by Dr. Schott as being due to an increase in ventilation and in peripheral blood flow following the action of the waters. He said that the Nauheim waters, like other natural springs, acted in this respect quite differently from artificial  $\text{CO}_2$  baths, although the water of these latter might be of the same composition. Blood pressure, plethysmographie, and other researches in connexion with artificial baths had yielded very different results from those obtained with the water fresh from the springs. The effects of the natural baths were more lasting, and proved of value in conditions in which the artificial baths were wholly inefficacious. He discussed why these special properties should attach to the natural water fresh from the spring, and said that he thought it was a question of the crystalline structure of the contained salts, though it was not clearly understood why, in natural mineral waters, salts were present in a peculiarly active, labile, and complex form. Baudisch, who had been working at the spas in Western Germany under the aegis of the Rockefeller Institute, believed that this was due to radio-active processes in the interior of the earth, and Dr. Schott said that this view was supported in the case of the Nauheim springs by modern geological findings. He added that the Nauheim springs were considered to be of radose origin—that is to say, the water, originally atmospheric, was seeped into the earth. This penetration, in the example of Nauheim, took place in mountains far distant from the spot where the water again issued from the ground. Thus the water travelled far into the earth's interior, washing out the salts from the subterranean deposits, before it was driven up again by the hydrostatic pressure and the carbon dioxide at a spot where a fault in the Devonian formation made it possible for it so to rise. It was believed that the Nauheim water penetrated at least 1,200 metres below the surface of the earth. Having regard to the way in which this water must be acted upon at these subterranean levels by thermal and radio-active influences, it was not surprising that on emergence and before ageing takes place the water should exhibit complex compounds of unusual structure, and capable of marked physiological action. These complex compounds, however, were decomposed by outer heat, light, or access of air, and thus their special potentiality was lost. This accounted, in Dr. Schott's view, for the marked differences in effects as between natural and artificial carbon dioxide baths of apparently the same composition.

### CHORION-EPITHELIOMA.

THE second general meeting of the Midland Obstetrical and Gynaecological Society was held at the Women's Hospital, Wolverhampton, on December 15th, 1927, the president (Professor D. C. RAYNER) in the chair. Mr. MASLEN JONES (Wolverhampton) read a communication on "Three cases of chorion-epithelioma."

Mr. Jones said that the statistics of the incidence of hydatidiform mole varied very widely. Williamson had placed it at 1 in 2,400 cases, while Meyer estimated it as low as 1 in 261. The reason for this extreme variance was that whereas the former investigator based his observations on macroscopic appearance, Meyer had made a study of the microscopic characteristics in a series of cases of early abortions, and had found that in many the chorionic villi showed evidence of vesicular degeneration. The statistics of the occurrence of chorion-epithelioma after hydatidiform mole varied almost as much. From 33 per cent. (Lockyer) to 50 per cent. (Whitridge Williams) of the cases of chorion-epithelioma gave a history of antecedent vesicular mole, while from 5 per cent. (Teacher) to 16 per cent. (Findley) of hydatidiform moles were followed by the development of chorionic cancer. It had been stated by Neumann in 1897 that two types of mole existed, one only of which was followed by chorion-epithelioma. The terms "benign" and "malignant," as applied to these moles, referred only to their tendency to penetrate into the uterine wall, and any difference in type, such as had been suggested by Neumann, must be biological rather than histological, there being no microscopic characteristics by which future



developments might be foretold. Mr. Jones added that in the cases now reported, apart from the coincidence of their ages, which was high for this condition (Teacher gave 33 as the average age in a series of 188 cases), the large proliferating type of mole, with big hydropic vesicles, was common to all three. It seemed reasonable to suppose, from comparison with other tumour formation, that it was this rapidly proliferating type of mole which was most prone to develop malignant characteristics. Vineberg had recommended panhysterectomy for all cases in which haemorrhage recurred after the thorough removal of a hydatid mole by curette, stating that the chance of metastasis was less by this procedure than if a diagnostic curettage was first performed. Some had even suggested hysterectomy in every case of this type of mole, but this was quite unnecessary in view of the statistics already quoted—namely, that only 5 per cent. of moles were followed by chorion-epithelioma. Mr. Jones supplied the following clinical details.

*Case 1.*—A 4-para, aged 48, whose last pregnancy had been sixteen years previously, was seen in consultation in January, 1926. She had then been losing freely for seven days, after a period of three months' amenorrhoea. The uterus was enlarged to the size of a twenty weeks' gestation, and was very hard. She was removed to a nursing home, and soon after arrival passed a large fragment of a hydatidiform mole, the earlier hardness of the uterus being thus explained. Under general anaesthesia the uterus was emptied by curette, and microscopic examination of the vesicles removed showed typical hydatidiform mole. Convalescence was uneventful until the third week, when the patient began to lose blood again. This loss persisted, and on bimanual palpation the uterus was found to be still considerably enlarged. In view of pronounced cardiac weakness it was decided to remove the uterus without further exploration, and in February a total hysterectomy was performed under epinal anaesthesia. The post-operative findings justified this procedure, the uterine cavity being filled by a large, highly vascular tumour, which histologically proved to be a chorion-epithelioma. Convalescence was normal, and the patient had remained free from any recurrence for twenty-two months.

*Case 2.*—An 11-para, aged 48, whose last pregnancy had occurred twelve years previously, attended in February, 1926, giving a history of one week's losing of blood, following three months' amenorrhoea. The uterus was enlarged to the size of an eighteen weeks' gestation; no foetal parts could be distinguished. She was admitted at once with a diagnosis of hydatidiform mole, which was corroborated a few hours later by the passage of an apparently complete mole. No further loss occurred, but on examination a week later, prior to discharge, the uterus was found to be very large, and on speculum examination a thickened, dirty, highly vascular mucous membrane was visible at the external os. Curettings were reported to show chorion-epithelioma, and a total hysterectomy was performed. The patient made an uneventful recovery, and had remained free from any signs of metastasis for over twenty months.

*Case 3.*—An 8-para, aged 48, with her last pregnancy eleven years previously, reported, in January, 1927, continuous losing for seven weeks after a period of eight weeks' amenorrhoea. The uterus was enlarged to the size of a five months' pregnancy, no foetal parts were palpable, and a diagnosis of hydatidiform mole was made. Induction by means of a rubber bougie was attempted, but the uterine contractions, while resulting in some dilatation of the cervix, were not able to expel the mole, which was removed manually, the uterus being curetted. When examined before discharge it was found that the uterus was soft and bulky; exploratory curettage was performed. Histologically the curettings proved to be chorion-epithelioma, and total hysterectomy followed. The convalescence was normal, and there had been no signs of recurrence over a period of ten months.

Mr. Jones said that the line of treatment advised by Vineberg was adopted in the first case largely owing to the patient's poor general condition. The procedure adopted in the other two cases would appear to be all that was necessary as a practical working plan—namely, careful bimanual examination of the uterus ten to fourteen days after the removal of the mole. Diagnostic curettage should be performed in all cases in which the uterus had remained enlarged, or in which an unhealthy discharge, sanious or not, was present. Inconclusive cases might be kept under observation and re-examined after a further short period, while it would prove safest, in view of the malignancy of the disease and the difficulty of interpreting the histological significance of some curettings, to treat doubtful cases as positive, and to perform panhysterectomy.

#### *Hydramnios with Uniovular Twins.*

Mr. Maslon Jones also reported a case of hydramnios associated with uniovular twins.

A married woman, aged 37, had given birth to nine children, and had had four abortions. Her last pregnancy had been two and a

half years previously, and she had last menstruated in June, 1927. She noticed abdominal swelling early in October; at the beginning of November the ankles began to swell, and she observed that she was passing less urine. She was admitted to hospital in November in considerable pain, the abdomen being so tensely distended that the skin was tightly stretched, white, and shiny, with the superficial veins flattened and blue. This distension was due to a cystic tumour, there being a well marked fluid thrill, with central dullness, and resonance in the flanks. So tense was the abdomen that it was impossible to make out any intra-abdominal details. On vaginal examination the cervical canal was sufficiently open to allow the examining finger to pass, when a small foetal head was palpable. There was no tenderness or protrusion of the bag of membranes. From these signs it seemed possible that the patient had a normal five months' pregnancy concealed by a large ovarian cyst, though the actual diagnosis made was hydramnios. Her general condition was bad. The scanty, highly concentrated urine contained a large amount of albumin; she had a large goitre, and was suffering from considerable dyspnoea owing to the size of the abdominal tumour. In view of the possibility of a dual condition—pregnancy and cyst—being present, induction was attempted by means of a rubber bougie. The result was disappointing, the pains being few, weak, and irregular, and the cervical dilatation produced only slight. The patient was placed under epinal anaesthesia after morphine-byosine narcosis; the presenting bag of membranes was ruptured and a small quantity of liquor escaped. The cervix dilated easily, and on pushing the foetal head to one side a tense membrane could be felt higher up in the uterus. Rupture of this was followed by a prolonged rush of fluid, twenty pints in all, while the abdominal swelling subsided. Extraction of the twins presented no difficulty, and the placenta followed in due course. Convalescence was uninterrupted, the oedema rapidly subsiding and the output of urine steadily returning to normal. Examination of the placenta and membranes showed them to consist of a single placenta and chorion, but two separate amniotic sacs were present, the upper one, which had been the seat of the hydramnios, having contained the larger twin. The umbilical cord of the larger foetus, showed a fair degree of oedema towards its placental end, which had a velamentous insertion. Microscopical examination of the kidney tissue from each foetus showed normal foetal renal characters. The heart and liver were relatively increased in bulk, but the kidneys in the larger foetus were barely out of proportion. The full bladder in the larger foetus might have been adventitious, or have been an indication of increased urinary activity as the result of an increased circulation.

Mr. Jones said that Kistner had suggested that in these cases what actually happened was that cardiac hypertrophy occurred in the manner described, and resulted in a further increase of the circulating fluid. A vicious circle was thus established, and eventually a point was reached at which the heart was no longer capable of dealing with the amount of blood coming to it, when failure of compensation resulted. The effects of this failure were most evident as a back pressure on the liver and umbilical vein. Oedema and congestion of the cord followed, with increased secretory activity of the amnion covering the cord, and the production of hydramnios. The condition of the heart and liver, and that of the cord associated with the larger twin, would seem to support these views. The etiology of this well recognized association remained somewhat obscure. The most generally accepted theory appeared to be that the healthier foetus appropriated to its own use a steadily increasing share of the joint placenta, and subsequently developed a degree of cardiac hypertrophy. Secondary renal hypertrophy followed in due course, and the resulting increased urinary secretion led to the production of increased urinary secretion led to the production of fluid hydramnios. Other views were that the excess of fluid accumulated as the result of some abnormality of the umbilical cord or its insertion, while some attributed it to failure of the foetal heart to cope with the quantity of blood reaching it from the annexed placental territory. An investigation of the foetal organs in this case was made in the hope of gaining information on these points. The findings were as follows:

	A. Large foetus.	B. Small foetus.	Weight Ratio.
Total weight	675 grams	450 grams	1.5 : 1
Heart	7.5 "	2.5 "	3 : 1
Liver	255 "	14 "	18 : 1
Kidneys	95 "	6 "	15.8 : 1

The bladder in the larger foetus was distended up to the umbilicus and contained about an ounce of urine; that of the smaller was contracted and empty. There was no appreciable difference in length between the foetuses, which were male; the larger weighed 14 lb., and the smaller, which made attempts at respiration after delivery, 1 lb.

Mr. CHRISTOPHER MARTIN (Birmingham) showed a specimen of leucoplakia of the vulva, which he had removed about a fortnight previously.

## Reviews.

### HOSPITAL ORGANIZATION.

THE working of a hospital is a business. It takes as much knowledge, judgement, and skill to manage a hospital as it does to run a hotel. Indeed, since the qualities of the inmates of the hospital are so much more variable than are those of the inmates of a hotel, it is much more difficult to run a hospital successfully than to run a hotel. Perhaps the only difference that can be called material is that the one establishment is run for material profits—dividends on capital invested—whereas the other is a great human salvage department. Any business, even that of the village store, needs intelligence if it is to be successful. The application of business methods to hospitals is at least as necessary, for if the management of the hospital is not skilfully and continuously carried out the medical work of the hospital will certainly suffer, and the "profits" of the hospital will be jeopardized.

Captain J. E. STONE of St. Thomas's Hospital, London, has already made a name for himself for his skilful exposition of the financial and domestic side of hospital management. He has now placed at the disposal of the hospital community the results of his experience in a form which will render everyone interested in the subject his debtor. *Hospital Organization and Management*, the new book of which he is the author, is an admirable piece of work. It might be called the "Gray's Anatomy of hospitals," for it seems likely to take the place in hospital circles that Gray's work did, and still does, among students of anatomy. Not a few attempts have been made to produce some sort of comprehensive statement of hospital management and organization of recent years, and there has been quite an output of work of this order in the United States; but of these many works there is no one which bears such an impress of practical experience and of authoritative statement as does this.

It is a massive volume of 642 pages, its form is excellent, and it is readable even when it is dealing with detailed matters of internal administration. The arrangement is good. It proceeds from a brief but interesting account of the origin of hospitals in this country to an analysis of the varied types of hospitals found here: statutory and voluntary, general and special, town and country hospitals, private hospitals, and the hospitals to which are attached great medical schools. A conspectus is then undertaken of the service which these varied types of hospitals render to the public weal, and the accommodation they provide and should be expected to provide. The case is then studied from the point of view of the patient, from the casualty department up to the pay ward. Next the administration of the hospital is dealt with, and the constitution of the several types of hospital, in which there is an account of the various Acts of Parliament governing such institutions. The personnel is discussed, the place of each type of officer, lay and medical, intern and extern, matron, sisters, and ward maids. Finally, the sources of income are considered and the modern exploitation of methods of publicity and contributory schemes. Then follow chapters that are of the greatest interest to hospital managers, but of less interest to the medical staff; for planning and construction, except so far as general principles are concerned, are the duties of other professions than ours, so also such matters as heating and cleaning, fire prevention, contracting for supplies, co-operative buying, and the like. We are more interested in the dietary department, the laundry, the nursing service, and the social service of the almoners' department. We have some interest in hospital law, especially as it concerns the liability of the staffs. With hospital accounts we have little concern, but statistics are another matter. These are all dealt with in this book, and dealt with in such fashion that even those parts that the reader may think concern him but little are made interesting, and found to be of importance to him in the successful accomplishment of that part in which he is vitally concerned.

<sup>1</sup> *Hospital Organization and Management (Including Planning and Construction)*. By Captain J. E. Stone, M.C. London: Faber and Gwyer, Ltd. (The Scientific Press). 1927. (Med. 8vo, pp. xx + 642. 21s. net.)

Medical practitioners of all sorts are particularly interested just now in the development of hospital contributory schemes and wards for paying patients. Let us turn to the description of these and the discussion of the principles which Captain Stone has formulated. It is certain from this that he has studied the hospital policy of the British Medical Association. He cites it, and it is clear that, as a practical hospital administrator, he finds himself in agreement with the principles of that policy. On page 229 we read:

"The generally accepted definition of a voluntary hospital is in essence its free and independent management, and that independence of management is largely conditional on the voluntary nature of the income. This definition does not in any way imply the existence of gratuitous medical service. In the past the medical staff of a voluntary hospital has given its services either entirely gratuitously or, in a few instances, each member of the staff has received a small honorarium for out-of-pocket expenses. It has always been understood, however, by the honorary medical staff that the services given in this honorary capacity were to be for the necessitous poor, and not for patients for whom or from whom the hospital has received monetary consideration for treatment. Having regard to the large amounts which are now being received by voluntary hospitals from the sources mentioned, there has been brought about a new development in the relationship of the medical staff of the hospital.

"The time is fast coming when, owing to contributions from patients, payments by Government departments and the municipalities, and the growth of mass contributions from bodies of workmen and others, a very large proportion of the patients in the voluntary hospitals will be paid for in whole or in part; further, people not otherwise entitled to treatment in the voluntary hospitals are now given this privilege by virtue of their contributions.

"This changed outlook has not been ignored by the medical profession. A few years ago the British Medical Association laid down the principle, which has been and still is accepted by the staffs of the voluntary hospitals, that, though the staff who should be prepared to carry on as of old in regard to the gratuitous (treatment of) the poor, who are proper objects of charity, they should not be expected to regard patients who are paid for by Government departments and public bodies as suitable objects for their charity. The British Medical Association believe it possible that these payments will become a progressive feature in hospital finance, and that workmen's contributions will ultimately take on something of the nature of provident dispensary funds. They are undoubtedly right; with the possibility of a minimum living wage for every worker, and with unemployment a charge on industry, the number of indigent poor may, and it is hoped will, become very small. In such cases the Association will have established a claim to remuneration for its members. Hospital authorities can, however, look upon this departure without apprehension, as it will help them in preserving a disciplinary control which is difficult of attainment under existing conditions."

In the section dealing with appeals for income Captain Stone discusses the many modes of publicity which have been exploited of recent years. He believes that the aim of all these should be directed to the creation of interest in the hospital as all-important in the first instance, and that the securing of funds will follow.

"There is nothing new" (he says) "in this suggestion of increased publicity; business caters for the public, and the latter can make or break any concern. Why should hospitals think themselves immune? As a matter of fact, hospitals are more largely dependent upon the goodwill of the public than any other concern, for it is the public that the hospital must go to every time it wishes to enlarge its premises or plant, or to increase its income."

Lord CAVE contributes a foreword to the book, and there is an introduction by Sir ARTHUR STANLEY, chairman of St. Thomas's Hospital. But it can stand upon its own merits, and will, without doubt, prove invaluable to all hospital workers for many years to come, both for instruction and reference.

### THE BACTERIOLOGY OF RHEUMATOID DISEASES.

*The Bacteriology and Surgery of Chronic Arthritis and Rheumatism with End-Results of Treatment*<sup>2</sup> is both the basis and the supplement to Dr. H. WARREN CROWE's earlier volume on the treatment of chronic arthritis and rheumatism, which was reviewed in these columns about a year ago (1927, i, 18). The new book sets out in full his bacteriological conclusions, the result of many years' work;

<sup>2</sup> *Bacteriology and Surgery of Chronic Arthritis and Rheumatism with End-Results of Treatment*. By H. Warren Crowe, D.M., B.Ch., Oxon. The Chapter on Surgical Treatment by Herbert Frankling, C.B.E., M.R.C.S. Eng. Oxford Medical Publications. London: H. Milford. 1927. (Cr. 4to, pp. x + 187; 34 figures, 6 plates. 50s. net.)

it contains a large number of illustrations, including several coloured plates, gives the results of, and the pitfalls underlying, vaccine treatment, and contains a chapter on surgical treatment, occupying rather more than a third of the volume, by Mr. HERBERT FRANKLING. This book contains the grounds, elaborated in published papers, for Dr. Crowe's views as to the etiology and treatment of these diseases. Bacteriologically he believes that osteo-arthritis and non-articular rheumatism are caused by streptococci, the numerous strains of which may account for the varying clinical manifestations. Rheumatoid arthritis, which is regarded as a much more cleanly cut clinical condition, is ascribed to the action of staphylococci, which present a greater uniformity. In addition to these two clinical forms a third, mixed arthritis, is recognized, to include cases with the symptoms of both the previous forms; this may happen when a patient's resistance is so diminished by streptococci that staphylococci gain a footing and exert a pathogenic effect. It appears, however, that if all cases presenting any symptoms of this double infection are placed under the heading of mixed arthritis, there will be comparatively few for the other two categories.

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*The Handbook of Diseases of the Ear,*<sup>3</sup> by Mr. RICHARD LAKE, achieved great popularity during the first decade of the century, and passed through several editions. The last appeared some fifteen years ago. Its success was no doubt due to the reputation of the author and the fact that all the essential facts relating to the subject were included in a volume of moderate size, an achievement rendered possible by the concise style of the writer. Dr. PETERS has now completed a fifth edition, and although he has produced a useful book the difficulty of the task which he has undertaken after this interval is apparent, and it would have been easier to rewrite the book than to blend the new with the old. There is, however, a sufficient description of all the essentials, including a review of the functions of the labyrinth, with reference to recent views on the utricle and saccule, as well as the semicircular canals. Nothing has been added about herpes of the ear, and the chapter on intracranial complications might be fuller; but with these exceptions there is an adequate account of the subject as a whole and of all the ordinary diseases of the ear. It should certainly continue to prove a useful handbook for the house-surgeon or busy practitioner who does not require a large book.

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#### NUTRITION IN CHILDHOOD.

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<sup>5</sup> *Nutrition Work with Children.* By Lydia J. Roberts. The University of Chicago Home Economic Series. Chicago: University of Chicago Press. 1927. (Demy 8vo, pp. xiv + 394; 14 figures. 17s. 6d. net.)

<sup>6</sup> *Feeding and Nutritional Disorders in Infancy and Childhood.* By Julius H. Hess, M.D. Fifth edition, revised and enlarged. Philadelphia: F. A. Davis Company. 1927. (Demy 8vo, pp. xiv + 566; 44 figures. 4.50 dollars.)

excess" of fat in the faeces is usually split. Nor is there any mention, in the treatment of this condition, of the use of bile salts or of pancreatic extracts. The sections on rickets and tetany are very well done, and in particular the biochemical problems are well set out. It seems a pity that in Part VIII of the book the term "acidosis" is often used where "ketosis" is evidently meant.

#### A GENERAL VIEW OF PSYCHOLOGY.

DR. WILLIAM ELDER of Leith has written a volume entitled *Studies in Psychology* in which he aims to approach the problems of mental life from the standpoints of physiology, biology, and neurology. The first chapter is concerned with the mechanism of the nervous system; in the two following, the psychology of memory and its neurological basis are discussed; and the fourth is devoted to consideration of the affective-conative life—emotion, drive, purpose, and will. A discussion of consciousness is followed by one on sleep. The author, following the teaching of Claparède, takes the view that sleep is an instinct which by oft repetition has become in most people a habit.

The latter half of this book is taken up with an account of dreams and other allied forms of dissociation. The author does not accept the theories of the psycho-analytic school as to the nature and functions of dreams; his views are, as he observes, more in accord with those which have been recognized as orthodox for a long time. He quite rightly stresses the importance of endogenous and other stimuli in the instigation of dreams, though we should scarcely agree with his view that the most common cause of dreaming is some error in digestion. All kinds of normal stimuli which in waking life fail to reach consciousness are probably liable to influence dream thoughts. In this connexion we should like to have seen some reference to Mr. A. J. Cuddeback's unique contribution on the effect of experimentally induced tensions of the body surface upon the determination of the dream content.<sup>1</sup> This important research was based upon the study of about 750 dreams, of which all but a few were experimentally controlled.

It is evident that Dr. Elder has expended much thought upon his subject matter; the book is well documented, is readable, and should be of interest to the medical practitioner.

#### A SHORTER SURGERY.

MEDICAL students reviewing their knowledge of surgery for a pass examination will find much help in *A Shorter Surgery*,<sup>2</sup> by Mr. R. J. McNeill Love, which embodies in a clear and concise manner the more important principles. The book is written from a practical point of view, but includes the necessary academic material for examination purposes. The author has successfully achieved his aim in supplying what the student lacks—that is, the need of a clear and simple method of classification, and of a systematic method for routine clinical examinations. Apart from a few misprints, as on page 240, the book is well arranged, and the illustrations are good and well chosen. Mr. Love is to be congratulated; he is evidently a sound teacher, and obviously a disciple of Mr. Russell Howard.

#### NOTES ON BOOKS.

THE fifth edition of the *Handbook of Tuberculosis Schemes for Great Britain and Ireland*<sup>3</sup> has been published by the National Association for the Prevention of Tuberculosis, whose new address is 1, Gordon Square, W.C.1. The volume contains short accounts of the tuberculosis schemes in the various counties and county boroughs of Great Britain, Ireland, and the Channel Islands, lists of residential institutions for tuber-

culous patients, and charts illustrating comparative death rates. The good arrangement of the subject matter and the clear printing render the mass of information contained in this book of considerable value to all interested in the administrative side of the campaign against tuberculosis.

Dr. F. G. CROOKSHANK, author of the *Mongol in our Midst* and of a number of other published works, always writes in an arresting style, and is becoming, as again shown in his small book *Diagnosis: and Spiritual Healing*,<sup>4</sup> the medical philosopher in our midst. The careless reader might overlook the colon after the first word in the title and expect to find a discussion of the merits of spiritual healing, with or without diagnosis of the malady; if so, he would soon find out that there are two separate addresses, that on diagnosis being the Bradshaw Lecture for 1926 on "The theory of diagnosis," delivered at the Royal College of Physicians of London, the other, "Spiritual healing and medical theory," being a paper read at a meeting of the Hunterian Society in the course of a debate opened by the Bishop of Kensington in November, 1925, and reprinted from *Psyche*. The Bradshaw Lecture occupies three-quarters of the booklet, and undoubtedly stimulates thought, while the other address may arouse admiration for the breathless sentence, extending over more than a page and a half without a stop, which is the supposed reply of many doctors when asked their opinion of spiritual healing.

Dr. SHIELDS WARREN, instructor in pathology in the Harvard Medical School, has recently gathered into book form, with the title *Medical Science for Everyday Use*,<sup>5</sup> a series of articles on subjects of medical interest which he contributed to a Boston Sunday newspaper. Dr. Warren peppers his discourses with racy remarks, as when he calls the *Streptococcus haemolyticus* a "mean bug," or states that we have all seen "short, chunky ones [that is, youngsters] husky enough to eat nails," or calls the anthrax germ the "Henry Ford of the bacterial world." The occasional iniquities of the staphylococcus are illustrated, in an article on blood poisoning, by the notoriety the germ received some years ago in killing Calvin Coolidge, junr. On the subject of colds in the head we are given an account of how Smith, with a nice tame family of the "mean bug" in his throat, sneezed a few into Jones, who, without developing a cold, raised the virulence of the germ. Jones coughed in a crowded subway train, and sprayed Jackson and Harris. The latter was immune, so nothing happened. Jackson was tired and chilly; the streptococci got the upper hand, and Jackson went to bed with tonsillitis. Dr. Warren's views are generally sound, and we are interested to note that he doubts whether the exhaust fumes from the tetra-ethyl lead contained in the "ethyl gasoline" now used for motor cars are a desirable addition to the atmosphere.

Many books, articles, and pamphlets are being published on the ailing child, the nervous child, the wayward child, the defective, and delinquent, so it is a pleasant relief to come across a book on *The Normal Child*.<sup>6</sup> The author, Dr. B. SACHS, exhibits a deep knowledge of the quite ordinary child. Incidentally he remarks that every child is, and should be, a problem-child to his own parents, and says also that although "the community owes and does its duty to the abnormal child, yet it is far more important properly to care for the normal child." He warns his readers against the "bogy of heredity," and also against the easy path of making heredity an excuse, where, in reality, parental and educational methods have been at fault. It is refreshing also to find him expressing the opinion that children should not be raised on "purely scientific methods by mothers endowed with a smattering of psychology." "Let the mother exercise her own good common sense, and let nothing supersede the maternal instinct tempered by experience and common sense." The paternal responsibility in the upbringing of children is emphasized, a harmonious dual control being the ideal for the normal family. In the chapter on the nursery and pre-school period we find it said that "there has been much idle talk about the fear of 'repressing' a child as though repression were a thing to be looked at askance. Suppression is bad, repression beneficial. Why not adopt the slogan, both for children and adults, 'Repress yourself so that your neighbour may express himself?' " In the chapter on the school age are some wise remarks on modern pedagogical methods and their results. All parents would be the wiser for reading the chapter on puberty and adolescence, and the book closes with another on the evils of psycho-analysis. The author criticizes the Freudian doctrines, as they may be interpreted by people of

<sup>1</sup> *Studies in Psychology*. By William Elder, M.D., F.R.C.P.E., F.R.S.E. London: W. Heinemann (Medical Books), Ltd. 1927. (Demy 8vo, pp. xv + 212. 6s. 6d. net.)

<sup>2</sup> *A Shorter Surgery*, vol. xiii, Part 3, January, 1923. F.R.C.S.Eng. London: H. K. Lewis and Co., Ltd. (Demy 8vo, pp. viii + 238; 43 figures, including 13 plates. 12s. 6d. net.)

<sup>3</sup> *Handbook of Tuberculosis Schemes for Great Britain and Ireland*. 5th edition. London: Adlard and Son, Ltd., and the National Association for the Prevention of Tuberculosis. 1927. (Med. 8vo, pp. vii + 338. 1s. 6d. post free.)

<sup>4</sup> *Diagnosis: and Spiritual Healing*. By F. G. Crookshank, M.D., F.R.C.P. Psyche Miniatures, Medical Series, No. 6. London: Regan Paul, Trench, Trubner and Co., Ltd. 1927. (Post 8vo, pp. 101. 2s. 6d. net.)

<sup>5</sup> *Medical Science for Everyday Use*. By Shields Warren, A.B., M.D. Philadelphia: Lea and Febiger. 1927. (Post 8vo; pp. ix + 178. 2 dollars.)

<sup>6</sup> *The Normal Child and How to Keep it Normal in Mind and Morals*. By B. Sachs, M.D. New York: Paul B. Hoeber. 1926. (Post 8vo, pp. 111. 1.50 dollars.)



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<sup>3</sup> *Feeding and Nutritional Disorders in Infancy and Childhood.* By J. H. Hess, M.D. Fifth edition, revised and enlarged. Philadelphia: F. A. Davis Company. 1927. (Demy 8vo, pp. xiv + 566; 44 figures. 4.50 dollars.)

<sup>4</sup> *Handbook of Diseases of the Ear.* By Richard Lake, F.R.C.S. Eng., and E. A. Peters, M.D. Cantab., F.R.C.S. Eng. Fifth edition. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. xviii + 310; 80 figures, 4 plates. 12s. 6d. net.)



excess of fat in the faeces is usually split. Nor is there any mention, in the treatment of this condition, of the use of bile salts or of pancreatic extracts. The sections on rickets and tetany are very well done, and in particular the biochemical problems are well set out. It seems a pity that in Part VIII of the book the term "acidosis" is often used where "ketosis" is evidently meant.

#### A GENERAL VIEW OF PSYCHOLOGY.

DR. WILLIAM ELDER of Leith has written a volume entitled *Studies in Psychology* in which he aims to approach the problems of mental life from the standpoints of physiology, biology, and neurology. The first chapter is concerned with the mechanism of the nervous system; in the two following, the psychology of memory and its neurological basis are discussed; and the fourth is devoted to consideration of the affective-conative life—emotion, drive, purpose, and will. A discussion of consciousness is followed by one on sleep. The author, following the teaching of Claparado, takes the view that sleep is an instinct which by oft repetition has become in most people a habit.

The latter half of this book is taken up with an account of dreams and other allied forms of dissociation. The author does not accept the theories of the psycho-analytic school as to the nature and functions of dreams; his views are, as he observes, more in accord with those which have been recognized as orthodox for a long time. He quite rightly stresses the importance of endogenous and other stimuli in the instigation of dreams, though we should scarcely agree with his view that the most common cause of dreaming is some error in digestion. All kinds of normal stimuli which in waking life fail to reach consciousness are probably liable to influence dream thoughts. In this connection we should like to have seen some reference to Mr. A. J. Cumberley's unique contribution on the effect of experimentally induced tensions of the body surface upon the determination of the dream content.<sup>1</sup> This important research was based upon the study of about 750 dreams, of which all but a few were experimentally controlled.

It is evident that Dr. Elder has expended much thought upon his subject matter; the book is well documented, is readable, and should be of interest to the medical practitioner.

#### A SHORTER SURGERY.

MEDICAL students reviewing their knowledge of surgery for a pass examination will find much help in *A Shorter Surgery*,<sup>2</sup> by Mr. R. J. McNeill Love, which embodies in a clear and concise manner the more important principles. The book is written from a practical point of view, but includes the necessary academic material for examination purposes. The author has successfully achieved his aim in supplying what the student lacks—that is, the need of a clear and simple method of classification, and of a systematic method for routine clinical examinations. Apart from a few misprints, as on page 240, the book is well arranged, and the illustrations are good and well chosen. Mr. Love is to be congratulated; he is evidently a sound teacher, and obviously a disciple of Mr. Russell Howard.

#### NOTES ON BOOKS.

THE fifth edition of the *Handbook of Tuberculosis Schemes for Great Britain and Ireland*<sup>3</sup> has been published by the National Association for the Prevention of Tuberculosis, whose new address is 1, Gordon Square, W.C.1. The volume contains short accounts of the tuberculosis schemes in the various counties and county boroughs of Great Britain, Ireland, and the Channel Islands, lists of residential institutions for tuber-

<sup>1</sup> *Studies in Psychology*. By William Elder, M.D., F.R.C.P.E., F.R.S.E. London: W. Heinemann (Medical Books), Ltd. 1927. (Demy 8vo, pp. xv + 212. 8s. 6d. net.)

<sup>2</sup> *Brit. Journ. Psychology*, vol. xiii, Part 3, January, 1923.

<sup>3</sup> *A Shorter Surgery*. By R. J. McNeill Love, M.B., M.S. Lond., F.R.C.S. Eng. London: H. K. Lewis and Co., Ltd. (Demy 8vo, pp. viii + 236; 43 figures, including 13 plates. 12s. 6d. net.)

<sup>4</sup> *Handbook of Tuberculosis Schemes for Great Britain and Ireland*. 5th edition. London: Adlard and Son, Ltd., and the National Association for the Prevention of Tuberculosis. 1927. (Med. 8vo, pp. vii + 358. 6d. post free.)

culous patients, and charts illustrating comparative death rates. The good arrangement of the subject matter and the clear printing render the mass of information contained in this book of considerable value to all interested in the administrative side of the campaign against tuberculosis.

Dr. F. G. CROOKSHANK, author of the *Mongol in our Midst* and of a number of other published works, always writes in an arresting style, and is becoming, as again shown in his small book *Diagnosis: and Spiritual Healing*,<sup>11</sup> the medical philosopher in our midst. The careless reader might overlook the colon after the first word in the title and expect to find a discussion of the merits of spiritual healing, with or without diagnosis of the malady; if so, he would soon find out that there are two separate addresses, that on diagnosis being the Bradshaw Lecture for 1926 on "The theory of diagnosis," delivered at the Royal College of Physicians of London, the other, "Spiritual healing and medical theory," being a paper read at a meeting of the Hunterian Society in the course of a debate opened by the Bishop of Kensington in November, 1925, and reprinted from *Psyche*. The Bradshaw Lecture occupies three-quarters of the booklet, and undoubtedly stimulates thought, while the other address may arouse admiration for the breathless sentence, extending over more than a page and a half without a stop, which is the supposed reply of many doctors when asked their opinion of spiritual healing.

Dr. SHIELDS WARREN, instructor in pathology in the Harvard Medical School, has recently gathered into book form, with the title *Medical Science for Everyday Use*,<sup>12</sup> a series of articles on subjects of medical interest which he contributed to a Boston Sunday newspaper. Dr. Warren peppers his discourses with racy remarks, as when he calls the *Streptococcus haemolyticus* a "mean bug," or states that we have all seen "short, chunky ones [that is, youngsters] husky enough to eat nails," or calls the anthrax germ the "Henry Ford of the bacterial world." The occasional iniquities of the staphylococcus are illustrated, in an article on blood poisoning, by the notoriety the germ received some years ago in killing Calvin Coolidge, junr. On the subject of colds in the head we are given an account of how Smith, with a nice tame family of the "mean bug" in his throat, sneezed a few into Jones, who, without developing a cold, raised the virulence of the germ. Jones coughed in a crowded subway train, and sprayed Jackson and Harris. The latter was immune, so nothing happened. Jackson was tired and chilly; the streptococci got the upper hand, and Jackson went to bed with tonsillitis. Dr. Warren's views are generally sound, and we are interested to note that he doubts whether the exhaust fumes from the tetra-ethyl lead contained in the "ethyl gasoline" now used for motor cars are a desirable addition to the atmosphere.

Many books, articles, and pamphlets are being published on the ailing child, the nervous child, the wayward child, the defective, and delinquent, so it is a pleasant relief to come across a book on *The Normal Child*.<sup>13</sup> The author, Dr. B. SACHS, exhibits a deep knowledge of the quite ordinary child. Incidentally he remarks that every child is, and should be, a problem-child to his own parents, and says also that although "the community owes and does its duty to the abnormal child, yet it is far more important properly to care for the normal child." He warns his readers against the "bogy of heredity," and also against the easy path of making heredity an excuse, where, in reality, parental and educational methods have been at fault. It is refreshing also to find him expressing the opinion that children should not be raised on "purely scientific methods by mothers endowed with a smattering of psychology." "Let the mother exercise her own good common sense, and let nothing supersede the maternal instinct tempered by experience and common sense." The paternal responsibility in the upbringing of children is emphasized, a harmonious dual control being the ideal for the normal family. In the chapter on the nursery and preschool period we find it said that "there has been much idle talk about the fear of 'repressing' a child as though repression were a thing to be looked at askance. *Suppression* is bad, *repression* beneficial. Why not adopt the slogan, both for children and adults, 'Repress yourself so that your neighbour may express himself?' " In the chapter on the school age are some wise remarks on modern pedagogical methods and their results. All parents would be the wiser for reading the chapter on puberty and adolescence, and the book closes with another on the evils of psycho-analysis. The author criticizes the Freudian doctrines, as they may be interpreted by people of

<sup>11</sup> *Diagnosis: and Spiritual Healing*. By F. G. Crookshank, M.D., F.R.C.P. Psyche Miniatures, Medical Series, No. 6. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1927. (Post 8vo, pp. 101. 2s. 6d. net.)

<sup>12</sup> *Medical Science for Everyday Use*. By Shields Warren, A.B., M.D. Philadelphia: Lea and Febiger. 1927. (Post 8vo, pp. ix + 178. 2 dollars.)

<sup>13</sup> *The Normal Child and How to Keep It Normal in Mind and Morals*. By B. Sachs, M.D. New York: Paul E. Hoeber. 1926. (Post 8vo, pp. 111. 1.50 dollars.)

insufficient education and experience, and protests against the indiscriminate application of ill-considered psycho-therapeutic methods to youthful minds. The book is noteworthy for its wisdom and wholesome common sense.

### PREPARATIONS AND APPLIANCES.

#### "GLANOID" CONCENTRATED FLUID EXTRACT OF LIVER.

GREAT interest has naturally been aroused by the recent discovery by Minot that a striking benefit is produced in cases of pernicious anaemia by the addition of considerable quantities of liver to the diet.

Sometimes it is difficult to get the patients to consume an adequate quantity of liver, and in such cases liver concentrates are very useful. Messrs. Armour and Co. have prepared "Glanoid concentrated fluid extract of liver," and they state that each ounce of the extract represents eight ounces of fresh liver. They state, moreover, that "Glanoid concentrated fluid extract of liver has been demonstrated to be of therapeutic value on a large number of patients with striking success by Koessler and his associates of the University of Chicago." (*Journal American Medical Association*, September 3rd, 1927.)

The active principle of the liver that produces the remarkable curative effects in pernicious and secondary anaemias is at present unknown, although research on this point is in progress. The preparation of Messrs. Armour appears, from the evidence supplied, to be an active concentrate of liver convenient for administration in anaemia.

#### THE "DIGITRUSS."

The "digitruss," an appliance for the treatment of inguinal hernia, has been patented by Mr. H. E. Cooper of 63, Green Lane, Eltham, S.E.9. It presents the following points worthy of notice: (1) The pad is made of "sorbo" rubber. (2) This is held in position by a very ingenious slip-on red-rubber facing. (3) The pad is therefore capable of moulding itself to the contour of the body, and avoids undue pressure. (4) For an ordinary inguinal hernia understraps may thereby be unnecessary. (5) The finger projections are easily bent so as to induce some extra pressure.

### THE ROYAL AIR FORCE.

#### REPORT ON THE HEALTH OF THE FORCE IN 1926.

The report on the health of the Royal Air Force for the year 1926 is conveniently arranged in four chapters, with appropriate tables and charts. The average strength of the total force was 32,985, of which 23,958 were serving in the United Kingdom, 3,528 in the Mediterranean littoral, 3,536 in Iraq, and 1,963 in India.

The case incidence of disease and injury was 801.1 per 1,000 of strength, a diminution of 100 compared with 1925. Cases of less than forty-eight hours' duration are enumerated separately, and, excluding these, the incidence is reduced to 449.1. The decrease in case incidence at home is attributed to the smaller number of cases of influenza, and the increase abroad to the larger number of cases of malaria in India and Iraq.

Forty-one deaths from disease and 112 from injury occurred during the year under review, compared with 36 and 102 respectively in 1925. The chief causes of death from disease were pneumonia and tuberculosis (6 cases each), and from injury (multiple fractures). In all 240 cases were invalided, the chief causes being chronic suppurative otitis media, psychoneurosis, and tuberculosis.

The incidence of all types of venereal disease was 17.1 per 1,000 of strength, a reduction of 50 per cent. on the 1921 figures and a continuation of the yearly reduction which has been effected since that year. This continued decrease in incidence is attributed to the unabated prosecution of preventive measures described in previous reports. There were 36 cases of pulmonary tuberculosis, with 6 deaths and 22 invalidings. The corresponding figures for 1925 were 27, 1, 30 (7 of which were 1924 cases).

The case incidence for injuries increased from 67.8 in 1925 to 76.3 in 1926. Flying accidents accounted for 7.1 per cent. of the total injuries in 1926, compared with 6.9 per cent. in 1925, the number of such deaths for these years being 78 and 54 respectively. It is stated that "considering the number of flying accidents in relation to the number of hours flown, the casualty risk during 1926 was lower than in previous years." It is to be regretted that the actual ratio is not stated, as it would be interesting to compare the figures with those of other countries—for example, those given in the U.S.A. Army Medical Report. There were no wounds in action during the year, but 14 cases of accidental gunshot wounds, with 2 deaths, are recorded. Included in the injuries off duty or on leave were 7 cases of attempted suicide, resulting in 6 deaths, and 2 cases of self-inflicted wounds.

In Chapter III, dealing with the health of the R.A.F. abroad, an account is given of 1 case of heatstroke, 5 of heat hyperpyrexia, and 13 of heat exhaustion. There were 5 deaths, all in Iraq, and the Principal Medical Officer there reported that "those of the fatal cases which were treated for many days showed symptoms indicative of toxæmia, and it is possible that lavage of the large intestine with the manganates might be beneficial in these cases." The withdrawal of cerebro-spinal fluid and the administration of pilocarpine were ineffective in all cases.

Chapter IV deals with several miscellaneous subjects. The Central Medical Board conducted 2,227 examinations, about one-half of which were of candidates for the various branches of the force, for the reserves, the Auxiliary Air Force, Princess Mary's R.A.F. Nursing Service, and entrants into the R.A.F. Cadet College; the remainder were examinations held on serving personnel to ascertain their fitness for duty and medical boards on pensioners. The causes of rejection of candidates and the average results of the physical efficiency tests and measurements in each class of accepted candidate are recorded in a series of most instructive tables. As in previous years, the chief cause of rejection was defective vision. Only 53 per cent. of candidates for flying duties were accepted.

There is an interesting account of the results obtained from the "flying aptitude apparatus," which agreed in a remarkable way with the assessments made by the flying instructors. The apparatus was also found to be of considerable help in detecting physical and temperamental defects, whereby unsound pilots could be eliminated early, and in testing the ability of pilots to resume flying after minor accidents causing slight concussion. A new type of ear defender, combined with modification of the standard flying cap, appears to have assisted in preventing deafness due to noisy aircraft.

At the end of 1926 a thorough medical examination of all officers and airmen pilots was carried out, and the results are shown in four tables; 89 per cent. of officers of the general duties branch were found fit for full flying duties, the chief causes of unfitness (temporary or otherwise) being medical defects and defective vision.

From the remarks on hygiene we learn that a procedure for the selection and recording of suitable volunteers for blood transfusion was instituted in order that the least possible delay may occur in cases requiring such treatment. In Egypt the erection of Paterson's chloronomes gave good results in providing bacteriologically pure drinking water. In Iraq 82 patients were carried in air ambulances and 48 on aircraft carrying out duty trips, the miles flown being 13,848. At the various pathological laboratories 32,252 examinations were carried out, and nearly 40,000 c.c.m. of stock vaccines were prepared and issued by the laboratory at Halton.

The report as a whole maintains the high standard of its predecessors, and the statistical tables are arranged on the most useful lines. Similar tables might be adopted with advantage in the reports of the other services. A few errors somewhat mar the work, notably *colles* (*sic*) fracture on page 6, and the omission of several commas in the last two lines on page 34.

### AMERICAN TOUR OF THE SURGICAL SECTION OF THE ROYAL SOCIETY OF MEDICINE.

As announced in these columns last year, the Surgical Section of the Royal Society of Medicine recently undertook the organization of a tour in Canada and the United States. This, the first attempt of the kind made under the aegis of the society, proved such a success as to raise the hope of other similar ventures in the future.

The party consisted of twenty-five members, seven of whom were accompanied by their wives. It was found that a group of this size was large enough to obtain a considerable reduction in railway and hotel rates, and yet was not cumbersome to manage. In a tour of this kind, in which the stops at the different places averaged less than three days, the mere handling of the baggage of a much larger party would be difficult, quite apart from other obvious complications. The travel and hotel arrangements were made throughout by the Cunard Steamship Company and the Canadian National Railway Company; their organization was excellent, and there was no hitch of any kind. A courier, provided by the Canadian National Railway, facilitated the details of transportation in every way possible.

Dr. Franklin Martin, Director-General of the American College of Surgeons, communicated with the prominent surgeons in each place on the itinerary before our visit, in order that preparations could be made. At every centro

the local surgeons and the hospital organizations afforded the group a great welcome. First-class programmes of operative work and dry clinics—to use a popular Americanism—were organized. The hospitality surpassed all expectations of a country already famous in this respect. Not only were the members entertained in the clinics and at clubs, but the hosts were most helpful and kind in providing motor car transport and looking after the comfort of the travellers in every way.

The party crossed in the s.s. *Ansonia*, and landed at Quebec on August 29th. Six days were spent in Canada. At Montreal Dr. Bazin and Professor Archibald acted as hosts at the General and Royal Victoria Hospitals respectively; and at the latter we were fortunate in seeing a thoracoplasty performed by Dr. Archibald. In the evening the party dined at the Mount Royal Club and met Professor Armstrong. At Toronto we were warmly received by Dr. Clarence Starr, and saw Drs. Gallic and Lo Mesurier at work. An afternoon was spent at the Toronto Exhibition, and on the following evening some members played golf with Drs. Starr and Gallic, the remainder being entertained by Dr. Bruce.

A visit was paid to Niagara before proceeding to Chicago, where, despite our arrival during a week-end which terminated in Labour Day holiday, a full clinical programme had been organized by Dr. Kreuscher, in addition to various entertainments. On the Sunday the party was conducted by Dr. Franklin Martin over the fine Murphy Memorial, which forms a magnificent addition to the home of the American College of Surgeons. We also saw the new North-Western University Medical School and visited the university clinic, then nearing completion, in its beautiful surroundings in the University Park. At Chicago the party had its first experience of the intensive operating programmes which our American colleagues know how to stage so well. Interesting operations, in which Dr. Nelson Percy, Dr. Eisendrath, Dr. Cubbins, and others took part, were witnessed at the Augustana, Wesley, and Cook County Hospitals. Dr. Franklin Martin entertained the party at Esmoor Country Club on Saturday, and on Sunday a supper party was given by Dr. Kreuscher at the South Shore Club.

After a night's journey the furthest west point of the tour in Rochester, Minn., was reached. We spent only two days at the world-renowned Mayo Clinic, and they were very fully occupied; Drs. C. and W. Mayo operated, and gave most interesting talks, in addition to entertaining us at their homes. Operation lists, which included some most excellent work by Drs. Judd, Balfour, Adson, and Hunt, made up the surgical programme. On the pathological side we were fortunate in being present at a weekly meeting of the staff, conducted by Dr. H. E. Robertson, and also paid a short visit to the Institute of Experimental Medicine, meeting Dr. Mann and his co-workers. On the Tuesday night the party dined at the Rochester Country Club and heard Drs. Mayo, Wilson, and MacCarty speak. Returning via Chicago, the party was entertained by Messrs. Armour, and a visit to their stockyard and factory proved an interesting experience.

At Grand Rapids the programme was arranged by Dr. Ferris Smith, and was of particular interest on account of the first-class work witnessed in hospitals smaller than those we had so far visited. The Butterworth and St. Mary's Clinics were in structure and equipment as advanced as any that we saw in course of the trip. In the evening the party was entertained by the Kent County Medical Society.

At Detroit our reception was more than hospitable under the kindly management of Dr. Kelly. Sunday was devoted to a yacht trip on Lake St. Clair. The next morning was spent with Dr. MacClure at the beautiful Ford Hospital, and in the afternoon a tour of the Ford factory at Rouge Park, together with a visit to the Ford airport and a trip over Detroit on a large passenger plane, made the day memorable. The party met Mr. Ford and his son, and were given an opportunity to see and try their new car. On the following day the Harper Clinic and Receiving Hospital were visited in the morning, and the Jefferson Clinic and the Parke Davis works in the afternoon.

The journey to Cleveland was made by the night boat, and a very full day was spent with Dr. Crile at his new clinic—an operation list of twelve was completed by Dr. Lower with characteristic vigour and punctuality by 11.30. A number of short papers by members of the staff followed a visit to the experimental department. After tea and dinner with Dr. Crile the party left for Baltimore in the evening. On our arrival in Maryland we experienced a definite change of atmosphere, touched with an agreeable southern flavour; this was emphasized by the fact that the thermometer rose to 97° F. during our stay.

The programme arranged for us was mercifully confined to the Johns Hopkins clinics. Operations by Dr. Hugh Young, Dr. Finney, Dr. Dean Lewis, and Dr. Dandy were witnessed, and Dr. Bloodgood gave a demonstration of bone tumours and discussed their diagnosis. It was delightful to meet the doyen of American surgery, Dr. Kelly. Dr. Hugh Young entertained the party at a country club in the evening. Some members visited Washington on the following afternoon, while others went to an outlying hospital with Dr. Bloodgood.

Philadelphia was unfortunately reached on a Saturday, but a full programme was staged. Five surgical clinics were in action in the morning in different parts of the city. Most of the party visited the Jefferson Hospital and watched Dr. Chevalier Jackson and Dr. Gibbon at work. Dr. A. Ashurst was operating at the Episcopal Hospital and Dr. Charles Frazier at the University Hospital; in the afternoon Dr. John B. Deaver undertook a long list at the Lankenau Hospital. The party was entertained at the Penn Athletic Club in the evening and at Dr. Jopson's home on Sunday.

New York was reached on the following day, and though three days were at our disposal it proved more than usually difficult to make a choice of the wealth of clinical material available. Most of the party visited the Post-Graduate Hospital and watched Dr. Albee and Dr. Erdmann. On Thursday Dr. William Coley was visited at the Hospital for Ruptured and Crippled. The afternoon was most pleasantly spent in a yacht trip up the Hudson with Dr. George Stewart, and it must be admitted that at this stage of the tour most of the party were ready for a half-holiday. On Wednesday an interesting symposium on cancer treatment by x rays and radium was given at the Memorial Hospital, and afterwards an excursion was made to the amazing new building which is to become the New Columbia Medical Centre. The visit of the party to the Rockefeller Institute, where Dr. Noguchi and Dr. Eberling gave fascinating demonstrations, was unfortunately cut short by the necessity of catching a train to Boston.

Boston was the last centre to be visited, and most of us felt sorry to have a bare two days to spend in a city of such historic associations. Professor Harvey Cushing entertained us in the morning at the Peter Brent Brigham Hospital, and later the party went to the General Hospital, a pleasant old foundation with modern additions. In the evening we were entertained at Brookline Country Club. On the following day Dr. Osgood and Dr. Ladd gave us a first-class clinic in their most delightful Children's Hospital, and subsequently Dr. Lahey was seen operating at the Deaconess Hospital. An interesting diagnostic clinic by Dr. Joslin, Dr. Fordan, and others concluded our medical experiences.

The party returned to New York by train, and embarked direct on the s.s. *Lancastria*. All members were tired, but the infectious enthusiasm of our hosts kept us actively interested from the start to the finish of our journey. We certainly left America with a sense of having completed a memorable and inspiring experience. The whole party was strongly impressed by the high standard of surgery which is widely attained in the United States, and was filled with unbounded admiration for the energy and organization everywhere manifest. From a surgical point of view, in the short time at our disposal the able management of our hosts made it possible for us to see a great deal of interesting work, and to obtain an insight into some phases of American life.

C. MAX PAGE.

# British Medical Journal.

SATURDAY, FEBRUARY 4TH, 1928.

## LIVER TREATMENT OF PERNICIOUS ANAEMIA.

Six months have now passed since the discussion on the treatment of pernicious anaemia, at the Annual Meeting of the British Medical Association at Edinburgh, drew general attention in this country to the liver treatment introduced by Minot and Murphy. Since that time the method has been given a widespread trial in all countries, and although six months is too short a period to enable any useful conclusions to be drawn as to the permanence of the good results obtained, the immediate results tend to confirm Minot and Murphy's observations in a most satisfactory manner; and there is general agreement that, putting it at its lowest, the liver treatment produces effects incomparably better than any previous method. At the Edinburgh meeting mention was made of a liver extract prepared by Cohn of Harvard which had given very satisfactory results, and several extracts have now been made in this country, either by Cohn's original method or by some modification. Unfortunately, work in this respect is hindered by the fact that there is no experimental method of testing the potency of an extract other than by giving it to a patient with the disease; nevertheless the work goes on apace, and we may hope to have an extract available for general use before very long.

It is therefore of great interest to read the detailed observations on the use of liver and liver extracts which have been carried out at the Medical Unit at St. Bartholomew's Hospital, and described by Professor Francis Fraser in a communication with which he opened a discussion on January 23rd at the Medical Society of London. The paper by Professor Fraser and his colleagues is printed at page 165 this week, and the discussion is reported at page 178. The results appear to be equally good whether the liver is given in the fresh form or as an extract; and this is fortunate, for with the present methods of preparation the extract must necessarily be a costly substance, and its use will probably be restricted as yet to experimental work and to special cases in which it is difficult to get the patient to take an adequate quantity of whole liver. The number of failures so far reported is comparatively few; in a series of 19 Professor Fraser records two patients who showed no improvement. In such cases Minot suggests that in all probability the diagnosis is at fault, and Professor Fraser admits this possibility, although in his cases no alternative diagnosis could be arrived at. In view, however, of our complete ignorance of the way in which the liver acts it seems unnecessary to demand 100 per cent. of cures, and all are agreed that it is desirable to combine with the liver diet such other remedial measures as past experience has proved useful.

As was natural in view of the dramatic results with pernicious anaemia, liver diet has also been tried in cases of secondary anaemia. Here the results are more conflicting and the evidence less satisfactory, but Professor Fraser reports that his observations confirm the American opinion that no beneficial results accrue. This has occasioned some surprise in view of

the fact that the use of liver was originally suggested in part by Whipple's work on dogs rendered anaemic by bleeding; but it now appears probable that in these experiments the beneficial effect of the liver is due solely to its influence on haemoglobin regeneration, whereas in pernicious anaemia the effect is on the development of the red cells, an entirely different liver product being responsible in the two cases. The work of Peabody on the histology of the marrow during treatment with liver, taken in conjunction with the researches of Doan, Cunningham, and Sabin on the normal development of the red blood cells in the marrow, seems to show conclusively that the megaloblast of pernicious anaemia is not an embryonic cell more or less peculiar in adult life to patients suffering from that disease, but that it is a normal progenitor of the adult red cell present normally in the marrow; and that its appearance in large numbers in the marrow, and in smaller numbers in the blood, in pernicious anaemia is due to the absence of some factor necessary for the proper maturation of the megaloblast into normoblast, and that this factor can be supplied by liver diet. If this be so it affords strong support to the view, now largely denied, that the haemolysis so characteristic of the disease is not the primary blood lesion, but a secondary result.

## BIOCHEMICAL PRODUCTS.

We have often felt obliged to call the attention of our readers to the fact that very few synthetic drugs of importance have been discovered in this country, and that in consequence Britain has contributed very little to the advance of chemotherapy. For this reason it was particularly pleasant to read the recent tribute by Mr. A. M. Samuel, now Financial Secretary to the Treasury, to the distinguished part that British research workers and chemical firms have played in the development of the newer science of biochemistry.<sup>1</sup>

The contrast between the position our country occupies in chemotherapy and in biochemical therapeutics is indeed remarkable. Germany led the discovery of synthetic remedies sixty years ago, and that lead she has maintained ever since, as is evidenced by the large series of synthetic drugs of German origin, which began with chloral hydrate and the coal-tar antipyretics, and is being continued by such recent additions as Bayer 205 and plasmoguin. The British discoveries in this field are negligible when compared with the German list; but, on the other hand, in the production of therapeutic agents of biochemical nature our country has played a very distinguished part. This is particularly true in the case of endocrine secretions and vitamins. Most of the outstanding pioneer work in endocrinology was done in this country—as, for example, the work of Horsley on the thyroid and of Schafer on the pituitary and the adrenals—while Harington's synthesis of thyroxine is an example of an important recent advance. Similarly, the science of vitamins (if the phrase may be used) was very largely originated by the fundamental work of Hopkins, and this science has been developed chiefly in Great Britain and in the United States. The history of the discovery and exploitation of synthetic dyes is a reminder, somewhat melancholy for us, that a discovery may be made in one country and that another country may reap all the benefits accruing from its commercial exploitation. Fortunately, this history is not being repeated in the case of biochemical products, for, as Mr. Samuel pointed out, British chemical industry

<sup>1</sup> *Times*, January 26th, 1928.

is playing a leading part in the production of many of these substances on the commercial scale, and he mentioned in particular the production of vitamin D.

Vitamin D is produced by the activation of ergosterol by ultra-violet rays. It is formed when the skin is exposed to ultra-violet radiation, either from the sun or from an artificial source, and it can also be obtained ready made in the fats and oils of certain animals. Unfortunately, we cannot depend on an adequate annual supply of sunlight in this country—a fact that needs no emphasis while last summer is still fresh in our memories. Since deficiency in vitamin D causes defective formation of bones and teeth, an adequate supply of this substance may be said to be a matter of national importance. It is true that extreme cases of deficiency, such as used to be regarded as typical rickets, are now becoming much rarer, but modern studies of bone and teeth formation in children suggest that a partial deficiency of vitamin D is the rule rather than the exception in our urban population.

Hitherto cod-liver oil has been the chief means for the prevention and cure of rickets, and the virtues and disadvantages of this valuable remedy are neatly expressed in a poem entitled "The A B C of Vitamins" that appeared last month in the *St. Bartholomew's Hospital Journal*:

"The epiphyses of Jemima's knees  
Were a truly appalling sight;  
For the rickets strikes where it jolly well likes  
If the Vitamin D's not right,  
Though its plots we foil with our cod-liver oil  
Or our ultra-violet light.  
So swallow your cod-liver oil, my dears,  
And bonny big babes you'll be.  
Though it makes you sick it's a cure for the rickets  
And teeming with Vitamin D."

The taste of cod-liver oil and the fact that it may upset digestion in some individuals have done much to check its use. The discovery that vitamin D is identical with irradiated ergosterol has removed this difficulty, for this substance is so potent that the daily dose needed by a human being is only a small fraction of a milligram, and it has a pleasant sweetish taste. The British Drug Houses have achieved the production of irradiated ergosterol on a commercial scale, and, as their representative has stated in the press, the substance can be added at a fractional cost to many articles of food, such as margarine, biscuits, and chocolates. There should therefore be no difficulty in securing an antirachitic diet for our population. Florid rickets has already become a rarity, and we may hope with reason that an increase in the supply of the antirachitic factor may result in the disappearance of many less obvious manifestations of defective formation of the bones and teeth. It will be of particular interest to see what effect an adequate supply of the antirachitic factor has on the incidence of dental caries among the rising generation.

#### TREATMENT OF MEASLES WITH CONVALESCENT SERUM.

The lead given some ten years ago by the French physicians Nicolle and Conseil<sup>1</sup> in the prophylaxis of measles with convalescent serum has since been followed by other workers, including Degkwitz,<sup>2</sup> Zimmermann,<sup>3</sup> Debré with Joannon,<sup>4</sup> and Ravina<sup>5</sup>

on the Continent; and Zingher,<sup>6</sup> Park and Freeman,<sup>7</sup> Haas and Blum<sup>8</sup> in the United States of America. From the published results of these various observers it seems evident that we now have a promising auxiliary weapon of defence against measles. The injection (according to age) of 6 to 10 c.cm. of convalescent serum, collected at least five days after the patient's defervescence, will, in a large proportion of cases, prevent an attack if administered within five days of exposure. Furthermore, inoculation after the seventh day of exposure does not as a rule protect; but in such cases the disease appears in an attenuated form, complications very rarely occur ("sero-attenuation"), and an active immunity results. In this country little information has hitherto been published, but Miller and Smith of Harrogate<sup>9</sup> and Benson in Edinburgh<sup>10</sup> have recorded successful experiences of the treatment in small epidemics.

The question arises, therefore, whether an extended trial of the method in this country should not be encouraged, and, if so, how. It may be said at once that, even if such a consummation were desirable, the prevention of every case of measles throughout the country is not a practicable proposition, and any attempt at wholesale immunization of susceptibles is out of the question. But in orphanages, convalescent homes, schools, and other institutions where a large proportion of the inmates are children the method should prove of great value; in hospitals also serum prophylaxis would usefully meet the difficulties when children are exposed to a case of measles developing in the wards; and in private practice (where R. P. Forbes and Berryman Green of Denver<sup>11</sup> suggest the employment of "family donors") it is often important to protect one or more members of the family for whom, by reason of some frailty or because of tender years, an attack of measles is fraught with special dangers. It is, indeed, on behalf of children under the age of 5 years—who contribute a very large proportion of the deaths caused by measles—that these new measures, as suggested by W. S. C. Copeman<sup>12</sup> and others, could most profitably be employed. By postponing the incidence of the disease, or in other cases modifying the severity of the attack among children in this age group, we should reduce the risk of serious complications and might expect to achieve a considerable reduction in the mortality from measles.

One of the practical difficulties experienced hitherto has been the inadequate supply of serum for emergencies. In Paris, Brussels, and New York this difficulty has been overcome in part by the establishment of central depots where the serum is collected and kept ready for distribution; it may be that there is now sufficient warrant to do likewise in this country, though the organization may present some difficulties and it may not be easy to obtain donors. It would certainly be essential that any proposed depots for the collection and preparation of convalescent serum should be controlled by medical authorities possessing clinical and bacteriological facilities, and, unless the matter is taken up systematically and thoroughly by some of the larger public health authorities, or by such a body as the Metropolitan Asylums Board, it is unlikely that these difficulties can be surmounted in practice.

It should be added that some promising work is being carried out in the use of animal serums. In

<sup>1</sup> Bull. et Mém. Soc. Méd. des Hôp. de Paris, 1918, xlii, 336; Arch. Inst. Pasteur de l'Afrique du Nord, 1921, i, 193.  
<sup>2</sup> Zeit. f. Kinderh., 1920, xxv, 134; ibid., 1920, xxvii, 171; Monats. f. Kinderh., 1921, xxii, 186; Deut. med. Woch., 1922, xlviii, 26.  
<sup>3</sup> Deut. med. Woch., 1922, xlviii, 1701.  
<sup>4</sup> Rev. d'Hygiène, 1923, viii.  
<sup>5</sup> Bull. et Mém. Soc. Méd. des Hôp. de Paris, 1923, xlvii, 226.

<sup>6</sup> Journ. Amer. Med. Assoc., 1924, lxxxii, 1180.

<sup>7</sup> Journ. Amer. Med. Assoc., 1926, lxxxvii, 556.

<sup>8</sup> Journ. Amer. Med. Assoc., 1926, lxxxvii, 553.

<sup>9</sup> Proc. Path. Soc. Great Britain and Ireland, 1927, xxx, 180.

<sup>10</sup> Edin. Med. Journ., April, 1927.

<sup>11</sup> Journ. Amer. Med. Assoc., 1927, lxxxix, 1601.

<sup>12</sup> Proc. Roy. Soc. Med., 1927, xx, No. 10, 1609.



America encouraging results are reported by Tunnickliff and Hoyne<sup>13</sup> in the use of goat's serum immunized with the green-producing measles diplococcus; more recently in Italy Pontano and Alba<sup>14</sup> have observed that normal horse serum is as effective as convalescent serum. Should, therefore, a reliable animal serum become established and be put upon the market, many difficulties in the collection of convalescent serum, and some of the popular prejudices against it, would disappear. In the meantime, however, further experience in the efficacy of convalescent serum and of the attitude of the public in this country towards its employment seems desirable; for this purpose it is necessary that larger supplies of serum should be available than at present seems to be the case.

#### PUERPERAL MORBIDITY AND MORTALITY.

THE special committee which was set up by the Council of the British Medical Association in July, 1925, to "consider and report on the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken in connexion with the matter," decided early in its deliberations that when its inquiries had reached a certain stage it would be very helpful to call a conference of various bodies interested in the question with a view to obtaining suggestions as to what should be done to reduce the maternal mortality and morbidity rates in this country. The conference, which is reported at page 33 of the SUPPLEMENT this week, took place at the Association's House in London on January 11th. The following bodies were represented: Ministry of Health, Scottish Board of Health, Medical Research Council, Royal College of Physicians of London, Royal College of Surgeons of England, Royal Society of Medicine, Central Midwives Board, Society of Medical Officers of Health. Several very interesting papers were read, and a general discussion followed. The committee's next step will be to review the suggestions for action which have been put forward before it draws up its final report. The great success of the conference shows how widespread is the interest in the important questions at issue, and how keen is the desire on all hands to find some means of diminishing the present mortality and morbidity of childbirth in this country.

#### SOME SEVENTEENTH CENTURY COMMONPLACE BOOKS.

A PARAGRAPH in the *Times* recently announced the intention of the Council of the Medical Society of London to sell the so-called diary of the Rev. John Ward, which has been in the society's possession for many years. This curious manuscript work is contained in sixteen leather-bound duodecimo volumes, and consists of notes on all sorts of subjects, taken from time to time during the years 1647 to 1673. They would be more accurately described as table books, or commonplace books, than diaries. The provenance of these volumes is obscure; indeed, nothing is known of their history before the year 1839, when the then registrar of the society, Dr. John Severn, published an incomplete account of them under the title *Diary of the Rev. John Ward, A.M., Vicar of Stratford-upon-Avon*. The volumes were more fully described by Sir D'Arcy Power in 1916, when he made them the subject of his presidential address to the society, after having read through the whole of them. Dr. Severn tells us that they probably formed a part of the library of Dr. James Sims, who was president of the Medical Society for the long term of twenty-three years, to the great dissatisfaction of a number of the Fellows, which finally found expression in their secession and the foundation of the Medical and

Chirurgical Society, the parent of the present Royal Society of Medicine. John Ward was the son of a Northamptonshire gentleman, also named John, who served on the King's side in the civil war. The notes begin in the year 1647, when Ward was an undergraduate at Oxford, probably at Christchurch. He seems to have been more interested in medicine than in divinity, and besides taking an arts degree he became, as Sir D'Arcy Power thinks, a recognized student of medicine in the University. In London he attended lectures at Barber Surgeons' Hall, and, in fine, his studies were such as to have fitted him for an M.D. degree and the Membership of the College of Physicians had he decided to adopt the medical profession. Theological questions do not seem to have had the same interest for Ward as did therapeutical and pharmaceutical. It seems probable that, despite his father's loyalty, he was in sympathy with the Parliamentarians and with the anti-prelatical clergy who were in office in Oxford during his residence there. If so, we can easily understand that he was glad to accept a country-town living after the Restoration, which was to set back the clock of scholarship in Oxford for a century. It might be hoped that in the commonplace books of a vicar of Stratford, dating from the year 1662, less than half a century after Shakespeare's death, we should find much information about the poet. Unfortunately, Shakespearean notes are remarkably few, the only outstanding statement being that which attributes his death to a "feavour," the result of a carouse with Drayton and Ben Jonson. This entry is the sole authority for that account of the great man's end, which has been so acceptable to the Baconians. There appears to be scant reference to Shakespeare's son-in-law, Dr. Hall, who practised in Stratford. Possibly the medically minded vicar and the orthodox physician did not get on together, for even in these enlightened days the clerical dabbler in medicine is not always on good terms with the local medical practitioner. Ward died at the age of 52 in 1681. Sir D'Arcy Power says he has "little doubt that he was ruptured and that he died of phthisis." For a fuller account of his life and opinions and experiences we recommend the extremely interesting paper of Sir D'Arcy Power, above referred to. It is styled "Part I," and professes to deal with the first six books only. We sincerely hope that the author may find time and opportunity to complete his study. Industry, judgement, and erudition are never lacking in him. The Medical Society hopes to sell these books for a good round sum, which will be spent in rebinding and caring for the other 25,000 works in its library. It seems likely that there will be keen competition among buyers when they appear in the sale-room.

#### ENCEPHALITIS LETHARGICA AND CRIME.

THE deplorable effects on character and conduct which so often result from an attack of encephalitis lethargica, and are especially prone to occur in adolescents, are now widely realized. In was, indeed, on account of such sufferers, whose criminal conduct was clearly the outcome of this disease, that the recent amending bill to the Mental Deficiency Act of 1913 was brought forward. With the object of dealing more effectively and more humanely with young persons who were really irresponsible because they had had this disease, but who were neither technically insane nor technically mentally deficient (owing, in the latter case, to the mental defect not having existed from birth or early years), the amending bill proposed to alter the previous statute so as to embrace all conditions of mental defects existing before the age of 18. It is therefore highly interesting to turn to the observations made on this matter by Dr. G. B. Griffiths, Medical Commissioner of Prisons, incorporated in the report of the Commissioners of Prisons and the Directors of Convict Prisons for the

<sup>13</sup> *Journ. Infect. Dis.*, 1925, xxxviii, 43.

<sup>14</sup> *Annali d'Igiene*, August, 1927.

year 1926.<sup>1</sup> Careful inquiries, covering a period of two years, were made of the prison medical officers. In that period no instance of the onset of encephalitis lethargica occurred during detention in prison or in a Borstal institution. Seventy-two cases of encephalitis lethargica were noted amongst remand and convicted prisoners (65 males and 7 females). The method of classification adopted was the relegation of cases into three groups—definite, probable, and suspected. Those cases were regarded as "definite" in which there was a clear history of an attack of encephalitis lethargica, or where the subsequent condition was typical. The group of "probable" cases comprised those in which the history of the original attack was indefinite, but whose mental and physical condition left little room for doubt that an attack of encephalitis lethargica had occurred. The "suspected" cases were those in which the occurrence of any illness of the nature of encephalitis lethargica could not be traced, but where the patient's condition, personal history, and conduct distinctly suggested that there had been an attack of the disease. One-half of the 72 cases above referred to were "definite" cases. The "probable" and "suspected" cases together made up the other half in about equal proportion. Of the whole 72 cases 54 showed no harmful effect as the result of imprisonment; indeed, some were definitely improved. One was insane on admission, and one reported to the court as insane. The remainder either deteriorated or received no benefit from imprisonment. The disposal of the cases is interesting. Twenty-five were discharged at the end of sentence, 11 remained in custody, 8 were bound over and placed on probation, 8 discharged at court, 7 certified under the Mental Deficiency Act, 1913, 6 sent to parents on discharge, 4 certified insane, 1 absconded from a Borstal institution, 1 went to the care of a Borstal institution, and 1 returned to his former employment. Dr. Griffiths points out that only in 53 out of the 72 cases did the attack of encephalitis occur before the age of 18 years, so that about two-thirds only could possibly have come under the provision of the amending bill of 1927, which proposes to define "mental defectiveness" as a condition existing before the age of 18. Dr. Griffiths also insists on the need for recognizing that the after-effects of encephalitis lethargica may be of all degrees of intensity, and that the subject of a previous attack of this disease is not necessarily therefore immune from the consequences of his criminal acts.

#### THE PSYCHOLOGY OF ACCIDENT PREVENTION.

A LARON conference of industrialists was held in London on January 27th, under the auspices of the Industrial Welfare Society, to consider the subject of accident prevention. We note, by the way, that the well worn phrase "safety first" is being dropped in favour of some other expression more in harmony with the British spirit; "accident prevention" is not so catchy, but it seems to be less offensive to some ears. The conference, which was attended by representatives of many of the most important firms in the country, showed that the whole conception of industrial safety is moving on to a new plane. Just as it may be possible for a person to over-insure himself—that is, to insure too heavily or against risks which are too remote—so it seems possible for a factory or works to over-safeguard its employees. Undue elaboration of mechanical means of protection and the rendering of operations "fool-proof," while they diminish many risks, create others, in that they conduce to the very carelessness in the worker which was, above all things, to be avoided. The real safeguard is not so much in appliances as in the education of the employee, whereby he may intelligently appreciate the mechanism he has to deal with, its relation to the whole

process and routine of the factory, and the risks involved through inattention or misjudgement. The first line in the prevention of accidents, as one of the speakers said, is to strive for the co-operation of everyone in the works. Whichever cynics may say, it is often possible to make more impression on a man by appealing to him as a member of a team than as an individual. There are many who, although apparently they give no thought to their own safety, can be induced to co-operate with their fellows if they know that their thoughtlessness or carelessness may involve injury to others and discredit to their department. The education which is the basis of safety can be imparted by the direct instruction of apprentices or of men on their engagement, and by the safety discipline in the works. Something can also be done by pictorial examples and warnings, though one speaker at the conference referred to some lurid posters, making a crude appeal to fear, which are used for this purpose in foreign countries, and said that in Great Britain such methods would be more likely to offend than to instruct. The conference itself was an evidence of the strength of this voluntary movement in industry, and the view was expressed by the president, Lord Invernairn, that if the Home Secretary were made aware of the progress now taking place he would hesitate before introducing legislative measures, as he had suggested doing, which might jeopardize the ground already won. It seems to us that there is a good deal to be said for this view.

#### LISTER IN GLASGOW.

DURING the Lister centenary celebration in London last spring many notable addresses were delivered conveying profound truths and interesting reflections, but in the rush of such a crowded week not all these obtained the prominence which was their due. In an annotation in the JOURNAL of April 16th, 1927 (p. 733), we gave a very short report of the address delivered at the opening of the Lister exhibition at the Wellcome Historical Medical Museum in London by the Regius Professor of Surgery in the University of Glasgow, Dr. Archibald Young. The full text has recently been published in the pages of our Canadian contemporary,<sup>1</sup> and is worth reading. On the four hundred years old roll of the University of Glasgow, as Professor Young said, no name outshines in brilliance that of Lister. It is true that he was not an alumnus of Glasgow. He stepped straight into the regius chair from his comparatively subordinate position in Edinburgh, and London will not forget that she nurtured him and gave him his early training in science and art. But the rising medical generation in Glasgow who were his students soon recognized what a priceless boon fortune had given to them in their professor, and they took him to their hearts as warmly as though he had been bred and born a Western Scot. Their affection took the practical form of a testimonial in support of Lister's candidature for the post of surgeon to the Royal Infirmary, and Professor Young is justly proud of the fact that among the 161 signatures the names of his uncle and of his wife's uncle can be read to-day. Although Dr. Young is able to show that the students at Glasgow warmly welcomed his teaching, he cannot deny that the lay managers of the Royal Infirmary were ignorant of the fact that they had entertained an angel unawares, for as late as 1870 they indignantly denied that the improvement in the healthiness of their wards was due to Lister's antiseptics, attributing it rather to improved ventilation, for which they took credit to themselves. A comparison between Lister's wards and those of other surgeons tells a very different tale. The convincing statistics of the mortality after operation in the pre- and post-antiseptic days which

<sup>1</sup> Cmd. 3003. London: H.M. Stationery Office. 1928. 9d. net.

<sup>2</sup> The Canadian Medical Association Journal, 1927, xvii, 1264-1278 (Part 2).

are quoted by Professor Young are, of course, not new, but the rising surgical generation needs to be told and retold from what a bondsgo Lister delivered the surgeon and his patient. In his oration on Sir William Macewen, his predecessor in the regius chair at Glasgow, Professor Young pointed out the great services Macewen rendered to antiseptic surgery, and, later, in the evolution of aseptic surgery. Macewen had the strong, self-reliant personality of one who, himself convinced, takes little heed of the prejudices or hesitations of the unconvinced and wavering. As Huxley was the "bulldog" of Darwin, so was Macewen "ipso Listero Listerior," as was said by Sir William Gairdner. That is true of Lister's discovery or evolution of the antiseptic principle which is true of other discoveries. When their histories come to be written it is found that before the great revelation was made various workers have come near it without making it known or accepted. It is as though the wayfarer should notice a precious object by the roadside, which another perhaps might pick up and throw away again, and so on until there comes one who not only picks it up, but recognizes its value and usefulness, and devotes it to the use or pleasure of his fellows. Professor Young reminds us that Semmelweis recognized the infectiousness of puerperal fever (he might have added that Oliver Wendell Holmes did the like independently), that Lemaire in 1863 advocated the use of carbolic acid for the destruction of germs in wounds, and that Bottini did the like in 1866. Thus the stage of knowledge had been reached which made the explanation of the cause of suppuration likely to be found, but Lister alone possessed and used the training and the qualities which enabled him to reach the goal, not by a happy accident, but by a coherent process of laborious experiment and sound reasoning. The discoveries of Pasteur were open to all. One man applied them to the service of surgery, and that one was Joseph Lister.

#### THE TEACHING OF HYGIENE TO CHILDREN.

THE handbook of suggestions on health education for the consideration of teachers and others concerned in the work of public elementary schools, the issue of which was referred to as imminent in the note on "Health and education" in last week's JOURNAL (p. 149), has now been published by the Board of Education. The handbook is valuable in itself, and is important as marking, one may hope, a further advance, officially encouraged or even insisted upon, in the instruction of school children in personal and domestic hygiene. Such instruction, together with that in the other subjects of the school curriculum, has long been one of the requirements set out by the Board of Education in its Code. Many education authorities, however, have either neglected it altogether or have not given it due emphasis. Sir George Newman, as Chief Medical Officer to the Board, is alive to this, and evidently has the support of the Board in his present endeavours to remedy such an unsatisfactory state of affairs. In April last there was published a revised and enlarged edition of the Board's *Handbook of Suggestions for Teachers*, a most interesting and valuable handbook for many others besides those engaged in teaching. In this was included a chapter on "Physical training," but only two short paragraphs on "Health education" were inserted, in view of the early issue of the supplementary publication now under notice. This small handbook<sup>1</sup> is intended to indicate, not that health education is of minor importance, but that it is fundamental and all-important. Sir Aubrey Symonds,

Permanent Secretary to the Board of Education, says in his prefatory note that "a knowledge of its contents should be regarded as part of the necessary equipment of every teacher"; and Sir George Newman begins his introduction with the statement that "the health and well-being of the child is the primary foundation of its education," and goes on to point out that "the purpose and object of hygiene and physical training in schools are not only to improve the physical condition of the children and to secure the full development of their health and strength, but also to aid in the development of their mental powers and in the formation of character." The instruction of school children in hygiene is necessary not only for adequate individual education, but for the national health. "It is the neglect of hygiene which costs a nation dear. It is the inhibitions and restrictions of ignorance in a right way of living which impose upon Great Britain much of its annual burden of disease, its millions of weeks of lost time owing to sickness, its numerous lunatics, deficient persons, and dullards, and its vast company of those who exist and toil far below normal health capacity and contentment." The main body of the handbook is divided into two parts, the former being entitled "Subject matter for health practice and health talks for young children," the latter "Outlines of health lessons for older children." This division emphasizes the fact that habit-training is of even greater moment than theoretical instruction. The syllabus and notes on lessons are not intended to be followed slavishly by the teacher, nor need hygiene be treated as a separate "subject" in every time-table. The requisite instruction can well be associated with that given in many other subjects. The essential thing now is that in the areas of all education authorities every child in the public elementary schools shall, in the course of its school life, receive instruction in accordance with this, or some equivalent, syllabus; and we suggest that such instruction is equally important, and often equally lacking, in the secondary as in the primary schools.

#### HOSPITALS AND ROAD ACCIDENTS.

FOR some few years, since the heavy increase in motor traffic on the roads, a sense of dissatisfaction has grown up at the burden that the numerous road accidents have thrown upon the voluntary hospitals all over the country, and especially upon those situated at points of inter-communication. However careful and watchful drivers may be, however skilful they are in handling their cars, accidents will happen. Crossings, bends, uncertain lighting, a rain shower on a smooth icy surface, an unexpected failure of machinery—any of these may precipitate a situation of emergency from which there will not invariably be escape. At the time of the accident there will always be an urgent desire to bring succour to the injured, and most find this can best be done by the speedy transfer of the sufferer to an organized hospital. Usually this is the voluntary hospital, and it is to this that Good Samaritans turn at the moment of the accident. These hospitals have not been found wanting in the past, and we are certain they will not be found wanting in the future. But if the hospitals and their medical staffs are not behindhand in their response to these emergency calls on their resources and skill, there is a definite want of response on the part of those who are most directly involved in the consequences of these accidents. The sufferer may, as an injured person, be ruled out until he is made whole again, but then neither he (with honourable exceptions), nor his kin, nor the insurance company that pays for the mending of his broken car and meets other liabilities attendant upon the accident, make any attempt to shoulder an honourable responsibility for the cost of the services

<sup>1</sup> *Handbook of Suggestions on Health Education for the Consideration of Teachers and others concerned in the Work of Public Elementary Schools.* Board of Education. London: H.M. Stationery Office. 1928. 6d. net paper covers; 1s. net cloth bound.

rendered by the hospitals. They are not like the Good Samaritan, who not only put his own beast, his oil, and his wine at the service of the injured wayfarer, but took him to the shelter of the inn, and there made payment of the charges for the care of the stranger, with a promise to pay what more might be needed. On the contrary, they rush the injured to the hospitable shelter of the hospital, and forget to pay or even to promise to pay. Truly a strange sense of charity! The costs of these services to sufferers from motor accidents are mounting up seriously. They are involving these charities and their generous supporters in expenses that voluntary hospitals were never intended to bear. Most of them are purely local institutions, kept up to meet the needs of their districts, and their funds are diverted to the care of strangers from afar, whose treatment is lengthy and costly. The position of governors of these hospitals has been brought to public notice on many occasions of late, but so far no steps have been taken to deal justly with the situation. The letter of Sir Duncan Kerly, chairman of the Purley War Memorial Hospital, which appeared in the *Times* of Monday last, is a proper reminder that the need is urgent for a speedy consideration of the claims of the hospitals and of their staffs. His letter is the more timely since, but a few weeks ago, a magistrate cast reflections upon the charge made by a hospital for services rendered that were, to say the least, most unfortunate. We do not pretend at the moment to enter into any discussion of the legal position of such claims for reimbursement of costs to hospitals and of remuneration of their staffs, but in equity there can be no manner of doubt that such claims are in every way justified, and should be met. It is high time the insurance companies took steps to amend their policies.

#### DIPHTHERIA IMMUNIZATION: THE QUEENSLAND FATALITIES.

THE Australian Government has appointed a strong medical commission to inquire at once into the cause of the deaths of twelve children and the illness of several others which occurred in Bundaberg, Queensland, during an anti-diphtheria campaign. It is not quite clear from the cables what substance was injected. "Serum" is mentioned, but from the phrase "antidiphtheria inoculation" and other indications it appears possible that active immunization was being performed with toxin-antitoxin mixture, and a verdict of death from "acute toxæmia" has been recorded at the inquest on the victims. One message states that some deadly change took place in the mixture between January 17th and 24th, because on the earlier date material from the same batch had been injected without harm. If the mixtures during this period happened to be frozen and thawed, they may have developed the high toxicity described as occurring under these conditions by Mr. A. T. Glenny.<sup>1</sup> Active immunization is being employed on a large scale by many medical officers of health in England, who will naturally await the full explanation with keen interest. The Therapeutic Substances Act permits the use of toxin "the specific toxicity of which has been reduced to a low value by chemical substances or by diphtheria antitoxin"; in other words, it allows toxin-antitoxin mixture as adopted in America and apparently employed in Queensland, toxoid—that is, toxin deprived of all toxicity by the action of such agents as formalin—as used in Europe and America, and also the toxoid-antitoxin mixture issued by the Wellcome Physiological Research Laboratories, which, we gather from Dr. Graham Forbes's report,<sup>2</sup> is the one generally employed in England. Dr. R. A. O'Brien<sup>3</sup>

states that the toxicity of English mixtures has always been below the level permitted in the United States of America, and that five times the human dose does not kill guinea-pigs within fifteen days. The employment of toxoid and not toxin in the mixture used in England appears to afford a wide margin of safety against the distribution of toxin in error for toxin-antitoxin mixture, a mistake which, it is stated, caused the Austrian accident,<sup>4</sup> or the separation of toxin from the antitoxin in a toxin-antitoxin mixture which caused paralysis in Concord, Massachusetts (1924). The exhaustive tests to which material employed in England must be submitted are set out in detail in the Regulations under the Therapeutic Substances Act. We think that the confidence of medical officers in the toxoid-antitoxin mixture need in no way be disturbed, and that the Queensland experience has provided no reason for any abatement of the work in progress here.

#### EARL HAIG.

THE sudden death on January 26th of Field-Marshal Earl Haig is deplored by the medical profession in common with all classes and sections of the British people. Throughout the war he was a good friend to the medical services under his command, and his devotion then to the welfare of the sick and wounded soldier, and later to the men broken by the war, became almost a byword. Lord Haig was present at the dinner on June 8th, 1920, given in appreciation of the services of the Army Medical Department and of the eminent civilians attached to it during the war, and his moving speech has not been forgotten by those who heard it. In a few words, spoken with obvious sincerity, he thanked the R.A.M.C. and its civilian colleagues for all they did to help in winning the war, and said it was impossible to exaggerate the country's debt to them. He recalled the work of the attached medical units when he commanded the First Army on the Aisne; their conduct, he said, was perfectly splendid, so unselfish and devoted. Some leaders like himself, who realized that the success of the army depended very much on an efficient medical service, viewed with misgiving the difficulties consequent upon its great expansion, but as the army grew the medical service grew with it, and remained throughout its multiplication thoroughly efficient. The problem which the service had to deal with was huge, but everything worked smoothly. All ranks showed devotion and gallantry, alike the regimental medical officers, the field ambulances, and the medical corps of the Dominions. The Field-Marshal ended his soldierly speech with a tribute to the good feeling and confidence that existed between the fighting portion of the army and their medical comrades. As for the civilian doctors, their untiring zeal was, he said, beyond praise—"all alike played the game as men."

IN celebration of the bicentenary of John Hunter's birth, the Royal College of Surgeons of England will give an afternoon reception at the College on Thursday, February 16th, and at 5 o'clock Dr. G. C. Peachey will deliver the Thomas Vicary Lecture on "The homes of Hunter."

THE next social evening of the Royal Society of Medicine will be held in the Society's house, 1, Wimpole Street, W.1, on Wednesday, February 15th. The guests will be received at 8.30 p.m. by the President and Lady Berry, and at 9.15 p.m. Colonel W. P. MacArthur will give an address on "Some medical references in Pepys." The library will be open, and various objects of interest will be exhibited.

<sup>1</sup> Glenny, Pope, Waddington, and Wallace: *Journ. Path. and Bact.*, 1925, vol. 28, p. 474.

<sup>2</sup> Medical Research Council, Special Report Series, No. 115, 1927.

<sup>3</sup> *Lancet*, 1925, vol. 1, p. 102.

## Scotland.

### HEALTH OF GLASGOW.

THE report on the health of Glasgow for the past year was submitted last week by Dr. A. S. M. Macgregor, M.O.H. for the city, to a subcommittee of the corporation. It is announced that the death rate of 13.7 per 1,000 for last year, which is the same as that for 1923, is the lowest recorded for the city. The number of deaths reported was 15,437. The biennial epidemic of measles had spread with more than ordinary rapidity throughout the city, and the winter prevalence of acute pneumonia began to be felt during October, about six weeks earlier than usual. It is pointed out that the principal causes which influence vital statistics are the diseases which attack the respiratory organs, such as pneumonia, influenza, measles, and whooping-cough. There had been no case of typhus fever nor of small-pox, and no outbreak of encephalitis lethargica during the year. Scarlet fever also had not been so prevalent as in the previous year, and the death rate from this cause had been only 39 per million of the population, as against 81 in the previous year. Diphtheria, on the other hand, had been unusually prevalent, but the death rate was only 99 per million, as compared with 120 in the preceding year, when the disease had been of a more serious type. The death rate for whooping-cough had been 323 and for measles 272 per million. Acute pneumonia had been responsible for 2,365 per million, or one-sixth of the death rate, and its chief victims were old people and the very young. With regard to tuberculosis of the lungs the death rate had been 340, compared with the higher figures of 861 and 922 per million respectively for the years 1926 and 1925. This year's figure was thus the lowest recorded. The infant mortality had been 107 per 1,000 births, and child life had been adversely affected by the measles and pneumonia during the latter part of the year, as well as by whooping-cough in the earlier months. The births registered had numbered 23,585, which was equivalent to a birth rate of 20.9, compared with 22.1 and 23.2 for 1926 and 1925 respectively.

### HEALTH AND HYGIENE EXHIBITION AT EDINBURGH.

Lord Provost Stevenson, on January 25th, opened the Municipal Health and Hygiene Exhibition in the Waverley Market, Edinburgh, which had been organized by the Public Health Department of the city. Sir John Gilmour, Secretary of State for Scotland, who was to have performed the opening ceremony, was unavoidably absent owing to Government business. Councillor Given, convener of the Public Health Committee, presided, and said that the purpose of the exhibition was public health propaganda. The cult of fresh air, sunlight, and good food, well cooked, was being constantly preached, and the resources of the Public Health Department had here been massed in order to demonstrate these things. The exhibition took in practically every activity of the Health Department's work, and the corporation expressed its appreciation of the help which had been freely given by the Scottish Board of Health. The Lord Provost remarked that in his own time there had been an extraordinary diminution in the general death rate, which had fallen from 17.4 per 1,000 per annum in 1900 to 14.3 in 1927, while the infantile mortality had fallen from 132 per 1,000 births in 1900 to 80 in 1927. As to the measures for increasing the public health which were being demonstrated in the hall, one of the simplest and most effective had been to give the citizens a constant supply of pure water. Another matter which had been of great importance was the activity of the Public Health Department in regard to tuberculosis, which took the form of impressing on the citizens the benefits of pure milk and of cleanliness in the home; by these means the number of cases of tuberculosis notified to the Public Health Department had fallen by almost 50 per cent. in the past fifteen years. Better housing, and the provision of open spaces around the houses, would in the future materially raise the level of bodily resistance to this disease. The means which the department had

taken to save the lives of infants were also demonstrated, although much remained to be done in this very important sphere of work, which he believed would produce a still further fall in the death rate among children under one year of age. It was noteworthy that while the infantile mortality figure for the whole of Scotland in 1925 was 99 per 1,000 births, and for Glasgow 107, that of Edinburgh was only 80. The whole aim of the exhibition had been to stress the importance of prevention in regard to disease. The Lord Provost formally declared the exhibition open. Among the things exhibited and demonstrated are the following: The Edinburgh Water Department has an exhibit to show the method of purification of water supply by sand and by mechanical filtration, and various taps are shown to demonstrate how a few drops of leakage may cause the waste of hundreds of gallons of water. The importance of milk as an article of diet, and the methods by which clean milk is produced, are demonstrated at two large stands. Stands for pasteurization and refrigeration are shown at work, and cows from a tubercle-free herd are on exhibition. The Edinburgh and East of Scotland College of Agriculture has a stand drawing attention to the value of eggs as an article of food, and a poultry house and small run are fitted up showing how a few hens may be successfully kept in limited space. Butter-making demonstrations are also shown in progress, as well as the production of clean milk, in a model byre erected by the Dairymen's Association. At the Veterinary Department stand specimens of unsound food are shown, as well as demonstrations of the various bacteria which are capable of spreading disease. The exhibition includes a small cinema and lecture hall, at which films are shown illustrating the work of child welfare, clean milk production, cleanliness in the home, care of the teeth, and other matters. Cookery demonstrations are also given in the lecture hall. An important exhibit by the Public Health Department is devoted to the demonstration of foodstuffs and their values. Many articles of food are shown, together with an indication of their food values and their cost. Actual dietaries of Edinburgh families are tabulated and their defects indicated. Various slogans are posted up round this stand, such as "Protein poverty produces puny people." The Housing Department demonstrates its work at various stands with full-sized reconstructions of various houses—from a slum house, which was built in 1672 and recently demolished, to a house recently erected and surrounded by a real garden. The Electricity and Gas Departments have also elaborate exhibits showing the most up-to-date methods for the use of electricity and gas in the household. As an example of the hygienic benefit of gymnastics, physical drill, dances, and games a demonstration is to be given by some 3,000 Edinburgh children, drawn from fifty-four schools, at intervals during the run of the exhibition.

### CHILD WELFARE CONFERENCE.

A three days' conference on maternity and child welfare work was opened in Edinburgh on January 26th in the New University Buildings. Dr. E. H. T. Nash, London, presided. Dr. Robertson, M.O.H. for Edinburgh, welcomed the delegates on behalf of the public health department of the city, and invited them to attend the health exhibition which was being held at the time in the Waverley Market. Professor Leonard Finlay, Glasgow, delivered an address on food requirements of infants, in which he pointed out that breast-fed children seldom suffered from nutritional disease, although they might be affected by insufficient supply. In the case of the bottle-fed child, underfeeding was also the most frequent cause of mischief, and was evidenced by stationary weight or loss of weight. He considered that in terms of milk during the first two months a child required 15 to 20 ounces, during the next two months 20 to 25 ounces, from four to six months 25 to 30 ounces, and from six to nine months 30 to 35 ounces daily. Sugar was frequently added to the milk, and consequently it was important to remember that a drachm of sugar had roughly the value of 1 ounce of milk. Dr. Charles McNeil, physician to the Royal Hospital for Sick Children, Edinburgh, read a paper upon some types of persistent cough



in young children, and Dr. James A. Stephen, Aberdeen, spoke in regard to chemical investigations upon the blood of rachitic infants exposed to ultra-violet rays. The members of the conference were entertained in the evening by the Lord Provost and magistrates at a reception in the City Chambers, at which Bailie Dr. Nasmyth received the guests.

On January 27th Professor John Fraser (Edinburgh) read a paper on some common surgical conditions in early childhood, and referred to various deformities demanding surgical intervention. He expressed the opinion that the question of the age at which such operations were best done was of importance. In some cases operations should be performed as soon as possible after birth. The newborn child tolerated interference with the central nervous system extraordinarily well. In other cases operations should be postponed for some months or years. He thought that operations for hare-lip should be performed as early as possible when the child was about 10 lb. in weight, provided it was gaining weight at the time of operation. With regard to cleft palate, however, healing was bad at that early age and the mortality higher. Operations for wryneck, he considered, should be performed about the end of the second year. Hernia might be performed at 3 months of age, at the end of the second year, or before the child went to school, but he thought that no truss had yet been made which would suit the energy of an active child. With regard to infantile paralysis, no surgical intervention was suitable until the chronic stage had been reached, and in regard to rickets early operation was not in any case desirable. He did not consider that an operation for adenoids should be carried out before the age of 2 years. Dr. T. Y. Finlay, maternity and child welfare medical officer for Edinburgh, demonstrated a series of height and weight curves for infants up to 1 year, and explained the clinical value of regularly measuring infants. In the afternoon a clinical meeting was held at the City Fever Hospital, Edinburgh, and on January 28th a visit was arranged to Pilton Hospital, where a demonstration was given by Dr. David Lees on congenital syphilis.

#### VETERINARY SCIENCE IN SCOTLAND.

Dr. O. Charnock Bradley, principal of the Royal (Dick) Veterinary College, Edinburgh, was the chief guest at the annual dinner in Dingwall, on January 19th, of the Wester Ross Farmers' Club. In the course of replying to his toast, he said that veterinary science was now entering upon a new chapter in its history which promised to be more fruitful than any that had preceded it. Scotland was peculiarly well situated in having places where research into all agricultural problems could be prosecuted. The solution of such an extremely difficult problem as the disease of horses known as "grass sickness" required the co-operation of the clinician, the pathologist, the toxicologist, and of others, apart from veterinary specialists. Search for a means of increasing the fertility in breeding stock demanded the united efforts of the clinician, the pathologist, and the geneticist, while experiments indicated that the specialist in animal nutrition was also concerned. The Animal Diseases Research Association, the Rowett Institute at Aberdeen, and the University Department of Animal Breeding at Edinburgh were all willing and anxious to work together on such problems, and in this Scotland was very fortunate. Numerous examples occurred of discoveries of great importance which were made, not by research workers, but by those whose primary duty was teaching. Knowledge that could be applied successfully was a slow growth, and it could not be furnished by any method of cramming. The education of the prospective veterinary surgeon must be conducted in an atmosphere of research, so that the methods and healthy scepticism of the research worker might be absorbed and imitated by the student. For the veterinary practitioner was really every day conducting research, though in an unrecognized and unspectacular fashion; he was the main agent by whom the gold of discovery was coined into serviceable currency. In order that the best results might be derived from practice, with the least amount of wastage, co-operation, concentration, and consolidation of all available means were essential.

#### PRESENTATION TO DR. J. R. KENNEDY OF DUNBEATH.

The Royal Humane Society's medal for saving life was presented to Dr. J. R. Kennedy, on January 24th, in recognition of the gallantry he displayed at Longhope, Orkney, on August 28th, 1927. A man fell overboard between two ships during the night, and Dr. Kennedy, who was asleep in his bunk, at once dived over the ship's side, rescued the man, and brought him to safety. The dramatic circumstances of the rescue attracted considerable attention, and great gratification was expressed at the award of the medal. Sheriff Trotter, who presented it, spoke in high terms of the unsparing way in which Dr. Kennedy devoted himself to his patients throughout his life; his athletic prowess and his generosity, combined with his professional skill, had made him universally popular. During the evening a gold watch was presented to Mrs. Kennedy as a token of gratitude for the many services she had rendered to the whole community. Dr. Kennedy, who is medical officer of health and public vaccinator for the west ward of Latheron parish, graduated M.B., C.M.A. in 1893.

## England and Wales.

#### KING EDWARD VII SANATORIUM, MIDHURST.

DURING the twelve months ending June 30th, 1927, 294 patients were admitted to the King Edward VII Sanatorium, as compared with 268 in the course of the previous year. The number of applications for admission was 570, and the average waiting list has lengthened. This increase has involved considerably more work for the staff of the institution, particularly in the x-ray department. The attempt is being continued to restrict those cases accepted for treatment for a period of more than nine weeks to those classifiable in the first two groups of the Turbun-Gerhardt system. This has naturally resulted in restriction of the numbers of those in whom the disease is more advanced, a procedure which can be justified on the grounds of better prospects of recovery. Thus, in the first two groups, it is shown in the twenty-first annual report of this sanatorium that while in 76.7 per cent. of cases in Group I the disease was arrested, a similar result was obtained in only 24.9 per cent. of Group II, and in 4.3 per cent. of Group III. The report contains a table illustrating the present state of 26 cases in which artificial pneumothorax had been induced since October, 1924. In 13 of these there was involvement of one lung only; in 12 there was excavation, or much evident fibrosis of one lung, or involvement of the upper lung not beyond the upper third; in one case the disease was far advanced. Of the 23 surviving patients, 20 are still continuing treatment; in 22 the general condition is good; in 8 cases exudation of fluid caused complications. Of the 3 patients who died, advancing disease on the opposite side of the chest was responsible in two cases, the third succumbing to complicating lymphadenoma. This list of cases included 6 of laryngeal tuberculosis, in 5 of which it was present before the induction of artificial pneumothorax; 4 patients were cured by the treatment, and one was definitely improved. The complement fixation tests for syphilis and tuberculosis are performed as a routine measure on all patients admitted. Careful investigation is in progress with regard to the value of the sedimentation test, using the capillary tube method introduced by the late Dr. A. C. Inman. An interesting correlation between these reactions and the progress of the patient appears to exist.

#### THE ROYAL NATIONAL ORTHOPAEDIC HOSPITAL.

The festival dinner of the Royal National Orthopaedic Hospital was held at the Mansio House on January 30th under the chairmanship of Prince Henry, president of the hospital. Proposing the toast of "The Hospital," Prince Henry welcomed those who had assisted it over many difficulties in the past, and expressed his pleasure at the presence of so many new friends of the hospital. He said that nothing could be more worth while than transforming the crippled, twisted, and deformed body of a child into

what nature had intended it to be. The hospital required £40,000 to complete the first stage of its scheme for dealing with the crippled child by paying for the 200 beds provided at the country branch at Stanmore. The children were sent to the hospital from public health and education authorities all over the country, and their education was arranged in the hospital so that when they left they were able to take their place on more equal terms in the business of life. Dr. Graham Little, M.P., seconding the toast, said that the hospital was a fine example of the value of the voluntary system of management. He instanced the recent prudent action of Mr. West, chairman of the hospital, who, hearing that sixty acres of ground surrounding the hospital at Brockley Hill were about to be sold for building purposes, purchased them on his own initiative and out of his own purse. The hospital board gratefully took over Mr. West's purchase, but had he not acted with great promptitude the opportunity might have been missed and the hospital have been shut in by buildings. It was in such qualities of foresight and initiative that enterprises computed so successfully with public bodies. The hospital at Stanmore occupied some of the most beautiful country in the neighbourhood of London, and the newly acquired land would facilitate various necessary extensions in the future. Dr. Little also referred to the present-day orthopaedic treatment, which from its nature required time for its perfection. The toast was acknowledged by Mr. Herbert E. West, who stated that since Prince Henry became president of the hospital nearly eight years ago it had almost trebled its size; this result was pre-eminently due to the great interest taken by the president. The present extension had entailed a cost of £125,000, towards which £85,000 had been received. The toast of "The Guests" was proposed by Mr. Reginald McKenna, and responded to by Sir Philip Gibbs. The Lord Mayor, replying to the toast of his health and that of the Corporation, proposed by the Dean of Westminster, said he owed a personal debt to the hospital, because his crippled brother had been restored to health by the doctors of the hospital in earlier days. Mr. A. H. Campbell proposed the toast of "The President," who, in his reply, announced the receipt of donations amounting to £10,000.

#### TYPES OF RINGWORM INFECTION IN LONDON SCHOOL CHILDREN.

Some light has been thrown upon the origin and mode of spread of ringworm in a given community by a careful study of the precise nature of the fungi present. An investigation of this kind in children attending the London County Council schools has recently been undertaken by Drs. J. G. Hare and P. Tate,<sup>1</sup> their object being to cultivate and identify the fungi present in the cases of ringworm among such children, and thus to ascertain the relative prevalence of the various parasites isolated. In this way it was to be expected that the character of the fungi obtained would afford evidence of the importance, if any, of animals such as cats and dogs as carriers of infection, or whether the infection occurred chiefly from child to child. Cultures were obtained in 69 cases. In 3 of these direct microscopic examination of the infected hairs showed the presence of favus, the parasite in all cases being found on culture to be *Achorion schönleinii*. Twelve large-spored ringworms due to endothrix trichophytons were obtained by direct microscopic examination which were found on culture to be *Trichophyton crateriforme* in 5 cases, *T. sulfureum* in 2 cases, *T. acuminatum* in 4 cases, and *T. violaceum* in 1 case. Microscopic examination revealed 54 small-spored ringworms due to microsporums, and cultures showed *Microsporum audouini* in 89 per cent. of the small-spored ringworms. They found this variety much the most prevalent of the ringworm fungi, being responsible for about 70 per cent. of all ringworm infections. *M. felinum* and *M. lanosum* were each found in one case, and represent 2 per cent. of the small-spored ringworms and about 1 per cent. of the total number of cases. In addition, four microsporums were isolated which have not yet been identified with any

known species. In Paris it would appear that the endothrix trichophytons are responsible for most of the ringworm of the scalp, having been found in about 66 per cent. of the cases; in London, on the other hand, the microsporums are most common. The figures obtained by Drs. Hare and Tate in the present investigation—namely, about 78 per cent. of all ringworms—are seen to agree fairly closely with those obtained in London by Fox and Blaxall in 1896—namely, from 80 to 90 per cent. Adamson in 1895, relying entirely on microscopic examination of the hairs, obtained a still higher percentage of small-spored ringworms. *M. audouini* constitutes the commonest cause of ringworm both in London and Paris. In London it was found in about 70 per cent. of all forms of ringworm infections, constituting 89 per cent. of the small-spored ringworms; while in Paris, according to Sabouraud, it occurs in about 77 per cent. of small-spored ringworms. Summing up these results, it will be noted that with the exception of two species, *M. lanosum* and *M. felinum*, and possibly of the four unidentified microsporums, no animal forms were found. Not a single endothrix trichophyton was encountered by Hare and Tate, and they appear to be justified in concluding that among school children in London the infection with animal ringworm is negligible, the children themselves constituting the chief source of infection.

#### EMPLOYMENT OF TUBERCULOUS PERSONS.

A report by the medical officer of health to the London County Council was submitted to the council at its meeting on January 24th, on the subject of the employment of tuberculous persons. Dr. Menzies points out that every year a considerable number of patients discharged from sanatoriums and hospitals are incapable of work or fit only for light work. The working capacity of the latter is seldom more than 50 per cent. of that of the normal worker, and, as their disability varies in degree from time to time, they are unreliable as well as inefficient. Many of them, however, are capable of being employed under special conditions when little physical effort is called for, the hours of work adjusted to the physical capacity, and the environment hygienic. It is pointed out that whenever possible a tuberculous person should seek for employment for which his previous experience fits him, which, as a rule, will be his previous employment under modified conditions. In some cities a limited number of tuberculous persons may be, and are, employed by public bodies—for example, in parks; while institutions for the treatment of the tuberculous absorb a number as members of the staff. Specially organized schemes of employment may take the form of a settlement, as at Papworth, or the provision of suitably arranged workshops, the employees living in their homes, as at the Spero workshops in London (organized by the Central Fund for the Industrial Welfare of Tuberculous Persons) or at the Altko workshops, a Jewish charity in New York. It appears inevitable that such enterprises should be subsidized by the State or by charity in some form. Industrial settlements run in connexion with a sanatorium are more easily organized than independent workshops, but are very costly to establish. Dr. Menzies appears to regard more hopefully the work of care committees and similar voluntary agencies in placing tuberculous persons in suitable occupations; under present conditions, he says, they can do more for the patient than any other agency. The Public Health Committee also presented a report of its own on the subject to the London County Council, in which it expressed the hope that the Minister of Health would see his way to accede to the request made to him by the National Association for the Prevention of Tuberculosis and by the council itself to institute an inquiry into the working of tuberculosis schemes in this country. At such an inquiry the employment of tuberculous persons would be thoroughly considered, and the Minister would no doubt indicate the attitude of the Government on the question of financial assistance. The Public Health Committee puts forward the suggestion, without actually expressing a definite opinion, that it would be more advantageous for enterprises providing employment for the tuberculous to be financially assisted than for such persons to be maintained at the public charge.

<sup>1</sup> On the Fungi Causing Ringworm in Children Attending London County Council Schools. J. G. Hare and P. Tate. *Journal of Hygiene*, vol. 27, No. 1, November, 1927, pp. 32-36.

## Correspondence.

## INTRAVENOUS GLUCOSE IN DIABETIC COMA.

SIR,—My attention has been called to a statement in an article in your issue of December 3rd last (p. 1019), relating to the use of intravenous glucose solutions in the treatment of diabetic coma. Your columns also carried the sad news of the death of the writer of the article. In the passing of Professor Petréu the world has lost a ripe scholar and an able and indefatigable investigator. Referring to diet in coma the late Professor Petréu said: "Campbell in Toronto originally spoke in favour of large intravenous injections of glucose. I am glad to see that in his later publication he has abandoned this treatment and says nothing more about it." I am at a loss to discover the origin of this misunderstanding, and can only suppose it arose from a hurried review of literature on the subject, which is now assuming huge proportions.

This is hardly the time or the place to discuss in full the evidence leading to the conclusion that intravenous glucose along with insulin is a valuable procedure in the treatment of diabetic coma. Suffice it to say that the use of glucose is indicated on the following grounds:

(1) It guards against hypoglycaemia. Others as well as ourselves have had occasion to note the development of this severe and unnecessary complication of coma when insufficient glucose has been available, and it is to be suspected that it occurs many times when adequate facilities for laboratory control of treatment are lacking.

(2) It provides energy in readily available form. While I am not aware that precise calorimetric determinations have been done to establish an absolute requirement for this, it is significant that non-infected diabetic comas nearly always have grossly subnormal rectal temperatures. It has been said that the excess sugar of the blood in coma would be sufficient, but an easy calculation will show that it is adequate for one hour at the most. The tissue sugar level in diabetes is decidedly less than blood sugar level.

(3) It converts the metabolism to a carbohydrate type, thus preventing the production of more ketones from fat and protein.

(4) It assists in the combustion of those ketones already present in the body.

As no deleterious effects have been shown to arise from intravenous glucose with insulin in true diabetic coma, and it is a valuable safeguard against hypoglycaemia for those whose laboratory facilities are meagre, and for other reasons mentioned, we advise its use along with other methods of treatment in these cases. In those cases of severe acidosis, which many insist on calling coma, we agree that the administration of glucose intravenously is seldom necessary.—I am, etc.,

Department of Medicine, University  
of Toronto, Jan. 18th.

WALTER R. CAMPBELL.

## TREATMENT OF CANCER BY RADIUM.

SIR,—In your issue of January 28th (p. 159) Dr. W. Fletcher Shaw, continuing his correspondence with relation to the treatment of cancer by radium, says that "neither London nor Manchester give any information about the work they are doing."

As Medical Superintendent of the Radium Institute of London I feel it incumbent upon me strongly to refute that statement. The London Radium Institute opened its doors for the treatment of patients in July, 1911. In April, 1913, a report dealing with the work of the Institute from July, 1911, to December, 1912, was published, with particulars of cases, methods of treatment, and statistical tables. A report on similar lines was issued each year until 1924.

In 1925, in compliance with the request of many medical practitioners, *A Clinical Index of Radium Therapy*, based upon and compiled from the actual work of the Radium Institute, was published. This was followed, in 1926, by *A Manual of Technique in Radium Therapy*, and, in 1927, by *Superficial Radium Therapy*. A work on *Deep Radium*

*Therapy* is in active preparation, and will be issued in a few months' time.

All the publications of the Radium Institute have been supplied post free to any medical practitioner who cares to apply for them, and this fact has been clearly stated in the advertisements in the leading medical journals.

Papers by various members of the staff of the Radium Institute have appeared in the *British Medical Journal* and *Lancet* from time to time, and I would venture to direct Dr. W. Fletcher Shaw's attention to the fact that in the issue of the *British Medical Journal* of January 28th, in which his letter appears, there are two papers by my colleagues: "Inoperable sarcomata treated with radium," by Dr. Roy Ward, and "The combined action of colloidal lead and radiation on tumours," by Dr. J. C. Mottram.—I am, etc.,

A. E. HAYWARD PINCH,  
Medical Superintendent.

The Radium Institute, London, W.1,  
Jan. 28th.

SIR,—The numerous communications which have appeared recently on this subject indicate a growing recognition of the importance of radium in the treatment of cancer. There is in these communications one point on which there is a striking unanimity—namely, the desire for reliable long-period statistics in this country. In view of the experience of certain clinics, and the efforts now being made along their lines by others, it is fortunate that under the auspices of the British Empire Cancer Campaign Fund an International Convention on Cancer Research is to be held in London in July, on which occasion the interchange of views on this and allied problems should be profitable. Those interested in radium work would do well to avail themselves of this special opportunity.—We are, etc.,

ARTHUR B. SMITH, M.B., F.R.C.S.Ed.  
SYDNEY M. SMITH, M.B., Ch.B.Ed.

London, W.1, Jan. 27th.

## FATALITY RATES OF SMALL-POX.

SIR,—As your other correspondents have not replied to all Dr. L. A. Parry's questions (January 21st, p. 116), although I had no wish to write further on this subject, it has been urged upon me that a reply should be made, and I therefore trust that your readers will pardon the tedious reiteration of some facts which are well known to many of them.

In regard to Dr. Parry's question (2), there is, to start with, a confusion between percentages of "people vaccinated" in the community and infants being vaccinated in certain years. As a rough estimate we may assume that from 1854 to the first exemption Act in 1898 about 85 per cent. of infants were being vaccinated, that the rate then declined at a uniform speed to 75 per cent. in 1908, when exemption became easier, and then fell at a more rapid rate to 38 per cent. in 1921. By referring back each age group of the census populations to the respective years of birth, and multiplying by the percentage of infants being vaccinated at that time, we obtain the following approximate percentages of all people living at various dates who had been vaccinated in infancy:

1871 ...	... 40 per cent.	1911 ...	... 74 per cent.
1881 ...	... 50 "	1921 ...	... 74 "
1891 ...	... 60 "	1926 ...	... 66 "
1901 ...	... 70 "		

It would, therefore, be as fair to ask, "Why did the total deaths from small-pox in England and Wales decrease from 23,062 in 1871, when only 40 per cent. of the population were vaccinated, to 5 in 1921, when 75 per cent. were vaccinated?" As a matter of fact, the reasoning either way is fallacious, for on the same basis of estimation it appears that the percentage of the population under 20 years of age who had been vaccinated did not change appreciably from 1871 to 1901, though the deaths at those ages fell from 14,223 to 127. The truth is, of course, that arguments of this kind can prove little or nothing, since epidemics come and go according to laws which we do not yet understand, and which involve many factors other than vaccination. Moreover, it is forgotten by those who

use this kind of argument that never at any time since vaccination was introduced have there been in this country less than seven or eight million persons unvaccinated, and, therefore, as a *wholesale* preventive measure vaccination has not yet been seriously tried.

Turning to Dr. Parry's question (4), I presume that his figure of 80 per cent. is derived from the totals for 1926, in which year there were 5 cases admitted to the M.A.B. hospital, of which 4 (all adults) had been vaccinated at some time. In the three preceding years 19 out of 29 cases admitted had a record of vaccination—about 65 per cent. No sound conclusion can, of course, be drawn from such minute samples from the population of London, but I think that if Dr. Parry were to look at the ages of these "vaccinated" patients he would find what is, perhaps, a more satisfactory answer, for most of them were over 30. From the calculation just referred to it appears that more than 80 per cent. of the population over the age of 30 at the present time must have been vaccinated in infancy, apart from many who were vaccinated in the army, so that 80 or more is the percentage of vaccination to expect at present in any large sample of adults at these ages.

Dr. Parry's questions (3) and (5) are simply the old arguments of the antivaccinationists served up in a new form—for example, the old question, "Why were there less cases and a lower fatality rate in Leicester in 1891-92 than in Sheffield in 1887-88, in spite of the much lower vaccination rate in Leicester than Sheffield?" It would be equally reasonable to ask why there was an influenza death rate of 1.6 in Leicester in the first great epidemic wave of influenza in 1918 as compared with an influenza death rate of 11.6 in Sheffield in the second great wave of 1918, although undoubtedly more people were attacked in the first than the second. The answer is, that the second epidemic took *everywhere* a more fatal form than the first, and we have got to leave it at that, not deluding ourselves that it is an explanation, but merely a statement of fact. The same kind of answer covers most of these small-pox conundrums, as both Dr. Millard and Professor Greenwood have indicated in their letters. In 1919 Germany, in common with most of Eastern Europe, was swept by a great epidemic of variola major which England almost escaped; since 1921, however, we have become increasingly affected by the milder form which seems to have come to us from America; at any rate, there were 139,107 cases in the United States of America in 1907-12, with a fatality of less than 1 per cent.

The only *conclusive* proof of the efficacy of vaccination must consist in comparing the vaccinated with the unvaccinated at the same ages in the same town and during the same epidemic. Where this has been done in epidemics of variola major with large enough numbers the results have been definite enough to satisfy most minds as to its efficacy. In addition, there is a mass of presumptive evidence, relating to both types, such as is furnished by the age distributions reproduced in my letter of January 21st.—I am, etc.,

University College, London, Jan. 27th.

PERCY STOCKS.

#### FOREIGN BODIES IN THE STOMACH.

Sir,—An interesting account of successful manipulation by Dr. Gilbert Scott of a key in the stomach (January 28th, p. 133) has unfortunately been broadcast in the daily press. I am sure nobody will regret this move than will Dr. Scott himself, for the impression will be conveyed to the lay mind that manipulation of *all* foreign bodies through the pylorus ought to be undertaken by the radiologist, and no more dangerous suggestion could possibly be made. The knowledge common to all radiologists of the wisdom of leaving most foreign bodies to be dealt with by nature is unquestionable. Imagine the horrible possibilities if an attempt were made to try and manipulate an open safety pin, for instance, or a dental plate, with the knowledge that most of these foreign bodies will be passed through the pylorus without any assistance on the part of the radiologist. If I needed any convincing upon this point, Dr. Scott has himself supplied it in his comment upon the

impossibility of trying to manipulate the round label attached to the key. How often has one not had to wait for some days for a coin of the size of a halfpenny to pass; indeed, the only foreign body which nature appears to find difficulty in dealing with is the rounded flattened body.—I am, etc.,

London, W., Jan. 29th.

STANLEY MELVILLE.

\*\* Dr. Gilbert Scott was, of course, in no way responsible for the publicity given to his note by the daily newspapers. We regret that the columns of a professional journal should be used in this manner, week after week, by our contemporaries of the lay press.

#### DRAINING THE SEPTIC UTERUS.

Sir,—I was pleased to notice in your issue of January 21st (p. 117) the favourable criticism of Dr. David Watson on the intrauterine injection of glycerin for the promotion of drainage in septic conditions. The reason for my employing pure undiluted glycerin without the use of antiseptics is the result of years of experience. I am sure everyone has noticed that after the use of a hot intrauterine douche symptoms and signs of septic absorption are apt to follow, and entire cessation of the discharge, either pus or blood.

Intrauterine treatment with glycerin is certainly the best treatment for post-partum haemorrhage, and has superseded the hot intrauterine douche. It acts as a powerful stimulus to the uterus, and as much as 120 c.cm., or more, may be injected. The hot douche coagulates the tissues and prevents tissue drainage. I have noticed on many occasions the same symptoms have been produced by the application of strong antiseptics to the interior of the uterus. With regard to the use of even mild antiseptics, the results seem to be just as good without them. Glycerin has been used extensively in this hospital for the last nine years, during which time we have given over 30,000 intrauterine treatments. Patients have received as many as fifty treatments, and sometimes four injections in the twenty-four hours.

I might add that in cases of femoral thrombosis the patients are treated as usual, but on a special obstetric bed, and the legs are held apart in trough-like splints. In cases of pyelitis and cystitis the uterus is treated as well, also in pneumonia and influenza occurring in the puerperium when there are signs of secondary haemorrhage, etc. During the whole of the time we have had not a single death arising from the injection of glycerin, and not a single case of haemoglobinuria or albuminuria. Rather than any toxic effect, the patients say they feel better. But one should issue a word of warning: in the case of the small nulliparous uterus, a large injection, given hastily, may be followed by abdominal pain and faintness. In cases following labour or miscarriage the uterus is relatively insensitive, and large quantities can be given without producing pain, if injected slowly.—I am, etc.,

A. REMINGTON HOBBS,

St. Mary Abbots Hospital,  
Kensington, Jan. 21st.

Consulting Gynaecologist to the Royal  
Borough of Kensington.

#### EARLY RHEUMATIC MYOCARDITIS.

Sir,—In accounts of early rheumatic myocarditis I am surprised to find no mention of what I have learnt in the last few years to regard as the earliest symptoms. This is the history from the mother, of the child, after apparently enjoying play, coming in and "flopping" in a chair in a completely tired-out manner. This is noticeable in a child who has not done so as a rule, and is frequently the cause of advice being sought. It leads one to inquire about the slight pains which, years ago, the mothers would have called "growing" pains. The cardiac dullness may be already suspiciously larger than the average and the apex beat displaced; but even if these signs are not present, if the child is allowed to continue up and about for a week or two they are fairly sure to develop. A systolic murmur comes considerably later. Bed, with blankets, and salicylates and alkalis for a few days in these earliest cases

work wonders, and the mother is willing to carry out this treatment and interrupt school life when the risk of permanent heart trouble is pointed out.—I am, etc.,

LORTUS E. WIGHAM, M.B.Cantab.

London, E.4, Jan. 18th.

### FOREIGN BODIES IN THE ABDOMEN.

SIR,—I read with interest the account of the second case described by Dr. H. Roland Segar on p. 96 of your issue of January 21st, because it affords a human parallel with an animal experiment performed by the late Professor Paul Heger at the Solvay Institute, Brussels, about twenty years ago, and described by him to me in 1925. He was working on the functions of the omentum and similar structures in the abdomen, and related how in one case a foreign body introduced into the abdominal cavity was carried to the root of the omentum, excluded from the abdominal cavity by the folding over and adhesion of the omentum, and finally made its way through the wall of the intestine and was passed per rectum.

I believe the specimen is still at the Solvay Institute, although I cannot be sure.—I am, etc.,

KENNETH J. FRANKLIN, D.M.

The Pharmacological Laboratory,  
Oxford, Jan. 26th.

### THE PHYSIOLOGY OF DEFÆCATION.

SIR,—As a physiologist I have been following the correspondence on the physiology of defæcation with much interest, and I am glad to see that at last one of your correspondents, Dr. E. R. Barton, refers to the height of the seats of closets as one of the causes of constipation.

It would seem that we are never going to get a change in the construction of these seats, which appear to become higher and higher as each new hotel, club, train, or steamer is built. It is not only that they are far too high, but they are invariably level, whereas they ought to slope backwards or downwards in order to permit of the assumption of the natural squatting position, the physiology of which is so well understood.

That such a physiologically correct seat has been made I know for certain, for the makers of it were good enough to send me an illustration of it many years ago, and this I showed to my class each session. If I had it beside me I should send it for editorial comment, but it is not available, and I forget the name of the makers. I hope, however, that if they see this communication they will make it known that a physiologically correct type of closet has been on the market.

There is really no valid reason why the absurdly high and level type of seat should continue to be made; the explanation is the physiological momentum of those who continue to construct something not adequately adapted to its uses. There are many analogies. One is the large jug or pitcher which is provided with so small a spout that this cannot possibly permit a sufficient outflow of fluid. The makers, of course, have forgotten what a spout is for, and are now treating it merely as an ornament.—I am, etc.,

D. F. FRASER-HARRIS.

The Authors' Club, London, S.W.1, Jan. 18th.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

DR. F. A. DIXEY, F.R.S., late Wills Medical Fellow, Bursar, and Sub-Warden of Wadham, and formerly demonstrator of physiology in the University, has been elected to an Emeritus Fellowship at Wadham College.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on January 27th the following medical degrees were conferred:

M.B., B.Ch.—W. F. Cooper, E. S. Bolton.  
M.B.—W. G. S. Hopkirk.

The Nita King Research Scholarship for the encouragement of original research in the etiology, pathology, and prevention of fevers has been awarded to Mr. Leonard R. Jones, M.A., of Emmanuel.

### UNIVERSITY OF LONDON.

MR. M. E. DELAFIELD, M.C., M.B., B.Ch.Camb., has been appointed to the University Chair of Chemistry as applied to Hygiene tenable at the London School of Hygiene and Tropical Medicine.

Dr. E. L. Konneway has been awarded the William Julius Mickle Fellowship for 1928 (value £275) in respect of the work carried out by him on cancer research during the past five years.

Mr. H. L. Enson, C.B., M.S., has been reappointed to represent the University on the General Medical Council.

Dr. Andrew Balfour, C.B., will be the representative of the University at the Congress of the Royal Sanitary Institute to be held in Plymouth in July next.

### UNIVERSITY OF LIVERPOOL.

Mrs. ADAMI, the widow of Dr. J. G. Adami, Vice-Chancellor of the University, who died in 1926, has presented the sum of £100 for the endowment of a prize in the department of pathology.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A QUARTERLY committee of the Royal College of Physicians was held on January 26th, with the President, Sir John Rose Bradford, in the chair.

#### Membership.

The following candidates were admitted to the membership:

Roland George Anderson, M.B.Lond., Godfrey William Bamber, M.B.Camb., Donald Campbell, J.A.H.Dub., Clement Clapton Chesterman, O.B.E., M.D.Lond., Ronald Cove-Smith, M.B.Camb., William Hefmoyr Craib, M.B.Camb., Sheldon Francis Dudley, O.B.E., M.D.Lond., Surgeon Commander R.N., William Norwood East, M.D.Lond., Abd el Kader Elmi-El-Shukbasi, L.R.C.P., William Evans, M.D.Lond., John Rex Goddall, M.B.Sydney, Cecil Noel, M.B.C., Mark Adam, Bristol, Ronald Arthur Phillips, L.R.C.P., John Douglas Procter, L.R.C.P., Reginald Hans Taylor Rea, L.R.C.P., Abd el-Azim Yousif Mostafa, Salama, L.R.C.P., Sydney Watson-Smith, M.D. Edin., Howard Hilton Stewart, M.D. Belfast, Charles Cady Ungley, M.D. Durham, Marion Boyd Wenliss, M.B.Melb., Lawrence Stuart Woolf, L.R.C.P.

#### Licences.

Licences were granted to the following 120 candidates who had passed the necessary examinations of the Conjoint Board and conformed to the by-laws and regulations of the College:

R. Anderson, G. D. Augenlicht, L. Bernard, F. G. Booker, G. N. Box, M. S. R. Broadbent, J. W. Bromley, C. E. S. Bullen, Eleanor M. Carless, A. M. Chandhuri, S. S. Chesser, T. L. Cleave, G. A. Coggin, C. N. Cohen, C. C. Cookson, N. Cox, P.era R. C. Crawford, W. S. Greer, D. S. Davies, E. R. L. Davies, Helena M. De Hartog, M. M. Day, Olivia F. Digby-Smith, H. Doyle, M. R. Doyle, C. B. Drew, John S. C. Elkington, Alexander G. H. Enslin, A. G. Ensor, H. Epstein, M. M. Fikri, J. Foster, H. D. F. Fraser, Mabel O. G. Kingston, T. R. Gaha, P. J. Ganner, Caeridia P. Giles, E. M. Goitein, R. A. P. Gray, C. R. Greene, C. S. Gros, Bridget S. P. Gunsey, B. Haring, R. M. J. Harper, J. Harris, R. L. Harward, N. V. Haslam, J. O. Hatrick, J. Hennell, Margaret A. L. Herberson, Anna M. Hilliard, E. A. H. Hindhaugh, N. M. Modivala, Josephine M. Howells, W. H. Hubert, W. L. Hurn, A. L. Hyatt, Dorothy M. James, D. C. K. R. Jenkins, J. J. Jones, R. T. Jones, H. Kaitz, A. R. Kerridge, A. K. M. Khan, P. Kuhne, T. E. Lameche, B. A. Lamprell, W. J. Lloyd, Margaret I. Macecock, A. A. Miles, Mary M. Moller, C. F. Moore, C. S. Morgan, W. H. Myburgh, J. J. O'Donoghue, Lois J. Ogle, E. N. O'Neill, Ella M. Oswald, T. N. Parish, W. E. C. Parry, P. I. Peltz, P. Perles, C. D. Politeyan, A. E. Porritt, Monica M. M. Power, J. C. Preston, Agnes M. Ramsbotham, W. G. Richards, J. H. Riemond, T. McK. Robb, F. E. Roberts, Elizabeth J. Robinson, Florence E. Robinson, R. S. Rudland, Margaret M. Russell, R. W. Saboung, W. J. M. Sadler, H. A. Seidenberg, Doris G. Sharville, D. G. Shield, C. S. Skidmore, T. E. Skinner, W. D. Steel, G. Steinberg, W. P. R. Swenmer, H. A. Taylor, Dorothy Tims, Ruth M. W. Turner, D. R. Tweedie, G. P. A. van Rossum, J. A. Vernon, Elizabeth H. Waller, H. S. Waters, K. H. Watkins, I. Waynik, C. H. C. White, H. O. White, Hannah E. Wilby, E. A. Wood, N. R. W. Wynne-Williams.

\* Under the Medical Act, 1876.

#### Diplomas in Special Subjects.

Diplomas in the subjects indicated were granted jointly with the Royal College of Surgeons to the following:

D.P.H.—F. Asker, A. D. Bellios, F. J. Benjamin, W. A. Brown, Isabella M. G. Butler, Dorothy M. Catchpool, N. E. Chadwick, Nancy M. Coutts, Angel V. B. Crawford, N. N. Curnow, Gweneth M. Daniel, Hilda C. Dean, E. L. F. De Mel, Kathleen Dickinson, Christabel S. Eyre, Nancy K. Gibbs, Gladys Goument, W. H. Hamilton, R. S. Johnson, M. H. Khan, P. E. R. Lahorde, E. R. Lewis, K. L. Malhantra, H. L. Malhotra, Ethel W. Morris, G. Napier, H. A. Pargeter, B. L. Patney, K. P. Pillai, T. A. Seekings, S. R. A. Shah, Kathleen Shelton, C. H. C. Toussaint, S. N. Vastil, P. L. Whig, C. A. Wood.

PSYCHOLOGICAL MEDICINE.—W. A. Caldwell, L. C. Cook, I. Frost, N. G. Harris, E. J. C. Hewitt, R. G. B. Marsh, N. R. Phillips, R. P. Rees, H. H. Steadman.

OPHTHALMO MEDICINE AND SURGERY.—H. K. Basu, J. C. Brangan, A. E. F. Chaffer, E. J. Collins, S. Dayal, G. I. Evans, B. F. Eminson, E. R. Jagger, M. S. Katre, B. K. B. Khare, L. R. Lalvani, G. D. Malhotra, M. A. Mithalva, D. G. Patwardhan, W. J. B. Riddell, Louie A. Rubidge, D. D. S. Stewart, C. R. Verling-Brown.

ENTOMOLOGY AND OTOLOGY.—H. Bahgat, R. E. Buckingham, H. S. Chhabhi, H. A. Cowan, S. Dayal, E. M. Dearn, H. G. Downer, R. A. Highmore, Barbara M. Logan, P. MacMurray, J. H. O'Donnell, A. MacK. Ross, S. S. Sen, J. J. Stander, P. Subbaramaya, H. L. Valdia.



## Appointments.

Dr. A. R. Russell was elected to the Council in the place of the late Sir Percy Bassett-Smith. Dr. Moulton Copeman was appointed to represent the College at the 39th Congress of the Royal Sanitary Institute. Sir Leonard Rogers was appointed as delegate to the centenary celebration of the Faculty of Medicine, Cairo, in response to the invitation of the Minister of Education of the Kingdom of Egypt.

## Reports.

Communications were received from the President of the University of Toronto and from Dr. R. D. Rudolph with reference to the recent celebration of the centenary of King's College, Toronto. A report was received from the representative of the College on the General Medical Council. Dr. C. O. Hawthorne reported on the Departmental Committee of the Optical Practitioners (Registration) Bill. Books and other donations to the library presented during the last quarter were received and thanks were accorded to the donors. The annual report of the Examiners for the Licence on the examination held in the year 1927 was received.

## SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

SURGERY.—G. N. Fox, A. W. Lassowsky, J. R. Mitchell.  
 MEDICINE.—G. N. Fox, D. I. Jones.  
 FORENSIC MEDICINE.—G. N. Beeston, B. P. Jones, D. I. Jones, A. W. Lassowsky, J. R. Mitchell.  
 MIDWIFERY.—W. B. Halliwell, H. T. Ince, E. A. Johnstone, H. D. K. Wright.

The diploma of the Society has been granted to Messrs. D. I. Jones and A. W. Lassowsky.

## Obituary.

## JOHANNES FIBIGER, M.D.,

Professor of Pathology, University of Copenhagen.

WITH profound sorrow we have to record the death of Johannes Fibiger, professor of pathology in the University of Copenhagen. Professor Fibiger was in his sixtieth year, and had lately undergone a serious operation. Whatever be the triumphs the future holds for cancer research, his name and his work will always have an honoured place, for he was the pioneer of the experimental inquiry into the causation of cancer.

While the study of malignant diseases remained for the most part a matter of observation and conjecture little or no progress could be made in our knowledge of their etiology. Theories and ingenious hypotheses led us no further to the heart of the problem. No one had produced cancer experimentally. His was the first successful attempt, and his claims were at once recognized and welcomed by authorities throughout the world. It is a matter of pride to us to remember that within a few days of the publication of his preliminary communication before the war the *BRITISH MEDICAL JOURNAL* emphasized the importance of this first successful direct attack on the central problem. When the story was fully unfolded no one could withhold admiration for the brilliant manner in which he developed his research from a simple chance observation, and the dogged perseverance which enabled him to overcome almost insuperable difficulties. Appreciations of this work, as it developed, have appeared from time to time in these columns, and only a brief summary need now be given.

In the course of some experiments in tuberculosis, a subject on which he had gained more than a national reputation as an investigator, Professor Fibiger noticed that three rats in one batch had tumours of the stomach. Knowing that this was a rarity, if not an unheard-of occurrence, he attempted, though without success, to transmit these tumours by transplantation and feeding experiments, and by putting fresh rats into the cages previously occupied by the infected animals. Prolonged investigation of hundreds of serial sections of the tumours, which proved to be squamous epitheliomata, revealed to his observant eye minute structures which enabled him to reconstruct the picture of an undescribed nematode threading its way through the superficial layers of the epithelium. Careful dissection of a preserved tumour afterwards provided him with a complete specimen of this worm, to which he gave the name *Spiroptera neoplastica*. Convinced that the occurrence of this parasite in all three tumours was more

than an accident, he set himself to discover the origin of the spiroptera, but the only information he could elicit from extensive reading of the literature about nematodes was that Galeb, many years previously, had found nematodes in the stomachs of rats that had been fed on the common cockroach (*Periplaneta orientalis*). This clue was pursued, though the nematodes described by Galeb were of a different species, and Fibiger examined the bodies of many rats in a district of Copenhagen where the cockroaches abounded, and he fed his laboratory rats on these cockroaches, but in no case did he find parasites in the stomachs, nor was there ever any trace of new growths. But he did not lose heart. He found out that in a large sugar factory in Copenhagen there were numbers of rats and swarms of cockroaches of a large and unusual type—the *Periplaneta americana*—which had come from the West Indies with the consignments of sugar. Several of these rats were caught and killed, and when they were examined they were found to have gastric tumours, and in the tumours the *Spiroptera neoplastica* was found. His perseverance deserved its reward. He collected some of the cockroaches and fed his laboratory rats on them, and demonstrated that the cancers were always associated with the spiropterae. Investigation showed him that these cockroaches contained in their muscles the larval stage of a worm which, when the cockroach was eaten by the rat, developed into the adult spiroptera in the gastric mucosa of the rat. The worm in some way stimulated the gastric epithelium to excessive proliferation of an invasive type, and when the mature stage of the parasite was attained the eggs were evacuated with the faeces. This in turn was eaten by the cockroaches, and so the cycle was carried on. Having thus succeeded in infesting the rats, and being uncertain of his supply of American cockroaches, he endeavoured to infest the ordinary type of cockroach from the eggs evacuated from the rat, and in this he was fortunately successful, for the sugar refinery was burned to the ground and his supply of American cockroaches ceased. The experiments, as the research went on, showed clearly that he could produce gastric cancer in the rats at will, that the epitheliomata produced were preceded by more benign proliferations, that there was a minimum period required before the spiroptera produced their effects, that metastases were formed without the presence of parasites, that the age of the animals was of no importance in respect of results, that wild rats and other rodents were immune to the action of the worms, that mice were relatively insusceptible and that the production of gastric cancer in them was exceedingly slow in comparison with rats, that the spiroptera could lodge in and produce epithelioma of the tongue, that other parts of the intestinal tract were resistant to the action of the parasites, and numerous other observations. In short, he demonstrated that cancer could be caused by chronic irritation of peculiar types—in this case some toxic secretion from a parasite; but it was perfectly obvious that this cancer-producing agent could not be invoked to account for any cancer except the gastric cancer of these rats. There must be other causes operating in other cases.

Inspired by his work, Yamagiwa and Ichikawa in Japan took up again the attempts to produce cancer by prolonged applications of coal tar, and showed us once more that patience was the necessary requisite for success. Their experiments were welcomed by Fibiger, who introduced them to the Western world and extended them, and furnished investigators the world over with a ready means of inducing cancer and studying its early phenomena. Others have carried on the work in other lines, but all will agree that to Fibiger is due the honour of blazing the trail.

A. L.

## WILLIAM BRITAIN MORTON, M.D.,

Medical Superintendent, Wonford House, Exeter.

DR. WILLIAM BRITAIN MORTON, medical superintendent of Wonford House, Exeter, died on January 10th, aged 60. He was educated at University College Hospital, London, took the diplomas of the England Conjoint Board in 1890, and graduated M.B.Lond. two years later, proceeding to

the M.D. in 1896. After serving as assistant medical officer of the County Asylum, Lancaster, he was appointed in 1892 as assistant medical officer at Wonford House, Exeter, where he remained till 1897, when he became physician to Brislington House, near Bristol. After holding that post for twelve years, he returned to Wonford House, Exeter, as medical superintendent. He was a member of the Royal Medico-Psychological Association and of the Exeter Division of the British Medical Association. He is survived by his widow, a daughter, and one son, Dr. E. F. Morton, who practises at Topsham.

We are indebted to Mr. RUSSELL COOMER, F.R.C.S., of Exeter, for the following personal appreciation of Dr. Morton: I happen to have been a member of the committee of management of Wonford House during the whole period of Dr. Morton's time there as superintendent, and thus knew him and his work well. Not physically strong, he was unable to take much part in outside affairs, but he devoted himself wholeheartedly and unfeignedly to the interests of the institution he served. His great knowledge of his specialty was combined with a most kindly and sympathetic attitude to our patients, and he was obviously beloved by all who were capable of such appreciation. As a committee we soon realized that we had a highly satisfactory officer, and his eighteen years of service were marked by most cordial relations and by complete trust on our part; conditions which were never, even on a single occasion, disturbed throughout the whole of that period. There is no question that, quite apart from our appreciation of him in his official capacity, he was a man loved by every member of the committee. His wife was a lady of most artistic temperament. Her aunt married Sir Sidney Colvin and her sister Sir Charles Holroyd. She possessed a delightful soprano voice, well trained during her early years in Italy, and this enabled her to give great help in the musical entertainments provided for the patients. We deplore the loss of Dr. Morton deeply, and feel that his place will be most difficult for us to fill.

#### THE LATE MR. BASIL LANG.

We have received a number of personal tributes to the work and character of Mr. Basil Lang, supplementing the obituary notice printed in our last issue.

Colonel L. T. Nash, C.M.G., R.A.M.C.(ret.), who commanded No. 8 General Hospital, writes: Mr. Basil Lang joined me at Woolwich in August, 1914, as one of my staff, mobilizing with No. 8 General Hospital. We went over to France on August 14th, and were stationed on the heights over Rouen in a large building, where the hospital remained during the whole of the war. We had a most strenuous time getting the equipment, etc., into this building, as we had to work with the French authorities, and transport was almost impossible to procure. Mr. Lang was simply invaluable to me during this time, for he, as indeed did all my staff, worked day and night; but his knowledge of French, which he spoke fluently, made his assistance of exceptional value. As soon as we got settled in I put him in charge of the x-ray apparatus, and in a few days he reported that the one we had was not up to date. He told me that he had taken it to pieces, and that if I would give him a few days' leave and the money he would go to Paris and procure what he required to make the outfit efficient. When he returned he set to and made a splendid apparatus, and produced plates which could not be excelled, so much so that cases later on were sent from various hospitals to be radiographed by him. The x-ray department was, I considered, a model one, and I do not believe that any other hospital in France at that time had a similar one. This was solely due to the efforts of Mr. Lang, and the fact that later on, after I had left the hospital, he was specially selected to take a mobile x-ray apparatus around the front lines shows what a reputation he had gained for himself and his work. He also produced some wonderful photographs in colours of frostbite and other surgical cases which were considered invaluable. During the time he served under me he was always ready to give his help in every emergency, always cheery and bright. He did the ophthalmic work of the hospital as well as the x-ray, and altogether was, I consider, an invaluable officer.

Dr. E. A. ALDRIDGE, M.C., late Brevet Major R.A.M.C., who knew Mr. Basil Lang as a boy, recalls memories of him as an enthusiastic private in the Cambridge University Rifle Corps

when they met again in camp at Cosham. My next impression of Basil (he writes) was from dear old Sister "Eyes" at Bart's. She spoke so highly and enthusiastically of him, not only of his ophthalmic work, but of his originality in anything mechanical, and I myself have thought that his inventive and mechanical turn of mind might have had wider scope in the scientific and engineering world than in ophthalmics. . . . While serving on the Western Front as M.O. I often heard of him as he moved along the line accompanied by his x-ray, etc., plant. It was a great regret to many of us that in the bestowal of war honours he did not receive the recognition which we felt he deserved, but the greater reward was surely his in the consciousness of having done his best in the R.A.M.C. I will not touch upon the increasingly useful and active work that Basil Lang did since the war, for that is well known to the profession. The heartfelt sympathy of all his former Moorfields assistants will go out to their much revered master in the loss of an only son of such high talent, whose death in the prime of life is not only a loss to his friends, but also to the ophthalmic world.

Mr. M. ATKINSON-ADAM writes: Basil Lang used often to discuss with me scientific progress and the many problems coming before him in connexion therewith but only indirectly involved in his professional work. He took a great interest in engineering and electrical and chemical science. Indeed, I have often been surprised at the unexpected, and usually very accurate, knowledge he displayed in the difficult borderlands between those branches of science. His mind gave the impression of great ingenuity, and he was always devising fresh methods, and scheming new devices for carrying them into effect, in whatever field his energies were directed for the time being. His death is indeed a great loss, not only to his profession, but to his friends in many branches of scientific work.

Dr. GEORGE EDWARD KINNERSLY of Guernsey died on January 13th, aged 53. The son of Mr. William T. Kinnersly of Bracknell, Berks, he received his medical education at St. Thomas's Hospital. He took the diplomas of the English Conjoint Board in 1894, and served for some years as resident medical officer at the French Hospital, Shaftesbury Avenue. In 1901 he was appointed Constable of St. Peter Port, Guernsey, and in the following year was elected Jurat of the Royal Court; at the time of his death he was Senior Jurat on the bench and Lieutenant-bailiff of the island. For his services in the great war, when he served as captain in the R.A.M.C. in England, Malta, and Guernsey, he received the honour of M.B.E. Dr. Kinnersly is survived by his widow and five sons.

### The Services.

#### HONORARY PHYSICIAN TO THE KING.

BREVEY COLONEL W. R. P. GOODWIN, D.S.O., R.A.M.C., has been appointed Honorary Physician to the King, in succession to Major-General S. F. St. D. Green, C.B., C.B.E., late R.A.M.C., who has retired.

#### HONORARY SURGEONS TO THE KING.

HIS MAJESTY has approved the appointment of Colonel R. W. Knox, D.S.O., I.M.S., and Colonel C. Hudson, C.B., C.I.E., D.S.O., I.M.S., as Honorary Surgeons to the King, in succession to Colonel E. L. Perry, D.S.O., I.M.S., and Colonel A. N. Fleming, D.S.O., I.M.S.

#### ARMY DENTAL CORPS.

THE KING has approved the appointment of Lieut.-General Sir John Goodwin, K.C.B., C.M.G., D.S.O., F.R.C.S., formerly Director-General, Army Medical Service, as Colonel Commandant of the Army Dental Corps. Sir John Goodwin, it will be remembered, is now Governor-General of Queensland.

#### NAVAL MEDICAL COMPASSIONATE FUND.

THE quarterly meeting of the directors of the Naval Medical Compassionate Fund was held on January 24th, when Surgeon Vice-Admiral Arthur Gaskell, Medical Director-General of the Navy, took the chair, and the sum of £115 was distributed among the several applicants.

**Medico-Legal.****CONVICTION OF A "MEDICAL ELECTRICIAN."**

THE ancient rule of our criminal law that a man who, in committing a felony, causes the death of a human being is guilty of the capital offence of murder obtains no favour with a modern jury. Proof of this was afforded by the trial at the Old Bailey last week of Charles Jackson Palmer, who had been committed on charges of murder and manslaughter of a young married woman named Goldsmith, three months pregnant, whose death in Palmer's consulting room followed an attempt to procure abortion.

In the past the abortionist was invariably charged with murder and sentenced to death in our criminal courts, as witness the words of Mr. Justice Hawkins in passing sentence of death in *R. v. Calmore*, reported in the *Times* of August 9th, 1881: "That the offence amounts to wilful murder is the law as it at present stands, and as in all human probability it will exist in time to come." Juries, however, became unwilling to convict on the capital charge, and the Crown, towards the end of last century, ceased endeavouring to obtain a conviction for murder in cases of abortion, relying on the manslaughter charge instead.

Here the Crown reverted to the old rule in charging Palmer with murder, but the Grand Jury threw out the bill, and the trial proceeded on the lesser charge of manslaughter. Despite the brilliant forensic efforts of the defending counsel, Mr. Norman Birkett, K.C., the petty jury found the prisoner guilty upon evidence which the Lord Chief Justice described as so clear as to be quite overwhelming—"it approached the certainty of mathematical demonstration."

The verdict of guilty meant that the jury accepted the evidence of two pathologists, Sir Bernard Spilsbury and Dr. H. B. Weir—whose *post-mortem* examination revealed an abrasion which suggested the use of a syringe and the presence of soapy water recently injected—and that they did not accept the defence that the young woman died of shock from the passing of alternating currents through the body at a low voltage and for an innocent purpose.

The defendant denied all knowledge of the fact that his patient was pregnant. Possessing no medical qualifications, he conducted a practice as a medical electrician, licensed by the London County Council, at Upper Brook Street, giving treatment for muscular weakness and nervous debility. He said that Mrs. Goldsmith visited his consulting room five times for electrical treatment for nervous debility, and it was during the last of these visits that she died. The Lord Chief Justice's questions to an electrical engineer called to give evidence for the prosecution elicited the comparatively harmless nature of the apparatus found in the defendant's consulting room. It was similar to what is in use in hospitals, and the amount of current of which it was capable was limited to 80 volts—quite insufficient, in his opinion, to cause a serious burn or shock. This evidence the jury accepted, notwithstanding the testimony of an electrical engineer called for the defence, who said he himself could not withstand the intensity of the full current obtainable from the apparatus. The discovery made at the *post-mortem* examination was met by a complete denial—that the defendant did not give the vaginal injection of soap and water, and that this must have been done by the deceased herself, or by some third party, before she came to his consulting room. Dr. F. J. Browne, professor of obstetric medicine in the University of London, who, on the defendant's behalf, attended the *post-mortem* examination, expressed the opinion that death did not follow immediately on the injection, as his microscope revealed indications that a miscarriage had been going on a few hours. Professor Browne thought it possible that the woman could have made the injection herself, and agreed with the possibility of death from shock from electricity at low pressure. This was the strongest evidence produced by the defence, but it did not explain why, if the deceased or some third party gave the injection elsewhere, she went immediately to Palmer for further electrical treatment for debility. It is not unusual for medical men to find themselves ranged on different sides in a court of law, with the inevitable comments by counsel. "The jury," said Mr. Birkett, "in dealing with the medical evidence were in a region where an eminent man said one thing and an eminent man on the other side said 'I say to the contrary.' Both were honest men and both were

distinguished men. One said this and one said that." In law, if there is a reasonable doubt in the minds of the jury the defendant is entitled to the benefit of it, and an acquittal should follow. The Lord Chief Justice, in the final words of his summing up, said to the jury that "they might think it right to ask themselves the question whether the true conclusion was not, as it well might be on this evidence, that the case for the prosecution had been established in every vital particular." The jury, after an absence of an hour and twenty-five minutes, brought in a verdict of guilty.

After the verdict there came the police disclosure that for months past the defendant's premises had been visited frequently by the authorities because of suspicions that the practice of medical electricity was largely a cloak for running a profitable business as an abortionist.

The Lord Chief Justice, in passing sentence on Palmer, said: "The officer who gave his evidence so fairly concerning you mentioned on Friday certain suspicions that you had for some time past been carrying on the trade of abortion. I shall deliberately put out of my mind suspicions and rumours of suspicions. It is right that I should direct my attention to the evidence, and to the evidence in this case alone. That evidence convinces me that you were carrying on the trade of abortion. It was as a person carrying on that trade that you were consulted by Mrs. Goldsmith. It was as a person carrying on that trade that you treated her. Such persons undoubtedly subject their patients or clients to very grave risks, and it is right that all of them, wherever they may be in this country, should understand that they incur grave risks themselves. The law must have regard to human life, even though the particular life in the individual case may not be of the highest consequence. In the public interest it is necessary that you should go to penal servitude for seven years and pay the costs of the prosecution."

**Medical News.**

As already announced a special meeting of the council of the Charity Organization Society will be held at Doulson House, 296, Vauxhall Bridge Road, S.W.1, on Monday, February 13th, when there will be a discussion on the voluntary hospitals and the public authorities. The speakers will be Sir William H. Hamer, Dr. E. Graham Little, M.P., and Dr. Humphrey Nockolds. The chair will be taken by Lord Dawson of Penn at 5.30 p.m.

At the Mansion House meeting at 3 p.m., on February 8th, in aid of the extension fund for the General Lying-in Hospital, Lord Dawson will take the place of Sir Berkeley Moynihan, who is unable to attend. The other speakers will include Lord Birkenhead and Mrs. Stanley Baldwin.

THE Fellowship of Medicine announces that Dr. R. M. Stewart will lecture on secondary forms of mental deficiency at the Medical Society, 11, Chandos Street, on February 6th, at 5 p.m. On the same day, but at 2.30 p.m., Mr. J. P. Lockhart-Mumery will give a clinical demonstration at St. Mark's Hospital. On February 10th there will be two clinical demonstrations; the first, on diseases of children, will be given by Dr. G. A. Sutherland, from 2 to 3 p.m., at the Paddington Green Children's Hospital, and the second, on cataract, will be given at 5 p.m. at the Royal Westminster Ophthalmic Hospital by Mr. C. L. Gimblett. The lecture and the demonstrations are free to medical practitioners. From February 6th to 18th there will be a special course in diseases of children at the Paddington Green Children's Hospital and the Victoria Hospital for Children. The start of the course in venereal disease at the London Lock Hospital has been postponed to February 20th. The course will continue for one month and occupy each afternoon and some evenings with clinical work; lectures will be delivered if there is an entry of six, and early application is therefore requested. A course in medicine, surgery, and the specialties will be held at Queen Mary's Hospital, Stratford, from February 20th to March 3rd; morning and afternoon sessions of lectures, demonstrations, and operations will be arranged. The general course of the Fellowship consists of attendance at the ordinary practice of over forty London hospitals; tickets for any period may be taken out at any time. Syllabuses, tickets, and copies of the *Post-graduate Medical Journal* may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

A COURSE of lectures on nutrition in health and disease has been organized by the People's League of Health, and will start on February 17th, at 6 p.m., continuing, with one exception (March 1st), on the following Fridays, until the end of March. Professor Leonard Hill will open the course with a lecture on the nature and purpose of food, and other subjects to be dealt with include historical and geographical considerations, the significance of vitamins, food in relation to growth, dietetic errors, and diet in rheumatic diseases. The fee for the course is 10s., and tickets may be obtained from the People's League of Health, 12, Stratford Place, W.1.

The fifteenth annual post-graduate week for midwives, arranged by the General Lying-in Hospital, York Road, S.E.1, will be held from May 21st to 25th inclusive. The names of those wishing to attend should be sent without delay to the secretary, Post-graduate Week, care of General Lying-in Hospital.

The following members of the medical profession were called to the Bar on January 26th: Dr. G. Wignaraja (Lincoln's Inn), Dr. Norman G. Thomson (Middle Temple), and Dr. Daniel Broderick (Gray's Inn).

MAJOR W. H. WHITEHOUSE, coroner for the south-eastern district of London, has appealed Lieut.-Colonel W. H. Leslie McCarthy, D.S.O., M.C., M.D., D.P.H., barrister-at-law, to act as his deputy assistant.

THE Minister of Health has issued a circular (No. 857) to local superintending authorities under the Midwives Acts announcing that the reasonable expenditure of these authorities on compensation of midwives suspended in order to obviate risk of infection will be eligible for grant under the Maternity and Child Welfare Regulations. It is added that such compensation should normally be calculated on the basis of the loss of income actually sustained by the midwife; exceptional cases are to be reported to the Minister before the authority concerned commits itself to paying compensation.

At a meeting of the Joint Tuberculosis Council on January 21st it was announced that next June there would be a course of post-graduate study at Aiton on surgical tuberculosis; in July a post-graduate course at Papworth and Cambridge; and in October there would probably be one in Edinburgh. At the subsequent luncheon Sir George Newman delivered a short address emphasizing the importance of notification, the dispensary, the sanatorium, and after-care in the tuberculosis campaign. Those present at the luncheon included Sir Robert Philip, President of the British Medical Association, and Dr. C. O. Hawthorne, Chairman of the Representative Body; Sir St. Clair Thomson, president of the Tuberculosis Society; Dr. F. R. Walters, president of the Society of Superintendents of Tuberculosis Institutions; and Mr. G. S. Elliston, secretary of the Society of Medical Officers of Health.

ACCORDING to the Canberra correspondent of the *Times* the Australian Inland Mission of the Presbyterian Church has arranged with the Queensland and Northern Territory Aerial Services, Ltd., for an aeroplane to be at the constant disposal of the medical officer of the mission. The machine will be fitted with a stretcher and will accommodate a nurse in addition to the doctor. In this way isolated settlers will receive medical attention and may be transported to hospital. Consultations will be arranged also with medical practitioners in remote districts.

It is announced in the *Indian Medical Gazette* for January, 1928, that there will be no medical and veterinary section of the Indian Science Congress in 1928. This is because the recent congress of the Far Eastern Association of Tropical Medicine has absorbed the available papers. The section will be revived at the annual Indian Science Congress in Madras in January, 1929, and those who intend to be present, or to read papers, are invited to communicate with Lieut.-Colonel R. Knowles, I.M.S., at the Calcutta School of Tropical Medicine.

It is proposed to endow a chair of surgery in the Women's Medical College of Pennsylvania in honour of Professor William W. Keen, the veteran surgeon who celebrated his 91st birthday on January 19th. The college was founded at Philadelphia in 1850, and Dr. Keen was in charge of the surgical department from 1883 to 1890. Contributions are invited towards the endowment of the new professorship; they may be sent to Mrs. James Starr, president of the college, at North College Avenue and 21st Street, Philadelphia.

The fifth International Medical Congress for Industrial Accidents and Occupational Diseases will be held at Budapest from September 2nd to 6th. Further information can be obtained from the secretary, Council of Industrial Medicine, 12, Stratford Place, W.1.

THE twenty-second Dutch Congress of Natural Science and Medicine will be held at Rotterdam from April 2nd to 4th, 1929, under the presidency of Professor P. E. Verkadé of Rotterdam.

An international congress for the protection of childhood will be held in Paris from July 2nd to 5th, 1928, inclusive, under the presidency of M. Paul Strauss, formerly Minister of Hygiene.

THE centenary of the birth of Professor Eugène Koeberlé, the inventor of haemostatic forceps, has recently been celebrated at Strasbourg.

DR. CESAR JUARROS, a prominent Madrid psychiatrist, has been elected a member of the Spanish Royal Academy of Medicine.

AFTER twenty-five years' active work the Swedish National Society for Combating Tuberculosis has issued a report which indicates that the process of eradication of this disease in Sweden is advancing. Over 7,000,000 kronor (about £380,000) has been received in voluntary contributions, and more than half this sum was raised by co-operation with the Post Office, telegraphic messages being delivered on tastefully decorated forms on payment of a small extra fee, the net profit of which went to the funds of the society. In Southern and Central Sweden there has been a decided decrease in tuberculosis, and fresh efforts are being prepared to combat the disease in the North, where it is still very prevalent. Tuberculous children receive special attention, and in one year free treatment was provided for no fewer than 4,600.

IN the annual report of the United States Public Health Service for the year ending June 30th, 1927, the death rate from all causes was given as 12.1 per 1,000 of the population for the year 1926, which is rather higher than the rate for the previous year, the increase being due principally to respiratory affections, excluding influenza, from which that country for the most part was free. The diphtheria rate was the lowest on record, both as regards incidence and mortality; this is attributed to the increasing use of antitoxin and toxin-antitoxin immunization. Declining death rates were shown by tuberculosis, heart disease, diabetes, and nephritis. Small-pox in most parts of the United States was mild, but in some localities severe forms occurred, particularly on the Pacific coast. The infant death rate continued to decrease. Investigation of narcotic drug addiction indicates a reduction in the number of cases, and tends to confirm the opinion previously reached that this is a neuro-psychopathic symptom.

THE "Metalix" x-ray tube, which embodies its own protection, and has already been noticed in these pages (December 24th, 1927, page 1192), is the subject of two booklets published by the manufacturers (Phillips Lamps Limited, 145, Charing Cross Road, W.C.). One of these illustrates many examples of the use of the tube in connexion with couches and screening stands and other outfits of the principal makers of x-ray apparatus. The other booklet explains in clear language the construction of the tube and the method of its use, and emphasizes its value in physical research.

## Letters, Notes, and Answers.

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## DRY MOUTH.

"B." asks for suggestions for treatment of a man, aged 66, who, for about fifteen years, has suffered from xerostomia at night time, when he goes to bed. He has to keep small pieces of sugar by his bedside to induce secretion. He is in full work, active, appears much younger than his age, and has no adiposity. He neither smokes nor drinks, nor has done so. The tongue is normal and there is no constipation nor other symptom.

## METALLIC BISMUTH IN THE TREATMENT OF PSORIASIS.

DR. G. VARIAN (Watford) asks if others have tried metallic bismuth in the treatment of psoriasis. He gives intramuscular injections of the metal in doses of 0.1 and 0.2 gram each week, and states that he has obtained complete removal of these patches in most resistant cases.

## CLEANING DENTURES.

"AMICUS" writes: May I suggest to "T. M." the simple expedient of cleaning the denture once a week with homely "vim" powder? When once the carbonized deposit has been removed by fine pumice-stone powder, the powder will keep the denture as new in appearance. I have had fourteen years' practical experience.

## TREATMENT OF VULVITIS.

THE following information has been received in reply to the inquiry by "R." (JOURNAL, January 28th, p. 164):

DR. ADA MCLAREN (London) writes: Has the patient suffering from vulvitis and eczematous condition of the mucus membrane tried ultra-violet radiation? This has been used with success in similar cases.

DR. E. B. FRENELL (Walton, Clevedon, Somerset) suggests washing the inflamed part lightly with lukewarm water, drying with absorbent cotton, and applying immediately nungutum calaminum (B. P.) once or twice daily.

DR. AGNES SAVILL (London) writes: The conditions demand daily patient care and call for the use of many changes in the local treatment. There is always some infecting cause present, usually a vaginal discharge, sometimes a urinary infection; the parts must be protected from contamination by either source of infection during the treatment of the eczema. The use of x rays will give the first impulse towards cure, but must be followed up by daily high-frequency treatment till the swelling diminishes, when gradually increasing doses of ultra-violet light may be employed. As soon as possible the discharge must be dealt with by local ionization; till this can be given, however, a daily mild antiseptic douche will be sufficient in many cases to bring about a cure. The application of mild mercurial ointments and soothing creams, and bathing with boracic lotion, must be carefully carried out by a nurse throughout the difficult early period of the cure. It is of the highest importance throughout the course of treatment to ensure that the patient does not scratch the parts at night. Rest in bed, with the thighs held apart, should be ordered for the greater part of the twenty-four hours.

## INCOME TAX.

## Repairs to Car.

"A. S. G." in 1926 sent his car to the makers for a very complete overhaul. The inspector has allowed the company's charge, but has refused to allow the expense of sending the car to the works and back—two long journeys costing in all £20.

\* \* The cost of sending the car and of obtaining it back again seems clearly of precisely the same nature as the expense of overhaul, assuming that the journeys did not serve a private purpose as well as the main one. If a spare part had to be obtained, obviously the cost of carriage would have been allowed, though it would be similar in nature to the expense which is refused. The point seems to us so clear as almost to make argument difficult. Perhaps our correspondent can draw from the Inspector some indication as to the distinction he seeks to lay down.

## LETTERS, NOTES, ETC.

## TREATMENT OF CANCER BY INJECTIONS OF PERITONEAL FLUID.

DR. J. B. TOMBLESON (London, W.) describes a method for the treatment of cancer which, he states, has been followed by much improvement in two cases. The procedure is as follows: When peritoneal fluid is present it is taken from the patient, and if very thick it may be filtered. In the absence of this fluid, blood is taken from a vein and is defibrinated. The resulting fluid is subjected to the rays from a tungsten arc lamp, without a reflector, for fifteen minutes, and 20 minims of the treated material is administered subcutaneously to the patient. The process is repeated at intervals of two to three weeks, according to the amount of general reaction which results, seven to ten days being allowed after the patient begins to express a sense of well-being. The general reaction has never been severe, but lasts from seven to ten days; there has been no local reaction. Dr. Tombleson's first patient was a married woman, aged 38, in whom laparotomy disclosed a large malignant growth of uncertain origin. She was discharged as incurable, but a year later peritoneal fluid was removed and she was given an injection

according to the procedure described. She was then weak, and distended with a thick and treacly fluid, the legs and abdomen being very oedematous. Six subsequent injections were given and her condition improved considerably, the tumour decreased in size, there was very little distension of the abdomen, and no oedema of the lungs or abdominal wall. She is now living a normal life and is able to dance. The second patient was a business man with carcinoma of the rectum, colotomy having been performed for the relief of acute obstruction. Under this treatment his condition improved very considerably; he has regained the power of walking, the pain is much less, and his weight has increased.

## TREATMENT OF PROSTATIC ENLARGEMENT.

"BM/RMXR" (London, W.C.) writes: With regard to the suggestion of "General Practitioner" (Dublin) in your issue of January 21st (p. 120), spending as a radiologist of not inconsiderable experience I can say that if an adequate dose of x rays of suitable quality—about 75 per cent. of the unit skin dose—is applied to the prostate in cases of simple enlargement, a good result will be obtained after about eight weeks in at least 60 per cent. of cases; a large proportion of the remainder will be cured, for all practical purposes, after a second application. Except for the time given to the actual treatment the patient's ordinary life is not interfered with. I wish it to be distinctly understood that in making the above statement I am referring to cases that come to the radiologist direct from the general practitioner—not via the surgeon. The latter rarely passes on cases of any kind that are still in the curable stage, and evidence based on such has little, if any, value.

DR. PERCY HALL (London) writes: Cases of prostatic enlargement are not at all uncommon in general practice, and, short of operation, no specific method of treatment is available. Prostatic massage and internal remedies, including organo-therapeutic preparations, are, as a rule, disappointing. I have occasionally found, however, that 20 minims of the liquid extract of ergot, given with an equal amount of the tincture of hyoscyamine, three daily for short periods, occasionally produces marked relief from the troublesome symptoms, which may be due to a chronic prostatitis as well as a degree of inflammation and swelling in addition to the actual adenomatous enlargement. If these are removed the pathological remaining permanent enlargement may not be sufficient to cause troublesome symptoms, and may not increase in size. When the prostatic gland is so enlarged that definite mechanical obstruction renders such remedies useless, much can still be done, in my experience, short of operation. Three modes of treatment which have proved useful in my hands may be used in conjunction or separately. The first is the diathermy current by means of a rectal electrode, another electrode being placed above the pubic region; a current of from 0.5 to 1 ampere passed daily, or on alternate days, for a few weeks is frequently sufficient to produce marked relief; secondly, ultra-violet radiation given by means of the Kromayer lamp with a suitably curved quartz electrode in the rectum, twice weekly for ten to twelve doses, will also considerably help. These doses should be sufficient to produce a mild local reaction. Too large doses may result in slight pain and tenesmus, and possibly slight bleeding from the inflamed rectal mucosa; they should be avoided, although, beyond slight discomfort, they do not result in any adverse effects; thirdly, small ionizing or fractional doses of x rays, given bi-weekly or weekly for ten or twelve doses, should produce marked diminution in the size of the prostate gland. The rays may be directed through the rectum, perineum, and suprapubic routes. Powerful apparatus is not required; indeed, better results are probably obtained from equivalent spark gaps of from 5 to 7 inches. So many patients suffering from this distressing condition are given to understand that nothing but operation is of any avail that "General Practitioner's" inquiry is welcome, since the possibility of other remedial measures should be more generally known to the medical profession.

## PROCREATION AFTER PROSTATECTOMY.

DR. T. GARDNER (Brighton) writes: Following up Mr. O. C. Elliott's case (JOURNAL of January 21st (p. 117)) a similar case. A man, aged 60 or 61, married, in 1913, and with no children. She agreed to marriage only on the understanding that there were to be no children. Her husband, whose prostate had been removed two years earlier, had been assured by the surgeon that it was impossible for him to procreate children, but, within a year after their marriage, she became pregnant. In this case also there was no doubt as to the paternity.

## CONJOINED TWINS.

THE GUY'S HOSPITAL GAZETTE for January 28th contains reproductions from photographs of the case of conjoined twins, a short description of which appeared in our issue of January 14th (p. 82).

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 44, 45, and 46 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 46 and 47. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 89.



# A Discourse ON THE PORTRAITS AND PERSONALITY OF JOHN HUNTER.

BY  
SIR ARTHUR KEITH, M.D., LL.D.,  
F.R.C.S., F.R.S.,

CONSERVATOR OF THE MUSEUM AND HUNTERIAN PROFESSOR, ROYAL  
COLLEGE OF SURGEONS OF ENGLAND.

On July 22nd, 1831, the Court of Examiners was seated in the Council Room of the College of Surgeons in London cross-questioning young men who appeared before it as candidates for membership. On the wall behind the examiners there hung, just as at the present time, Reynolds's famous portrait of John Hunter (Fig. 1). Having done with his candidate, the senior member of the court, Sir Anthony Carlisle, rose from his seat and proceeded to feast his eyes on the features of the man who had taught him the principles of surgery forty years before. Presently he began to look closely at the various objects which Reynolds had introduced into the background of the picture, and, having satisfied himself, resumed his seat and wrote on the back of a stray sheet of paper the following note\*:

"In Sir Joshua Reynolds' picture of John Hunter: he has intelligibly portrayed his pursuits by the two exposed plates; the one displays a series of forelimbs, from the simplest foot to the human hand. In the opposite plate he ranges the human skull first and descends to the quadruped with least brains. His elbow rests on a white paper showing radiating lines from a large periphery and terminating at a point under his elbow. The two books are *Natural History of Animals* and *Natural History of Vegetables*. In the background is the skeleton of the great giant, and the example of a spliced spine by an ossific prop." (See Fig. 1.)

In spite of every care Reynolds's portrait of Hunter is not lasting well; it is useless now to seek for details in the background, but these are preserved in the engraving which Sharp made in 1788† from the freshly finished portrait (Fig. 1). Indeed, Sharp, the friend of Reynolds and of Hunter, was the instigator of the portrait; he prevailed on the master-surgeon of the time to sit for the master-artist of the eighteenth century, and was ultimately successful. We may be sure he took pains to get every

detail right in his engraving, and hence it is Sharp's rendering of the background of Hunter's portrait that is reproduced in the illustration given here (Fig. 1). But there is one other source of information preserved in the Royal College of Surgeons—a small but exquisite enamel done on copper by Henry Bone early in the nineteenth century, when the rich colouring of the original Reynolds was still fresh and vivid. The Hunter family had it done, anticipating just what has happened—that the great painter's pigments would prove to be not permanent. Hence it is from these two sources, and the Hunterian specimens in the museum, that we have to reconstruct the objects represented in the background of the original picture.

We may be sure that Hunter, in supplying Reynolds with the materials for a background, picked what he prized

most—objects or representations which illustrated his most cherished discoveries. The folio of drawings which stands open upon the table on which his left elbow rests (Fig. 1) is one of many which his brother-in-law Sir Everard Home committed to the flames. The folio has been opened to show two of Hunter's "graded series"; they give us his conception of the two structures which make man—man—the head and the hand.

In the "head" series the skull of a European is placed at the top; then follows that of an Australian aborigine; then a young chimpanzee's; then a monkey's—a macaque; then a dog's; and lastly that of a crocodile. I had a mind to set these same skulls up again—in the Hunterian order—but the drawings are not given in sufficient detail to permit individual skulls to be recognized. It is strange, too, that although Hunter certainly dissected a chimpanzee and also a gibbon, and has left notes of what he

observed, their skulls cannot now be traced; they are not mentioned in the original catalogues compiled in Hunter's time, nor in those of a later date.

On looking at such a series, with the most highly developed human type at the top and a reptilian form at the bottom, with a bridge of intermediate types between them, the modern student may jump to the conclusion that Hunter had grasped the idea of man's evolution. Hunter may have suspected the truth, but he was held back by just the same obstacle which kept Huxley from giving his complete allegiance to Darwin. Until we have produced varieties from a common stock which are infertile with each other we have not solved the final crux of evolution—the production of new species. That was Huxley's obstacle, and it was also Hunter's; but I am sure neither the one nor the other would be surprised if they knew that practical students of genetics are now removing even this last obstacle.



FIG. 1.—Sharp's engraving of Reynolds's picture of John Hunter. In the background are shown the various objects described in the text. (Photographed by Grove and Boulton from Sharp's engraving.)

\* The note is preserved in the diary of my predecessor William Clift, pupil of John Hunter and first conservator of the museum.  
† William Clift gives the date as 1785, but, as will be explained later, he seems to be in error. The proper date is 1788.

In his "hand" series Hunter shows even greater pro-science. The horse is given the highest place and man is relegated to the bottom of the list. The gap between the extremes—reading the scale in a descending order—is: ox, pig, dog, monkey. The "hand" of the horse is the most



FIG. 2.—Portrait, believed to be that of John Hunter, recently presented to the Royal College of Surgeons by Mr. G. Bucketon Browne, F.R.C.S., F.S.A.

specialized, most highly "evolved," of the mammalian series, and my friend Professor Wood Jones would support Hunter in placing the human hand at the bottom of the primate scale. I do not agree; in many respects man's hand does retain old-world features, but there are others in which it is highly specialized. However, these personal differences are neither here nor there; the broad fact stands out that Hunter had ranged his series of "hands" in the order now accepted by students of evolution—an order which it is clear his pupil Carlisle had not fathomed and which was regarded by Hunter's contemporaries as highly absurd. These "graded series" represent two of the many ideas which went into the flames. We have to thank Reynolds for their preservation.

Sir Anthony Carlisle misread the titles on the two books on the table. The title of the upper is *Natural History of Vegetables*, and contained notes which Hunter kept of his experiments and observations on plants and trees; the lower, *Natural History of Fossils*, was the gleanings of a lifetime from geology and from a study of the fossil remains of animals and plants which had come into his possession. Hunter had a dozen such volumes, each dealing with a particular line of research, but it was these two he wished to accompany him into posterity. They also went missing after the conflagration; fortunately Clift had made abstracts from them, and, strange to say, years afterwards the two original volumes came to light again: Sir Everard Home's son returned them to their rightful owners—the Council of the College. Nor does one wonder, when their contents are known, that Hunter was proud of them. We find that he had ceased to deal with the Mosaic bank of time and had demanded an unlimited chronology to account for what he had seen and found. He had discovered that the secrets of living matter could be wrung from plants more easily than from animals, and the experiments he had performed on seedling beans are only now having their counterparts in the laboratories of the modern experimental embryologist.

He was proud of O'Brien's skeleton; its feet dangle in the background of his portrait. In those limbs lay the

secrets of growth. The giant, although his death belongs to the summer of 1783, was not a public exhibit in Hunter's museum until 1788, when Reynolds was at work on the final portrait of Hunter. The finishing touches were given a year later—1789. Then comes that puzzling specimen placed by the giant's right foot (Fig. 1, background). Carlisle tells us it is "a spliced spine by an ossific prop"—which, translated into modern phraseology, must mean a "bone-graft introduced experimentally for the repair of a broken dorsal spinous process—of an ox or horse." My colleague Mr. Cecil Beadles and all our assistants have hunted high and low for the original of this specimen; it is not in the museum, and there is no mention of it in any catalogue. It must represent one of Hunter's most prized specimens. As to its nature, we must be guided by its representation in Bone's miniature. It is preserved in spirit; the round bottle in which it is mounted is about ten inches high and four wide. The finer arteries of the specimen have been successfully injected with vermilion; it is the shaft of a bone laid open—about the size of the metacarpal of an ass; Hunter selected the metacarpal of the ass for many of his experimental investigations into the repair and living reactions of bone. There is a gap in the bone—apparently half an inch or more has been sawn out. At one side of the shaft, closely adherent to it and crossing the gap, is the "ossific prop," which I take to be a bone-graft, covered by patches of granulation tissue, introduced experimentally to secure the divided bone. In the museum is a series of metacarpals of the ass, showing the results which Hunter obtained while experimenting on the growth of bone and the exfoliation of necrosed areas. The specimen which Hunter had placed in his picture seems to belong to this series; the notes which relate to all these preparations went up Sir Everard Home's chimney in Sackville Street.

On the table by which Hunter sits is placed a specimen protected by a glass shade—one which puzzled my colleagues and myself for a long time. It looks like a successful



FIG. 3.—Portrait of John Hunter by Robert Home. The original is in the rooms of the Royal Society, London.

injection of the bronchial system of the lungs of some animal, but no trace of such a specimen could be found in Hunterian catalogues or collection. The puzzle was solved by Mr. Cecil Beadles; he recognized it as a Hunterian specimen still preserved in the museum (No. 2060.1)—the desiccated and dissected lungs of a man

who had an osteosarcoma of the lower end of the right femur, with secondary bony deposits in the lungs—deposits which had infiltrated and picked out all the ramifications of the bronchial tree. The remaining object in the background of the portrait concerns the sheet on which Hunter's elbow rests (Fig. 1). Carlisle describes the

diagram on the sheet as "radiating lines from a large poriphery terminating at a point under the elbow," but gives no explanation. William Clift does; on Carlisle's note he has written: "The facial angles of the skulls shown on the adjacent drawing"—a bad guess; the diagram has certainly nothing to do with facial angles. In Bono's miniature this drawing is reproduced clearly, and appears to represent a system of vessels—almost certainly arteries—arranged so as to show branchings at various angles, thus illustrating a matter to which Hunter gave much study—the laws which regulate the angle at which a branch artery separates from its parent trunk.

Thus we see that in choosing the materials for the background of his portrait Hunter exercised great care. In the opened folio, showing the graded series of "hands" and "heads," we see him as a philosopher of natural objects; the two closed books bound in sheepskin represent him as botanist and as geologist; the rare pulmonary preparation under the glass shade as pathologist; the drawing under his elbow as philosophical anatomist; the "wet" preparations as experimental surgeon; and the giant's legs as a collector of Nature's wonders.

Hunter was 60 years of age when he was painted by Reynolds; everyone is familiar with the face therein portrayed; reproductions or engravings of the original picture still hold the pride of place in the medical consulting rooms of the English-speaking world. Let me introduce to the reader at this point another picture of Hunter—one still the subject of hot debate, but which I am convinced is a portrait, or representation, of the great surgeon at an earlier date, when he was about 50 years of age (Fig. 2). This picture made its first appearance in public annals on December 1st, 1922, when a collection of portraits and pictures, "the property of L. M. McCormick, Esq., of 11, Hertford Street, Mayfair," 150 in number, "most of them having great names attached to them," was put up to auction at Christie's. Lot No. 131 was catalogued as "Dr. Hunter by Gainsborough"—a half-length portrait representing the subject life-size. When put up for sale the auctioneer stated that no guarantee was given that the portrait was "of Hunter," or "by Gainsborough," but that it was undoubtedly a picture of high artistic merit. Mr. G. Buckton Browne, who has been a keen student of medical portraiture and a collector of pictures all his life, made a close examination of lot No. 131, found evidence of its being a picture done in the latter half of the eighteenth century, and satisfied himself that it was a genuine representation of John Hunter the surgeon; he purchased it, and with great generosity presented the picture to the Royal College of Surgeons. The College thereupon obtained the expert advice of the director of the National Portrait Gallery, the late Mr. James D. Milner, and of Mr. W. T. Whitley; they had no doubt about the picture being of Hunter's time, nor that it was painted

by an artist of standing, but rejected it as a genuine work by Gainsborough. A study of the canvas, technique, clothes, and details proved that the picture had been painted, in all likelihood, between 1765 and 1785; but where had it been in the century and a half which had elapsed between the date of painting and its first public

appearance in 1922? The task of tracing its history was entrusted to Miss M. Tildesley, at present engaged in compiling a catalogue of the craniological collections in the museum of the Royal College of Surgeons and well known by the studies she has published on the portraits of Sir Thomas Browne. She obtained access to the notebooks of Reynolds and of Gainsborough; she discovered, for example, that in 1788, when John Hunter was giving sittings to Reynolds, he was also attending Gainsborough professionally in that artist's fatal illness. She searched the archives of the Royal Academy, the lists of work of eighteenth-century artists, and of all sale catalogues, ancient and modern, but of this picture could discover not a trace.

We are driven back to prove that we have now another genuine portrait of John Hunter on the evidence afforded by the picture itself. The right forefinger is pointing to a skull held in the left hand; it is the skull of a monkey—

almost certainly of the macaque genus—very similar to the monkey's skull which occupies the central place in the Hunterian "graded series." The artist must have drawn from an actual specimen, but, either in a spirit of freakishness or to improve the appearance of an object otherwise rendered faithfully, has given a human outline to the nasal bones. Who in the eighteenth century besides John Hunter made the monkey's skull the central subject of a discourse? There was, of course, another John Hunter—a Dr. John Hunter—who was born in Scotland about 1750, and obtained his M.D. degree at Edinburgh in 1775 by a thesis on "The causes of the varieties of mankind," and afterwards gave himself to military medicine. But he was neither anatomist nor zoologist. He was not the man to be handed down to posterity with a monkey's skull in his hand, for in his thesis he declared that he "looked on the suggestion of ape being transformed into man as monstrous." He became an eminent Fellow of the Royal College of Physicians, but no portrait of him has been preserved.

But what of the features of the man? Are they those of John Hunter? We know the features which Reynolds gave to Hunter at the age of 60, but what do we know of them at an earlier age? The sources of our knowledge are these: first the portrait now in the rooms of the Royal Society, a replica of which was presented to the Royal College of Surgeons by Sir John Bland-Sutton (Fig. 3). That portrait was painted by

Robert Home, the artist, about the time when John Hunter was courting his sister Anne Home, Hunter being then about 40 years of age. We are shown John in gala attire, debonair, seated in a sylvan glade with his dog—half mastiff, half wolf—resting his muzzle confidently on his knee. The coat has no collar but long cuffs, and the waistcoat, embroidered, tightly buttoned. The features are open; the face rather clean-cut, not puffy or full. The next record we have of him



FIG. 4.—Second portrait of John Hunter by Robert Home. The original is in the Royal College of Surgeons, to which it was presented by Hunter's grand-nephew, W. Hunter Baillie, Esq. (Photograph by H. George.)

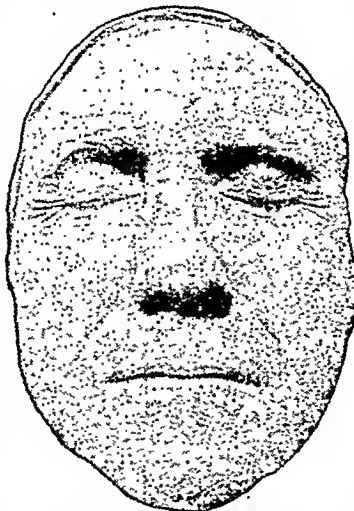


FIG. 5.—Life cast of Hunter's face taken either in 1785 or 1788. (Photograph by S. Steward.)

is the portrait in oils which hangs in the hall of the College of Surgeons (Fig. 4); it also was painted by his brother-in-law Robert Home, and was done four or six years after the other. Hunter is here shown in working garb; his hair, a deep sandy yellow rather than red, is cut short in front, as in the new portrait, but hangs long about the ears. The colouring of the coat, and indeed the whole picture, catches its tone from the hair. Hunter had changed in the years which elapsed between these two portraits; his face had lost its clean-cut features and become puffy and full. There are three points in this picture to be noted: (1) The long tapering forefinger of the left hand—exactly the same form of finger as points at the monkey's skull in the new portrait. (2) The slight twist of the left side of the nose towards the left side of the face and the asymmetry of its tip—there being a fullness just over the left ala; the same features come out in the new portrait, which is not a study in reds and browns, but one carried out in cool greys, the hair being powdered and the costume toned to match. (3) The well known wart, situated on the right side of the bridge of Hunter's nose, is seen in the second "Home" portrait and also in the new portrait (see Figs. 2, 4, and 5). The new portrait I suppose to have been drawn some years after the second one by Home—somewhere about 1775-78, when Hunter was reaching his fiftieth year. The man is represented in a forceful mood, alert and alive—the work of an artist of undoubted talent.

The third source of Hunter's features—the most reliable of all—is the life cast taken of his face in Reynolds's studio, either in 1786 or 1788, a photograph of which is reproduced here (Fig. 5). The cast shows Hunter's wide mouth and mobile lips—the upper lip very expansive, passing between the deep lateral naso-labial folds. There is no suspicion of rabbit mouth in the cast; the upper dental arch is wide and well formed. The face was not long—about 123 mm. as we anthropologists measure faces—but it was exceptionally wide and rather flat; the width across at the zygomatic arches was 145 mm.; it was especially wide over the jaws or angles of the jaws—about 140 mm.—due in part to the fatness of the cheeks. The forehead was wide but not high; its width, measured on the cast, was 110 mm. The supra-auricular eminences were full and strong, but the supra-orbital ridges had nothing of the sharpness and temporal projections seen so often in a Scottish type of manhood; the width of the forehead on a level

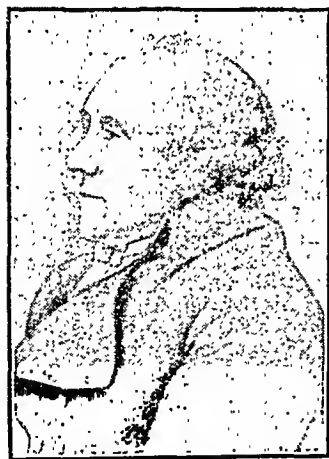


Fig. 7.—From the original pencil drawing of John Hunter made by Sir Nathaniel Dance Holland, R.A., in 1793 (S. A. Sewell). The original hangs in the conservator's room, Royal College of Surgeons.

with the upper margins of the orbits was 115 mm.—very little more than the forehead at its narrowest. The new portrait reproduces the modelling of Hunter's forehead as closely as any of his acknowledged portraits. But there is in the new portrait a narrowing or compression of all the facial features; the upper lip, lower lip, and chin have all the peculiar features which are manifest in the plaster cast, there is a feeling of side-to-side compression in the representation of the face, especially at the jaws; in this the new portrait resembles the second "Home" portrait. One has to remember that the artist has sought to produce, in the Buckston Browne portrait, a "speaking" likeness; Hunter is depicted in the act of giving a

demonstration on a favourite topic. Hunter was short-necked, high-shouldered, and full-chested; the artist has been kind to his sitter in all of these respects; he was also, as we have seen, indulgent to the nasal features of the monkey's skull.

Another source of information regarding Hunter's head is the medallion made by Tassie in 1791, two years before



Fig. 6.—Engraving by Adlard of Tassie's medallion of John Hunter. The medallion is in the Hunterian Collection at the Royal College of Surgeons.

the great surgeon's death, and now preserved in the College collection. This record is of value; it gives a true profile of the head (Fig. 6), and from it and from the Reynolds cast of the face we can make approximate estimates of the shape and dimensions of Hunter's skull. The length of his skull was between 180 and 195 mm., a few millimetres above the average Glasgow male of the nineteenth century. Its width was about 142 to 144 mm., being about 74 or 75 per cent. of the length, Hunter falling thus within the category of "long-heads." His skull, as is so often the case in the Scot of the south-west, was low-vaulted, rising not more than 115 mm. above the level of the ear passages. These dimensions tell us that Hunter's brain surpassed that of the average British male only by a little; its cubic capacity was about 1,500 c.cm. If we turn to the monograph which my friend Dr. Matthew Young wrote on the Scottish skull,<sup>1</sup> founded on material

drawn from the disused graveyards of Glasgow, we find many specimens which in shape and dimensions make a near approach to the Hunterian type. Physically Hunter was in no sense an exceptional man; we can recognize his great inborn gifts only by measuring what he succeeded in accomplishing. He was a man of very short stature, only 5 feet 2 inches, so Clift has recorded. People of his sandy-red colouring and short stature are particularly frequent among the people who live in the western counties—between Wales and Argyll.

Perhaps the most reliable of all Hunter's portraits is

the pencil drawing made by Sir Nathaniel Dance Holland in 1793—the year in which Hunter died. It is almost a true profile (Fig. 7). We note in particular Hunter's small, deep-sunken eyes and his short neck; as he aged, his eye receded and his head sank down more between his shoulders. The new portrait, while it catches a certain curvature of the upper eyelids, gives no suggestion of the eyes being small, but they do not

depart so much in this respect from the eyes of the second "Home" portrait. Hunter's eyes were light in colour—a grey-blue, with a slight pigmentation near the margin of the pupil—as depicted in the Bone miniature. This is the colour which has been given to them in the new portrait.

There is still another portrait which deserves close attention—that preserved in the Apothecaries' Hall (Fig. 8). It is said to be by Reynolds, and I have no doubt it was painted by him. Miss Tildesley has worked out the details of its history. The tradesman who looked after Hunter's establishment, and continued to supervise the Leicester Square property for years after Hunter's death, was James Weatherall, upholsterer in the Haymarket. Mrs. Hunter gave him the picture in question, informing him that it was Reynolds's sketch of her husband. Mr. Weatherall gave it to his nephew, Mr. Thomas Knight, who practised



Fig. 8.—A photograph of the Hunter portrait in the Apothecaries' Hall, London. Its history is given in the text.



in Chelsea, a licentiate of the Apothecaries' Hall, and "one of the livery." Mr. Knight presented it to the Hall in 1857. Now, in her researches into the history of Reynolds's great picture, Miss Tildesley was puzzled by this curious circumstance: From Reynolds's notebook she found that Hunter gave his first sittings, four in number, early in 1786: the sketch then done was shown in the Academy exhibition of 1786 as "the portrait of a gentleman." On its return from the exhibition Hunter gave Reynolds another sitting—in September. Then something happened—probably a dissatisfaction with the result, both on the part of artist and of sitter. Nothing was done in 1787, but in 1788 Hunter again sat three times to Reynolds; then, in 1789, he sat five times—in the afternoon from 2 o'clock to 4 each time. The Apothecaries' picture represents Hunter with a thin, straggling beard and moustache, but the poise of the sitter is exactly that of the acknowledged portrait. The Apothecaries' portrait cannot be a copy of the finished one; the rough materials for the final picture are there, but the inspiration and the finish, in a multitude of details, are altogether lacking. How are we to explain all of these facts—the two quite separate sets of sittings, a sketch by Reynolds, which Mrs. Hunter disliked; "the portrait of a gentleman" exhibited at the Royal Academy in the summer of 1786; its coming home and an attempt to mend it? And, then, why should Reynolds want a plaster cast of Hunter's face? All these things can be explained if we suppose that the Apothecaries' portrait is the picture done in 1786—that it was an admitted failure; that Mrs. Hunter disliked it; that a new one, the final portrait, was painted in 1788-89; that Mrs. Hunter was glad to get rid of the original picture, and gave it to Mr. Weatherall; and that Reynolds succeeded in getting Hunter to shave off his beard and become a fit subject for his art—by the subterfuge of proposing a plaster cast of his sitter's face. It is a painful process for a bearded man to submit his face to the cast-maker; it is easier and better to have the beard removed. That seems the most feasible explanation of a curious sequence of events.

Such, then, is the story of Hunter's portraits, so far as our present evidence will permit us to tell it. Our study has had the advantage of bringing us into close touch with the personality of a man whose like the world will see but seldom.

Lastly, as evidence of the authenticity of the new portrait, I must cite the testimony of one who is better qualified than any of us to recognize a Hunter—Miss Helen Hunter Baillie, the granddaughter of Matthew Baillie, Hunter's nephew, and now the chief living representative of John Hunter's family. She herself reproduces her great-grand-uncle's features and mental outlook with remarkable fidelity, and has been familiar with Hunterian portraits all her life. She has no doubt that the new portrait is that of John Hunter.

[Sir Arthur Keith informs us that there is to be an exhibition of Hunterian portraits and relics in the Museum of the Royal College of Surgeons, Lincoln's Inn Fields, from February 13th to 19th, open to all medical men and students of portraiture. Visitors will have an opportunity of comparing the "new" portrait of Hunter with other well known portraits. A series of specimens have been fitted up to represent the background of Reynolds's portrait. Hunter's chief discoveries in surgery, pathology, anatomy, physiology, zoology, botany, and geology will be exemplified by preparations chosen from the original Hunterian collection. Students of Hunter's history will be interested by an exhibit prepared at the request of the President of the College—Sir Berkeley Moynihan—by Dr. George C. Peachey. By means of maps, sketches, and photographs, Dr. Peachey has succeeded in giving a vivid picture of London in the latter half of the eighteenth century, the "homes" of the Hunters during that period, and what these "homes" look like to-day. Specimens of Hunterian interest have been loaned by the Wellcome Historical Medical Museum, University of Glasgow, St. George's Hospital, Apothecaries' Society, and other institutions, to make the present exhibition as complete as possible.]

## REFERENCE.

<sup>1</sup> Dr. Matthew Young: A Contribution to the Study of the Scottish Skull, *Trans. Roy. Soc. Edin.*, 1916, vol. 51, p. 347.

## An Address

ON

## THE ACUTE ABDOMEN.

GIVEN BEFORE THE DEWSBURY DIVISION OF THE BRITISH  
MEDICAL ASSOCIATION

BY

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DURING the years 1924 and 1925 almost one-fifth of the patients admitted to the surgical wards of the Leeds General Infirmary were cases of one kind or another of the acute abdomen, and the total mortality rate of these two years is mainly attributable to these lesions.

*The Commoner Conditions occurring in 1924-25 in Order  
of Frequency (excluding Subacute Types).*

	Cases.	Deaths.
Acute appendicitis ...	1,080	58 = 5.7 per cent.
Strangulated herniae of all types ...	190	43 = 22.6 "
Perforated gastric and duodenal ulcers ...	150	34 = 22.6 "
Acute obstructions ...	139	55 = 40 "
Acute cholecystitis ...	196	6 = 5.6 "
Acute salpingitis ...	48	2 = 4.1 "
Ruptured viscera ...	29	16 = 55 "
Ruptured ectopic gestation ...	16	0 = 0 "
Acute pancreatitis ...	13	9 = 69.2 "

Though these statistics are not sufficiently large to form an accurate index of the order of frequency of these diseases as a whole, yet they illustrate the common types of acute abdomen in an approximately correct order. In some cases the acute lesion is a complication of a disease which has existed it may be for months or years, and has, therefore, given ample warning of the impending catastrophe. Perforated gastric and duodenal ulcers afford a good example, but the same applies to many of the acute obstructions and the strangulated herniae. Certainly over 90 per cent. of gastric and duodenal ulcers have shown their existence by characteristic indigestion over many years.

Further examination of these statistics brings to light another unsatisfactory feature, and to illustrate it I will analyse the acute appendicitis figures. In 1925 the cases of acute appendicitis admitted numbered 612, and of these 301 (almost half) were complicated by abscess, or diffused or general peritonitis. When appendicectomy was performed before these complications arose there were no deaths, so that the mortality is confined to one-half of the cases, and these all late ones. It is this "too late" factor which is responsible almost entirely for the high mortality of the acute abdomen: I wish to emphasize this most strongly, and at the same time to say that the time is brief between the onset of the attack and the "too late" period; it does not as a rule exceed forty-eight hours, and after twelve to twenty-four hours the margin of safety is rapidly passing.

The surgeon may make his contribution to the mortality by performing unsuitable operations, but I think it is fair to say that he has little or no share in the "too late" episode. There can be no doubt the responsibility lies between the medical practitioner and the patient, or perhaps, more correctly, the patient's friends. The more I see of acute abdominal conditions the more convinced I become that it is the friends who waste the time. In no disease is this better exemplified than in acute appendicitis. There is too often a meddling household therapy as well. The patient, often a child and so unable to fend for itself, complains of bad stomach-ache and is promptly given a dose of castor oil. There is no more certain way of spreading infection to the peritoneum than by stirring up the intestines with aperients at the beginning of a local inflammation such as appendicitis; when it is seen that the pain is worse the doctor is summoned, and by this time probably the appendix has perforated, and, of course, the doctor or the surgeon receives the blame if the result of an operation is unsatisfactory. I recently advocated a campaign of public education, properly controlled, in



certain medical matters. I feel convinced that without it progress will be terribly slow. Even if only one statement were thoroughly driven home—namely, that it is dangerous to give an aporiont for acute abdominal pain without the sanction of a doctor—I feel sure we should see an immenso and immediate improvement in the outlook for the acute abdomen.

I do not intend to say much about operative technique; I shall confine my remarks to diagnosis, in the hope that what I have to say may be of use in focusing attention on the all-important twelve hours following the onset of the acute attack. The surgeon is really of quite secondary importance in this connexion; the man who has the greatest opportunity of reducing the operative mortality is the physician. It is true that operative skill and a knowledge of the best pre- and post-operative treatment are of great importance in such a condition as acute intestinal obstruction, but in early cases of acute appendicitis—and these make up the bulk of the acute abdominal lesions—any surgeon of average competence can show a death rate of *nil*, even over a long series. The credit for this lies entirely with the physician, and it is he who should receive it, though he by no means always does. In the later cases operative skill is of great moment, but even the most accomplished surgeon cannot put back the clock, and he will often be unable to repair what lost time has effected.

It will be seen from the table that acute lesions can roughly be classified into four groups: (1) inflammations; (2) perforations; (3) obstructions and strangulations; and (4) haemorrhages. This is not a scientific classification, for many of the perforations are the result of inflammatory diseases—for example, gastric and duodenal ulcers. But the perforation, which calls so urgently for treatment, is not necessarily immediately preceded by an obviously acute inflammatory stage. On the other hand, acute inflammatory diseases, such as appendicitis, frequently go on to perforation, but here there is, as a rule, a definitely recognizable inflammatory period before the perforation occurs, and it is with this early stage I am concerned. It is for this reason I have made this differentiation between groups 1 and 2.

Each of the four groups has its definite signs and symptoms, and once a particular case has been firmly placed in its proper group it is not difficult to find out the individual organ concerned, if a thorough examination be made and a clear history be elicited.

The signs and symptoms of an acute inflammatory lesion are pain, localized tenderness and localized rigidity, vomiting, quickened pulse, and raised temperature. Those of the second group are pain, more widespread tenderness and an equally widespread rigidity, possibly vomiting, rather quickened pulse, normal, or possibly subnormal, temperature. Those of the third group are pain, very slight, if any, tenderness, no rigidity, persistent vomiting, rather quickened pulse, temperature around normal, and absolute constipation. Those of the fourth group are pain, tenderness, slight rigidity, a distended, rather doughy, abdomen, possibly shifting dullness, usually some vomiting, rapid weak pulse, subnormal temperature, pale face and mucous membranes, syncope, and shallow respirations. The more advanced the condition the more the groups fade into one another in a common peritonitis.

On paper there does not seem to be much to distinguish groups 1 and 2, but a detailed examination of the signs and symptoms will soon dispel this opinion. Let us take acute appendicitis as a typical instance of the first group, and a perforated duodenal ulcer as one of the second. An acute inflammatory lesion of the appendix, in common with a similar lesion in all parts of the small intestine, gives rise to pain referred in the first place to the upper abdomen and umbilical region. The intestine and its visceral peritoneum, unlike the parietal peritoneum, has no appreciation of ordinary tactile sensation; pain occurs when the walls are stretched either by some obstruction to the outflow of the contents, or to exudation of inflammatory products into the wall, and the reason pain is felt in the upper abdomen is that the splanchnic nerves converge on the solar plexus situated in this area. This pain ceases when tension is relieved by the pouring out of the

exudate into the peritoneal cavity or intestinal lumen. As soon as the parietal peritoneum over the inflamed organ becomes involved the pain is localized to the region in which the organ is situated, and spreads outwards from it as the infection continues to involve a wider area of peritoneum. It is coextensive with the tenderness and muscular rigidity. Pain in the first instance—that is, when the intestinal wall only is involved—is of sudden onset, increasing in intensity as the tension from oedema increases, and of a colicky nature, due to intestinal contractions which, while they last, exaggerate this tension. The peritoneal pain, besides being constant, is of a stabbing nature.

Tenderness is due to inflamed peritoneal surfaces rubbing together, or to pulling on light adhesions either by pressure or by muscular movements, such as occur in appendicitis, from contractions of the ilio-psoas when the leg is shifted from one position to another. Rigidity is a protective mechanism, an attempt to limit movement of all kinds, and it is situated over the inflamed site through interaction between the peritoneal nerves and those supplying the muscles concerned. The extent of the rigidity is an index of the area of peritoneum involved, as no rigidity is present unless the corresponding part of the parietal peritoneum is being irritated. There is one exception to this—namely, when the inflammatory trouble is confined to the pelvis, for here the muscular wall is replaced by the pelvic bones, and so no rigidity is found. This fact has often accounted for a wrong diagnosis in appendicitis. The segmented nature of the rectus makes it possible for rigidity to be confined to limited areas of the abdomen; obviously there would be no use in a protective muscular action at any other point than over the diseased part.

In a few hours the referred pain tends to give place to pain localized over the involved organ, and as the appendix is an organ which occupies different places in different patients the pain is not always felt in the same situation. It may be in or near the gall bladder and kidney regions, or on the left side of the abdomen, or in the pelvis. In the latter situation it may cause frequent and painful micturition, and the need for a rectal examination is obvious. There are few inflammatory lesions in the abdomen which appendicitis may not simulate, and a differential diagnosis will depend to a large extent on the history; though, applying the rule of probabilities, it will usually be found that the appendix is the offender in children and young adults.

The pain of a perforated duodenal ulcer is quite different. It is terribly sudden, and excruciating from the outset, and accompanied by a degree of rigidity seldom found in any other condition. The extravasated contents seem to be particularly irritating to the peritoneum (probably it is the hydrochloric acid), and they trickle down in relation to the ascending colon, so that the tenderness is usually to the right—again bringing appendicitis into the most marked here—the initial pain is always worse, the pulse rate is frequently only 80 or thereabouts when the patient is first seen—that is to say, one of the cardinal signs of shock is absent, a feature not generally appreciated, I think—and there is no rise of temperature. It is as well to remember here that there is one acute abdominal condition which gives rise to as excruciating a pain as a perforated duodenal ulcer, and that is acute pancreatitis; but in this condition there is usually profound collapse with a very rapid and weak pulse and a well marked cyanosis, and the maximum tenderness and rigidity are found in the epigastrium. The adrenaline eye test and increased diastase content of the urine may help.

Traumatic perforations (or ruptures) of the hollow viscera do not as a rule give rise to such agonizing pain in the first instance as does a perforated duodenal or gastric ulcer; this is probably because the tear is usually small, and may become temporarily plugged by pouting mucosa. The tenderness and rigidity are at first localized, and, of course, there is the history of accident. These cases are very confusing at times because they are often associated with shock, and not infrequently with internal haemorrhage. It is in this class of case that a definite diagnosis frequently cannot be made, and a laparotomy will have to be done on suspicion of serious internal abdominal injury.

This attitude is quite justified, for, if one awaits a certain diagnosis, peritonitis or haemorrhage, or both, are usually so advanced that a fatal result is inevitable. The primary shock may be severe, and an operation have to be delayed on this account; but if the patient rallies in two or three hours and still the pulso rate does not drop, it is almost certain that there is some condition needing operative relief. These cases require repeated examinations, and at short intervals.

#### Obstructions.

An early diagnosis in intestinal obstruction is, perhaps, even more important than in the inflammatory conditions. It may happen that an inflammatory condition will get well of itself, but it is extremely rare for an acute obstruction to do so, and after the obstruction has lasted forty-eight hours the operative mortality becomes very heavy; in the table it will be seen that it is about 40 per cent., excluding strangulated herniae. Moreover, it is often difficult to differentiate acute obstruction from spreading peritonitis after the second or third day, when absolute constipation, incessant vomiting, rapid pulse, distension, and great prostration may be found in both conditions.

The three cardinal symptoms of acute obstruction in the early stage are pain, absolute constipation, and persistent vomiting. Pain is most marked when there is strangulation as well—for example, in volvulus and the various kinds of hernia. It is at first sharp and colicky, later more or less continuous, until it ceases with the onset of paralysis. In obstructions of the large intestine it is felt in the lower abdomen. Gradually increasing distension is a prominent sign of obstruction. In the earliest stages it may be confined to particular regions of the abdomen—for example, in obstruction of the small intestine it will be central, whereas in obstruction of the large intestine it may be most marked in the right side, across the upper abdomen, or along the whole course of the colon, according to the site of the lesion. Visible peristalsis may be seen at this stage, if the patient be not too fat, and periodic hardening of the caecum may be felt; this is a very useful sign of colon obstruction at the beginning of the attack. When the acute attack follows chronic stenosis of some duration a tumour may be felt, and it should be a rule always to examine the rectum.

**Constipation.**—This is absolute for both faeces and flatus, but there are one or two points to note. Both may be passed in small quantities with the first enema, owing to the bowel below the obstruction being cleared of its contents. Subsequent enemata will produce no result. Also, to be a dependable sign the enema must be a high one, given with the patient's hips raised. In acute intussusception frequent liquid stools may be passed, as there may be a sufficient lumen in the invaginated gut to allow of this, but other signs clinch the diagnosis, such as haemorrhage from the bowel, a sausage-shaped tumour in the abdomen, and a tumour felt in the rectum, and also tenesmus; and, of course, it is most often seen in children under 2 years of age.

**Vomiting.**—Faecal vomiting only occurs after the third or fourth day, and therefore has no useful place in diagnosis. The first vomit is stomach contents, and has a more or less innocent appearance; later it becomes bilious, and frequently repeated, much more so than in acute gastro-enteritis. The oft-repeated vomiting is in strong contrast to the vomiting of appendicitis, which occurs once or twice soon after the onset of pain, but is not frequently repeated until peritonitis supervenes.

In arriving at an early diagnosis the first question to be settled is whether or no an acute obstruction exists. If present, the earlier an operation is performed the better. The exact position of the actual lesion is not such an important matter; of course, an attempt should be made to ascertain this, and a good history will be most useful in this respect. If there is a sear of a previous operation, it should be kept in mind that adhesions associated with this may be the cause of the obstruction. The hernial apertures should always be examined, and also the rectum. A history of comparatively recent increasing difficulty with the bowels, slight colicky pain at times, possibly a little loss of weight and general well-being, and occasional distension of the abdomen in a patient at, or over, middle

age, would suggest a growth as the underlying cause. A previous history of gall stones should make one suspect that a stone may be impacted in the small intestine. In this condition the symptoms may appear rather insidiously, and visible peristalsis may be well marked. I have been able to diagnose the condition before operation in the last four cases I have seen.

In the early stages of acute obstruction repeated examinations are necessary. It may be impossible to be sure of the condition in the first few hours; if the bowels have not acted or enemata are unsuccessful, if vomiting continues, accompanied by an increasing pulse rate and abdominal distension, even if a definite diagnosis cannot be made, it will be in the best interests of the patient to have a laparotomy performed. A delay of forty-eight hours, when obstruction is present, may clinch the diagnosis, but will usually prove fatal from toxic absorption and the shock of the obstruction.

#### Haemorrhages.

The haemorrhages associated with gastric and duodenal ulcers, cholecystitis, appendicitis, and the like, though acute abdominal conditions, very seldom indeed require urgent operation, and I shall not deal with them here. The pathological lesions responsible for the type of haemorrhage in group 4 of my classification are practically confined to two—namely, those associated with injury, in which case there is a history of accident to guide one, and ruptured ectopic gestation, which I will deal with later.

In the presence of shock which the accident initiates it is almost impossible to say whether bleeding is going on or not. The symptoms are very similar, though with haemorrhage alone there is usually an absence of unconsciousness, cold clammy sweating, and dilated pupils. Sometimes shifting dullness may be found, and is suggestive of haemorrhage; it should be looked for particularly in the flanks and above the pubis, and when found in the early hours before the onset of distension it is a very valuable sign. Bleeding may stop as a result of the low blood pressure associated with the shock, only to begin again as the shock passes off, and one notices an increasing pulse rate and pallor, and the respirations become more shallow. It is essential to chart the pulse rate every half-hour. A slight degree of rigidity is often present, and also localized or diffuse pain. There is also tenderness coextensive with the rigidity. Increasing pulse rate, distension, and vomiting indicate an advancing peritonitis. If pain is due to injury of the abdominal wall alone it may be quite severe, and may be associated with rigidity too, but in this case the rigidity is never so marked as when there is visceral injury, and it yields to light pressure.

If a hollow viscus has been torn, vomiting, perhaps mixed with blood, is a prominent feature, and haemorrhage, tarry or bright red, may be passed by the bowel.

Injury to the kidney is followed by haematuria, possibly a swelling in the loin, and pain radiating into the testis or thigh. A diagnosis of rupture of the bladder depends upon the history and location of the injury, small quantities of bloody urine recovered on catheterization, pain in the bladder region, and constant ineffectual desire to micturate. The injection of fluid into the bladder as a test is unreliable.

Rupture of solid viscera gives the signs and symptoms of internal haemorrhage, but the maximum of rigidity and tenderness will usually be found over the injured organ. Fracture of the lower ribs often accompanies injury to the liver and spleen, and pain may radiate to the shoulders when the injury is to the liver.

In ruptured ectopic gestation there is sudden severe abdominal pain, with collapse and the signs of internal haemorrhage; the face and mucous membranes are blanched, there is great restlessness and thirst, and attacks of syncope, with a rapid, weak pulse. The abdomen is uniformly tender and there is a degree of rigidity, but not so marked as is found in the inflammatory conditions. The abdomen is distended and gives a peculiar doughy sensation to touch, and there is tenderness and fullness in Douglas's pouch. These are diagnostic indications of a

ruptured ectopic gestation if they occur in a woman who has had a long period of sterility, or a history of pelvic disease with irregular menstruation, and especially if menstruation has ceased for six weeks or so, during which the early signs of pregnancy may be seen, and at the end of about six weeks there is a discharge of clots from the vagina, with colicky pain in the lower abdomen.

The treatment is immediate operation, and it is surprising how well these patients do afterwards, even though they may be, and usually are, terribly blanched at the time. I have occasionally given a transfusion of blood, and it seems to help. Blood transfusion may be of the greatest value in those cases where the bleeding is due to injury.

I have not gone into a detailed differential diagnosis of all the surgical lesions included under the heading of the acute abdomen; it would make the paper much too long. In the early stages there is usually little difficulty in deciding which organ is responsible. Again, I have refrained from discussing abscesses and peritonitis. These are complications, and the acute abdomen should be operated on before they appear. If a patient suddenly experiences acute abdominal pain, followed by nausea or vomiting, or both, and this is accompanied by tenderness and rigidity, possibly in some degree over the whole abdomen, but most pronounced over the most painful area (which is suggestive of the site of the lesion), with or without shock, or if with the pain and vomiting there is absolute constipation, there is an acute abdominal condition present which is almost certainly of a surgical nature. If the lesion can be accurately placed so much the better; but this does not matter so much to the surgeon as getting the case early, for he should not tackle the job at all if he is not able to deal with any surgical catastrophe which may be exposed on opening the abdomen.

## TWO CASES OF CARDIAC INFARCTION:

ONE FOLLOWED BY CALCIFICATION OF THE HEART,  
THE OTHER BY RUPTURE.

BY

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DURING the past two years there has been a considerable increase in the literature on coronary occlusion, cardiac infarction, and rupture of the heart. The two cases to be described have been put on record owing to certain unusual and interesting features.

### CASE I.

A man, aged 55 (shoe hand), was admitted in June, 1901, in a state of acute excitement with hallucinations. He slowly became demented, but led an active and useful life as messroom worker, vanman, and hospital messenger. In August, 1925, at the annual physical examination, the heart was found to be enlarged to the left nipple line; there was a soft mitral systolic murmur and occasional extra-systoles. The lungs were clear. On November 13th, 1925, he was confined to bed for a few days with bronchitis and slight oedema of feet and legs; there was no albuminuria. He was soon up and about again, working as usual. On the evening of December 12th, 1925, he returned from afternoon leave and complained of not feeling well. He went to bed and slept for an hour; at 10 p.m. he went to the ward commode, collapsed, and died at 10.3. There was no record of the Wassermann reaction.

### Post-mortem Examination.

The heart was greatly hypertrophied and weighed 809 grams (28½ oz.); length from aortic ring to apex, 14 cm.; mid-ventricular diameter, 12 cm.; left ventricular wall, 2.5 cm. thick; right ventricular wall, 0.9 cm. thick. The pericardium was much thickened, and was adherent around the apex over an area 8 cm. wide; a plentiful supply of blood vessels passed from the adherent pericardium to the apex. There was a small quantity of straw-coloured fluid in the pericardial sac. The lower half of the left ventricle was ballooned out sufficiently to contain a golf ball. The anterior wall of this dilatation was fibrous, with scattered patches of calcification and extensive areas of recent sub-endo-pericardial haemorrhage. The apex and the left lateral, medial, and cardinal haemorrhage. The apex and the left lateral, medial, and posterior walls were fibrous, with marked calcareous deposit which was extended 7 cm. along the interventricular septum. There was formation of fibrin on the calcareous nodules that projected here and there through the endocardium, which otherwise was intact, and lined the irregular inner aspect of the dilatation. The myocardium was brownish and soft, and the papillary muscles much hypertrophied. All the chambers were dilated and hyper-

trophied. The aortic cusps were thickened, and the mitral thickened and incompetent. There were a few small patches of atheroma in the ascending aorta.

The left coronary artery was healthy at its origin, but just inside the mouth there was atheroma with early calcareous deposit, 3 cm. from the origin of the main vessel there was complete occlusion of the anterior descending branch for a distance of 2 cm., and beyond that the walls were greatly thickened, with narrowing of the lumen. The right coronary artery showed slight atheroma.

**Microscopical Examination.**—The left coronary artery was atheromatous and occluded by organized thrombus. There was great proliferation of the intima, and fibrous tissue was arranged in whorls around small vessels formed during the canalization of the thrombus. Yellow granules of haemosiderin lay amongst the fibrous tissue. The muscle fibres of the myocardium were irregular



FIG. 1.—Case I. Section through calcified cup in left ventricle: (a) adherent pericardium; (b) calcareous nodules; (c) recent haemorrhage.

in size, stained indifferently, and many were dotted with black granules; fibrous tissue was increased between the muscle fibres. At the apex the muscle fibres were very scanty, and there was abundant white matter. The kidneys were in a state of chronic bronchitis.

Close inquiry revealed no history of any illness nor complaint on the patient's part to point to occlusion of the coronary artery, yet the anterior descending branch had been blocked and extensive infarction of the inferior half of the left ventricle, including the septum, had occurred. The infarct had undergone softening and been replaced by fibrous tissue which had stretched, producing aneurysm of the heart. Extensive calcareous deposit had occurred in the dead heart muscle, and judging from this the patient must have carried on with a damaged heart for a considerable time, possibly years, until he presented signs of heart failure in November, 1925, from which he apparently recovered, but which was followed by sudden death possibly whilst straining at stool. Goodall and Weir report three cases of coronary disease and rupture of the heart in patients who died suddenly in or near lavatories. Crawshaw reports another case of ruptured ventricle in similar circumstances.

Hamman considers that occlusion may occur so slowly that no symptoms mark the final occlusion. Thayer quotes cases of recovery for periods of three years and thirteen years after infarction, and states that ultimately death may be sudden, or from gradual heart failure. The case described certainly bears out these points.

Calcification of the heart is rare. In Gibson's collection of forty-three cases of infarction from English, American and Continental literature there is no example of calcification of the infarct. Scholz describes a case of calcification of an infarct following coronary occlusion in a male, aged 74, demonstrated radiographically *intra vitam* and confirmed *post mortem*. He remarks that where calcium salt are deposited in a cardiac infarct "the calcifying process gradually takes on a massive solid form involving a large area and all the elements of the heart wall. It may be worth noting that this apparent elimination of so large a portion of the heart muscle causes very little distress to the patient unless the conducting system of the heart happens to be interfered with by the calcifying process." Scholz also quotes a case of coronary occlusion, followed by calcification of the infarct, described by Burns in 1898 and a case described by Askanazy in 1901.

## CASE II.

A woman, aged 65, was admitted in November, 1925, in a state of epileptic confusion and restlessness. There was a history of epilepsy for the previous thirty years. On admission the cardiac dullness was normal, but the heart sounds were soft and faintly heard; the action was regular in rate and rhythm. On May 14th, 1926, she complained of pain in the chest, vomited, and breathed with difficulty; the next day the temperature rose to  $101^{\circ}$  F., pulse 120, respirations 38, the pain in the chest was acute, dyspnoea marked, and the face extremely congested. Fever continued for six days, and the pain and dyspnoea slowly passed off. The patient apparently recovered and was up and about from May 25th until June 6th, when she again complained of pain over the heart. From June 24th there was fever ranging from  $99^{\circ}$  to  $100.4^{\circ}$  F., pulse 80 to 100, respirations 20 to 40; dyspnoea, cardiac pain, and cyanosis until June 27th, when there was sudden syncope and death.

Unfortunately, there is no record of the character of the pulse, cardiac dullness, sounds and action, or of the presence or absence of pericardial friction, etc., and the case was not diagnosed during life. The Wassermann reaction was negative.

*Post-mortem Examination.*

The heart was hypertrophied and weighed 481 grams (17 oz.); length from aortic ring to apex, 10 cm.; mid-ventricular diameter, 8 cm.; left ventricular wall, 2 cm.; right ventricular wall, 0.75 cm. thick. The pericardial sac was distended and contained over two pints of fluid blood; clot was wrapped around the heart like a cast. The pericardium was adherent around the apex and to the anterior surface of the right and left ventricles over an area 6.5 cm. wide. Blood oozed from the left ventricle along the edges of the pericardial adhesions. There was infarction of the apex of the left ventricle involving the myocardium for a distance of 4 cm. along the interventricular septum. A laminated thrombus 3 cm. thick filled the apex. The myocardium appeared healthy; the anterior cusp of the mitral valve and the aortic cusps were thick and fibrous; the valves were competent. The aorta was atheromatous at the arch.

The left coronary artery was healthy at its origin, but 1 cm. from its mouth the vessel was thrombosed for a distance of 2.5 cm. The right coronary artery was healthy.

*Microscopical Examination.*—The left coronary showed irregular "signet ring" proliferation of the intima, with final occlusion of the lumen by thrombus which was being organized. The infarct showed necrotic muscle fibres. There was active phagocytosis by large multinuclear cells and leucocytes; bands of white fibrous tissue replaced the dead muscle fibres, and the



FIG. 2.—Case II. Section through left ventricle; (a) adherent pericardium; (b) infarct; (c) laminated thrombus.

pericardium adhered by a delicate fibrous tissue meshwork, in which there were small haemorrhages. The lungs were healthy. The kidneys were pale and fatty, and the vessels sclerotic.

There were no marked signs of cardiac disease until coronary occlusion occurred; then there was sudden acute cardiac pain, dyspnoea, vomiting, and fever lasting ten days. The patient apparently recovered and was able to be up and about for a period of four weeks; meantime ischaemic necrosis had occurred. Pericardial adhesions formed over the infarct and were apparently efficient for four weeks, when, presumably, stretching of the infarct took place with bleeding into and through the softened tissue to the pericardial sac along the line of the adhesions, resulting in haemopericardium. Hamman<sup>2</sup> considers that it is exceptional for a softened infarct to rupture and cause death soon after occurrence of the occlusion.

I am indebted to Dr. J. Francis Dixon, medical superintendent, for permission to publish particulars of the above cases.

## REFERENCES.

- <sup>1</sup> Goodall and Weir: *BRITISH MEDICAL JOURNAL*, 1927, i, p. 834.  
<sup>2</sup> Crawshaw: *Ibid.*, 1927, ii, p. 99. <sup>3</sup> Hamman: *Bull. Johns Hopkins Hosp.*, April, 1926. <sup>4</sup> Thayer: *Internat. Clin.*, Philad., ser. 33, No. 1, pp. 1-25, 1925. <sup>5</sup> Gibson: *Lancet*, 1925, ii, p. 1270. <sup>6</sup> Scholz: *Arch. Int. Med.*, vol. 34, 1924.

## AURICULAR FLUTTER.\*

BY

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AURICULAR flutter is an abnormal heart rhythm the diagnosis of which is difficult in the absence of instrumental methods, but usually possible if certain points are considered.

The fundamental factor of the condition is that the auricles start a very rapid rate of contraction, somewhere in the neighbourhood of 300 times a minute. The diastolic period allowed at that rate is so short that the ventricles are not properly filled and their output is diminished. The ventricles are usually unable to follow the auricular

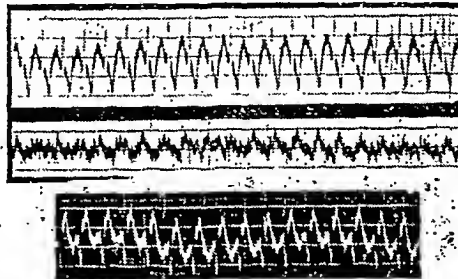


FIG. 1.—Shows auricular and ventricular rate at 264. 1:1 flutter.

rate owing to the conductivity of the bundle of His being unequal to such rapidity of function, and for that reason every other stimulus is held up by the bundle and a condition of 2:1 heart-block is set up; this is really a protective heart-block, which is useful in that it protects the ventricular muscle from exhaustion following on an extreme tachycardia. Exercise, which stimulates the sympathetic, is known to increase the conductivity of the bundle, and sometimes it is found that exercise may cause the ventricles to follow exactly the auricular rate for a short time (Fig. 1).

Usually a 2:1 block is present, so that the ventricular rate is about 150 a minute; and this rate is very constant—it remains the same whether lying, standing, or even moving about. Sometimes the ventricular rate is about 75—a 4:1 block—and this is where we are very apt to miss the condition on a cursory examination, but really it is the best chance for diagnosis. If exercise is given the rate, instead of rising slowly, jumps with a sudden bound to double the original rate—namely, about 150—or in some cases it may become quadrupled to about 300. This is characteristic of flutter, and there are only two conditions where this may occur: in a trained athlete on exercise the rate may rise with a jump from about 60 to 120, and on rest the same thing may occur in the opposite direction; auricular flutter is the other. It is commonly said that this may occur in paroxysmal tachycardia, but, although sudden jumps of rate do occur at the onset and offset of the attacks, the increase is not a multiple of the former rate.

In flutter an intermediate rate may occur, for the block may vary between 2:1, 3:1, and 4:1; in this case there is ventricular irregularity, and the clinical diagnosis then becomes still more difficult. The symptoms to be expected are some degree of heart failure if the rate be much above normal, owing to deficient ventricular output, yet, clinically, at rest the heart may appear to function properly. The size of the heart may be little if at all increased; the rate may, as we have seen, be about normal. Occasionally a constant ripple may be seen in the jugular vein in the neck, corresponding to the auricular contractions, but this is not often present. The chief points for diagnosis are an unvarying rate over long periods, unless by doubling or quadrupling, associated with breathlessness.

The condition may occur in apparently healthy or in obviously diseased hearts; it is essentially a similar condition to auricular fibrillation, the former being a regular tachycardia, whereas the latter is an entirely irregular

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tachycardia. The one condition may very easily pass into the other, and, in fact, may be made to do so by means of drugs.

The treatment consists of the administration of digitalis or quinidine, or both at the same time; its results will be demonstrated in the cases recorded below.

## CASE I.

A strong, healthy-looking man, aged 28, was invalided out of the army with disorderly action of the heart. He received a pension for five years, and then it ceased as he was considered well. Eighteen months later he developed extreme tachycardia on exertion and was sent to my out-patients' department. The size of the heart was doubtful, but a radiogram showed that it was very much enlarged. There was a soft systolic murmur at the

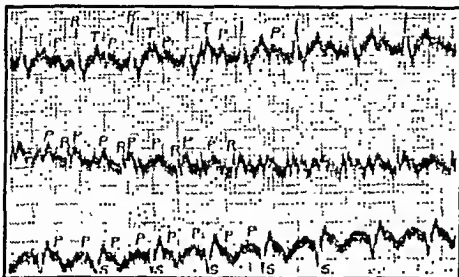


FIG. 2.—Shows 2:1 block in auricular flutter. P, auricular waves; R, S, and T, ventricular waves.

apex. The rate was 132 at rest, but this rose to 264 on exertion. The condition was manifest. He was given 2:1 flutter at rest (Fig. 2), but 1-1. He was admitted and placed on 1 minims thrice daily, and in a few days the ventricular rate was slowed owing to a mixture of 2:1, 3:1, and 4:1 block (Fig. 3). Digitalis was continued (15 minims thrice daily) for three weeks, with no effect but that the block became 4:1. Quinidine was then given.\* The condition changed from flutter to normal rhythm after the third capsule, so no more was given; flutter, however, recurred the next day. A further course of quinidine was ordered, and again he became normal after the third dose, but this time he was given two capsules the next day, and then one capsule a day for fourteen days. He remained at normal rhythm and was discharged. He continued well for eight months, but was then taken ill again after walking up a steep hill. Flutter was again present. He was once more put on digitalis, and this time on the third day the condition changed to auricular fibrillation (Fig. 4). The digitalis was at once stopped—for if one can force flutter into fibrillation the heart often lapses into normal rhythm as the effect of the digitalis wears off; however, he relapsed into flutter. Digitalis was again administered, and quinidine was given, but

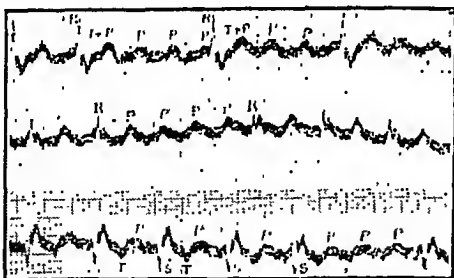


FIG. 3.—Shows a mixture of 2:1, 3:1, and 4:1 block. P, auricular waves; R, S, and T, ventricular waves.

the full five doses had no effect. Digitalis was continued and the condition again changed to fibrillation. On stopping the drug this time he regained normal rhythm; this has remained so till the present time, a matter of four months (Fig. 5).

The next two cases came on after an attack of influenza.

## CASE II.

A woman, aged 36, was sent to hospital by her doctor, who described her as a case of heart failure which was obscure, as the heart did not appear clinically very bad. She had influenza in 1922, and six months later her feet began to swell. A year later she had ascites, oedema of the legs, and palpitation, which gradually got better, but she remained very breathless. She was admitted in June, 1924. The heart was enlarged to a slight degree, there were no murmurs, and the pulse rate was 144 per minute. A tracing showed 2:1 flutter. Digitalis changed the block to 4:1, but nothing else happened; the rate was then 72 a minute. She was given quinidine, but the second capsule made her feel very ill and it was stopped. She therefore remained

\* The method is as follows: a preliminary dose is given of 0.4 gram in a gelatine capsule, to see that there is not an idiosyncrasy against the drug, and the next day the patient is given 0.4 gram every two hours for five doses.

on digitalis, and I went on holiday. On my return I was informed that she had died, and therefore she had been taken off. I showed that the rhythm was normal, and it till the present time.

## CASE III.

A boy, aged 17, had an attack of influenza during which he was taken with vomiting and extreme tachycardia associated with much dyspnoea, but no signs of heart failure. The tachycardia continued for eight months. I saw him in August, 1921. The heart was not enlarged and there were no murmurs. The pulse rate at rest was 144, but on exercise this went up to 238 with pulsus alternans, as shown by the electrocardiogram. Auricular flutter was diagnosed, but no treatment was given at that time. He was given digitalis 15 minims thrice daily, and he was kept at this rate for a long time. Holiday time came on and I went away. On my return I found the

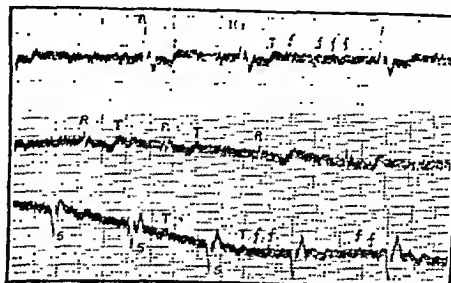


FIG. 4.—Shows auricular fibrillation. The ventricular rhythm is quite irregular. P, fibrillation waves in diastole.

rate at 60, and, judging that the flutter had ceased, the patient was allowed up, and it was found that the tachycardia had passed off. He was sent up to London to see Dr. Parkinson, who reported that the electro-cardiogram was normal and that the heart also appeared normal. Since then the boy has never looked back; he has played Rugby football and gone through his course as a medical student. He appears to have a normal heart. It was unfortunate that I missed the turn over of both these cases, but probably the flutter was followed by fibrillation and then reverted to normal rhythm.

## CASE IV.

A man, aged 50, had suffered with emphysema of the lungs with cyanosis for some years, but for the last four months had oedema of the legs with a sensation of fluttering in the chest. His heart was enlarged, the sounds were faint, but there were no murmurs. The pulse was irregular, and a tracing showed auricular flutter with a varying block—3:1 and 4:1. Digitalis kept him at a regular 4:1 block, but did nothing further. He was given quinidine, five doses on two consecutive days, with no effect, so digitalis was pushed till fibrillation ensued. On stopping the digitalis the flutter returned, but on repeating the process the

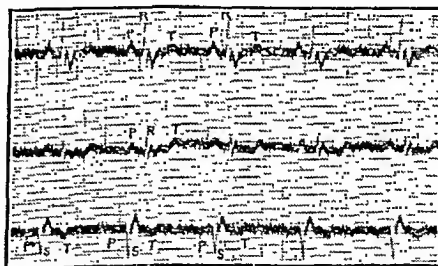


FIG. 5.—Shows normal rhythm. The ventricular waves are the same, R and T. There is only one P wave occurring just before the a wave.

rhythm returned to normal and he was discharged. Six weeks later he relapsed and flutter reappeared.

## CASE V.

A man, aged 37, had had rheumatic fever at an early age, with three recurrences since, the last being in August, 1926. He was admitted on September 1st, 1926, suffering from gross heart failure with a very rapid regular pulse of 182 a minute. An electro-cardiogram showed flutter with 2:1 block. This is a very high rate for a flutter, for the auricular rate was 364. The next day the heart was found to be grossly irregular, and the condition had changed to fibrillation. As he had advanced mitral stenosis it was thought he would do better if the fibrillation was made permanent, so he was given digitalis and the rate slowed to about 75 a minute, and was kept at that rate by a dose of 15 minims of tincture of digitalis thrice daily. He did very well, and has since gone back to work, which is luckily not of an arduous nature.

The number of cases here reported is too few upon which to base any remarks, but it is interesting to note that the two influenzal cases are the only ones which have not recurred—once over a period of three and the other of six years. The probability is that they will not now recur.



## ESTIMATION OF GLUCOSE IN THE BLOOD AND CEREBRO-SPINAL FLUID.

BY

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HAVING had excellent results with Maclean's method<sup>1</sup> in a large number of determinations of glucose in the blood and cerebro-spinal fluid, it has occurred to me that my experience might be of interest. To ensure success certain points must be attended to which, although doubtless very elementary, have been found to be neglected in some cases where I have been consulted. The difficulties appear to be of three orders: personal, physical, and chemical.

The most frequent mistakes common to all methods are those of arithmetic, careless reading of the burette, and the use of odd slips of paper instead of a properly kept notebook. Not the least advantage of the well kept notebook is that the titrator may leave his entries to be afterwards dealt with by another; indeed, one might go so far as to say that a notebook of which another worker cannot make head or tail has not been properly kept.

Next to mistakes in arithmetic come errors which arise from an absence of the proper physical conditions. On one occasion a flask awaiting titration, the iodine having been liberated, was left standing in the sun; in others the proper heating conditions had not been obtained; thus on one occasion a wire gauze of another mesh than that with which the flame had been standardized was used.

Last, but not least, the reagents may be at fault. In one laboratory, for instance, after exhausting every other possible source of error, the sodium sulphate supplied by a reputable firm was found to contain sulphite. More often the "dialysed" iron is found to be at fault and to contain free hydrochloric acid. If the worker does not make up his own volumetric solutions it is as well to have the titre of the thio—supplied by commercial houses as decinormal—checked.

Professor Maclean's method may be divided into stages as follows:

**Stage I (Deproteinization).**—Into a 50 c.cm. Erlenmeyer flask take 23.8 c.cm. of 15 per cent. sodium sulphate acidulated to the extent of 0.1 per cent. with glacial acetic acid. (Sodium sulphate solution which has lost its acidity may be reacidulated.) Add 0.2 c.cm. blood; raise just to the boil; add 1 c.cm. dialysed iron; filter through starch-free filter paper, whose diameter is about 4 inches, into a small Erlenmeyer flask.

**Stage II (Reduction).** The filtrate, or 20 c.cm. of it, is transferred to a larger flask and allowed to cool either automatically as it waits its turn, or under the tap; add 2 c.cm. standard copper solution and reduce under standard conditions—that is, raise to the boil in one and a half to two minutes and keep boiling for another six minutes.

**Stage III (Titration).**—Cool as above, and when ready to titrate, but not before, liberate the iodine with 2 c.cm. 75 per cent. HCl. Add a few drops of starch solution and titrate against N/400 sodium thiosulphate.

Modifications of methods are in general to be deprecated unless they make for simplicity and give constant results. To take these modifications in turn.

I. There is no need for a reflux condenser at this stage, as scarcely any fluid is lost by bringing the lysed blood just to the boil. The dialysed iron may be added immediately; if a good sample—and poor samples of dialysed iron must on no account be used—its effect is instantaneous and the fluid may be filtered hot; in fact, it filters more quickly hot. The filtrate, measured before any evaporation has taken place on standing, is very constantly 21 c.cm., so that, if one likes, the whole filtrate may be taken, multiplying the result by 0.95. Obviously, if evaporation has occurred to any extent, as may happen when large numbers are being dealt with, it is even more accurate to take the whole filtrate than to imagine that 20 c.cm. obtained with difficulty represent 4/5ths of the sugar in the blood taken, when in reality it represents slightly more—that is, up to 21/25ths.

II. Reduction must take place under the standard conditions laid down by Professor Maclean. I find it

convenient, but not essential, to use a reflux condenser at this stage in order to avoid over-concentration. The condenser need not even be reflux. Clamp a large test tube filled with cold water, and adjust it immediately over the flask; the column of water will eventually become heated up, but not before it has prevented the over-concentration in the flask. The standardization of the flame by a manometer is unnecessary and unreliable—unnecessary because the observer's ear soon becomes accustomed to the sound from a given Bunsen burner at a given gas pressure; unreliable because heat supplied does not vary exactly as the pressure, but depends on the gas quality (thermic value). It is better, therefore, to find by trial the size of flame which will bring materials to the boil in from one and a half to two minutes, and reckon six minutes more (preferably by an interval alarm clock). This procedure gives more freedom as to the kind of flask used, for if the manometer is depended on it will make a difference whether, for instance, Bohemian or Swedish flasks are used.

III. It is not necessary, when liberating the iodine with strong acid, to wait for the effervescence to pass off, as this will occur during the shaking in the titration. A blank titration of the standard should be done with every batch of blood sugars—say twice a day. This is especially necessary if the standard is made up in bulk, for the solution ripens on keeping, and its value may rise so that 2 c.cm. are equivalent to 13 c.cm. of N/400 thio. When filling up the bench bottle (which is preferably of brown glass) titrate and correct, if necessary, as follows:

Suppose the value to be 11.7, take 110 c.cm. of the stock solution and add 7 c.cm. H<sub>2</sub>O, and so on; or the correction may be made arithmetically. Make up the N/400 sodium thiosulphate as follows: take 24 c.cm. N/10 sodium thiosulphate into a 100 c.cm. volumetric flask—a graduated glass cylinder is not accurate enough—add distilled water to the mark; empty out, shaking the while, into a larger flask and shake thoroughly. Volumetric flasks are for measuring, not for mixing.

Finally, the technique should be checked by seeing that reasonable results are obtained with normal bloods—that is to say, a figure around 0.085 per cent. in the case of a healthy person during the last hour before lunch—or with a known solution of glucose, say 1/4 per cent., which will keep if a little toluol be added.

Until everything is going well one should be prepared to do two or three titrations on any one particular case. For this purpose 1 or 2 c.cm. of blood should be taken either from the ear or from a vein, and the blood collected in a small tube which has been rinsed out with 20 per cent. potassium oxalate solution and dried.

When everything is going well, 0.2 c.cm. of blood is drawn into a pipette having preferably a capillary mouth subdivided, if possible, to 0.05 c.cm. A small length of rubber tubing (1/8 to 1/4 in. bore) makes a useful tourniquet; wind one turn just past the last joint of the thumb, leaving a small space on the dorsal aspect of the thumb between the joint and the nail. The advantage of this little plateau is that the blood is not so likely to run off it. Stab boldly; have a watch-glass (with a trace of potassium oxalate on it) in readiness to catch any overflow in case the bleeding is unexpectedly energetic. The pipette after use is washed out with water and then in potassium oxalate solution and set aside to dry; more than one should be at hand.

The time at which the blood is taken should be noted. If many hours elapse between the taking of the blood and its titration a misleadingly low reading may be obtained, even if the blood has been kept on ice. This seems to be due to ferment action, and may be inhibited by adding a trace of formalin. It is often convenient, however, to do Stage I (which destroys the blood enzymes) in the consulting room, the filtrate being reserved for reduction and titration at leisure.

## Cerebro-Spinal Fluid.

Here the estimation is as for blood, except that where globulin is not increased the first stage (deproteinization) may safely be omitted, as the cerebro-spinal fluid contains normally a hundred times as little protein as the blood. When, however, globulin is increased, 0.1 c.cm. dialysed iron may be used—that is, ten times as little as for blood. The normal glucose content of the cerebro-spinal fluid is somewhat lower than that of the blood, and is fairly constantly about 60 mg. per 100 c.cm. There may be none in acute meningitis.

## REFERENCE.

<sup>1</sup> *Modern Methods in the Diagnosis and Treatment of Glycosuria and Diabetes*. Constable.

## THE HISTORY OF A HYPERNEPHROMA.

BY

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ALTHOUGH the vagaries of hypernephromata are well known, the following case is so unusual that it is worth recording.

In August, 1924, a girl, aged 15, was admitted to the Chester Royal Infirmary with a hard, firm, rounded mass occupying the left loin. The urine had a specific gravity of 1020, and contained a trace of albumin, but no blood or pus. She stated that she had had attacks of vomiting and of pain in the left side for some years and that, shortly before admission, she had noticed a swelling in the flank. She was extremely emaciated, with a remarkable growth of hair over all the limbs and abdomen. The skin had a dusky tint, but there was no premature development of the sexual organs; in fact, menstruation did not start until the following year.

*Exploratory Operation.*

A tentative diagnosis of hypernephroma was made, and the kidney explored through a lumbar incision. It was found fixed and surrounded by a reddish vascular growth. As nephrectomy seemed to be out of the question a small piece was excised for microscopical examination. This was reported to be a typical hypernephroma. She left the hospital with an unhealed sinus and I did not see her again until about two months later. She was then a living skeleton, covered with an abundant growth of hair, and it seemed impossible that she could live much longer. I heard later, however, that she remained in this condition for about nine months, and then, to everybody's surprise, began to put on weight, the tumour and the hairy growth disappearing.

*Nephrectomy.*

She was readmitted on September 28th, 1927. She was now a well developed girl of average height and weight and had been going about apparently in the best of health until three weeks previously, when the pain in the side reappeared. We found a rounded, tense swelling beneath the old scar. The urine contained pus and gave a vigorous growth of *B. coli*. A pyelogram of the left kidney showed the tumour to consist of a greatly distended pelvis and main calyces. Radiograms of the thorax and long bones were taken and showed no signs suggestive of metastases. An exploratory operation showed the kidney to be densely adherent to the surrounding tissues and to the peritoneum. As she took the anaesthetic badly, a drain was inserted and a large quantity of pus evacuated. Three days later the wound was reopened and subcapsular nephrectomy performed.

The wound has now (November 28th, 1927) practically healed and her general condition has immensely improved. The report on the kidney by Dr. Grace, pathologist to the Infirmary, was as follows:

"Much chronic inflammatory change with patches of acute inflammation and small abscesses here and there; very little renal tissue left; no evidence of tubercle, new growth, or hypernephroma."

Dr. Grace is also responsible for the original diagnosis, and one which was supported by the naked-eye appearance of the tumour and the general condition of the patient.

The dilatation and infection may have been present throughout, but it does not alter the fact that there was a growth found at the first operation, and that we could find no evidence of one three years later. It would seem to be a curious instance of the waxing and waning of malignancy to what we hope is a final disappearance.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

FORMALIN INJECTIONS IN GANGRENE OF  
THE LEG: RECOVERY.

THE following case is unusual in view of the method of treatment and the ultimate recovery of the patient after having a dead limb attached to him for four months.

In September, 1925, an outdoor worker, aged 59, of temperate habits, had a severe attack of enterocolitis lasting eight days, which brought him to the drained and shrunken appearance of a cholera case. On September 26th, the eighth day of the disease, when the temperature had fallen and the bowel evacuations were normal, he experienced a sudden feeling of "pins and needles" in the right leg, followed by acute pain of gradual onset. His temperature was 97°, and the pulse rate 88. The foot was blanched and the thigh slightly blue; no pulsation could be felt in the femoral artery from a point one inch below Poupart's ligament. The specific gravity of the urine was 1040; no albumin or sugar was present.

The diagnosis appeared to be embolism of the femoral artery by the detachment of a thrombus which had probably formed at the bifurcation of the iliac arteries. In two days a demarcation of irregular outline was very pronounced at the junction of the middle and upper thirds of the thigh. He was then seen in consultation with my partner, Dr. H. Townsend-Whitting, and it was decided that the patient was not likely to survive the operation of amputation at the hip-joint, and that, if he did survive, he would probably die from gangrene of the flaps.

The leg was swabbed with spirit daily, powdered, and completely encased in cotton-wool. On October 3rd, feeling that prevention of decay was the only hope, I started periodic injections of formalin, 1/2 to 1 drachm, into the tissues of the leg. The injections were both superficial and deep, and the strength varied from 2 to 40 per cent., according to the distance from the demarcation line. The course was perfectly afebrile till October 17th, when the temperature reached 99°. It fell to normal on the 20th to 22nd, but reached 101° on October 24th and 101.8° the following day. The temperature had returned to normal on November 1st, after which there was only an occasional evening rise of one degree.

From October 20th onward there was profuse discharge of pus from the demarcation line, and some gas formation in the thigh. The occlusion of the artery spread slowly upwards, and by December 2nd the pulsation, which had been felt above Poupart's ligament, had disappeared.

On December 25th a rubber tourniquet was applied just below the demarcation line to hasten separation.

On January 7th, 1926, an incision was made below the tourniquet and the bone isolated. The muscles divided were brown, with the exception of part of the adductor magnus, which was pink and was slightly sensitive. Further formalin injections were made in and round the sciatic nerve, which was sensitive for several inches below the line of demarcation.

On January 18th the sciatic nerve was divided, giving rise to slight and momentary pain. The next day the femur was sawn through about the junction of the middle and lower thirds. The medullary cavity was cleared out for a distance of four inches and packed with bipp. The necrosed tissues, still attached to the stump, were dissected off daily, and on January 27th the patient was able to get out of bed and sit in a chair.

By March 2nd the stump was skinned over with the exception of about one square inch. The muscles had retracted, leaving exposed about four inches of femur, which I left with the idea that it would prove a useful lever for an artificial leg.

The patient was now able to get about the house rapidly on crutches, but had become depressed and had shown suicidal tendencies. He was therefore removed to a local mental hospital, where he remained for a year, returning home normal and cheerful, but with limited backward movement of the stump, in March, 1927. I now fitted him with an artificial leg, made to my design by the local blacksmith and the saddler, and weighing 2 lb. On this he has been able to walk a distance of a quarter of a mile. On November 19th he was shown at a clinical evening of the Rugby Medical Society, when the case was considered to deserve recording.

Three points are of special interest. (1) The injections of formalin could not be given nearer than three inches from the line of separation without causing pain or discomfort. (2) There was an almost total absence of decay from above the knee downwards, the skin being unbroken, illustrating the efficacy of the formalin. The only offensive smell was from the granulation tissue at the line of separation. (3) Though gas formation occurred in the thigh, the toxins absorbed caused a rise of temperature only on nine consecutive days during the eighteen weeks the dead limb was attached to the body.

The fleshy stump is six inches long. The bone, which up to now has been used as a lever when walking, is being eroded by granulations, and will soon separate spontaneously. Forward movement is free. Movement posteriorly stops short of the vertical.

I would welcome suggestions as to the best type of artificial leg, since his present leg will be useless when the bone separates.

Husbands Bosworth, Rugby.

J. A. NOBLE, B.M., B.Ch.

BLADDER CALCULUS IN THE MALE DUE TO A  
FOREIGN BODY.

THIS case is, I think, sufficiently unusual to be worth putting on record.

On May 15th, 1927, I was called to visit a young unmarried man. I found him suffering from acute epididymitis on the left side. I naturally suspected gonorrhoea, but the patient denied any possibility of infection. There was no urethral discharge, but the urine contained threads. A centrifugized deposit exhibited numerous pus cells and a mixed bacterial fauna, none of which appeared to correspond precisely with the gonococcus as regards shape, arrangement, or staining reactions. The patient made a more or less complete recovery following treatment by rest, bland

fluids, and mild urinary antiseptics. He returned to work in the third week of June.

At the end of September he again attended my surgery complaining of pain and difficulty in micturition. The urine was faintly alkaline, and contained blood and pus cells, with mixed cocci as before. He did not respond speedily to urinary antiseptics, so I decided to take a sterile specimen of urine for examination for evidence of tuberculosis. I endeavoured to pass a catheter for the purpose on October 10th, but failed owing to an obstruction in the neck of the bladder. Two days later he told me that he was passing urine more freely as the result of the instrumentation, and a few days later brought a few calcareous fragments that he had passed with his urine, with general relief of symptoms. On x-ray examination the shadow of a large calculus was seen to occupy the cavity of the bladder; the kidney areas were quite free. He was admitted to Ashford Hospital and, on November 4th, I removed a calculus from the bladder by the suprapubic route. It was bean-shaped, about 1½ inches long, ¾ inch in breadth, and 1/2 inch in thickness. I forwarded it to the county laboratory at Maidstone, and received the report that it consisted of a core of hard paraffin wax, surrounded by an envelope of phosphatic deposit. It would seem that the hard paraffin must have reached the bladder by the urethra. The calculus was returned to me in its divided condition, and showed clearly the wax centre with the surrounding envelope of phosphates, which is about 1/10 inch in thickness. The patient has made an uninterrupted recovery, and the calculus has been returned to Maidstone for preservation in the museum.

I am indebted to Dr. C. Ponder, who is in charge of the county pathological laboratory, for the assistance he has given and the interest he has taken in the case.

Ashford, Kent.

E. SCOTT, B.A., B.M., B.Ch.

### DIAGNOSIS OF GANGRENE OF THE SMALL INTESTINE.

The very interesting account and discussion published in the *BRITISH MEDICAL JOURNAL* of May 7th (p. 836) and June 4th (pp. 1033 and 1034) prompt me to send the following note of two cases I have come across during the last five years.

#### CASE I.

A well built man, aged 35, was admitted to the Jamsetji Jijibhoy Hospital, Bombay, in the wards of the senior physician, under whom I had charge, on January 1st, 1922, for severe pain in the epigastric region, which had been present for five days before admission. The abdomen was soft and there was no resistance to palpation anywhere. An enema resulted in partial elimination of the water; the suspected history of syphilis, helped by a blood examination in the absence of any leading signs and symptoms, tempted the diagnosis of "tabetic crisis." On January 2nd, at 5 p.m., the pain was worse, the abdomen had become distended, and the patient had begun to vomit; there was well marked resistance. I do not recollect whether he was passing flatus. Exploratory laparotomy was performed; a thrombosis in the superior mesenteric artery was found, and gangrene of the small intestine. The patient died on January 3rd in the morning. A *post-mortem* examination could not be obtained.

The point that I noticed about this case was the pain, in the absence of any definite signs, and a persistent slow pulse, varying between 50 and 60 a minute, as recorded by repeated observations, till the complicating symptoms just before operation, when the rate was faster.

#### CASE II.

A stout farmer, aged 35, came from up country on February 25th, 1926, while I was working as honorary physician, out-patients' department, in the Jamsetji Jijibhoy Hospital. He complained of pain in the abdomen of fifteen days' duration, worse after food, and distension of the abdomen, without vomiting or constipation. There was slight resistance to palpation in the umbilical region, and the pulse was slow. The general condition, the strength of the markedly slow pulse rate, and the severe persistent pain, in the absence of physical signs, induced me to diagnose the case as one of thrombosis of the superior mesenteric vein or artery. An exploratory laparotomy was performed, but the patient died the same night. *Post-mortem* examination revealed extensive gangrene of the small intestine, a firm thrombus in the superior mesenteric vein, extending up to the portal vein and its branches in the liver, causing a large infarct (6 inches by 4 inches) in the liver.

I do not know whether a slow pulse in the presence of the combination of symptoms referred to by writers to the *JOURNAL* of May and June may be of importance in deciding on the diagnosis of thrombosis of the superior mesenteric vein or artery.

P. V. GHARPURE, M.D.

Department of Pathology, Grant Medical College, Bombay.

## Reports of Societies.

### INTOXICATION AND ITS LEGAL CONSEQUENCES.

At a meeting of the Medico-Legal Society on January 26th a paper on drunkenness and civil and criminal responsibility was read by Mr. F. LLEWELLYN-JONES, coroner for Flintshire.

Mr. Llewellyn-Jones made a general survey of the subject of intoxication and its legal consequences as understood in English and other law. Dealing first with the effect of drunkenness upon civil capacity, he said that a contract made by a drunken person was voidable at the person's option, but a person who set up a plea of intoxication with a view to voiding a contract must satisfy the court that the other party was aware of his condition at the time the contract was made. With regard to injuries, if a person was so completely intoxicated that he could not appreciate the significance of what he was doing, it was reasonable to assume that he would be regarded in the same position as a lunatic. One was perhaps justified in laying down the rule that when a person was so far out of his mind—whether through insanity or complete intoxication—as not to know what he was doing, he could not be regarded as acting intentionally, and therefore in torts where intention was an essential element he was not under liability. On the other hand, it seemed only equitable that an inebriate who had caused injury to another person should make reparation, not as a punishment for inebriety, but as damages for the wrong done to the innocent, which damages, in the case of habitual intoxication, might well be exemplary. French juridical opinion took the view that a drunken person was not to be freed from the obligation to make good the damage, for it was his own fault that he had put himself into that state. The German civil code also took the view that the drunkard was responsible for damage, unless he had been brought into the drunken condition against his will, in which case the onus of proof that this had been so rested upon him.

On the question of the criminal liability of an intoxicated person for homicide, the famous case of Beard (*House of Lords*, 1920) was cited. Lord Chancellor Birkenhead, in dealing with that case, said that the earlier classical textbooks subscribed to the view that if a person, when drunk, killed another, he must suffer the ordinary penalty, for although he did it in ignorance, the ignorance was occasioned by his own act of folly. This view was later somewhat relaxed, though not according to any single or very intelligent principle. Lord Birkenhead laid down the following three rules: (1) insanity, whether produced by drunkenness or otherwise, was a defence to the crime charged; (2) evidence of drunkenness which rendered the accused incapable of forming the specific intent essential to constitute the crime should be taken into consideration with the other facts proved in order to determine whether or not he had intent; (3) evidence of drunkenness falling short of a proved incapacity in the accused to form the intent necessary to constitute the crime, and merely establishing that his mind was affected by drink so that he more readily gave way to some violent passion, did not rebut the presumption that the man intended the natural consequences of his acts. In the Beard case the indictment was wilful murder. The man, while drunk, had ravished a young girl, and in trying to stop her from screaming had suffocated her. The House of Lords held that drunkenness was no defence unless it could be established that the accused was so drunk as to be incapable of forming the intent to commit the rape, and as this was not alleged, the defence of drunkenness to the charge of murder—the murder having resulted from the rape by a succession of acts which could not be regarded independently—must fail.

The reader of the paper then reviewed the law in other countries. The British colonies followed generally the principle of the English courts. Under the Indian penal code a person who committed a crime under the influence of drunkenness, when the drunkenness was the result of his own fault, was in no better position than a perfectly

sober person, but the textbooks suggested that mental disease caused by voluntary intoxication would absolve from criminal liability. In the United States the courts had mainly followed principles not dissimilar from those laid down in the Beard case. One American legal writer pointed out that in insanity the law had to deal with a disease contracted against the will of the sufferer, whereas voluntary inebriety, leading to derangement of faculties, was not a disease, but something which might readily be prevented by the person himself. The French penal code made no reference to drunkenness, and French courts had formerly maintained the principle that drunkenness was no ground for exculpation; but a milder view had gradually prevailed, and some French juries had treated complete drunkenness as "passing dementia." German jurists had distinguished between accidental drunkenness produced by the artifice of another, fraudulent drunkenness, where a man deliberately made himself drunk in order to commit a crime or to afford him an excuse, and, finally, voluntary drunkenness. They distinguished also between stages of intoxication: (1) where consciousness was retained; (2) where consciousness remained, but the mind was clouded; (3) where there was complete intoxication, depriving a man of his reason and making him no longer a free agent. Rarely would a delinquent in the second category be treated as not responsible for his act, but almost always a delinquent in the third category. In the criminal code of the German Reich there was no express reference to drunkenness as a mitigating circumstance, but it might be considered as coming under the definition of a "state of unconsciousness or morbid disturbance of activity of mind, preventing free volition." Under the Austrian criminal code it was definitely laid down that no act should be regarded as a crime when the author was in a state of complete drunkenness, but the person committing the act should be punished for a serious police offence—up to three months' imprisonment, or six months' if he was aware of his liability to alcoholic excess. The condition of unconsciousness (*Bewusstlosigkeit*) contemplated by the German criminal code and other European systems was different from that state of complete insensibility which was the general connotation of the English word; it implied that the man acted unwittingly without conscious knowledge of the nature of his acts. The recent proposals of the Italian Ministry of Justice were interesting. A person who, in a state of complete drunkenness due to accident or *force majeure*, lost consciousness of his acts was held not to be responsible for the offence committed by him; otherwise drunkenness was held neither to aggravate nor extenuate an offence, unless a man had made himself intoxicated in preparation for his crime, or to furnish an excuse, in which case the drunkenness was an aggravation. One provision of the new code was that chronic delinquents should serve their sentence in a special establishment where they would undergo treatment for drunkenness.

In conclusion Mr. Llewellyn-Jones touched upon the problem of the intoxicated motor driver. One of the difficulties of the courts was that Parliament had refrained from giving any definition of drunkenness. An attempt was made in the proceedings on the Criminal Justice Bill, 1925, to incorporate words which would more clearly define the offence of being drunk—namely, "a state of intoxication whereby his capacity to act is impaired." In a South Australian Act the words were: "... so much under the influence of intoxicating liquor as to be incapable of exercising an effective control of such motor vehicle"; and in a Dutch law, 1924: "... so far under the influence of alcoholic liquor as not to be able to drive in a proper manner." A good definition was recently given by Judge Sturges, K.C.: "Where the skill and judgement normally required in the manipulation of a motor car are obviously diminished or impaired as a direct result of the consumption of alcohol." Some of the usually applied tests for drunkenness were often thought to be inadequate, particularly in the case of motorists who, while showing no signs of gross intoxication, might yet be unfit through alcohol to be in charge of a car. Finally, he quoted with approval some remarks from Sir James Purves-Stewart's lecture before the Society for the

Study of Inebriety,<sup>1</sup> to the effect that drunkenness was not a simple clinical entity like a broken bone or a consolidated lung, and that the important point was not whether a man could perform certain tests correctly, but whether he was in a fit condition to pursue his ordinary daily avocation. The primary duty of the medical examiner as well as of the magistrate was to satisfy himself as to whether there was impairment of the power to drive with reasonable care.

### LIFE ASSURANCE IN THE TROPICS.

At a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on February 2nd, at 8.15 p.m., Dr. ANDREW BALFOUR in the chair, a discussion on life assurance in the tropics was introduced by Dr. J. F. C. HASLAM, assistant director of the Bureau of Hygiene and Tropical Diseases.

Dr. Haslam said that the chief interest in the subject of life assurance in the tropics lay, for him, in the attempts which had been made to determine not only the amount of increased risk involved in tropical residence, but also the factors in its production. Those interested in forwarding the policy of a White Australia had maintained that a hot, humid climate had no detrimental effect *per se*, and that the harmful results arose from disease and faulty habits. He did not agree with this view, and found the arguments of Cilento and others unconvincing. Attempts by Sundstroem and others to clear up the matter by experiment had not helped much; this work was considered inconclusive by Halliburton. Referring to the confident claims by Sir James Barret and others that the actual experience of Northern Queensland had proved the practicability of white settlement there, Dr. Haslam held that a much longer period must pass than had yet elapsed before it could really be certain that no deterioration of the stock had taken place. He concluded by giving examples of the extra premiums charged by certain London insurance offices for various parts of the tropics. The great variation between country and country and between company and company indicated to him that neither the insurance offices nor their medical advisers had as yet any very clear ideas of the amount or cause of risk to life and health involved in tropical residence.

Mr. H. E. RAYNES, F.I.A., stated that a constant difficulty confronting actuaries in assessing tropical premiums had been the lack of reliable statistics; crude death rates were almost valueless, and the tendency had been for offices to rely on their own very limited experience, thus causing a lag between the actual mortality current at a particular date and the premium charged. He favoured the classification of the world into normal, sub-tropical, and tropical zones in dealing with the case of European peoples. A mixed racial population presented special difficulties, since mortality was a factor of race as well as climate. In various West African districts the mortality was 10.3 per cent. in 1886; in 1911 it had fallen to just over 1 per cent. It was unreasonable to suppose that this improvement was confined to West Africa alone; he had computed some figures for that country during the period 1921 to 1924 which showed that the actual death rate was 1.14 per cent., compared with the English death rate of 0.80 per cent. (based on the No. 8 English table). The mortality during the first few years of tropical residence was higher than later. Mr. Raynes's investigations had shown that a constant addition of under 0.6 to the percentage rate of mortality as shown by the new English life table would adequately cover the excess mortality in West Africa. This would mean the addition of from 4s. 10d. to 7s. 5d. per cent. to the annual premium charged, and a policy from a first-class office could be now obtained with an addition of not more than 10s. to cover West African residence. In East Africa the high lands did not appear to be detrimental to health, but the coastal plains and lake margins corresponded to West African conditions. In Mr. Raynes's opinion the factors governing tropical mortality were race, geographical surroundings, political and social administration, and occupation. He showed graphs illustrating the fall in mortality and sickness in West Africa within recent

years, and tables illustrating the classification of the world into zones for insurance purposes.

Sir LEONARD ROGERS compared the results of over 1,600 necropsies in Calcutta with over 1,000 in London. In Calcutta about one-third of the deaths were due to purely tropical diseases, such as malaria, kala-azar, cholera, and dysentery. There were relatively few cases of cancer in India, because the normal length of life was much shorter than in Britain. Tuberculosis, on the other hand, was twice as common, and both respiratory and digestive diseases were much more frequent. Septicaemic diseases and tetanus were also very high, although, since the introduction of serum treatment, the latter had been much reduced. Typhoid fever also was very common. It was of interest to observe that tuberculosis—especially pulmonary tuberculosis—caused a higher mortality than any of the purely tropical diseases; Sir Leonard Rogers attributed its prevalence to the habits of expectoration and the contamination of milk in the streets. While lobar pneumonia was often seen, broncho-pneumonia was rare. Heart diseases were half as common as in London, and rheumatic endocarditis was quite absent, although streptococcal infections were otherwise frequent. Aortic valve disease was common, although mitral was rare—the reverse of the position in England. Gastric ulcer was unusual in India, but cirrhosis of the liver was common. It was not alcoholic in its origin, and was probably secondary to dysentery.

Mr. J. A. CALDER questioned if heat without humidity had a very adverse effect on men in the tropics. He had noticed that in Africa, where the climate was dry, the effects were much less marked than in places where it was wet. Dr. W. NICOLL said that tropical Australia had more tolerable conditions than elsewhere in the tropics, and that the population included few others than Anglo-Saxons. It could not be compared with other tropical countries, but only with Europe and the rest of Australia. Policies were not loaded there. Overcrowding was absent, even in the towns, and there was only one person to eight square miles. The population, moreover, was selected and there was no unemployment. Accordingly there was no reason why insurance should be dearer than elsewhere in Australia. None of the classical tropical diseases was present, and the chief causes of death were diseases like dengue. The expectation of life was increasing there, and the effective working age period was greater than in any country in Europe. Mr. R. E. UNDERWOOD discussed the business aspects of insurance, and said that increased premiums might be deliberate in order to exclude insurances which any particular office considered to be undesirable.

Dr. H. STANNUS thought that individuals were not always acclimatized on residence in the tropics; on the contrary, there was often a general deterioration throughout service. Comparison of tropical countries should not be by latitude but by isotherms, humidity, or some such feature. Countries could not be classified by lists, and each must be considered on its merits. It was necessary, however, for an insurance office to use an average which would deal hardly with some policies and favourably with others. Dr. DREW SHANN said that the real reasons for the high death rate in West Africa were still obscure, but he believed that neurasthenia and social conditions were most important. He personally had found that the climate of northern Nigeria, with its great extremes of day and night temperatures, was agreeable, but trying; in the Cameroons, an almost uninsurable district with a very small range of temperature and great humidity, life was much less exacting. Dr. CHRISTOPHERSON thought that both humidity and heat were very trying in the tropics, and that frequent holidays were necessary for white men employed abroad.

#### UTERINE SARCOMA.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on January 20th, the president, Mr. COMYNS BERKELEY, in the chair, Mr. W. GILLIATT showed a specimen illustrating sarcoma of the uterus.

Mr. Gilliatt said that the specimen was obtained from a patient, aged 27, whose symptoms had only lasted one month. She had a sudden attack of acute abdominal pain

ten days before operation. The physical signs were unusual, in that the swelling was found rising out of the pelvis to within one inch of the umbilicus; in the right lateral and posterior fornix was another swelling, soft and almost cystic. A subtotal hysterectomy was performed and the right tube and ovary were removed. She was now in excellent health, and nothing abnormal could be detected on examination. The microscopic sections show the characters of a myosarcoma.

#### Difficult Labour in an Aboriginal.

Professor J. B. CLELAND (University of Adelaide) sent a short communication entitled "Difficult labour in a pure-blooded Australian aboriginal woman." This was an account of the whole process of labour. The first stage was normal, the second was unduly prolonged, the child lying in the left occipito-posterior position. The head descended to the plane of the ischial spine, but further progress was impossible. Under anaesthesia the position was converted into a left occipito-anterior, and great difficulty was experienced in delivering the head by axis traction forceps. The shoulders were only delivered by extreme traction, and there was similar difficulty with the breech. The placenta was retained for thirty-five minutes and was removed manually. After labour the pelvis was examined, and was thought to be of the funnel variety. It was also slightly generally contracted. The child was unusually large, weighing 12½ lb.

#### Albuminuria during Pregnancy.

Mr. G. F. GIBBERD read a paper on the results of albuminuria occurring during pregnancy, with special reference to the relation between pregnancy kidney and chronic nephritis. This paper was the result of investigations of seventy-eight patients at the post-natal clinic of the maternity department at Guy's Hospital, forty-three of whom were examined at intervals greater than six months from delivery. Mr. Gibberd concluded that albuminuria of pregnancy recurred in subsequent pregnancies with much greater frequency than was usually stated. He considered that this pointed to permanent renal damage as a result of the primary albuminuria. The evidence showed that chronic nephritis might arise *de novo* as a sequel to pregnancy kidney, and Mr. Gibberd added that he thought the most delicate test of the renal function in a patient who had had a pregnancy kidney was a subsequent pregnancy. He had found permanent renal damage in over 50 per cent. of his cases. He did not believe it possible to say that there was no danger in an albuminuria occurring during pregnancy, and he advocated abolishing the term "functional albuminuria of pregnancy." He also concluded that induction for this condition was commonly postponed too long, and that the mere avoidance of eclampsia was not an obstetric triumph. As a further argument in favour of early induction he instanced the frequency with which the foetus was macerated in these cases.

#### INFLUENCE OF STATISTICS ON MEDICAL PRACTICE.

A MEETING of the Liverpool Medical Institution was held on January 14th, when the president, Dr. J. C. M. GIVEN, was in the chair.

Mr. FRANK JEANS read a note on statistics, with some observations, and remarked that some observations were more valuable than statistics—as, for example, Mr. Paul's statement that a woman aged 75 was not so old as a man of the same age from the point of view of a major operation. The influence of statistics on an operator's mentality was indicated by the subconscious rejection or inclusion of certain cases which might affect his mortality rates. Mr. Jeans thought that if a case of appendicitis was treated medically and the patient died because the condition was really one of internal strangulation, it should be recorded as a death from appendicitis treated medically; a death from pneumonia treated by operation in mistake for appendicitis should figure as a death from appendicitis treated surgically, because the patient was actually, if not statistically, dead. Now that much surgery was being performed by practitioner-surgeons, it must be obvious



that specializing surgeons were getting an increasingly high percentage of difficult cases, and therefore, if their mortality figures were as high as they were fifteen years ago, this was no cause for depression. The practitioner-surgeon, who often admitted that he only dealt with the easy cases, was more selective than the "pure surgeon" was allowed to be, and therefore comparisons between the two classes of mortality were impossible. The pure surgeon, especially when successful, was willing to have the most difficult cases sent to him.

#### *The Detection and Care of Rheumatism in Childhood.*

Dr. A. DINGWALL FORDYCE, in a paper on rheumatism in childhood, said that detection of the frank, classical type of acute rheumatism was simple, but active rheumatism, endangering the heart, was often present in the absence of striking symptoms. The fundamental inclination towards infection was a diathetic peculiarity which might be determined before or after birth, and lead ultimately to the exhibition of rheumatic symptoms as a result of endogenous infection by probably varying organisms of a similar group. The main aim must be to prevent the development of such a constitutional tendency as would lead to a favourable field for bacterial infection. During 1927 out of 213 cases of rheumatism one child had died from rheumatic heart disease. In 71 cases the heart was permanently injured without doubt when the child was first seen, and at the end of the year 97 children disclosed permanently damaged hearts. In 31 cases the condition of the heart was doubtful, and in 84 cases there was no cardiac affection. Rheumatic nodules were noticed in 3 cases. The "intelligence quotient," taken during the quiescent or convalescent stage, was usually well above 80, the deficiency being mainly scholastic. The essence of correct care was physical and mental supervision for a prolonged period. For the poorer classes six months in a county hospital with a school such as that at Heswall proved very valuable after the initial condition had been dealt with in the city hospital, but for effective results a further prolonged period in a residential school was often essential.

### THE OVER-SENSITIVE CHILD.

A MEETING of the Section of Medicine of the Royal Academy of Medicine in Ireland was held in the Royal College of Physicians on January 20th, with the president, Dr. G. E. NESBITT, in the chair.

Dr. B. CRICHTON, in a paper entitled "The sensitive child," pointed out how much a very sensitive disposition influenced behaviour, and might produce syndromes capable of being mistaken for the symptoms of disease. Much depended on the wisdom of those in charge of such children; for instance, abnormal behaviour in a sensitive child was often the result of the follies or neuroses of the parent or nurse. Sympathetic handling was essential, and encouragement rather than repression was the clue to managing most of the problems of difficult children. Many children laboured under the disadvantage of being forced to attend a school where education was carried out in surroundings and under conditions prejudicial to good health. He urged that medical men in Dublin should unite to make educational authorities see the harm done by the present system. Hours were long, the lunch interval badly chosen, lavatory accommodation defective, medical inspection wanting.

Dr. M. F. O'HEA agreed that the sensitive child was a definite entity. Every child was different, and he felt that to try to make children plucky by holding up to them the pluck of other children was a great mistake. The question of giving the children their principal meal at the proper time in the middle of the day was vexing the minds of the educational authorities at present; some schools insisted that the children should have dinner at 1 o'clock, and stopped school from 1 to 2 o'clock for this purpose. He thought this was bad for the children's digestion, as it meant that they had to eat their meal too hurriedly. One of the most important things in the management of children was being careful about the people who looked after them.

Dr. V. M. SYNGE thought children went to school at far too early an age, and learnt a lot of things by routine,

instead of reasoning them out. He felt that the so-called increase of education in Ireland by compelling attendance at the national schools was not an unmixed blessing. He had seen children in quite an advanced stage of tuberculosis who were sent to school every day, as their parents were afraid that if they did not send them they would be smudged. The national schools at present were far too crowded; in many of them there were 150 children in about three rooms, with only three teachers.

Dr. N. FALKNER asked if most of the children seen by Dr. Crichton were children who had had some definite organic lesion, or in whom diet had been faulty, and if the majority of them were children who had not been breast-fed. If they were children who were not breast-fed he thought that cases were more likely to occur in private practice than in hospital practice.

Dr. R. J. ROWLETTE referred to the necessity for an altered school hygiene, and said it was a pity that the enforcement of attendance at schools should have anticipated the establishment of a proper system of medical inspection of schools. Referring to the sensitive child, he said that while individual attention was necessary in the diagnosis of the condition, he thought it might be carried too far in the treatment of the child. He felt that the concentration on itself by a child which might take place if individual attention was pressed too far was unhealthy for the child.

Dr. L. ABRAHAMSON agreed that one of the most difficult points in dealing with the nervous child was the comparatively unknown factor represented by the nurse, who was interposed between parents and child. In some cases it was as necessary to study the parents and the nurse as it was to understand the child. He agreed that school hours were too long, and thought it unfair that the hours should be longer in national schools than in private schools.

The PRESIDENT said that he could not imagine anything worse than a child who was not sensitive, or an adult either. He thought that Dr. Crichton should have entitled his paper "The hypersensitive child." One of the most important influences in the bringing up of children was the nurse. He referred to the factor of heredity; which he thought played a great part in the sensitiveness of children, and said that nowadays in cases of extreme naughtiness in children the question of encephalitis lethargica was worth going into, for children who had over suffered from this disease, even slightly, were very liable for some time afterwards to be naughty purposely.

Dr. CRICHTON, in replying, said that when talking about sensitive children, he really had in mind hypersensitive children. The ordinary child wanted to be constantly doing something, and he thought that care should be taken to study its favourite pastimes and habits. He felt that the education of nurses for small children had not really been given enough thought. A person needed to be born a nurse: it was really not possible to teach a person to be one. He thought that enough interest was not taken in the teaching of children, and that the preparatory school was more important even than the public school, as in the first five years a boy could be either made or marred. He had not found much difference between breast-fed and bottle-fed children. By over-treatment a child could, of course, be made more hypersensitive. He thought that the principal meal should be between 1 and 1.30 o'clock, and not as late as 2 or 3 o'clock, and that the interval in the middle of the morning given in most schools was not long enough.

#### *Psychoneuroses.*

Dr. J. H. POLLOCK read a paper on a case of psychoneurosis. In describing the clinical history he pointed out the importance of the time factor. In the case he described the psychological disturbances came on first some considerable time after the shock to which they were due, and roused up buried fears dating back to a much earlier period. Moreover, it was important to remember that recovery was bound to be slow, and attempts to hurry the process were comparable to the "meddlesome midwifery" of which complaint was made at times. Simple analysis might help the physician to understand the details of his case, but it was a grave mistake to interest the patient in the process or present it to him as a means of treatment.

The psychoneurotic tended to be subjectively minded; and the object of treatment should be to make him objectively minded; to interest him in his own mental processes was to do the reverse.

The PRESIDENT said that repression was now admitted to be one of the most important factors in mental upset. He thought that the heredity aspect must also be present. Referring to the endocrine basis of these disturbances, he felt strongly that these cases were all due to endocrine disturbance; even more attention should be focused on these glands than was being done at present. The classification of these cases seemed to be quite hopeless, but he did not think that classification would help much unless some light was thrown on their etiology.

Dr. ABRAHAMSON said that he saw a number of patients rather similar to the one described by Dr. Pollock, and he thought that in cases such as these it was important to work up the details as Dr. Pollock had done, but in a general practice this was impossible, and he thought that they should only be dealt with by a man who had the time to go into them thoroughly. He referred to the line of demarcation between the extreme psychasthenic patient and one definitely mental. He believed that satisfactory classification of these cases would be impossible until more light was thrown on their etiology.

Dr. ROWLETTE thought that in these cases the most important point was not classification in regard to treatment, but in regard to prognosis. The question was, When should the line be drawn between a case such as the one described by Dr. Pollock and a case which should be certified? Many of these patients got seriously depressed, and it was in the depressed patient who was not actually insane that there was the greatest danger of suicide and the possibility of not putting the patient under restraint soon enough. In a great many of these cases the condition seemed to arise out of a conflict which went on for some time, and this conflict was generally between one of the primal motives in human beings and that of moral restraint. He thought that in most of these people the unfortunate subject took refuge in drugs as a method of preventing loss of self-control, which he would do if left to his own exertions. He thought it might be assumed that the endocrine secretions were definitely associated with certain emotions. These conditions had to be looked on as having their origin both in the mental substructure and in the physical substructure, and it was impossible in any case to separate one entirely from the other.

Dr. M. F. O'HEA did not think that cases of severe neurasthenia were nearly so common now as in the previous decade.

### VULVO-VAGINITIS IN CHILDREN.

At a meeting of the Edinburgh Obstetrical Society on January 11th, with Professor R. W. JOHNSTONE in the chair, a paper was read by Mr. DAVID LEES on vulvo-vaginitis, in which he analysed the cases which had come under his observation in a period of five years—1922-27.

Mr. Lees dealt with a total of 146 cases, which were divided into the following age groups:

0 to 1 year	...	...	7.4 per cent.
1 to 5 years	...	...	39.2 "
5 to 10 "	...	...	44.9 "
10 to 15 "	...	...	8.4 "

He said that the incidence of vulvo-vaginitis in Edinburgh had been augmented by a recent epidemic in a children's institution, in which the disease had spread rapidly and proved to be very contagious. In the largest number of cases, 40 per cent., the source of the infection could not be ascertained. In 13 per cent. of the cases the patients were reported to have been assaulted, but in only a very small proportion of these cases was this proved; 15 per cent. of the cases were epidemic in origin, and in 32 per cent. the infection was traced to others in the family. The symptoms and signs of the disease were described, and attention was drawn to the frequency (99 per cent.) with which the urethral canal was involved in acute cases. Mr. Lees insisted that every vaginal discharge in children must be looked on with suspicion, and treated as if of gonococcal origin, until at least three bacteriological tests, performed under conditions favourable for the detection

of the gonococcus, had proved negative. In chronic cases repeated films and cultures were necessary, and in resistant cases direct films or cultures must be taken from the cervix. In 73.7 per cent. of the cases gonococci were found, in 6.6 per cent. gonococci and other organisms, and in 19.7 per cent. secondary organisms only. In acute cases the gonococcus was demonstrated in over 98 per cent. of cases. The more acute signs of disease disappeared rapidly with treatment, but the parents should always be warned that a long time was required to eradicate the disease, and that relapses were apt to occur unless the patient was kept under treatment. Hospital treatment and isolation of the patient from other children were advised wherever possible. The chief therapeutic measures recommended were hot antiseptic and alkaline hip baths with daily lavage of the vagina and urethra. In older children the vagina was dried by swabbing through a speculum and the parts were dusted with dermatol powder; in younger children, when a speculum could not be introduced through the hymen, instillations of an antiseptic dissolved in glycerin were employed. The antiseptic preparations recommended were 1/4 to 1 per cent. picric acid in glycerin, 1/4 to 1 per cent. silver nitrate in glycerin, and 1/4 to 1/2 per cent. chloramine-T in glycerin. The instillations were supplemented by the use of small medicated bougies of these and other substances. If it was not possible to irrigate the urethra small urethral bougies, with ehlretone added to ease the pain, were inserted daily. Repeated changing of the antiseptic was advised, and it was recommended that in every case the vulvar surface should be left as dry as possible by dusting it with a compound dermatol powder. Efficient treatment depended more on the meticulous care with which it was applied than on the medicament used. In every case it was essential: (1) to establish good drainage from the urethra, vulva, and vagina; (2) to produce a slight hyperaemia of the infected parts by hot hip baths and hot vaginal douches; (3) to use a sterile all-glass catheter with lateral perforations in douching so as to spread the antiseptic over the vaginal wall during the douche and prevent the infection being carried to the cervix; (4) to dry the parts subsequent to douching, or alternatively treat the vagina with instillations of an antiseptic solution in glycerin; (5) to treat the urethra in every case; (6) to examine and treat the rectum if infected; (7) to prevent the child from conveying the infection to others and to its eyes. Adjuvant methods of treatment were used in both acute and chronic cases, and of these detoxicated and autogenous vaccines had proved the most serviceable. The child tolerated and responded well to vaccine therapy.

In the series of cases reviewed the following complications arose:

Gonococcal infection of the eye	...	8.3 per cent.
Infection of the Fallopian tubes and pelvic peritoneum	...	5.5 "
Infection of the rectum	...	2.7 "
Non-specific ulceration of the vulva	...	1.8 "
Acquired syphilis of the vulva	...	1.8 "
Cystitis	...	0.9 "

No cases of arthritis were met with, but coincident syphilis occurred in 7.5 per cent. of all the cases. In making a diagnosis of cure it was essential to observe cases over long periods, and to examine repeated films during this period of observation. The standard of cure aimed at in every case should be: (1) Clinical cure and no sign of clinical relapse after suspending all local treatment. Local treatment must be continued for at least three weeks after apparent clinical cure. (2) Bacteriological cure in three successive smears taken at intervals of one week during treatment, and in three subsequent weekly tests taken after suspending treatment. (3) Clinical and bacteriological tests at intervals of one month over a period of three months subsequent to the attainment of (1) and (2). (4) If there was any doubt as to the clinical condition or as to the bacteriological reports, administration of a provocative vaccine and a repetition of the tests both by direct film and by culture were indicated. (5) If there was neither clinical nor bacteriological evidence of disease during a period of three to four months after cessation from all treatment the case might be considered cured. In trying to attain this standard the following

results were obtained in the series of 146 cases reported. The average duration of treatment and tests for cure of gonococcal cases in those completed (87 cases) was seven months. The average duration of treatment and tests for cure of vulvo-vaginitis cases not proved gonococcal (21 cases) was two months. Thirteen cases which were still under treatment but presumed cured had been under treatment and tests for cure for a period of five months; eighteen cases were under active treatment with infection still present. Seven patients had defaulted while still showing signs of infection.

#### *Puerperal Haemorrhage.*

Dr. KENNEDY then gave clinical notes of three cases of puerperal haemorrhage. These cases were of interest as the bleeding was very severe and did not begin until after the tenth day of the puerperium; the dates of occurrence being the tenth day, fourteenth day, and sixth week after delivery. There was also no definite cause found for the haemorrhage, even after thorough examination under chloroform and enretage. In each of the cases, however, a retroversion was present, which was the more interesting as on dismissal from the maternity hospital in all cases the uterus was anteverted. In no case was there any apparent infection present during the puerperium. In two cases the mother was not nursing her baby, and therefore the haemorrhage might be the return of an early menstruation. Dr. Kennedy was doubtful as to the cause of the haemorrhage, but since retroversion was common to all, he thought that it must have something to do with the haemorrhage. He could, however, find no record anywhere of a simple retroversion in the puerperium causing so severe a haemorrhage.

#### FORFARSHIRE MEDICAL ASSOCIATION.

At a meeting of the Forfarshire Medical Association on December 15th, 1927, at University College, Dundee, the president, Dr. T. F. DEWAR, in the chair, Dr. W. E. FOGGIO read a paper on hereditary haemorrhagic telangiectasia, and added a new case to the forty recorded in the literature.

Dr. Foggio said that the essential features of the condition were an hereditary tendency to epistaxis and telangiectasis. His patient, a woman now aged 42, had a typical family tree, and he had been able to trace the condition back through five generations. All the other affected members of the family had both the epistaxis and the telangiectasis, but in his patient these signs were atypical. The only telangiectasis visible was one on the lower lip, which had been there for as long as she could remember. An unusual feature, and, so far as he knew, one never noted before in this condition, was the occurrence of haematuria, presumably from a telangiectasis in the urinary tract; the urine contained blood and albumin, but no casts. The blood film was normal. Before the onset of an attack of haematuria she occasionally had epistaxis with headache. There was no evidence of renal or cardiovascular disease, and no suspicion of tubercle or tumour. He suggested that this case might form a link between hereditary haemorrhagic telangiectasia and essential haematuria of hereditary type.

Dr. ARTHUR MILLS read notes on a case of recurrent spontaneous pneumothorax. A man, aged 21, who appeared in perfect health, complained of pain in the left side of the chest and breathlessness on exertion. The pain had come on suddenly twelve days previously, accompanied by a feeling of suffocation and faintness; he had had several similar attacks before. A diagnosis of pneumothorax on the left side with displacement of the heart was confirmed by x-ray examination. He made a complete recovery, but one year later a right pneumothorax was found. Recovery from this was followed in a few days by another right pneumothorax, from which he again made a complete recovery. There was no evidence of disease of the lungs, no indication of pleural adhesions, and no history suggesting former tuberculosis. Radiograms of the chest at various periods after an attack were shown by Dr. G. H. S. MILLS.

Dr. J. S. Y. ROGERS read notes on a case of chloroma in a female child aged 11 months, which came under observation because of proptosis of both eyes. The blood picture

was that of lymphatic leukaemia, the leucocytes rising eventually to 65,000 per c.mm. (large lymphocytes 38 per cent., small lymphocytes 57 per cent.). Multiple tumours of the skull appeared later. A post-mortem examination could not be obtained.

Mr. JOHN ANDERSON gave a lantern demonstration to illustrate the effect on the tissues of the are electrode in surgical diathermy. He exhibited photomicrographs from sections taken along the line of incision in amputation of the breast and in excision of a part of the lip. The sections showed on the surface a discontinuous delicate film, which might be coagulum, and beneath this a narrow zone, about 0.1 mm. in depth, where the cells were altered and desiccated. Mr. Anderson also described briefly his technique in surgical diathermy.

#### DIGESTIVE FACTORS IN ROSACEA.

At a meeting of the London Association of the Medical Women's Federation held on January 24th, with the president, Miss BOLTON, in the chair, Dr. SYRIL R. EASTWOOD gave an address on the results of an investigation into the gastric secretion and other digestive factors in rosacea.

Dr. Eastwood defined rosacea as essentially a chronic congestion of the facial skin, affecting mainly the central two-thirds of the face and leading to permanent vascular dilation of this area. Papules and pustules, eczematous scaling, ocular lesions, hypertrophy of the subcutaneous tissues leading to rhinophyma, though seen in varying degrees in the clinical picture, were to be regarded as complications of the underlying vascular condition. The eyes were affected far more frequently than appeared from the literature on skin diseases. Since Ait described a case in 1864 there had been constant reports of cases in ophthalmological journals, and Dr. Eastwood explained this discrepancy as being due in the first place to rosacea keratitis occurring often in mild forms of facial rosacea, and secondly to the greater importance attached by patients to a condition affecting their eyesight than to their appearance. It was not until the recognition, even now not general, of the relationship between the two that the cases had been freely interchanged between the eye and skin departments of hospitals. Dr. Eastwood said she had been led to rosacea by her interest in the digestive system, and had hoped to obtain a series of patients with achlorhydria or extreme degrees of hypochlorhydria to observe, as Barber and Ryle had reported this anomaly of gastric secretion as present in 58 per cent. of the rosacea cases examined by them. In a series of over 50 cases of rosacea, 7 of which had ocular complications, Dr. Eastwood had found digestive disturbance present in about 90 per cent., and that it was nearly always "functional" in the sense that no organic lesion of the gastro-intestinal tract could be demonstrated. Fractional test meals had been given to all patients, and 9 per cent. had achlorhydria, 24.5 per cent. hypochlorhydria, and 15.5 per cent. low normal curves, thus agreeing very closely with Brown's results in a similar series published in 1925. These results corresponded closely with those found in chronic arthritis and chronic cholecystitis by other observers. Flatulence, constipation, flushing after meals, and capriciousness in diet had been the commonest symptoms complained of. From the x-ray examinations made in many of these cases it appeared that some degree of hypotonicity was common, though by no means universal. Marked dislike of meat had not been found correlated with low acid secretion, and had occurred equally with high normal and hyperchlorhydric curves—a point of much physiological interest. Focal sepsis had been found in many cases. Dysfunction or disease of the female genital organs had been found in only a few cases, and as these had been cervicitis they fell into the focal sepsis heading. The majority of the patients had low systolic blood pressures. Whatever the type of digestive disturbance, its effective relief had been accompanied by relief of the rosacea. Hydrochloric acid in drachm doses with meals had had an almost magical effect in the patients with low or absent acid secretion; but it had also proved useful where no deficiency had been shown. Carbohydrate excess in diet had been a fairly constant finding, and its correction a strong factor in successful treatment.

## Reviews.

### COMPARATIVE ENDOCRINOLOGY.

DR. L. T. HOGBen's book *The Comparative Physiology of Internal Secretion*<sup>1</sup> is a distinguished contribution to the new series of Monographs on Comparative Physiology, published by the Cambridge University Press. The subject of the chemical co-ordination of function is one of quite recent growth in comparison with that of our knowledge of the complementary phenomenon—the nervous co-ordination of function. Nevertheless, the growth of endocrinology has been rapid, if sometimes impatient. Now, as the author points out, the practical justification for comparative physiology resides in the fact that some animals provide far more accessible material for the solution of a particular problem than others. This has proved very true in respect of the physiology of the ductless glands, and it has undoubtedly been the comparative point of view which has disciplined the less cautious claims in this field.

In a field in which terms are apt to be used with little discrimination, Dr. Hogben is wise to define his subject with precision. He regards an internal secretion or hormone as "a substance liberated into the blood stream by the specific activity of a particular structure, and which there is capable of evoking response in tissues remotely situated." It is no economy of hypothesis to extend the term, as some writers do, to include any physiologically active cell constituent, such as choline or even carbon dioxide. The argument of the monograph, then, is directed towards establishing the functional importance of internal secretion as a part of the mechanism of co-ordination. The various chapters deal with neuro-muscular co-ordination and the suprarenal, with the chromatic function in relation to the suprarenal and pituitary, with secretory processes and the activity of the intestine and pituitary, with vasomotor regulation by the pituitary, with metabolism as affected by the pancreas, thyroid, and parathyroids, and with developmental processes in relation to internal secretions of the thyroid and pituitary. Discussion of the internal secretions of the reproductive organs is omitted with intention. It appears that a monograph upon this particular subject will shortly be added to the series. It suffices to add that the literature of comparative physiology is carefully sifted, that the discussion, though severely critical, is considerably performed, and that recent work is given generous space and careful appraisal. The book is a contribution of real distinction to the literature of endocrinology.

### THE "ACUTE ABDOMEN."

WE have received for review three books on the "acute abdomen," by Mr. ZACHARY COPE.<sup>2</sup> The first deals with diagnosis, the second with treatment, and the third with clinical research in acute abdominal disease. The books are of uniform size and price, and belong to the Oxford Medical Publications.

The first volume, *The Early Diagnosis of the Acute Abdomen*, is in its fourth edition, and this must not be judged by the rather forlorn paragraph on mesenteric thrombosis and embolism to which attention is drawn in the preface as the chief addition to the present issue. The volume is still the very valuable, lucid, compact account of the common abdominal emergencies that must appeal to every student and young medical man. Probably the pages have served as the basis of many a clinical lecture, and no surgeon, however experienced, will be the worse for reading it; few will study it carefully without finding something of value to them. We are inclined to predict that the fourth edition will not be the last.

The volume on *The Treatment of the Acute Abdomen*

<sup>1</sup> *The Comparative Physiology of Internal Secretion*. By Lancelot T. Hogben, M.A. Cantab., D.Sc. Lond. Cambridge Comparative Physiology. London: Cambridge University Press. 1927. (Demy 8vo, pp. 138; 37 figures. 10s. 6d. net.)

<sup>2</sup> Three Volumes by Zachary Cope, M.D., M.S., F.R.C.S. (1) *The Early Diagnosis of the Acute Abdomen*. Fourth edition. Pp. xiv + 237; 20 figures. (2) *The Treatment of the Acute Abdomen*. Pp. xvi + 238; 146 figures. (3) *Clinical Research in the Acute Abdomen*. Second edition. Pp. xvi + 238; 146 figures. Oxford Medical Publications, London: Milford, Oxford. 8vo. 10s. 6d. each volume.)

must be appraised according to its intentions, "to help those doctors who are not much practised in abdominal surgery, but who may be called in an emergency to operate upon an acute abdominal condition." The claim that "if the technique advised be followed carefully a very large proportion of successful cases can be assured" is likely to be made good, for while probably no surgeon will agree with every dictum, such criticism as may be offered here deals with minor matters. Clearly it is necessary in such a book to advocate caution, but in the matter of dosage of morphine (gr. 1/6) and of medinal (gr. 2) the caution seems perhaps excessive. Jejunostomy has certainly proved useful in skilled hands, but it must be very seldom called for, and it has disadvantages in the hands of the inexperienced. Is it wise to advocate the use of intravenous ether by those for whom, avowedly, the author writes? Is it likely that Turkish sponges will be adequately sterilized? Is it worth while mentioning a procedure for which the author (p. 67) "can hardly imagine its necessity"? The plan of shortening the mesosigmoid by mattress sutures when operating for volvulus is hardly to be recommended to the tyro. Half a dozen other such comments might be made, but their trivial character bears witness to the essential soundness of the teaching and the clarity of the directions. This is a valuable book, adapted to its purpose; it does not shirk difficulties.

In Mr. Cope's third volume, *Clinical Researches in Acute Abdominal Disease*, is to be found evidence of the painstaking work that has gone to the successful production of the seemingly simple books reviewed above. The most important new feature in this, the second edition, is the study of "shock" embodied in the author's Hunterian Lecture. He elaborates the observation that shock may be present and manifested by other signs, with a blood pressure still high; so long, that is, as the fall in circulating blood volume can be compensated by vasoconstriction. His thesis of "dissociation of symptoms" in shock is amply illustrated by case records, and the presentation of it is convincing because it appeals to what is common experience. His "definition" of shock, however, is not much more successful than its predecessors: definitions should not need explanation.

### PATHOGENIC MICRO-ORGANISMS.

SINCE the first parts of the third edition of KOLLE and WASSERMANN's handbook of pathogenic micro-organisms<sup>3</sup> were reviewed in our issue of May 7th, 1927 (p. 839), several fasciculi, forming parts of several volumes, have appeared. These contributions, which follow the lines adopted in the earlier fasciculi, are admirable reviews of the subjects they deal with, and contain lengthy bibliographies. A mere enumeration of some of the principal contents of the various parts is all that can be attempted here; but this will, we hope, serve a useful purpose by providing fingerposts for those to whom the work is addressed.

Part 12 of volume i contains the final sections of Gotschlich's article on the general morphology and biology of pathogenic micro-organisms, a summary of the researches carried out on the bacteriophage by R. Otto and H. Munter, and shorter articles on the nature of infection and on mixed and secondary infections by A. Seitz. Part 6 of volume ii contains four papers on immunity: on active immunity by M. Fickler, on the production of antibodies by R. Bieling, on the concentration of antibodies by St. Bächer, and on the value of antisera by R. Otto and H. Hetseb. Part 5 of volume iii contains articles on serum therapy against snake, scorpion, and spider venoms by R. Kraus, on researches on animal venoms by H. Sachs, on plant toxins by M. Jacoby, on hay fever and asthma by G. L. Hoffmann. Part 8 of volume iv contains articles on the pseudo-tuberculosis of rodents by K. Poppe, on the staphylococci by M. Neisser, and on undulant fever by A. Lustig and G. Verroni; and Part 11 of the same volume

<sup>3</sup> *Handbuch der pathogenen Mikroorganismen*. Begründet von W. Kolle und A. v. Wassermann. Dritte, erweiterte Auflage. Jena: G. Fischer; Berlin und Wien: Urban und Schwarzenberg. 1927.



contains articles on meningococcal infections by K. W. Jötten, on gonococcal infections by J. Koch and A. Cohn, and on immunity in gonococcal infections by C. Bruck. Part 7 of volume v contains articles on infection by trichobacteria by O. Huntewüller, on the actinomycetes by R. Lieske, on actinomycosis by M. Schlegel, on Madura foot disease by A. Plehm, and on the dermatophytes (or ringworm fungi) by H. C. Plant and O. Grütz. Part 14 of volume v contains an article on the yeasts by A. Buschke and A. Joseph, one on sporotrichosis by A. Buschke and E. Langer, and another on diphtheria by H. A. Gins. Part 4 of volume vi contains articles on glanders by E. Lührs, and on *B. pyocyaneus* by A. Lode. Part 13 of volume vii contains a general account of the spirochaetes by G. Sobernheim and W. Loewenthal; various articles on syphilis by G. Sobernheim, C. Bruck, R. Prigge, and L. Laubenheimer, and a concluding one on framboesia by G. Baermann. Part 9 of volume viii contains articles on the piroplasmoses by C. Schilling and K. F. Meyer, on immunity in protozoal infections by C. Schilling, on the morphology and classification of amoebae by W. v. Schuckmann, and on amoebic dysentery by W. Fischer. Part 10 of volume ix contains articles on pleuro-pneumonia in cattle by H. Dahmen and M. Ziegler, on rinderpest by B. Albrecht, on African horse sickness by G. Liechtenfeld, on infectious anaemia in horses by T. Oppermann and M. Ziegler, on Bornasche Krankheit (meningitis) in horses by W. Zwick and O. Seifried, on distemper in dogs by H. Schroeder, and on fowl-pest by F. Gerlach.

#### HEALTH ADMINISTRATION.

WHILE public health, alike in theory and practice, is based on the application of medical knowledge, the members of local authorities responsible for its administration usually consist for the most part of persons without special medical training. The general public, which provides the *corpus vile* for the public health administrator, and which has most to gain or most to lose by the skill or incompetence of his efforts, is also a lay body, observant enough of results achieved, but unfit fully to appreciate the methods by which they were arrived at. Health propaganda in this country is at present moving along the lines of furnishing the information on these matters of health which the laity seems to require. The recent issue by the Scottish Board of Health, at a modest price, of pamphlets on the Schick and Dick tests, on encephalitis lethargica, and on ultra-violet ray therapy, intended for the perusal of members of local authorities, is an effort towards the health education of lay representatives, while the health weeks and other special enterprises, which are cordially aided by the press, bring under the notice of the general lay public the health problems of the day, and suggest ways in which the public may co-operate for their solution.

A volume<sup>1</sup> by Dr. CARL E. MCCOMBS, recently issued from the National Institute of Public Administration and New York Bureau of Municipal Research, aims to provide the layman in America with the same kind of insight into public health administration as has been referred to above. The book falls naturally into three parts. In the first, the health functions of a municipality are discussed. It is pointed out that in America the degree of responsibility for the health of their citizens conferred on municipal bodies varies greatly in the different States. The view is expressed that all health and welfare services in administrative areas should be co-ordinated under one management. In the second part, referring to vital statistics, the author points out the difficulties which arise from the differing laws as to the registration of births and deaths in different States. The health officer, he thinks, should be the registrar. The third part is concerned with the treatment of the sick. Dr. McCombs does not favour a free public medical service, but he thinks that the municipality, while undertaking the care of infectious cases and of the sick poor, ought at the same time to provide general hospital accommodation at reduced rates for those unable to pay high charges. The educa-

tional value to the general public of a good hospital and nursing service is emphasized. The working of a public health laboratory is described in some detail. The book as a whole conveys an impression of the systems of health administration now current in the American Union. The instances quoted are often illuminating. Urging the importance of registration, the author cites the case of an American citizen during the general war who, possessing no documentary evidence of his birth in the United States of America, was compelled to serve in a European army.

#### EMULSIONS.

DR. WILLIAM CLAYTON's book *The Theory of Emulsions and their Technical Treatment*<sup>2</sup> first appeared in 1923, and the fact that a second edition has already been required is an indication that this work, which deals with highly specialized problems, has earned general approval. Colloidal chemistry has undergone a rapid development in recent years, but the author has brought the present volume thoroughly up to date, although this has involved re-writing a large proportion of the book. The laws governing the production of emulsions are of peculiar complexity and obscurity. The number of important technical processes which depend upon these laws is, however, remarkably large. A few of such processes are the manufacture of ice cream and margarine, the cleansing of condenser water, the separation of water from crude oil, and the recovery of ores by the flotation process. The book deals chiefly with the general theories underlying the processes of emulsification and de-emulsification, but reference is made to certain problems of particular interest to medical science. For instance, the methods used in emulsification of drugs are referred to briefly. A good deal of space is devoted to the problem of dual emulsions, and this portion will be found of great interest by those who are concerned with the fundamental properties of protoplasm. There is a considerable amount of evidence that indicates that the surface of the living cell is composed of a reversible emulsion of lipid and protoplasm. The author discusses fully the influence of ions on oil-water emulsions, and this, in particular, is a problem of great biological interest.

#### THE NATURE OF MIND.

DR. PAUL BOUSFIELD and Mr. W. R. BOUSFIELD have written a volume on *The Mind and its Mechanism*<sup>3</sup> in which they endeavour to explain the phenomena of mental life by postulating the existence of a real psychic structure or "psychoplasm" which, like protoplasm, is an essential part of each living cell. As to the possible basis of this psychoplasm the authors take the analogy of the etherial protons and electrons which constitute matter, and postulate analogous etherial units of a finer order which they term "psychons." It is suggested that just as protons and electrons are aggregated into protoplasm so may psychons be aggregated into psychio structure. Electrons and protons are both considered to belong to the physical realm, and psychonic substance is considered to be of mass so small as to be practically inappreciable.

Though this book is highly speculative the hypothesis which it is intended to elaborate is ingeniously worked out. In successive chapters the assumed existence of "psychonic substance" is utilized to explain consciousness, the "psychic organ," memory, the transformation of ideas, the energy of ideas, emotion, the unconscious mind, the "censor" of Freud, hypnosis, telepathy, and evolution. The writers strongly favour the Lamarckian theory of evolution, taking the view that habits become ingrained in the "mental structure" of the organism, and that the psychic structure of the germ plasma is thereby cumulatively affected.

We are not quite sure whether hypotheses such as those

<sup>1</sup> *The Theory of Emulsions and their Technical Treatment*. By William Clayton, D.Sc., F.I.C. Foreword by Professor F. G. Donnan, C.B.E., F.R.S., etc. Second edition. Textbooks of Chemical Research and Engineering. London: J. and A. Churchill. 1923. (Demy 8vo, pp. xi + 253; 42 figures, 15s.)

<sup>2</sup> *The Mind and its Mechanism*. By Paul Bousfield, M.R.C.S., L.R.C.P., and W. R. Bousfield, R.C., F.R.S. London: Kegan Paul, Trench, Trubner and Co., Ltd.; New York: E. P. Dutton and Co. 1927. (Demy 8vo, pp. vii + 224. 9s. net.)

<sup>3</sup> *City Health Administration*. By Carl E. McCombs, M.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1927. (Demy 8vo, pp. x + 524. 24s. net.)



developed in this book really add to our understanding of the phenomena of mind. Memory, "meaning," and consciousness are but manifestations of life which are no more and no less mysterious than the physiological processes of the living organism. It seems doubtful if it is either necessary or desirable to postulate, after the manner of the authors, two kinds of energy in the living organism—physical energy traceable to the sun, and psychic energy to the "psychic environment." What can be definitely said is that matter infused with life behaves otherwise than inert matter, and perhaps this difference is best summed up in Rignano's formula—"living things remember, inert matter does not remember." (See the review of *Biological Memory*, BRITISH MEDICAL JOURNAL, August 20th, 1927, p. 310.)

### NOTES ON BOOKS.

DR. GUSTAVE MONOD has published a French translation<sup>7</sup> of the second edition of Professor MAX EINHORN's book on the duodenal sound. The volume is well illustrated, and the subject matter, in Dr. Monod's lucid style, describes clearly this effective method of duodenal investigation and treatment. We published a review of the German edition of Professor Einhorn's book on August 23rd, 1924 (p. 325), and of the first American edition on November 6th, 1920 (p. 704).

True to his faith in the efficacy of oleum alii as a curative agent in cases of chronic tuberculosis, Dr. W. C. MINCHIN has issued a third edition of his monograph,<sup>8</sup> of which the two previous editions appeared in 1912 and 1915 respectively. Further experience, he tells us, has confirmed his previous views. The present edition, however, contains more than this. Puzzled, as so many other observers have been, as to the significance of the minute granules and spherical bodies so often noted in association with the tubercle bacillus, he initiated a series of observations, with expert assistance, and claims to have proved that some of these bodies are able to pass the Chamberland filter, to be stained, and to resist acids, alcohol, and oil, and to infect guinea-pigs with tuberculosis. Similar minute bodies have been studied by other observers. Dr. Minchin regards them as yeasts, and would explain their action as fermentative.

MISS MARY WALLER has written a very useful handbook of *Practical Physics for Medical Students*.<sup>9</sup> As it is intended for use in the laboratory there are no illustrations, but repeated injunctions are given to the student to draw a diagram before starting an experiment. The book is to be used in close connexion with the lecture course, therefore no textbook material is included. In her preface the author states that the book is the outcome of some years' experience of the particular problems which arise in the teaching of medical students. Their time is limited, and their knowledge of physics is not expected to be profound, but it must be adequate and accurate, and should be based on sound experimental knowledge. The book is so arranged that students who have already had a scientific training can profitably follow the complete course given, while at the same time students just beginning experimental work in physics can perform only the experiments indicated. They illustrate general measurements, hydrostatics, mechanics, miscellaneous properties of matter, heat, light, sound, magnetism, electrostatics, and current electricity. As the book is intended for medical students certain experiments which should prove peculiarly useful to them have been included—for example, spectroscopy, surface tension, viscosity, induction coil, polarization, psycho-galvanic reflex, and the use of the electricity mains. A list of useful constants and mathematical tables published by the Board of Education is appended. This little book is so lucid and concise, and so definitely supplies a want, that we may hope that Miss Waller may presently write a textbook of physics for medical students.

*Selected Papers of Karl Abraham, M.D.*,<sup>10</sup> consists of a translation of his more important psycho-analytic works, except his *Traum und Mythos*, which has already appeared in English,

and his study on Amenhotep, for which room could not be found in this volume. The author of these essays died in 1925, and Dr. ERNEST JONES has written a lengthy introductory memoir giving a summary and appraisal of his numerous contributions to psycho-analysis and a sympathetic appreciation of his character. The author was a psychiatrist, and this work includes a number of studies of the psychoses from the psycho-analytic standpoint. It is evident that he nourished the hope that the application of the psycho-analytic technique in cases of manic-depressive insanity, during the intervals between attacks, might prove to be of therapeutic value. How far such a hope will be realized time alone will show. Meanwhile, the clinical manifestations of this psychosis are suggestive of biogenetic rather than psychogenetic causation.

The thirty-eighth annual edition of *Burdett's Hospitals and Charities*<sup>11</sup> contains several new features and improvements designed to keep the book abreast of the unending philanthropic developments in the British Isles and abroad. The chapter devoted to the work of the Hospital Saturday Fund has been augmented by a table showing in detail the progress made from 1893 to 1926 inclusive. More space than hitherto is given to the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society, and comments are made on such important subjects as co-operation between voluntary hospitals and Poor Law infirmaries and the urgent problems created by the increasing number of road accidents. The new developments in the London School of Hygiene and Tropical Medicine are indicated, and prominence is rightly given also to the Liverpool School. A new subsection has been devoted to societies for providing legal aid. The names of the medical staffs of all the teaching hospitals in the provinces, Scotland, and Ireland have now been added, and much valuable information about the different tuberculosis sanatoriums has been incorporated. The section devoted to overseas hospitals has been somewhat curtailed, but the directory of British hospitals in Europe, chiefly used by tourists, and the list of nursing establishments abroad have been retained. The directory of institutions includes universities, colleges, and schools; the hospitals in the empire and foreign lands; educational and charitable funds and institutions; nursing associations throughout the world; and periodicals published in Great Britain and Ireland dealing with medicine and allied subjects. It would be difficult to praise too highly this indispensable reference book.

The League of Nations Commission on Human Trypanosomiasis, consisting of delegates from Britain, Belgium, France, Germany, and Portugal, commenced operations at Entebbe in the beginning of 1926, and has just issued an interim report (CH. 536) on its activities. The report consists of an introduction on the general programme of the Commission (by Dr. H. L. Duke, the British delegate and chairman), and a number of articles written by various individual members. These articles include accounts of the commission's epidemiological, therapeutical, laboratory, diagnostic, and zoological studies. Owing to the interim nature of the report few definite conclusions are reached, but the lines of research contemplated promise to bring results of considerable importance in the fight against sleeping sickness.

<sup>11</sup> *Burdett's Hospitals and Charities*, 1928. Founded by Sir Henry Burdett, K.C.B., K.C.V.O. Thirty-eighth year. London: F. and W. Gwyer, Ltd. (The Scientific Press). 1928. (Demy 8vo, pp. xvii + 895. 21s. net.)

### PREPARATIONS AND APPLIANCES.

#### "ALEPOL."

"ALEPOL," manufactured by Messrs. Burroughs Wellcome and Co., consists of a selected fraction of the sodium salts of the total fatty acids of hydnocarpus oil, and is recommended for subcutaneous or intramuscular injection.

When modern investigations confirmed the traditional value of chaulmoogra oil in the treatment of leprosy, the chief difficulty encountered was the discovery of a method of administration suitable for prolonged treatment. This difficulty was due to the highly irritant nature of the crude oil. Several years ago Messrs. Burroughs Wellcome prepared a mixture of esters of acids of the chaulmoogric series, which has been widely used in leper colonies. Hydnocarpus oil contains fatty acids which resemble those of chaulmoogra oil and have the same pharmacological actions. The former oil has, however, the advantage of being more easily obtainable.

"Alepol" is a selection of the lower melting point sodium salts of the fatty acids of hydnocarpus oil, and this selection obviates, to a considerable extent, the old disadvantage of vein blocking which tended to occur when these compounds were given intravenously. The makers say that the clinical trials of this preparation have proved satisfactory.

<sup>7</sup> *Le Tube Duodenal*. Par Max Einhorn. Traduit par le Dr. Gustave Monod. Traduit d'après la deuxième édition, revue et augmentée. Paris: Masson et Cie. 1927. (6 x 8 1/2, pp. 136; 126 figures, 29 plates. 25 fr. sans majoration.)

<sup>8</sup> *A Study in Tubercle Virus, Polymorphism, and the Treatment of Tuberculosis and Lupus with Oleum Alitii*. By William C. Minchin, M.D. Dublin. Third edition. London: Baillière, Tindall and Cox. 1927. (Cr. 4to, pp. xvi + 110; 1 figure, 26 plates. 25s. net.)

<sup>9</sup> *Practical Physics for Medical Students*. By Mary D. Waller, B.Sc. London: H. K. Lewis and Co., Ltd. 1927. (Demy 8vo, pp. xli + 55. 6s. net.)

<sup>10</sup> *Selected Papers of Karl Abraham, M.D.* With an introductory memoir by Ernest Jones. Translated by Douglas Bryan and Allan Strachey. The International Psycho-Analytical Library, No. 13. London: L. and V. Woolf, The Hogarth Press. 1927. (Med. 8vo, pp. 527; 1 plate. 30s.)

## MOTOR CAR COACHWORK FOR THE MEDICAL PROFESSION.

[FROM A CORRESPONDENT.]

So many different styles of bodies for motor cars are on the market to-day that it has become difficult for the medical practitioner to decide which will meet his special requirements. Particularly does this apply to the small-powered less expensive cars. In order to withstand the ordinary wear of a continuous daily service, year in and year out, for both the town and country practitioner, workmanship and materials are important if heavy repair bills are to be avoided. With the variable climate experienced in this country, the progress that of recent years has been made in design, and the aid of new materials together with modern methods of construction, the closed body with its mechanically adjustable windows and a light permanent top, or the cabriolet coupé with the upper structure made to open when desired, probably stands first. They are designed for all-weather protection, which an open car, even when fitted with a conventional hood and side curtains, cannot give.

With a large number of medical practitioners self-driving is the rule; hence the popularity of the coupé or complete style. A design which is preferable is that frequently spoken of as a foreshortened saloon. A body of generous dimensions, with separate adjustable seats in front and two occasional spring seats, staggered for comfortable leg room at rear, fitted parallel with the sides, into which they fold when not in use, accommodates four passengers; luggage is carried in the tail-end of the body. The car is easily entered; moreover, it is theft-proof, as the rear extension has no doors or lids to open externally. A modification of this body is the quarter light coupé. Mann Egerton and Co., Limited, of Norwich, Ipswich, and London, have for many years specialized in this particular type of body. It is known as the "all-purpose coupé cabriolet," and it makes an ideal vehicle for a doctor, either for professional or pleasure purposes. It accommodates four persons under the hood, and contains a roomy hoot for luggage and bags, readily accessible from the interior of the car, this being a great convenience for a doctor. A comfortable detachable dicky seat can be fitted in addition, so that the car will carry from two to six persons, and it can be used either as a completely open or closed car.

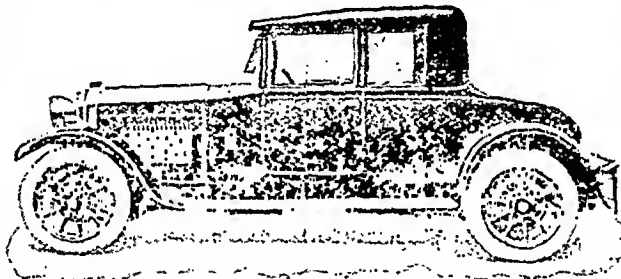
But the closed car of the coupé style, though useful, does not possess to a high degree the points, most essential to medical men, of silence, comfort, and roominess. To eliminate all liability to rattle, or drumming noise, as well as to prevent the chassis frame distortions and vibrations being conveyed to the interior when travelling over rough roads, the body should be practically isolated from the chassis. This may be done by some special form of suspension, as in the Daimler cars, or by bedding the bottom of the body on thick felt or rubber. These constructional features are of such importance in the production of a silent interior that the shell framework of many forms of bodies, particularly those fabric-covered, is built distinct and apart, as in the Weymann fabric flexible body. The body shell framework is developed in a series of parallelograms, the various components being held together by steel plates with intervening air spaces, so that no noise or squeaks are set up by the ends rubbing together. In other bodies the framework joints are cushioned in rubber or a similar resilient material, and the rigid wood framework separated from the seats and flooring. For the medical man after a laborious day a restful, quiet interior is of importance, and it is suggested that good service, embodying all the desirable qualities of silence, comfortable seating, and durability, will be found in bodies built with a rigid framework panelled in aluminium for the lower part, and with flexible covered upper structure above the waist rail. The question of cushion comfort depends upon proportional measurements as to the height of the compressed cushion from floor, as well as the slope from the horizontal line, in combination with

the slope of the back, squabbed deeply and upholstered at points that will give support to the back and shoulders. Well built cushions are constructed on a double-deck principle, with two tiers of coiled springs of different gauges within a light wire frame, above which is a squab made of curled horse-hair. The cushions are ventilated to allow of the escape of air when compressed. As a substitute for springs pneumatic air-filled tubes, which can be inflated to the desired resiliency, are finding considerable favour. Sorbo rubber sponge is found to give a particularly soft and easy cushioning on the roughest of macadam roads.

The roomy quarter light coupé will provide good service to the medical man, when built on modern lines with all-metal front structure supporting a windscreen of a single deflector panel. On a standard chassis from 15 to 20-h.p. the body space will permit of a roomy body with extra seats, as previously mentioned, and an enclosure in the tail-end, with hinged doors, forming a receptacle for carrying instruments, cylinders of oxygen, and bags for miscellaneous drugs, etc.

The trend of design in all motor cars is for a lower overall height from ground, high waist, and shallow windows; but as long as the road clearance and standard head room are provided this will not affect the interior roominess for the extra seats and a suitable convenience for carrying the necessary surgical and other appliances all forward of the rear axle. In the interior of the closed car considerable improvement has been effected in the many appendages and necessary furniture, such as mechanical lifts for the frameless glass windows, moving in felt and rubber lined channels.

The prospective owner should satisfy himself that the seating arrangement and head and leg room meet with his approval; he should be equally satisfied that in the construction every contrivance has been introduced for abolishing shocks and nullifying rattles. Soft roofs, composed of leather and built up with an underlay of waterproofing material, are conducive to a silent interior, and are found most durable. In the construction of the doors spring-loaded hinges



Mann Egerton Coupé Cabriolet on 16-h.p. six-cylinder Sunbeam Chassis.

should be used, so as to take up the wear and avoid rattle from this source; while on the lock side silencers and dovetails should be fixed, of a three-way action, as a supplementary means to securing perfect rigidity. In the assembly of the wings and stepboard brackets no two metals should come in contact; they should be separated by a thin strip of leather; and in case of rear wings, at the arches, rubber tubing slit open at one edge, between the undersides of body and wing before finally fixing. The bonnet should preferably lock down on a base of rubber. Windcreens should also have their fixed portion, if any, bedded in rubber; but the present tendency, with the advent of wind-screen wipers, is towards the single-piece screen, adjustable from the top. Floor boards should be as large as possible, clamped to avoid shrinkage and warping, and lipped to prevent hot air and fumes from entering the body. Mats of a material that does not conduct heat should cover the floor boards, while a thin, non-conducting material between the cushions and seat boards also prevents the entrance of hot air and fumes. The method of attaching the interior upholstery, which is permanently fixed, influences to some extent a silent interior. In the best finished cars it is usual to have a rich West of England cloth, preferably of the plain stretched pattern, of a colour to harmonize with the painting.

As regards external finish the improvement in cellulose enamel or lacquer of a bright, lustrous finish appeals strongly to many owners, both from the point of view of durability and of economy of labour in cleaning the car. Small scratches and blemishes are easily removed without the expense of a revarnishing, as in coach painted brush work.

For economy in running cost, general up-keep, and garage space, the coupé with a car of medium horse power, and designed to dispense entirely with a dicky seat, thus offering the additional advantage of the back being left free to carry any surgical appliance, is excellent for medical men.

# British Medical Journal.

SATURDAY, FEBRUARY 11TH, 1928.

## THE VALUES OF DEATH CERTIFICATION.

THE practice of certification of the causes of death makes a double appeal to members of the medical profession. The immediate call arises when a certificate has to be provided in an individual instance. The wider claim recognizes that from certification there issues statistical information of high scientific, social, and economic importance. Conclusions regarding the frequency of various diseases, the decline or advance of each from year to year, and the relations of age, occupation, habits, and geography to pathological processes, are, with seeming justification, based upon the Registrar-General's returns; and, of course, towards these returns each certificate of the cause of death is an individual contribution. Clearly, therefore, the aim must be to secure in each contribution a maximum of accuracy. It is allowed that there are obstacles to this ambition, and that, as a fact, the aim is not invariably attained; hence efforts, of which the new form of death certificate recently issued is an example, to cultivate and secure accuracy in increasing measure. It is understood that the whole subject just now is receiving official consideration, and some of its aspects may therefore not inappropriately be submitted to the attention of our readers.

As a general proposition it may not unfairly be said that the larger values of accurate death certification are not often pressed on the notice of the general body of the medical profession. The official figures make their usual statutory appearance, and offer opportunities for passing comment and comparison, but they have little abiding influence. No practical application seems to be attached to them, and they do not secure the attention that is excited by challenge or controversy. Is it not possible to bring them, or some of them, into the medical arena as bearing on particular points of medical doctrine or opinion? Certainly some of the conclusions urged on the basis of the official figures are in apparent conflict with teaching proposed from other sources. Where such disparity exists there is obviously opportunity for inquiry and argument and debate, and some of our medical societies would surely provide an appropriate platform. No doubt contributions on the general values of accurate death certification have their worth, but here we are thinking rather of limited topics chosen as bearing on medical teaching and on medical practice. For example, some recent figures suggest that the age distribution of cancer and the class incidence of this disease may have important relations to the prevention of cancer. If such conclusions are to be made effective the figures on which they are based must be brought to the test of debate, and not simply announced as authoritative totals carefully registered in appropriate official departments.

There is the more need for such developments as are here advocated seeing that, with or without justification, the official returns of the causes of death are received with some measure of incredulity. Their general appreciation will therefore be promoted if, in particular respects, they can be shown to be confirmed by other observations. Especially is this true if such confirmatory observations are supplied by actual *post-*

*mortem* examinations, for here we pass from the region of opinion to that of demonstration. The official figures are naturally impressive from their bulk and from the wide area from which they are collected, and no quotation of the experience of an individual practitioner or institution could be set on the same level. But *post-mortem* records, collected from all the principal hospitals of the country, would constitute a body of evidence not to be ignored; and if such evidence proved to be in harmony with the official figures on any selected issue, the appreciation of the official figures in general would certainly be increased. The claim, therefore, is that the value of the recorded results of death certification will receive wider recognition when these results are presented as topics for discussion and debate, and when they can be shown to be in harmony with information gathered from other sources.

Incidentally, we note that in the new form of death certificate the performance or non-performance of a necropsy must definitely be recorded. Time will therefore bring a body of verified knowledge, valuable in itself, and valuable also as a check upon other certificates having a somewhat less confident quality. The most sure of all bases for death certification is obviously *post-mortem* examination, and possibly the day may come when the public will recognize the value of such examinations, not only to medical science, but also to the equipment and efficiency of the individual practitioner as an adviser of individual patients. Certainly the more numerous the death certificates resting on this basis the more widespread will be the confidence given to the official returns.

In the meantime, and probably for many years, the great majority of deaths will not be certified on the fact of *post-mortem* examination, and the returns must rest on the care and judgement with which certifying practitioners carry out the duty prescribed for them. The question therefore arises whether the educational efforts directed to this end are adequate. Presumably in the medical curriculum the lecturer on public health or forensic medicine, in drawing the students' attention to the legal responsibilities of medical practice, must speak of medical certificates in general, and of the certificates of the cause of death in particular. The occasion might well be taken to emphasize the wide and important relations of death certification, for here is an inspiring motive for the cultivation of accuracy in the individual certificate. Practical teaching in the actual writing of the certificate has its opportunities in every hospital ward; were such opportunities utilized the young practitioner would surely cease to be embarrassed when he is first called upon to sign a certificate of the cause of death. A few doctrinal explanations and actual experiences would promptly reduce the responsibility to its very simple proportions. Possibly some practitioners fail in full attention to the notes and suggestions printed with the books of blank certificates. These are most helpful, and they show a very modest set of demands. What is desired is not a severely critical exercise, but a broad statement of the disease which has produced the patient's death. Thus, to take a single example, the Registrar-General is concerned to know how many persons die from phthisis pulmonalis, but is relatively little interested in knowing how many of these die from exhaustion and how many from hæmoptysis. In many cases a single term fully meets the demand, though admittedly there are experiences which may not be so easily satisfied.

That more accuracy should be attempted in death certification is a proposition to which all will assent.

This end, we suggest, will be promoted by bringing some of the official statistics into contact with other sources of medical knowledge, by emphasizing the wide bearing of death certification, and by introducing the medical student both to the certificate itself and to the sanctions on which it rests.

### A NEW WAY IN PUBLIC HEALTH.

WHEN the Local Government Act of 1888 laid down that no person should be appointed the medical officer of health of any county or district having a population of 50,000 or over unless he held a diploma in sanitary science, it made a provision which was greatly in the interest of the beneficiary areas. In drawing the line of demarcation the Legislature may be presumed to have taken the view that, while the health affairs of populations of 50,000 and over were of sufficient weight to demand the services of a "specialist" trained in the field of health, those of populations of lower dimensions might safely be entrusted to an "ordinary" medical man, qualified in general to practise medicine, surgery, and midwifery, or, in terms of the Act, where the Local Government Board saw fit, to a man without any medical qualifications at all. In the present day, with its wider outlook and its Sanitary Officers Order, 1922, such a view may seem circumscribed, yet at that period it was not unreasonable. The hygiene of the time was largely environmental; questions of water supply, drainage, and sewage disposal awaited settlement, and the problems which arose, while acute in the cities, were much less urgent in smaller areas, with the people more dispersed or in the open country.

The Act of 1888 notwithstanding, the Local Government Board, as long ago as 1872, had recognized for areas of all dimensions, great and small alike, the importance of having a specialist officer in the sense of one who devotes his whole time to public health work, and towards this end had urged upon districts that they should combine. On this ground, and doubtless in some cases on grounds of economy also, a number of combinations were made, adjacent areas joining together to appoint one common medical officer of health. For a time these combinations appeared to be adequate; they covered the environmental field. Then new issues began to arise as the scope of hygiene widened. Since 1907 administration has taken in school medical work, maternity and child welfare, tuberculosis, venereal disease, and other subjects, not all supervised by the public health authority, yet all germane to public health. For these new services the public health combinations failed; in some respects they were too narrow, in others they overlapped; a new way had to be found.

The new way, which goes far to solve the problem, is to co-ordinate the services of an area in such a manner that the medical officer of health of each district is also an officer of the county council. It is the subject of a report by Dr. James Pearce, lately issued by the Ministry of Health,<sup>1</sup> which deals more particularly with the counties of Essex, Hampshire, Gloucester, and West Sussex, but at the same time treats of the principles involved in a lucid and interesting manner. Each district has its own medical officer of health; and so remains autonomous; but its medical officer is also assistant school medical officer of the county in his district, or assistant school

medical officer and assistant tuberculosis officer, or else he holds the two last-named posts together with that of assistant maternity and child welfare officer. Complete co-ordination is thus effected in the person of the district medical officer of health, who holds all the reins of district administration, working either in concert with, or under the supervision of, the central department of the county. The fact that he works under dual control has apparently created no difficulty. The opinion of forty-seven authorities in the counties concerned, as expressed to Dr. Pearce, was in general favourable to the new scheme. The most emphatic approval was that of the authorities whose sanitary standards were highest. Two only, and these not the most zealous, evidently thought their new officer too energetic.

Apart from the direct administrative advantages for the control of infectious disease, the supervision of tuberculosis, the amelioration of housing conditions, and kindred matters, Dr. Pearce brings out, as a point of importance to the public health service and the medical profession, the wider range and interest to medical officers of the co-ordinated scheme, which relieves the monotony of the routine examinations incidental to school and tuberculosis work, and which, if extended in the future, will offer many assistant officers an escape from the backwaters of the health service into its main current.

It is customary to decry the local government system of England on account of sundry defects. This report shows that, given goodwill and enterprise, results can be obtained under existing conditions which, for practical purposes, could scarcely be bettered by a complete reorganization.

### ABSORPTION FROM MUCOUS SURFACES.

THE question of absorption of materials from mucous surfaces is one of considerable practical interest both to the clinician and to the toxicologist, but although a great deal of work has been done by physiologists on questions relating to cell permeability in general, the reports of direct observations of the penetration of substances into mucous membranes are comparatively few. General considerations of permeability, and experiments on the passage of substances from the cerebro-spinal fluid into the blood (Dixon, Dolmo Lecture, 1925), suggest that one of the determining factors may be the size of the molecule of the substance employed. Thus crystalloids in general pass freely from the cerebro-spinal fluid to the blood; insulin, Witte's peptone, and secretin do not; and there are fairly good grounds for supposing that the molecules of insulin and secretin are large ones, while we know that the Witte peptone consists for the most part of polypeptides. The difference, however, between absorption from the cerebro-spinal fluid and from the stratified epithelium, of which many of the mucous surfaces of the body are composed, is great. Direct experiments by Knaus<sup>1</sup> showed that pituitrin was absorbed from the mouth and the rectum, but from no other part of the alimentary tract. He failed to confirm the results of Wolfe,<sup>2</sup> Hamill,<sup>3</sup> and Donaldson,<sup>4</sup> who concluded that pituitrin could satisfactorily be absorbed from the alimentary canal. In 1917 Macht reported some very interesting experiments dealing with absorption of drugs from the vagina. The materials tested consisted of certain inorganic salts, alkaloids, and antiseptics, and were all crystalloids. He found that they were, without exception, rapidly absorbed, and produced

<sup>1</sup> The Co-ordination of the Public Health Services in the Counties of Essex, Hampshire, Gloucester, and West Sussex. By James Pearce, C.B.E., M.D., on Public Health and Medical Subjects, Office. 1928. 6d. net.

<sup>1</sup> BRITISH MEDICAL JOURNAL, February 6th, 1926.  
<sup>2</sup> Brit. Min. Week., 1921, 5, p. 101.  
<sup>3</sup> Proc. Roy. Soc. Med., 17, 1921.  
<sup>4</sup> Ibid., 19, 1921.

their typical physiological and toxic effects to a marked degree. Ho quoted, in addition, many cases from the literature in which serious—sometimes fatal—effects followed the introduction into the vagina of substances for therapeutic or, in a few cases, criminal purposes. At the moment considerable interest attaches to the administration of insulin by routes other than the subcutaneous, which, if used over long periods of time, becomes increasingly unpleasant to the subject. Notwithstanding reports from some German physicians,<sup>5</sup> the weight of evidence seems to point to the fact that insulin is not absorbed from the alimentary tract. Up to the present the results obtained with synthalin and allied substances are not sufficiently encouraging to warrant their general adoption, and the question arises whether insulin could usefully be given by any other route. In 1923 Fisher and Noble<sup>6</sup> reported that insulin was absorbed when injected into the vagina. Recently Robinson<sup>7</sup> has reported experiments which serve to confirm the work of Macht, quoted above, and which, in addition, confirm that of Fisher and Noble on the absorption of insulin. Robinson found that adrenaline, secretin, and Witte's peptone were not absorbed; with pituitary extract the oxytocic, but not the pressor, effect was obtained. This last point, taken in conjunction with the similar result obtained by Knaus on the absorption of pituitrin from the mouth, may perhaps be considered as tending to support the idea that in pituitrin we have to deal, not with one substance, but with two. Robinson, unlike Macht, took special precautions to avoid absorption from the cervix uteri.

#### DEFECTIVE STRUCTURE OF TEETH.

From the Department of Pharmacology of the University of Sheffield comes an essay by Mrs. Mellanby (reprinted from the *British Dental Journal* of July 1st, 1927) containing a summary of the results of her investigations during the last four years into the prevalence of hypoplasia in the teeth of English children of to-day. After prolonged research, in the course of which 1,036 deciduous teeth and 266 permanent teeth were submitted to microscopic examination, she confronts us with figures showing a prevalence of hypoplasia to a degree hitherto quite unexpected. She distinguishes three degrees of hypoplasia. Of temporary incisors 49 per cent. were normal, 14 per cent. hypoplastic or severely hypoplastic. Of temporary canines 8 per cent. were normal, 54 per cent. hypoplastic or severely hypoplastic. Of temporary first molars 7 per cent. were normal, 73 per cent. hypoplastic or severely hypoplastic. Of temporary second molars 1 per cent. were normal, 92 per cent. hypoplastic or severely hypoplastic. The remainder showed slight hypoplasia. Of the permanent teeth (the wisdom tooth is the only one not examined) none were normal, and only one tooth, the second premolar (62.5 per cent.), showed an incidence of hypoplasia or severe hypoplasia of under 90 per cent., the second molar reaching 100 per cent. To emphasize the tangible nature of the defect these figures point to, Mrs. Mellanby gives tables showing that by macroscopic observation in the mouth or in the hand (by means of a somewhat blunt probe to detect roughness, and by visual estimate of hypoplastic enamel) practically identical figures were obtained. Another table showing that the teeth from dental clinics are decidedly worse than those from private sources, and the observation that the temporary incisors are the best formed teeth, suggest that malnutrition is the factor responsible for the wide spread of dental hypoplasia—a theory which is entirely at one with the current view of its origin. Mrs. Mellanby believes that the incidence and severity of hypo-

plasia have a definite relation to the incidence and severity of dental caries. She is careful to define what she means by hypoplasia, and it is here that a possibility of error presents itself. It is well known that the dentine of the teeth of ectopoda, for instance, shows large numbers of interglobular spaces—are we to expect perfection in man only? Again, she says: "It is interesting to note that the interglobular spaces, especially in the incisors and first molars, are usually situated fairly near the amelodentinal junction, in contrast with the deciduous incisors, where any defects are usually found towards the pulp." The granular layer of Tomes, situated close to the amelodentinal junction, has always been considered a normal structure, and it may be asked whether this is the layer to which Mrs. Mellanby refers. As regards the relationship of caries to hypoplasia, Mrs. Mellanby is rather unfortunate in Fig. 14, in which the carious area is the only part free of interglobular spaces. The figure seems to suggest that environment is the more important factor in the production of caries. Importance is attached by the author to variations in the rate of calcification, and it is suggested that the second temporary molars, for example, are more hypoplastic because of more rapid calcification. We may be allowed to ask for the proof of this suggestion. We may ask, too, for proof of the statement that "no doubt . . . increased maternal dental decay is due to the sacrifice of the mother to the growing organism of substances essential for her own welfare." But these are side issues. The main point stands. By patient and careful investigation Mrs. Mellanby has demonstrated the existence of dental hypoplasia among English children to an extent hitherto undreamed of. With a generous allowance for Nature's wasteful methods there must still be a large preventable residue—and sound teeth will assuredly be the better adapted to resist the inroads of decay. We may go a step further. Children with well formed teeth are likely to be of a healthy constitution—"dens sana in corpore sano"—and Mrs. Mellanby may have found a touchstone for an A1 population. She acknowledges her indebtedness to the Medical Research Council and the Dental Board of the United Kingdom for the costs of the investigations. We think the whole medical profession will cordially agree.

#### IRAQ COLLEGE OF MEDICINE.

THE conclusion of a new treaty of alliance between Great Britain and Iraq (writes a correspondent), and the prospect of the early admission of Iraq to the League of Nations, has brought into prominence the political and economic progress of "The Land of Two Rivers" since the accession of King Faisal. In educational matters, too, great strides have been made, and the infant Al-Al-Bait University of Baghdad already possesses Faculties of Religion, Agriculture, and Medicine. Of these the Faculty of Medicine is the most recently instituted. The doors of the Iraq College of Medicine were first opened in October last, when, following matriculation, twenty selected students began their course of studies. The University confers a single medical degree—M.D. A high standard of education is being required of candidates, and the curriculum, covering five years, is based on that prescribed for the M.B., Ch.B. of Edinburgh. The dean and the professors are all British graduates of British universities, and the teaching staff of each department includes an Iraqi. The students already admitted include Mohammedans, Christians, and Jews. Systematic lectures are delivered in English, but practical and tutorial instruction is permitted in both English and Arabic. Iraq is very poorly provided with doctors in all but the three largest towns, and the primary purpose of the College is to train suitable candidates for Government service throughout the country. With diseases such as

<sup>5</sup> *Lancet*, January 21st, 1928.

<sup>6</sup> *Amer. Journ. Physiol.* lxxvii, p. 65.

<sup>7</sup> *Journ. Obstet. and Gynaecol.*, 1925, xxxii, 1, and *Journ. Pharm. and Exper. Therap.*, xxxii, 81.



ankylostomiasis and bilharziasis rampant among the fellahoon, the necessity of this provision is very real. Students receive their instruction free on condition that they contract to serve the Government for a period of four years following graduation; while so serving, however, they will receive the same rate of pay as other medical officers of similar grade in the health service of Iraq. The College is well equipped, and is situated in the precincts of the Royal Hospital, Baghdad, where ample opportunities exist for clinical instruction of all kinds. There is great competition among young Iraqis for admission to the faculty, and, as the number of entrants is strictly limited, an excellent type of student is being obtained. Everything points to a successful future for the College, and it remains to be seen whether the present sons of this romantic country, in whose ancient capital, a thousand years ago, dawned the classical period of Arabian medicine, are capable of attaining the same heights of erudition and professional skill as their distinguished ancestors, among whom was Avicenna, "Prince of physicians."

#### THE BACILLUS CALMETTE-GUÉRIN (B.C.G.).

PROFESSOR CALMETTE is a prophet not without honour in his own country. When he concluded an address at the meeting of the Académie de Médecine on January 10th, the president of that body complimented him on being raised by the Government to the highest grade of the Légion d'Honneur—a small recompense for the immense services rendered, not only to France, but to the whole of humanity. Professor Calmette's address dealt with the results which have been obtained between July 1st, 1924, and December 1st, 1927, in the preventive vaccination of the newly born by B.C.G. (bacillus Calmette-Guérin). During the period under review 52,772 infants have been vaccinated; but the address was only concerned with 5,749 of these, who were stated to have been born of tuberculous mothers or to be living in tuberculous surroundings. Vaccinated infants under 1 year of age numbered 3,808; of these 118 were dead, a mortality from all causes of 3.1 per cent. The mortality at this age for non-vaccinated infants, whether in contact with tubercle or not, throughout France was stated to be 8.5 per cent.—a difference sufficiently startling if the former low figure continues to be maintained as the number of vaccinated infants increases. The mortality from causes presumed to be tuberculous among the 3,808 infants was 0.9 per cent., whereas the mortality for such causes amongst non-vaccinated infants exposed to tuberculous conditions was variously estimated at 24 to 70 or even 80 per cent. Only in Denmark, says Professor Calmette, has the mortality of non-vaccinated contact cases under 1 year of age been reduced to 7.7 per cent. Amongst 1,941 vaccinated contact children between the ages of 1 and 3½ years there have been 21 deaths, of which 4 were from diseases presumed to be tuberculous. The mortality of 1.2 per cent. from all causes compares with a mortality of 1.6 among non-vaccinated children with or without tuberculous contact. The mortality from tuberculous causes is 0.2 per cent., as compared with 0.14 for the non-vaccinated population of the same age. Professor Calmette believes that the immunity conferred by B.C.G. lasts longer than was at first thought, and is perhaps reinforced by virulent infections which are inoffensive for a vaccinated child. He regards this hypothesis as plausible, though not irrefutable. It is possible that the immunity continues for not less than five years, and so tides the child over the period in which it is exposed to severe infection. The fact that the bacillus-vaccines can remain so long in the human body without producing any other effect than resistance to virulent infection removes, adds Professor Calmette, any possible anxiety as to danger resulting from the vaccine. It appears that with an increase in the

number of the vaccinated a good case can still be made for pre-immunization of the newly born by B.C.G., at all events for those in tuberculous surroundings, and there is no evidence of harm having resulted from the process. But we are still doubtful whether Professor Calmette's results have been sufficiently submitted to expert statistical investigation. We hope that as the number of the vaccinated increases the cases will be kept in sight, with the object, ultimately, of a strict statistical review. It is interesting to note that on January 3rd Dr. Gram reported to the Académie de Médecine observations made at Oslo by the Norwegian doctors Heimbeck and Scheel on the use of B.C.G. in persons who gave a negative result to the von Pirquet reaction. Such persons were presumed never to have suffered from tuberculosis, and therefore to be liable to grave infection from massive doses. Vaccination with B.C.G. resulted in a positive von Pirquet reaction, but without any sign of disease. The observers believed that B.C.G. was entirely harmless in such cases, and might be preventive against tubercle. Professor Calmette considered that even if tuberculosis was present a subcutaneous or intramuscular injection of B.C.G. led to nothing more serious than a localized cold abscess.

#### THE VENEREAL DISEASE PROBLEM IN INDIA.

THE British Social Hygiene Council recently sent a delegation to India, consisting of Dr. David Lees and Mrs. Neville-Rolfe, and in the twelfth annual report issued by the council some account is given of the results of the tour. Seven large towns were visited, and social hygiene councils, affiliated to the British Social Hygiene Council, were established in each place. The delegation found evidence in the Provinces and States of a high incidence of syphilis and gonorrhoea, and it is reported that social conditions and customs are such that the diseases are disseminated among the adolescent as well as the adult population. Many recommendations have been made, and forwarded to the Governments concerned, dealing with the medical, social, and educational aspects of the problem. From the medical point of view it is emphasized that there is need for more co-ordination of effort, with increased hospital accommodation and a free supply of pharmaceutical material. It is suggested that there should be appointed for each Province or State a specialist in venereal disease who should be a member of the surgical teaching team in the university. From the social and educational standpoint the importance of biological training is stressed, and as an emergency measure it is proposed that two prominent university professors in biology and psychology should visit the universities and educational departments in the immediate future. The social recommendations are far-reaching; they include, among other points, an extensive campaign of public enlightenment, the eventual provision of skilled medical treatment for all persons needing it, the abolition of commercialized prostitution, and an extension of the cinema censorship. The central Government has been asked to co-operate in three ways: (a) by providing in the principal seaports the cost of medical facilities for the diagnosis and treatment of venereal disease and ground for the erection of institutes affording recreational facilities for the members of the mercantile marine; (b) by co-operating with the provincial Governments and the universities in the scheme for providing two university professors to initiate additional teaching on biology and social hygiene; and (c) by taking responsibility, through the British Social Hygiene Council, for the Indianization of dramatic films for propaganda purposes. In this connexion it should be noted that the Government of India is considering the appointment of a commission of inquiry into the present film situation, and the delegation urges that the cinema censorship should be extended and that films unsuitable for

India should be banned. The council undertakes annually a vast amount of work, as a glance at the present report will show, but it is to be especially commended for the way in which its delegation has tackled a vast problem, and the working of the schemes recommended, should they be adopted, will be watched with interest.

#### AFTERMATH OF THE MISSISSIPPI FLOOD.

SURGEON-GENERAL H. S. CUMMING, of the United States Public Health Service, has submitted to Congress a report dealing with the measures taken to protect the public health after the Mississippi flood. It is thought that the economic losses and human suffering in the flood area have exceeded those in any previous disaster in the country. Emergency aid was received from the Federal, State, and local health authorities, as well as from voluntary agencies, including the American Red Cross, and an officer of the Public Health Service was stationed at the national disaster relief headquarters of the American Red Cross at Memphis, Tennessee, to act as liaison officer and to secure the necessary assistance required. Such urgently needed therapeutic agencies as small-pox and antityphoid vaccines and antitetanic serum were supplied in large quantities. Within ten days from the beginning of the emergency fourteen trained officers of the Public Health Service, familiar with the localities, were actively engaged, and the response to the demand for other trained help was so generous as to meet the chief needs of the flood area within a very short time. With the recession of the flood a joint conference of the authorities concerned was held, and a plan was devised for the establishment of county health units throughout the affected area, so as to avert the danger of epidemics of various kinds. It was observed that the counties with whole-time efficient health services met all emergencies promptly and effectually. Surgeon-General Cumming added that for a long time the people in the flooded areas would be exposed to adverse health and economic conditions, especially owing to the damage to the water supply and waste disposal systems and the curtailment of food supplies. Pellagra had increased in certain neighbourhoods, owing to the partial failure of crops as well as to the flood.

#### ESTIMATION OF HEPATIC EFFICIENCY.

The complexity of the structure and blood supply of the liver is evidently correlated with multiple function, but the part taken by this organ in the digestive, glycogenic, secretory, and endocrine activities of the body is not yet fully understood. Attempts to estimate hepatic efficiency must, therefore, be beset with difficulty, and it is not surprising that various tests have been put forward and discarded from time to time. Thus, for example, Widal's haemoclastic test, advocated by some for gauging the liver function, was condemned in our columns by A. F. Bernard Shaw (1925, i, p. 914), though Maurice Shaw (*ibid.*, p. 1020) thought this conclusion a little premature. Another line of approach was suggested in 1921 by Roch and Schiff, who employed sodium salicylate to test hepatic efficiency on the ground that this salt is destroyed by a healthy liver, and therefore does not appear in the urine. As this test sometimes gave positive results when the liver was healthy its value was admittedly doubtful, but H. Thiers has since published<sup>1</sup> a modified procedure which may be worthy of consideration. He states that a normal adult can assimilate a dose of 0.04 gram of sodium salicylate, no trace of salicylic acid being found subsequently in the urine. If the liver is damaged salicylic acid appears in the urine passed during the second to the seventh hour after the ingestion of the sodium salicylate. Roch and Schiff added the urine, drop by drop, to a

1 per cent. solution of ferric chloride, but this method of estimation gave rise to error. Thiers therefore proceeds as follows. At 8 a.m. the patient is given 0.04 gram of sodium salicylate in solution, and all the urine passed between 9 a.m. and 1 p.m. is collected in one beaker in order to eliminate the possibility of retardation in renal excretion. In some cases the quantity of urine is so small that its collection has to be continued until 4 p.m. For the estimation of salicylic acid 50 or 100 c.cm. of urine is placed in a beaker of 200 c.cm. capacity graduated at intervals of 25 c.cm., and a sufficient quantity of strong hydrochloric acid is added to acidify it. Into this mixture 25 c.cm. of sulphuric ether is poured, and the fluid is shaken energetically three times. The liberated salicylic acid is almost insoluble in water, but dissolves in the ether. In ten minutes the liquid separates into three layers; the urine forms the lowest stratum, the middle layer consists of water containing a trace of emulsified ether, and the upper frothy viscid stratum consists of ether emulsified by the nucleus of the urine and containing the salicylic acid. This frothy emulsion is decanted, and sufficient alcohol (95 per cent.) is added to decompose the emulsion. The mixture is shaken gently and allowed to stand. It then separates into two layers; the upper consists of salicylic acid in ethereal solution, while the lower contains mucus and organic and inorganic substances which precipitate ferric chloride. The upper stratum is decanted; a minimal portion of ether is lost in these successive manœuvres, but this is fairly constant and produces no appreciable error. The ethereal solution is poured into a test tube containing 19 c.cm. of the following solution: *Liquor ferri perchloridi* fort. 20 drops, concentrated hydrochloric acid 1 c.cm., distilled water to 1 litre. The contents of the test tube are well shaken three times, and allowed to stand. A positive reaction is indicated by the colourless mixture assuming a violet colour; this occurs immediately when the reaction is strongly positive, and if no colour appears in ten minutes the reaction is negative. Thiers maintains that the test performed in this way is much more reliable than the ordinary addition of urine to a ferric chloride solution, because the insolubility of salicylic acid in water prevents its diffusion in the ferric chloride solution. The test can be applied quantitatively by using a colorimetric scale prepared by titration of a standard salicylic acid solution. He claims that this test is not invalidated by circulatory failure due to cardiac or renal disease; the majority of his patients giving strongly positive reactions had more or less damaged kidneys. It should not be employed, however, during a period of profuse diuresis, as the reaction may then be negative or feebly positive. Negative reactions occurred in all Thiers's cases in which the liver appeared to be normal. The presence of urobilin interferes slightly with the colour estimation, but Thiers overcame this difficulty by practice. He thinks that this test, though empirical, has a definite clinical value, and may be used advantageously until a more systematic examination of the hepatic function is made possible by further knowledge of its physiology and pathology. Epstein, Delprat, and Kerr, who have for some time advocated the intravenous injection of rose bengal for the estimation of liver activity, have reviewed the results of investigating over 500 patients by this means.<sup>2</sup> They found that this dye, of which only a trace remains in the blood plasma of normal persons after sixteen minutes, is not eliminated for a considerable time in obstructive jaundice, catarrhal jaundice, or arsenphenamine icterus. The test therefore appears to be a valuable aid in detecting these conditions and in following their clinical course. The nephritic toxæmias of pregnancy do not delay the disappearance of this dye from the blood stream, but acute hepatic infections were shown by its use to cause marked impairment of the liver function.

<sup>1</sup> *Lyon Médical*, May 15th, 1927.

<sup>2</sup> *Journ. Amer. Med. Assoc.*, May 21st, 1927.

## HOSPITALS AND ROAD ACCIDENTS.

In a note on page 192 of our last issue we referred once more to the heavy cost of hospital treatment for motor casualties, and mentioned the letter on this subject by Sir Duncan Kerly printed in the *Times* of January 30th. The same newspaper published on February 4th a letter by Sir Arthur Stanley stating that the British Hospitals Association and the Royal Automobile Club had the matter under consideration, and on February 7th the Earl of Donoughmore, as chairman of the management committee of King Edward's Hospital Fund for London, wrote suggesting that the fairest and most effective solution of the problem would probably be found to lie in insurance, with specific provision in motor policies for agreed payments to hospitals in respect of accident cases, and that a comparatively small extra premium might be expected to meet a reasonable scale of hospital payment. Lord Donoughmore added that the position was felt to be so serious that the King's Fund had decided to take the responsibility of inviting representatives of the hospitals, the insurance companies, and the leading motorists' organizations to an early conference on the subject. This we regard as an important step in the right direction, and we share his hope that combined effort on the part of all concerned will soon yield an equitable solution.

## PATHOLOGICAL MUSEUM AT THE CARDIFF MEETING.

The committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Cardiff next July proposes to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Instruments concerned in clinical diagnosis and pathological investigation. (4) Individual specimens of special interest or a series illustrating some special subject. (5) Exhibits of general interest. The committee appeals for the co-operation of the profession in making the museum a success. It will be easy of access, being situated in the same building in which the Sections will meet; it is hoped to make arrangements for exhibitors to demonstrate their specimens. Every care will be taken of the exhibits, and the contents of the museum will be insured. The honorary secretaries (Dr. J. B. Duguid and Dr. J. Mills, Department of Pathology and Bacteriology, Welsh National School of Medicine, The Parade, Cardiff) ask intending exhibitors to notify them as soon as possible.

## A SOUTH AFRICAN FIELD HOSPITAL.

To many people there is fascination in recalling, or having recalled to them, the details of some historical event which occurred within their memory. An example of these echoes of the past is the *Diary of a Field Hospital during the South African War*, by Lieut.-Colonel G. H. Younge, R.A.M.C.(ret.).<sup>1</sup> Spion Kop, the Tugela, Colenso, Long Tom, Hart's Hill: what memories these names awaken! The author was in charge of the field hospital detailed for duty with the Irish Brigade, and so took part in the operations which culminated in the relief of Ladysmith. Of particular interest is his comparison between active warfare in 1900 and that of only fifteen years later. For the transport of his equipment bullock carts were alone available. These weighed about two tons, were drawn by teams of sixteen oxen, and carried a load of at least five tons. By how many months would the campaign have been shortened had the modern mechanical tractor been available! Colonel Younge records the fact that in January, 1900, a steady increase in the severity of rifle-bullet wounds was noted; the wounds of entrance had become large, contused, and jagged, and those of exit large, funnel-shaped, and

lacerated. The inference was that expanding bullets were being used. A curious fact is the great predominance of wounds of the lower extremities. The author recalls for us some interesting details of Ladysmith on its relief. The General Hospital, situated on nontrial ground, contained some 800 wrecks of humanity; a forest of white headstones marked the graves of 1,600 men who had been killed or had died of disease during the siege; and he notes that most of the survivors, on return to full diet, developed jaundice. Enteric fever was first encountered by him after the relief of Ladysmith, and was traced to the drinking of water from pools during the protracted battle of Pieter's Hill, when our men occupied old Boer trenches at Colenso. From March 9th, 1899, to July 8th, 1901, this field hospital alone treated 595 cases with 65 deaths, a mortality of 10.9 per cent. The author, however, considers that some of the cases returned as simple continued fever (572 cases) or as not yet diagnosed (413 cases) were in reality mild or modified cases of enteric.

## JACQUES LOEB.

At the Marine Biological Laboratory, Woods Hole, Massachusetts, a memorial bronze tablet recording his achievements under the headings "Brain physiology; Tropisms; Regeneration; Antagonistic salt action; Duration of life; Colloidal behavior" was unveiled last summer to Jacques Loeb (1859-1924). Among the "exercises" on that occasion was an appreciation of his life's work by Dr. Simon Flexner<sup>1</sup> of the Rockefeller Institute for Medical Research, which Loeb joined in 1910 after being a professor at the University of California. His family, which left Portugal to avoid the Inquisition, settled in Amsterdam and later in Alsace; he was educated at the Universities of Berlin, Strasbourg, and Würzburg, and while assistant to Fick at the last named university he came under the influence of the botanist Sachs, who turned his talents into the broad channel of general physiology. Loeb recognized that the tropisms described by Sachs in connexion with plants were applicable to animals, and was led to make ingenious experiments on animal tropisms and heteromorphosis. He was thus launched on his life's work of reducing the so-called manifestations of life to the status of physico-chemical reactions. These observations were extended to psychology, so that he applied his deductions to the explanation of certain phenomena of animal behaviour. Loeb was, Dr. Flexner said, an intensive individual investigator, and though his immediate pupils were not numerous, his wider influence reached even the educated lay public. He organized the Division of General Physiology at the Rockefeller Institute, the first department of the kind in the United States, and in 1918 founded and edited the *Journal of General Physiology*.

## THE HALF-YEARLY INDEXES.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been printed; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

THE title of Sir Holbert Waring's Hunterian Oration before the Royal College of Surgeons of England is "The progress of surgery from Hunter's day to ours." The Oration will be given in the lecture theatre of the College, Lincoln's Inn Fields, on Tuesday next, February 14th, at 4 o'clock. A banquet to celebrate the bicentenary of Hunter's birth will be held that evening in the College.

<sup>1</sup> *Journal of the R.A.M.C.*, December, 1927.<sup>1</sup> Flexner, B., *Science*, 1927, lxxvi, 333-337.

## MEDICAL RESEARCH COUNCIL.

## ANNUAL REPORT.

## I.

THE annual report of the Medical Research Council for the year 1926-27 contains in its 150 pages a very condensed summary of many investigations proceeding in various parts of the country. It covers, as usual, a very wide field, and we shall follow our customary practice in giving a brief outline of some of the work of the several sections. Such a task is rendered especially difficult on this occasion, because the past year has been notable for many reasons, including the bringing forward of problems which have emphasized the imperial aspects of the work of the Council. We referred last year to the discussions at the Imperial Conference. As a result of these, it is remarked, "steady progress has been made towards the linkage of the research organizations in Great Britain with the equivalent organizations, either in being or foreshadowed, in the Indian Empire and in the Dominions overseas." A Colonial Medical Research Committee has been appointed, and it is suggested that as a result of the new opportunities for collaboration, and now facilities for intercourse, there may come about a veritable "Imperial Research Service." The Empire Marketing Board has shown its interest by making financial grants towards research schemes aimed at the improvement of Empire trade in given directions.

## GENERAL PRINCIPLES AND PRACTICAL APPLICATIONS.

In the introduction to the report certain aspects of the work are selected to illustrate the principles which guide the Council. The necessity of standards of reference in research work is emphasized; the Council maintains the national collection of type cultures, and at the Hampstead Institute are kept all the standard preparations required by the regulations under the Therapeutic Substances Act. The introduction refers also to the eleven years' work of Sir Thomas Lewis in clinical research and experimental medicine, and describes the investigations of the past years on the physiology and disorders of the heart as "the central stream of progress made in these subjects anywhere." The national importance of the work of the Council is exemplified by the vitamin researches. The isolation of the so-called vitamin "D" by Dr. O. Rosenheim, F.R.S., and Mr. T. A. Webster at the National Institute is traced in an admirable historical summary of the discovery of the "antirachitic" vitamin and the subsequent research work on this substance, culminating in the co-operative investigation by these workers in this country, and in Germany by Professor Windaus with Dr. Hess of New York. The practical importance of this work in relation to the food supply of the nation is emphasized, since "we now have at disposal abundant and cheap supplies of vitamin D in potent and isolated form," and the search among natural products for this vitamin is no longer necessary since "we can produce it artificially by irradiation of ergosterol." Arising out of such applications of scientific knowledge to the health of the nation as a whole, the Council also calls attention to the entire field of nutritional science, which requires careful study; a special committee has been appointed to frame a comprehensive and co-ordinated programme of work.

## WORK AT HAMPSTEAD.

In the next section is summarized the principal work during the year at the National Institute for Medical Research at Hampstead and in the associated field laboratories at Mill Hill. The section of biochemistry and pharmacology has included a large range of subjects. Dr. Dudley and Dr. Thorpe have made a chemical investigation of muscle on a large scale, undertaken as an extension of work on the nature of vaso-dilator constituents of different tissues. A peculiar peptide "carnosine" has been isolated, and investigation of its hitherto unknown functions is proceeding. Professor A. N. Richards of Philadelphia has

been working with Dr. Dale on the vaso-dilator action of adrenalin. Dr. King and his colleagues have continued their syntheses of substances likely to have chemotherapeutic values. In the section of experimental pathology, bacteriology, and protistology work during the year has proceeded on two main lines. One group of studies has been concerned with the infective viruses of various human and animal diseases, and the other has been aimed at improving methods of precision in immunology. Mr. Dobell and Dr. Laidlaw have continued their work upon the *Entamoeba histolytica*, especially directing their attention to the experimental infection of monkeys, and its treatment by emetine. In the department of applied optics Mr. J. E. Barnard has directed the improvement of microscopical methods and appliances likely to assist biological work and, in particular, the investigation of filterable viruses. The study of the reactions of the body to various atmospheric conditions and to the radiations of light, particularly in the ultra-violet region of the spectrum, has been the main work of the section of applied physiology. Dr. Campbell has completed certain experiments on the acclimatization of the body to low and abnormally high oxygen pressures in the air, and Dr. Hill, with the assistance of Miss Brad, has investigated the effects of diet upon the reproductive power and liability to cancer in mice. The work of the Statistical Committee continues to be of the highest importance, and a fruitful co-operation between statistical and psychological investigators upon telegraphist's cramp has developed. The help given by this committee in the general criticism of work of other departments, statistical verification of particular points, or in the indication of possible fallacies is emphasized as being among the most important of its activities.

## EXPERIMENTAL MEDICINE.

At University College Hospital, London, Sir Thomas Lewis and his collaborators have continued the study of the physiology and pathology of cutaneous blood vessels. The director and Dr. Grant have obtained evidence that anaphylactic poisons in "fish poisoning" act on the vessels of the skin by liberating a histamine-like substance, and the symptoms of a general anaphylactic response are attributed to a similar, although more general, release. Dr. Grant has completed and published his anatomical researches upon the coronary vessels of the heart, and his main work—a systematic examination and comparison of the coronary circulation in representative vertebrate species—has been completed with the help of Dr. Regnier. At St. Thomas's Hospital, London, work by the medical unit under Professor H. Maclean has been directed to certain experimental and clinical studies of gastric physiology and pathology, and the response of gastric and duodenal ulcers to treatment by alkalis has been watched by means of x-ray examinations. At the University, field laboratories, and Royal Infirmary, Sheffield, attempts have been made by Professor Mellanby and Dr. Cowell to control the symptoms of hyperthyroidism, as in Graves's disease, by purely medical means. Professor Mellanby has also continued his well known inquiries into the anticacifying action of cereal foods.

## PROBLEMS OF CHILD LIFE.

Studies of cases of toxæmia in the later months of pregnancy have been continued on clinical and biochemical lines at the Royal Maternity Hospital, Glasgow, and a special inquiry is being made into the carbohydrate metabolism in normal and abnormal pregnant women. Miss Widdows, Miss Bond, and others have continued their work on normal human colostrum and early milk at the Royal Free Hospital, London. These have been investigated with reference to the racial type of mother, length of lactation, method of extraction of milk, and other variables. Work on the metabolism of infants has been carried out at the Royal Hospital for Sick Children, Glasgow, under the direction of Professor Leonard Findlay. Dr. Stanley Graham and Dr. Morris have directed special attention to the acid-base balance of the blood in infancy and childhood with reference to the carbon dioxide dissociation curves in normal and abnormal conditions. The work of Dr. Leonard Parsons at Birmingham upon the

blood chemistry and bone changes in coeliac disease and in renal infantilism has shown that ultra-violet light, while beneficial in coeliac disease, may aggravate the bone changes in renal infantilism and is contraindicated. Dr. H. A. Harris at University College has studied the transverse striations of long bones which occur in non-rachitic children who have suffered from various acute illnesses. This investigator holds that the line of healing rickets of the cartilage may have a similar origin—namely, slowed growth on an inadequate diet—and that the “line-test” of healing rickets therefore presents definite fallacies.

#### HUMAN NUTRITION.

The Nutrition Committee has under consideration more comprehensive schemes for surveying, in the light of the latest knowledge, the dietetic needs of different sections of an active population and the deficiencies in national dietaries, which can be traced to remediable accidents of soil and water supply, or to remediable faults in the treatment and distribution of foods. Professor E. P. Cathcart has undertaken a study of the dietaries of the population of St. Andrews, where access to households in all grades of society has been possible, so that data of a vast economic and scientific interest has been obtained. At the Lister Institute Dr. S. S. Zilva has investigated the improvements of the methods for isolating vitamin C, and the relation of its antiscorbutic activity to the reducing substances accompanying this vitamin. With Captain J. Golding, Dr. Zilva and Miss Soames have co-operated in studies of the relative values in vitamins A and D of butter obtained from cows fed on diets supplemented by green fodder and cod-liver oil. Cows receiving the oil showed improvement in the vitamin A and D content of the butter, while green fodder improved the vitamin A content only. Miss Humo and Miss Henderson Smith, with Dr. N. S. Lucas, have found that the injection of irradiated cholesterol into the skin of rabbits and rats fed on a rickets-producing diet will prevent rickets, and that this may represent at least one of the natural means by which the body is supplied with vitamin D, since activation by light of pro-vitamin on the surface of the skin is known to take place. Professor J. C. Drummond, with his co-workers at University College, London, has been engaged on finding a suitable method for isolating vitamin A from material in a large-scale extraction of active fractions of cod-liver oil. Further work on the colour reaction for the estimation of vitamin A in relation to the disturbances produced by natural pigments in butter and milk has been proceeding, and means for avoiding this effect have been devised. Professor Drummond has also continued his work on the physiological action of vitamin B. The only clear-cut symptom directly ascribable to deficiency in this vitamin would seem to be the so-called polyneuritic or “beri-beri” condition, all other abnormalities being attributable to the loss of appetite and resulting inanition which follow the withdrawal of the vitamin. With Dr. Hassan he has shown that the physiological action of yeast is complex, due to at least two substances; the chemical nature of these two components is being further investigated. Mr. H. W. Kinnersley has obtained a highly active material, also from yeast, by Professor Peters’s charcoal adsorption method. Professor V. H. Mottram, Dr. Gladys Hartwell, and Miss Clifford have continued their work on nutritional subjects at King’s College for Women, London.

#### DENTAL DISEASE.

The lymphatic supply of the teeth in the dog and in the primate has been investigated by Dr. E. W. Fish, who finds certain fundamental differences which have a bearing on the question of dental caries, since the dog, with a free irrigation of its dental enamel, appears to escape it. Mrs. Mellanby has continued her work at the field laboratories, Sheffield, with special reference to the control over the structure of the teeth by diet and environment, ante-natal and post-natal. Miss K. C. Smyth, London, has collected measurements in selected children to show, by means of averages, the direction and normal rates of growth of the jaws as a basis for study of the abnormal.

#### DISEASES OF THE CARDIO-VASCULAR SYSTEM.

In addition to the work of Sir Thomas Lewis and his colleagues already mentioned, work on these diseases has been proceeding in other centres. Dr. J. C. Bramwell and Dr. R. Ellis at Manchester have been studying the form of the pulse wave in the central arteries in man. A portable instrument for the optical record of the rapid pressure changes in the carotid artery has been devised for use at the bedside. Dr. Ellis has followed up the results of the treatment of cases of auricular fibrillation with quinidine during the past five years, and he concludes that in the hospital class of patients at least the results are disappointing. Dr. G. Anrep at Cambridge has studied the blood supply to the heart muscle under normal and pathological conditions, and the effect of various drugs upon the coronary circulation. Changes in the coronary blood flow induced by auricular fibrillation, premature contractions, heart-block, and other conditions have been studied.

(To be continued.)

#### THE UNITED STATES ARMY MEDICAL REPORT.

THE report of the Surgeon-General of the United States Army for 1926 refers to the fiscal year ending June 30th, 1927, but the vital statistics cover the calendar year ending December 31st, 1926.

##### Medical Personnel.

In the regular force the Medical Corps comprises 931, Dental Corps 158, Veterinary Corps 126, and Medical Administrative Corps 72. There are 52 vacancies in the Medical Corps, and the Surgeon-General emphasizes, as in previous years, the numerical inadequacy of the medical personnel and the difficulty in supplying requirements. The proposed increase in the Air Corps makes the position more acute than ever. The Army Nurse Corps contains 493 regulars and 183 reserves, and there are 6,565 enlisted men—a totally inadequate number. There is a large reserve of about 19,000, of which over 11,000 are medical officers. It is interesting to note, for comparison, that the daily cost per head in hospital is 4.8865 dollars. The medical personnel attached to the Air Corps consisted of 52 officers and 204 enlisted men, which numbers are stated to be inadequate. Airplane ambulances are in regular use.

##### Statistics.

The mean annual strength of the army was 132,377 and the rate of admission sick 687.22 per 1,000, an increase compared with 1925 due chiefly to an epidemic of influenza. Bronchitis again heads the list of admissions, with influenza, tonsillitis, and gonorrhoea occupying the next highest places. The death rate was 3.94 per 1,000, the chief causes being suicide, drowning, and tuberculosis. The discharge rate for disability was 18.35 per 1,000, the chief causes being dementia praecox, tuberculosis, pneumonia, and automobile accidents. Suicide and dementia praecox have now headed these lists for many years.

The uniform decline in the incidence of venereal diseases is maintained, dropping from 52.25 per 1,000 in 1925 to 49.96. Syphilis 1,577, soft chancre 1,118, and gonorrhoea 3,919, show a total decrease of 483 cases. Prophylactic measures are compulsory, and neglect in using them leads to trial by court martial. Each soldier undergoes a physical examination twice a month, and pay is stopped should he lose time by contracting these diseases.

The admission rate for tuberculosis, 2.71 per 1,000, is steadily decreasing, while that for alcoholism remains at about 8 per 1,000. Of the 1,061 cases of alcoholism recorded, 749 occurred in the United States, and this number does not include cases of poisoning by wood alcohol, nor the late and remote conditions resulting from the use of alcohol. There were 42 admissions for drug addiction, a decrease of 13 compared with 1925.

The largest number of operations were for removal of tonsils, treatment of fractures, and appendicitis. Ether was the anaesthetic used in 7,634 cases and chloroform in 35.

In the Air Corps 45 deaths occurred from crashes, which represents one death for every 633 flying hours, and shows a great reduction of fatalities in relation to the flying time. During 1926 there were 78 crashing fatalities in the British Royal Air Force, but the average number of flying hours per crash is not stated in the report of that force.

As usual, the report is voluminous, containing a very large number of statistical tables and a comprehensive index.



## Ireland.

### CANCER CAMPAIGN.

At a successful meeting in support of the cancer campaign in Ireland, which was held recently in Limerick, when the Mayor presided, Professor T. Gilman Moorhead said that one person in every six over 40 years old died of cancer. During the last year there had been over 3,000 deaths from cancer in the Free State, which meant that 1 out of 1,000 in the population died from cancer. This represented an addition of 50 persons per year in the last ten years—an increase of 500 altogether. The fact had a still greater significance when it was realized that the general death rate had declined during the past twenty years by 32 per cent., the infantile death rate by 45 per cent., the tuberculosis death rate by 38 per cent., while cancer mortality on the whole was higher by 20 per cent. According to Sir Berkeley Moynihan the cancer death rate had increased fivefold within the last seventy years. There were in the Free State over 3,000 deaths from cancer and other malignant diseases annually; this probably meant that in one year there were about 9,000 persons who suffered from cancer in the Free State, and 1 in every 1,000 died from it annually. The disease tended to attack people at the very best period of their lives, when they were useful to the community. The fact that the increase was among the civilized races gave rise to hope that the cause would be discovered before long. It was most important that efforts should be made on the lines of research and education. So far the cause had eluded their efforts, but the ground was now prepared, and Professor Moorhead believed that in time someone, perhaps a Limerick practitioner, would immortalize himself by discovering the secret. It had been calculated that if the public were alive to the importance of recognizing the early symptoms the mortality could be reduced by 25 per cent., for undoubtedly cancer, in its early stages, was a local disease which could be cured. Much money would be needed if the campaign was to be carried to a successful issue, but the speaker felt confident that the people of the Free State would not lag behind other nations in facing the situation. Sir W. de Courcy Wheeler expressed the belief that the dread of cancer was to a large extent the product of ignorance of what research and investigations had already achieved, and were likely to provide, and failure to realize the number of sufferers who could be rescued with certainty. An eminent surgeon had recently published statistics which showed that over 90 per cent. of patients afflicted with cancer of the breast were about and well ten years after operation. The efforts of scientists during the last few decades had been crowned with more substantial success than the total of all the combined efforts of past ages. A point had been reached when it seemed that nothing could indefinitely impede progress towards the desired goal. Ireland could not compete with the great laboratories and vast wealth of other lands, but she wanted it known that she was ready to provide reinforcements for the army of workers already in the field. Dr. M. S. McGrath, medical officer of health, recalled that in his report to the Limerick Corporation in 1926 he had recorded that for the four previous years 177 persons had died in the city from cancer. A resolution declaring that the campaign was well worthy of support was adopted on the motion of Senator T. W. Bennett, seconded by Dr. McGrath.

### THE FORSTER GREEN HOSPITAL FOR CONSUMPTION, BELFAST.

The annual meeting of the Forster Green Hospital for Consumption, Belfast, was held on January 31st; Mr. H. V. Coates occupied the chair. It was announced that 197 patients had been admitted during the previous year, and there was a daily average of 77.74 in the hospital; the average stay was twenty-one weeks. The committee thanked Mrs. J. B. Bryson for her generous offer in respect of the installation of an artificial light outfit. It was added that a better laboratory was urgently needed. Dr. B. R. Clarke, the medical superintendent, in his report

commented on the persistence of a waiting list and the decided disadvantage of patients having to wait several weeks, in unsuitable surroundings, before admission to the hospital. There was a definite improvement in the number of early cases admitted, but unfortunately some still delayed for many months before applying for admission. Medical practitioners were recommending patients to seek sanatorium treatment at the earliest possible moment; some of the reluctance encountered might be overcome by making it known that there was less risk of infection in a modern hygienic sanatorium than was incurred by entering a public building or vehicle. Excellent educational work was being done. The principle underlying the treatment at the Forster Green Hospital was to help patients to cure themselves. Thirty-three open cases of tuberculosis had been discharged during the year after a course of sanocrysin; the results were distinctly encouraging. The usefulness of this remedy appeared to be greatest in patients who had not been ill for more than a few months. Exact information from statistics was being accumulated and would prove of great value.

## Scotland.

### BRITISH MEDICAL ASSOCIATION, EDINBURGH MEETING, 1927.

A MEETING took place in the hall of the Royal College of Physicians, Edinburgh, on February 1st, for the purpose of making a presentation to certain of the officials on whom had devolved the greater share of the organization in connexion with the British Medical Association Meeting at Edinburgh last July. Dr. A. Logan Turner, chairman of a committee which had got up this presentation, presided over a company of about a hundred medical men and friends, and referred to the great success of the meeting and the arduous labours which had been undergone in carrying out the arrangements, especially by the individuals to whom the presentations were to be made. He then tendered to Sir Robert Philip, President of the British Medical Association, a silver salver; to Mr. Alexander Miles, who had acted as treasurer for the British Medical Association Meeting, a silver rose-bowl; and to Dr. A. Forgue Hewat, who had acted as general secretary of the meeting, also a silver rose-bowl. The three recipients of the presentations acknowledged their high appreciation of the gifts.

### VICTORIA INFIRMARY, GLASGOW.

The fortieth annual report of the governors of the Victoria Infirmary, Glasgow, gives an account of the work of that institution from December, 1926, to December, 1927. During this period the total number of cases admitted was 5,130, and the mortality was 7.7 per cent. Excluding deaths within forty-eight hours of admission, the mortality was 5.4 per cent. In addition there were 3,585 minor surgical cases and accidents, and 2,535 patients received treatment at the infirmary dispensary for diseases of the nose and throat. The average daily number of patients was 328, and the average residence 22.9 days. Patients' contributions during the year amounted to £904, an increase of £169 as compared with last year. The Bellahouston Dispensary, situated in a densely populated locality on the south side of the river, does valuable work among the poor of the district, and many of the accidents occurring in the neighbouring docks, works, and warehouses received treatment there. The total number of consultations at the dispensary in 1927 was 41,343. The total expenditure for the year was £49,947 4s., being the sum required to maintain the infirmary, the dispensary, and the convalescent home at Largs. The total income fell short of that amount by £1,931 1s. 6d. The new infirmary wing—recently opened—will involve an additional annual expenditure of £14,000. Employees' contributions for the year amounted to £11,062 7s. 1d., and show an increase of £511 2s. 3d. as compared with last year. The most important event of the year was the opening of the new wing by the Right Hon. Sir John Gilmour, Bt., M.P., Secretary of State for Scotland, and

February 26th. Accommodating 2,000 patients per annum, it has reduced the waiting list from 700 to 230. Work on the auxiliary infirmary at Thorntonhall was commenced in May, and is progressing steadily. This building, when complete, will be a notable addition to an institution which already renders valuable service to the community.

#### ABERDEEN ROYAL INFIRMARY.

The 188th annual report of the Aberdeen Royal Infirmary has just been issued. The report shows that 5,260 patients had been treated in the hospital and 23,208 as out-patients, making a total increase of 1,581 over the figures for 1926. The average number of occupied beds had been 349, and the average period of residence by each patient in hospital had been twenty-six days. The ordinary income for the past year was £32,884, which showed an increase of £1,028 over the income of the previous year. Reference is made to a sum of £96 which had been obtained by the collection of tinfoil wrappings. The ordinary expenditure amounted to £32,806, an increase of £529 on that of the previous year, which is attributed to expenses in connexion with the opening of new surgical wards. The average cost per occupied bed (deducting, however, the cost of out-patient treatment) was £87 7s., compared with £91 3s. 4d. in 1926. The average cost of each in-patient treated had been £5 15s. 11d., as against £6 1s. 1d. in the previous year. The extraordinary income had amounted to £11,789, and of this £4,677 had been expended in extension of buildings and provision of new equipment. The extraordinary income and expenditure account showed at the end of the year a credit balance of £50,455, while, taking into account the valuable assets comprised in the Infirmary buildings and site, the general assets of the Infirmary stood at £145,268. The latter figures are, as it is pointed out, of importance in connexion with the Lord Provost's appeal for a new infirmary.

#### SCOTTISH BOARD OF HEALTH: MEDICAL APPOINTMENT.

The Scottish Board of Health has appointed Dr. George W. Simpson to be a medical officer in its department. Dr. Simpson is a graduate of Edinburgh University and holds the degrees of M.A., M.D., B.Sc., and the D.P.H. He was for two years senior resident medical officer at the Edinburgh City Hospital for Infectious Diseases, and was appointed assistant medical officer of health to the city of Edinburgh and principal port medical officer, Leith, in October, 1926. Since then he has been responsible for the immunization of school and other children against diphtheria and for the investigation of epidemics of infectious diseases in Edinburgh schools.

#### PARATYPHOID FEVER AT GALASHIELS.

Thirty patients suffering from an attack of paratyphoid-A fever have been admitted to the Sanderson Hospital, Galashiels. It is believed that thirteen years have elapsed since a previous case of typhoid or paratyphoid fever was notified in this town. The outbreak appears to have taken place about the first week in January. The cases all developed about the same time, and as no cases have been notified recently it appears probable that the source of infection, having been introduced from outside the town, has now disappeared.

#### CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At the examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, and Dundee, out of 95 candidates entered 89 passed. Of the successful candidates 20 were trained at the Royal Maternity Hospital, Edinburgh; 27 at the Royal Maternity Hospital, Glasgow; 7 at the Queen Victoria Jubilee Institute; 8 at the Elsie Inglis Memorial Hospital; 3 at the Royal Infirmary, Dundee; 2 at the Maternity Hospital, Aberdeen; 3 at the County Hospital, Bellshill; 4 at Stobhill General Hospital; 1 at the Cottage Nurses' Training Home, Govan; and the remainder at various recognized institutions.

At a meeting of the Board held for the election of the office-bearers, Dr. James Haig Ferguson was unanimously re-elected chairman. Dr. Robert Cochrane-Buist was elected deputy chairman, and Sir Archibald Buchan-Hepburn, Bt., was re-elected convener of the Finance Committee. The

meeting appointed other committees and also examiners for the ensuing year, and approved, subject to inspection by the Board, the list of recognized institutions, with the teachers attached thereto, for the training of midwifery nurses.

## England and Wales.

#### CENTENARY OF THE ROYAL FREE HOSPITAL.

A THANKSGIVING service for the centenary of the Royal Free Hospital will be held in St. Andrew's Church, Holborn, on Sunday morning, February 19th, at 11. The preacher will be the Bishop of Willesden, and the service will be attended by the Lord Mayor of London and the Mayors of Holborn, Finsbury, and Islington. This church has been chosen for the service owing to the fact that the foundation of the hospital was due to a pathetic incident which happened in its precincts, and is now commemorated by a memorial tablet in the nave. On a cold winter night, in 1827, Dr. William Marsden discovered a girl dying of disease and starvation on the church steps. He was unable to obtain admission for her to a hospital owing to the lack of a subscriber's letter of recommendation, and, two days later, she succumbed. Dr. Marsden determined, therefore, to found a hospital which should admit sick persons freely and without delay. The work began humbly in February, 1828, in a small house in Hatton Garden, and was transferred, in 1842, to Gray's Inn Road. Since then the institution has grown into a hospital with 268 beds and a great school of medicine for women.

#### COMPARISON OF TUBERCULOSIS RECORDS.

The Ministry of Health has published an analysis (Memo. 131/T) of the reports received from tuberculosis officers for the year 1926, in order that comparison may be rendered possible between different areas as regards the efficiency of the various schemes of local authorities—namely, county councils and joint committees, county borough councils and metropolitan borough councils. The figures given in the reports have been reduced to a common standard, being expressed either as percentages or in proportion to some common factor of particular significance in connexion with the incidence of tuberculosis—such, for example, as the number of deaths from this cause in each area during the year. The suggestion is made that local authorities and their officers should compare the figures in their own areas with those relating to others of similar size and character. This may result in the extension or varying of the schemes in certain directions, and may also lead in some cases to the recognition of possibilities of effecting economy. Special points which are elucidated by these statistics are: the varying efficiency of notification and of the revision of notification registers; the proportion of the total tuberculous population in each area dealt with under the tuberculosis scheme; the extent of the examinations of suspected cases and of contacts; the amount of delay in diagnosis; and the degree of utilization of sputum examinations and x-ray investigations. The measure of the co-operation between tuberculosis officers and general practitioners is indicated for the different areas, and also the amount of supervision exercised over tuberculous patients in their own homes. In some areas it is shown that there has been failure to arrange effectively for the co-ordination of tuberculosis officers and insurance practitioners in domiciliary treatment. The nature and extent of the residential treatment provided in the different areas is demonstrated, and it is suggested that comparison of this memorandum with the recommendations in paragraphs 2 to 5 of Circular 280, issued on January 17th, 1922, may facilitate greater economy in making use of the available residential accommodation, due regard being paid to the stage of the disease and the response to treatment in each individual case.

#### WOMEN MEDICAL OFFICERS AT LONDON MENTAL HOSPITALS.

The Mental Hospitals Committee of the London County Council, from experience gained in the employment experimentally at one of the mental hospitals of a woman assistant medical officer for special duty in connexion with

women patients, proposes to extend the employment of women medical officers to other mental hospitals where there are facilities for their accommodation: The recognized scales of remuneration for junior assistant medical officers do not specify that they are applicable to men alone, but as they were fixed with only a male staff in contemplation, scales of remuneration for women assistant medical officers have to be determined. It is proposed, therefore, that authority should be given for the application to women of the scale of remuneration laid down for assistant medical officers below the rank of fourth in the mental hospital service. This at present is £300 a year, increasing by annual increments of £25 to £400. With the existing temporary additions approved in 1920 this means a total remuneration at the minimum of £423, and at the maximum of £547. The Finance Committee of the council, before concurring, has inquired what additional expenditure in respect of structural alterations and employment of domestic staff the appointment of women as assistant medical officers would entail, and has found that only at three hospitals (Hanwell, Horton, and Long Grove) could women be employed without additional expenditure for these purposes, and at each of these hospitals not more than two such women. Accordingly the Mental Hospitals Committee has agreed not to appoint women medical officers except for duty at these three hospitals, and to consult the Finance Committee if at any future date it should be thought advisable to extend the appointment of women at these or other hospitals under circumstances which call for additional expenditure.

## Correspondence.

### HOSPITALS AND ROAD ACCIDENTS.

SIR,—With reference to your article on hospitals and road accidents at p. 192 of the *BRITISH MEDICAL JOURNAL* of February 4th, I think the following information may be of interest to your readers.

On December 6th, 1927, the case of *Lewis v. Champkin* was tried at the Birmingham Assizes before Mr. Justice Sankey. The plaintiff Lewis claimed damages for injuries sustained as the result of a motor accident. The jury awarded damages, including the hospital charges and the surgeon's fees. In his address to the jury the judge stated that both the hospital charges and the surgeon's fees were fair and reasonable and not excessive in any way, and that the surgeon and the hospital could not be expected to look after the plaintiff and allow the defendant to escape liability if the jury found that the defendant was liable to pay damages.—I am, etc.,

Kidderminster, Feb. 5th.

J. LIONEL STRETTON.

### FATALITY RATES OF SMALL-POX.

SIR,—As several persons, notably Dr. Killick Millard, have pointed out, Dr. Garrow's figures given in his letter of January 14th are based upon the fallacy of comparing statistical incommensurables. As Dr. Garrow well knows, there have been two distinct types of small-pox occurring in England during the last few years; the vast majority have occurred in the unvaccinated populations of the Northern and Midland counties, and were of the mild type—variola minor, if he likes so to term it—whilst a very small number of a severe type—variola major—have occurred in the South of England, due to infection introduced from France, Spain, etc.

This distinction is not apparent in the tables published in the annual reports of the chief medical officer to the Ministry of Health, though doubtless the necessary information is available at the Ministry. By comparing the information in these tables, from which he quotes, with the accompanying text, and with the figures given in Table 40 of the Annual Statistical Reviews of the Registrar-General, I have been able to identify nearly all the deaths. In this manner I obtain the following table of deaths in England during the years 1923 to 1926.

Age.	Vaccinated.	Unvaccinated.
Under 15 ...	0	17 (probably all Northern).
15 to 30 ...	1 (? Northern)	2 (1 Northern, 1 Southern).
Over 30 ...	12 (5 Northern, 9 Southern)	2 (1 Northern, 1 not identified).
Total ...	13	21.

By "Northern" is meant the Northern and Midland counties as defined by the footnote to Table 4 of the Registrar-General's Statistical Reviews, less Middlesex, Herts, and Essex, the remainder being the Southern counties.

Assuming, then, that all the deaths in the Southern counties were deaths from variola major, we may deduct them from the total deaths; this assumption is quite valid, as these deaths can be identified from the text; identification of the cases is not easy, but as those occurring in the South of England were very few (about 80), they may be neglected statistically. The amended table is as follows:

Ages.	Vaccinated.			Unvaccinated.		
	Cases.	Deaths.	Fatality Rate.	Cases.	Deaths.	Fatality Rate.
0-15 ...	28	0	—	10,709	17*	0.158 ± 0.026
15-30 ...	392	1	0.25 ± 0.17	5,296	1	0.019 ± 0.013
30 and over	3,618	3	0.08 ± 0.03	1,713	2	0.117 ± 0.070
Total ...	4,038	4	0.10	17,718	20	0.112

\* Ten were under 1 year old.

These figures are probably accurate as far as they go, except that the small number of cases of variola major in the Southern counties are included. The table gives the fatality rates from mild small-pox in the vaccinated and unvaccinated, the advantage being in favour of the vaccinated except at ages 15 to 30 years, where, the rates being based on a single death in each class, no deduction is possible from such meagre data. The probable error in all classes except the youngest class of unvaccinated is high. Even when corrected there is a further fallacy, as two of the three deaths among the vaccinated at ages over 30 years were of persons aged over 70, whilst only one death at those ages occurred among the unvaccinated. It is well known that small-pox fatality rises steeply in the later years of life.

The data do not form a basis of comparison for the fatality rates in variola major among the vaccinated and unvaccinated, but this may be ascertained from the data of other epidemics—for example, those given in Table II of Dr. W. Hanna's *Studies in Small-pox and Vaccination*, published in 1913.—I am, etc.,

Liverpool, Feb. 4th.

G. O. STALLYBRASS.

### RICKETS, IRRADIATED ERGOSTEROL, AND ULTRA-VIOLET LIGHT.

SIR,—Irradiated ergosterol is now on the market, and great claims have recently been made for it in the lay press as to its power of "stamping out" rickets. In the *Times* of January 29th it is stated that "it is recognized now that children and expectant mothers should be irradiated with ultra-violet light, but *this new discovery improves upon that treatment.*" (Italics are mine.)

Well, does it? I sincerely hope so, but so far as I know, that still remains to be proved. I do not doubt that irradiated ergosterol may cure the disease rickets, just as cod-liver oil may do, but in its practical application to the masses of rachitic children in the larger industrial areas cod-liver oil has failed to stamp out rickets. Irradiated ergosterol may be easier to digest, and therefore may be better, but until this is proved I should be very doubtful

about abandoning the sure method of ultra-violet treatment in its favour. It should be remembered that exposure of rachitic children to ultra-violet light not only cures the rickets, but has many other beneficial effects which irradiated ergosterol presumably cannot claim, the most important being the great improvement of the child's general health and its release from the dangerous catarrhal state.

In another respect, however, the *Times* article is valuable. It draws attention to the fact that expectant mothers should be irradiated. How many maternity hospitals, or even ante-natal clinics, have installed lamps for the purpose? Have maternity hospitals no function beyond the mere delivery of the child? During the pre-natal stage the child's body is being made or marred, and those who undertake the care of this period have surely a responsibility for the future physical condition of the child.—I am, etc.,

H. STANLEY BANKS,  
Medical Superintendent, Leicester Isolation  
Hospital and Sanatorium.

February 1st.

#### TREATMENT OF ACUTE PNEUMONIA.

Sir,—Is not the present "curability [*sic*] of acute pneumonia in adults" rapidly becoming farcical? Hardly a week passes without some enthusiast writing that he has not met with a death since using this or that remedy. Is there some factor in common to all these drugs which explains the apparent inconsistency, or do they all cure? Or does the patient recover in spite of our remedies, as Dr. Gee used to say of arsenic in chorea? I am old enough to remember the value of ammonium carbonate; then came an infallible mixture of effervescent quinine; somebody recently wrote of the great value of sodium bicarbonate; another finds calomel in small doses rarely fails, whilst another sedulously keeps the bowels inactive or doesn't bother about them! Now it is injection of sodium nucleinate. Dr. Hearne puts 1 in 7,000 potassium permanganate into the rectum and believes in a pneumonia vaccine! A few years ago there was not much chance without salicin, and I am told now by a much respected physician that few die with a mixture of sodium iodide, ipecacuanha wine, and ammonium citrate!

It is all very strange, not to say tragi-comic. Meanwhile the disease still figures in the death roll. Have such fatalities been wrongly treated, or would the patients have recovered if one of these specifics had been used? I suggest that with the necessary notification, and death certificate—if perchance one has to be given—a confidential report of the treatment be also given. We need skilful logicians to help us with our reasoning. With such wealth of material some sort of precise knowledge should result.

Few things in medicine, I venture to think, are more fallacious than the reports of us men in general practice. They deal so hugely in impressions. The busiest and most experienced men find no time for accurate notes—pace the late Sir James Mackenzie; the youngsters are carried away by the glamour of their last success (should I say bit of luck?); while the hospitals see the worst and feeblest cases. It seems to me that, with the exception of certain vaccines not dependent on aught but hypothetical germs, most of the remedies are harmless, provided the hypodermic needles are clean, sharp, and strong, and they spare the buttocks.

I suppose how most of us would like to be treated is something like this: in a cosy, well-aired room, with a genial not too officious nurse, peaceful domestic surroundings, and a kind middle-aged, restful, keen-eyed physician. If there were pain, and I could be got at easily, I would submit to a poultice or antiphlogistine, not too hot, and expect some morphine, and some medical for sleep. I should like plenty of lemonade, my mouth cleaned, a little champagne or cider, lemon sponge, jelly, junket flavoured with rum, and possibly something like honey, glucose, or malt extract to prevent "acidosis." Seeing how common is this "acidosis" I don't think I should mind some calomel (if I were promised not to be disturbed too much by a bed-pan), and some sodium bicarbonate more or less frequently.

Mr. Shaw, in one of those valuable gibes of his, says how often he has noticed the only common factor in all the prescriptions of a patient who had gone the round of Harley Street was sod. bicarb. gr. x, t.d.s.! So let us have sodium bicarbonate as a drug by all means; and I would let him give me a little oxygen if the room got stuffy, and possibly some strychnine if the doctor looked sad at my objection. To some I find strychnine is anathema. What an interesting view of things one gets at 60!—I am, etc.,

Ilminster, Somerset, Jan. 29th.

W. H. MAIDLOW.

#### IODINE IN THE TREATMENT AND PREVENTION OF GOITRE.

Sir,—In reference to a note by me (1927, vol. ii, p. 361) on the use of iodine in salt, authorized by the New Zealand Government for the prophylaxis of goitre in children, Sir James Barr (1927, vol. ii, p. 470) has written to state that he has been unable to detect iodine in iodized salt by his method of analysis. This is quite possible, but the Department of Health in New Zealand states that "the Dominion analyst, who regularly examines samples of salt as sold on the New Zealand market, adopting the method recommended by Fallenburg, the well known worker, can estimate the iodine with accuracy, and the examination of 'Cerebos' and 'Windsor' salt, the two well known brands on the New Zealand market, shows that the iodide is evenly distributed and is present in the requisite proportions."

A study of the literature shows that the problem of goitre is by no means solved, and that there is still doubt even as to the relationship of the disease to iodine deficiency. At an international conference on goitre held recently in Switzerland the benefits of iodine prophylaxis were questioned by some speakers. On the other hand, Swiss and Austrian investigators claim that iodized salt in the proportion of 5 mg. of potassium iodide to 1 kilo of salt (1 in 200,000) has proved of definite value. It can be said with certainty that there is no evidence that salt containing iodide in these proportions does any harm, while there is a certain amount of evidence that it may do good. As goitre is prevalent in children in New Zealand the considerations outlined above are a sufficient justification for the use of iodized salt in this Dominion.

The Swiss Goitre Commission recommended that salt containing one part of potassium iodide to 200,000 parts of salt should be used, but this is stated to contain possibly too much iodine. The use of one part of potassium iodide to 250,000 parts of salt authorized in New Zealand gives a margin of safety. In this country the recommendation of the commission that uncontrolled purchase of iodine preparations by the public should be prohibited was anticipated, and mainly for the reason that there is sufficient evidence to show that the administration of iodine in comparatively large doses to patients in adult life suffering from simple goitre may convert simple goitre into toxic goitre, greatly aggravating the disease.—I am, etc.,

YOUR NEW ZEALAND CORRESPONDENT.

December 5th, 1927.

#### QUININE IN OBSTETRIC PRACTICE.

Sir,—The letter by Dr. Hewetson on this subject in your issue of January 28th (p. 157) deserves the careful attention of all engaged in this work. The method was suggested to me five years ago by Dr. Philip Jones of Coleford, Somerset, since when it has been used in nearly every case in my own practice in which careful ante-natal examination permitted a diagnosis of "normality." (N.B. Occipito-posterior positions were included as normal.) Between us we have used the method in just over 300 cases, and have so far failed to discover any disadvantages. The details of the quinine administration are not identical with Dr. Hewetson's routine, but the principle is the same. We have aimed at giving  $1\frac{1}{2}$  grains of quinine three times daily for the last three weeks of pregnancy, though a few patients complained of cramp-like pain in the abdomen and had to be given half this dosage.

The following advantages of the method have been noted:

1. Patients frequently volunteer the information (without any leading questions) that their general health has greatly improved since starting the medicine.

2. Labour appears to be definitely shortened. The average duration from the onset of "real pains"—as opposed to "niggling pains"—was about six hours for primiparae and three hours for multiparae.

3. Retraction of the uterus after labour was uniformly good.

We can say with conviction that in these cases there was no increased tendency to retained placenta, perineal laceration, precipitate labour, premature labour, or "after-pains." In its very insistence on ante-natal work the method is, surely, deserving of attention.—I am, etc.,

DOUGLAS A. MITCHELL, M.D. Lond.,  
F.R.C.S. Ed.

Bath, Jan. 30th.

#### FOREIGN BODIES IN THE STOMACH.

SIR,—Dr. S. Gilbert Scott's interesting note on a method of dealing with a swallowed object (January 28th, p. 133), and his instruction to his patient "to go out and eat as big a lunch as he could without any fluids," brought to my mind another useful "tip" in dealing with such emergencies.

This was suggested some sixty years ago by my father, the late Dr. George Dickson of Edinburgh. He, when a boy, used to keep hawks, and noted how the bones of the birds and mice which they swallowed were passed neatly wrapped up in feathers or fur. He had several cases of patients who had swallowed their sets of false teeth, and he ordered them to take large quantities of what he called "thread-porridge." A reel of thick thread or wool was incised longitudinally whilst still rolled up, giving a large number of short pieces of the thread or wool. This was then stirred up in thick porridge and administered to the patient. A day or two later the dentures, some of them with awkward sharp projections, were passed naturally from the bowel, wrapped up in the threads.

He communicated this method to a dental journal of the period, but I have no note of the exact reference or of the date, which was, of course, long before the days of x rays. Quite a number of similar cases successfully treated by Dr. Dickson's "thread-porridge method" were reported soon after he recorded his own cases.—I am, etc.,

W. E. CARNEGIE DICKSON, M.D., B.Sc.,  
F.R.C.P. Ed.

February 5th.

Pathologist to the West End Hospital for Nervous Diseases, London.

#### SHOCK AND ABORTION.

SIR,—The subject of abortion is not of great or general interest, but the causation of shock is of universal importance, while its pathology is obscure and its morbid anatomy apparently is nil. In the recent case of R. v. Palmer, reported in the BRITISH MEDICAL JOURNAL of February 4th (p. 202), the evidence suggests that fatal shock can be set up by the distension of the uterus by an injection of soapy water. Yet on page 193 of the same issue is an account of 30,000 intrauterine injections. It is significant that this most interesting report from Dr. Hobbs of Kensington closes with a note of warning as to the rate at which the glycerin is to be injected.

Is it possible that the shock depends, not on the nature of the interference, but on the rapidity with which the tension in the cavity of the uterus is increased? Is this analogous to the rise in blood tension which occurs in angina pectoris? In the little known work of Professor Vibert, *Médecine Légale* (1911 edition), at page 110 is an account of a case in which a fairly skilled abortionist was just beginning to give an intrauterine injection when the patient complained of distress, asked the operator to stop, became unconscious, and died in a few minutes. The post-mortem examination was negative. At page 467 Vibert gives short notes on six other cases, all fatal, with little or no post-mortem signs. He published in 1893 an

account of the "affaire Thomas," in which a woman of this name seems to have given details of her proceedings, from which the first of these reports is taken.

It does not appear from Vibert's book that the introduction of a sound has, in his experience, been followed by sudden death, so that it is likely that something more than the mere introduction of a foreign body such as a sound, or fluid such as glycerin, is needed to set up uterine shock.—I am, etc.,

London, Feb. 2nd.

SENEX, M.B., D.P.H.

#### Medico-Legal.

##### A BOGUS DOCTOR.

THERE will be general agreement with Alderman Sir George Truscott's view that the maximum fine of £20 which can be inflicted upon any person—to quote Sec. 40 of the Medical Act, 1858—"who shall wilfully and falsely pretend or take or use the name or title of a physician, doctor of medicine . . ." is totally inadequate to meet so serious an offence. The alderman was dealing summarily at the Mansion House with a carpenter, twice convicted of fraud, who posed as a medical practitioner at Wardrobe Chambers, Queen Victoria Street, where his consulting room was fitted up with electrical apparatus, his door bearing the inscription "Dr. Boyd Faulkner, M.D." When the Registrar of the General Medical Council wrote in November last inquiring about his qualification, Faulkner replied that he was an American subject and was registered with the American Medical Association, having taken a Federal degree at New York in 1914, and also the degree of D.Sc. at Edinburgh in 1910. He signed himself "Sydney Boyd Faulkner, M.D., U.S.A." His answers to the magistrate's questions were distinctly ingenuous. Apparently he had no particular wish to practise medicine, but rather "nature cure," and he had held himself out as a doctor for the purpose of advertising himself as a "nature cure" specialist. As the magistrate said, such an admission showed the necessity for protecting the medical profession and the public whom they served against such persons as Faulkner, with no recognized training or qualifications, and possessing, moreover, so ill a character that the police could find no one willing to act as surety. The consequence was that a term of two months' imprisonment was fixed in default of payment of the £20 fine and 10 guineas costs. Sir George Truscott added that it was ridiculous that magistrates were not given more powers in such an important matter, where not only the medical profession but the public were seriously concerned.

#### Obituary.

CLAUDE WILLIAM SCOTT SABERTON, M.D.,  
D.M.R.E. (Camb.).

THE death occurred at Bournemouth, on January 16th, of Dr. Claude Saberton, who was well known as a radiologist both in Bournemouth and Harrogate. The son of the late Dr. Saberton of Manchester, he received his medical education at the Manchester University, graduating M.B., Ch.B. in 1901, and taking his M.D. four years later. Some years after graduation he devoted his attention to radiology, and in association with Dr. Fowler practised in Bournemouth, where he was on the staff of the Royal Victoria and West Hants Hospital. After the war he settled at Harrogate and in a few years built up a large practice, retiring from active work owing to ill-health.

A Harrogate colleague writes: During the all-too-short time that Saberton's health allowed him to follow in this town that branch of practice to which he had for some time devoted himself he gained a deservedly high place in the esteem both of the profession and the public. He brought to his work sound practical and theoretical knowledge, boundless energy, and unflinching optimism, so that whether at the Infirmary and the Royal Bath Hospital (he was appointed to the honorary staff of both Institutions soon after coming to the town) or in private practice it



gained rapid and ever-increasing recognition. He was one of the first to install at his private clinic an apparatus for deep x-ray therapy, spending a holiday in Erlangen so as to gain first-hand knowledge of the method. He wrote a book on diathormy, contributed several papers to the journals, and took the D.M.R.E. of Cambridge in 1921. Such a record is all the more remarkable when it is remembered that during the latter part of his time here he was constantly harassed by symptoms of the disease which was soon to cause his retirement from active work, and in a few years his premature death. Whilst honouring these professional accomplishments his friends are glad also to remember the personality and character which lay behind them. His transparent honesty, wide sympathy, generosity, and perhaps above all his exemplary courage in a constant fight against physical disability, which the logic of his medical knowledge must at times have warned him was a sadly unequal one, will make his memory for long a happy and inspiring one to those who knew him best, and their sympathy goes out to the devoted wife and daughter who survive him.

We regret to announce the death, on January 25th, of Dr. ROBERT ARTHUR MILLIGAN of Northampton, aged 69. He was a native of Deene, and received his early education at Clevedon College, situated then in Abingdon Street, Northampton, and at the age of 17 became a pupil at the Northampton Hospital. In 1876 he entered Guy's Hospital Medical School and took the diplomas of M.R.C.S.Eng. in 1881 and L.R.C.P.Lond. in 1884; he became M.D.Durh. in 1900. After serving as house-surgeon at Guy's Hospital, registrar and chloroformist at the Evelina Hospital for Children, and as clinical assistant at Bethlem Hospital, he returned to Northampton in 1884 on being appointed house-surgeon to the Northampton General Hospital, and his connexion with that institution continued for forty-three years until he retired in January, 1927. On his retirement from the active staff of the hospital he was presented with a cheque of £453 and an album containing the names of the subscribers. He had a large practice in Northampton and the surrounding districts, and won the esteem and confidence of his patients. During the war he served at the Military Hospital at Cambridge, and was awarded the O.B.E. in recognition of his services. Dr. Milligan was a pioneer of the ambulance movement in Northampton, and was for some years ambulance instructor to the Northampton division of the county constabulary. He took a keen interest in municipal affairs, and was a member of the Northampton Town Council for twenty-three years, and a member of the Public Health Committee, of which he was at one time chairman. He was appointed to the magisterial bench in 1906. Dr. Milligan was for many years a member of the British Medical Association; from 1892 to 1925 he was a member of the Committee of Management of the South Midland Branch, was president of the Branch in 1897, and treasurer from 1899 to 1922.

Dr. GERALD FITZGERALD, who died on January 28th, received his medical education at Edinburgh, where he graduated M.B., C.M. with first-class honours in 1890, and obtained the Freeland-Barbour Fellowship in the following year. He proceeded M.D. in 1919. He had held the posts of assistant to the professor of clinical medicine in Edinburgh, senior resident physician to the Edinburgh Royal Infirmary, and resident surgeon to the Royal Maternity Hospital; he was also president of the Edinburgh Royal Society of Medicine. He abandoned teaching and research at what seemed to be the outset of a very promising post-graduate university career, and established himself in the City of London, where he gained a leading place in life assurance work. He was medical officer of the Scottish Equitable Assurance Society, the Scottish Provident Institute, the Edinburgh Assurance Company, and other corporations, and also chief medical officer of the Royal Mail Steam Packet Company. His decisions in cases of difficulty were regarded as authoritative in the insurance world, and he took a prominent part in the

work of the Life Assurance Medical Officers' Association. During the war he devoted himself to the medical side of recruiting. He was a member of the British Medical Association and a Fellow of the Royal Society of Medicine. Dr. Fitzgerald was a man with exceptionally wide and varied interests. He was a devoted student of Scottish folk-lore and history, a keen member of the Highgate Golf Club, and an ardent worker in the Highgate Presbyterian Church. His death is regretted in the City of London and especially in Highgate, where he accomplished much quiet and unostentatious social service. He leaves a widow and two daughters.

Dr. DAVID WOLSELEY SCOTT, who died at his residence at Bryn, Port Talbot, on January 13th, at the age of 65, received his medical education at Anderson College, Glasgow. He obtained the diplomas L.R.C.P., L.R.C.S.Ed., L.R.F.P.S.Glas., and L.M. in 1887. Dr. E. Walsh writes: Dr. Scott in his forty years of general practice ever maintained the highest tenets of his profession. Of a most kindly and generous disposition, his relations with his colleagues and patients were of the most friendly nature. He was a member of the British Medical Association. He leaves a widow.

Dr. PHILIP JAMES of Senghenydd died on January 28th, aged 73. He received his medical education at Guy's Hospital Medical School, and took the diplomas of L.R.C.P.Ed. and M.R.C.S.Eng. in 1878. He had practised at Senghenydd for thirty-five years, and before that at Porthcawl and Pontypridd. It was while in practice at the latter place that Dr. James assisted in the rescue work at the colliery explosion there in 1877, and he was one of the eight recipients of the bronze medal awarded by the British Medical Association for heroic conduct, self-denial, and humanity.

Dr. LEUIS ROBINSON died at Folkestone on February 5th as the result of an accidental gunshot wound. He received his medical education at St. Bartholomew's Hospital, and took the diplomas of M.R.C.S.Eng. and L.S.A. in 1883; he graduated M.B. Durh. in 1887 and M.D. with first-class honours and gold medal in 1891. He had served as house-surgeon to the Stockton and Darlington Hospitals, and subsequently became surgeon to the Millor Hospital. For upwards of thirty years he practised at Streatham, and on his retirement some six years ago went to live at Poynings, near Brighton; four years later he removed to Folkestone. He was the author of *Wild Traits in Dumb Animals*, and contributed articles on "Reflexes" to the *Dictionary of Psychological Medicine*, 1892, on "Observations on hair tufts" to the *Journal of Anatomy and Physiology* in the same year, and on "The chin in relation to articulate speech," which appeared in the report of the Smithsonian Institute, Washington, for 1913.

The following well known foreign medical men have recently died: Professor ALFONSO MONTEFUSCO, director of the Ospedale Cotugno for infectious diseases at Naples, and a prolific writer on fevers; Dr. FRANCES WELD PEABODY, professor of medicine at Harvard University, aged 45; Dr. EDOUARD LAGUESSE, professor of histology at Lille University; Madame KLUMPKA-DEJERINE, a prominent Paris neurologist and widow of Professor Dejerine; Dr. JOHN WESLEY BOVÉE of Washington, a prolific writer on gynaecology and a former president of the American Gynaecological Society; Dr. VLADIMIR VON BECHTEREV, professor of neurology and psychiatry at Leningrad and a pioneer in experimental neuropsychology, aged 73; Professor NEGRI, director of the institute of neuropathology at Turin University; Dr. WILLIAM GILMAN THOMPSON, emeritus professor of medicine at Cornell University, New York, and author of a textbook on medicine, aged 70; and Dr. THOMAS CASPAR GILCHRIST, professor of dermatology at Maryland University School of Medicine, and dermatologist to Johns Hopkins Hospital, aged 65.

## The Services.

### ROYAL NAVAL VOLUNTEER RESERVE OFFICERS' DECORATION.

The Royal Naval Volunteer Reserve Officers' Decoration has been conferred upon Surgeon Commanders T. Turner and A. E. W. Hird.

### DEATHS IN THE SERVICES.

Lieut.-Colonel Robert Tilbury Brown, C.M.G., D.S.O., R.A.M.C. (retired), died at Hatherloigh, Devon, on January 21st, aged 54. He was born on June 26th, 1873, the son of Surgeon-Lieut.-Colonel Robert Ross Brown, V.D., J.P., of Strood, Kent, and was educated at the King's School, Rochester, at Guy's, and at Durham University. He took the M.R.C.S. and L.R.C.P. Lond. in 1896, and the M.B. and B.S. of Durham in 1899; also subsequently the M.D. Durh., with a gold medal, in 1904; and the D.P.H. of the Irish Colleges in 1902. From 1894 to 1900 he served in the 1st Kent Artillery Volunteers as lieutenant, and then captain, and from 1896 to 1900 was deputy medical officer of health for Strood. Entering the R.A.M.C. as lieutenant in 1900, he attained the rank of lieutenant-colonel in 1917, and retired on August 18th, 1926. From 1902 to 1926 he was specialist in bacteriology in the laboratory at Lucknow, and from 1906 to 1913 sanitary officer in the Eastern Command, India, and Burma. When the recent great war began he served as D.A.D.M.S. in East Africa in 1914-15, and as D.A.D.M.S. at general headquarters in 1916; and from 1916 to 1919 as an A.D.M.S. in France. During this period he was mentioned in dispatches four times, in the *London Gazette* of June 22nd, 1915, June 30th, 1916, March 7th, 1918, and October 7th, 1918, and received the D.S.O. in 1916 and the C.M.G. in 1918, and also was made a Chevalier of the Order of Leopold of Belgium. After the war he was in command of the Herbert Hospital at Woolwich, in 1919-21, was senior medical officer in Ceylon in 1922-24, and S.M.O. at Borden in 1925-26, till his retirement. He was the author of several papers, chiefly on sanitary matters, published in the *Journal of the Royal Army Medical Corps*. In 1904 he married Pauline, daughter of Mr. F. Normandy, barrister-at-law.

Lieut.-Colonel Paxton St. Clair More, Bengal Medical Service (retired), died suddenly at Bournemouth on January 8th, aged 60. He was born on June 14th, 1867, the son of Dr. James More of Rothwell, Northampton, and educated at Edinburgh, where he graduated as M.B. and C.M. in 1891. Entering the L.M.S. as surgeon lieutenant on January 30th, 1893, he became lieutenant-colonel after twenty years' service, and retired on November 1st, 1923. He served in the Chitral campaign of 1895, when he took part in the relief of Chitral, and received the Frontier medal with a clasp; and in the great war of 1914-18, when he was mentioned in dispatches in the *London Gazette* of June 11th, 1920, and received the O.B.E. on June 3rd, 1919.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

#### Course in Mental Deficiency.

A course of lectures for medical practitioners on mental deficiency, and on the medical instruction, has been arranged by the Board in co-operation with the Department for Mental Welfare. The course, lasting from May 14th to 19th, is intended for qualified medical practitioners, and more especially for those engaged as certifying officers to local authorities under the Mental Deficiency Act, 1913, as school medical officers, or as medical officers of institutions. The course will be based on the requirements of the syllabus for the University of London diploma in psychological medicine. Inquiries should be addressed to Miss Evelyn Fox, care of University Extension Department, University of London, Imperial Institute Road, South Kensington, S.W.7.

### NATIONAL UNIVERSITY OF IRELAND.

At its meeting on February 3rd the Senate had under consideration the reports of the Examiners upon the results of the pre-registration examination in physics and chemistry, December, 1927, and the M.B., B.Ch., B.A.O. degrees, January, 1928, and awarded passes, etc., in connexion therewith.

### ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At a meeting of the President and Fellows of the College, held on February 3rd, the following registered medical practitioners were admitted by the President: as Member, J. R. Tobin; as Members and Licentiates, D. Moriarty, S. Simms, E. Keelan; as Licentiate in Midwifery, A. Barr.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

### Opening of the New Session.

THE King opened Parliament on February 7th. The customary ceremonial was observed, but the Queen was absent. In the Speech from the Throne one passage ran: "Measures will be presented to you for giving effect to certain recommendations of my Commission on National Health Insurance." Other bills were announced for amending the law relating to parliamentary and local government franchise, for increasing the credit facilities of persons engaged in agriculture, for amendment of the Companies Acts, for the reorganization of certain of the Departments in Scotland, and for amending the laws relating to the Supreme Court of Judicature and to the Metropolitan Common Poor Fund. Announcement was made that Ministers were inquiring into the possibility of affording some relief to the producing community from the burden of rates.

Neither the Factories Bill nor the Poor Law Bill was mentioned in the King's Speech. This stated that "bills dealing with other measures of importance will be introduced and proceeded with as time and opportunity allow." Following the mover and seconder of the Address in the House of Commons in reply to the Speech, Mr. Ramsay MacDonald said that the domestic programme outlined by the Government was notable for its omissions. There was the instance of the Factories Bill. That measure had been promised again and again. They were told last year that the bill would be in the Government's programme this year. The Home Secretary and the Prime Minister had said so, but now, apparently, the Home Secretary was going to keep his promise by introducing it in another year.

Mr. Lloyd George, referring to the promised measure on National Health Insurance, assumed that it would deal with the recommendations of the Commission which reported about a couple of years ago, and which was appointed by the late Minister of Health. He would like to know whether there was any cash in that. Was the Chancellor of the Exchequer going to pay back the money which he had extracted? [Mr. Churchill shook his head at this question.] Mr. Lloyd George: Then I can tell him that unless he does so those recommendations will be of no use at all. They will be like an engine without petrol; they will not march, they will stick. The only recommendations of the slightest value in the Commission's report are in regard to additional benefit. Some of those recommendations are invaluable, but they all mean more cash, and I do not believe that that cash is available now. Can the Minister of Health get the money back which the Chancellor of the Exchequer has taken away? The Chancellor of the Exchequer just now shook his head very emphatically. I am afraid that he is going to win on this occasion, and I do not look forward to this bill with any sort of satisfaction; nor will anybody else.

Mr. Baldwin said that he was not sure if Mr. Lloyd George had asked if there was any "catch" or any "cash" in the proposed Health Insurance Bill.

Mr. Lloyd George said that he used the word "cash."

Mr. Baldwin: There is neither "cash" nor a "catch" in the bill. I am told that it deals purely with the machinery, which will facilitate very much the working of the Act, and it will neither cost the Exchequer anything nor bring anything into their funds. Continuing, Mr. Baldwin spoke of the hope of the Government to have an autumn session. With regard to the Factories Bill the Government regretted very much that in the circumstances there was no possibility of getting through any bill which might be regarded as controversial between now and the end of July. He hoped, if they were able to begin a new session, as they intended, in November, that that bill might be dealt with before the end of next session.

Mr. Templeton, in seconding the Address in the Commons, said he had received an assurance that the promised proposals for the reorganization of Departments in Scotland would not place any of them under Whitehall.

In the debate on the motion for the Address in the House of Lords on February 7th Lord Salisbury, on behalf of the Government, replied to criticisms at the absence of the Factories Bill from the Government's legislative programme. He explained that, owing to the shortness of this session and the fact that the Government hoped to prorogue at the end of the summer and start a new session in November, they were not now proceeding with the Factories Bill. Their lordships, however, must not think that the Government had abandoned the bill. They hoped that it would be one of the bills, perhaps the principal one, which would get a second reading before Christmas in the new session.



In Part II the evidence taken by the Commission on the constitution and extension of county boroughs was summarized; and Part III gave the conclusions and recommendations of the Commission on this subject. The minutes of evidence taken before the Commission are being published in parts from time to time. The latest to appear is Part IX, being the evidence given on behalf of the Ministry of Health and other Government departments during June and July, 1927; it is published by H.M. Stationery Office at 6s. net.

THE KING has appointed Dr. Donald P. Wailling, a medical officer of the Leeward Islands Medical Service, to be an official member of the Executive Council of the Presidency of the Virgin Islands.

As announced in our advertisement columns the Grocers' Company are offering scholarships of £300, with an allowance for cost for apparatus and other expenses, for the encouragement of original research in sanitary science. The scholarships are tenable for one year, but renewable for a second or third year. The next election will be held in May. Forms of application and further information may be obtained from the clerk to the Grocers' Company, Grocers' Hall, London, E.C.2.

AN interesting article by Dr. R. T. Williamson on Captain James Cook, R.N., F.R.S., and his contribution to medical science has appeared in the January number of the *Journal of the Royal Naval Medical Service*. In it Dr. Williamson points out the value of the advances made by the great navigator in the dieting of sailors. Up to his time scurvy invariably appeared amongst the crews of ships undertaking long sea voyages. How this remarkable man, self-educated and self-made, found the means to prevent this dread disease will be read with great interest, as showing how the empiricism of a sea-captain 150 years ago is justified by the biochemistry of to-day.

DURING last month the Hospital Saving Association enrolled 19,424 new members among London wage-earners; its membership at the beginning of February had risen to 400,000, and its income is now about £275,000 annually. This sum, obtained by voluntary contributions of 3d. a week, is distributed, on a pre-arranged scale, to co-operating hospitals.

A REVISED edition of the *Pharmacopoeia of the Paddington Green Children's Hospital* has now been issued.

MESSRS. J. AND A. CHURCHILL announce for early publication *Oils, Fats, and Fatty Foods*, by E. Richards Bolton, being the second edition of the book by Bolton and Revis, with a chapter on "Vitamins" by Professor J. C. Drummond; also a new edition of *Recent Advances in Biochemistry* by John Fryde, M.Sc., and a volume entitled *Laboratory Manual for the Detection of Poisons and Powerful Drugs* by Dr. W. Autenrieth, translated from the fifth German edition.

THE Institute of American Meat Packers has recently published a recipe book describing forty ways of serving liver. Medical practitioners who desire a copy of this booklet should apply to Messrs. Armon and Co., Ltd., Queen's House, Kingsway, W.C.2.

THE Astor challenge shield, which is awarded by the National Baby Week Council, was won in 1927 by the Northampton Maternity and Infant Welfare Voluntary Association for the third year in succession; the Leicester Health and Baby Week Committee was second. The William Harvey challenge shield, reserved for smaller areas, was awarded to the Cambridgeshire Federation of Women's Institutes, which was responsible for a campaign in the villages of that county.

DR. GUSTAV GIEMSA, director of the chemical section of the Hamburg Institute for Tropical Diseases and the inventor of a well known stain, has recently celebrated his 60th birthday.

THE title of professor without chair has been conferred on Drs. Aron, Bellocq, Fontès, Gély, and Schwartz, lecturers at the Strasbourg faculty of medicine.

DURING 1927 more cases of meningococcus meningitis were reported in the United States than during the previous two years.

A MEMORIAL plaque was recently unveiled in the Medical Clinic of Münster in honour of F. W. A. Sertürner, the discoverer of morphine, who was born at Neuhaus, near Paderborn, in 1783.

DR. BROCC, the well known dermatologist of Paris, has been made a commander, and Dr. Abadie of Oran an officer, of the Legion of Honour.

THE Innsbruck University Calendar for the current year contains an account of the various faculties and other information likely to be useful to students. An unusual feature is the insertion of illustrations, including some of the professors at work, the celebration of the 250th anniversary of the foundation of the university, and views of the surrounding country, particularly Tyrol.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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## QUERIES AND ANSWERS.

### UNUSUAL PIGMENTATION OF SCALP.

DR. D. I. WALKER (Bauß) reports the case of a boy, aged 9, who has a patch of jet black hair on the right parietal and frontal region of the scalp, the hair otherwise being of a sandy fair colour. The patch is . . . 6 inches by 1½ inches, and is horseshoe-shaped, the upper edge being . . . the lower border is irregular. It stretches from the middle line of the skull posteriorly to within an inch of the edge of the hairy part in front. There are no pigmentation or changes in the colour of the hair such as follow an injury, skin diseases, or special treatment, and the patch has been present from infancy. It suggests the coloured areas found in lower animals.

\* In regard to this case Dr. H. Haldin-Davis writes: This is an extraordinarily rare anomaly of scalp pigmentation. It is not particularly uncommon to find a patch of leucoderma in the scalp, from which the hair grows white with quite a becoming effect. Many will remember the late Maurice Parkes, in his day a well known actor, who possessed this peculiarity. But a parti-coloured coiffure is a much rarer phenomenon. I have seen a man whose occipital hair is several shades lighter than that over the crown of his head, but the only case I am aware of at all similar to that reported by Dr. Walker is one published by M. Wunsch in the *Berl. Klin. Woch.* in 1910 (vol. xlvii, p. 832)—a boy with black hair, but with a number of patches of red hair mixed with it. The skin under the red hair was pink, while that under the black was white. The outlines of the patches were quite sharply defined, and the general effect must have been very odd.

### DRY MOUTH.

DR. W. JOHNSON SMYTH (Bournemouth) writes: If "B." (*JOURNAL*, February 4th, p. 204), who is concerned with a patient with "dry mouth," will try the mountain ash (rowan tree) berries I think he will relieve the symptom. I noted their efficacy in the **BRITISH MEDICAL JOURNAL** a few years ago. Messrs. Martindale, chemists, Cavendish Street, London, W., keep them in stock, I think. If not, I will gladly send some preserved berries to "B." if he sends his address.

### FREQUENCY OF MICTURITION.

DR. W. NUNAN (Bombay), replying to Dr. J. McWhirter's inquiry (*JOURNAL*, December 24th, 1927, p. 1214), recommends suggestion treatment when other methods have failed to give relief. He has known it to be of great value in cases of "bladder irritability."

### CLEANING DENTURES.

"J. R. R. H." writes: In further reply to "T. M." (*JOURNAL*, January 28th, p. 164) I find that carbonization can be prevented by the following method. Take a pencil-shaped piece of wood with a blunt point and a little dentifice on the plate; wet the plate and scrub the surface with the point of the pencil. If this is done once a week, or when the vulcanite begins to get blackened, the discoloration can be rubbed off. It requires about ten minutes, and patience. A hard brush and dentifice will also keep the pink gum clean. I do not think the method would be effective in the case of a thick deposit of carbon.







# The Hunterian Oration ON THE PROGRESS OF SURGERY FROM HUNTER'S DAY TO OURS.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS  
OF ENGLAND ON FEBRUARY 14TH, 1928,

BY

SIR HOLBURT WARING, M.S., F.R.C.S.,  
SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

TO-DAY, Mr. President and Gentlemen, we celebrate the two hundredth anniversary of the birth of John Hunter, the founder of modern scientific surgery, the creator of our Museum, and the patron saint of our College. Since 1814 an oration—the Hunterian Oration—has been given, at first annually and then, after 1855, biennially, in this College in his memory. A large proportion of these orations have dealt with one or more of the numerous branches of Hunter's activities; in fact, it has always seemed to me that there is scarcely any part of the work of Hunter which has not been commemorated in one way or another at one of these orations.

On examining the conditions as given in the trust deed which created this oration it is stated that "the Oration is to be delivered in the theatre of this College on the 14th February, and such Oration is to be expressive of the merits in Comparative Anatomy, Physiology, and Surgery, not only of John Hunter, but also of such persons who have become deceased, whose labours have contributed to the improvement and extension of surgical knowledge."

The provisions of the trust creating this oration being so wide I have thought it advisable on this occasion—the bicentenary of the birth of John Hunter—to devote the time allotted to me for the purpose in giving a short review of the progress of surgery since Hunter's day to ours, in the course of which I propose to make reference to a few of the most distinguished scientific investigators, the results of whose work have proved to be of the greatest value to the science and practice of surgery.

Hunter has been regarded, quite rightly, both in this country and to a lesser extent in foreign countries, as the practical founder of modern scientific surgery. After his earliest surgical days (1760–70) he formulated the idea that it was absolutely essential for a practising surgeon—who wished to practise his art with the greatest prospect of success and benefit to his patients—to have a very close and detailed knowledge of the structure and functions of man in health; that he should also be familiar with, again in every detail, the changes which take place in man during the onset, course, and development of any disease which he is called upon to treat; and furthermore that he should also have a comprehensive and detailed knowledge of the vital processes which take place in the tissues of the patient during the period of recovery from disease and after the performance of a surgical operation. From these facts it will be seen that Hunter fully realized that a minute and thoroughly comprehensive knowledge of the pathological processes occurring in inflammation and growth is the real basis of a considerable amount of practical surgery. This holds to the present day.

The method of investigation which Hunter appears to have carried out when examining any subject was the following. He first made himself master of the details and minute structures of an organ or tissue, and then investigated its functions. In making these investigations he did not hesitate to compare the structures and functions of animals with those of man. Having made this extended structural and functional examination he reflected upon and reviewed the whole, and then came to conclusions. After he had done this, he then in a similar way investigated the structure and functions of organs and parts of living bodies in connexion with the onset, course, and result of disease. This consideration of structure and function in normal conditions, followed by a consideration of the structure and function in similar diseased conditions, is really the basis upon which Hunter commenced to make

surgery a real science. He for one thoroughly understood that in order fully to comprehend the nature of a disease of an organ it is absolutely essential to be familiar with the structure and functions of such an organ under healthy conditions.

In connexion with the ideas which were formulated by Hunter concerning the practice of surgery it is very interesting to read his physiological works and his speculations on the "basis of life." The condition of physiology in Hunter's student days was very little advanced. Hunter himself appears to have derived a considerable portion of his knowledge of physiological processes occurring in man from his direct observation of similar processes occurring in animals and even in plants, in addition to the modifications which he observed in man during the treatment of his patients.

Hunter, like every true physiologist, instead of trying to theorize as to what was the exact chemical or physical basis of life, investigated all the signs and conditions under which life shows itself, and also dissected where possible, or examined in minute detail, all structures which showed signs of life. By these means he was able to formulate within his own mind what he himself understood by life, or "the vital principle," or whatever the condition may be called. Hunter believed that "life existed in every part of the animal body," and this life, or "vital principle" as he called it, made every part of the animal body susceptible to the impressions which excite action.

Since Hunter's day every advance in our knowledge of chemistry and physics has been used in attempting to explain the onset and course of disease, and the actual biochemical and biophysical processes which occur in living matter or matter endowed with the characteristics of life. So far, however, these researches have given us more enlightened ideas of the chemical and physical conditions under which "life" may exist and may be destroyed, but no ultimate chemical or physical explanation has been discovered of the true or real chemical or physical basis of life.

## IMMUNITY AND PREVENTION OF DISEASE.

The first subject which I wish to discuss as being of supreme importance in the progress of surgery is what is now called immunity and prevention of disease.

During the period of Hunter's life (1728–1793) little or nothing was suspected or known of what we now describe as immunity. Edward Jenner (1749–1823), an intimate friend and pupil of Hunter, was the first medical practitioner in this country to appreciate the great value of inoculation against disease. He noticed in his practice that milkmaids who had contracted cow-pox from the udders of cattle when milking did not take small-pox. According to Baron, in his *Life of Dr. Jenner*, the first inoculation was performed by Jenner upon a country boy aged 8½ years (named James Phipps), in May, 1796. He inoculated the boy with the matter obtained from vesicles upon the skin of a milkmaid suffering from cow-pox. Almost two years later, in a similar manner, he inoculated his own son along with several other children. As a result of these investigations inoculation of children with the exudation from the vesicles of persons suffering from cow-pox was used as a protection against the possible subsequent development of small-pox.

As we all now know, laity and otherwise, the ravages of small-pox have practically been set aside in this country by the systematic practice of vaccination. It is very rare nowadays in England to meet with anyone who has features disfigured with pits, the result of previous small-pox.

## BIOCHEMISTRY.

The discoveries in biochemistry, such as those of von Behring (1854–1917), Koch (1843–1910), Ehrlich (1854–1915), and Wassermann (1866–1925), have given us very valuable means both of diagnosis and treatment.

*Diphtheria Antitoxin.*—Von Behring, in 1890, discovered the antitoxin of diphtheria, and found that by injecting this antitoxin into patients affected with the disease diphtheria could be controlled and rendered practically innocuous. Up to that time a considerable proportion of patients suffering from diphtheria died from one condition or another, a large number of them having to be

submitted to tracheotomy on account of laryngeal obstruction due to diphtheritic membrane. In England, at the present day, owing to the general use of von Behring's diphtheria antitoxin, it is extremely rare to see a patient suffering from diphtheria in whom tracheotomy is necessary. At St. Bartholomew's Hospital, in my student days, tracheotomy for tracheal obstruction due to diphtheria was a very common operation. Nowadays it is practically never seen. In 1890 the number of patients treated in this way was 47, and in 1927 there was none.

**Antitetanic Serum.**—Antitetanic serum, which was discovered by von Behring and Kitasato in 1892, was used extensively in the prevention and treatment of tetanus during the great war. The soil of the low-lying lands of Flanders is said to be almost always infected with the bacillus of tetanus (discovered by Nicolaier in 1884); hence gunshot wounds sustained by soldiers in this area were prone to become infected with the organism, which caused an attack of tetanus. It has been stated that the death rate among inoculated soldiers suffering from tetanus during the great war was 23 per cent. as compared with 53.5 per cent. in those who had not received preventive treatment.

Other diseases which have been treated successfully, either by prevention or cure, in a similar biochemical manner, are hydrophobia, typhoid, and anthrax.

Many attempts have been made to render patients immune from streptococcus infection by the injection of vaccines, etc. At the present time, however, it does not appear that any certain remedial measure, biochemical or otherwise, apart from surgical asepsis, has been found which can be relied upon for absolutely preventing the occasional occurrence of a streptococcal or staphylococcal infection after an operation. Some success has been claimed for the use of an antistreptococcal serum in connexion with possible infection by the streptococcus, but the exact value of this is not clear at present. Certainly, in my experience, there is no streptococcal antitoxin or serum which can be injected into a patient and be absolutely relied upon to prevent or cure infection with virulent pathogenic streptococci.

**Insulin.**—The biochemical researches of Banting and Best of Toronto in 1921 and subsequently led to their discovery in, and isolation from, the pancreas of a substance which was named "insulin." The administration of this substance so improved the metabolism of carbohydrate material by diabetic patients that in many cases operations which previously had been thought inadvisable and dangerous have been rendered possible, and the lives of a large number of patients very considerably prolonged. Best has recently stated that, in his opinion, the lives of about 200,000 diabetic patients have been temporarily saved by the use of insulin.

#### GENERAL ANAESTHESIA.

Another most important epoch in the progress of surgery was the discovery of general and local anaesthesia. Although a certain amount of anaesthesia—usually induced by inhalation or taking internally of narcotic substances such as mandragora, hyoscyamus, certain types of hemp, opium, etc.—had been practised during surgical operations in early days, in Hunter's time this method of alleviation or diminution of pain seems to have been practically entirely forgotten, and to have gone out of use.

As I have already said, every discovery of importance in chemistry and physics which has been made since Hunter's day can truthfully be said to have been utilized sooner or later by application to surgical diagnosis and treatment. Thus the discovery of hydrogen in 1766 by Cavendish, of nitrogen in 1772 by Rutherford, and of oxygen and nitrous oxide gas in 1774 by Priestley, were the real beginnings of the application of chemical substances for the production of anaesthesia in surgical operations. Nitrous oxide gas appears to have been made use of first as an anaesthetic for the diminution of pain in the extraction of teeth. It is stated that Humphry Davy, about 1800, had used this gas for the alleviation of pain due to a diseased tooth. He afterwards stated, as a result of this experience, that "nitrous oxide seems capable of destroying pain. It may be used in surgical operations where there is no great effusion of blood." Unfortunately

this suggestion of Davy's was not made use of by surgeons, and it was not until almost fifty years later that the value and use of nitrous oxide gas for the induction of anaesthesia were appreciated and understood.

Faraday, another chemist, seems to have been one of the first to recognize the anaesthetic properties of ether. In 1818 he pointed out that "when the vapour of ether is mixed with common air and inhaled the effects are similar to those caused by the inhalation of nitrous oxide."

From this period onwards a number of observers made use of the inhalation of gases to diminish pain during surgical procedures. Henry Hill Hickman—a young man who became a member of this College in 1820, and practised in Ludlow, Shropshire, from 1820 to 1828—made experiments, in the autumn of 1820, on the possible anaesthetization of animals, at first with carbonic acid and then with nitrous oxide. His proposals concerning the use of nitrous oxide gas for the production of anaesthesia and its utilization in connexion with surgery were received very sceptically and generally condemned by the surgical profession in this country. So much so that he communicated with the King of France asking that an inquiry be made by the physicians and surgeons of that country as regards the value and correctness of his experiments. This communication was sent to the Académie Royale de Médecine de Paris, which body appointed a committee to investigate the matter. Nothing, however, came of this, although Hickman requested that he might be allowed to demonstrate the result of his experiments to the Paris Academy. Unfortunately, this young and enterprising surgeon died from tuberculosis the following year at the age of 29.

Crawford Long, a medical practitioner in Georgia, appears to have been the first American surgeon to make use of ether in the production of anaesthesia during the performance of a surgical operation. On March 30th, 1842, he gave ether to a patient for the removal of a tumour from the neck. This case being so successful, Long continued to make use of ether for surgical operations, and performed eight such operations between 1842 and 1845. Long, although he made no secret of his discovery, did not publish the fact to the world, and it was not until others had made a similar discovery that his experience became generally known. Two years later, in 1844, Wells, a dentist in Hartford, Conn., made use of anaesthesia by nitrous oxide for the extraction of teeth. Although Wells had attempted to produce anaesthesia with ether, he had not been able to continue to do so, owing to the difficulties and choking sensations which were produced. Morton, however, who had been a pupil of Wells, was familiar with the properties of ether, and independently discovered its anaesthetic qualities four years after the discovery by Long. Apparently the first public exhibition of surgery without pain was given in Massachusetts General Hospital in October, 1846, when a patient was operated upon by Warren for removal of a vascular tumour of the neck, after being anaesthetized with sulphuric ether.

Ether was first used in England for the induction of general anaesthesia during the performance of an operation (removal of a tooth) in December, 1846, and two days later ether was administered to patients at University College Hospital by Squire for Liston, who amputated the lower extremity through the thigh in one patient, and also in another removed an ingrowing toenail.

During the following year (1847) Simpson of Edinburgh used ether in obstetric practice, and found that the pains of labour could be abolished thereby, whilst the uterine contractions were not interfered with. The next year (1848) Simpson, who was somewhat dissatisfied with the use of ether on account of the irritation which it produced in the lungs and bronchial passages, first made use of chloroform. This substance was discovered at about the same time by two investigators—by Soubeiran in 1831, and by Liebig in 1832; its composition was first accurately described by Dumas in 1835.

Since this period (1847-48) ether, chloroform, nitrous oxide, in many and various combinations, and other substances have been used for the induction of surgical anaesthesia. Recently a most important combination which has been made use of is that of nitrous oxide, oxygen, and a

small amount of ether or chloroform. This combination is especially useful and safe when administered by the intratracheal method.

#### LOCAL ANAESTHESIA.

**Cocaine.**—Cocaine as an alkaloid was first isolated, apparently by Godeke, about 1855, and some points as regards its power of producing local anaesthesia were noticed. No definite advances were made, however, until 1874, when Bennett showed that cocaine, applied to living tissues, had the power of causing local anaesthesia. V. Anrep, however, in 1878, appears to have been the first to investigate completely the anaesthetic properties of cocaine by injecting a dilute solution (0.003 to 0.5 per cent.) underneath the skin, and in connexion with this made the suggestion of its possible value for producing anaesthesia for surgical operations. In the following year (1879) its powers of producing local anaesthesia were demonstrated in connexion with the eye. This use of cocaine was worked out in complete detail by Karl Koller, who showed that complete anaesthesia of the eye could be produced by the use of a 2 per cent. solution. The results of Koller's experiments were first published and discussed at an ophthalmological congress in Heidelberg in 1884. Since then this drug has been used increasingly for the production of anaesthesia in all kinds of surgical operations. Some difficulties were met with at first in connexion with poisoning by absorption, but these were soon overcome.

**Novocain.**—Considerable progress in the method of induction of local anaesthesia has been made since that date by the discovery of novocain, a synthetic product derived from coal-tar (para-amido-benzoyl-diethyl-amino-ethanol hydrochloride) by Alfred Einhorn in 1905. So much so that at the present time a considerable number of major surgical operations, such as removal of tumours of the thyroid, gastrectomy, radical operation for hernia, etc., and even almost any major and minor operation, can be done painlessly, and in certain cases with greater safety to the patient, by the use of a dilute solution of novocain, administered by the infiltration method.

**Stovaine.**—Another variety of anaesthesia, or analgesia—spinal—can be induced by the injection of a solution of stovaine into the lower portion of the spinal theca. This form of anaesthesia is especially used in operations on the portion of the body below the diaphragm, such as prostatectomy, hysterectomy, etc., when there are contraindications, such as affections of the lungs, etc., to the administration of a general anaesthetic.

The net result of all these discoveries and improvements in connexion with surgical anaesthesia—general and local—is such that almost any desirable and justifiable operation can now be performed by the dexterous surgeon, well trained in anatomy and technique, painlessly and with very slight anaesthetic risk to the patient, when the administration of the anaesthetic is carried out by a well trained anaesthetist.

#### PATHOLOGY AND MICROSCOPICAL DIAGNOSIS.

The publication of Virchow's (1821-1902) work on cellular pathology in 1858 was a great incentive to surgeons to study the histological basis of a considerable number of surgical diseases, especially all forms of new growth. From this period (1858) to the present time there has

been a continuous advance in our knowledge of the pathology of surgical affections, one of the latest, perhaps, being the recognition of the different histological characteristics of malignant growths. This has enabled surgeons to be in a much better position as regards giving a correct prognosis after an operation for malignant disease. These advances have been made possible by the improved construction of the microscope and the knowledge of the reactions of human and other tissues to different varieties of dyes and stains.

The improvements which have been made in the microscope since Hunter's day have been very considerable. In Hunter's time the microscope was an instrument which was little more than a simple magnifying lens.

The principles of the compound microscope were discovered and developed by many physical observers, one of whom was Joseph Jackson Lister, the father of Lord Lister, in 1830. The discovery of the principle of the homogenous immersion lens, followed by great improvements in the construction of lenses which were called apochromatic, have made possible a large number of researches in histology and bacteriology. As examples of the microscope in use in Hunter's day and of that now in use I have had placed on the table two—one a microscope of 1760, and as used by Hunter, and the other a modern one. I also show you the microscopes used by Pasteur and Lister.

The first surgeon to utilize reflected light in the investigation of deep spaces or cavities of the body was Bozzini of Frankfurt-am-Main, who invented, in 1805, a form of urethroscope and also other forms of "scopes." Each consisted of a hollow tube along which light was reflected by a mirror. No practical results, however, emanated from this discovery at the time, and its use remained quiescent apparently for a considerable period. The next observer to make use of reflected light in the examination of patients was Helmholtz, who invented the

ophthalmoscope in 1851. His original ophthalmoscope was, as regards its success in working, dependent upon the reflection and concentration of a source of light, usually a candle or a lamp. By its use ophthalmology became established on a scientific basis. Soon afterwards, in 1855, Manuel Garcia invented the laryngoscope, which was used by Torek of Vienna; then followed the rhinoscope, discovered by Johann Czermak in 1859. Nitze and Leiter made the most rapid advances in the utilization of reflected light for interior investigation of the body by combining the principles of the telescope and reflected light, and the production of the cystoscope in 1877.

The value of these instruments for investigation of the recesses and cavities of the body was enormously increased by the invention of incandescent light. Paul Jabluchkov, in 1876, invented the electric candle; Swan and Starne of England and Edison of America improved upon this invention and produced incandescent electric lighting in 1880. David Newman of Glasgow improved the cystoscope as designed by Nitze and Leiter, and in 1883 was the first to make use of incandescent light in connexion with it. With this instrument (Fig. 1) it became easily possible for the practised manipulator to investigate and diagnose the various conditions affecting the urinary bladder. The laryngoscope was also further developed and improved, and the diagnosis of surgical affections of the interior

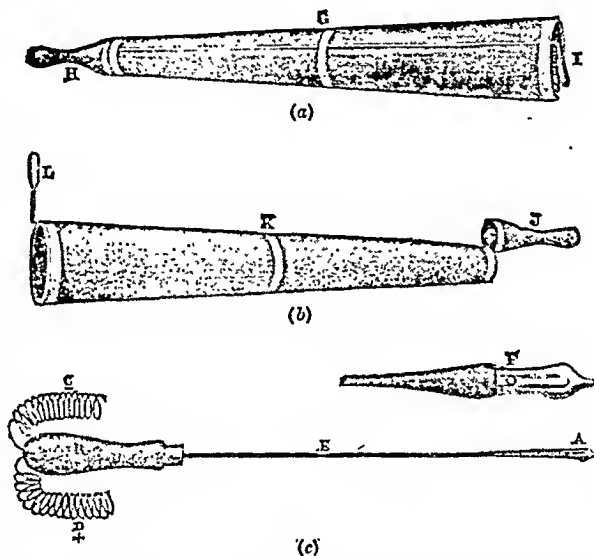


FIG. 1.—Cystoscope with electric lighting as used by David Newman. (a) In position for introduction. C, Speculum of hollow vulcanite the apex of which, J, is movable by handle L. (b) In position after it has been introduced into the bladder. K, Speculum, the apex of which, J, has been moved by the handle L so as to enable the observer to see through the glass disc which closes the end within the bladder. (c) Electric lamp and handle which is introduced passed along the speculum after introduction.

of the larynx was made possible in their early stages. Other forms of "scopes" for the investigation of the interior of the body which rapidly followed the earlier discoveries were the sigmoidoscope by Badenhauer in 1863, afterwards perfected by Kelly of Baltimore and Strauss of Berlin; the oesophagoscope by Kussmann in 1869, as well as the first gastroscope during the same year (later perfected by Mikulicz in 1881); and the bronchoscope by Gustav Killian in 1898.

The latest application of the combination of the telescope and electric light for clinical and diagnostic purposes is the thoracoscope. A similar but much larger instrument is used for investigation of the interior of the stomach. The practical value of the gastroscope, however, in diagnosis is somewhat problematical, owing to the difficulty of correctly interpreting the conditions seen through it, and the fact that it cannot be used readily and with advantage when a patient has been anaesthetized.

One example of the application of improved mechanical methods to surgery was the invention of the lithotrite and vesical evacuator by Bigelow in 1878. With this instrument patients were successfully treated and cured of stone in the urinary bladder without any cutting operation. Since Bigelow's day the instrument has been considerably improved in detail, including the addition of an electric light attachment, though the essentials are absolutely the same. Expert operators can obtain excellent results by this method. In hot and tropical countries such as Egypt and India, where stone is prevalent and the natives are not readily amenable to the discipline, aseptic and otherwise, necessary for a successful surgical operation, this method in the hands of the skilled operator has enormous advantages.

#### ANTISEPSIS AND ASEPSIS.

The next avenue of progress in surgery is that branch of biology and biochemistry which we call bacteriology. Hunter, of course, was ignorant of bacteriology, since bacteria had not been discovered in his day. It is of interest to note that in his surgical lectures given in 1785 he states, in connexion with fermentation: "Fermentation appears to be a process peculiar to dead vegetable or animal matter, and when we find a tendency to fermentation we may conclude that there is a defect of the living principle." The modern science of bacteriology and its possible application to surgery really commenced in 1857, when Pasteur published his paper on lactic fermentation, and subsequently his paper on the influence of oxygen on the development of yeast and on alcoholic fermentation, in 1861.

The adoption by Lister of his antiseptic doctrine in connexion with surgery in 1867, which really followed the work of Pasteur, was the commencement of what may be known as advanced surgery on a scientific basis. The general acceptance of Lister's doctrine and its application to practical surgery was slow in this country. However, in the late eighties and early nineties its practice became general, and was quickly followed by the aseptic doctrine. The practice of modern surgery is really based on a combination of antiseptics and asepsis, principally the latter. All the points, however, on the subject of Lister were discussed by last year's Hunterian orator. It is sufficient

far me to say that the practice of asepsis and antisepsis in surgical operations has enabled surgeons to submit to operation with success every organ and almost every part of the human body. The surgery of the abdomen was first perfected, especially by von Billroth of Vienna, in connexion with gastro-intestinal operations, and by Spencer Wells and Lawson Tait as regards operations upon the ovaries, uterine, and Fallopian tubes; then that of the brain and cranial contents, and more lately that of the thorax and its contents.

The net result of the practice of asepsis in operations is that infection of and suppuration in operation wounds is almost non-existent in most modern hospitals, and the mortality from surgical operation has been very greatly reduced.

#### TRANSFUSION OF BLOOD AND ITS APPLICATION TO SURGERY.

Transfusion of blood, either directly from one individual to another or indirectly, was first practised, apparently, on animals by Lower in 1665, and on man by Denys of Paris in 1667. No definite progress was made, however, in the

application of this procedure to surgery until the latter part of the nineteenth and the beginning of the twentieth century.

Eisenberg, in 1901, discovered that the blood serum of both diseased and normal individuals, when injected into another individual of the same race, was liable to haemolysis the blood of the receptor. After this discovery Jansky, in 1907, divided the blood of human beings into four groups, and in 1910 Moss repeated this investigation and graded individuals according to the character of their blood into four groups.

Further, the advances made possible by our knowledge of biochemistry and bacteriology have enabled the indirect method of transfusion of blood to be very much perfected. So much so that at the present time it is quite an easy matter for a person who has mastered the technique to obtain blood from a suitable selected donor, keep it sterile and uncoagulated by the sodium citrate method, and to inject it immediately into the blood vessels of the recipient. These procedures are now in quite constant use in hospitals and surgical practice in certain types of serious injury or disease, especially when a large amount of blood has been lost by the patient, and have proved of great advantage in enabling operations to be done, and the lives of patients saved thereby which otherwise would have been lost.

#### RADIOLOGY.

Another "milestone" in the progress of surgery between Hunter's day and ours is marked by the successive discoveries of x rays and radium.

The discovery of x rays by Wilhelm Roentgen (1845-1923), professor at Würzburg, in 1895 was the commencement of a series of great advances in surgical diagnosis. At first the use of x rays in this direction was mainly confined to injuries to and diseases of the bones. When, however, the possibilities of this discovery were more appreciated and understood it was found possible to extend the clinical use of x rays in diagnosis to other conditions. Thus, as regards the internal organs and viscera, especially portions of the



FIG. 2.—Amputations as performed in the days of Hunter.



FIG. 3.—Amputation at shoulder-joint, as performed in 1820 after introduction of the straight amputation knife.

alimentary canal, the existence of diseased conditions was readily demonstrated by the taking of a skiagram of the diseased, or presumed diseased, region and organ, after the administration by the mouth or the rectum of barium sulphate or bismuth nitrate. Thus the diagnosis of ulcers and neoplastic growths of the stomach and duodenum, narrowings in different portions of the alimentary canal, such as occur in carcinoma of the oesophagus, or carcinoma of different portions of the alimentary canal, especially the lower portion of the large intestine above the rectum, was made possible. The determination of the position of deep-seated fistulous conditions between the viscera has also been made possible.

The value of x rays in connexion with the diagnosis and treatment of disease has in many cases, and especially by the laity, been much exaggerated. To the practising clinician x rays, when intelligently and scientifically used, can, as we all know, be of enormous advantage. They are of great value in the detection and localization of different forms of calculi, especially those in the ureters and kidney. One of the later developments of the use of x rays in diagnosis is the investigation of the ureters and pelvis of the kidney by what are known as "ureterography" and "pyelography." By these means of investigation many obscure cases of disease in the kidneys and ureters have been diagnosed satisfactorily, and subsequently operated upon with great prospects of cure.

Calculi in the gall bladder for a long time evaded the attempts of the x-ray practitioners definitely to detect them. Occasionally when suspected they could be demonstrated on an x-ray plate or film, but often no evidence was apparent, although the clinical signs and symptoms pointed to their presence, and at operation they were found. Improved x-ray machinery and the intravenous injection of tetraiodophenolphthalein or tetrabromophenolphthalein, and its excretion by the liver, at the present time, however, usually enable definite evidence to be found of the presence of cholecystitis and calculi in these cases. As everyone knows, a patient is much more ready to submit to an operation for removal of a calculus in the ureters, kidneys, urinary bladder, or gall bladder if its presence can be shown on an x-ray film or plate than if it is only assumed. In a similar manner x rays have been of use in detecting the presence of stone in the pancreatic duct or deep-seated calculi in the submaxillary salivary gland.

During the recent great war x-ray diagnosis was increasingly made use of in the detection and localization of injuries to bones and the presence of bullets and other metallic substances which had entered the bodies of wounded soldiers.

Following the discovery of x rays by Roentgen, Monsieur and Madame Curie, in 1898, discovered radium in pitch-

blende derived from mines in Joachimstal in Bohemia (now Czechoslovakia). The salts of this metal were found to possess very marked radio-active qualities, and have been used, especially of recent years, in the treatment of various diseases, and particularly in forms of new growth. There is no doubt that certain types of sarcoma and carcinoma are very sensitive to the action of radium, and a number of patients have apparently been cured by the use of the salts of

this metal. Radium has been applied in various ways, but in the treatment of disease the best results have been obtained by the implantation of either radium needles or radium seeds in the margins of diseased tissues. As in the case of x rays, the exact value of radium in the treatment of malignant disease cannot yet be determined. Unfortunately, a large supply of radium is very expensive and difficult to obtain. The indications, however, appear to be that if an increased quantity of radium or its salts can be obtained and made available for clinical use, then considerably improved results in the treatment of malignant disease may be made possible.

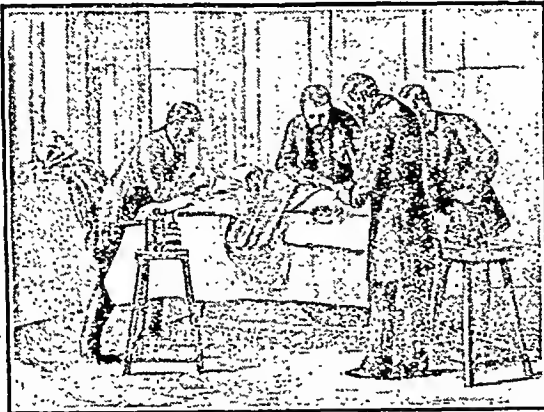


FIG. 4.—Operation as performed in the early days of "Listerian" practice. The patient has been anaesthetized and the carbolic spray is being used.

#### CRANIAL AND SPINAL SURGERY.

In connexion with the surgery of the cranium and its contents Broca's investigations into the localization of function, and especially his localization of the centre of articulate speech in the left frontal convolution, enabled him to perform the first fixed operation for cerebral abscess, which was assisted by localization of function in connexion with "motor aphasia," in 1861; since then numerous researches into the localization of cerebral functions have enabled neurologists and neuro-pathologists to determine

the site of a large number of intracranial growths.

Quite a considerable proportion of the advances in cerebral and spinal surgery has been due to two Fellows of this College—Victor Horsley (1857-1916) and William MacEwen (1848-1924), now deceased.

Recently much assistance has been obtained in the exact localization of a tumour within the spinal canal by the injection of lipiodol into the spinal canal and subsequent examination with x rays. The lipiodol shows as an opaque shadow on an x-ray plate; consequently any narrowing or encroachment upon the intraspinal space by a tumour becomes evident. Similarly injection of lipiodol into the trachea, bronchi, and lungs has enabled the clinician, on subsequent examination by x rays, to demonstrate positively on plate or film the extent and nature of abnormal intrathoracic conditions.

#### SPECIALIZATION IN SURGERY.

The numerous methods—chemical and physical—available to the clinician and the pathologist for the investigation of patients suffering from surgical affections are so varied that at the present time it is not usually possible for one

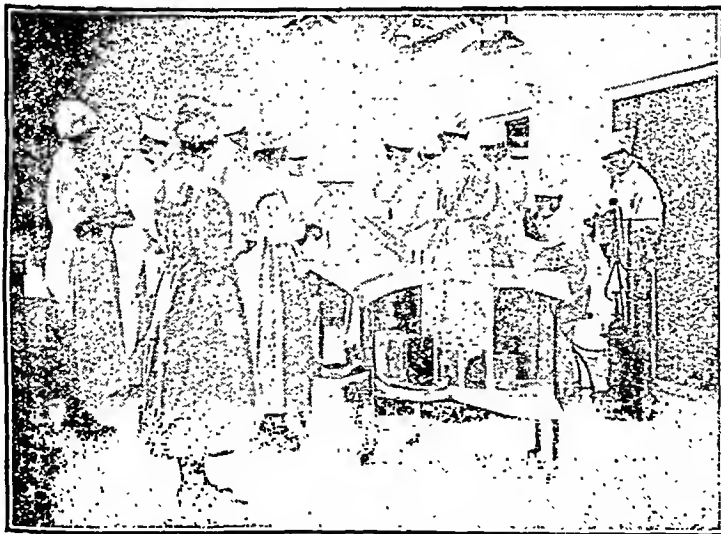


FIG. 5.—An operation being performed at the present day.



A further improvement in war surgery was the recognition of the fact that in many cases of suppurating wounds, or badly lacerated limbs in which an amputation had to be performed, the wounds could be left open and treated by the Carrel-Dakin irrigation method. Free exudation and associated irrigation enabled the wounded surface to become clean, and delayed suture of the wound could be carried out afterwards. As a result of the treatment of war wounds on improved biochemical and biophysical principles the mortality from gunshot wounds and injuries was enormously decreased.

## CONCLUSION.

From the short account which I have been able to give you of the progress of surgery from Hunter's day to ours, it will be seen that the actual technique employed in the performance of surgical operations, and the results which can be obtained thereby, have reached a very high stage of perfection. It does not appear to me that we can expect in the future such great progress to be made in the details of the performance of operations themselves, and the amelioration of the discomforts directly resulting therefrom. In my opinion the main direction of advance of surgery in the future will be along biochemical and biophysical lines, both as regards diagnosis and treatment. If this assumption be correct, it is essential that the medical student and the medical practitioner of the future should pay increased attention to all biochemical and biophysical problems, both in normal and in diseased conditions.

Owing to the length of the curriculum and the multiplicity of subjects which the student of medicine of the present day has to pass through, there is a tendency for parts of the curriculum to be forgotten after the examination in it has been passed. Consequently the application of physiology in the investigation of disease is too often neglected, and a student thereby is encouraged to acquire surgical knowledge—especially diagnosis—in a somewhat empirical manner. At the present time, however, there is a tendency in every modern school of medicine to give courses of "applied physiology and applied anatomy" during the later and clinical part of a student's career.

## THEORIES OF SUGGESTION.\*

BY

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## I.

THE word "suggestion" has been used in educational, scientific, and medical literature in slightly different senses. In the writings of educationists and purely scientific psychologists it has been used to indicate a general kind of influence brought to bear on the mind, an influence which is other than that of logical or rational argument. The mind can be influenced rationally and also irrationally. Rationally, it is influenced, for example, when a child is taught the fifth proposition of Euclid, in learning to understand the steps one by one in the right sequence and in the right connexion; but the child can be influenced non-rationally, in its learning of this and other school subjects, by virtue of its general mental attitude towards the teacher, by the views on life of its fellow students, even by the beauty or ugliness of the rooms and buildings in which it is taught, by the climate, by the fact of the weather being fine or dull, and in a hundred other ways. These are non-rational, although not necessarily irrational, influences. They may not be contrary to reason, but they are independent of reason so far as the child individually is concerned. We may regard this class of non-rational influence as influence by suggestion.

Again, the child may be misled in his reasoning process and may fall into error. Many of the conditions under which he falls into error can be put under the same heading of suggestion. In a general educational way we may use the term suggestion in a wide sense which covers all non-rational and includes irrational modes of influencing the mind. An individual may be influenced by inanimate objects, by social conditions, or by his fellows, not only non-rationally, but also *unwittingly*—that is, without realizing that he is being influenced. The weather may be depressing, and his fundamental mood may follow suit without his being explicitly aware of the fact; the influence

there is an influence of suggestion. It may be considered a rational influence if he observes in the morning that the weather is bad, and infers from it (on the basis of previous experience) that he will have a bad day and will not be able to work so effectively as usual. But that view is not necessarily a true view; he may be mistaken in it. Even if it is a true view, so that the result is rational, it is not necessarily the work of reason.

The word suggestion in pure psychology has been used in an even wider sense. In Professor G. F. Stout's *Analytic Psychology* there is a chapter headed "Relative Suggestion," but what he is referring to there is the effect of pre-formed associations on the activity of the mind. Certain experiences have been passed through and retained in memory; and if one experience is repeated it tends to call up the memory of another. One experience "suggests" the memory of another experience. Suggestion, then, may work according to the rules of association, either of contiguity or of similarity; that is a very wide use of the term. An officer's gesture may suggest a certain movement to the platoon under his command, and they may spontaneously move accordingly without having received a definite verbal order. The response to the command may be regarded as due to suggestion. It is not necessarily rational—not a form of persuasion, which is the word to use in speaking of the process of influencing a person by rational means. Giving a command or making a request may be, but is not necessarily, a rational method of influence. In its essence a rational method, it may on some particular occasion be either rational or non-rational. It should probably be classed under the general heading of suggestion, taking the word in its widest sense.

From these uses of the term suggestion—a suggestion which involves a non-rational influencing of the mind—we pass to the more medical side of the subject. In psychological medicine the use of suggestion has developed out of the earlier use of hypnotic influence.

I must first emphasize the fact that hypnotism and suggestion are not the same thing. The state of hypnosis is a state of mental dissociation, in which certain interests of the subject's mind may be appealed to while other parts of the mind remain in abeyance. When a person is hypnotized he is more ready to respond to the influence of the hypnotist because the dissociation of his mind prevents him from being able to call upon his reserves—to bring up other considerations. The hypnotic subject receives a command or request from the hypnotist, and his impulse is to respond immediately. Considerations tending towards a different line of action simply do not occur to him; they cannot, because there is a break in the mind. He cannot review the situation and consider alternatives, and certainly does not even begin to consider them. We see that in hypnosis he has become more suggestible, and that his increased suggestibility, or increased readiness to respond to suggestion, is in part the result of mental dissociation.

But the opposite relationship may hold good. Instead of suggestibility following upon the state of hypnosis, we may find a state of hypnosis following upon suggestion. Indeed, this is what generally occurs when a person is hypnotized. The hypnotist suggests to the person that he will become more and more drowsy, more and more lethargic, but that he will continue to hear and understand what the hypnotist says to him, so that through suggestion from the hypnotist dissociation takes place. A person is robbed of the power of controlling his mind as a unitary system.

The procedure in the case of a patient requiring hypnotic treatment is as follows. After a preliminary general examination—that is, a physical examination and a psychological investigation of the conditions under which his illness had set in, which need not take very long, although a detailed psychological examination (anagnos) would require many hours—after this analysis, if the patient is considered suitable for hypnotic treatment, the physician asks him to lie down on a couch, to relax his voluntary muscles,\* to fix his gaze on a small mirror or

\* A paper read before the Section of Psychiatry, Royal Society of Medicine, on January 16th, 1928, and published by permission of the honorary editors of the Society.

The name, *pois asinorum*, given to this proposition may exert a suggestive effect upon the child, in one or other of two ways, according to his temperament—namely, discouragement, or as a challenge to a more determined attack.

\* The patient may be given detailed instruction in the matter of muscular relaxation. If he directs attention to the small distal muscles of hands and feet he will find that relaxation of these tends to spread to the larger muscles of the arms, legs, etc. Deep and regular breathing also helps relaxation.

other luminous object held about ten inches from his eyes and slightly above the horizontal plane of vision—so that he has to turn his eyes slightly upwards and inwards—to look steadily at it, to fix his visual attention on it, and to think of sleep. The hypnotist then proceeds to suggest that the patient is getting more and more drowsy—that his eyelids are getting heavy with sleep—that he will soon be asleep, but will continue to hear what the hypnotist says to him. The patient's eyes close and he appears to sleep. The hypnotist may then suddenly hold his attention by speaking more urgently and more dramatically, saying, "You may try as hard as you like, but you cannot open your eyes." The mere fact that he is challenged in this way makes him suddenly lose the knack; there arises the momentary fear, "Perhaps I shall not be able to open my eyes," and that momentary fear prevents him from opening them. He gets into a slightly emotional condition, and is ready to believe other statements made to him. If passes (with or without contact) are made down the arm and hand, with suggestions of rigidity and anaesthesia, the arm does become rigid so that the patient is unable to bend it, and it also becomes anaesthetic, so that a sterilized pin may be plunged deep into the flesh without causing any pain. In a deeper stage still the patient may become apparently quite unconscious, although subsequent investigation may show that he has retained an inactive dream-like consciousness throughout the experiment.

Hypnosis seems to proceed in stages, of deeper and deeper degree; but nowadays we do not speak of stages of hypnosis, because they have no definite order of sequence.\* We find that the order in which they occur depends to a very large extent upon the way in which, or the conditions under which, suggestions are given. The patient falls into a hypnotic state, and in that state becomes more suggestible, more ready to respond to suggestions, verbal or otherwise, from the hypnotist, and these suggestions may be used to increase the depth of the hypnosis. One stage in a good hypnotic subject is that of waxy or plastic flexibility, where the limbs, put in any position, remain in that position like the limbs of a lay figure. This stage, like those previously described, is a state of dissociation. Indeed, most, if not all, of the phenomena of hypnosis seem to be phenomena of dissociation. The simplest is the patient's inability to open his eyes; again, if he clasps his hands together and is then told by the hypnotist that he will not be able to separate them, he cannot do so. A further result of a dissociationist nature which it is very easy to produce in a hypnotic subject is amnesia. If it is suggested to the subject that he cannot recall anything that happened—for example, during the previous day—it will be found later that he is unable to answer any questions about this period of time. These are all instances of dissociation—dissociation of the power of recalling certain memories, of the power of contracting certain muscles, of experiencing certain sensations.

In a still deeper stage of hypnosis the hypnotist may seem to produce positive results instead of merely negative ones. If he suggests to a patient in a deeply hypnotized state that the latter will be able to see, say, a bright red light, the suggestion will take effect. What has happened is that the patient's imagination has been stimulated, has been set in motion, and continues working actively in a certain direction. You can take a blank card and tell him that you are going to show him your photograph, and he will see your photograph and describe it; and really, so far as can be made out, he does actually see something on the card. He projects on the card something that is merely in his own imagination. Here the difference between the hypnotized subject and the normal person is mainly a difference in the degree of activity and control of the imagination. When a person is hypnotized his imagination may become more active, but is under the control of the hypnotist; indeed, all hypnotic suggestion may be considered as an influencing of the imagination. The manifestations previously described may be regarded merely as the effect of an externally controlled imagina-

tion. An individual has been made to imagine that he cannot open his eyes; nothing having arisen to counter that imagination, it takes effect. The normal person can call up a fairly accurate picture of another individual, but to see it at a definite spot and with a certain degree of steadiness may follow upon hypnosis, where the imagination is controlled by the hypnotist. It is not that the hypnotist has any occult power (magnetic, telepathic, or what not), but that his words and gestures call out a direct and inevitable response from the patient. The patient is ready to believe and expect that what the hypnotist says will come to pass.

Various theories have been devised to account for this, and I shall discuss some of them later on. One well known theory is that of Freud—that these results follow because some bond of affection has sprung up between the hypnotized patient and the hypnotist. The patient responds to the suggestions of the hypnotist much as a young child would respond to the suggestions of a well loved parent or nurse, in primitive credulity without afterthought or other consideration. Another theory is that in the process of hypnosis the patient has been thrust into a state of self-abasement, with the result that he is ready to accept orders from another person. This is McDougall's view: that the patient is specially ready to respond to the hypnotist because, under hypnosis, his instinct of self-abasement has been aroused to the exclusion of other instincts and tendencies. In hypnotized people McDougall assumes that the instinct of self-assertion is in abeyance. Such a theory is based on the conception of dissociation—dissociation at a very fundamental level of the mind—namely, dissociation of one instinctive disposition from the others.

Dissociation may increase suggestibility, or be increased by it. A person may for the moment "forget" how to use certain mental powers, and then through fear become permanently incapacitated, or he may succumb to suggestions in other directions; or, again, he may fall into a state of dissociation, not through mental suggestion from anyone, but through some strong mental or physical shock. During the war large numbers of soldiers became readily hypnotizable under the influence of intense physical shock, either from shell concussion or from blows on the head received in other ways (falls, etc.). It is often difficult to exclude the effect of mental shock in these cases; but instances of purely physical shock, followed by dissociation, do occur. A person who gets physical concussion is almost invariably easy to hypnotize. This concussion probably brings about physical dissociation of the higher centres of the brain. The harmonious activity of the brain as a unit seems to be disturbed by such a general "shaking up." Drugs, such as alcohol, may produce a similar effect. Alcoholic persons are very easy to hypnotize, which is fortunate, because hypnotism can be used in curing them. An alcoholic person may appear to be absolutely incorrigible, but, to his surprise, he finds that he obeys suggestions under hypnosis. Anaesthetics, such as ether or chloroform, will also make a person more readily hypnotizable, and there is good reason for believing that they produce relative dissociation in the highest cerebral levels. Hypnotism was originally used for operations, and if chloroform had not been discovered shortly afterwards, no doubt hypnotism would have been used much more extensively for that purpose; it still has its uses to prepare and calm the patient's mind for an operation. It is very important that a patient, before undergoing an operation, should have his mind free from fear, should control his feelings, and not struggle against the anaesthetic. One of the best ways of bringing this about is to give him suggestion treatment beforehand, and I have done this in many cases. It has very definite effects: among others, it may save the patient from nausea after the anaesthetic. In many cases where the patients have dreaded the anaesthetic more than the operation, suggestion treatment has freed them from this fear.

It is a fact that in hypnosis the patient falls into a special state in which he responds readily to suggestions from the hypnotist, and to a great extent the characteristics of the hypnotic state seem to be explicable in terms of suggestibility. The patient becomes more suggestible to the hypnotist, and on this basis Bernheim formulated

\* The belief in a definite order of sequence of such stages was one of the errors of Charcot and the Salpêtrière school.

his definition of hypnosis as a state of artificially increased suggestibility. A hypnotized person is made more suggestible than a normal person. But such a definition is not fully adequate to the facts, because it does not explain sufficiently how the increased suggestibility is brought about. Although in some cases suggestion from the physician or hypnotist produces the hypnotic state, in other cases, as we have just seen, mental shock and physical influences—such as physical concussion, the influence of drugs, etc.—may increase suggestibility or hypnotizability, and certainly it must not be forgotten that dissociation itself increases suggestibility; that was forced upon us by the experiences of the war. Among the thousands of shell-shock patients seen just behind the lines in France and elsewhere, 15 per cent. showed functional amnesia to a greater or less extent. These patients were in a dissociated state, and in many cases had not only lost the power of recalling their frightening experiences, but had also lost the power of speaking, hearing, walking, of controlling tremors, and of bringing them to an end. There was a sort of general dislocation of the mind as well as of the nervous system. I found that these patients were easily hypnotized, and that the more pronounced the dissociation the more easily were they hypnotized. A man who had lost all his past memory could be hypnotized at once; a wave of the hand would effect this mental transformation. If the loss of memory referred to but a brief period of the past, the hypnotic state would not set in quite so readily, but every case of amnesia or dissociated memory was in some degree hypnotizable. Amnesia does not mean weakness of memory, but a loss of the power to recall a definite stretch of past experience. I observed six hundred cases of amnesia in France during the war; every case was hypnotizable, and memory invariably returned under hypnosis. Patients seen in England some months or years later were not so easy to cure; they responded less readily, but they did so eventually, nevertheless.

I am inclined to state as a general rule, admitting of no exception, that a person showing functional amnesia, without psychotic symptoms, is easily hypnotizable, and that in functional amnesia the loss of memory is easily cured by hypnosis, as well as any accompanying paralysis—mutism, etc.—of a functional nature. Facts such as these make it necessary to widen the definition of Bernheim, and to recall the earlier definition of Charcot, who used to say that hypnosis was an artificial hysteria. We need to combine the two theories (with certain omissions), and say that in the hypnotic state suggestibility is increased, but that a fundamental factor, to some extent of independent value, is a state of dissociation which works in harmony with suggestion; dissociation tends to produce increased suggestibility. The reason of this is obvious. If a person is dissociated he has no power of reviewing the situation and considering alternative modes of response. A certain mode of response is suggested to him, and he makes that response, but because of his dissociation he is unable to actuate other powers of the mind. The dissociation is not the same as increased suggestibility, for we can imagine a relatively normal person, a unified person, showing different degrees of suggestibility at different times. Moreover, although in mild forms of dissociation suggestibility seems to increase as the degree or extent of dissociation increases, this correlation does not hold for extreme cases. When the dissociation is extreme, or the state of hypnosis very deep, the patient may be found to have become less rather than more suggestible to outside influence, or even non-suggestible in certain directions.

The extremely important work of I. P. Pavlov on *Conditioned Reflexes* should be referred to here. Pavlov explains sleep and hypnosis in terms of *internal inhibition* in the cerebral cortex—spreading to the subcortical centres in the case of the former, limited to the cortex in the case of the latter.

## II.

We have now to consider in more detail the factor of *rapprochement*, which is of such central importance in the theory and practice of hypnosis.

We have already gone beyond the earlier view of hypnotic suggestion, according to which it is regarded as a form of ideomotor action, where, as Pierre Janet says,

the suggested idea produces its full or maximum effect undisturbed by conflicting ideas. This theory is not sufficient, but itself requires further explanation. An idea, to produce an effect, needs to be in relation with some source of energy. Such a source of energy is any one of the instinctive "urges" or other conative and affective tendencies. According to Freud's theory, the affective tendency concerned is of an erotic or sexual nature—not the tendency of ordinary sexual love, but a sexual tendency inhibited in its aim (*zielgehemmt*), manifesting itself in a readiness to rely completely upon the hypnotist, to be at one with him, and to grant him vigorous and whole-hearted co-operation. This is the well known factor of "transference" (*Übertragung*), so named because it is believed by Freud to be a reanimating of affective tendencies felt by the young child towards his elders in the bosom of the family. Freud quotes with approval Ferenczi's observation that there are two main and contrasted methods of hypnosis—namely, the method of command and the method of soothing and coaxing. The former corresponds to the attitude of the father towards the child, the latter to the attitude of the mother. [Compare Pavlov's purely physiological distinction of (1) monotonous stimuli of small and medium intensity repeated for a long time, producing hypnosis slowly, and (2) stimuli of considerably greater intensity, producing hypnosis quickly (in animals).]

At first sight all suggestion seems to be in essence auto-suggestion, since it must be accepted by the patient if it is to work at all; the patient has to make the suggestion his own. But there is the converse possibility that all suggestion may be hetero-suggestion—that the individual may never be able to accept anything from himself, but must always accept it from without, either from people or from the books he reads or from physical events in the outer world; so that even auto-suggestion would be hetero-suggestion. The person who applies Coué's method of auto-suggestion, and benefits thereby, owes his success to the influence that Coué has had upon him, the lectures he has heard, and the books he has read. How can this be brought into line with the Freudian doctrine of hetero-suggestion? Ernest Jones has recently attempted to solve this problem in an important article on "The nature of auto-suggestion."\* He follows Freud in maintaining that the success of hetero-suggestion is due to the re-arousal of early feelings towards the father, in which the hypnotist is put in place of the ego-ideal or super-ego, which, as distinct from the ego, is modelled upon the father. The doctrine of Freud is that in earliest years a little boy loves his father according to the narcissistic or identification type of love—he identifies himself with his father; but he loves his mother according to the dependence or "anaclitic" type, because his various physical wants are satisfied through her.† His love for his mother involves the desire to have her to himself, which arouses, by reaction, a feeling of hostility towards his father. This feeling of hostility towards his father is then repressed, by virtue of his previous identification with his father, and thus is inaugurated the contrast between the ego and the ego-ideal or super-ego. He incorporates in his own mind the character of his father as he sees him, and if he represses this hostile feeling towards his father, and develops a bad conscience about it, that bad conscience corresponds to a conflict between his ego and his ego-ideal. The child incorporates in himself the disapproval of himself which he must assume that his father would feel if his father knew. Thus the ego-ideal in his own mind corresponds with his conception of his father. When a person is hypnotized, and accepts suggestions from the hypnotist, he puts the hypnotist in the place of his ego-ideal.

In auto-suggestion, according to Ernest Jones, there is a

\* "If the primary narcissism has been released and reanimated directly, by concentration upon the idea of self, the process may be termed 'auto-suggestion'; if it has been preceded by a stage in which the ego-ideal is resolved into the earlier father-ideal, the process may be termed 'hetero-suggestion.'"—*Brit. Journ. of Med. Psychology*, 1923, vol. iii, p. 239.

† More accurately, because "in the first phase of their development the sexual instincts have no independent means of finding satisfaction; they do so by projecting themselves upon or 'leaning up against' the self-preservative instincts."—S. Freud, *Group Psychology and the Analysis of the Ego*, Eng. Trans., p. 61, International Psycho-analytical Press, London, 1922.

regression—a stepping back to a still earlier psychological situation, a situation of primary narcissism. Before the ego-ideal has been formed the child's sexual energy, his libido, is centred on himself. It is so in earliest years when he identifies himself with his father; there the libido remains fixed on himself. In the practice of auto-suggestion an individual is returning to this earliest stage and concentrating upon the idea of himself. Thus the ego-ideal is reduced to the father-ideal in the case of hetero-suggestion, and reduced still further back to the narcissistic fixation on self in auto-suggestion, which is an intensification of primary narcissism, a pronounced form of regression, and therefore bad. It means an impoverishment of the ego, the withdrawal of much energy which should be available for getting into touch with the world around and the people around, and which should enable him to live his life and make his contribution to general existence; it is a drawing of the libido back upon himself. If Ernest Jones's theory, as a further development of Freudian doctrine, is correct, it is not easy to understand the beneficial results of auto-suggestion. The improvement in physical health is not easy to explain on this theory, nor the fact that the more normal and healthy the person is, and the greater his powers of concentration, the more effective is the practice of auto-suggestion in his case. In functional illness therapeutic auto-suggestion helps to restore the patient to health, and may also greatly improve his general mental outlook on life.

Here I would urge that, as used to indicate a form of psychotherapy, auto-suggestion is an inadequate and misleading term. If we take it literally we have something which usefully indicates the pathological effects of bad auto-suggestion—the way in which a person may become ill through his imagination, or become more severely ill than he need. But the term does not satisfactorily indicate the nature of therapeutic suggestion as a correction and improvement of function. Any regression to narcissism must also mean a stepping back from the state of health and a movement towards some form of illness. It might be urged that improvement through auto-suggestion is apparent rather than real, and that actually there is an impoverishment of the mind—that what a person gains is gained at too great an expense. But we do not find that those who benefit by auto-suggestion become more self-centred; on the contrary, they become more self-confident and more free from fear of disease. Moreover, as I have argued elsewhere,<sup>1</sup> auto-suggestion in its literal form is only a stago in a process of mental development towards an adequate form of volition. Instead of being distinct from volition and a rival of volition, it is a contributory factor in complete volition. An individual who is the prey of bad auto-suggestion in a certain direction is suffering from diminished power of will in that direction. When treated by therapeutic auto-suggestion, that disability is removed. The belief and faith in himself, which is essential to complete volition, is restored to him. Belief and faith in one's self is auto-suggestion; but this is not to be identified with narcissistic fixation upon oneself. There is no reason for bringing in libido here. The instinct of self-assertion has its own form of energy, quite distinct from the libido of the sex instinct, and contrasted with it as the spirited principle (*τὸ θυραειδὲς*) is with the appetitive principle (*τὸ ἐπιθυμητικόν*) in Plato's *Republic*.

McDougall explains hetero-suggestion in terms of the instinct of submission, or of self-abasement. The patient under the dominance of this instinct surrenders his own views and accepts the views of another person. In the presence of the hypnotist his instinct of self-assertion is in abeyance, and he succumbs completely to the promptings of the instinct of self-abasement. As a theory of suggestion this view seems too limited. The operation of any instinct—powerful, profound, and independent of other instincts—will increase suggestibility and produce suggestion effects. A panic-stricken person will respond vigorously to suggestion of danger; if angry, he will readily respond to any suggestion that he is being insulted. A chance remark, of which in other circumstances he would take no notice, he interprets in a special way. Othello, under the influence of jealousy, responds to the suggestions of Iago, without any help from

"transference" or self-abasement. Not only individual instincts, but also individual sentiments\* (not to mention complexes), functioning in relative dissociation from the rest of the mind, may be responsible for pronounced suggestion effects. It is really a *tour de force* on Freud's part, and quite unnecessary, to argue that the affective tendency is ultimately always of a sexual nature, even when the word sex is used in its very widest sense and care is taken to add that the sex tendency is "inhibited in its aim." We can accept transference as a factor; we can believe that an individual may respond in an unconscious way to personal influence, after the type of his response in early childhood to his father and mother; but if a suggestion effect is response independently of reason (though not necessarily contrary to reason) this may occur through the activity of other instinctive forces besides that of the libido.

McDougall has defined suggestion as the acceptance of a statement or of an idea independently of logically adequate grounds for such acceptance. According to this definition, whenever we consciously act according to reason we are acting independently of suggestion, whereas when we act independently of reason (though not necessarily contrary to reason) we are acting according to suggestion. We know what is meant by acting according to reason. "The desire to do what is right and reasonable as such" (Henry Sidgwick) is a definite factor in our lives, and whenever we act in that way we are relatively free from suggestion. According to McDougall's definition, apart from that, all our action is under the influence of suggestion. Neither the sexual factor postulated by Freud nor the instinct of self-abasement on which McDougall himself relies exhausts the possibilities of explanation. Among other affective tendencies, of special importance in this connexion, there is the gregarious instinct, or "urge" to act in harmony with one's fellows. Freud interprets the action of this instinct in terms of the libido; he holds that the gregarious instinct explains nothing, and is itself in need of explanation. What happens in the action of the group is that there spring up libidinal relationships between members of the group towards one another, and in all of them towards the leader of the group. He proceeds to sketch out a far-fetched theory to explain how this situation arose in prehistoric times—an explanation in terms of the original family as a horde of people living together and ruled by an all-powerful father. His doctrine is that this all-powerful father of the horde is himself merely narcissistic and self-assertive; he does not need to love anyone else, his libido is fixed upon himself; but through his persecution of the sons of the family, and his suppression of them, by thwarting their sex tendency, he in some mysterious way makes them love one another and love him, and so brings about the beginnings of morality and the group spirit. For this extraordinary theory no evidence is supplied.

Freud sums up his theory of love, hypnosis, and the herd instinct in the following sentences:

"*Being in love* is based upon the simultaneous presence of directly sexual tendencies and of sexual tendencies that are inhibited in their aims, so that the object draws a part of the narcissistic-ego-libido to itself. It is a condition in which there is only room for the ego and the object."

"Hypnosis resembles being in love in being limited to these two persons, but it is based entirely upon sexual tendencies that are inhibited in their aims, and substitutes the object for the ego-ideal."

"The Group multiplies this process; it agrees with hypnosis in the nature of the instincts which hold it together, and in the replacement of the ego-ideal by the object; but to this it adds identification with other individuals, which was, perhaps, originally made possible by their having the same relation to the object."—S. Freud: *Op. cit.*, p. 125.

Without denying all truth to Freud's theory of love, hypnosis, and gregariousness, I must say that my own experience of the facts, gained through use both of the method of suggestion and also of the method of deep analysis in investigating and treating cases, does not bear out the theory in its entirety. The theory is not adequate to cover all the facts. I find similar difficulties with Ernest Jones's theory of the nature of auto-suggestion. I can quite see how regression towards the narcissistic level

\* A sentiment is an organization of instinctive-emotional dispositions centred about the idea of some object.—Shand.



may occur—how an individual may hide his head in the sand and refuse to face reality, crying peace when there is no peace; but that he would get beneficial results of a permanent nature by such a line of conduct is another matter. An appeal to narcissism might explain the state of mind of a man who stands in the corner of an asylum ward, taking no notice of anyone, but just immersed in his own fancy and in his own mental aberration; or the state of mind of the hypochondriac, with distribution of libido so disturbed that even his bodily organs cannot function adequately or without pain. But that good, or therapeutic, auto-suggestion is of this nature I cannot believe. Auto-suggestion is based on confidence and the abolition of fear. The individual who uses auto-suggestion knows this, and it is definitely admitted that auto-suggestion works better in a more healthy person; the healthier he is the better effects he can get. Auto-suggestion is a method of will training.

In holding such a view the possibility is not excluded that in hypnosis archaic affective tendencies and beliefs may come to the surface and make themselves felt, and that an individual may produce certain results by virtue of the strength of these primitive beliefs which are not justified by modern scientific knowledge, although such beliefs may make a great difference to the individual himself. In him there may be a desire for the miraculous—a desire to believe in the miraculous—which may be liberated under conditions of hypnosis, or suggestion treatment, and may produce results; not that it will produce a miracle, but it may counteract the excessive scepticism and doubt and despair which are so often characteristics of the modern mind. Consequently, bad, or pathogenic, auto-suggestion is perhaps the best example of auto-suggestion in a literal sense—that is, the working of an idea under the influence of an instinctive tendency, in this case one of fear and apprehension. Freud might say that fear is due to bad conscience, and that bad conscience is due to the working of the Oedipus complex, so bringing in the libido doctrine. Therapeutic auto-suggestion goes further, because it replaces the feeling of doubt and fear by a feeling of confidence. The result suggested can then occur, so far as it does not conflict with any of the fundamental laws of nature, and can occur to a maximum degree. The instinct of self-assertion (supported by its own distinctive form of energy, not by libido) may play a prominent part in bringing about a realization or actualization of the suggestion: but the integrated personality, with its entire reserves of instinctive energy, may, by an act of faith, fulfil more adequately the purposes towards which auto-suggestion is half blindly pointing.

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<sup>1</sup> *Mind and Personality*, University of London Press, Ltd., 1926, pp. 180, 272.

## THE CAUSATION OF "STRIAE ATROPHICAE CUTIS" ("VERGETURES") NOT DUE TO STRETCHING OF THE SKIN.

BY

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In all ordinary cases striae atrophicae or striae entis distensae can be explained as representing a method of cutaneous accommodation towards distension (physiological or pathological), when the skin is relatively insufficient—that is to say, unable to adjust itself by its normal elastic distensibility. In such cases a relatively too rapid growth or increase in bulk of the parts below the skin, or a cause of chronic distension of some kind—such as a relatively excessive growth of subcutaneous fat, muscle, or long bones (especially connected with puberty), mammary gland, the pregnant uterus, ascites, tumour, or subcutaneous oedema—leads to a splitting or cleavage in the deeper parts of the cutis, manifested on the surface by the appearance of striae atrophicae, which are at first red or purplish, and in time gradually become white and smaller as they heal up.

In the present note I shall refer only to those cases of striae atrophicae not due to stretching of the skin; that is

to say, the cases in which striae atrophicae have developed apparently in the absence of any special distension—in the absence of pregnancy, ascites, tumours, subcutaneous oedema, excessive subcutaneous fat, and other usual causes. In such cases the ordinary growth of the long bones, muscles, and subcutaneous fat seems to be associated with some insufficiency of the cutis (with perhaps deficiency of elasticity) which prevents the skin from adjusting itself to the parts beneath, excepting by the process of multiple cleavage—that is to say, by the formation of striae atrophicae. Striae atrophicae of this mysterious kind occur occasionally in apparently healthy individuals about the period of puberty, the skin failing to keep pace with the normally rapid growth of certain parts of the body, such as the shoulders, pelvis, and thighs. Striae atrophicae, in the absence of ordinary causes, are, however, still better known to occur in connexion with enteric fever (notably the "striae patellares") and certain other microbial infections, although even in such cases the selective distribution of the striae, and whether they are symmetrical or more or less unilateral or not, as I have elsewhere endeavoured to explain, must be due partly to mechanical causes, such as the position of the patient in bed, arrangement of pillows, etc.<sup>1</sup>

What is the cause of the relative insufficiency of the cutis in these cases to which I am referring?

Here I must speak of a condition of abnormal relative or absolute redundancy of the skin which may be contrasted with, and in some respects is the opposite of, the relative or absolute cutaneous insufficiency manifested by striae atrophicae. I refer to cutis striata or cutis sulcata—that is to say, ploughed or furrowed skin—"bulldog scalp," and cutis verticis gyrata. In these cases the scalp, especially the skin of the scalp, is locally altogether too big for the skull beneath it, and has therefore to become folded into ridges and furrows, so as to adjust itself to the surface which it covers. A local suboccipital variety of furrowed scalp may be etiologically connected with shortness of neck,<sup>2</sup> and in certain idiots complete furrowed scalp has been associated with more or less microcephaly,<sup>3</sup> though I think the microcephaly was insufficient entirely to account for the scalp condition.

In twelve cases, however, the general redundancy of the skin and subcutaneous tissue of the scalp which gave rise to a condition of cutis verticis gyrata was connected with acromegaly,<sup>4</sup> and was doubtless a manifestation of the functional (hormonic) over-activity of the anterior lobe of the pituitary gland, which is the essential cause of the main features of acromegaly, including skeletal and visceral overgrowths. Though cutis verticis gyrata occurs in relatively few cases of acromegaly, it must nevertheless, when it is present, be regarded as a manifestation of the acromegalic process, just as enlargement of certain viscera ("splanchnomegaly") must, though likewise not occurring in every case.

I suggest that, as the redundancy of the cutis present in certain cases of acromegaly is obviously due to excessive hormonal activity of the anterior lobe of the pituitary gland, or of an adenomatous tumour (an "endocrine-tumour") arising from it, the insufficiency of the cutis manifested by striae atrophicae cutis, when not caused by special distension, may be due to a defective hormonal activity of the same endocrine gland, for which, perhaps, a depressing action of the toxins of enteric fever and other microbial infections may be sometimes responsible. This suggestion is in accordance with the occurrence of obesity (of a cerebral or pituitary type) occasionally observed as a sequel to enteric fever and other microbial infections.

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- <sup>2</sup> F. Parkes Weber: Suboccipital Furrowed Scalp (the Suboccipital Type of Cutis Striata or Cutis Sulcata), Royal Society of Medicine, Dermatological Section, Meeting of January 19th, 1928.
- <sup>3</sup> T. W. McDowall: *Journ. Mental Science*, London, 1833, vol. 39, p. 62; J. J. Cowan, *ibid.*, 1833, vol. 39, p. 539. See also, on cutis verticis gyrata of mechanical origin, C. Adrian and A. Forster, *Arch. f. Derm. u. Syph.*, Berlin, 1919-20, vol. 127, pp. 767-790.
- <sup>4</sup> F. Parkes Weber: A Note on the Nature of Cutis Verticis Gyrata, particularly in Acromegaly, *Brit. Journ. Derm. and Syph.*, London, 1928, vol. 40, pp. 1-11.

## DYSPHAGIA ASSOCIATED WITH ANAEMIA.

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THIS paper is an attempt to bring together under one heading some points of importance which have been mentioned at intervals when dealing with the subject of spasmodic dysphagia.

The symptom-complex of dysphagia and anaemia occurs practically always in women ranging between the ages of 35 and 60, and all cases present almost identical signs and symptoms. They are usually referred to as difficulty in swallowing localized to the level of the larynx, or as taking place during the first stage of swallowing; such terms as "small swallow," "inability to grip the food," or "difficulty at the back of the tongue" being given to describe the condition. The duration of the dysphagia is invariably of long standing, ranging between twelve months and eight years.

The patients appear to be anaemic, and are occasionally yellowish, but not what would be called cachectic; yet the tint is such as to compel the thought that such conditions are pernicious anaemia, subacute combined degeneration of the cord, and malignancy have to be ruled out for diagnosis. The lips are pale, and as a rule sore areas or fissures are seen in one or both corners of the mouth. Most of the cases are edentulous, the teeth generally having been extracted years previously. The tongue is smooth, glazed, and atrophic, devoid of papillae, and sometimes coated with irregular patches of desquamated epithelial cells. The pillars of the fauces are pale and glossy, the tonsils generally small and buried.

On direct examination with the oesophagoscope the same thin pale appearance of the mucosa is seen, flecked with white sticky patches of mucus. Sometimes the lumen of the gullet may appear greatly reduced by a thin membranous web, or tense bands of raised thinned mucosa may pass in various directions. Occasionally there may be complete absence of the sphincter-like appearance found in the deep part of the normal hypopharynx. In other cases a tonic contraction at the commencement of the gullet is found, making difficult the passing of the tube.

Cytological examination of the blood reveals marked decrease in the number of red corpuscles, a low haemoglobin percentage giving a colour index below 1. The differential white count shows little or no abnormality. In some cases some poikilocytosis and polychromasia can be seen. Inasmuch as no megalocytes or nucleated red cells are present, and the colour index is low, the anaemia is regarded as of the secondary type. All the cases give a negative Wassermann reaction, although on cursory examination the labial fissures and patches on the surface of the tongue suggest a possible syphilitic basis. X-ray examination of the oesophagus with a bismuth meal shows nothing beyond perhaps a slight hesitation at the level of the larynx.

In 1919 Brown Kelly and D. R. Paterson described in detail the clinical picture of this type of dysphagia. They regard it as being due to a spasm at the entrance of the oesophagus, accompanied by definite mucosal changes limited to the upper food passages. The spasm was described as being analogous to spasms seen in other parts of the alimentary canal. The condition, therefore, is associated with the question of innervation peculiar to the various parts. It was pointed out in support of this contention that a disturbance of balance may exist between the motor portion (Auerbach's plexus) and the sensory portion (Meissner's plexus). Through either being in the hyperaesthetic state the oesophagus is unduly irradiated, and may lead to abnormal local contraction and spasms. According to Chevalier Jackson, once this spasm is established it will tend to be perpetuated by the nerve cell habit, and therefore to recurrent spasms.

Furthermore, it is pointed out that mucosal changes might lead to aggravation of the disturbed nervous balance, and possibly, also, the want of resiliency in the oesophageal lining from infiltration of the underlying tunica propria. The increase in the difficulty of passage of food might act as an irritant to cause spasms.

More recently a type of this dysphagia has been described under the title of the Plummer-Vinson syndrome. The dysphagia was described as functional, but nevertheless associated with secondary anaemia and splenomegaly. It appears that the glossitis and the mucosal changes mentioned were not emphasized by Plummer and Vinson (of the Mayo Clinic); they attributed the anaemia and splenomegaly to prolonged unbalanced diet. Later Hurst, in the *Guy's Hospital Reports*, published a case which he thought corresponded very clearly with the syndrome described by Plummer and Vinson. In this case—that of a woman with long-standing history of dysphagia and anaemia—the dysphagia appeared to be definitely spasmodic. The passage of the oesophagoscope was difficult owing to the tightness of the pharyngo-oesophageal sphincter. She also had secondary anaemia and splenomegaly. The characteristic point which he mentioned was the glossitis, with the tongue covered by a thick coating of mucus. But this case differed from the Hunterian glossitis of Addison's anaemia, as in the latter condition the tongue is clean. Hurst considered this condition of dysphagia, anaemia, and splenomegaly to be primarily due to streptococcal infection, since a pure culture of *S. longus* was obtained from the spittle. The dysphagia was probably due to a reflex spasm caused by the local inflammation.

The clinical recognition of this type of dysphagia is therefore established. When first described the emphasis was laid upon the dysphagia as spasmodic in nature and not purely functional, and also accompanied by definite mucosal atrophy in the upper food passages. Later the dysphagia was described as accompanied by anaemia and splenomegaly, with the emphasis laid upon the blood changes and the splenic enlargement.

From cases seen and examined at the Cardiff Royal Infirmary it is evident that equal emphasis and attention should be paid to the dysphagia, mucosal changes, and the anaemia to make the condition a complete clinical entity. Apparently the splenomegaly is not so common. According to Plummer and Vinson, out of 69 cases only 12 had splenomegaly.

The difficulty of associating the morbid histology of the clinical facts under the one and the same pathology is recognized. To begin with, the majority of the patients are women who are edentulous. The teeth generally have been extracted years prior to the onset of the dysphagia. It would, therefore, be unlikely and untrue to regard the buccal and pharyngeal secretions as septic, and the glossitis and mucosal atrophy cannot be attributed to the localized sepsis. Yet there is the possibility of spasmodic contractions taking place at the entrance of the gullet as the result of irritation of a hyperaesthetic nervous arc. The irritation can be the result of an anatomical lesion of the oesophagus in the nature of altered mucosa. The relationship between the anaemia and mucosal atrophy and dysphagia is difficult to establish in the absence of definite localized sepsis. More work, however, is being done in the endeavour to establish a relationship between the dysphagia and the anaemia. In all the cases that came under our notice the blood counts showed that the patients were suffering from simple secondary anaemia, with the exception of one case, which was a definite primary anaemia of the pernicious type. As a matter of fact, minute examination into this patient's history showed that she had had difficulty in swallowing for years, but did not seek advice until the progressive anaemia compelled her to do so. This case is of particular interest, as the association of dysphagia and primary anaemia is rare. In the future "following up" of the dysphagic cases it will be interesting to see if any of the so-called secondary anaemic cases will have developed into a primary anaemia. Possibly some of them may have been very early cases of pernicious anaemia. The publication of details of patients suffering from dysphagia and primary anaemia is so rare that to give details of this case is not without value.

A married woman, aged 53, was first seen for general weakness, loss of appetite, and inability to swallow solid foods. Further inquiry showed that the dysphagia was occasionally associated with "ulceration" of the tongue and had been a source of discomfort to her for about three years. She paid little attention to it until her general weakness forced her to seek advice.

On admission examination showed: (1) the mucous membranes of the mouth to be very pale. She was edentulous; the teeth had been extracted years previously. (2) The tongue was red, smooth, glazed, devoid of papillae, with patches of sticky mucus present. (3) The tonsils were small and septic.

Blood examination showed poikilocytosis, misocytosis, polychromasia, and punctate basophilia. Haemoglobin 32 per cent.; colour index 1.4; red cells 2,200,000, white cells 5,000; polymorphs 57 per cent., lymphocytes 37 per cent., large mononuclears 6 per cent.; normoblasts and one or two megaloblasts seen.

The spleen was enlarged and could be felt projecting 1½ inches below the costal margin.

The central nervous system showed no abnormality. Wassermann reaction negative.

The urine contained acetone, bile salts, and pigments.

Van den Bergh test: direct—delayed positive; indirect—immediate positive.

Fractional test meal: achylia with no delay. X rays showed the stomach to be very large and atonic, reaching well down into the true pelvis. There was no irregularity or tenderness. Six hours later the bulk of the meal was in a terminal ileum.

A swab from the throat gave pure growths of *Streptococcus viridans* and *S. longus*.

The diagnosis of pernicious anaemia was made and treatment carried out accordingly.

Five months later oesilectomy was performed and a few weeks later the dysphagia became much more marked. She was therefore obliged to exist on liquid diet only. Examination of the food passages showed the usual atrophic changes. She was x-rayed again and the report was as follows: "Heart and vessels normal. Posterior mediastinum clear, and opaque food passed down the oesophagus into the stomach easily, but showed a temporary arrest at the level of the larynx. Oesophagus not dilated."

Direct oesophagoscopy showed no evidence of a neoplasm present. The hypopharyngeal mucosa appeared thin and tense. She died at home three weeks later. Unfortunately, no post-mortem examination was performed.

#### Treatment.

There is no doubt that benefit is obtained by the passage of the oesophagoscope and dilatation with bougies. The result is very often striking, as after the initial soreness following the direct examination patients are able to partake of normal meals and immediately announce themselves as being cured. Relapse, however, will result—some within three weeks, others may go on for years. When relapse does take place normal deglutition can be re-established for another period by further dilatation. It may be stated that the patient with the primary anaemia showed little improvement after dilatation.

One further point may be mentioned—the not infrequent supervention in such cases of malignant disease at the mouth of the gullet. Logan Turner and Paterson state that this happens too often to be merely a coincidence.

We are indebted to Dr. D. R. Paterson for his kindness in allowing us to make use of the cases from his department at the Cardiff Royal Infirmary.

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### FIVE CASES OF ILEO-CAECAL RESECTION.

BY

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DURING the last six years five cases in which ileo-caecal resection has been necessary have come under my care—two for intussusception with carcinoma of the caecum, two for carcinoma of the ascending colon, and one for tuberculosis of the caecum. The immediate results of this rather formidable operation seem to me worthy of record. All the cases recovered from operation with practically no shock.

#### CASE I.

A man, aged 50, was admitted to hospital on December 7th, 1921: he had had absolute obstruction for four days, constipation for four months, with vomiting and pain after meals. He had lost a deal of weight. There was no melaena. Temperature 99° F., pulse 64. An enema produced a good result.

Operation.—On December 8th a right rectus incision was made over a mass in the caecal region. The small intestine was distended, and there was free fluid in the peritoneal cavity. An

irreducible intussusception was found with diffuse thickening of the caecum. The lower end of the ileum and the caecum, as far as it was mobile, were excised. The ascending colon was closed and the proximal end of the ileum anastomosed to the transverse colon by the end-to-side method.

The pathological report was adenocarcinoma, with marked inflammatory reaction and congestion.

Result.—A notable feature was the complete absence of shock and rapid convalescence. The patient left hospital on December 21st, within a fortnight of operation.

#### CASE II.

A woman, aged 47, was first seen as a private case, and a diagnosis of caecal tumour was made. She was admitted to hospital on January 20th, 1923, with twelve months' history of pain occurring in attacks over the umbilicus. There was no melaena or haematemesis, but she complained of diarrhoea.

Operation.—On January 23rd, through a right rectus incision, an intussusception was found similar to that in Case 1, but the ileum was laterally implanted into the transverse colon.

On section the resected portion showed columnar-celled adenocarcinoma with intense inflammatory reaction within the supporting tissues.

Result.—The patient had an uneventful recovery, leaving hospital ten days after operation.

#### CASE III.

A woman, aged 54, was admitted to hospital on January 10th, 1924, with a history of pain, vomiting, and constipation, which had recently become worse.

Emergency Operation.—There was great distension of the small gut, with ring carcinoma near the caecum. The patient collapsed somewhat, and no attempt was made to bring the growth out. The bowel was short-circuited between the ileum and the left end of the transverse colon.

Resection Operation.—On January 26th the patient was passed on to me for resection. This case showed a typical glandular distribution, as described by Dobson, and the resection included the transverse colon, as advised by him, the anastomosis being carried out as before.

The specimen was a typical ring carcinoma, and no sections were cut.

Result.—The patient left hospital within a fortnight.

#### CASE IV.

A woman, aged 49, was admitted to hospital on September 8th, 1924.

Operation.—Through a right rectus incision a one-stage Dobson resection of the ileo-caecal region with half the transverse colon was performed.

Section of the portion resected showed large masses of carcinomatous cells in the intestinal wall.

Result.—The patient left hospital within a fortnight.

#### CASE V.

A woman, aged 53, was admitted to hospital in June, 1924. She complained of pain, dull in character, in the right iliac fossa of five months' duration; she felt distended, but the bowels acted well. A fixed tumour was felt in the right iliac fossa.

Operation.—On June 18th an operation revealed what appeared to be a malignant growth in the caecum, with glands in the mesentery. The ileum was anastomosed to the transverse colon.

Resection Operation.—On July 9th the patient was passed to me for resection. The mesentery was much thickened, and numerous large glands were present, which, on section, were obviously breaking-down tuberculous ones. The resection in this case was far more difficult than in any of the cases described above, as it was deemed advisable to remove the thickened mesentery in which the glands lay, and unfortunately the ureter was injured.

Section of the portion of bowel removed showed tuberculosis to be present.

Result.—Strangely enough, this non-malignant case compares very unfavourably with the other cases in the immediate result, but possibly the eventual outlook may be better. The patient did not leave hospital until November 7th, owing to a faecal fistula, which has now almost closed; her general condition is very good.

Case iv returned to hospital on January 1st, 1925, with an implantation growth in the abdominal wall, which was removed and radium introduced. The abdominal cavity appeared to be free from recurrence. The remaining four patients speak enthusiastically of their present state of health.

It will be noticed that in two of these cases resection was preceded by a short-circuit operation, but this is only necessary in the presence of acute obstruction. The presence of carcinoma in both intussusception cases is a reminder that a wide resection is advisable in these chronic cases, as they are almost always associated with a malignant growth. For the pathological reports I am indebted to Dr. A. F. Sladden, director of the Beck Pathological Laboratory, Swansea Hospital.

Since writing the above notes I have had two cases of carcinoma of the caecum. One was inoperable, but a short-circuit operation has given relief. The other patient, a middle-aged woman, after resection has returned to her duties as a school teacher.

ACUTE DISTENSION OF THE GALL BLADDER  
(MUCCOCELE) IN A CHILD.

BY

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BOURNEMOUTH.

As this condition is not a common one I think that the publication of the following notes is on that ground justified.

A boy, aged 12, was sent into the Royal Victoria and West Hants Hospital, Bournemouth, with the diagnosis of "acute appendicitis with the appendix in an abnormal situation." He was admitted on July 12th, 1927, and seemed to be an intelligent boy; he was fair and freckled, of slight build, and with little subcutaneous fat. The skin had a slight icteric tinge, while the conjunctivae were definitely yellow. The pulse was 75 to 80, temperature 98° F. in the axilla and 99° in the rectum. He complained of pain in the right upper quadrant of the abdomen.

The history of the present illness was as follows: On July 4th he suffered from general malaise and feverishness, went to bed, and the doctor was summoned. On July 7th clay coloured stools were passed. On July 10th he had pain in the upper abdomen, unlike colic, and severe flatulence. On July 11th he vomited; pain was becoming localized in the right iliac fossa and a tender swelling was felt there by the patient. On July 12th the temperature was subnormal, he had abdominal pain and flatulence, and the right rectus muscle was tender and rigid. There was a yellow tinge in the skin and conjunctivae. His appetite was good, and there were no subjective phenomena. The bowels, which had been regular, had recently become constipated, and the motions were clay coloured.

Examination of the abdomen showed very little movement of the upper part, and none at all in the right upper quadrant. On very lightly stroking the abdomen with the finger-nail very definite hyperaesthesia was found over the gall-bladder region, at the lower edge of the tenth costal cartilage. The skin of the right upper quadrant could be pinched up between thumb and forefinger more easily than that on the left side, although pain was caused—proving the right rectus to be contracted. Palpation confirmed the contraction and elicited tenderness, especially pronounced over the gall-bladder region, where pressure caused a sudden cessation of respiration. It was thought that an underlying tumour could be felt here, but owing to the rigidity it was impossible to be certain of this. There was a pronounced absence of tenderness in every other region of the abdomen, even on deep pressure, and in the right iliac fossa the vertebral column could be palpated without causing pain. Percussion yielded a dull note over the gall-bladder region, extending from and continuous with the liver dullness for a distance of approximately two inches from the costal margin. Rectal examination gave a negative result.

The patient's food consisted chiefly of bread, butter, and potatoes. He had had measles, chicken-pox, and tonsillitis; for the last-named he had undergone tonsillectomy eight years ago.

The urine, which was of a dark amber colour, green on surface, gave an alkaline reaction; specific gravity 1020; there was no albumin or sugar, but bile pigment was present (Poam, and Gmelin's nitric acid tests). The respiratory system was normal. A soft mitral systolic murmur was heard. There was a slight generalized itching of the skin.

The diagnosis was: acute gall-bladder lesion; ? appendicitis and coexistent catarrhal jaundice. Immediate operation was decided upon.

*Operation.*

Mr. W. S. Richardson operated on July 12th. The anaesthetic was the chloroform and ether sequence. A paramedian incision was made through the upper right rectus. On opening the abdomen an enlarged, much distended, but not inflamed, gall bladder was found. This was incised, allowing the escape, under tension, of clear mucus. A soft rubber catheter was stitched into the gall bladder. No obstruction of the bile ducts could be felt. The appendix, in a normal situation, was inflamed; it had a bulbous tip, with a constricted part proximal to the swollen extremity.

Appendectomy was performed. The other abdominal organs were all found to be healthy, and the abdomen was closed. No bacteriological examination was undertaken.

*Progress.*—Bile drained freely through the catheter, which in due time came out, leaving a biliary fistula which gradually closed, while the faeces regained their normal colour. The boy was discharged, cured and well, on August 10th.

*Remarks.*

The chief point of interest in this case is the occurrence of the condition in a child, following upon what must almost certainly have been an attack of catarrhal jaundice complicated by a concomitant attack of appendicitis. At least, in view of the condition of the appendix as found at the operation, it is to be assumed that the pain and swelling in the right iliac fossa, experienced the day before admission, were due to an attack of appendicitis. Another interesting feature of the case is that this same attack of appendicitis should have completely subsided by the time

of admission, so that no tenderness whatsoever could be elicited in the right iliac fossa. It is to be assumed that this acute mucocele formation was caused by the spread of the catarrh to the cystic duct, where the swelling of the mucous membrane was such as to occlude the lumen of the duct, thereby preventing the escape of the mucus secreted by the mucus-secreting cells of the lining of the gall bladder, thus causing the rapid distension of the bladder and giving rise to the referred abdominal pain and rigidity.

I am indebted to Mr. Richardson for very kindly permitting me to publish this case.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## ECLAMPSIA.

I have, during the year, treated in the County Maternity Hospital, Bellshill, Lanark, 27 cases of eclampsia, with a maternal mortality of 7.4 per cent.

The treatment, as carried out at present, is as follows: If the patient, when admitted, has recovered consciousness the stomach tube is passed and gastric lavage practised until the fluid siphoned off returns clear. A dose of chloral hydrate and potassium bromide, 25 grains of each, is given, after which a rectal enema containing magnesium sulphate 1/2 oz. in 10 oz. of sterile water is administered. The patient is then given 4 oz. of compound senna mixture with 1/2 oz. of Epsom salts dissolved in it, which is followed by a dose of 2 minims of croton oil in half a drachm of olive oil. If the pulse is full and bounding or over 110, veratrine 1/2 c.cm. is given hypodermically. If the fits recur, or if the patient is unconscious on admission, the same procedure is carried out, save that the croton oil is given by the rectum, and the chloral and bromide in similar doses at intervals of one hour until three doses have been given. Large doses of morphine sulphate are undesirable, as it appears to me to depress the heart's action (as is evidenced by the early appearance of cyanosis), and tends also to increase intestinal stasis. At the same time I am of the opinion that small doses of morphine (1/6 grain) are beneficial at the beginning of treatment in severe cases.

No attempt is made to deliver the patient unless labour is well advanced in the second stage, and then deep ether anaesthesia is produced before delivery is attempted.

All cases were treated by the routine described. The ante-natal cases numbered 2; one died, the other went home at her own risk after treatment, to come in for confinement at full term. The number of neo-natal cases was 20, and of post-natal cases 5.

No.	Age.	Gravida	Maturity.	No. of fits.	Child A or SB.	Mother A or D.
1	31	4	8 months	1	A	A
2	26	4	7 "	2	SB	A
3	31	4	Full "	3	SB	A
4	30	2	8 months	3	A and SB	A
5	17	1	Full	5	A	A
6	32	3	7½ months	12	A	A
7	22	1	7½ "	3	A	A
8	22	1	8 "	4	A	A
9	32	3	8 "	1	SB	A
10	32	2	7 "	2	†	A
11	21	1	8 "	3	A	D
12	21	1	8½ "	8	A	A
13	29	5	9 "	13	A	D
14	30	8	9 "	5	A	A
15	41	10	9 "	16	A	A
16	21	1	9 "	1	A	A
17	30	4	9 "	2	A	A
18	40	5	7½ "	11	A	A
19	21	1	8½ "	5	A	A
20	26	1	8½ "	6	A	A
21	21	1	9 "	2	A	A
22	22	1	9 "	23	P	A
23	17	1	9 "	7	P	A
24	20	2	9 "	10	P	A
25	19	1	Full "	2	P	A
26	40	11	Full	5	A	A
27	27	7	Full	5	A	A

\* Twin pregnancy. † Macerated. A=Alive. SB=Stillborn.  
D=Dead. P=Post-natal.

Bellshill, Lanarkshire.

H. J. THOMSON, M.D.

### THE PATIENT'S COMFORT AFTER PROSTATECTOMY.

A METHOD of nursing cases of prostatectomy has recently been demonstrated to me by the matron of our local nursing home, Miss A. A. Frazer, which is, I believe, original, and certainly contributes in no small measure to the patient's comfort. It is also a great economy, both as regards dressings and the laundry bill.

For the first few days, of course, the patient remains practically dry, but, as soon as the suprapubic drainage tube comes away, then the patient, lying in Fowler's position, is placed sitting on a well-inflated rubber bed-pan. A piece of gauze is placed over the wound with the ends brought down on each side to a point between the legs. Over this comes a piece of wool, about six inches square, folded at the lower end to a point, and lastly, a piece of jaconet, about ten inches by eight inches, also folded to a point between the legs. A strip of bandage is passed round the waist and tied in front over the jaconet, the upper border of which is folded over it. The urine will now all drain into the rubber bed-pan, which is removed for emptying several times in the twenty-four hours, the bed remaining dry. The patient's scrotum, groins, and perineum are kept well smeared with ointment.

The rubber bed-pan used must be kept almost fully inflated and well powdered. The patient soon learns to sit well back on it, and remains on it throughout his convalescence in bed. It can be obtained from Messrs. Rothband and Co., Bent Street, Manchester, price 21s.

Rotherham.

W. STANLEY WILDMAN, F.R.C.S.Eng.

### DERMATITIS HERPETIFORMIS IN A CHILD.

The following unusual case of dermatitis herpetiformis seems to be of general interest.

In December, 1927, I was called to see a boy, aged 4½ years, who had a temperature of 99.4° F., a corresponding increase in the pulse rate, redness of the throat, and an erythematous rash. Three days later a number of small vesicles were seen on the forehead and eyelids; these burst and disappeared, leaving the skin blotchy. On the following day a bulla about the size of a marble developed on the left forearm, accompanied by a larger one on the chest, which became haemorrhagic and burst, leaving a raw surface. This was followed by the appearance of bullae covering the body and limbs and attaining, in some cases, quite large dimensions. The boy was admitted to Leeds Infirmary under the care of Dr. Ingram, who confirmed the diagnosis of dermatitis herpetiformis. The history at this time of a multiform eruption, papular, vesicular, and bullous—with the vesicles, some of which were haemorrhagic, being characteristic of the condition. The fluid from the bullae was sterile and showed an excess of the eosinophile cells, which also occurred in the blood to the extent of 3 per cent.

The child was put on arsenic in small doses and responded well to treatment.

The chief point of interest in this case is the occurrence of dermatitis herpetiformis at such an unusual age, since it is almost exclusively a disease of adult life. Some writers have suggested that the condition results from worry or shock, while others attribute it to a toxin arising from faulty metabolism. My observations in this case, especially at its onset, when it showed an erythematous eruption, accompanied by papules, which later became vesicular, seemed to correlate it with varicella. Such a relation would involve a similarity of origin—namely, infection by an ultra-microscopic virus. This seems the most rational etiological explanation to me.

I am indebted to Dr. Ingram for his help in furnishing me with reports of the blood and serum from the bullae.

Morley, Yorkshire.

S. WIGGON, M.B., B.Ch., L.M.

### REMOVAL OF A FOREIGN BODY FROM THE STOMACH OF AN INFANT.

In view of the satisfactory sequel and the novelty of the procedure adopted to remove a safety-pin from the stomach of an infant the following case may be worthy of record.

An infant, 2 months old, was brought to hospital, having swallowed a safety-pin half an hour previously. X-ray examination showed the pin with its upper end at the level of the cricoid cartilage; it was hanging with the hinge downwards, and the engaging clip and point were directed upwards. The child was not distressed. The same evening the child was anaesthetized. An oesophagoscope, specially designed to close an open safety-pin,

was passed, and the clip of the pin was sighted. The tube had then to be withdrawn to re-establish the child's airway, and a smaller tube was introduced. Examination was made along the length of the oesophagus, but the pin could not now be seen; the fluorescent screen, however, showed it lying in the fundus of the stomach. It was deemed inadvisable to make further attempts at removal that evening.

The next morning an X-ray plate revealed the pin in the same place at the fundus of the stomach. The child was again anaesthetized, but took the anaesthetic none too well. A soft rubber catheter, size 16 English, was passed down the oesophagus into the stomach, and the abdomen was opened through an incision splitting the upper part of the left rectus muscle. The end of the catheter and the unclipped pin were grasped through the unopened stomach wall; the point was passed through the wall of the catheter and the pin was closed. The stomach wall was then pinched up to make sure that it was in no way caught. The catheter, bearing the pin, was then withdrawn along the oesophagus through the mouth, and the abdominal wound was closed with through-and-through sutures. The child was returned to the ward in a satisfactory condition and made an uninterrupted recovery, leaving hospital with the wound healed, and quite well. The pin was an such in length.

There seem to be several points worthy of note in the procedure detailed above. The additional shock attendant on opening a hollow viscus was avoided. In any case this is quite a serious undertaking, and would almost certainly have killed the child. The method of removal adopted might be employed for any object, sharp at one end and blunt at the other, which has passed as far as the stomach. It is obvious that while this procedure can be used in the case of an object lodged in the stomach it is advisable not to delay until it might pass further.

I can find no mention in the literature of this method having been suggested or attempted. The procedure was conceived and executed by Mr. L. R. Broster, to whom with Mr. Lees, I am indebted for permission to publish this case.

W. B. R. MONTEITH, F.R.C.S. Ed.

Queen's Hospital for Children, Hackney.

## Reports of Societies.

### THE USE AND ABUSE OF ULTRA-VIOLET RADIATION THERAPY.

At the meeting of the Medical Society of London on February 13th the subject for discussion was the use and abuse of ultra-violet radiation therapy. Mr. H. W. CANNON, the president, was in the chair.

Dr. LEONARD HILL, in introducing the subject, began with a reference to other radiations. Much nonsense, he said, was talked about infra-red radiation therapy. The infra-red rays were nothing but heat rays such as were obtained with a hot-water bottle or fomentations. They had exceedingly little power of penetration, and were absorbed especially by the water in the outer layers of the skin. The visible rays—light—had greater power of penetration, especially the rays in the red portion of the spectrum. If a powerful source of incandescent rays were used, and the infra-red rays cut off so as to avoid overheating, a penetration of some depth below the dermis might be secured. The energy of the visible rays was turned into heat in the blood, and possibly had some other action in the blood of which nothing at present was known. The ultra-violet radiations might be of long, medium, or short wave-length. They covered the region from 4,000 to 2,000 Angström units. There was no need to consider radiations beyond the 2,000 limit, because these were absorbed by the oxygen of the air. The sun gave no rays shorter than about 2,900 Angström units, but artificial sources like mercury vapour lamps or long-flame arcs extended the spectrum right down to the 2,000 limit. The biological evidence showed that the region round about 3,000 had the principal action on the skin in causing sunburn and in activating ergosterol and producing antirachitic vitamin. The shorter the wave-length the greater the killing power for bacteria and infusoria. The long ultra-violet radiations, from 4,000 upwards to 3,000, were not absorbed to any great extent by living tissues; at about 3,000 they passed through the horny layer of the epidermis, being largely retained by it, and were almost completely absorbed by the living cells of the dermis. The maximum biological action was at about 2,970, just where



the high sun reached on a very clear day. Artificial sources acted mostly with rays shorter than 3,000, and the sun with rays mostly longer. Pigment was not a great protection against ultra-violet, but it was a defence against the visible rays; the pigment was in the deeper cells of the epidermis, and its function was to prevent over-heating of blood by light. Of all the methods of stimulating the defensive mechanism of the body none was more excellently adapted than ultra-violet radiation, which could be very carefully graduated and distributed over such areas as one pleased. Harm was done by over-dosage, just in the same way as exhaustion was produced by excess of sunlight. The temporary discomfort or illness which persons might experience after over-use of ultra-violet baths was of the same character as that which followed imprudent exposures at the seaside; but in acute disease such as phthisis much harm might be done.

Dr. W. J. O'DONOVAN said that the fact that light treatment had been going on at the London Hospital since 1900 without a day's discontinuance—except for the deplorable behaviour of the electricians in the general strike—was greater proof of its efficiency than any mass statistics of therapeutic results, which might rightly be distrusted. Furthermore, artificial sunlight therapy, both by arc and mercury vapour lamps, was introduced into the hospital in 1922, and there was not the slightest indication that it was failing to produce its cures. The speaker then mentioned a number of skin conditions in turn. Light therapy for lupus must be both general and local. The destructive work of the tubercle bacillus was slow, and the cure must necessarily be tardy also. Nodule after nodule of lupus could be picked out by Finsen light, or by its more destructive, less elegant, and less manageable substitute, the Kromayer lamp, and the time required could be shortened considerably and the cure made more certain by the daily administration of active light therapy. If light had served only to banish  $\alpha$  rays from the therapeutic field of lupus it would have justified its place. The immediate results of  $\alpha$  rays were often gratifying, but the later results of atrophic, vascularized, pigmented, and ugly scars were not pleasing. As to lupus erythematosus, he could confirm from his own experience what was the traditional teaching of the London Hospital clinic—namely, that light treatment for this condition was a waste of time and effort. His impression of the value of actinotherapy in cases of acne was distinctly discouraging. In widespread cases of psoriasis he had completely cleared the lesions and obtained two years' freedom from relapse by a steady daily dosage from the mercury vapour lamp. Nevertheless, each case had relapsed to a greater or less extent in the course of time. It was his practice always to combine light therapy with vigorousunctions of ointment and the use of the rest of the dermatologist's armamentarium. Actinotherapy had proved to be a most valuable weapon for combating pruriginous conditions. It was his opinion that many of these, whether accompanied by cutaneous manifestations of lichenization or no, were psychic in origin. In this he included cases of pruritus ani, pruritus scroti, pruritus capitis, and such conditions as lichen axillaris and lichen circumscrip-tus. All these benefited patently by general daily light baths, and where the irritation was intense and localized the patients all derived benefit from as large a local dose of mercury vapour radiations as could be tolerated without acute discomfort. It was with pleasure that in this field a dermatologist was able to turn from  $\alpha$ -ray treatment to local actinotherapy, with results which were gratifying to the patient and a relief to the conscience of the operator. He was doubtful as to the value of light therapy in ringworm. In certain cases of eczema, following the exhibition of ultra-violet light, there developed occasionally a most intractable exfoliative dermatitis. In seborrhoea, apart from simple lesions which responded quickly to sulphur ointments,  $\alpha$ -ray epilation was of primary importance, and after that relapse could be prevented and cure hastened by the general administration of very small doses of ultra-violet radiation, not exceeding half a minute to each side of the body daily in the first instance. In three cases of post-herpetic pain in elderly patients the condition became quite tolerable within a week of daily administrations of local ultra-violet radiation baths.

He had also found actinotherapy useful in dealing with the wide wounds after surgical incision for carbuncle.

Dr. C. B. HALL took some exception to Dr. Hill's remark that the rays at the long end of the spectrum had no effect; it was to that region that the rays used in diathermy belonged. With regard to abuses of ultra-violet radiation, he thought these came under three heads: extravagant claims, injudicious doses, and home use. To claim cures of cases, unsupported by scientific measurement and accurate clinical data, and based on insufficient numbers, was in his opinion dangerous, misleading, and liable to bring the subject into disrepute. With regard to injudicious dosage, this implied a failure to realize the true needs of the patient. Patients might be classified as those requiring sedative, tonic, and counter-irritant treatment. It was possible to use ultra-violet radiation in a sedative way and also in a counter-irritant way, but the essential preliminary before its use was not only accurate diagnosis of the disease, but a careful assessment of the condition of the patient; and, further, it was necessary to know the lamp, and what was exactly required of it. He thought there was no doubt that ultra-violet radiation could light up a quiescent phthisis, or give rise to cataract, or increase a bacterial infection. In a case of chronic long-standing arthritis of the hip, following a hunting injury, after the patient had made considerable progress with diathermy the speaker thought he would try ultra-violet radiation. The effect was to precipitate a definite and acute attack of appendicitis. With regard to home use, he was not a party to the general condemnation of the lamp at home, nor to its general recommendation. Ultra-violet radiation, which was capable of altering the lime salts of bones in a very short period, of altering the nutritive value of milk in nursing mothers on the one hand, and of lighting up phthisis on the other, was a potent therapeutic agent not to be lightly installed in every room. But geographical and other reasons might bring about a set of circumstances in which, after accurate diagnosis and determination of dosage, and instruction—given an intelligent patient—he might be allowed to use the lamp at home. Any employment of the lamp which went beyond those limits he would condemn. If the uses of ultra-violet radiation were not to be outweighed by its abuses it was necessary that the knowledge with regard to it should be on firm grounds and the technique capable of accurate description. Dr. Hall ventured with some hesitation to make one observation—namely, that in his own experience he was finding a curious difference in clinical results obtained, say, with the mercury vapour lamp at a great distance, at a medium distance, and, with the Kromayer or Finsen-Reyn lamp, in close proximity. This was a matter which called for more investigation. During the last five years four thousand fractures, major and minor, had passed through his department, and there had not been one single failure of union. In cases of delayed union, sent from infirmaries or from the country, success had eventually been obtained by the use of light combined with other means. In some of the cases union had been delayed for a long period, the longest being twelve months.

Dr. H. HALDIN-DAVIS said that in his department at the Royal Free Hospital Dr. Colebrook had made a careful investigation of the treatment of varicose ulcers by ultra-violet radiation, with regard to which large claims had been made. She had found the radiation practically inert in this particular condition.

Dr. DAVIN BARCROFT said that in Vincent's angina he had tried ultra-violet radiation in two cases, with good results in one. In acne his results were distinctly disappointing, and generally, he thought, ultra-violet radiation was rather like a summer holiday, in that it was a tonic at the time, but its effects evaporated.

Dr. A. C. ROXBURGH spoke of the detection of ringworm hairs in the scalp by ultra-violet radiation. The patient was taken into a dark room and placed underneath a mercury vapour lamp, with the hood closed save for an opening about 2 inches in diameter, across which was a piece of Wood's glass—a dark violet glass containing oxide of nickel. This glass allowed to pass certain of the long ultra-violet rays, from 3,600 to 3,300 Angström units. If the hand were placed under this emission the skin would

be seen to fluoresce slightly, and the nails much more. When the head of a child afflicted with small-spored ringworm—which was the common kind of ringworm in this country—was exposed, the normal hairs looked as though they had been slightly dusted with flour, but the ringworm hairs showed a brilliant greenish light, which enabled one to pick out a single ringworm hair in an otherwise healthy scalp. This method had been found useful in detecting early infections in brothers and sisters of patients obviously infected. It was as well to remember that iodine would completely prevent the fluorescence, and silver nitrate would stop it to a certain extent.

Dr. G. VILVANDRE defended x-ray therapy from some of the criticisms of Dr. O'Donovan. In skilled hands he thought x rays as good an agent in the treatment of tuberculous glands of the neck as ultra-violet radiation. He emphasized the need for careful diagnosis of the condition before patients were treated with the ultra-violet lamp.

Mr. ZACHARY COPE commented on the fact that no constructive views had been put forward as to the scientific measurement of the radiation emitted by the lamps. He had not heard a word in that discussion as to the safe dosage of a local lesion. It seemed to him that much remained to be stated with regard to intensity, distance, and the area which it was safe to illuminate at one time.

Dr. LEONARD HILL, in reply, said that in the measurement of ultra-violet radiation biological methods must be the final standard. To find out the exact dosage for a patient nothing was easier than to put some kind of a bandage on the arm or elsewhere, and expose through small holes in the bandage for different periods. The dose which produced the smallest amount of erythema should be used to start with. For estimating the dosage of the lamps the acetone-blue method was accurate.

Dr. O'DONOVAN, also in reply, said that any man who would learn to use ultra-violet radiation should go to a clinic and instruct himself in its traditions. These things were only learned by the experience of actually seeing cases handled in the mass.

## OCULAR COMPLICATIONS OF ENCEPHALITIS LETHARGICA.

At a joint meeting of the Sections of Neurology and Ophthalmology of the Royal Society of Medicine on February 9th, with the president of the Neurological Section, Professor EDWIN BRAMWELL, in the chair, a discussion was held on the ocular complications of encephalitis lethargica.

Dr. JAMES COLLIER, opening for the Neurological Section, emphasized the difficulties in diagnosis, mentioning especially cases in which no hint as to the nature of the disease was given during the early days of the illness. Prefrontal tumours with rapid onset might closely simulate encephalitis lethargica. The speaker maintained that the characteristic symptoms of sleepiness, ophthalmoplegia, Parkinsonism, spontaneous movements, dysuria, and constipation were due to the position of the lesions in the brain stem and not to any specific quality of encephalitis lethargica. He reported two fatal cases with such a syndrome, one of which was encephalitis lethargica and the other a rapidly growing soft tumour. Poliomyelitis and tuberculous meningitis had also to be distinguished, but examination of the cerebro-spinal fluid would help considerably in the diagnosis. Dr. Collier then dealt with lesions of the nervous mechanism which subserved vision. Mentioning first the occipital lobes, the speaker said that he had not seen any case in which "cortical blindness" had been definite. One patient had a persistent left homonymous hemianopia, persisting altogether unchanged for four years, showing a lesion in the visual path. With regard to the optic nerve, one patient presented during the acute stage the syndrome of retrobulbar neuritis. Papilloedema he had only seen in one case in any degree in which the diagnosis was verified pathologically; minor degrees of swelling of the disc did not occur very often. The causes of such papilloedema might be, firstly a rise in intracranial pressure, and secondly that the neuritis, from local inflammation, came far enough forward to be seen at the optic disc. Ophthalmoplegia was met with in two

forms: paralysis of any of the peripheral oculomotor nerves might occur, or a nuclear ophthalmoplegia, hardly ever complete, affecting both eyes, leaving the optic axes unparallel, might be found. Dr. Collier said that nystagmus was not common. He had seen it in one case of acute cerebellar encephalitis. Herpes certainly occurred, but the speaker had not actually seen a case.

Mr. F. A. WILLIAMSON-NOBLE, for the Section of Ophthalmology, referred in the first place to recent pathological work on the disease which had an ophthalmological basis, since it began with Grüter's work in 1910 on vaccinia of the cornea in rabbits. The outcome was the indication of a close relation between the virus of herpes simplex and the virus of encephalitis lethargica, the principal point of difference being the enhanced neurotropic activities of the encephalitis virus. Coming to the clinical side of the subject, the speaker enumerated the eye lesions occurring as a sequel to encephalitis lethargica. These comprised jerky eye movements, lack of blinking, blepharoclonus, partial ptosis, unequal pupils, deficient accommodation, deficient convergence, nystagmoid jerking, diplopia with squint, lid retraction, ocnogyric crises, sluggish reaction to light, Argyll Robertson pupil (rare), squint (rare), tapping the globella making the eyes flicker, and "blinking sign" (Kinnier Wilson) on lateral deviation. Of these signs Mr. Williamson-Noble emphasized loss of power of convergence as being one of the commonest associated with the Parkinsonian syndrome: this was also one of the commonest eye troubles in paralysis agitans. He mentioned also the curious tonic eye fits or ocnogyric crises: these consisted of spasmodic attacks of conjugate deviation of the eyes, most frequently vertical, often associated with a marked emotional factor. The speaker referred to the occurrence of papilloedema, mentioning four cases, in all of which the diagnosis of encephalitis lethargica was found to be incorrect at autopsy. Optic neuritis was also very rare, and the absence of optic disc changes appeared to be a negative sign of value in the diagnosis of encephalitis lethargica.

Dr. A. FEILING gave some details of his personal experience of ocular complications of encephalitis lethargica. He described four cases of ocnogyric crises, stating that this complication had only appeared in this country during the last two years. He agreed that the presence of papilloedema was against the diagnosis of encephalitis lethargica. With regard to the various ocular palsies, during the acute stage both the intrinsic and the extrinsic muscles were commonly involved. In the sequels or in the chronic form of the disease the commonest palsy was one of the intrinsic muscles, and consisted of deficient contraction of the pupil on accommodation.

Dr. J. R. PEARCE dealt with two points in connexion with encephalitis lethargica. He emphasized the high percentage of wrong diagnoses made among cases of which the cerebro-spinal fluids or brains had been referred to him for examination. He also considered some of the arguments concerning the relation of the virus of herpes simplex to that of encephalitis lethargica.

Mr. M. L. HINE described a case of a young man, aged 24, in whom, as a complication of encephalitis lethargica, a left hemianopia developed, complete in the lower quadrant and partial in the upper quadrant. This had persisted unchanged for three years.

Dr. W. J. ADIE emphasized the number of wrongly diagnosed cases, and commented on the difficulty of mentioning definite ocular signs which were distinctive, since so many ocular complications might occur. He thought the chief sign was lack of convergence and absence of contraction of the pupil on accommodation.

Dr. GORDON HOLMES enumerated some of the positive ocular signs which assisted in the diagnosis of encephalitis lethargica in the acute and chronic stages. He mentioned the "reverse Argyll Robertson" pupil as being common, and agreed that papilloedema was rare.

The PRESIDENT added two definite signs which, in his opinion, occurred in practically no other disease. One was the loss of upward movements of the eyes and the other was a curious oscillation of the eyeballs when the patient attempted to perform certain movements of the eyes.

## THE FUTURE SCHOOL MEDICAL OFFICER.

At a meeting of the Medical Officers of Schools Association on February 10th, with Dr. ELWIN T. NASH in the chair, a paper was read by Dr. ALFRED A. MUMFORD of Manchester Grammar School on the school medical officer of the future.

Dr. Mumford began by saying that before certain problems which were implicit, if not explicit, in school life could be properly solved, medical help and inquiry were needed. Many of these matters were of long standing, the residue of problems left unsolved in the past, or the solution of which had been forgotten or neglected. They could not be settled properly even now without recognizing that mind and body worked in harmony, and that mental and physical activity derived their energy from some common source and must be considered together. The separation between mind and body was not only artificial, but was of recent growth, dating from the time of Descartes. It was not found in Greek medicine or philosophy, and in modern times the failure of mechanistic methods to solve completely physiological problems was becoming generally recognized. The association between the arts of medicine and of teaching had long been intimate. It certainly existed at the time of the Renaissance, though it broke down during the eighteenth century, when English education fell to its lowest level. It entered again into association with education in the early part of the nineteenth century, when it was recognized that many young children in the newly started Sunday schools and in the national schools were suffering seriously in health on account of their employment in factories. Medical intervention had a large share in directing the movement which led to the Factory Acts. In recent times there had been a tendency to prolong publicly provided education well into adolescence. This not only involved fresh conditions of school strain, but should bring medical officers of public boarding schools into closer relations with those of day secondary schools than had hitherto been the case. The greater attention now paid to the adolescent opened up some important questions in relation to physical training, the strain of school and examination work, and the formation of standards by which to judge vocational aptitude and future occupation. In dealing with each of these questions a more intimate relation between the medical officer on the one hand, and the teacher and physical trainer on the other, was necessary. Educational practice in the past had only been modified when advances in medical science succeeded in convincing the general public of the necessity for such modification. The speaker recalled how Dr. Pridgeon Teale introduced the question of over-pressure among teachers and scholars at the Huddersfield sanitary conference in 1883, when he was supported by Dr. (afterwards Sir) Clifford Allbutt and other leaders of the medical profession. Dr. Crichton Browne (as he then was) was asked by the Government to report on school over-pressure, and his condemnatory report was strongly endorsed by the National Union of Teachers. Dr. Francis Warner endeavoured to prove that nervous instability and defects were associated with observable defects of body-build or development, and his 100,000 observations on children were supported by the British Medical Association. Dr. Warner appeared as expert witness before Royal Commissions and committees appointed to consider the exclusion from ordinary schools of children suffering from special defects, and for these children special schools were established. A Royal Commission appointed in 1902, following the introduction into English elementary schools of a model course of physical training, found that many children were unfit for any form of physical training on account of their poor health. An interdepartmental committee, appointed to inquire into the alleged physical deterioration of the nation, issued in 1904 a report which was strongly supported by the Anthropological Institute, and public opinion compelled the Government, against its wish, to include in an Act making provision for feeding necessitous school children some method of medical inspection. The lack of organized and influential medical opinion had, however, caused some of the important recommendations contained in the report of the Interdepartmental Committee on

National Deterioration to be shelved. Consequently the national school medical service became organized, not as a special branch of medicine engaged in the positive assessment of health and vigour, nor as a national register of sickness of children, but as a branch of public preventive medicine engaged in the detection of existing ailments and physical defects. Dr. Mumford insisted that this limitation had obscured the necessity for any study of the essential differences, all within the range of health, which only became marked during adolescence, though they occurred to a slight degree in early childhood. Consequently a new position had arisen to-day for the school medical service, which needed the adoption of positive anthropological methods in studying individual differences of race, capacity, and temperament. All these should be taken into account in any standardization of physical, as well as mental, training. Other guiding principles were also needed to help the school medical officer in assessing physical fitness for early promotion into advanced forms in secondary schools, the capacity of the pupil to withstand without injury the strain of preparation by long hours of home work, and also in assessing health in terms of future occupation. The physical basis for such guiding principles was more likely to be found in tests of functional activity than in single body measurements. Finally, school work might be considered in terms of a modified Ohm's law, in which the teaching provided was the potential or "electromotive force," the individuality of the boy himself was the "resistance," and the knowledge or capacity displayed was the issuing "current."

Dr. ELWIN NASH referred to the mixed groups of boys with whom Dr. Mumford had to deal at Manchester Grammar School, and said that his own Lancashire experience had shown that there were many boys who came from poor homes, such as colliers' cottages, and took prominent places in school, although they had never been really up to nutritional standard. He could call to mind boys who had taken the highest educational honours in school, and afterwards in the university, who had been always more or less underfed, with a physical condition below par.

Dr. NARRN DOBBIE spoke of the necessity of keeping in mind both the physiological and the psychological aspects. The standpoint of the pure psychologist was too narrow for the school medical officer to adopt. Psychology, however, useful, was only part of the picture, which embraced physiology as well.

Dr. G. E. FRIEND said that at Christ's Hospital he measured the boys three times a term, and once a year made a more complete measurement and graded every boy. He found now a much more sympathetic attitude than formerly on the part of the school authorities to this side of the school medical officer's work.

Dr. A. I. SIMEX said that the ideal thing would be to establish a national laboratory where a statistician and a pathologist would work in collaboration and to which school statistics could be sent for analysis and record. The results would be extremely valuable for comparative purposes two or three generations hence. He himself had accumulated eighteen years' statistics at Rugby, all filed for reference, but the difficulty was to know when and how to make use of them.

Dr. J. A. H. BRINEKER referred to the importance of the school medical officer being closely acquainted with the work of the physical instructor, and to a certain extent with the work of the psychologist. The medical officer of the future would be not merely one who attended to ailments, but one who correlated his own results, and those of others, over a much wider field of investigation.

Dr. MUMFORD gravely doubted whether there was any proper height-weight index for all children. He also thought that ideas as to the amount of food needed were apt to be too rigid. The amount of food differed very much according to the boy's build. It was possible for one boy to be on restricted diet without a great deal of harm, while in another, with a larger body surface, twice the amount of food would be needed. He added that it was useful to study the skin as an organ, in the same way as one would study the lungs. He had found a high degree of correlation between mental ability and skin activity.

### MULTIPLE UTERINE FIBROID TUMOURS.

At the annual meeting of the North of England Obstetrical and Gynaecological Society in Manchester on January 27th, Dr. H. LEITH MURRAY (Liverpool) was elected president for the ensuing year.

Dr. K. V. BAILEY showed a specimen of multiple uterine fibroids, with torsion of the pedicle of one, and gave the following clinical details.

A woman, aged 36, with a normal menstrual history and no menorrhagia or leucorrhoea, had definite dysmenorrhoea of the congestive type. She had noticed a "lump" in the right iliac region during the last twelve months. This had occasioned no pain or other untoward symptoms until six months ago, when an attack of acute abdominal pain occurred at the close of a menstrual period: it passed off after a few hours, and there was no recurrence of pain until a week before admission, when a similar attack occurred, but of greater intensity. During the few days prior to admission the patient had experienced some degree of dysuria. There were no symptoms relative to pressure on the rectum. The previous medical history contained no points of importance relative to the present condition. A firm, hard, mobile mass was found occupying the right iliac region; its origin from the pelvis was traceable. Vaginal examination revealed the cervix to be of a smooth and conical type; the mass, palpable abdominally, was continuous with two irregularly rounded, hard, but mobile pelvic tumours, which appeared to be situated in front of a somewhat bulky uterus and on either side of it. A diagnosis of solid ovarian tumours, with torsion of the pedicle of one of them, was made. On opening the abdomen the uterus was found to be the seat of numerous fibroids. The two masses which had been palpated vaginally were two subperitoneal fibroids springing from the antero-lateral aspect of the uterus, and possessing definite pedicles. Torsion of the pedicle of one of them had occurred. The uterus and its appendages were removed by subtotal hysterectomy.

The specimen shown by Dr. Bailey consisted of a relatively small uterus, which contained numerous small interstitial fibroid tumours, and one larger fibroid, the size of a tangerine orange, growing out from its right lateral aspect. The two large subperitoneal fibroids sprang from the antero-lateral aspect. Torsion of the pedicle of one of these had occurred, with resultant haemorrhage into the substance of the fibroid. The other subperitoneal fibroid, the size of a foetal head, had undergone hyaline degeneration, and there was evidence of calcification in its substance. Dr. Bailey remarked that in this case there was no history of menorrhagia, and this notwithstanding the fact that numerous interstitial fibroids were present. He had operated recently on three other cases of multiple uterine fibroids, exhibiting the tumour in all its situations, and in none had menorrhagia been a symptom.

#### *Dystocia due to Vaginal Atresia.*

Dr. K. V. Bailey also described a case of atresia of the vaginal vault causing dystocia in a 3-para, aged 33, who had had two premature stillborn children. She had been operated upon for prolapse twelve years previously, and a repair operation, most likely amputation of the cervix, had been performed two years before the present date. The menstrual history was normal.

The patient, when two months pregnant, had suffered from persistent vomiting; the urine contained diacetic acid. She gave a history of premature rupture of the membranes in two previous pregnancies, with consequent stillbirths. The Wassermann reaction was negative when she was six months pregnant, but there was some vaginal discharge, and antiseptic treatment was ordered. Dr. Bailey saw the patient first when she was in labour at term, and the uterus was contracting strongly and frequently. The presentation was a vertex left occipito-anterior, but the foetal head was mobile at the pelvic brim. The foetal heart sounds were audible. The patient was becoming distressed, with a pulse rate of 126. On vaginal examination there was no cervix or external os to be felt; the vaginal vault was entirely closed, and a band of scar tissue ran somewhat obliquely in an antero-posterior direction across the middle of it. During examination the uterus again contracted strongly, and the vaginal vault bulged under tension on either side of this scarified area; it was obvious that there was considerable thickness of tissue composing the vault of the vagina. Dr. Bailey delivered a healthy male child by Caesarean section and removed the uterus, cutting across the dilated lower segment as close to the vaginal vault as possible, and rendering the space between this line and the vaginal vault as antiseptic as possible. The patient had since progressed very favourably.

Mr. J. E. STACEY (Sheffield) described a similar case which he had delivered by Caesarean section. Dr. F. H. LACEY (Manchester) recorded a case of this kind in which rupture of the uterus occurred early in labour and hysterectomy was performed. Professor DONALD (Manchester) attributed the presence of excessive scar tissue in the

vagina following colporrhaphy to the use of strong and harmful antiseptics. Professor FLETCHER SHAW (Manchester) mentioned recent cases of sloughing and stenosis of the vagina following the use of methylated spirit as an antiseptic.

#### *Puerperal Ovarian Thrombo-phlebitis.*

Dr. S. B. HERD described a case of puerperal ovarian thrombo-phlebitis.

A married woman, aged 30, had had four previous confinements, all normal except for oedema of legs during the last three months of the fourth pregnancy. During the present pregnancy the ankles were oedematous in the course of the last two weeks. She was delivered fairly easily at home by high forceps, but she was admitted to hospital on the third day after delivery with a temperature of 100.4° F. and a pulse of 120. There was slight jaundice; she looked ill, and was anaemic. There was oedema in both ankles. The lochia was normal. The uterus was tender but well involuted, and no swellings were palpable. The urine contained no pus, but there was a feeble growth of staphylococci. The temperature fell on the next day, and the uterus continued to involute; at this time the blood culture was negative. On the eleventh day another rigor occurred, but there were still no localizing symptoms; she was given serum, quinine ergot, and pituitrin. On the twelfth day there was tenderness in the popliteal space and left calf, but no vein was palpable; there was tenderness in the left fornix, but no swelling. The uterus was normal. On the following day a blood culture showed streptococci in chains. On the fourteenth day the abdomen was opened and the left ovarian vein was found to be thrombosed, the thrombus extending almost, if not quite, up to the renal vein. Ligature and excision of the left ovarian vein was performed, and the left ovary was removed; no other abnormality was found in the abdomen. The patient suffered severely from shock after the operation and died fifteen hours later, in spite of blood transfusion. There were no further rigors.

Dr. Herd discussed the literature on the subject, and mentioned the difficulty of early diagnosis. The conclusions he drew from the case were: (1) the importance of early diagnosis; (2) that complete excision of the vein was preferable to ligature; and (3) laparotomy might be performed earlier in obvious cases of pyaemia where the patient was rapidly becoming worse in spite of active treatment.

Professor MILES PHILLIPS (Sheffield) did not consider that laparotomy was justifiable in a serious case of puerperal septicaemia unless the diagnosis was certain.

### TUBERCULOSIS OF THE SKIN AND TENDON SHEATHS.

The annual meeting of the Devon and Exeter Medico-Chirurgical Society was held at the Royal Devon and Exeter Hospital on January 26th, when Dr. R. EAGER inducted Mr. A. L. CANDLEN, the newly elected president, into the chair.

Mr. Candlen showed a case of tuberculosis of the skin of the finger and of the synovial sheath of the flexor tendons in a man aged 33, a herdsman. The history dated back to July, 1927, when he remembered having received a bruise on his right wrist following a blow from a cow's leg. He had been unable to work since August 20th. Fluid had been present in the anterior common synovial sheath since early in September. The skin had improved under treatment by ultra-violet rays, but the synovial sheath remained swollen and tender. Dr. Solly had found tubercle bacilli in the inflamed skin in September, and this had added a medico-legal interest to the case in that tuberculosis had been prevalent in the wrist in question. Mr. Candlen concluded that from his own experience excision gave bad results owing to the risk of subsequent adhesions; he had in view the possibility of aspiration followed by an injection of ether into the synovial sheath.

Dr. MILLER MUN suggested a prolonged course of ultra-violet rays before trying any drastic remedy, but Mr. CANDLEN considered that from the wage-earning point of view this was undesirable.

#### *Gas Gangrene Following Fracture.*

Mr. R. WAYLAND SMITH reported a case of gas gangrene in a boy, aged 3½, who was admitted to hospital on January 17th with a compound fracture of the left forearm, having fallen through the roof of a shed where roots were stored, thus causing contamination of the wound. The wound was cleaned under a general anaesthetic, irrigated

with flavine, and free drainage was established. On the evening of the next day there was a rise of temperature to 104° F., with a pulse rate of 160 and respirations of 40, the boy being restless and delirious. There was no crepitation in the tissues, but in view of all the circumstances a guillotine amputation was performed through the forearm above the site of the injury. On January 19th the condition showed considerable improvement, but at night the temperature rose again to 104° F., with rapid pulse and respirations. The stump of the forearm was hard and swollen; there were a few bubbles on its surface, although no crepitus could be detected, and there was an offensive smell. A guillotine amputation was now repeated through the upper arm, and on examination of the portion of the limb removed the appearance and odour resembled that associated with putrefaction for several days. No gas formation could be seen, but *B. welchii* was recovered from cultures of the muscle.

The PRESIDENT discussed the deterrent effect of acids in the growth of *B. welchii* and the possibility of treatment on these lines. Mr. N. LOCK cited three cases due to road accidents during recent years. Recovery had ensued without recourse to serum treatment. Mr. WAYLAND SMITH, in his reply, mentioned the improvement in cases of intestinal obstruction with toxicæmic symptoms following the injection of anti-gas gangrene serum.

#### Diagnosis of Hodgkin's Disease.

Mr. WAYLAND SMITH showed a middle-aged man with a tumour in the left side of the neck which presented difficulties in diagnosis. There was a history of the removal of a lump some twenty years previously. The present mass was situated in the submaxillary region and in the upper part of the anterior triangle. There were two enlarged glands the size of pigeon's eggs in the posterior triangle, and these were removed for diagnosis. Enlarged glands were also detected on the right side of the neck, but not in the axillæ or groins. The man was somewhat cyanosed, and his appearance suggested hyperthyroidism. Section of the removed glands showed some fibrosis and slight endothelial hyperplasia; the findings did not suggest Hodgkin's disease, tuberculosis, or malignancy. The blood count was a little low in red cells, the leucocytes being 10,000 per c.mm.; the differential count of the latter was normal. Mr. Wayland Smith considered that in spite of the pathological report the case was one of Hodgkin's disease. Removal was not devoid of risk, and, in addition, the skiagram indicated similar masses in the mediastinum. He was inclined to trust to x rays in treating the case.

Dr. MILLER MUM thought that Hodgkin's disease responded well to treatment with x rays as a rule, and that the diagnosis might be solved thus in this instance.

#### Puerperal Pyæmia.

Mr. WAYLAND SMITH also showed a case of puerperal pyæmia in a primipara aged 28. He said that the temperature had risen on the fifth day after an instrumental delivery, had reached 103° F., and had then subsided, but had never since become quite normal. On getting up at the end of three weeks she had complained of pain in the left side and also on straightening the left leg when walking. There was a history of profuse night sweats. When examined on January 19th a tender cylindrical swelling could be felt in the line of the descending colon; it was not unlike the condition noted with cases of colitis, but no swelling was found in the left lateral fornix. She was admitted to hospital and treated with intrauterine injections of glycerin. On January 22nd the temperature had risen to 104° F. and there was a rigor. On January 23rd the abdomen was opened and the left ovarian veins were found thickened and matted; the overlying colon was adherent and inflamed. The ovarian veins were ligatured high up and the uterus explored, but with negative findings. The patient now appeared to be progressing slowly towards recovery, but could not yet be considered out of danger.

#### Hypernephroma.

Dr. FAYLE SEALE read notes of a case of hypernephroma occurring in a man, aged 50, who had complained of pain in the leg for some twelve months, but had attributed this

to varicose veins. Dr. Seale, on seeing him, had diagnosed myeloma of the upper third of the tibia, and the limb had been amputated subsequently by Mr. Candler. The tumour was soft and friable, and sections corresponded histologically with those of hypernephroma. Of further interest in this case was the fact that although the man appeared now to be perfectly well in all other respects a definite tumour could be felt in the area of the right kidney.

#### Polypoidal Proliferative Colitis.

Dr. SOLLY showed, in association with Dr. C. H. MILLER, a specimen of polypoidal proliferative colitis from a man, aged 50, who had been admitted to hospital on December 12th, 1927, and who had died four days subsequently from severe hæmorrhage from the rectum. There had been a history of diarrhoea for three weeks prior to admission, with offensive watery stools containing blood but no mucus; the man had not been abroad. Cultures from the stools produced *B. coli* and Friedländer's bacillus. The blood count showed a leucocytosis of 18,000, of which polymorphonuclears formed about 55 per cent. At the necropsy the whole portion of the pelvic colon and rectum and parts of the transversus and ascending colon were found to be the seat of chronic polypoidal nodules. The colon was full of altered blood, hard scybala being present both in the colon and the caecum.

#### THE TRIAL OF MARY BLANDY.

At a meeting of the Brighton and Sussex Medico-Chirurgical Society on February 2nd, the president, Dr. DONALD HALL, in the chair, Dr. L. A. PARRY read a paper on the "Trial of Mary Blandy for the murder of her father by poisoning with arsenic." Dr. Parry first referred to various earlier cases of murder by poison, including the Glenconner case in 1580, the case of Henry Robson, who poisoned his wife in 1593 by the introduction of arsenic into the vagina, and the Overbury mystery of 1615; he also mentioned the inquest on Miles Sindercome, who, for high treason, was condemned to be "hanged on the gallows till he be half dead," and then to be cut down and his entrails and bowels taken out and burnt in his own sight, and who committed suicide by poison to avoid this punishment. Sir Richard Napier and Dr. Fern had given evidence which was very vague, indefinite, and unsatisfactory. Dr. Parry said that the trial of Mary Blandy was the first case of murder by poison, so far as he could ascertain, in which medical evidence was given to prove the cause of death. The girl was accused of the murder of her father in order to obtain his money and marry her lover. She received some powders from the latter which she gave her father. According to her statement she believed she was giving a love philtre to him to make him like her lover better. The evidence for the prosecution indicated that this was not so, but that she deliberately poisoned her father, with full knowledge of her act. The chief medical witness was Dr. Anthony Addington, the father of the celebrated statesman Lord Sidmouth. He gave evidence to the effect that he had analysed some of the powders sent to Miss Blandy and that they contained arsenic. But though a necropsy was performed no attempt was made to examine the viscera for arsenic. The tests recommended at this time by the celebrated Dr. Black of Edinburgh were many, and not very different from those used at the present time; they included a modified Reinsch's test. Dr. Parry interpolated the remark that the best and most delicate test known at the present time was the electrolytic, which showed the presence of very minute quantities of the mineral; it had been first used quantitatively in the trial of the Scddons in 1912. Dr. Parry, continuing, said that Mary Blandy was found guilty and hanged at Oxford. In those days the criminals—more often than not there was a batch of criminals—were drawn in a cart to the place of execution through a crowd of morbid sightseers, and the halters were adjusted by the hangman. The ear in which they stood, or the ladders on which they had climbed, were then removed, and they were left to die of strangulation, which often took a considerable time. Occasionally the executioner took pity on the victims and hung on to their legs, thus shortening the death agony. Dr. Parry remarked that to-day the death factor was not strangulation; but the sudden jerk of the fall caused a fracture dislocation of the cervical vertebrae, and death was instantaneous. Dr. Parry added that the guilt of Mary Blandy had usually been accepted by the many who had written on her case, but he mentioned a letter written by her just before her death, and a speech made by her on the scaffold, as was the custom at the time. In both of these she had firmly declared her innocence of any wrongful intent in giving the powders to her father.



## Rebicus.

### THE NORMAL AND MORBID GALL BLADDER.

Is a fine volume entitled *La vésicule biliaire* Professor CHIRAY of Paris, Dr. I. PAVEL of Bucarest, and Dr. A. LOMON, radiologist to the Paris hospitals, give a full and well illustrated account of the anatomy and physiology of the gall bladder, and of the pathology, clinical picture, and treatment of its diseases. In addition to much personal experience, the work of others has been fully acknowledged, and copious bibliographies are attached to the various sections. The thorough character of this work is illustrated by the full and critical account of the new information that can be obtained by the Meltzer-Lyon method (which in Germany is associated with the name of Stepp) in combination with radiological observations, provided in a chapter occupying some sixty pages.

Of the five parts of this important monograph the first is devoted to anatomy, histology, embryology, and physiology, and the second to the methods of investigation, such as cholecystography. In the third part, dealing with the gall-bladder syndromes, hepatic colic is first discussed, and it is pointed out that in the past this has been too closely connected with the presence of calculi and so to the, at any rate partial, neglect of its occurrence in other morbid conditions of the gall bladder. After detailing several hypotheses to explain the mechanism of biliary colic, such as those of Tripiet and Pariot (who referred it to local peritonitis), Aschoff, and Hartmann, the authors adhere to the old view that contractions of an abnormal gall bladder are responsible. The second gall-bladder syndrome described is "diarrhée prandiale," which is largely quoted from M. Linossier of Vichy; it is explained as depending on a sudden and single evacuation, instead of the usual prolonged passage, of bile into the duodenum after taking food; for its treatment a dose of thebaine and belladonna before food is recommended. The syndrome "gall-bladder insufficiency" is then dealt with, meaning thereby absence or diminution of its contractile power and of its concentrating action and reservoir function—in fact, the clinical aspect of cases often diagnosed as cholecystitis or gall stones.

In the fourth part, headed pathology of the gall bladder, the great subject of cholecystitis is described under the two heads of calculous cholecystitis, which includes cholelithiasis, and the non-calculous form. No fewer than ten different hypotheses about the formation of gall stones are passed in review. Chiray's view is that there is primary functional disturbance of the liver cells causing a diminution of the amount of soluble cholesterol in the bile, which may be related to an insufficient formation of bile acids. The strawberry gall bladder, for which the authors prefer Bergeret and Dumont's name of lipoid cholecystitis, is admirably described with black-and-white illustrations and a coloured plate of the microscopical appearances of the lipoid-laden villi. The tumours and parasitic affections of the gall bladder are considered, and there is an account of biliary peritonitis without any perforation of the biliary tract.

The concluding section on treatment is divided into an account of Lyon's non-surgical drainage of the biliary system and remarks on the surgery of the gall bladder from a medical point of view, such as the indications for and choice of operation and the medical sequelae of cholecystectomy. The book thus provides an extremely clear and exhaustive source of reference on a subject that tends to become more surgical, at least in the therapeutic aspects.

Dr. MOSES BEHREND of the Mount Sinai Hospital, New York, has brought out a generously illustrated work on *Surgical Diseases of the Gall-bladder, Liver, and Pancreas and their Treatment*.<sup>2</sup> Beginning with an account of the

development, anatomy, and physiology of the liver and pancreas, their pathology and the clinical pictures presented by their diseases are passed in review. Then follows a full account of the operative technique of the gall bladder and bile ducts, including anaesthesia, to which a short chapter is devoted. A special chapter is given up to cholaemia and its operative treatment, and a comparatively short account, occupying 14 pages, suffices for the diseases and treatment of pancreatic disease. Lastly, there is an investigation into the results of ligation of the hepatic artery in various animals, which, though rather outside the scope of the work, is interesting as containing these experimental observations. They were undertaken after the experience of tying the two ends of the severed hepatic artery in a boy, run over by a wagon, who died fourteen days later with symptoms resembling those of acute yellow atrophy of the liver.

### RECENT ADVANCES IN PSYCHOLOGY.

To many members of our profession a casual acquaintance with modern developments of psychology—the sort of knowledge picked up by turning over the leaves of the technical journals when waiting in the library for the books one has ordered—is not very reassuring. If psycho-analytical literature not infrequently produces the impression of some religious sect performing an impressive rite in a wholly unintelligible language, and we, sighing for the relative intelligibility of arithmetic, and remembering Charles Darwin's faith in the rule of three, turn to the psychologists who do offer us statistical tables, we find that these tables are entrenched in equations, and, what is worse, that the engineers of these entrenchments have but a poor opinion of one another's efforts. In fact, if the palace of the sleeping psycho-analytical beauty is overgrown with metaphysical brambles, that of *g*, the "central factor" of intelligence or temperament (as there are two, perhaps we should say *g* and *g'*), seems to be overgrown with algebra. We gather from a recent memoir by Professor Karl Pearson and Miss Moul (sternly critical as it is of others' algebra) that it may be well worth while hacking a way through the forest, for *g* (or *g'*) may really be a very attractive sleeping beauty. But this will require a very sharp axe, and much skill in wielding it, and to the man who is no more interested in algebra than in metaphysics Professor CYRIL BURT's Henderson Trust Lecture<sup>3</sup> will be a godsend.

There is not much algebra in Professor Burt's lecture—we even fear that some of his simplifications will be unfavourably received by the statistical mathematicians—but he does succeed in very lucidly explaining what the statistical psychologists are trying to do—why *g* is important, and how such investigators as himself and Professor Spearman—to whose work he pays a high and well deserved tribute—are attempting to replace vague appreciations of qualities by precise measurements. We do not think that the most sceptical reader of Professor Burt's essay could doubt that in the assessment of the intelligence side of human capacity, particularly perhaps that of children of school and pre-school age, a great advance has been made in the last quarter of a century. It is, no doubt, too much to hope that in our time examinations of the schoolmaster's type will be replaced, as measures of intelligence as distinct from *acquirements*, by a less painful and more precise test, but it is certainly not too much to say that such a reform is no longer wholly Utopian. Progress on the side of temperament has also been made, but is less unequivocal.

With the studied and, no doubt, illogical moderation of the average Englishman we cannot but hope that there may be a blending of the two most active schools of modern psychology; that it may be possible to introduce into the intensely individualistic quest of the "unconscious" a thought more quantitative precision, so that research in that field may be a little less mystical, and that the statistical study of mental capacities may be informed with medical experience, and perhaps elevated above—be it spoken with reverence—mathematical controversy. Some of the work of the Industrial Fatigue Research Board—

<sup>3</sup> *The Measurement of Mental Capacities*. By Cyril Burt, M.A., D.Sc. The Henderson Trust Lectures, No. VII. Edinburgh and London: Oliver and Boyd. 1927. (Cr. 4to, pp. 52; 14 figures. 6d.)

<sup>1</sup> *La vésicule biliaire*. Par M. Chiray, I. Pavel, et A. Lomon. Paris: Masson et Cie. 1927. (Roy. 8vo, pp. vii + 568; 4 coloured plates, 130 figures. 70 fr. sans majoration.)

<sup>2</sup> *Surgical Diseases of the Gall-bladder, Liver, and Pancreas, and their Treatment*. By Moses Behrend, A.M., M.D., F.A.C.S. Philadelphia: F. A. Davis Company. 1927. (Med. 8vo, pp. 278; 101 figures. 4 dollars net.)

such, for instance, as the recent study of telegraphists' cramp by Dr. Culpin and Miss May Smith—suggests that there is a real possibility of harmonizing the individual and the statistical methods.

### HERNIA AND HERNIOPLASTY.

COMPARATIVELY few publications on the subject of hernia have appeared in recent years, but a monograph by Mr. E. M. COWELL on *Hernia and Hernioplasty*<sup>1</sup> indicates that we have not reached finality in regard to its origin or its operative treatment. Mr. Cowell sets out very clearly the present position, and has, moreover, succeeded in introducing new interest and thought into a corner of surgery which was tending to become a backwater. Thus, for example, he describes a method of using fascial grafts in herniotomy which he has himself elaborated. An introduction by Sir ARTHUR KEITH supplies guidance and stimulation for the young surgeon in solving problems. The author bases his subject on anatomical observations, and adopts Sir Arthur Keith's conviction that the muscles guarding the hernial orifices are kept closed by a shutter-like action during exertion. After some historical considerations he discusses the anatomy, physiology, development, and pathogenesis of the various forms of hernia, and provides many excellent illustrations. Then follows a short chapter on recent work relating to fascial grafts and sutures. The clinical side is fully dealt with, comparative statistics are given, the author's technique is described, and closing chapters on the medico-legal aspect of hernia, and on hernia in the services, complete a valuable study. It must be admitted, however, that the author's technique is somewhat difficult to follow from his illustrations taken from actual operations, and it is possible that simple diagrammatic sketches would have served his purpose better in this respect.

### HISTORY OF MEDICINE.

WE welcome the appearance of a fine volume on the history of medicine,<sup>2</sup> by Dr. ARTHURO CASTIGLIONI, professor of that subject in the University of Padua, to whose historical contributions we have drawn attention on several previous occasions (see *JOURNAL*, 1923, i, 433, ii, 624, 1108; 1926, i, 329).

Although the number of persons interested in the history of medicine is undoubtedly as great in Italy as elsewhere, it is more than three-quarters of a century since a complete work on the subject has appeared in that country. Professor Castiglioni has made good this defect by undertaking a work which deals with the history of medicine from prehistoric times down to the present day, including an account of the healing art in Mesopotamia, Ancient Egypt, Judea, Ancient Persia and India, pre-Columbian America and the Far East, classical antiquity, the Middle Ages, the Renaissance, and subsequent centuries.

Professor Castiglioni has combined a broad and philosophic outlook with the mastery of an enormous amount of detail, which he has so skilfully arranged as never to be tedious. It is gratifying to find that the author has done ample justice to British medicine, as shown by his appreciation of Harvey, Sydenham, the Hunters, Jenner, Lister, and of British medical historians such as Friend, J. F. Payne, Osler, and Allbutt, as well as living workers in this country. The text is liberally interspersed with excellent reproductions (some of them in colour) of contemporary sculpture, buildings, manuscripts, books, pictures, and portraits relating to the history of medicine. A special bibliography is appended to each chapter, and a general bibliography of books dealing with the history of medicine, its special branches, or particular diseases will be found at the end of the book.

Professor Castiglioni is to be warmly congratulated on his work, which deserves to rank among the most authoritative and readable books on the history of medicine.

<sup>1</sup> *Hernia and Hernioplasty*. By Ernest M. Cowell, D.S.O., M.D., B.S., F.R.C.S. With an Introduction by Sir Arthur Keith, F.R.C.S., F.R.S., London: H. K. Lewis and Co., Ltd. 1927. (Demy 8vo, pp. xvi + 128; 72 figures, including 8 plates. 5s. net.)  
<sup>2</sup> *Storia della medicina*. By Arturo Castiglioni. Milan: Società Editrice "Unitas," 1927. (6½ x 8½, pp. xi + 959; 369 figures. L.120.)

### CIRCULATORY DISORDERS.

IN a small volume on hypertensive diseases<sup>3</sup> Dr. ESKIL KYLIN discusses arterial hypertension in the light of recent clinical and experimental work. He recognizes three main types. The first is essential hypertension, insidious in onset and characterized by absence of oedema or renal symptoms, a normal capillary pressure, and by abnormally large variations of systolic arterial pressure. This type he believes to be due to a disturbance of the vegetative nervous system of unknown origin. Such patients live for fifteen or twenty years and, if they do not die from cerebral haemorrhage or cardiac failure, end in a condition of renal insufficiency. The second type is hypertension associated with acute glomerular nephritis; in this the capillary pressure is raised, oedema is present, and the daily blood pressure variations are normal or but slightly exaggerated. The disease is considered to be dependent on a general capillary damage due to circulating toxic substances and associated with a functional arteriolar spasm. While very few of such patients die in the acute attacks and a number are left with permanent kidney damage, the majority recover entirely. Cases of hypertension with chronic kidney disease form the third type, called permanent hypertension, and this is held to be a later stage of either of the first two classes. Such in outline is the author's working hypothesis. It is evident that no clear conception of arterial hypertension has yet been reached, and that almost nothing is known of either its mechanism or causation.

In a book describing the peripheral circulation and its disturbances,<sup>4</sup> Dr. A. DUMAS of Lyons brings together a large series of clinical observations, many of which have been published previously in French medical journals. The various maladies are described largely in terms of blood pressures and of indices obtained by the Pachou oscillogram, an instrument which has not found much favour in this country. Throughout the book there is no departure from the somewhat obscure terminology that is commonly associated with descriptions of such vascular disturbances, and, as too often happens, the reader is left at the end wondering what exactly is meant. It is difficult to avoid the feeling that much information might have been gathered from all this varied clinical material if different methods of study had been adopted. The book reveals clearly how little is known about the diseased conditions affecting the peripheral vessels.

### CRIMINOLOGY.

TWO more volumes have been added to the Notable British Trials series, both dealing with accusations of murder, in each of which the accused was a young woman of pleasing appearance, involved in the troubles of love affairs. In the Scottish case the verdict was "not proven"; and there is little doubt that, if the law had allowed it, the same verdict would have taken the place of "not guilty" in the English case. The *Trial of Madeleine Smith*<sup>5</sup> in 1857 is interesting for the light it throws on mid-Victorian mentality, apart from the interest of the question how 82 grains of arsenic found their way into the stomach of the lover, Emile l'Angelier. There is entertainment also in the florid defence by the Dean of Faculty, John Inglis, who, after praising the moderation of the Lord Advocate in his speech for the prosecution, proposed to "tear to tatters that web of sophistry in which the prosecutor has striven to involve this poor girl and her sad, strange story." The *Trial of Adelaide Bartlett*<sup>6</sup> in 1886 raised the extraordinary question whether it was possible for a poisoner to get a large quantity of chloroform down the gullet of her victim; and if Adelaide Bartlett was guilty, we agree with Sir James Paget that, once it was all over, she should have told us, in the interests of

<sup>3</sup> *Die Hypertonie-Krankheiten*. Von Dr. Eskil Kylin. Berlin: J. Springer. (Roy. 8vo, pp. viii + 168; 22 figures. R.M.8.30.)

<sup>4</sup> *La Circulation Sanguine périphérique et ses Troubles*. Par Dr. A. Dumas. Paris: G. Doin et Cie. (6½ x 9½, pp. iv + 376. 40 fr.)

<sup>5</sup> *Trial of Madeleine Smith*. Edited by Tennyson F. Jesse. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1927. (Demy 8vo, pp. xi + 415; 10 plates. 10s. 6d. net.)

<sup>6</sup> *Trial of Adelaide Bartlett*. Edited by Sir John Hall. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1927. (Demy 8vo, pp. 402; 8 plates. 10s. 6d. net.)

science, how she did it. In this case Sir Edward Clarke enhanced enormously his reputation by the skilful defence he put up. Both the trials displayed the difficulties and weaknesses of medical evidence. In both the summing-up was masterly; but we prefer the Scottish Lord Justice Clerk's charge in the Madeleine Smith case to that of Mr. Justice Wills. The Right Hon. John Hope told the jury that they were not to give the slightest weight to the personal opinion of the Lord Advocate in prosecuting, or to the moving declaration of conviction of innocence by the Dean of Faculty for the defence. Perhaps the saddest thing in these trials is to watch the attempt of counsel to instil by rhetoric into the minds of twelve presumably rational beings that black is white or vice versa.

### NOTES ON BOOKS.

ONE of the most popular among the Students' Aids Serles is the *Aids to Ophthalmology*,<sup>10</sup> the seventh edition of which by Mr. BISHOP HARMAN, is to hand. It is more than twenty years since the writer of this notice first made the acquaintance of the work as a medical student; it gave him the maximum of necessary information in the minimum space, and he has never ceased to advise students preparing for the final examination to use it as it is meant to be used. As an epitome of theoretical ophthalmology it would be hard to beat; the descriptions are clear and accurate, while the liberal provision of illustrations adds enormously to its value. The present edition has undergone revision. More space is now devoted to the subject of glaucoma, while two new chapters have been added—one on the eye signs of general disease and the other on the blind. Both are excellent, particularly the latter. The author is to be congratulated, and we are sure that his little book will continue to appeal strongly to students, who, as a rule, resemble Mrs. Gamp in liking their beer drawn mild. If they feel the need of audit ale there are plenty of larger textbooks on the market which supply it.

Dr. HOPEWELL-ASH's small book *On Middle Age and Keeping Young*<sup>11</sup> is written in simple language and contains the laws of physiological righteousness and much common sense for the readers—the lay public—for whom it is obviously suited. It is a revised and popular edition of an earlier book with a slightly different title, and contains a new chapter on auto-intoxication, which, with nerve strain, the author regards as the greatest factor making for ill health in men and women in the prime of life. If complimentary, he is fortunately very premature in his reference to "no less an authority than the late Sir Archibald Garrod," to whom he ascribes a dictum on "gout which probably came from his father, Sir Alfred Garrod."

The little work on *The Catholic Nurse*,<sup>12</sup> by Father RICHARD J. MURPHY, S.J., consists of twenty chapters dealing with the nurse's training, work in hospital and private houses, her religious duties, including baptism of infants and preparation for communion of the sick and extreme unction, and her attitude towards non-Catholic patients.

<sup>10</sup> *Aids to Ophthalmology*. By N. Bishop Harman, M.A., M.D. Cantab., F.R.C.S. Eng. Seventh edition. London: Baillière, Tindall and Cox. 1923. (Fcap. 8vo, pp. viii + 226; 112 figures. 3s. 6d. net.)

<sup>11</sup> *On Middle Age and Keeping Young*. By E. L. Hopewell-Ash, M.D. London: Mills and Boon, Ltd. 1923. (Cr. 8vo, pp. 121. 3s. 6d. net.)

<sup>12</sup> *The Catholic Nurse: Her Spirit and Her Duties*. By Richard J. Murphy, S.J. 1927. Sydney: Angus and Robertson, Ltd., and the Cornstalk Publishing Company. (Cr. 8vo, pp. 179. 4s. 6d.)

### PREPARATIONS AND APPLIANCES.

#### TABLOID QUINOPHAN.

WE have received from Messrs. Burroughs Wellcome and Co. a specimen of "tabloid quinophan," which is a preparation of phenyl cinechoninic acids or cinechophen (*U.S.P.*, X). This drug has an established reputation for two therapeutic actions—namely, its power to increase the elimination of uric acid, and its antipyretic action. It appears to be increasing in popularity fairly steadily. The makers claim that the standard of purity of tabloid quinophan is exceptional, and higher than that required by the *British Pharmacopoeial Codex*.

#### A FOOD BALANCE FOR DIABETICS.

A spring balance for weighing food for diabetic patients, made by Messrs. George Satter and Co., Ltd., is being shown on their stand at the British Industries Fair at Castle Bromwich, February 20th to March 2nd. It is a small, compact, light balance, registering up to 8 ounces.

## THE HEALTH OF THE SERVICES.

### THE NAVY.

#### ANNUAL REPORT FOR 1925.

As usual, the annual report on the health of the navy<sup>1</sup> is a year late as compared with those of the other fighting forces. This delay precludes a comparison of statistics, and the out-of-date figures and remarks have ceased to be of real interest. It might perhaps be suggested that if the present office staff is unable to cope with the work there are several "unemployed" officers who might thus be usefully "employed." Besides being out of date the navy report is also the most expensive of such publications.

Over seventy pages of the report are devoted to statistical tables of varying interest, but no information is given as to rejection of recruits. The report as a whole is an improvement on previous issues in that the general remarks are more informative, but even in its present form it cannot be considered entirely satisfactory. Too many pages are occupied in putting into words the bare numerical facts which are later repeated in tables.

The report for 1925 deals with the health statistics of a total force of 89,950, an increase of 2,330 compared with 1924. The ratio of admissions was 464.78 per 1,000, a decrease of 21.46. The average number of men sick daily was 21.45 per 1,000, a decrease of 2.18; the death rate was 2.82 per 1,000, a decrease of 0.27, and the number finally invalided, 1,412, giving a ratio of 15.69, also shows a decrease.

The chief causes of admission to the sick list were injuries (7,133 cases), catarrh (6,058), gonorrhoea (3,971), and tonsillitis (2,746). There is a decrease in nearly all the diseases caused by infection. Vaccination, and revaccination every five years, probably accounts for the fact that only 2 cases of small-pox occurred, both on foreign stations; the total number of vaccinations amounted to over 21,000. An epidemic of enteric in the *Emperor of India* accounted for 17 of the 32 cases; the outbreak was probably due to contaminated food supplied by the canteen while at Kavala, was confined to boys belonging to one mess, and was generally mild in type, due to preventive inoculations within five to nine months prior to the outbreak. The routine measures taken to prevent enteric diseases include lectures and notices, the chlorination of drinking water and sterilization of milk, the prohibition of uncooked vegetables, the regular medical examination of all ratings engaged in handling food, the bacteriological examination of those who have recently had enteric fever, and prophylactic inoculation. Influenza shows a large decrease, great attention having evidently been paid to preventive measures. There is a slight increase in the incidence of pneumococcal infection of the lungs, but a decrease in that of rheumatic fever. Pulmonary tuberculosis accounts for 221 cases, with 197 invalidings and 31 deaths, a slight increase in incidence compared with the average for the four years 1921-24. The East Indies Station shows the highest case ratio and the North America and West Indies Station the lowest; the ratings mostly affected were Kroomen, the regulating staff, telegraphists, supply staff, and cooks—that is, excluding coloured ratings, those working between decks. Venereal diseases show a case ratio decrease of 10.13 compared with 1924, and of 27.35 compared with the previous four years' average. The methods adopted for the prevention of these diseases, in addition to lectures, recreation, and physical training, include improvements in the means of early diagnosis, facilities for returning on board at night in foreign ports, and the provision of anti-venereal outfits and ablution cabinets. Data are being collected as to the relative merits of calomel cream or a 1 per cent. mercuric iodide soap as a prophylactic. Diseases of the respiratory system show an increased incidence of 3.59 per 1,000, and diseases of the digestive system an increase of 2.48, as compared with 1924. Alcoholism accounts for 40 cases, with 10 invalidings. General injuries account for 272 cases, with 111 deaths, 69 of which were due to suffocation occasioned by the loss of Submarine M1, and 26 from drowning. Local injuries amounted to 7,583 cases, with 58 invalidings and 10 deaths. There were 3 cases of wounds in action and 10 of suicide.

The total number of deaths was 131, the causes being suffocation (69 cases), drowning (26), wounds, fractures, etc. (24), suicide (10), and burns and scalds (2). The chief causes of invaliding were diseases of the eye (256 cases), pulmonary tuberculosis (197), and diseases of the ear (144). Sequelae of gonococcal infection, which usually head the list of invalidings, now take fifth place with only 63 cases. Thirty men were invalided on account of having refused surgical operations, chiefly for hernia.

<sup>1</sup> *Statistical Report of the Health of the Navy for the Year 1925*. London: H.M. Stationery Office. 1927. Price 4s. 6d. net.

With regard to dentistry, it is recorded that there is a general improvement in the quantity of work performed and an increasing demand for treatment. Definitely better dental condition of personnel, with evidence of greater care being taken with regard to oral cleanliness, is especially noticeable among boys who have recently left the training centres and whose dental condition is noted as very satisfactory. Of newly entered recruits about 31 per cent. required extensive and 63.5 per cent. limited dental treatment to render them fit for service.

### THE ARMY.

#### ANNUAL REPORT FOR 1926.

THE Army Medical Department at the War Office is again to be congratulated on its endeavour to issue the annual reports on the health of the army before their value has diminished.

The report for 1926, which has just been issued,<sup>1</sup> contains, as in previous years, the various statistical tables which are essential for administrative purposes and yearly comparison, while the attempts hitherto made to render each an instructive volume for all medical officers and a periodical contribution to scientific literature on the diagnosis, research, and treatment of disease in the army are continued. This function of the report is of much importance, and a copy should be in the hands of every medical officer to enable him to obtain up-to-date official information connected with diseases in the army.

#### Admission Rates.

In general the health of the troops at home and abroad in 1926 was satisfactory, although there was a slight increase in the admission rate compared with the previous year. The death rate remained the same, and there were further reductions in the invaliding and constantly sick rates.

The principal causes of admission to hospital, invaliding, and inefficiency on account of sickness in hospital, are tabulated, and the notes on diseases draw particular attention to the loss to the army occasioned by the more common ailments. Two charts showing the admissions for prevalent diseases at home and abroad, except India, are published for the first time, with a view to impressing upon all medical officers "the necessity for constant and unremitting attention to the research, investigation, and treatment of these ailments." It is pointed out that the ratio per 1,000 of men constantly in hospital for the more common diseases was 1,217.79 in 1925 and 1,154.95 in 1926, while the number of working days lost to the army at home on account of these diseases was 444,493 in 1925 and 421,557 in 1926.

The admission rate for officers, with an average strength of 9,833, was 298.4 per 1,000, compared with 296.3 in 1925. The death rate fell from 4.44 per 1,000 to 4.27 in 1926, while there was also a decrease in the constantly sick rate from 13.46 per 1,000 in 1925 to 12.76 in 1926. The admission rate for other ranks, with an average strength of 189,906, was 454.8 per 1,000, compared with 446.2 in 1925.

The chief causes of admission to hospital were similar to those of 1925, malaria heading the list with 10,159 admissions, the ratio per 1,000 showing an increase from 51.8 to 53.5. Venereal diseases (7,795 cases) come next, with a decrease of 795 cases on the 1925 admissions. The ratio per 1,000 has fallen to 31.2 for gonorrhoea and 3.8 for syphilis. Then follow tonsillitis (6,430 cases), inflammation of areolar tissue (4,434 cases), influenza (4,360 cases), bronchitis (3,116 cases), and sprains (2,571 cases). The ratio per 1,000 increased in influenza and tonsillitis, and decreased in bronchitis and sandfly fever.

While some commands show an increased admission rate on that for 1925, others show a marked decrease, such as North China, from 999.4 in 1925 to 693.0 in 1926, and West Africa, from 1,016.8 to 881.0.

The death rate remained the same as in 1925.

The ratio per 1,000 of invalids discharged from the army fell from 11.12 in 1925 to 10.68 in 1926. The chief causes were again inflammation of the middle ear, tuberculosis, and valvular disease of the heart; the two last causes, however, show a slight decrease. Investigations are still proceeding with a view to reducing the wastage caused by middle-ear disease.

#### Sickness and Loss of Working Days.

As already pointed out, particular attention is drawn under notes on diseases to the part played by the commoner ailments among troops. Along with two charts, supplementary figures are given showing the average constantly sick and the total working days lost both at home and abroad, emphasizing their

importance from the point of view of military efficiency. Venereal diseases at home show an average constantly sick of 316.61, with 115,563 working days lost, for 1926, followed closely by local injuries, with an average constantly sick of 276.44 and 100,901 working days lost. Diseases of the digestive system, other than tonsillitis and diseases of the liver, come next, with 209.12 constantly sick and 76,329 working days lost. Abroad, except India, the order is the same. Venereal diseases show an average constantly sick of 298.50, with 103,952 days lost; local injuries 96.87 and 35,348 respectively; and diseases of the digestive system, other than tonsillitis and liver diseases, 90.84 and 33,157 respectively. The charts and tables will repay careful study.

#### Diseases of the Digestive System.

Dysentery accounted for 1,048 admissions, of which 892 were reported from India. Of these 892, 230 were diagnosed amoebic, 303 bacillary, and 359 group dysentery. The increase on the 1925 figures is largely balanced by a material reduction in the number of cases diagnosed colitis, which fell from 207 in 1925 to 45 in 1926. Particular attention must be drawn to the reduced incidence in Iraq, which was 7.1 per 1,000 in 1926 compared with 19.0 and 38.6 in previous years.

Enteric fever shows a decrease. Iraq had the highest incidence with 4.4 per 1,000, with India second with 2.7. An indication of the degree of protection afforded by inoculation in India is seen in the fact that the proportion of cases in the unprotected as compared with the protected was 7.7 to 1, and of deaths 10.4 to 1.

As in last year's report, diseases of the digestive system are dealt with at length, both medically and surgically, and the results of some investigations carried out at Aldershot and Woolwich are given.

The work of the special departments—medicine, surgery, hygiene, and pathology, together with an account of dental work among troops and the examination of recruits, form interesting reading in Section II of the report. The results of research and investigations should be helpful to those who are interested in the special subjects.

A summary of the measures adopted by the Government of India to combat malaria in military stations in India is included in Section III of the report, which gives detailed statistics and notes on the health of the troops in all commands at home and abroad, and of the women and children on the strength of the army.

## MEDICAL RESEARCH COUNCIL.

### ANNUAL REPORT.

(Concluded from page 234.)

#### II.

#### DISORDERS OF THE EXCRETORY SYSTEM.

At Gny's Hospital, London, Dr. A. A. Osman has continued his work on the prevention of nephritis after scarlet fever, and he has extended his method of giving alkalis to other forms of nephritis. Evidence has been obtained that alkalis, used prophylactically, can avert the onset of anuria under conditions in which this symptom commonly occurs, and that they can effectively protect the kidney and prevent nephritis following exposure to infection, metallic poisoning, bodily over-exertion, and poisoning with general anaesthetics. Dr. Dorothy S. Russell, under Professor Turnbull, at the London Hospital has been determining the correlations between clinical and chemical tests of renal efficiency, and the macroscopic and microscopic anatomy of the kidney. At Manchester Professor Shaw Dunn has been working with experimental nephritis, studying the changes produced in the tubular system of the kidney. Dr. S. L. Baker, at Middlesex Hospital, London, has also been investigating experimental nephritis.

#### DISORDERS OF THE NERVOUS SYSTEM.

Sir Charles Ballance's study of nerve suture at the National Institute has proceeded. Dr. M. Critchley has been working on cerebral arterio-sclerosis at the National Hospital, Queen Square, London. He is analysing the clinical syndromes usually spoken of as cerebro-vascular disease. Part of the work is concerned with the blood pressure variations in cerebral arterio-sclerosis examined with a view to eliciting points of prognostic value. Dr. J. A. McCluskie is continuing his research at Glasgow on disseminated sclerosis and neurosyphilis. He has recently

<sup>1</sup> Report on the Health of the Army for the Year 1926. Vol. LXII. London: H.M. Stationery Office. 1926. Price 3s. 6d. net.

directed his attention chiefly to the conditions required for the cultivation of spirochaetes. At the Royal Hospital, Sheffield, Professor Hall and others are studying the rigidity and slow movements as sequels of encephalitis lethargica. The nitrogenous metabolism, including the creatin excretion, has been followed up by Dr. Imrie and Miss M. Hirst in cases with marked rigidity.

#### Mental Disorders.

At Cambridge Miss L. G. Fildes continues her inquiry into the causes of mental defect in children, with special reference to the psychological nature of congenital auditory aphasia or word-deafness. Detailed study has also been made of certain abilities among the mentally defective, especially of their discriminative perception of size and of form. Dr. G. W. Pailthorpe is investigating mental conditions and criminal offences. She has examined psychologically one hundred cases in rescue homes, and spent a summer vacation in visiting prisons and rescue homes on the Continent. Dr. F. E. Reynolds, at the Scottish Asylums Research Laboratory, Edinburgh, has been exploring the paths of infection of the brain, meninges, and venous blood sinuses from neighbouring foci of inflammation.

#### THE GLANDS OF INTERNAL SECRETION.

At the Lister Institute, Professor V. Korenchewsky with Miss M. Schultess-Young, has been endeavouring to isolate the active principles of the testes and prostate. Results so far obtained indicate that active substances are present in both lipid and protein-like fractions of the sexual glands. Other work on the parathyroids seems to show that the parathyroid hormones and insulin are similar in their action upon nitrogen metabolism, and antagonistic to that of the thyroid gland. An investigation on the influence of parathyroid secretion on bone formation has been in progress at Newcastle-on-Tyne by Professor D. Burns and Mrs. Burns. Dr. A. S. Parkes and a group of workers at University College, London, have studied the internal secretions of the ovary; they suggest the hypothesis that there is an alternating dominance in the complete reproductive cycle of oestrus producer and oestrus inhibitor, each capable of being overridden in its naturally dominant phase by an artificial augmentation of the other. At St. Bartholomew's Hospital, London, Dr. Scott Williamson and Dr. Pearce have continued their work on Graves's disease. They believe there is a true secretion by way of lymphatic vessels which contains no iodine and is the intoxicative factor in Graves's disease, while the stored colloid material contains the iodine in thyroxine form.

#### Diabetes: Insulin: Synthalin.

Dr. G. A. Harrison has shown that inunctions of insulin are useless as substitutes for subcutaneous injections. Dr. R. D. Lawrence and Mr. R. A. McCance have been making a detailed investigation of the carbohydrate content of common foods, including an estimation of the pentose present. As a result of work with bacterial toxins in inhibiting the action of insulin in human beings and animals, it is suggested that this effect is due to the stimulation of the thyroid and adrenals. The clinical trials in several centres of the diguanidyl derivative known as synthalin have already been reported. Synthalin cannot be regarded as a substitute for insulin, but is thought to deserve further investigation.

#### TUBERCULOSIS.

Most of the work on this disease has been of a bacteriological or serological nature. Dr. A. S. Griffiths has been studying various problems at the field laboratories, Cambridge. He has shown that the bovine tubercle bacillus is the chief cause of tuberculosis in domestic mammals, being the only type of bacillus found in the horse, cat, and goat. The avian bacillus, however, has been found in many cases of localized tuberculosis in swine: in one hundred pigs supplied from Smithfield Market by Colonel T. Dunlop Young after being condemned as tuberculous, the avian bacillus has been found in more than 30 per cent. Dr. Griffiths has also studied the immunizing effect of Calmette's "B.C.G." vaccine when given by the mouth,

and the results so far do not confirm the conclusion of Calmette that susceptible animals can be protected against infection with virulent tubercle bacilli by feeding with "B.C.G." Professor S. L. Cummins has continued his studies of sanocrysin in the treatment of selected cases and further experiments. By careful selection of patients the results gained with sanocrysin appear to justify the hopes Professor Cummins formed of it during his initial tests in 1925. Dr. R. G. Bannerman, at the Cripples' Hospital, Alton, has confirmed Sir Almroth Wright's work that the tubercle bacillus grows more luxuriantly in normal plasma than in that of tuberculous patients. He has also improved upon the usual method of performing the "sedimentation" reaction. The Tuberculin Committee has been active, continuing to advise the Ministry of Health upon the tests to be exacted for herds producing graded milk. Most of the committee's work is given to the examination of particular forms of tuberculin advocated for the treatment of tuberculosis in man. In no instance, so far, have these new varieties of tuberculin been found to have any advantages over the tuberculins already in use by the profession.

#### CELL AND TISSUE GROWTH.

The investigations at the Research Hospital, Cambridge, are being extended under the general management of Dr. J. A. Andrews, acting in the place of the late Dr. T. S. P. Strangeways. The direct and indirect effects of  $\alpha$  rays upon chick embryos of various ages have been studied. It was found that 20 to 25-hour embryos, in which blood circulation was not yet established, can recover from the effects of  $\alpha$  rays, while embryos 6 to 17 days old, with their active circulation, cannot recover after similar treatment. It has been shown that the death of the older irradiated embryos is due to the inhibition of gaseous exchange due to action of the rays on the circulatory system itself. At the same place Dr. R. G. Canti and Dr. F. G. Sparc have investigated the effects of irradiation of "gamma" rays on cell division in tissue cultures. The biochemistry of tissue growth has been studied under the direction of Sir Frederick G. Hopkins. Mrs. B. E. Holmes and Miss E. Watchorn have continued their work on growing kidney tissue, and the production of urea and ammonia, already studied, it is now suggested is due to protein breakdown, by means of which the growing tissue provides itself with energy for growth. Other studies have been made of nitrogen exchange in the tissues of the brain.

#### MALIGNANT DISEASE AND RADIATION.

At the Middlesex Hospital, London, Dr. Helen Chambers has proceeded with her investigations of the substances in inoculated tumours which influence tumour growth. She has been especially tracing the properties of the substance stimulating growth and the conditions under which it is formed or may be extracted and isolated. It is not a living agent, as it is formed under conditions in which bacteria cannot grow. The Council has a supply of radium entrusted to it by the Government, and distributed to five hospitals in London and four institutions elsewhere. Radium emanation derived from the portion of this element at Middlesex Hospital is available for the general scheme of treatment of malignant disease directed by the Radiology Committee, the expenses of the supply being largely borne by the British Empire Cancer Campaign. At University College, Bangor, Professor E. A. Owen is investigating the effect of  $\alpha$  rays of different wave-lengths upon living tissues and bacteria. Dr. H. A. Colwell, at King's College Hospital, London, is studying the physiological actions of secondary radiations.

#### CHEMOTHERAPY.

The Department of Scientific and Industrial Research and the Medical Research Council have appointed a committee to draw up a scheme for joint work on this subject. Mention is made of the preparation of new organic compounds at Leeds by Professor J. B. Cohen, F.R.S., and their biological examination at Glasgow by Professor C. H. Browning. A special study has been made of trypanosome infections; aminostyrylquinoline and amino-anilquinoline compounds are found to show promising



trypanocidal properties in experimental infectious. It is found in general that such substances appear to act by first killing some of the parasites, and thereby an immunity response is produced, leading to destruction of the rest.

#### GENERAL BIOCHEMICAL RESEARCHES.

##### *Bacterial Chemistry.*

At Cambridge Miss Stephenson has correlated the enzymic activity of bacterial suspensions with the numbers of living and dead organisms present. Further work on the dietary requirements of strict anaerobes has been continued, but has not led to the discovery of an adequate synthetic medium. Continued investigation of enzyme action by Mr. Woolridge and Dr. J. H. Quastel has resulted in the development of some striking new views of the mechanism of enzyme action connected with surface structure. At Leeds Professor J. W. McLeod is examining the propionic acid bacteria which have been described as anaerobes capable of producing catalase.

##### *Colloids.*

At Cambridge Dr. C. G. L. Wolf, with others, is proceeding with his consideration of the physico-chemistry of precipitin reactions. With Dr. G. S. Haynes he has completed the first part of a study of the diagnosis of cancer, using the interferometer for the detection of digestion of specific substrates. It has been shown that this method fails to reveal any digestion, and the colloidal changes taking place are entirely unrelated to any diagnostic significance.

##### *Metabolism.*

Dr. T. Izod Bennett, with Dr. D. T. Davies and Professor E. C. Dodds, has studied the significance of excess of cholesterol in the blood in various pathological conditions. Nephritis with oedema has been especially considered in this respect. At Cambridge Mr. A. Carruthers has investigated the resynthesis of glycogen from lactic acid under the influence of oxygen by tissues other than muscle. He has been unable to confirm Meyerhoff's observation that liver tissue can synthesize lactic acid to glycogen. At Cardiff Dr. J. Pryde and Mr. J. M. Peterson have studied the unknown sugar-phosphate component of animal nucleic acid. This has been isolated, and detailed investigation is being made by the wave-length spectrometer of the striking colour reactions given by this compound and the parent nucleic acid.

##### *Anaesthetics.*

Many points of general scientific interest, and of especial interest in regard to its anaesthetic action, have been revealed by examination of the impurities likely to occur in nitrous oxide by Mr. A. N. C. Bennett at University College, London. Professor H. B. Dixon, F.R.S., at Manchester, has been investigating the ignition points of various anaesthetic agents. He has found that both ethylene and propylene burn in nitrous oxide and form highly explosive gas mixtures. The Anaesthetic Committee has been collecting information about "ether convulsions." No adequate explanation of some of the fatalities associated with these phenomena has yet been reached.

#### GENERAL PHYSIOLOGICAL AND PATHOLOGICAL RESEARCHES.

Mr. P. Eggleton, under Professor A. V. Hill, F.R.S., in London and at the Marine Biological Laboratories, Plymouth, has continued his study of the substance "phosphagen," a constituent of muscle he discovered in 1926. He has shown that phosphagen breaks down in a muscle in contraction and is resynthesized during the recovery process in the presence of oxygen. It has also been shown that phosphagen is apparently connected with the velocity of contraction. Work on immunity by Sir Almroth Wright has proceeded during the year. New experiments have been made on the "interaction" occurring between fluids of different kinds in contact. Dr. Colebrook, with Dr. Hare and Dr. Roche Lynch, has been investigating compounds of the novarsenobenzol type and their use in the treatment of puerperal fever and other streptococcal infections. By using those found least toxic, and by spacing the doses so as to maintain adequate concentration in the blood, it is possible to prolong considerably the acquired potency of the blood

in its defence against streptococci. "Mercurochrome" has been found not to confer bactericidal power in animals, either upon the blood or bile. At the London Hospital Dr. P. G. Fildes and Miss A. Greaves have continued work on tetanus and the mechanism of immunity against tetanus infection. It has been shown by direct experimental evidence that the immunity is due to the high oxygen tension of the tissues themselves preventing germination of the spores, except in areas in which tissue damage has caused a local asphyxia. Dr. L. S. P. Davidson, at Edinburgh, has devised a method for quantitative estimation of the chief groups of intestinal bacteria by which the differences of intestinal flora in health and disease can be shown and tabulated numerically. In cases of pernicious anaemia he has found a very suggestive high count of *B. welchii*. Dr. Katherine J. Guthrie has continued the study of enteric carriers at Glasgow. A chronic urinary excretor of *B. typhosus* has been especially investigated, and treatment with a vaccine of thermostabile antigens of *B. typhosus* has been begun.

##### *Vision.*

Three groups of work have been in progress on the physiology of vision. Problems of the fighting services calling for investigation have been attacked, such as the visual factors determining proficiency in gunnery and the visual factors which distinguish a man who may become a good rifle shot from one who will never shoot well, where the results obtained by Dr. H. Banister at Cambridge seem to indicate that visual acuity is of less importance than might be expected. A second category of work has been concerned with glare and flicker. Dr. D. N. Buchanan has investigated the effects of continuous exposure to flickering light over a period of months. With the assistance of Mrs. W. H. Corkill at University College, London, Dr. R. J. Lythgoe has studied the rates of eye movement in different directions, with and without glaring sources of light in the field of vision, which is a contribution to some urgent practical problems of motor driving at night. The third group of investigations is concerned with the physiology of reading. Study of the effects upon vision of industrial occupations involving the risk of eye-strain has been continued by Dr. Duke-Elder at the London School of Printing in co-operation with the principal, Mr. J. R. Riddell.

#### INDUSTRIAL MEDICINE AND INDUSTRIAL FATIGUE.

Work on dust inhalation and pulmonary disease has been continued at Oxford by Dr. J. S. Haldane. Haemattite has been found to produce reactions not definitely harmful, while it has been established that soluble silica is the most deadly of all dusts as yet examined. Further inquiry is being made into the pulmonary effects of the fineness of the state of division, of the amount of dust inhaled, and of its solubility. Outbreaks of jaundice, apparently infective in nature, have been investigated in Scotland by Professor T. J. Mackie and Dr. D. G. S. McLachlan in regard to the question of spirochaetal jaundice in mines. Conclusive proof of the nature of these mild cases, mostly in children, was not obtained, but in two of the outbreaks studied the evidence suggested a spirochaetal origin. The work of the Industrial Fatigue Research Board has been described in the annual report of the Board, published separately by the Council, and a summary only of the progress of the statistical committee, the committee on the physiology of muscular work, the committee on industrial psychology, and other general industrial investigations is given.

##### *CONCLUDING NOTES.*

There is a short section in the Council's report dealing with the Travelling Fellowships. A summary of the investigations of last year's Fellows is given, together with a list of the awards for the academic year 1927-28. The changes in the membership of the Council are noted, and the heavy losses sustained during the year by the deaths of Dr. John Brownlee, director of the statistical department since 1914, Dr. T. S. P. Strangeways, and Professor E. H. Starling, are mentioned with sympathetic reference to the inspiring work of these three investigators in different branches of medical research.

# British Medical Journal.

SATURDAY, FEBRUARY 18TH, 1928.

## JOHN HUNTER.



ONE hundred and eighty years ago a raw lad of twenty came from the South-west of Scotland to London, just as his friend of after years, Tobias Smollett, had done nine years earlier. Both of them were destined for the medical profession, wherein the younger was to achieve a name and a fame which seem likely to endure at least as long as the English language and the study of biology.

The other failed to distinguish himself in medicine, but turned to literature instead, and before he died Tobias Smollett desired that his body should be given to John Hunter for dissection.

Hunter, of whose birth the bicentenary was celebrated this week on St. Valentine's Day, left Long Calderwood, his birthplace, without having shown any of the qualities which afterwards so eminently distinguished him. His education had been imperfect and irregular, and perhaps not the least valuable part of it had been an apprenticeship to a cabinet-maker, which must have helped to teach the future experimental philosopher the use of his fingers. His career in London has been recorded and commented upon in the many orations which have been delivered at the Royal College of Surgeons and elsewhere since his death in 1793. His achievements are well known, and some reminder of them is given in the early part of Sir Holburt Waring's interesting Hunterian Oration, with which our present issue opens. Yet it may be permitted to us once more to try to bring before our readers some conception of the man and his manners and surroundings, and of what his name stands for in science to-day.

Some men, like William Harvey, have been celebrated in their lifetime among the few whose knowledge enabled them to appreciate great scientific discoveries and the qualities that lead to their making, but have not been known to the larger public. John Hunter enjoyed both kinds of fame. He became a Fellow of the Royal Society before he was forty, he received its Copley Medal, which is the greatest honour it has to bestow, he was surgeon extraordinary to the King, and held the highest rank in the medical department of the army. Besides all this, he had the confidence of the profession and of the public, which brought to him what for those days was a very lucrative practice and a large income, which enabled him to indulge fully the great passion of his life—namely, the collection and investigation of all sorts of living animals and of their bodies after death. More wonderful than all, his fame was such that after his death the House of Commons, little accustomed to taking an interest in science or to vote money

for the furtherance of scientific purposes, actually allowed itself to be induced to purchase his collections for the nation at a cost of £42,500, at a time when money was sorely needed for powder and shot. Surely an enviable career! Yet there was another side to the picture. For the last twenty years of his life he carried on a losing fight with a disease which caused him great suffering, and which, as Sir D'Arcy Power has shown, was almost certainly the result of a scientific experiment carried out upon himself with the hope of ascertaining the relationship of syphilis and gonorrhoea. Despite what he considered to be a sufficient course of mercurial treatment, he remained a subject of infection by the venereal parasite, which killed him in the end, in the ante-chamber to the board room of St. George's Hospital. He must have suffered much in those later years; and that he knew how precarious was his condition is shown by his remark that his life was in the hands of any rascal who chose to annoy and tease him. In fact, a difference of opinion with his colleagues proved enough to snap the frail thread of his life.

The question naturally suggests itself, What were the qualities and attainments which procured for Hunter this remarkable reputation and position in the public eye? It was certainly not by the arts of the courtier that he succeeded, for as one of the greatest of Hunterian orators, Sir James Paget, has said: "He was a rough and simple-minded man, abrupt and plain in speech . . . quickly ablaze with anger and fierce word, never personally attractive or seeming to have great mental powers, and always far too busy to think of influencing those around him. He had few friends, he gained the personal regard of very few, and no one ever paid him the homage of mimicry. The vast influence which he exercised on surgeons was the outcome of the scientific mind." Yet those who knew John Hunter best entertained the warmest feelings of regard for him. To Edward Jenner, who had been his resident pupil, and to a number of other disciples he was always "The Dear Man." The younger surgeons of his later years who became the leaders in surgery in the first quarter of the nineteenth century were his pupils and admirers. Among them were Abernethy, Astley Cooper, Blizard, Clive, and Carlisle. These men, and others, handed on the torch of surgical pathology and Hunterian principles to the next generation of surgeons.

His portraits (of which Sir Arthur Keith gave so attractive an account in our last issue) do not suggest such a man as Paget describes, hot tempered and unreasoning in his anger. From them alone one would draw a mental picture of a thoughtful, even dreamy personality, genial and pleasant. This is particularly true of the great picture by Reynolds, of the painting of which we are told that the artist caught him in a kind of reverie, and there and then fixed his pose and expression on the canvas. Must not the ill health of his later years, accompanied or caused by degeneration, not only of the coronary but in a marked degree of the cerebral arteries, have been responsible for such lack of equability as he may have displayed? It is one of the tragedies of medical history that Hunter should have so disastrously impaired his health and thereby the usefulness of the last years of his life, and besides have probably shortened that life, by an experiment which was fruitless, except in so far as it was misleading. With our fuller knowledge we see that he infected himself, not from a case of simple gonorrhoea, but from one of mixed infection, and that he suffered from the remote results of true syphilis, as he himself

knew, but that the inference he drew that gonorrhoea and syphilis were one was false, resting as it did on a false premiss.

John Hunter took a teleological view of the history of living things, assigning to Nature the role of Providence, which made provision for the needs of every organism; but when he came to the study of fossils his penetration convinced him that such processes and changes as he observed or inferred must have taken up more than the six thousand years which were all that the accepted chronology of Bishop Usher allowed for the age of the world on the basis of Bible chronology. This unorthodox view was expressed in his "Observations and reflections on geology," which he had intended to contribute to the Royal Society, but refrained on the advice of a friend, lest his heterodoxy should give offence. Books had little attraction for him, except the great Book of Nature, which he studied both closely and fruitfully. Indeed, he had little knowledge of the science of his day, of chemistry or optics or physics in general, and this ignorance of so much that so often forms an important part of the equipment of men of great intellectual distinction makes almost irresistible the conclusion that Hunter's achievements were the outcome of true genius.

### THE WASSERMANN REACTION IN PREGNANCY.

In the Winter Number of the *Journal of Obstetrics and Gynaecology of the British Empire* Dr. Gladys H. Dodds' records and analyses the results obtained by the performance of the Wassermann test on 2,000 consecutive pregnant women in the Obstetrical Unit of University College Hospital Medical School. The purpose of this inquiry was to estimate the value of the routine use of the Wassermann test at ante-natal clinics. It has sometimes been questioned whether the results of the Wassermann test are as much to be relied on during pregnancy as in the non-pregnant subject. From investigations made in Edinburgh on 100 women suffering from syphilis F. J. Browne concluded that pregnancy has little or no influence in modifying the Wassermann reaction. Similarly, Boas, Gammeltoft, and Siecke, investigating response to the test in 2,200 pregnant women in Scandinavia, with 6.7 per cent. of positive results, concluded that the Wassermann reaction was as trustworthy during pregnancy and childbirth as at other times.

On the strength of the Wassermann report Dr. Dodds divides her cases into six groups, which may be termed the strongly positive, positive, weakly positive, doubtful, anti-complementary, and negative, respectively. Of the 73 women with the strongly positive reactions either a history of syphilitic infection or clinical manifestations were obtained in 47. In 17 women with no history or manifestations of syphilis there was a repeated Wassermann reaction, in some a suggestive obstetric history, and the babies of four showed syphilitic manifestations. Six patients had a positive Wassermann reaction as the only sign. Of the six cases with a positive reaction, the diagnosis was established in four, but the remaining two gave no history of infection and showed no specific manifestations. It was in this group that the value of the routine use of the Wassermann test was most

clearly indicated. The third group with weakly positive reactions is considered by Dr. Dodds to be the most interesting, since most clinicians are reluctant to attach importance to a reaction unless it is strongly positive; they fear a wrong diagnosis and do not wish to label their patients as syphilitic. Clinical manifestations were found in six out of nineteen cases in this group, which justifies a more careful consideration of these cases. Again, syphilis in pregnant women is often latent. Summarizing the cases with weak positive reactions, there were 30 in which this finding was obtained at the first examination. In one a triple positive was obtained after a provocative injection of an arsenical compound, and six were again negative after a provocative injection. In ten cases the reaction was weakly positive more than once—in four even after a provocative dose. In one case the reaction became doubtfully positive after such a dose. Nine cases were insufficiently investigated. Dr. Dodds considers that these findings justify us in regarding the weak positive reaction with suspicion of syphilis. In 17 cases the reaction was a doubtful positive, and 12 were still negative after a provocative injection. Five were not further investigated. No history of infection and no clinical manifestations of syphilis were found in any of the cases investigated. Dr. Dodds accordingly does not regard the doubtful positive results of any significance. Six cases were reported to have anti-complementary serums, a condition stated to be more frequent in pregnancy than at other times. These cases presented no clinical significance. There were 15 cases with a negative reaction which presented clinical evidence of syphilis.

There can, therefore, be little doubt as to the value of the application of the Wassermann test as a routine procedure in pregnancy. Dr. Dodds points out that in the Obstetrical Unit at University College Hospital the urine of the pregnant woman is examined for albumin as a routine, and silver nitrate is always instilled into the eyes of the newborn infant, and that many tragedies are thereby averted; she contends that many more could be averted by the routine examination of the blood, with the additional aid of a provocative dose of one of the arsenical compounds, if necessary. She insists also on the need for a fuller investigation and "following up" of cases in which an incomplete Wassermann reaction is obtained.

### ANTIRACHITIC EFFECT OF SUNSHINE.

In a paper by Drs. Alan Brown and Frederick F. Tisdall on the seasonal variation of the antirachitic action of sunshine and its effect on resistance to disease, in the *Canadian Medical Association Journal* for December, 1927, it is remarked that study of the literature dealing with the etiology of rickets shows how little has been discovered in this regard from the time of Glisson until the past ten years. It remained for Mellanby in 1918 to demonstrate the presence of a substance which possessed antirachitic properties and was effective in the prevention of rickets. It was at first uncertain whether this substance was something other than vitamin A, but this was definitely established by McCollum and his co-workers, who distinguished it by the name of vitamin D. Cod-liver oil is now recognized as its most concentrated source. Huldshinsky, in 1919, was the first to demonstrate the curative action of ultra-violet light in rickets; he employed the rays emanating from a mercury vapour quartz lamp. His results have since been abundantly confirmed by many workers. In 1921 it was shown by Hess and Meyer that a similar effect could also be obtained by exposure to the

<sup>1</sup> An Analysis of the Results of the Wassermann Reaction obtained from 2,000 Consecutive Pregnant Women. Gladys H. Dodds, M.D., D.P.H. *Journ. Obstet. and Gynaecol. of the British Empire*, Winter Number, 1927, pp. 273-287.

direct rays of the sun, and this was confirmed experimentally on animals by Park and Hess. Then Rosenheim and Webster in England, Hess, Weinstock and Helman, and Steenhock and Black in the United States, working independently, found that food containing cholesterol and allied substances acquired antirachitic properties on being exposed to ultra-violet rays. More recent investigations, however, have shown that the substance concerned is ergosterol, which is usually present as an impurity in cholesterol in the proportion of 1 in 2,000 parts. Brown and Tisdall give some indication of the great potency of activated ergosterol when they state that the administration daily of 1/10,000 mg. of it to a rat on a rachitogenic diet cures or prevents the disease, and that 5 mg. of it produce the same antirachitic effect as one litre of active cod-liver oil. The curative results of exposure to the rays, either from an ultra-violet lamp or from the sun, are due to certain rays present in the ultra-violet portion of the spectrum, experimental work with cholesterol showing that the maximum antirachitic potency is possessed by rays of 302 millimicrons in wave-length; the most effective rays of the sun, both for the prevention and the cure of rickets, are those which range from 290 to 313 millimicrons. Unfortunately, these short wave-lengths have very feeble penetrating powers, and are thus readily cut off by the smoke, dust, and moisture of the atmosphere; they are thus markedly reduced in winter, and also in the early morning and the late afternoon, when they have to pass through a thicker layer of the atmosphere than at noon, when the sun is high in the heavens. Thus Brown and Tisdall found that the sun's rays in December, January, and February, in the latitude of the city of Toronto, produce a slight but definite antirachitic effect on rats fed on a rachitogenic diet; a very sharp increase occurs in the antirachitic effect of sunshine about March 1st, while the antirachitic effect of April and May sunshine is approximately eight times as great as that of December, January, and February. Further, the antirachitic effect of skylight (reflected rays from the sky and clouds) is about one-half to two-thirds of that produced by sunshine (rays from the sun *plus* the reflected rays from the sky). It should be noted that reddening of the skin is not a suitable unit for the measurement of ultra-violet therapy; it should merely be considered as an accompanying phenomenon. Sunshine which has passed through special glass, such as corning glass, vitaglass, or vioray, has from 20 to 25 per cent. of the antirachitic effect obtained without the use of such glass; hence the employment of this glass is justified when inclement weather prevents the direct exposure of patients to sunshine so as to obtain the benefit of its antirachitic properties. Again, experimental data were obtained which show that sunshine definitely increases the resistance of albino rats to infection with specific micro-organisms, and there can be little doubt that the same effect would also be derived from it by the human subject. Lastly, exposure to sunshine was found to increase the acidity of the intestinal tract of exposed rachitic rats, and Brown and Tisdall claim this as additional evidence that the sun's rays definitely aid in digestion.

#### THE DOSAGE OF PITUITARY EXTRACT.

THE labelling clauses of the Therapeutic Substances Act, which have just come into force, enact that all pituitary extract is to be labelled in respect of its content of physiological units. The strength of pituitary extract will therefore henceforward be measured by a uniform international standard, and this should permit the dosage of the drug to be defined with considerably greater accuracy than has hitherto been possible. This problem of dosage deserves careful consideration, because in the past there has been

a considerable variation in the strength of pituitary preparations. The general tendency of such variations has been to encourage overdosage of pituitary extract, because failure of the drug to produce an effect is bound to cause delay and may involve danger in childbirth, and hence obstetricians have tended to choose a dose which would be certain to be effective, even though the sample used were considerably below standard. Bourne and Burn<sup>1</sup> have recently published a very careful analysis of the action of pituitary extract. Their findings are based on graphic records of the uterine movements during parturition. Their chief conclusions are as follows: "A dose of two units may be expected to produce an effect which should be useful in hastening the course of a sluggish labour, provided that it is not administered before the os is about one-half dilated. A dose of two units may be given with safety at any stage, provided there is no mechanical obstruction. The least interval at which any dose can be usefully repeated is one hour, but often the effect of two units has lasted longer than this." They mention that a dose of two units in some patients "produced a very striking increase in uterine action, as large, indeed, as it would seem advisable for an increase ever to be." The usual concentration of pituitary extract is ten units per cubic centimetre, and doses of one-half or even one cubic centimetre of the extract hitherto have been in common use. The results of this inquiry indicate, therefore, that the dosage hitherto employed should be reduced considerably. The conclusions regarding the dosage of pituitary extract in labour confirm those reached by other workers.

#### SEPULCHRAL STATISTICS.

THE day has long gone by when for the majority of the inhabitants of these islands their last resting place is the quiet village churchyard beloved of the poets. Some few there are still, almost exclusively among the land-owning classes and the fast dwindling rural population, who may view the prospect of sleeping their last long sleep beneath the shadow of the old yew tree; but for the mass of urban dwellers, if they think about the subject at all, their thoughts must perforce turn towards some huge cemetery, where the headstones are crowded together in almost indecent proximity, and the surroundings, as likely as not, are gasworks or main lines of railway. Unless the actual figures are presented it is almost impossible for the ordinary individual to conceive the amount of ground required and the cost involved in making provision for the 600,000 interments which take place annually. These details have recently been published by the Cremation Society of England in a pamphlet entitled "Cemeteries in England and Wales—Statistics to 31st March, 1926, of Municipal Undertakings."<sup>2</sup> The society has gathered together the figures relating to 335 cemeteries, owned and managed by 166 municipalities acting as burial authorities for their respective areas. This is said to be the most complete return of the kind issued in recent years. The population covered by the survey is estimated at 17,528,548 persons, and the average number of interments per annum is 173,073. The area of land occupied or reserved for cemeteries is over 8,400 acres, or 12½ square miles, and the total expenditure on purchasing land or laying out burying grounds exceeds five million pounds. Assuming that these statistics cover about half the population of England and Wales, we arrive at the staggering conclusion that 16,000 acres, or 25 square miles, are set apart for no other purpose than burying the dead—an area which, otherwise employed, would have housed half a million people, with a consequent increase of rateable

<sup>1</sup> The Dosage and Action of Pituitary Extract, etc., *Journ. Obstet. and Gynaecol. of the British Empire*, 249, 34, 1927.

<sup>2</sup> Copies from Mr. Geo. A. Noble, 52, New Cavendish Street, London, W.1. or Mr. A. E. Piggott, 56, Mosley Street, Manchester. 2s. post free.

value, or would have served the purpose of providing the sorely needed space for playing fields. Between November, 1918, and April, 1926, local authorities were granted permission by the Ministry of Health to borrow £1,249,905 solely for the provision of land for new cemeteries or the extension of old ones. The unproductive nature of this vast expenditure is proved by the authors of the pamphlet when they demonstrate that the annual cost to the rates amounts to about £162,000. In the case of twenty-eight authorities there is an average gain of 11s. 5d. per interment, but in the case of the remaining 138 there is an average loss of £1 6s. per interment. The loss, as might be expected, varies much in different boroughs, being as a rule heaviest in the more populous manufacturing areas. These figures are not mere guesswork, but have been accurately compiled from statistics furnished by the local authorities themselves, and they have been set out in a series of schedules showing the particulars for each locality in full detail. No more convincing argument for the general adoption of cremation as the only reasonable means of disposing of the dead in an overcrowded country has ever been published. The facts presented are really so obvious that they speak for themselves. One of the chief arguments against cremation has been that the cost is higher than that of burial. A careful analysis of the figures on an actuarial basis shows that the total cost of each interment works out at £4 12s. 6d., whereas the average cost in about 3,000 cremations is £6 6s. In this connexion the society asserts, with every show of truth, that if the number of cremations were increased to only 10 per cent. of the total number of deaths, the cost could be reduced to very much below the cost of burial, while the gain to the community in acreage alone, occurring as it would in areas where space is most needed, would be enormous.

#### CHOLERA BILIVACCIN.

Most vaccines are introduced into the system by puncture of the skin. The wound, though trivial, is to some extent a deterrent, especially among primitive peoples who are strange to the ways of modern therapy, and who may in addition have personal scruples from which more sophisticated races are free. The question, therefore, of employing the more familiar oral route for the administration of vaccines is one of considerable practical importance, but in the case of any particular vaccine it will necessarily turn on the relative efficacy of vaccination *per os* and vaccination *per cutem* as tested by experiment. The rival claims of cholera bilivaccine given by the mouth, as advocated by Besredka, and commercial anticholera vaccine given subcutaneously furnish a case in point. Otton and Kirschnner have maintained that Besredka has wholly failed to prove that the results of cholera vaccination by the mouth are better than, or even as good as, those of subcutaneous vaccination; while Dietrich, also opposing Besredka's views, casts doubts on the possibility of cholera vaccination by the mouth producing any results at all. Light has recently been thrown on this question by experimental field work carried out in the Presidency of Madras at the instigation of the Public Health Commissioner with the Government of India, and now reported, in a print issued under the authority of the Health Organization of the League of Nations, by Colonel A. J. H. Russell, I.M.S., Director of Public Health of the Presidency. The observations were made during the winter cholera epidemics of 1925-26 and 1926-27. The total number of persons observed was 71,979, all resident in areas rarely free from cholera. Of this total 17,080 were observed in respect of the oral bilivaccine, 6,076 receiving doses ranging from one to three and 11,004 being controls; while 54,899 were observed in respect of the subcutaneous anticholera vaccine, 25,645 receiving one or two doses and 29,254 being controls.

Among persons taking the full course the attacks of cholera were for the bilivaccine inoculated 0.36 per cent., for the anticholera vaccine inoculated 0.37 per cent. Among controls the attacks of cholera were for bilivaccine 2.02 per cent., and for anticholera vaccine 1.67 per cent. Every precaution appears to have been taken, subject to the limitations inseparable from field work, to ensure the accuracy of the original data and the comparability of groups. In the statistical analysis the methods of determining the coefficients of correlation and the checks applied are stated in detail. The resulting figures are set forth under eleven heads and their significance deduced. Colonel Russell's final conclusions are quoted: "It may therefore be inferred that, remembering the limitations already mentioned, a high degree of immunity is conferred by the administration of the oral and subcutaneous vaccines, but that the effect of the anticholera inoculation is, in the long run, superior to bilivaccine treatment. In view of the fact that risk of injury resulting from inoculation is inappreciable, and that even transitory discomfort is uncommon, the case in favour of anticholera vaccination as a practical measure is complete."

#### THE CYTOLOGY OF JENSEN'S RAT SARCOMA.

ONE great advantage of tissue culture as a histological technique compared with the examination of tissues by means of sections of fixed material lies in the fact that in cultures *in vitro* the individual cells can be isolated, and their cytological characters, amoeboid and intracellular movements, mitoses, and degenerative changes can be studied in the living condition. The application of the tissue culture method to Jensen's rat sarcoma has enabled H. B. Fell and J. A. Andrews<sup>1</sup> to distinguish two types of cell within this tumour, one resembling fibroblasts and the other wandering tissue cells. At first sight this seems opposed to orthodox views about sarcomas, for, although considerable variability in size, shape, and staining is a feature of a sarcoma, it has usually been assumed that the differing appearances represent only varying phases in the development or morphology of one type of malignant cell. From the application of tissue culture methods, however, convincing evidence is now offered that at least two histologically distinct classes of tissue are present in this sarcoma—fibroblast-like cells and lymphoid cells, the cells differing both in morphology and behaviour. The fibroblast cells are spindle-shaped or triangular, and generally larger than the other type of cell, referred to as lymphoid or "wandering cells." These wandering cells sometimes assume a complex arborescent shape reminiscent of the nerve cell with its dendrites; they often contain fat globules and granules, and if solid carmine is added to the medium in which the cells are cultivated these granules are beautifully stained *intra vitam*, as the author's good illustrations show. The cells differ considerably in their movements. The fibroblast cells, when observed at body temperature, are seen to be in slow but constant movement. The outline of the cell is gradually but continually changing. Large elongated or wedge-shaped pseudopodia are very slowly protruded and may be suddenly withdrawn, leaving behind numerous long needle-like processes of cytoplasm, which are eventually retracted into the cell body. The cell may gradually expand or contract, and small variations in contour are continually seen. Within the cell, especially in the pseudopodia, the cell organs show considerable motility. The long filamentous mitochondria pass slowly to and fro, twisting and bending and sometimes breaking into two, while the smaller rod-like forms move rather more rapidly. In contrast with these fibroblast-like elements the wandering cells are much more actively motile, and in a serum and plasma medium are usually the first to

<sup>1</sup> Brit. Journ. of Exper. Path., vol. viii, p. 413.



crawl out from the explant. Pseudopodia are thrown out, with surprising rapidity, glide, swell, and are withdrawn as quickly, to start anew from a fresh site in the surface of the cytoplasm. The nucleus is often correspondingly distorted, and lobes, sometimes showing a marked constriction, bulge into the bases of the main pseudopodial branches, only to be drawn back into the main body of the nucleus as the pseudopodia are retracted. The authors describe graphically how the restless turmoil of the cell is enhanced by the violent activity of the cytoplasmic inclusions. Mitochondria, small fat globules, and cell granules scour to and fro along the pseudopodia, jostling one another, and showing at the same time a ceaseless dancing motion resembling Brownian movement. These differences in form and behaviour are paralleled also by apparent differences in function. The wandering cells, which are more actively phagocytic than the fibroblasts, are thought to be of lymphoid character, for by dark-ground illumination they are indistinguishable in structure and behaviour from the wandering cells of normal embryonic tissue cultivated *in vitro*, or from the larger lymphoid cells in cultures of adult spleen. On the other hand, the fibroblast-like cells are similar to embryonic connective tissue cells, and their main function is to provide scaffolding for other tissues. Since there is no histogenetic relation between these two cells the question arises as to which of the two types of cells is the malignant agent. For the Rous sarcoma of the fowl Carrel has adduced experimental evidence that lymphoid elements—so-called monocytes—are responsible for the malignancy of this tumour. By analogy it is possible to deduce that the wandering cells may be the malignant components of the rat sarcoma, while the fibroblast-like cells represent stromal elements, but such a hypothesis could only be verified by further experimental work.

#### WHEELS AND BITES.

ALTHOUGH the bite of a blood-sucking insect and the resulting wheal, with its often intense itching, are so well known, surprisingly little has been really understood about this skin reaction, and especially its purpose in relation to the transmission of the parasites of which the insect is the carrier. Many years ago it was suggested that the salivary secretion of mosquitos, which (among other insects) produce this skin reaction, had as its function the prevention of clotting of the blood on its way to the stomach; subsequent work throw doubt on this hypothesis. In 1914, however, Cornwall and Patton were able to demonstrate the presence of an anticoagulin in the salivary glands of various blood-sucking arthropods, and, in some cases at least, a neutralizing coagulant enzyme existed in the stomach. A recent letter to *Nature* (January 7th, p. 13) by Dr. Lloyd of the Tsetse Investigation in Nigeria helps to throw some light on this interesting problem. Dr. H. M. O. Lester, he recalls, has established that tsetse flies have both an anticoagulin in the secretion of the salivary glands and a coagulin in the secretion of the digestive tract. *In vitro* experiments demonstrate that their action on the blood is very like that of antikinase and kinaso respectively. (In the leech, which, of course, belongs to a different zoological group, the anticoagulin—the so-called hirudin—is an antithrombin.) The old hypothesis has therefore been revived, and the members of the Tsetse Investigation have performed some ingenious experiments to show its validity. The entire salivary glands have been removed from flies—a delicate operation, which, however, can be carried out without causing the tsetse any appreciable shock. Flies thus treated feed normally for a time, but cause no wheal whatever on even the most sensitive skin. They live for quite long periods—up to two months—producing normal larvae and behaving in a normal way. Sooner or later,

however, the insect chokes or shows symptoms of convulsions and cannot feed. Dissections show that the lumen of the gut has become closed by a blood clot. Further experiments indicate that the amount of salivary secretion mixed with blood prevents its coagulation for several hours, but the secretion of coagulin is so powerful that it is neutralized in a few seconds and a clot formed, which is then in a position to be digested. In this fly, therefore, the production of the skin reaction is purely an accident, although often a painful and sometimes a dangerous one. The salivary secretion mixes with the blood at the very tip of the proboscis, and a certain amount always escapes into the skin of the host. Dr. Lloyd and his colleagues have thus solved an interesting problem with important practical bearings.

#### ROYAL COLLEGE OF PHYSICIANS.

THE Royal College of Physicians of London is celebrating on May 14th next and following days the tercentenary of the publication of William Harvey's book *De Motu Cordis*, an event that laid the foundation stone of modern physiology and scientific medicine. Delegates and distinguished guests from all parts of the world have been invited to participate in an interesting programme of scientific and social gatherings. The College is reviving on this occasion an honour that has been bestowed but seldom in the four centuries of its existence by electing to its Honorary Fellowship the Earl of Balfour, Sir Ernest Rutherford, and Professors Ivan Petrovitch Pavlov and Karl Friedrich Wenckebach, each of whom has rendered signal service, directly or indirectly, to the advancement of medical science. The spring lectures at the College open on March 1st, when Dr. F. A. E. Crew will give the first of his three Milroy Lectures on "Individual, familial, and racial differences in respect of immunities and disease resistance"; the second and third lectures will be delivered on March 6th and 8th. Dr. Izod Bennett will give three Goulstonian Lectures on "Some problems of nephritis" on March 13th, 15th, and 20th. The Lumleian Lectures on "Epilepsy" will be given by Dr. James Collier on March 22nd, 27th, and 29th. Dr. E. P. Poulton will give the Oliver-Sharpey Lectures on "An experimental study of certain visceral sensations" on May 1st and 3rd; and the Croonian Lectures on "The interpretation of gastric symptoms" will be given by Dr. Charles Bolton on June 5th, 7th, and 12th. All lectures begin at 5 p.m. Members of the medical profession will be admitted on presentation of card.

#### MEMORIAL TO SIR FREDERICK MOTT.

WE are glad to learn that the council of the Royal Medical-Psychological Association has decided to commemorate the life work of the late Sir Frederick Mott by publishing a memorial book, and for this purpose has appointed a committee consisting of Drs. C. Hubert Bond, F. L. Golla, Douglas McRae, Thomas Beaton, and J. R. Lord, the last-named acting as honorary secretary. Promises of scientific articles have been received from the leading exponents of psychiatry throughout the world; many of these papers will embody original work, and will be important contributions to neurology, psychiatry, and sociology. A fund has been opened to defray the cost of publication, and the committee appeals for donations, which should be sent to the treasurer, Dr. James Chambers, The Priory, Roehampton, S.W.15. In the course of our obituary notice on June 19th, 1926, we indicated the international influence of Mott's work and his great personal popularity. This memorial volume, prepared in his honour, will register steady progress in the branch of medicine which he did so much to advance, and a world-wide response to the appeal may be confidently expected.

## Hunter Bicentenary Celebrations.

### THE HOMES OF THE HUNTERS.

VICARY LECTURE BY DR. GEORGE C. PEACHEY.

At the Royal College of Surgeons of England on February 16th the Thomas Vicary Lecture was delivered by Dr. GEORGE C. PEACHEY, who took for his subject "The homes of the Hunters," and illustrated it by many topographical pictures and portraits.

Dr. Peachey said that he proposed to follow the footsteps of William and John Hunter in the London of the eighteenth century—the London of Hogarth and Gay, Fielding and Smollett, Johnson and Goldsmith. But the scene opened at Long Calderwood in Lanarkshire (Fig. 1), where John Hunter was born in 1728, the tenth child of his parents. Many of the children had died, probably all from tuberculosis, and only four came into the story—James, William, Dorothea (mother of Matthew Baillie), and John. It was William who bore the burden and heat of the day; he was the architect of his brothers' success and that of his nephew Matthew, and in our admiration for the genius of John it was only right that William should receive his meed of honour. James studied law, William was designed for the ministry, but abandoned the Church for medicine and practised surgery at Hamilton. In 1740 he made his way to London, finding lodging under William Smellie's roof in Pall Mall. He was fortunate in his teacher, for Smellie was described by Dr. Herbert Spencer as the greatest of British obstetricians. The instruction which Hunter received during those ten months with Smellie laid the foundation of his subsequent success, and even the uncouth manners of his teacher were useful in suggesting to him the value of a more courtly bearing, which subsequently procured for him his appointment to Queen Charlotte. He next became anatomical assistant to James Douglas, and tutor to Douglas's son. From Douglas he learned his love of books, acquired his zeal for anatomy, and was inspired to choose obstetrics as a means of future livelihood. Under Douglas's roof in Red Lion Square he lost no opportunity of acquiring knowledge. In 1741 he entered St. George's Hospital as a surgical pupil. In that year he lost his father, and not long afterwards his brother James, who had forsaken the law and had joined William in London, returned to Scotland to die. William succeeded on his elder brother's death to a small estate, but his mother, his two sisters, and his brother John were entirely dependent on this man of eight-and-twenty.

#### William Hunter a Pioneer in Antiseptic Midwifery.

In 1746 William Hunter announced his first course of lectures on anatomy at the Little Piazza, Covent Garden. John Hunter, tired of an idle country life, and hearing much of William's success, became his assistant, doubtless making his home with his brother during the next twelve

months at Mrs. Douglas's house in Hatton Garden. During this period John was initiated into the art of dissecting. In the summer he went to Chelsea Hospital to learn surgery at the feet of Cheselden, and later was surgical pupil at St. Bartholomew's. Soon afterwards William was elected to the staff of the Hospital for Lying-in Women, Brownlow Street, Holborn. From his subsequent movements it appeared to the lecturer that William Hunter had grasped the important principle that for the safety of the women he attended his practice should not

be conducted from premises which served at the same time for dissecting; therefore he took a large house in the Great Piazza, Covent Garden, which henceforth became the residence of himself, his brother John, and their pupils. At the same time he retained the apartments in the Little Piazza for anatomical purposes. This was almost a hundred years before Semmelweis was led to attribute puerperal fever to the carriage of sepsis from the attendant to the patient.

#### John Hunter's Early Career in London.

John Hunter evidently made up his mind at this time to follow surgery as his profession. In 1754 he entered as surgical pupil at St. George's, and in 1756 for a second course. At St. George's there were no restrictions; the appointments were open, subject to votes and influence alone. Whatever the evils of the system—and they were many—without it surgery would not have had its John Hunter. In 1756 he was appointed resident house-physician at St. George's, a stepping stone to the staff, but he retained the office only for five months, being anxious to return to the dissecting room and complete his researches. In the same year William Hunter removed to Jermyn Street, and the house in the Great Piazza served as the residence of John and the pupils and as the school of anatomy. An attack of pneumonia brought to an end John's labours in the dissecting room, and his dolorous family history pointed the need for prolonged change of occupation. In 1761, having obtained a commission as army surgeon, he sailed on foreign service. Before leaving England he had become a subscriber to St. George's, and it was at a board meeting there that he appeared again in history on his return from abroad after two years' absence. He was then, in all probability, living in lodgings in Russell Street, Covent Garden. Two years after his return he purchased the lease of ground at Earl's Court, on which he proceeded to build a residence (Fig. 2), and shortly afterwards he also became the occupier of a house in Golden Square.

#### William Hunter's Theatre.

Meanwhile William Hunter, having acquired competency for himself, and finding that his work continued to accumulate, resolved to give up teaching anatomy and to vacate the Covent Garden premises. He applied for a grant of

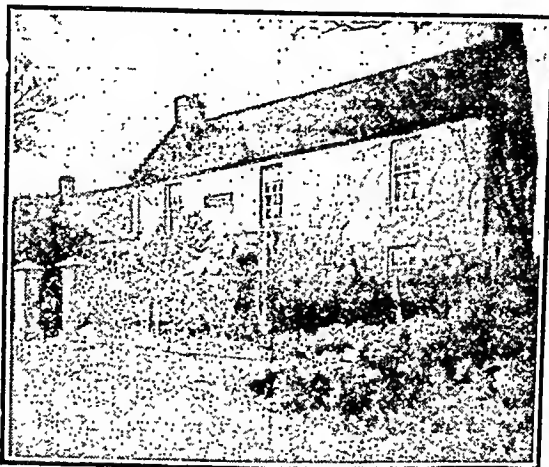


FIG. 1.—Long Calderwood, the birthplace of William and John Hunter.

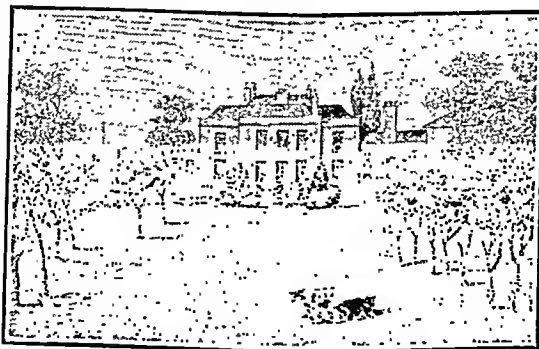


FIG. 2.—John Hunter's home at Earl's Court, Kensington, 1764-1793.

land from the Crown for the building of a museum of anatomy, but his offer in that connexion failed of acceptance. Had it materialized the name of Scotland Yard, the chosen site, would have been associated in the public mind with the investigation of disease instead of crime. He had taken temporary premises in Litchfield Street, until, foiled in his design, he purchased a house in Great Windmill Street (Fig. 3), and began to build a theatre for himself. From 1763 until his death in 1783 William Hunter, with a succession of distinguished assistants, continued there his courses of anatomy. After his death the property passed to Matthew Baillie until, in 1831, its doors were finally closed. Of all the homes of William Hunter in London this alone, in part, remained. The wall in Great Windmill Street, now the back of the Lyric Theatre, was the actual frontage of the old house. The front portico had gone, the area remained, and behind the railings might be seen the basement windows. Through a side entrance to the north the actors and actresses now passed to their dressing rooms above, and a flight of steps was to be seen down which many a "resurrectionist" must have staggered under his ghastly burden. The stage of the theatre, which was sunk below the level of the street, formed the actual floor of William Hunter's dissecting room.

#### *The Estrangement of the Brothers.*

When William Hunter vacated Jernyn Street in 1768 he handed over the remainder of the lease to his brother, who, with his support, was elected surgeon to St. George's Hospital. This appointment enabled John to take pupils, one of the earliest and certainly the greatest of whom was Edward Jenner. The exact date of the termination of Jenner's residence in Jernyn Street was conjectural. He might or might not have been there in July, 1771, when, one Saturday evening, John wrote a letter to William telling him that he was to be married at eight the following morning at St. James's, Piccadilly. From his marriage onward John Hunter made good use of the house at Earl's Court. About that house, which was demolished in 1886, there lingered the romance of John Hunter's otherwise turbulent life. The estrangement between the brothers began about 1778, when, owing to some disagreement, John's lectures on the principles and practice of surgery, which had previously been delivered at his brother's anatomical theatre in Great Windmill Street, were given at No. 28 in the Haymarket. William Hunter, who had done so much for his brothers, and had secured for John

the opportunity of developing his talents, was no easy master. The opposition to his claims of discovery had perhaps embittered him. In 1778, for some reason, their ways parted, and the estrangement lasted to the end. John was not mentioned in William's will.

#### *Triumph and Tragedy.*

The museum, which was the darling object of John Hunter's life, requiring better accommodation, he decided to purchase the lease of a house in Leicester Square and the premises behind it. On the ground between the two he built a lecture theatre and a conversing room, and above them a museum and gallery. It was said that he spent £6,000 on the lease and the building. This house was his family residence. He had by this time been appointed surgeon extraordinary to the King. Honours were showered upon him, and the death of Percival Pott left him without rival in his profession. But two troubles assailed him, one an alarming malady whose recurring attacks made him in constant fear of death, and the other his financial responsibilities. For although he had earned as much as £5,000 a year he had saved nothing, and his family was unprovided for. Everything above his establishment expenses, the purchase of the Earl's Court freehold, and the lease in Leicester Square was swallowed up by his museum. These circumstances made him irritable and impatient of opposition, and

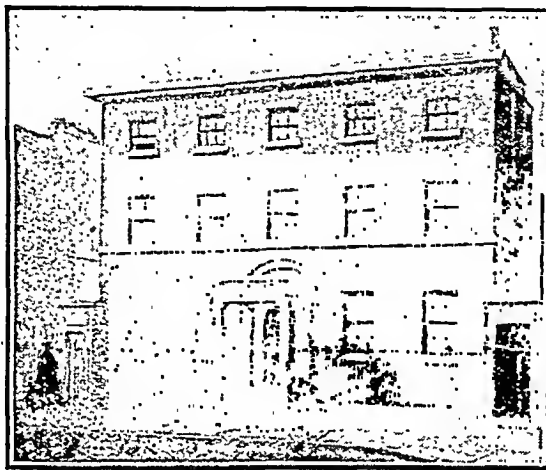


FIG. 3.—William Hunter's residence and School of Anatomy, Great Windmill Street, London.

worsened the relations, which were never good, between himself and his colleagues at St. George's.

The lecturer recited the melancholy history of that quarrel, which was terminated by Hunter's tragically sudden death, or perhaps not even terminated then, for at the meeting of the board following the tragedy no vote of condolence was passed, no official expression of sorrow was forthcoming. John Hunter's personal property was dispersed, the Earl's Court house was sold, and after debts had been paid only a balance of £1,500 remained. In 1799 the Hunter collections were purchased for £15,000 for the use of the public, and were entrusted to the keeping of the College of Surgeons, being moved in 1806 from Castle Street to Lincoln's Inn Fields.

"In the brilliant sunshine of modern surgical progress," added Dr. Peachey, "begun by Simpson with the introduction of chloroform anaesthesia and culminating in the magnificent triumph of Lister, our eyes are apt to be blinded to the debt we owe to the perseverance and the genius of John Hunter. 'Si monumentum requiris, circumspice.'"

### ROYAL COLLEGE OF SURGEONS.

#### HUNTERIAN FESTIVAL DINNER.

THE delivery of the Hunterian Oration by Sir Holburt Waring on February 14th was followed in the evening by a festival banquet given by the President and Council at the Royal College of Surgeons. The guests, representative of all branches of public life, were received by the President, Sir Berkeley Moynihan, and the Vice-Presidents, Sir Cuthbert Wallace and Mr. F. J. Steward.

After the loyal toasts had been honoured, and the "Memory of John Hunter" had been toasted in silence, the PRESIDENT, in a most felicitous speech, proposed the health of the many distinguished guests assembled that night to do honour to the College and its greatest son. He sketched in imagination the banquet that might have been given by that corporation and the great figures of the time who might have been entertained within its walls 200 years ago if they had known then that the child born

that day was destined to refound surgery on the basis of science. The claim, Sir Berkeley Moynihan said, might almost be made that science was substantially the only thing that had advanced in the last two centuries. In painting and sculpture, in architecture and literature, tastes and interests had changed, but when they regarded the work of those who lived centuries ago they must remain in a position of profound and reverent admiration.

THE EARL OF BIRKENHEAD, Secretary of State for India, responding to the toast, said that he was glad to meet so large a company of eminent surgeons on their own ground, although any layman must do so with mixed feelings. He had a great admiration for the surgical profession, without wishing to push the acquaintance too close in any individual case. Taking as his text the claim that the illustrious John Hunter was the first to introduce scientific surgery to the world, and a recent statement by their President that the highest point of technical achievement in surgery had perhaps now been reached, he indulged in a little irony,

at the expense of his hosts and their predecessors. He hoped that the surgeons of to-day were at least as right as those who went before them in the view they took of the perfection and the great resources of their art. His definition of surgery as "destructive medicine" was well received by the physicians present. Lord Birkenhead, in short, proved himself an adept in the branch of manipulative surgery that has been described as leg-pulling, and he ended, as was fitting, with an apology for the seriousness of his remarks on a festive occasion. The DEAN OF ST. PAUL's, in a short speech, expressed gratitude for the skill and generosity of surgeons at anxious moments in his life. It was noted that Dean Inge, when he made passing allusion to vitamins, adopted a pronunciation of that much-used word which was new to many of his audience.

In proposing the health of the Hunterian Orator, Sir GEORGE NEWMAN paid warm tribute to Sir Holburt Waring, describing him as a physiological surgeon and a successor in the great line of John Hunter, "the real father of preventive medicine." In his acknowledgement Sir HOLBURT WARING said that in his surgical work and study it had been his aim to follow in the footsteps of Hunter.

The company at dinner included, besides those named above, Lord Dawson of Penn, Lord Stanmore, Treasurer of St. Bartholomew's Hospital, and Lord Riddell, President of the Royal Free Hospital; Lord Justice Atkin and Mr. Justice Rowlatt; Sir George Makins, Sir Anthony Bowlby, and Sir John Bland-Sutton, past-Presidents of the College; Sir John Rose Bradford, President of the Royal College of Physicians; the Regius Professors at the two ancient universities, Sir Humphry Rolleston and Sir Farquhar Buzzard; the Treasurers of Lincoln's Inn and Gray's Inn; the Master of the Society of Apothecaries, Dr. R. Whiteside Statham, and the Masters of other City Companies, including the Barbers, who for centuries were united with the Surgeons; the Presidents of the Royal Academy of Arts and the Royal Institute of Painters in Water Colours, the Royal Society of Medicine, the Royal Institute of British Architects, and the Institution of Civil Engineers; the Directors-General of the Royal Naval Medical Service and the Army Medical Service; Sir D'Arcy Power, Sir Charters Symonds, Sir Dawson Williams, Sir Frederic Hallett, and Mr. H. de Vere Stacpoole; Sir Arthur Keith, Conservator of the Museum, Mr. Forrest Cowell, Secretary, and Mr. Victor Plarr, Librarian of the College; and the Editors of the *Lancet* and the *British Medical Journal*.

## HUNTERIAN SOCIETY.

### FESTIVAL DINNER.

THE annual dinner of the Hunterian Society was made an event of special importance this year, held as it was within five days of the bicentenary of John Hunter's birth. A very large company gathered at the Hotel Victoria on February 8th under the chairmanship of the society's president, Mr. MORTIMER WOOLF.

The principal guests were: Sir Douglas Hogg, K.C. (Attorney-General), the Lord Mayor and Lady Mayoress, the Recorder of London, the High Commissioner for India, Sir John Rose Bradford, P.R.C.P., the Presidents of the Royal Society of Medicine and the other metropolitan medical societies, Sir Arthur Keith, and Sir Dawson Williams.

The menu card was a striking production, the work of Mr. W. Thornton Shiells, with the Reynolds portrait of John Hunter in the centre, surrounded by sketches of his birth-place at Long Calderwood and of his week-end "cottage" at Earl's Court, as well as emblems of surgery and comparative anatomy. Sir ARTHUR KEITH, after explaining some of the devices for the benefit of the uninitiated, mentioned that there was present that evening one living link with Hunter in the person of Miss Hunter Baillie, who, despite her ninety years, had come to London to attend the celebrations, and who inherited her great-grand-uncle's outlook on life and something of his physical features.

The toast "In memory of John Hunter" was pledged in silence.

Sir DOUGLAS HOGG, in proposing the health of the Hunterian Society, said that he had always regarded the Church, medicine, and law as the three great healing professions. There was some

laughter at this, whereupon Sir Douglas added: "Well, I suppose it is true that you do not always heal your patients, but at any rate you try to follow our example!" As they had this object in common it was not unnatural that they should have something of the same experiences. Doctors and lawyers alike suffered from the fact that patients did not come to them until too late. Both depended for their success on the entire confidence of their patients. Law and medicine, again, were progressive professions. Every practitioner learnt something from every case he handled, although he was supposed to know all about the case before he began to handle it, and when he had once passed his examinations and been admitted to practice he was supposed to be capable of advising on the most abstruse problems of the science he had set out to learn. Law and medicine had this further in common—that they both demanded an unremitting industry. These professions were jealous mistresses, and brooked no rivals. There were, of course, differences between the two. It seldom or never happened that the doctor had to define legal problems, but it constantly happened that the lawyer had to define medical ailments. Perhaps that was the reason why doctors had so much less respect for the law than lawyers had for medicine. Both professions had their own standards of ethics, applied by their own chosen chiefs and recognized by a lay public who, however, did not always understand or appreciate them. There was formerly another link of resemblance, in that both doctors and lawyers wrote their prescriptions in a language which no one else could understand, but the lawyers gave up the use of Norman French 250 years ago, and he hoped that in another 250 years the doctors would be writing their prescriptions in intelligible English. But the great distinction of these two professions was the fact that with each the object and inspiration was the attainment of truth. It was a medical man who said that there were many more mistakes made by not looking than by not knowing, and it was a lawyer who said, "Be sure of your facts before you come to your theories." With both professions the ascertainment of truth was the first essential of successful practice. The members of both regarded their profession as imposing on them a responsibility to the public rather than as furnishing them with a means of livelihood. The generosity of the medical profession was well known to the world. Lawyers, though they lagged behind medical men in this respect, nevertheless did in the aggregate a great deal to assure for the poor of this country that expert help which they could not otherwise afford. Just as there were hospitals for bodily healing in every centre of population, so Sir Douglas Hogg desired to see a day when there would be "legal hospitals"—centres to which poor people could go for the advice they needed. In conclusion, he referred to the fact that he represented in Parliament the greatest medical constituency in the United Kingdom (Marylebone).

Mr. MORTIMER WOOLF responded in a pleasant speech in which he recited the achievements of the society in recent years, mentioning especially its long association with the City of London, and the fact that its monthly meetings, always held in the old City, sometimes at the Mansion House or in the hall of a City company, had an average attendance of one hundred. The traditional association of the Hunterian Society with the City of London was also emphasized by Mr. W. E. TANNER in proposing the health of the Lord Mayor and Corporation. The LORD MAYOR, in responding, assured the members that during his temporary residence at the Mansion House it would be more than an ordinary pleasure to welcome the society there.

Dr. W. LANGDON BROWN, in proposing "The Guests," said that although it was the common idea that they would all be forgotten in a hundred years' time, yet, as the present spate of centenaries proved, the passage of a century often added to a man's reputation. The toast had three respondents, the first being EARL RUSSELL, who, as a constitutional Labour peer, deplored the "revolutionary" character of recent legislation. Sir ERNEST WILD compared the achievements of John Hunter in medicine with those of John Howard in penology, the aim in medicine being the extinction of barbarism. Finally, Sir JOHN ROSE BRADFORD drew another parallel between John Hunter and William Harvey, describing Hunter's intellect as perhaps rather of the reservoir and Harvey's of the spring type; yet he acknowledged that Hunter, notwithstanding his great eminence in the accumulation of facts, resembled Harvey in possessing also a striking originality and fertility of idea.

## VOLUNTARY HOSPITALS AND PUBLIC AUTHORITIES.

### CONFERENCE IN LONDON.

A SPECIAL meeting was held, under the auspices of the Charity Organization Society, at Denison House, Victoria, on February 13th to discuss the question of the voluntary hospitals and the public authorities. Lord Dawson of PENN presided, and the large attendance included many persons well known in connexion with hospital and public health administration in London.

Lord Dawson said that the purpose of the meeting was to discuss how best to direct and co-ordinate London hospital accommodation. The first fact which had to be faced was that increased hospital accommodation was called for by the progress of medical treatment of disease, and by domestic circumstances and social needs. The demand had been met to a large extent by voluntary effort, recently reinforced by the utilization of some Poor Law hospitals. The work of these Poor Law—or better called municipal—hospitals was likely to grow in importance and magnitude. When the Poor Law Reform Bill became law the public authority in London would be responsible for over 100,000 beds. The question was whether two parallel and competing systems of hospitals in London were to be maintained or whether co-operation was possible. The big teaching hospitals of London were part and parcel of the national life. On them very largely the nation depended for its future supply of doctors; in them to a great extent new knowledge was "tried out" and made generally available. A wise statesman, so far from undermining them, would try to adapt them as leading and guiding elements in a large scheme. It was important to conserve their characteristics of initiative and freedom from that cramping routine which seemed to be inseparable from State-aided institutions. They were the embodiment of the voluntary spirit. Voluntarism in hospitals he would describe as management by bodies which did not owe their origin to State or municipal government. In London these hospitals were gathered under the aegis of the King Edward Hospital Fund, itself a magnificent example of voluntary effort, which aimed at influence rather than interference, and sought to co-ordinate the several institutions while keeping alive in each of them a certain independence of spirit. What was to be desired in the public interest? Should the public authority have under its control 100,000 beds and utilize the great experience of existing voluntary hospitals in building up a complete hospital system, or was it necessary to contemplate the prospect of all hospitals falling under bureaucratic control, with its inevitably rigid formulas and restraints? In passing, he affirmed that if the teaching hospitals of London were municipally administered so that all voluntary work in them was ended it would mean an addition of 8d. in the £ on the rates. The time had come for a fearless survey of the whole position.

Sir WILLIAM HAXER gave a brief historical survey of the gradual replacement of haphazard efforts by an organized system in dealing with the health of the community. The National Health Insurance Act had made it clear that the line of demarcation between State medicine and domiciliary medicine was no longer the same as that between preventive and curative medicine. To take one relatively small result, the notable decline in mortality from measles among children was clearly to be ascribed to co-operation between the Ministry, the Metropolitan Asylums Board, the county and borough councils, and the private practitioners in co-operation. The time had now come to make further advances for persons of all ages, and on both preventive and curative lines, there was work enough for all agencies which could be brought into the field. Competition between voluntary and official institutions could and should be avoided. Each voluntary hospital in London should form a nucleus functioning in close co-operation with associated health agencies, and in the living organism formed by the aggregation of such agencies there must be no schism. Such an organization would speedily bring about a fall in death and sickness rates and a rise in efficiency and working capacity which would open the eyes of the statisticians.

### The Case for the Voluntary System.

Dr. E. GRAHAM LITTLE, M.P., pleaded for the maintenance of the voluntary system unimpaired. The voluntary hospital was one supported mainly by voluntary subscriptions, gifts, or endowments; its permanent staff consisted of honorary physicians and surgeons; patients were freely admitted, any contributions they made being voluntary contributions, and the hospital was managed by an unpaid board elected by the subscribers. The note of the voluntary hospital was independence and clarity, and these qualities had attracted to its service the best men, lay and medical, for generations. Side by side with the voluntary hospitals another class of institution had long existed—the Poor Law infirmary controlled by boards of guardians. These institutions were still hedged about with restrictions, the legacy of their origin as part of the system of poor relief. Compared with the voluntary hospitals they lacked individuality, and their organization tended to be stereotyped, inelastic, and departmental. But as they were supported by the public purse they tended to become more and more competitors with the voluntary hospitals in equipment, though not in personnel, for in this latter respect they were less adequately supplied, on both the medical and the nursing sides, than was the case with the voluntary hospitals. ("No.") In London there were thirty of these institutions, with 19,000 beds, as against 130 voluntary hospitals with not quite 14,000 beds; but whereas, owing to their popularity, voluntary hospitals had waiting lists, and in fact could not deal with more than 70 per cent. of the demand upon them, the Poor Law hospitals had very large numbers of permanently empty beds—"No"—a proportion variously estimated, according to the district and the season, as from one-sixth to one-fourth of the total accommodation. The impoverished condition of the national finances made imperative the most economical use of the available resources. It had been estimated by expert local committees outside London, and by the King Edward Hospital Fund in London, that for voluntary hospitals in England and Wales to overtake the demand upon them 11,000 extra beds (3,000 of them in London) would be required, but there were from 20,000 to 30,000 beds empty at Poor Law institutions. This reserve of beds would enable the voluntary hospitals to deal with the calls now made upon them. It seemed obvious that the need of the moment was redistribution, both of functions and accommodation. There were several factors which explained why the voluntary hospitals had long waiting lists and the Poor Law hospitals thousands of empty beds. In the former institutions there was the atmosphere of personal service, given, not for money, but for love, a sense of individuality, and the ancient traditions. The Poor Law hospital, immeasurably improved as it had been during the last twenty years, suffered from two handicaps easily removable—the legal disqualification of pauperism which attached to patients—(A voice: "That has been removed since 1918")—and the rule that only patients from the district should be admitted. But the hospital had an inherent defect more difficult to change. The provision of out-patient and special departments, with the necessary medical and surgical personnel, would be immensely costly, and it was not likely in any case that the same quality of personnel would be secured by payment as was now forthcoming at the voluntary institutions.

Dr. Graham Little, in conclusion, referred to a method of co-ordination of medical services which Mr. Walter Spencer and he had proposed. The idea was to establish an advisory council to deal at first with the hospitals in the metropolitan area. It would be nominated on the one side by the King Edward Hospital Fund Council; and on the other by the Ministry of Health and the London County Council, always provided that the preponderant influence on the council should be essentially voluntary. The voluntary hospital in each area should become a nucleus of medical services for that area. Tentative efforts at co-ordination had already been carried out with encouraging success, but they had been somewhat haphazard. The precedent of some modern universities, where advisory councils representative of all interests concerned had been set up, might also be cited.



*The Case for a Municipal Service.*

Dr. HUMPHRY NOCKOLDS said that there were four main causes of the present position: the difficulties of the voluntary hospitals in finding money; the increasing population, more especially in the areas covered by large housing schemes; the progress of medicine and surgery, which required more expensive equipment; and the increasing desire of the general public for satisfactory accommodation and treatment. The first of these was a very serious difficulty. Resort had to be made to such expedients as "golden ballots," and yet, in spite of intensive efforts to obtain money, the dread spectre of the State drew near. Already the voluntary hospitals maintained certain services only by State subsidies. It was admitted that the voluntary hospitals in the London area were unable to cope with the number of patients requiring hospital treatment. The possible solutions were: (1) for the State to take over all hospitals, which would mean the destruction of the voluntary system, and would be the worst possible course to take; (2) for the local authorities to make grants to the voluntary hospitals, but these grants would have to be so large that no Government would ever sanction them without requiring popular representation, and, further, the voluntary subscribers would quickly disappear; (3) for the voluntary hospitals to be linked up with and to control the Poor Law hospitals, the local authorities finding the money (but as the voluntary hospitals had practically no co-operation among themselves, even after hundreds of years, they appeared to have no claim whatever to become the organizing authority for a unified hospital service); (4) for the local authorities to make a new departure and institute municipal general and special services, the Poor Law hospitals being the basis of the scheme. This last was, he believed, a really practical suggestion, and should, with the definite retention of the voluntary hospitals, form the basis of all reform. The unit must be large—for example, the county area. A strong medical representation, the obvious nucleus of which would be from the staffs of the voluntary hospitals and from the direct medical control of the municipal hospitals, would prevent "the creeping ulcer of bureaucracy." But the representation must be of really active working medical men. He thought the Poor Law hospitals not unworthy to come into such an organization. They had already taken over a part of the burden of the voluntary hospitals, and although they suffered under manifest disadvantages in their origin and management, the latter being rather too near the "vote," and in lack of directivity in medical matters from the Poor Law section of the Ministry of Health, they had nevertheless shown a great faculty of adaptation.

Dr. F. N. KAY MENZIES, who said that he was not present as medical officer of the London County Council, gave some figures to show that financially the position of the voluntary hospitals had improved greatly since 1920. In 1920 the ordinary expenditure of the hospitals of England and Wales exceeded ordinary income by £500,000, and in 1926 ordinary income exceeded ordinary expenditure by £250,000. But it was of no use shutting one's eyes to the shortage of accommodation, intensified in many areas by the housing shortage, and everywhere by the growth of the "hospital habit." The public authorities were concerned now much more than formerly with the treatment of the individual. The Poor Law authorities in London, including the Metropolitan Asylums Board, had actually got between 70,000 and 80,000 beds for the treatment of the sick. He begged that these interested would get it out of their minds that the taking over of a complete municipal hospital service was too big a job for the London County Council; it was already doing bigger jobs in other departments, such as education and housing. Not only could it bring such a service under a single control, but it could do it extraordinarily well. But if the voluntary hospitals refused to co-operate in such a service it would mean in time their extinction. In London there had been for many years complete and harmonious co-operation between the London County Council and the voluntary hospitals, towards the work of which the council paid about £150,000 a year without asking for any voice in the appointment of the medical staff. He was unable to understand why there

should be any difficulty in adapting the facilities provided by voluntary hospitals and public authorities to the needs of the community.

*The Poor Law Hospitals Defended.*

Miss FULFORD (chairman of the Fulham Guardians) declared that in the Poor Law hospital with which she had had to do there had been for the last five years an entire absence of empty beds. It had been said that the atmosphere in Poor Law hospitals was different, but she felt that all who had had experience of them must know what magnificent services were rendered both by doctors and nurses to the chronic and helpless cases with which they were mostly full. She denied that the guardians were swayed by the vote, and entirely repudiated the statement that they did not receive encouragement from the Ministry of Health.

Mr. MONTVIER (Edmonton Guardians) asked Dr. Graham Little what was the difference between a "Poor Law appendix" and a voluntary hospital appendix. The Poor Law vacant beds existed only in the fever hospitals of the Metropolitan Asylums Board. Dr. Graham Little had said that "of course" in any unified system such as he had outlined the voluntary hospital element must be predominant. The speaker would really like to send to medical spokesmen Thackeray's *Book of Snobs*. If he went into any co-operative movement it must be really co-operative—not the sort of co-operation of the lady who went for a ride on a tiger. He wanted to know whether medical officers changed their skins when they went into a Poor Law hospital. One of the officers at Edmonton was also at St. Bartholomew's; was he animated by a different spirit in each of the two places? He thought the war ought to have knocked any such nonsense out of their heads.

*The Position of the Hospital Subscriber.*

Lord RIDDELL said that it was evident a new situation faced the hospital world. He had been recently to Edmonton, from which the last speaker came, and he had never in his life seen a better hospital, or one better equipped or showing a better spirit. But if the Royal Free Hospital, with which he was identified, were linked up with Edmonton he wondered whether he would still be prepared to put his hand in his pocket for the benefit of the Royal Free when at Edmonton he saw just as good work being done with a State or municipal subsidy. Although he was a great admirer of rate-supported hospitals, it seemed to him that institutions run by public bodies usually lacked the spirit of research, diversity, and competition. But he hoped that this great hospital problem would be solved without acrimony, and he thought it unfortunate that medical men in voluntary hospitals rather looked down upon other institutions.

Mr. JAY (propaganda secretary of the King Edward Hospital Fund) said that the task ahead was to convince the public that the voluntary hospitals still fulfilled a function different from others. He suggested a differentiation whereby the voluntary hospitals with their special equipment would be used mainly for specialist treatment, acute cases, and surgery, while the Poor Law hospitals would deal with chronic cases and cases which, for other reasons than that special treatment was necessary, could not suitably be treated at home.

Lord DAWSON, in closing the discussion, said the point had emerged that both classes of institutions were necessary in their respective spheres. But the voluntary hospitals were no longer able to cope with their problem. Those hospitals could do a work not open to others, simply owing to the fact that they had gained a certain prestige and had attracted around themselves the *élite* of talent in the medical world. It was the highest ambition of men of ability to get on their staffs. But the danger of ancient institutions was that they failed to realize fresh needs. The municipal hospitals were also doing good work. What was needed was a friendly conclave to review the position and endeavour to bring about some reassignment of duties. He was confident that the teaching hospitals would rise to the occasion. Their position would be important, more important than ever, but there need be no question of

dominance. Almost everything in this country came about by mutual agreement. He referred to the report of the Consultative Council in which he had a hand, and declared that it still held the field; if there had been a proper classification of hospitals according to that report there would by now have been much better co-ordination among the new communities. He believed that popularly elected bodies would increasingly have to nominate, or consent to the nomination of, bodies of experts detached from themselves on whom the immediate responsibility of management would rest. Incidentally this would furnish a reply for the elected person when assailed by his constituents; he would be able to say that, whatever he and his colleagues might feel, they must trust the appointed experts. Medicine, like other professions, was becoming more and more technical, and this fact, so far as hospital provision and management were concerned, would have its bearing on the shaping of government.

## Scotland.

### Relic of David Livingstone.

At a meeting of the Royal Faculty of Physicians and Surgeons of Glasgow on February 6th, Mr. G. H. Edington, the president, in the chair, the surgical pocket-case used by David Livingstone during his daily work in Africa was presented to the Faculty by Dr. Freeland Fergus, on behalf of Mr. Hilliard, surgical instrument maker in Glasgow, to whom the relic belonged, but who was prevented by his state of health from attending the meeting. In the course of a letter from Mr. Hilliard it was recalled that Dr. Livingstone had been born at Blantyre, some seven or eight miles distant from the hall of the Faculty, and had obtained his licence to practise from the Faculty of Physicians and Surgeons at Glasgow. Through Mr. Hilliard's influence the instrument case which belonged to Dr. Beatty, R.N., the surgeon on board the *Victory* at the battle of Trafalgar, had been, some years ago, presented to the Royal Faculty of Physicians and Surgeons. Dr. Fergus mentioned that Mr. Hilliard had been the close friend of Dr. Livingstone's son, Mr. W. Oswald Livingstone, from the old High Street College days. This intimate connexion brought him into contact with Livingstone's supporters and patrons, including James Young and Sons, Gordon Bennett of the *New York Herald*, and Henry M. Stanley. In 1899 Mr. Hilliard had followed the steps of the explorer in many districts, including the flourishing town of Livingstone and other places bordering on the Zambesi. Many offers had been received for the relic from wealthy collectors in America, London, and Scotland. Dr. Fergus added that although Mr. Hilliard was not a member of the medical profession, he had been connected with it all his life, being born in the Royal Infirmary, where his father, as cutter and instrument maker, had at that time an official residence. Dr. Fergus spoke of Dr. Livingstone's perseverance and self-denial in surmounting difficulties.

### Aberdeen Royal Mental Hospital.

The 127th annual report of the Aberdeen Royal Mental Hospital has just been issued. The physician superintendent, Dr. R. Dods Brown, states that on December 31st, 1927, there were 788 certified patients on the register; the number of admissions had been 161, of discharges 102, and of deaths 65. The daily average number of certified patients resident had been 792, and including the voluntary patients the daily average number had been 831. The total number of patients treated during the year had been 1,025, or 18 more than in the previous year. With regard to the types of insanity from which patients had been suffering, 56 of the admissions were due to manic-depressive insanity, and in 26 of these melancholia was present. Twenty-eight of the admissions had been cases of infection-exhaustion psychosis, and in many of these patients the physical health had been very unsatisfactory. Thirty-eight had been suffering from dementia praecox, and 23 from dementia due to senility or organic brain disease. Four had been cases of idiocy, 4 of epileptic insanity, 4 of general paralysis, and 3 of paranoia. One patient admitted

had been found to be not insane. Of the total admissions 122 had been sent in for the first time, while 28 had had one previous breakdown, and 11 had had more than one prior attack. Thirty-seven patients had been received on the voluntary system, constituting 35 per cent. of the private admissions. Of the total population in the asylum 44 were voluntary boarders, of whom only 1 was rate aided. Attention is again drawn to the desirability of voluntary admission at an early stage of the disease, when it is presumably in an unconfirmed and still curable state. With regard to causal conditions, it is pointed out that of the 161 admissions 51 of the patients were suffering from some bodily disease, such as disorder of the heart, kidneys, and lungs. Alcohol was assigned as the cause in 15 cases, venereal disease in 9, and epilepsy in 8, while in 14 cases mental anxiety and worry appeared to be the cause. Among the 102 discharges, 51 patients had recovered, this being 32 per cent. of the number admitted. The 65 deaths constituted 6.8 of the total number under treatment, and included 3 patients who were admitted to hospital in a dying condition. This number included 10 cases of disease of the nervous system (of which 6 were general paralysis), 19 disease of the circulatory system, 19 lung disease (including 12 from pulmonary tuberculosis), 8 disease of the abdominal organs, and 5 cases in which exhaustion occurred in the course of acute psychosis. Reference is made to the treatment of general paralysis by the artificial induction of tertian malaria, which was introduced in 1917. It is mentioned that the most which can be hoped for is that the disease will be arrested and a mental and physical improvement brought about. So far no patient in this institution could be considered as having improved sufficiently to permit of discharge, although the majority of those so treated had benefited both mentally and physically. Attention is also drawn to the satisfactory results which had been obtained from the "protein shock" treatment. Ninety-two patients had been put under ultra-violet ray treatment, and in cases which were anaemic, poorly nourished, and below normal weight, benefit had been obtained as regards gain in weight, increase of appetite, better sleep, and disappearance of anaemia. Mental improvement in melancholia had also been noticed from this form of treatment. Similar results had been obtained by natural sunlight therapy during the summer months.

### Paratyphoid Fever at Galashiels.

The outbreak of paratyphoid fever at Galashiels reported last week (p. 236) has attained more serious dimensions than seemed likely after the check which occurred at an early stage. Up to the end of last week the number of notified cases had been practically 100, of which 70 had been admitted to the Sanderson Hospital, where the maximum of accommodation had been obtained by the removal of other infectious disease to Hawick; the epidemic was generally mild, three by February 9th. The outbreak had become general over the town, and the persons affected were of all ages, from infants to persons over 70 years old. In only two instances, however, has more than one person been affected in a single household. The water supply of the town, which is of comparatively recent installation, has been found to be clear of bacteria of the paratyphoid group, and the original channel of infection has not yet been discovered. Cases have also been reported from the neighbouring counties of Peeblesshire and Roxburghshire.

### Public Health Regulations in Scotland.

The Scottish Board of Health has recently issued two leaflets dealing with the prevention of epidemic, endemic, or infectious disease. By one of these the regulations dealing with infective jaundice issued in 1927 are extended until December 31st, 1932. Under these regulations infective jaundice was made a notifiable disease. The second leaflet deals with malaria, dysentery, acute primary pneumonia, and acute influenza pneumonia. These disorders are made notifiable diseases from January 1st, 1928. Every medical practitioner becoming aware that a person upon whom he is in professional attendance is suffering from one of these disorders is obliged to transmit a notification thereof to the medical officer of health

of the district on the usual form, and is entitled to a fee of 2s. 6d. for each notification. On receipt of a notification the medical officer of health is to make such inquiries and take such steps as are necessary for investigating the source of infection and preventing its spread. In regard to preventing the spread of malaria, it is to be a duty incumbent on the medical officer of health to supply the patient with efficient mosquito netting, to ensure that he receives the necessary quinine treatment and proper advice as to the continuation of this, and also proper advice as to the precautions to be taken to prevent the spread of infection. It may be remarked that this notification applies also to malaria induced for therapeutic purposes, and in such cases the notification is to be made on a special form. Powers are also given by these regulations to medical officers of health in regard to disinfection of the occupants of houses or premises where typhus fever or relapsing fever has broken out, and also in regard to enteric fever and dysentery, empowering the medical officer of health to cause persons who are likely to carry infection with one of these diseases to discontinue any occupation connected with the preparation or handling of food or drink for human consumption, and to ensure that suitable measures in respect to cleansing, disinfection, etc., are carried out.

## Ireland.

### Belfast Board of Guardians and their Milk Supply.

THE following important and unusual recommendation, made by the Requisition and Purchasing Committee, was adopted at a meeting of the Belfast Board of Guardians:

The contractor must permit his cows to be examined monthly by the veterinary surgeon appointed by the guardians, and, failing disposal of any animals affected with tuberculosis, or in any other way in an unsatisfactory state of health, the guardians will cease to order any further quantities, and the contract will be determined. Conditions of conveying the milk must be such as to secure a clean, pure supply.

It was further recommended that the board's solicitor be instructed to amend accordingly the form of tender and bond, and that definite instructions be given to the officer appointed under such conditions, so that he might clearly understand the board's instructions.

### Medical Referees under the Insurance Act in Northern Ireland.

Resolutions were submitted by the Tyrone members at a meeting of the North of Ireland Branch of the British Medical Association, held in Belfast: (a) protesting against the appointment of local referees for reviewing the certificates of local certifying doctors, and against the scale of payment if the appointments are approved, and suggesting the appointment of another whole-time certifier, thus unifying the appointments in the North and South of Ireland; (b) protesting against the form of medical certificate required to be presented to the judge by a juror or witness at the time of civil or criminal trials, because the certificate required the name and particulars of the complaint from which the juror or witness might be suffering; and (c) urging consideration of the recommendations of the Poor Law Commission, and asking the Government to appoint a Minister of Health.

### Kildare Board of Health.

Dr. J. A. Harbinson, who has recently been appointed county medical officer of health for Kildare, in his report to the Health Board stated that he had visited several of the district medical officers of health with a view to familiarizing himself with the work carried out by them in their districts. He added that he had asked the secretary of the County Medical Committee to convene a meeting of the members so that he could discuss with them their duties under the Public Health Acts, and consider how they might co-operate in the establishment of an efficient public health service for county Kildare. Dr. Harbinson informed the Health Board that he was collecting figures with a view to putting into effective operation the medical inspection of school children, the Vaccination Acts, and the Midwives Act, 1918.

## England and Wales.

### Board of Control.

THE forthcoming retirement is announced of Sir Frederick Willis, K.B.E., chairman of the Board of Control. He succeeded Sir William Byrne in that office in 1921, and has been a member of the Civil Service for forty-two years. Members of the British Medical Association will recall that Sir Frederick Willis took a prominent part in the discussion by the Section of Mental Diseases at the Edinburgh Annual Meeting on the report of the Lunacy Commission. The retirement, at a critical time for lunacy administration, of a public servant of such ability and influence will be widely regretted by members of the medical profession. During his chairmanship of the Board Sir Frederick Willis has had to deal with many difficult and important problems affecting the mental health of the country and the liberty of the subject. He has done much for the welfare of the insane, both by his enthusiasm for progress and by the friendly relations he has maintained with medical superintendents of mental hospitals and with local authorities. He will be succeeded as a commissioner and chairman of the Board by Mr. L. G. Brock, C.B., who has been for some years past a principal assistant secretary of the Ministry of Health. Mr. Brock is a member of the Dental Board of the United Kingdom, and for two years was acting secretary of the National Health Insurance Commission before this was merged in the Ministry of Health.

### Cancer Research in Manchester.

In July, 1924, Dr. Veitch Clark, medical officer of health for the city of Manchester, established a provisional local cancer committee, which, after holding several meetings, was reconstituted in the following December as the Manchester Committee on Cancer, to include representatives of all organizations in the city concerned with this problem. The committee has now published a report of the three years of its work. In November, 1925, as the result of an appeal, over £12,000 was received, and a limited scheme of investigation was commenced in May, 1926, in close co-operation with the university. Special research has been undertaken by Dr. C. C. Twort and Dr. H. R. Ing to determine the etiology of mule-spinners' cancer, and grants are being made to Dr. K. V. Bailey, who is studying cancer of the cervix, and to Dr. J. B. Duguid for his work on the incidence of intrathoracic tumours in Manchester. Two special investigation officers, Dr. Gretta Wardle and Dr. J. Murray, were appointed to conduct a statistical research into the results of treatment of cancer of the breast, to bring about the establishment of a uniform system of record keeping of all local current cancer cases, and to collect histological specimens. They have been able to report that 80 per cent. of patients with cancer of the breast who are treated by modern surgical methods in the early stages survive for at least ten years, whereas without operation the average expectation of life does not exceed three and a half years from the onset of the disease. The committee arranged a post-graduate course of twelve lectures for medical practitioners on various aspects of the cancer problem during the winter 1926-27. It is announced that these lectures are to be published for propaganda purposes, together with a summary of what has been accomplished by the special investigation officers. In order to continue and extend the work it has now been decided to form a Lancashire, Cheshire, and North Wales Council of the British Empire Cancer Campaign, and to launch in March an appeal for funds over the area concerned on similar lines to that which has been so successful in Yorkshire.

### Central Midwives Board.

At the meeting of the Central Midwives Board for England and Wales, held on February 2nd, with Sir Francis Champneys, Bt., in the chair, a letter was read from the secretary of the Tynemouth Joint Hospital Board stating that a conference of representatives of various training schools affected by the Board's policy with regard

to lectures was being convened with a view to joint representation being made, as a result of which it was hoped that the policy of the Board might be modified, and asking that in the circumstances Dr. Williamson's approval as a lecturer at Tynemouth might be extended from March 31st next. The Board agreed to reply that if it could receive assurance that arrangements for convening the conference were actually in progress, and that an early presentation to the Board of the representations of the conference was likely, the Board was willing to extend the approval for a short period. The secretary reported that the Nursing Homes (Registration) Act, 1927, repeals that portion of the Midwives and Maternity Homes Act, 1926, which deals with the registration of maternity homes, and provides for registration and inspection of nursing homes generally (including maternity homes) by county councils (subject to certain powers of delegation) and county borough councils. Provision is made for delegation by county councils of any of their powers or duties in certain circumstances. It was resolved to inform the Minister of Health, the County Councils Association, and the county councils:

"That the Board is still of opinion that the supervision of maternity homes ought to be in the same hands as the supervision of midwives; that delegation of powers and duties relating thereto under the Act is undesirable, and ventures to express the hope that the Minister and the county councils will grant no delegation in respect of maternity homes, except in those cases in which delegation has already taken place under the Midwives Act, 1902."

## India.

### Medical Education in Bengal.

INTERESTING details about the progress of medical education in Bengal are contained in Lieut.-Colonel J. C. Holdich Leicester's report on the working of hospitals and dispensaries during the three years 1923, 1924, and 1925. The four Government medical schools of Bengal—namely, Campbell, Dacca, Ronaldshay, and Lytton—now accommodate 1,300 students, the last named having been formally opened in July, 1923. A scheme for the establishment of five new medical schools in other places is under consideration, and attempts are being made to enlarge the local hospitals so as to render them suitable for clinical teaching and bring them up to the necessary standard of efficiency. Scholarships tenable in medical schools have been made available for students of the depressed classes. Private generosity has played a conspicuous part in the establishment of medical schools, and a new one, named the "Calcutta Medical Institute," has been recognized provisionally for five years from 1925, by the Bengal Council of Medical Registration, as an institute qualified to prepare students for the State licentiate examinations. Six other medical schools have also been started by private enterprise, but so far none has matured sufficiently for recognition. The School of Tropical Medicine and Hygiene in Calcutta, in connexion with the Carmichael Hospital for Tropical Diseases, provides two six months' courses of instruction, of which one covers the work for the diploma issued by the Faculty of Tropical Medicine of Bengal, and the other gives instruction for the diploma in public health of the Calcutta University. The school has organized also a three months' course of instruction for the licence in tropical medicine and hygiene for Bengal. It is stated that the courses of instruction, both in tropical medicine and hygiene, have been recognized by the Conjoint Examining Board in England. The teaching and research work at the School of Tropical Medicine are controlled by the Government of Bengal, assisted by the Faculty of Tropical Medicine and the Surgeon-General. Generous donations towards the school and hospital are provided by the Indian tea, jute mills, and mining associations, and by private benefactors. The Indian Research Fund Association has endowed a number of special investigations of various

tropical diseases and their treatment, some grants for medical research being made by the Government of India. In 1923 the Government sanctioned the establishment of therapeutical and teaching departments for diseases of the ear, nose, and throat in the medical college and hospitals in Calcutta, and the payment of two independent medical practitioners as honorary physician and surgeon; two senior officers have also been appointed as physician and surgeon to the out-patient department. The establishment of a dental school in Calcutta is under consideration, and an extern maternity department has also been opened. During the three years there has been in Calcutta a net addition of eight medical institutions, raising the total number to thirty-two, of which nineteen have accommodation for in-patients in over 3,000 beds.

### Health Progress in Assam.

The general decline in the death rate in Assam continues, though there was a slight increase in 1926 owing to outbreaks of cholera. The deaths from kala-azar are steadily diminishing, although no additional organization of treatment and survey has been found necessary; it appears, therefore, that this disease is under control and that its further spread has been arrested. Treatment at the special dispensaries is growing in popularity, and the work of civil surgeons in infected districts in supervising the campaign of their subordinates against kala-azar is proving very effective. In areas where the disease is particularly prevalent special hospitals and additional dispensaries have been established, staffed by expert officers. Wherever the disease is suspected in other areas trained investigators proceed there immediately and provide treatment for any requiring it; the value of such systematic programmes has now become apparent. The cholera death rate has risen as the result of an epidemic which spread from one locality. Cholera inoculation was adopted as a preventive measure with excellent results, thus limiting the spread, despite the infection of the rivers. Anticholera inoculations are becoming increasingly popular in Assam, where very little vaccination was used, except in tea gardens, prior to 1924. There is, however, a regrettable shortage of fully trained workers for combating epidemics in Assam, where only three epidemic units at present exist. Major T. D. Murison, director of public health, in his annual report for 1926, expresses the hope that the public health department will soon be very considerably strengthened, in order that more effective resistance may be made to the spread of epidemics. Public health propaganda is active, and lectures and demonstrations are given on such prevalent diseases as malaria, kala-azar, cholera, and small-pox. Lantern slides have been found very effective; gramophone records are employed in Bengali and Assamese; numerous pamphlets and leaflets, containing simple illustrations, have been distributed to the public in general, as well as to the schools, and prizes are awarded to the children and the teachers as the result of examinations in public health. The local authorities are widely co-operating in this activity.

### Bombay Medical Council.

At the last meeting of the Bombay Medical Council an application was received from the Mysore University for recognition of its L.M.P. examination. The council declined the application on the ground that, in accordance with a communication by the Government of India, any institution not mentioned in the schedule of the Indian Medical Degrees Act which desired to have a diploma recognized, should become affiliated to one of the institutions so mentioned. This had not been effected in the case of the Mysore University, and the council did not consider, therefore, that it had power to accede to the request. It was decided that in the case of general practitioners the use of the words "physician and surgeon" after their names might be allowed, and that Rule 22 of the Code of Medical Ethics issued by the council should be amended accordingly. The council considered the case of one practitioner who was alleged to have been guilty of infamous conduct in a professional respect; judgement was postponed to the next session.

## Correspondence.

### THE ACUTE ABDOMEN.

SIR.—Mr. Flint's article on the acute abdomen in your issue of February 11th (p. 209) lays stress on many points of great importance. His main thesis—the need for early diagnosis and treatment—indicates the only line along which much progress is likely to be made until greater knowledge permits prevention of the underlying morbid conditions which give rise to these abdominal emergencies.

In these circumstances it is a pity that Mr. Flint should have lent his name to the use of the word "rigidity" in describing the condition of the abdominal wall in inflammatory diseases. How often has one known valuable time lost because—so one is told—there has been no "rigidity" present! Rigidity, of course, is not a sign of early abdominal inflammations at all, and indeed is rarely met with except in cases of perforation. What is found is a varying degree of muscular "resistance."

This protest, Sir, is no academic quibble. There are very many medical students who pass out into practice, year by year, without appreciating the value of this distinction and the importance of that degree of increased muscular resistance which is only to be detected by the trained and sensitive hand. It is the persistent use of the word "rigidity" by their teachers which is responsible for this state of affairs.

In a paper where there is so much that is helpful and suggestive it is perhaps ungracious to be so critical, but to one other point I must refer. Surely a tumour felt in the rectum should have no place among the early signs of intussusception. It is true that occasionally an intussusception does reach the rectum with astonishing rapidity, but in how many is this only a late and dangerous stage? It cannot be too strongly emphasized that in every suspicious case—that is, where blood and mucus without faeces are passed by a baby, with periodic attacks of screaming—the diagnosis of intussusception can be disregarded only after the gravest consideration. Even then it should not be rejected without an examination under an anaesthetic, which sometimes reveals a "tumour" high up under the liver.

I agree with Mr. Flint when he says that much of the responsibility rests upon the patient and his friends. Their attitude of necessity reacts upon the doctor, who dares not saddle himself with the reputation of always "flying to the knife." This will not be set right until it becomes the recognized practice to send to hospital "for observation" even those cases which merely suggest acute abdominal disease, if they do not clear up *within a few hours* with rest in bed in the Fowler position, starvation, heat to the abdomen, and an enema.—I am, etc.,

Liverpool, Feb. 13th.

JOHN T. MORRISON.

SIR,—To those who know what they are talking about Mr. Flint's paper on the acute abdomen (February 11th, p. 209) comes as a great disappointment. I see no hope of success in any publicity campaign if those directing it are still talking to their fellow practitioners in terms of faecal vomiting, absolute constipation, tympanites, and sausage-shaped swellings. The general practitioner who substitutes careful observation and high enema for immediate exploration in suspected cases of acute abdominal mischief is asleep. It is regrettable that so many practitioners think there can be no acute lesion in the absence of rigidity.

Many times I have removed a totally gangrenous appendix within five hours of the initial symptom, and have blessed the practitioner who sent in the case because "he didn't like the look of it." I have seen babies die of shock within a few hours of the onset of an intussusception; Richter's hernia is still met with, and a strangulated Meckel's diverticulum is no rarity. In view of these conditions, what substitute is there for immediate laparotomy in safe hands? Fancy teaching the value of high enemata in such cases! May the fates protect Mr. Flint should he develop an acute abdomen.

I teach my students that classical symptoms are a clear indication (in cases of intestinal obstruction) that the case has been neglected, and lay the utmost stress on a rising pulse rate as the surest indication of the necessity for exploration. All these cases should be sent early to hospital for observation by properly trained, competent, and, of course, paid resident surgeons. Here, as elsewhere, the voluntary system cracks—but that is another story.—I am, etc.,

Glasgow, Feb. 13th.

W. RANKIN.

### THE FUTURE OF OBSTETRICS.

SIR,—May I be allowed to make a few comments on the letter of Dr. A. Z. C. Cressy in your issue of December 10th, 1927 (p. 1117), which has just reached me. He is apparently unwilling to "look on and allow Nature to take its course," and claims that Nature does not often run a normal course in present circumstances. Perhaps poor Nature does not get the chance. He then proceeds to give a list of conditions and their appropriate treatment, postulating "strict asepsis as regards patient, doctor, nurse, and surroundings." Either he uses the words "strict asepsis" in an unusual sense, or he succeeds in achieving what I have never seen achieved.

It has been my privilege to take part in the instruction of students, male and female, graduate and undergraduate, drawn from about twenty different universities. I can categorically assert, in spite of university requirements and the requisite signatures, that a large number, probably the larger number, of medical students in the British Isles deliver not more than ten women before they become qualified. A large number of students spend only one month doing practical midwifery, while some "lucky" ones finish all their cases in one week. Not 5 per cent. of medical students apply forceps before they become qualified. The number of obstetric house appointments is small.

The first question that I want to ask is, where and how does the recently qualified practitioner obtain his experience, and at whose expense? The second question is, how can a busy practitioner, however skilled he may be and however much experience he may have had, possibly afford the time to conduct a case properly on conservative lines?

It has been conclusively proved at all the great maternity hospitals that the application of forceps, even when the head is on the perineum, definitely increases the risk of morbidity. Surely Dr. Cressy will not claim that the average practitioner is more successful at such an operation than the skilled assistants in maternity hospitals. Yet some practitioners apply the forceps in 60 per cent. of all their cases. Having been responsible for some thousands of cases of labour I can confidently assert that Nature *plus* an enema *plus* a catheter *plus* morphine and scopolamine or tincture of opium can deliver more than 95 per cent. of all pregnant women in Great Britain. Nature may require time and cause pain; but she will never be responsible for an annual bill of 3,000 maternal deaths and 50,000 (?) maternal invalids. Axis-traction forceps should seldom be required, as the head should almost invariably come to the outlet of the pelvis before the forceps are applied.

I think most people would agree that in the ideal State every woman should be attended in labour by a doctor who has had special training in midwifery and has learned to be conservative. As such conditions are not possible I am convinced that the average woman is better off if she is attended by a midwife, who will send for the doctor when necessary; she has patience, and has time to wait. We all long for an improvement in our maternity service. I am convinced that the main need is for large maternity hospitals serving different areas and staffed by whole-time physicians, and I am equally convinced that those hospitals will have to be built by the State.

May I, in conclusion, ask Dr. Cressy to read, or re-read, the following papers: (1) The report on maternal mortality, by Dame Janet Campbell. (2) The maternal mortality in the midwifery service of Queen Victoria's Jubilee Institute, by J. S. Fairbairn (BRITISH MEDICAL JOURNAL, January 8th, 1927). (3) A plea for drastic reforms in the teaching and practice of midwifery (*Lancet*, September 25th, 1926). (4) The report on maternal mortality in New



Zealand, drawn up for the Government by Dr. Henry Jellett.

As the solo person responsible for the training of medical students in midwifery in this country, I greatly deplore this and similar attempts to justify "meddlesome midwifery."—I am, etc.,

G. W. TITCOMB,  
Professor of Obstetrics and Gynaecology,  
Bangkok.

Bangkok, Siam, Jan. 10th.

#### TREATMENT OF ACUTE PNEUMONIA.

SIR,—I read Dr. Maidlow's letter (BRITISH MEDICAL JOURNAL, February 11th, p. 258) with very considerable relish. It seems just possible that a few communications of this type might succeed in arousing the profession from its lethargic self-complacency. At all events, he is entitled to our best thanks for his genial banter, as underlying it there are indisputable facts which do no great credit to anybody; and least of all, I think, to consulting physicians, who sometimes impede progress by mistaking their own impressions and ex-cathedra pronouncements for realities, just like ordinary general practitioners.

But "to err is human," and none of us is immune. Still, I feel able to enjoy Dr. Maidlow's little jokes with a comparatively clear conscience, as I have already offered the best solution I could to this very important problem. Dealing with one aspect of the problem—the specific treatment—I wrote as follows two years ago:

"Material for the final assessment of the value of specific treatment in early pneumonia can hardly be anticipated from the isolated efforts of individual private practitioners under present conditions. If pneumonia were dealt with on similar lines to diphtheria as regards diagnosis, specific treatment, and notification, the outlook would be more promising. In connexion with pneumonia, however, I suggest that it would be desirable not only to provide pathological facilities and vaccine or serum, but also some sort of clearing house, preferably as a department of the public health service, which would collate clinical records. This would eventually permit of a sufficiently wide scrutiny of results to settle the matter to the satisfaction of everyone, except perhaps the occasional crank who refuses to be influenced by evidence."

May I inquire what objections there are to an attempt at a solution of this aspect of the problem on these or similar lines? I suggest that the death rate and the present chaotic position in regard to treatment demand that "something should be done."—I am, etc.,

Manchester, Feb. 11th.

J. STAVELY DICK.

#### FATALITY RATES OF SMALL-POX.

SIR,—Dr. Percy Stocks, in his letter in your issue of February 4th (p. 197), makes a statement which embodies so profound a truth that I should like to be allowed to reiterate it. He says: "Epidemics come and go according to laws which we do not yet understand, and which involve many factors other than vaccination." When, however, he states, later on, that "the only conclusive proof of the efficacy of vaccination must consist in comparing the vaccinated with the unvaccinated at the same ages in the same town and during the same epidemic," I feel obliged to ask him just what he means by the expression "the efficacy of vaccination." It may mean two entirely different things—namely (1) efficacy to protect the individual, and (2) efficacy to protect the community. I quite agree that the comparison Dr. Stocks suggests does prove the efficacy of vaccination to protect the individual, but I submit, with all respect, that such a comparison does not prove the efficacy of vaccination to protect the community; and I suggest that, vaccination or no vaccination, epidemics will continue to come and go, as Dr. Stocks says, "according to laws which we do not yet understand, and which involve many factors other than vaccination."

It is just because there has been so much confusion of thought between the efficacy of vaccination to protect the individual and its efficacy to protect the community—so many people thinking that proof of the former implies proof of the latter, whereas in reality it does nothing of the kind—that prophecies as to the effect of vaccination have so often been falsified.—I am, etc.,

Health Offices, Leicester, Feb. 8th.

C. KILLICK MILLARD.

<sup>1</sup> *Lancet*, November 28th, 1925, p. 1110.

SIR,—On January 14th you published under the title "Fatality rates of small-pox in the vaccinated and unvaccinated" a letter from me containing a tabular statement of small-pox cases and deaths in vaccinated and unvaccinated persons over 15 years of age in England and Wales during the four years 1923–26.

The 13 deaths among 4,010 vaccinated cases gave a case mortality of 0.3 per cent., compared with 4 deaths among 6,915 unvaccinated cases—a case mortality of 0.06 per cent. The fatality among the vaccinated thus appeared to be five times as great as among the unvaccinated—something of a shock for those who, like myself, believe that vaccination, after preventing an attack of small-pox for a number of years, subsequently mitigates the severity of the disease so as to lessen its fatality. I invited explanations from your readers of these obviously absurd statistics, and the answers have been extremely interesting.

A lucid explanation of the statistical anomaly was furnished by Dr. Percy Stocks in your issue of January 21st, and I wish to thank him for his exposure of the fallacy of these so-called "small-pox fatality rates." He shows that the sufferers from "small-pox," whether vaccinated or unvaccinated, were dying at about the same rate as those of the population who were not suffering from "small-pox," and he concludes that "the prevalent mild type of small-pox is not really responsible for increasing the chances of death in persons affected to any measurable degree." This conclusion would be still more obvious and inevitable if allowance were made for the facts that: (a) About half the 17 deaths recorded occurred in small outbreaks of virulent small-pox, and should therefore be excluded in calculating the fatality rate of "mild small-pox" (C. O. Stallybrass, BRITISH MEDICAL JOURNAL, February 11th). (b) The number of missed and unrecorded cases of "mild small-pox" in the four years referred to must have been considerable (but if a "missed case" developed any serious disease or condition and died from it, the chances are that the death would be registered as a death from "small-pox"). (c) Optional vaccination as it exists to-day has made small-pox a class disease. The fatality rate of this class from all causes is probably higher than that of the population as a whole.

Dr. Stocks's interesting analysis of the figures confirms statistically the conclusion I had arrived at clinically—that so-called "mild small-pox" is a non-fatal disease in otherwise healthy individuals. To discuss "small-pox" fatality rates in such figures as 0.3 and 0.06 per cent. is an insult to the very name of "small-pox." I have seen upwards of two thousand cases of this disease in vaccinated and unvaccinated of all ages, with rashes varying from a few spots to almost confluent eruptions, and I have never observed a patient with such a degree of toxæmia as to endanger life, or even to cause the slightest anxiety as to the issue of the illness so far as the "small-pox" itself was concerned. Further, I have had the opportunity of observing the disease through every season of the year for seven successive years, and I have not observed any alterations in its characters at any time during that period, or any tendency to increase or decrease in virulence. It is the same disease to-day as it was when it arrived in these parts in 1921. I believe it is the same disease as Edward Jenner described about a century and a half ago in the following passage:

"About seven years ago a species of small-pox spread through many of the towns and villages of this part of Gloucestershire. It was of so mild a nature that a fatal instance was scarcely ever heard of, and consequently so little dreaded by the lower orders of the community that they scrupled not to hold the same intercourse with each other as if no infectious disease had been present among them. I never saw nor heard of an instance of its being confluent. The most accurate manner, perhaps, in which I can convey an idea of it is by saying that had fifty individuals been taken promiscuously and infected by exposure to this contagion they would have had as mild and light a disease as if they had been inoculated with variolous matter in the usual way. The harmless manner in which it showed itself could not arise from any peculiarity either in the season or the weather, for I watched its progress upward of a year without perceiving any variation in its general appearance. I consider it, then, as a variety of the small-pox."

If this "small-pox" is so mild as to be incapable of causing death, the question naturally arises, "How is it

that a number of deaths have been registered in its name?" The answer is to be found in one word, "nomenclature." According to the rules of death registration, if small-pox and any local disease are mentioned on the death certificate, small-pox is preferred, however the certificate be framed. So long as this rule is in force, and no clear distinction in names is made between the fatal disease small-pox and the non-fatal disease "small-pox," it is obvious that deaths from pneumonia, cerebral haemorrhage, nephritis, and many other diseases which happen to synchronize with an attack of the non-fatal "small-pox" must be registered as deaths from small-pox. The Registrar-General's Department has no choice in the matter so long as it continues to follow this rule. And so it comes about that the non-fatal "small-pox" acquires a purely fictitious fatality rate which is not in any way related to small-pox, and therefore cannot be influenced by the vaccination state of the patients.

To the medical profession the Department of the Registrar-General is one of the greatest scientific assets this country possesses. At the annual autumn dinner of the British Medical Association in 1925 the Registrar-General paid an eloquent tribute to our professional co-operation in the advancement of knowledge, and he finished his speech by affirming that:

"All that the Registrar-General's office did was inspired by an almost fanatical honesty in the desire to furnish nothing which was not trustworthy, nothing capable of misleading, and he thought the profession and the public could rely upon that office not to be moved by any controversial aspect of the material with which it dealt." (Applause.) (BRITISH MEDICAL JOURNAL, SUPPLEMENT, October 31st, 1925, p. 143.)

Those who have not given thought to the supreme scientific importance of correct certification and registration of death should read carefully pages 20 to 33 of the annual report of the chief medical officer of the Ministry of Health for the year 1926. There will be found a brilliant dissertation "on the accuracy of the statement of causes of death," in the last paragraph of which the chief medical officer says:

"These observations have been made to illustrate the great importance of the correct registration of the cause of death. Upon the accuracy of such medical certification much depends. For quite apart from its social and legal value, it is hardly too much to say that the fabric of the art and practice of preventive medicine is founded upon it. The registration of sickness, as far as we can obtain it, is valuable, but the correct ascertainment of the cause of mortality is essential. . . ."

The great majority of toilers in the field of preventive medicine are inspired by an equal zeal for honesty and accuracy in their work, but when it comes to certifying a death from, say, chronic nephritis in a person suffering from an attack of "mild small-pox" all efforts to achieve the truth are balked by nomenclature.

Nomenclature in small-pox thus acquires a vast importance. The present confusion arises from notifying under the one name "small-pox" two diseases which can be distinguished clinically, epidemiologically, immunologically, and statistically, with ease and certainty, as separate entities—namely, small-pox, the severe, virulent, loathsome, and fatal disease, and "small-pox," the relatively trifling, non-fatal disease. This scientific distinction is by no means academic, and the suggestion of a distinctive name for "mild small-pox" is a practical proposition urgently required in the interests of notification, appropriate measures of control, correct death registration, and accurate statistics.

Failure to adopt official nomenclature to our increasing knowledge is bringing discredit upon the art and practice of preventive medicine in general, and in particular is doing more harm to the cause of vaccination than all the efforts of the anti-vaccination societies since their foundation.—I am, etc.,

Health Office, Chesterfield, Feb. 13th.

R. P. GARROW.

## IODINE IN THE TREATMENT AND PREVENTION OF GOITRE.

SIR,—In New Zealand they seem to be satisfied with very homoeopathic doses of iodine—one grain of potassium iodide in 250,000 grains of table salt. We are told (JOURNAL, February 11th, p. 238) that this gives "a margin of safety" against any risk of overdosing. This,

I should think, would be perfectly safe even for a case of exophthalmic goitre. Personally I should have no hesitation in prescribing a grain of potassium iodide daily for a long period, except in cases of hyperthyroidism, but I should hesitate for a long time before I prescribed 571 ounces of Cerebos or Windsor salt daily for anyone. However, this is the age of "safety first," and this experiment can do no harm, but I hope in this country we will not start any such grandmotherly legislation. "The administration of iodine in comparatively large doses to patients in adult life suffering from simple goitre may convert simple goitre into toxic goitre, greatly aggravating the disease." There is no danger of such a catastrophe with iodized salt.—I am, etc.,

London, S.W.1, Feb. 11th.

JAMES BARR.

## OCCCLUSION OF THE CENTRAL RETINAL ARTERY.

SIR,—The memorandum on bilateral embolism of the central retinal artery (BRITISH MEDICAL JOURNAL of February 4th, p. 178) is of great interest, but appears to contain no evidence justifying the restrictive word "embolism." The condition described is retinal occlusion, which may be due to embolism or thrombosis, and I would suggest that the age of the patient (74), the presence of advanced cardio-vascular trouble, and even the consecutive occlusion of the right and left arteries, are much more suggestive of thrombotic causes than of embolism.

These causes are generally accepted, and include endarteritis, arterio-sclerosis, spasm, and failing cardiac efficiency. It is clear that these comprise local determinants as well as general influences, and it is to be remembered that arterio-sclerosis can cause a lowered pressure in the retinal arteries even in the presence of a raised general blood pressure. Spasm is suggested as the likely cause where there have been preceding attacks of transient blindness.

Having regard to all the circumstances paracentesis would appear less hopeful in thrombotic than in embolic cases, but in the latter group particularly it should never be omitted if in time to anticipate retinal death.

I was once fortunate, as a house-man, in being associated with a successful (embolism) case, and found the experience stimulating to future efforts, remembering that, by the laws of chance, we start afresh with each case, unaffected by the general percentage considerations which would be— for paracentesis—so discouraging.—I am, etc.,

Sheffield, Feb. 5th.

E. GORDON MACKIE.

## TREATMENT OF CANCER BY RADIUM.

SIR,—Dr. Fletcher Shaw's experience of the treatment of cancer of the cervix by radium and by operation coincides with my own. Consequently I restrict the use of radium to cases in which the disease appears to be so extensive that radical operation seems to be impossible. The beneficial effect is often pronounced, and in some instances the lesion is improved to such an extent that total removal is practised later. Not one of my cases has been cured by employing radium alone, while many are enjoying good health through having been subjected to the radical operation—some as long as fourteen years ago.—

I am, etc.,

SAMUEL J. CAMERON

Glasgow, Feb. 7th.

SIR,—I had intended my last letter to end this correspondence, but it would be discourteous not to reply to Mr. Hayward Pinch's protest.

By themselves my words are too sweeping, and, taken literally, do an injustice not only to the Radium Institute of London, but also to that of Manchester; but, read in conjunction with the previous correspondence, they can refer only to the want of statistics upon the result of radium treatment of carcinoma of the cervix, after a period of five or more years.

If the London Radium Institute has published such statistics I should be grateful if Mr. Hayward Pinch would direct me to them, and I should be only too happy to apologize to the Institute if I have done it this injustice.—I am, etc.,

Manchester, Feb. 8th.

WILLIAM FLETCHER SHAW.

## UNSUSPECTED VALVULAR DISEASE IN CHILDREN.

SIR,—A considerable amount of attention is now being given to the subject of acute rheumatism in children, and it would therefore be interesting to hear from other readers to what extent valvular disease of the heart occurs without the knowledge of the parents or practitioners.

With an experience gained during the inspection of 20,000 school children I estimate roughly that more than 80 per cent. of the mothers whose children have valvular disease are unaware of the fact until it is pointed out at school inspection.—I am, etc.,

Watford, Herts, Feb. 4th.

JAMES BUCHANAN.

## THE TAVISTOCK CLINIC.

## A Correction.

SIR,—In your issue of February 11th (p. 242) there appears a report of a dinner celebrating the seventh anniversary of the foundation of the Tavistock Clinic for Functional Nervous Disorders, in which I am stated to have expressed myself in these words: "Sir Farquhar Buzzard added that the recently issued report of the clinic for the years 1920-27 was one of the most complete and instructive statements of its kind illustrating the value of psycho-analysis that had yet appeared."

This is not an accurate representation of my remarks. I never used the word "psycho-analysis" in the course of my speech, and my appreciation of the clinic's report referred to its fair-minded, unbiased, yet convincing exposition of the benefits derived from *psychotherapy* by patients suffering from psychoneuroses.

The words of your report suggest that the clinic depends on psycho-analysis for its results and its justification—a suggestion which is likely to do the institution and its appeal for support more harm than good. A perusal of the clinic's report is sufficient to show that psycho-analysis, using the word in its technical (that is, Freudian) sense, is a form of therapy never undertaken by the medical staff, who depend on other psychotherapeutic methods for the successful relief of their patients.—I am, etc.,

London, W.1, Feb. 14th.

E. FARQUHAR BUZZARD.

\* \* We much regret the slip in our news paragraph.

## Obituary.

## GEORGE BALFOUR MARSHALL, M.D.Ed.,

F.R.F.P.S.GLASG.,

Honorary Consulting Gynaecologist to the Glasgow Royal Infirmary and Professor of Obstetrics and Lecturer in Gynaecology to St. Mungo's College, Glasgow.

WE regret to announce the death of Professor G. Balfour Marshall, which took place in a nursing home in Glasgow on January 31st.

George Balfour Marshall was a native of Edinburgh, where his forebears had been prominent in business and municipal affairs for many years. From George Watson's College he proceeded to Edinburgh University, where he graduated M.B., C.M. with honours in 1890. He then commenced preparation for his distinguished career in obstetrics and gynaecology by holding first the appointment of house-surgeon in the Edinburgh Royal Maternity Hospital, then undertaking a long post-graduate course at the Rotunda Hospital, and spending subsequently some three years in Jena and Berlin. From the German schools he brought back a most extensive knowledge of gynaecological pathology, which well-equipped him for the work which lay ahead.

He began to practise in Glasgow in 1893, and in the following year proceeded M.D.Ed. with commendation, and was also admitted to the Fellowship of the Royal Faculty of Physicians and Surgeons of Glasgow. He was appointed to the staff of the gynaecological department of Glasgow Royal Infirmary, where he succeeded the late Dr. Kelly in charge of wards in 1907. He quickly acquired a great reputation as a teacher in the Extra-Mural Medical School, and for many years lectured to crowded classes in the old Western Medical School. He also taught gynaecology at St. Mungo's College, and succeeded Dr. Robert

Jardine as professor of midwifery there in 1921. His clear, witty, and vigorous style of expounding his subject, and the obvious joy he took in inspiring a like enthusiasm in others, rendered him an ideal instructor, whose influence and fame will long survive.

Professor Marshall rendered yeoman service to his professional colleagues. He was for many years a member of the council of the Medical and Dental Defence Union of Scotland, which he was largely responsible for establishing. He represented the Royal Faculty of Physicians and Surgeons of Glasgow on the directorate of the Glasgow Royal Maternity and Women's Hospital. He was a strong supporter of the local Obstetrical and Gynaecological Society, and filled various posts in it, including that of president from 1920 to 1922. He held an appointment from the Privy Council as one of the Government visitors under the Pharmacy Act, and brought to its obligations his characteristic accuracy of observation and whole-hearted interest. He made many valuable contributions to the literature of his specialty. In 1911 he published his well-known *Manual of Obstetrics*, which was based on his lectures and won high praise from medical students and practitioners. His popularity as a teacher owed much to his scrupulous care in observing and recording, and his ability to set out his conclusions attractively and convincingly.

A colleague writes: Dr. Marshall was an admirable surgeon, with splendid judgement and most careful technique. To patients, students, and colleagues he was a model of courtesy and helpfulness, enhanced by a delightful modesty and a kindly, if caustic, wit. He was a most patriotic Scot, with a great love for the Highlands, where he indulged his recreations of fishing and photography, in which he excelled. For several years he suffered from bronchitis and rheumatism, but though suffering even more than usual he lectured to his class at St. Mungo's College on January 20th. On the next day he became acutely ill. An operation revealed an intestinal perforation, and at a lower level there was an inoperable malignant growth. A few hours later he passed peacefully away, having completed a wonderfully full and useful life. His profession and the city where he laboured so devotedly have lost a noble soul. It was only last year that Dr. Marshall celebrated his silver wedding. He leaves a widow and three children. His daughter is a science student in Glasgow University; his elder son has just finished his course at Epsom College, where the younger son now is. The sympathy of the whole profession goes out to the bereaved.

## Medico-Legal.

## ALLEGED NEGLIGENCE AT A MENTAL HOSPITAL.

A SPECIAL jury in the King's Bench Division, after a three days' hearing, awarded Lieut. Commander G. H. Drummond, V.C., R.N.V.R., £150, and Mrs. Drummond £500 damages for alleged negligence and breach of contract against Wonford House Hospital (Incorporated), the proprietors of a mental nursing home in Exeter, but found for the defendants on a counter-claim for £22 10s., the balance of fees.

The alleged negligence and breach of contract consisted in the defendants' nurses not exercising a continuous watch over Mrs. Drummond, who was a patient in the institution. She was watched without cessation until the second night, during which only intermittent visits were paid to her, when, in the absence of the night nurse, she broke the glass of a window and forced herself through an aperture measuring less than ten inches square and through the bars guarding the window, striking an iron balustrade and fracturing her arm and her jaw. After the birth of her third child Mrs. Drummond had become obsessed with the idea that she had committed an unspeakable crime, and had expressed intense dislike for her children and her husband. On the advice of Dr. Grant Wilson she was removed to Wonford House Hospital, and a great deal of evidence given in the case was on the question whether Dr. Grant Wilson told Dr. W. B. Morton, medical superintendent of the hospital, of the suicidal tendencies exhibited by Mrs. Drummond. Dr. Grant Wilson's version of his telephonic communication with Dr. Morton was that he told him Mrs. Drummond was extremely restless and agitated, and she had delusions of persecutions and all the symptoms of acute puerperal



## UNIVERSITY COLLEGE.

SPECIAL short courses in anatomy and physiology, designed to meet the requirements of the Primary Fellowship Examination of the Royal College of Surgeons, are held at University College twice during the session. They are advanced courses intended to supplement the routine instruction required for the professional qualifying examination. Each course extends over a period of three months. The next course will begin on Monday, March 5th, in preparation for the June examination. Particulars of these courses may be obtained from the Secretary of the College.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on February 9th, when the President, Sir Berkeley Moynihan, was in the chair.

## Diplomas.

Diplomas of Membership were granted to 164 candidates, and the Diploma of Fellowship was granted to Mr. H. I. Deitch. Diplomas were granted jointly with the Royal College of Physicians: in Public Health to thirty-six candidates; in Ophthalmic Medicine and Surgery to nineteen candidates.

## Bradshaw Lecture.

The President appointed Mr. C. H. Fänge as Bradshaw Lecturer for the ensuing year.

## International Convention on Cancer.

Sir Berkeley Moynihan and Mr. Steward will attend the International Convention on Cancer, to be held in London from July 16th to 22nd, as delegates from the Royal College of Surgeons.

## Primary Examination for Fellowship in Canada.

A revised scheme for conducting the Primary Examination in Anatomy and Physiology for the Fellowship in Canada was considered and approved, and instructions were given for the scheme to be forwarded to the Canadian Medical Association for their comments.

## Council Election.

An election of four Fellows into the Council will take place on July 5th at 11 a.m. to fill the vacancies caused by the retirement in rotation of Sir Anthony Bowley, Sir D'Arcy Power, and Mr. F. J. Steward, and by the death of Mr. W. Thelwall Thomas. Notice of the election will be given to Fellows by advertisement and by circular on March 9th. March 19th will be the last day for the election.

celebration of the Faculty of Medicine, Cairo, and the International Congress of Tropical Medicine, Cairo, in December, 1928, as a

## ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the College was held on February 7th, when the President, Dr. Robert A. Fleming, was in the chair.

Dr. David Duncan Main, Dr. Charles John Shaw, Dr. Ronald Gray Gordon, and Dr. Thomas Yale Finlay took their seats as Fellows of the College.

Major Annie Chaud, I.M.S., and Dr. James Thomson (Dundee) were elected Fellows of the College.

Dr. David Lees, D.S.O. (Edinburgh), Dr. Premankar De (Calcutta), Dr. Edward R. G. Walker (Aberdeen), Dr. J. D. Allan Gray (Leith), Dr. Donald Ross (Lochgilphhead), Dr. Chas. A. Basker (Bournemouth), Dr. Donald Jack (Edinburgh), and Dr. Alex. H. Rintoul (Kennyway, Fife) were elected members of the College.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

IN the House of Commons this week the debate on the Address in reply to the King's Speech closed on February 14th, and the House carried a motion for the appointment of two new judges. On the previous night the Prime Minister adduced evidence that real wages and the standard of living of the working classes had lately risen in the United Kingdom. The rest of the week in the House of Commons was spent on Supplementary Estimates and private members' business. Neither national health nor any other medical topic was discussed in the debate on the Address.

The Conservative and Unionist Party Committee on Health and Housing had its first meeting of the session on February 14th, and the Parliamentary Medical Committee its first on February 15th, Dr. Fremantle presiding over each.

Dr. Drummond Shiels has returned to the House of Commons from Ceylon, where he has been serving on a special commission.

## Bills before Parliament.

Bills of which notice was given in the House of Commons on February 10th include the Edinburgh Corporation Bill (Substituted Bill) to confer further powers upon the corporation of the city of Edinburgh in relation to venereal disease; the Registration (Births, Deaths, and Marriages) Bill, to amend

the Births and Deaths Registration Acts, 1836 to 1926, presented by Captain Gunston; the Blind Persons Bill, presented by Mr. Naylor; the Dogs Act Amendment Bill, to amend the Dogs Act, 1906, presented by Mr. Briggs; and the Slaughter of Animals (Scotland) Bill, presented by Brigadier-General Charteris and supported by Dr. Shiels. All these were read a first time. Among the bills occupying the ten first places in the ballot for private members' bills—these being the only private members' bills which are likely to become law—none is of direct medical interest.

On February 10th the Secretary for Scotland presented, and the House gave a first reading to, the Reorganization of Offices (Scotland) Bill, which had been promised in the King's Speech. One of its purposes is the transfer of the powers and duties of the Scottish Board of Health to a Department of Health for Scotland.

On February 13th a bill to prohibit the vivisection of dogs was presented by Sir Robert Gower, and was read a first time. The Dogs Act Amendment Bill, introduced by Mr. Briggs, is not an antivivisectionist measure, but will probably propose, among other objects, to strengthen the provisions of the law against the stealing of dogs. The Protection of Dogs Bill, presented by Sir Robert Gower, has as its declared object "to prohibit the vivisection of dogs." It is supported by Colonel Moore, Mr. Bromley, Mr. Macquisten, Mr. Thurtle, Captain A. Evans, Mr. Sexton, and Mr. Radford. The second reading is put down formally for April 20th. Before the presentation of this bill a suggestion was made to its promoters that it might be treated as uncontroversial if a clause were added to authorize the police to supply for experimental purposes dogs seized as strays and subsequently unclaimed. This overture was flatly rejected.

On February 14th Mr. Tinker presented a bill to consolidate, with amendments, the enactments relating to factories, and it was read a first time.

## National Health Insurance.

On February 9th Mr. Chamberlain stated that 355,000 insured persons were estimated to have reached the age of 65 on January 2nd. During the month of January the estimated addition to that number was 8,000. All these would cease to pay contributions under the health insurance scheme and to be entitled to sickness and disablement benefits; medical benefit, together with additional treatment benefits, would remain available to them for life. How many were in receipt of sickness or disablement benefits when they attained the age of 65 was not known.

In an answer to Mr. Feiby, on February 9th, Mr. Chamberlain said the approximate amount of funds invested on behalf of approved societies under the National Health Insurance Act at the end of 1926 was £115,000,000, and at the end of 1927 £111,000,000. In a reply on the same day to Mr. Rhys Davies, Mr. Chamberlain said that after meeting out of current income the cost of schemes of additional benefit, amounting to over £8,000,000 yearly, the approved societies had available for investment in 1926 £1,500,000, and in 1927 £200,000.

## Foot-and-Mouth Disease.

On February 15th Mr. Guinness, replying to Sir Basil Peto, said that in recent years no definite proof had been obtained that foot-and-mouth disease outbreaks in this country had been due to infection by meat imported from South America. Suspicion had, however, arisen that certain outbreaks had been due to cloths in which imported meat was wrapped, or to bones from such meat. To guard against this danger orders had been issued which required meat, bones, or other parts of a carcass, or cloths in which foreign meat had been wrapped, to be boiled or disinfected before they were brought into contact with animals. Negotiations had been in progress for some time with the South American Governments which should result in the adoption in those countries of measures for preventing the introduction of infection into Great Britain.

Mr. Guinness also told Mr. Wardlaw-Milne that he had seen in the press reports of the discovery in France of a new cure for foot-and-mouth disease, but he had no official information on the subject. No invitation had been received by the Ministry to attend the tests. Our policy was eradication by slaughter, and this discovery seemed to be merely a cure and not a preventive.

Mr. Guinness, on February 14th, told Major Davies that no experiments to determine the after-effects on animals which had had foot-and-mouth disease and had recovered from it had as yet been carried out by the Foot-and-Mouth Disease Research Committee. There was considerable evidence from abroad that the after-effects of the disease were variable. Mortality among unweaned stock was very high. The Continental view was that a certain proportion of the recovered animals became "carriers" of the disease, and were for a long time capable of infecting susceptible stock.

**Milk Campaign.**—Mr. Guinness announced, on February 9th, that the Empire Marketing Board, in consultation with the Ministry of Agriculture, proposed to open, in April, a publicity campaign in favour of the consumption of fresh milk. This campaign will



last for six months, and may be extended. Dr. Drummond Shiels asked whether the Minister would see that this advocacy of fresh milk discriminated between tuberculosis-free milk and other milk which might be dangerous. Mr. Guinness said the proportion of tuberculous milk was much lower than a few years ago. He thought nothing more could be done than was being done at present to improve the supply of milk and avoid this danger. Dr. Fremantle asked whether the Minister of Agriculture proposed in this publicity campaign to work with the Ministry of Health, which was able to use the medical channels for recommending milk. Mr. Guinness said they would certainly work in conjunction with the Ministry of Health.

**Marriage of the Physically Unfit.**—On February 13th Sir R. Thomas asked the Minister of Health if he had devoted any attention to the report on the marriage of the physically unfit, recently issued by the London County Council, and if he proposed to introduce legislation on the subject. Sir Kingsley Wood said the Minister of Health was not aware of the adoption of any such report by the London County Council.

**Prohibition of Boric Acid in Cream.**—Sir J. Gilmour told Brigadier-General Charteris, on February 14th, that only a few creameries in Scotland had made representations against the prohibition of boric acid in cream. There was substantial evidence that cream properly produced from clean milk and properly handled would keep sweet for several days. The Scottish Board of Health accordingly saw no reason to rescind the regulations so far as they applied to cream.

**Hours of Railway Dining-car Attendants.**—On February 14th Mr. Belterton, in reply to Sir R. Thomas, said he was informed by the Great Western, London, Midland, and Scottish, and London and North-Eastern railway companies that there was no foundation for the statement that railway dining-car attendants were habitually required to be on the trains for periods up to forty-eight or fifty-three hours, with consequent tuberculosis and gastric disorders.

**Proposed New Welfare Centre at Southgate.**—On February 14th Mr. R. Morrison asked why the Minister of Health refused to approve or make a grant in aid of expenditure by the Southgate Urban District Council of £19, the salary of the medical officer, in respect of a proposed new maternity and child welfare centre to be held on premises belonging to the council for two hours monthly, for medical inspection of children between the ages of 2 and 5 years. Sir Kingsley Wood, replying, said that sanction to this proposal was withheld because the Minister of Health was advised that the facilities already provided by the urban district council should be sufficient to allow of the medical inspection of children between the ages of 2 and 5 years. It was proposed, however, to arrange for a further inspection by a medical officer of the Ministry of the arrangements made by the council for maternity and child welfare, and the Minister would give further consideration to this proposal when he had received a report on this inspection.

**Street Accidents.**—In the House of Lords, on February 14th, the Bishop of Southwark called attention to the statement of the education officer of the London County Council that in 1926 in the Metropolitan area 233 children were killed and 9,528 were injured by traffic accidents. Lord Peel, First Commissioner of Works, in reply, said that the Advisory Committee on Street Accidents, appointed by the Minister of Transport, had presented a report about a year ago. The committee was set up because of the anxiety of the Ministry of Transport to see what could be done to reduce the dangers of the streets. He understood that the Advisory Committee would report very soon to the Ministry. The Minister of Transport was prepared to give a special direction to the committee to consider particularly the problem of accident. He would consult representatives of the police and local authorities, and might decide upon definite rules to reduce these accidents.

**Memorial to Lord Haig.**—On February 8th Mr. Baldwin moved that the House, on the following day, go into committee to pass an Address for the erection of a monument at the public charge to the late Field-Marshal Earl Haig. Mr. Ramsay MacDonald moved as an amendment that a select committee be appointed to consider the most fitting form of memorial to Earl Haig, in view of his concern for the comfort and welfare of ex-service men. Supporting the amendment, Dr. Drummond Shiels said there were many tuberculous ex-service men who were gassed during the war and whose disease did not make itself known for many years. Many of these cases had been disallowed. The House had an opportunity to make up for what it had failed to do in the past. The amendment was defeated by 220 to 103, and later in the week the House unanimously passed the Address in favour of a monument.

#### Notes in Brief.

The Minister of Pensions has discussed with a deputation from the Glasgow Corporation the future of Bellahouston Hospital.

There is no evidence to show that the tsetse fly is increasing or spreading anywhere in Kenya Colony.

Local authorities are increasingly making use of dust carts with covers, and are encouraged by the Ministry of Health to do so.

During 1927, out of 53,915 men and boys who offered themselves for service in the Royal Navy and Royal Marines, 5,655 were accepted and 47,866 rejected for medical, physical, and educational unfitness.

## Medical News.

THE annual dinner of past and present students of the Royal London Ophthalmic (Moorfields Eye) Hospital was held at the Langham Hotel on February 8th, with Sir Whitton Herringham in the chair. Among the guests were Sir John Rose Bradford, Sir James Berry, Surgeon Vice-Admiral Arthur Gaskell, Sir Mathew Fell, Professors Elliot-Smith and H. Hartridge, and Messrs. Ernest Clarke and Theodore Lining. The toasts were proposed by the chairman, Sir John Parsons, and Sir William Lister. During the evening the dean, Mr. Charles Goulden, announced that 123 new students had enrolled; the number attending the practice of the hospital was 215. Two students had received the diploma of F.R.C.S.Ed. in ophthalmology. The first part of the examination for the diploma in ophthalmic medicine and surgery had been passed by twenty-eight students and the second part by twenty-six. During the past year Dr. H. M. Traquair of Edinburgh had given a course of lectures on perimetry and fields of vision, and two lectures on the resolving power of the eye. In the coming term Professor Elliot-Smith would give a course of six lectures on the optic connexions in the brain, and Dr. Kerr, late principal school medical officer of the London County Council, two lectures relating to education of the partially sighted.

THE Council of the Haveland Society of London has chosen for the Buckston Browne Prize the subject "Chronic streptococcal illnesses"; a medal, together with the sum of £20, will be awarded for the best essay on this. The prize is open to any member of the medical profession registered in the British Isles or Dominions under the age of 45. Essays must be sent in by November 1st, 1929. Further particulars may be obtained from the honorary treasurer, Dr. G. A. B. Turtle, 81, Cambridge Terrace, Hyde Park, W.2.

AT the next meeting of the Royal Statistical Society on February 21st Dr. T. H. C. Stevenson will read a paper on the vital statistics of wealth and poverty. This will include a discussion of the social distribution of various causes of mortality. The meeting will be held in the hall of the Royal Society of Arts, John Street, Adelphi, W.C.2, at 5.15 p.m.

THE jubilee of the Caledonian Medical Society will be celebrated in Edinburgh on February 23rd and 24th, under the joint presidency of Dr. W. A. Macnaghten and Dr. S. Rutherford Macphail, the two surviving founders. The jubilee dinner will take place in the Hall of the Royal College of Physicians, Queen Street, at 7.15, on February 23rd. The annual meeting will be held at the Royal College of Surgeons' Hall, Nicolson Street, at 11 a.m. on February 24th, while at 4 p.m. on the same day the University of Edinburgh is giving a reception for the society.

Dr. A. F. TREDGOLD will lecture for the Fellowship of Medicine on the nature of mental deficiency at the Medical Society, 11, Chandos Street, Cavendish Square, on February 20th, at 5 p.m. On February 21st, at 3 p.m., the dean of the London Lock Hospital will give a clinical demonstration, limited to twelve; applications to be made to the Fellowship of Medicine (telephone Mayfair 2235). A lecture-demonstration on cornual ulcers and their treatment will be given on February 23rd at 5 p.m. On February 24th a clinical demonstration will be held at St. James' Hospital, Vanxhall Bridge Road, at 3 p.m. The lecture and demonstration are free to medical practitioners. A four weeks' course in venereal disease will be undertaken by the London Lock Hospital from February 20th to March 16th, consisting of clinical instruction with a series of lectures. There will be an intensive course at the Queen Mary's Hospital, Stratford, from February 20th to March 3rd, with lecture, demonstration, and operations throughout the day, and a one-week course at the Maudsley Hospital, S.E.5. A week's course will be given at the Brompton Hospital from March 19th to 24th; a two weeks' course in diseases of children at the Queen's Hospital from March 5th to 17th; and two weeks' courses in gynaecology at the Chelsea Hospital from March 5th to 15th, and in ophthalmology at the Royal Eye Hospital (afternoon only) from March 5th to 17th, including Saturdays. For general practitioners a late afternoon course (4.30 to 6 p.m.) has been arranged at the Hampstead General Hospital. All information as to syllabuses and fees, with particulars of the general course, may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Royal Society announces in our advertisement columns that applications for the Government grant for scientific investigations for 1928, on printed forms to be obtained from the clerk to the Government Grant Committee, Royal Society, Burlington House, W.1, must be received by March 31st.

THE centenary celebration of the faculty of medicine at Cairo and an international congress of tropical medicine and hygiene will be held in association from December 15th to 22nd, 1928, in that town. In the provisional programme, which has just been issued, it is stated that various sectional meetings will be held and that special attention will be paid to ankylostomiasis and bilharziasis. The proceedings of the congress will be published. In connexion with this celebration a medical exhibition is being arranged, and it is possible that the foundation stone will be laid of a new building to replace the existing Kasr-el-Ani Hospital. Further information may be obtained from the general secretary, Dr. M. Khalil, 1, Sharia Mazloum Pasha, Cairo. The postponed congress known as the Journées Médicales d'Égypte will be held at Cairo from December 12th to the 23rd on the lines of the original programme, which were mentioned on October 15th, 1927 (p. 711). Further details of the congress and the excursions to Luxor and Assouan may be obtained from the general secretary, Dr. Zoltoun, 32, Rue Gay-Lussac, Paris (V\*).

UNDER an Act recently passed in the State of Victoria (Australia) the registration of British dentists is restricted solely to licentiates of British medical authorities, and the restrictions apply to all dentists who had not embarked for Victoria prior to December 8th, 1927.

THE January issue of *The Fight Against Disease*, the quarterly journal of the Research Defence Society, contains a reprint of an article in *Science* on January 14th, 1927, by Dr. W. W. Keen, on the early days of antivivisection. Some recent correspondence in the lay press on small-pox in England and antivivisection propaganda is reprinted. Sir Leonard Rogers contributes a note on the increase of small-pox in England since 1920, and illustrates this with a chart. It is announced that the membership of the society is steadily growing; the subscription for members is 10s., associate members pay 5s., and undergraduates and students of medicine 2s. 6d. Further information may be obtained from the secretary at the office of the society, 11, Chandos Street, W.1.

ON his retirement, after practising for twenty-seven years in Crieff, Dr. D. Robertson Dobbo was presented by his colleagues and friends with a parting gift of a wallet of Treasury notes. He was honorary medical officer to Crieff Cottage Hospital, and had had twenty-five years' service in the R.A.M.C.

THE Universities Bureau of the British Empire, 50, Russell Square, W.C.1, has published a classified list of students from other countries who are studying in the universities and university colleges of Great Britain and Ireland. A total of 4,875 names is included; of these 1,826 come from Asia, 1,101 from Africa, 887 from America, 693 from Europe, and 362 from Australia, New Zealand, and Fiji. The price of the list is 1s.

THE rank of officer of the Legion of Honour has been conferred on Dr. Pierre Fradet, a well-known Paris surgeon and senior medical officer of the Paris, Lyons, and Mediterranean Railway; Dr. Loeper, professor of therapeutics in the Paris faculty of medicine; Dr. Abadie, professor of nervous and mental diseases at Bordeaux; and Professor Léon Blum of Strasbourg.

DR. JEANDELIZE has been nominated professor of ophthalmology, and Dr. Jacques Parisot professor of hygiene and preventive medicine, in the Nancy faculty of medicine.

A SPECIAL number of *Acta psychiatrica et neurologica* has been dedicated to Professor Viggo Christensen of Copenhagen by his friends and pupils on the occasion of his sixtieth birthday.

PROFESSOR CLEMENS FIRQUET of Vienna has been elected president of the International Union of Child Welfare in succession to the Duke of Atholl.

DR. I. A. ABT, professor of pediatrics of the North-Western University Medical School, Chicago, and editor of a system of pediatrics, has recently been appointed an officer of the Legion of Honour.

DR. R. M. APPERT, who recently died at San Remo at the age of 65, has bequeathed the Institut Pasteur of Paris a sum of 2,000,000 francs.

PROFESSOR EDUARD REHN of Düsseldorf has been nominated successor of Professor Garré in the chair of surgery at Bonn University, and Dr. Sigurd of Freiburg has succeeded Professor Trendelenburg in the chair of pharmacology at Berlin.

OF 420 cases of tularaemia reported to the Public Health Service of the United States 17 patients have died, a mortality of about 4 per cent. The actual number of cases and deaths is probably higher. Cases have now been reported from Japan, the District of Columbia, and from thirty-seven States, the nine North-Eastern States being the only significant portion of the United States in which cases have not been recognized.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

**ORIGINAL ARTICLES** and **LETTERS** forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notices to be taken of their communications should authenticate them with their names, not necessarily for publication.

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**MEDICAL SECRETARY**, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### FUMES OF TAR.

DR. J. H. DUDGEON (Stainburn, near Workington) asks for information about the action of the fumes on those working with tar. He has seen cases of the most acute abdominal pains, lasting for days; relief was only obtained by large doses of aperients; x-ray examinations revealed no abnormality. Dr. Dudgeon asks also for references to any literature bearing on the subject.

\* \* We have referred this inquiry to Sir Thomas Oliver, who writes: Tar fumes act particularly upon the skin, leading to acne or the formation of small pustules, with considerable irritation; they also act upon the respiratory mucous membrane, inducing bronchitis. Not an infrequent result is epitheliomatous ulceration of the skin. Of the effects of tar vapours upon the alimentary canal, little is known beyond loss of appetite, nausea, headache, and, in some instances, diarrhoea. Nothing of an authoritative nature has been published bearing upon the relationship of acute abdominal pain and the inhalation of tar fumes. Reference to the subject may be obtained by consulting the brochures on "Occupation and health" which are being issued by the Industrial Section of the League of Nations.

#### CLEANING DENTURES.

DR. JOHN FLETCHER (London, S.W.) writes: A strong solution of "harpic" will, in one night, remove the thickest deposit of carbon, with the aid of a stiff brush in the morning.

#### PAINLESS NATURAL LABOUR.

DR. HOWARD G. PISEL (Maidstone) writes: I remember having a similar case to those described by your correspondents many years ago now. The patient was a young primipara, who assured me that her uterine contractions caused no pain at all. Her mother, a multipara, was present at the confinement. She told me that her confinements also were painless, and added that she "would sooner have a baby than a 'poorly time' any day"! If true, this certainly seems curious.

#### FIREMEN'S CRAMP.

"SHIP" writes: I should be interested to have your readers' views as to the etiology and treatment of "firemen's cramp." It is on board supposed to be brought on by the drinking of much iced water. This may account for the cramp, which takes the form of abdominal colic, but is not necessarily the cause of that which affects the somatic muscles. I recently did several four-hour watches in the stovehold in the tropics. I drank very little iced water indeed, but though I had no "cramps" while on watch, I subsequently suffered from them, but only in leg and arm muscles, when these were mildly strained in action. Fatigue and loss of fluid by sweating, etc., presumably account in part for this form of cramp, which I had hoped to escape by drinking while on watch well-sweetened, non-iced maté. Considering the frequency with which firemen—and not only novices and beer drinkers—are affected with agonizing "cramps," some hints as to treatment would be very welcome.

#### INCOME TAX.

##### *Surgery Expenses.*

"J. H. S." has succeeded to a share in a practice. For a time the practice rented surgery accommodation from his predecessor's widow at £50 per annum—the amount formerly allowed as a reasonable proportion of the predecessor's total expense of rent,

rates, domestic service, etc. Fresh arrangements became necessary, and "J. H. S." has had to find a new residence large enough to provide the necessary surgery accommodation. His total expenditure is about £220 per annum, and his partner agrees to his charging £110 to the firm's account. Will this be permissible for income tax purposes?

\* \* On this question the only safe rule is that the charge must be reasonable in the circumstances of the particular case. For instance, "J. H. S." mentions that before removing into his present house his expenses were less than half what they are now; but is it not true also that he has better domestic accommodation and greater amenity than formerly? Further, one-half the total cost of domestic service seems *prima facie* rather a heavy charge against the surgery, in view of the probable division of the maid's working time. We can only suggest such points for consideration, and may perhaps add that for income tax purposes "J. H. S." would be on safer ground in claiming, say, one-half rent and rates and one-third of the other general expenses of the house.

#### Cash Basis.

"R. B. S." in 1926 purchased a half-share in a practice, his present partner purchasing the other half. They now wish to continue to be assessed on the basis of cash receipts, being willing to bring into the account the amount of the payments made to the old firm, as well as those made to "R. B. S." in respect of his former practice. The inspector of taxes demurs to that, claiming to base the assessment on the amount of book debts earned in the year, but allowing one-third of the outstanding debts as probably irrecoverable. Presumably the one-third is to cover the 12½ per cent. commission paid for collecting debts, and on that assumption is considered insufficient.

\* \* The question depends so much on local conditions that it is impossible to offer specific advice as to the percentage to be taken as representing irrecoverable debts. But if "R. B. S." has—as presumably he has—access to the books of the old firm, it might be possible to prepare a tabular statement for, say, the past six years setting out the comparison between book debts and cash receipts; if those figures suggested any fairly definite percentage it would only leave to be taken into account any special circumstances of the present time. Another alternative would be to request the inspector—or the District Commissioners if the matter is taken to appeal—to leave the disputed margin—namely, the difference between 50 per cent. and 33½ per cent. of the outstanding debts—in abeyance for twelve months. At the end of that time it might be possible, in the light of the additional information then available, to arrive at agreement.

### LETTERS, NOTES, ETC.

#### PHYSIOLOGY OF DEFAECATION.

DR. JAMES R. WHITWELL (London, S.W.) writes: With reference to the letter of Dr. Fraser-Harris (*JOURNAL*, February 4th, p. 199), I had put into my house many years ago an excellent water-closet, which admitted of the normal attitude, called the "Health," made by Messrs. Doulton and Co. This is, I believe, still made, but is somewhat handicapped by its higher cost.

DR. ALFRED C. JORDAN (London, W.) also writes on the subject of the "Health" closet, with low, sloping seat, made by Messrs. Doulton. Although introduced some years ago (he says) this did not "take on" because it was found that many people, expecting the usual high seat, came down with a bump on the low one. Moreover, sanitary engineers have told me that a seat low enough to permit the correct "squatting" posture leaves no room for a "trap" between basin and floor. A very useful expedient is the foot-rest made by the P.A.F.R. Company of Newark-on-Trent. This foot-rest allows of the correct squatting posture, is inexpensive, and can be installed in any closet in a few minutes. It is a notable aid to defaecation and a most helpful appliance.

#### A SURGICAL EMERGENCY IN THE MISSION FIELD.

COLONEL A. FENTON, I.M.S. (Burma), forwards an interesting note by Mr. J. O. Wilson, field missionary secretary of the Adventist Mission in Burma, of a surgical emergency successfully dealt with in a remote region of the country. A young man was gored by an elephant, the abdominal wall being torn across, with extrusion of the intestines. These were wrapped in a dirty garment and the man brought by canoe to the hospital, exposed to the tropical sun for the whole of one afternoon. Two lay Australian missionaries administered an anaesthetic, cleansed the intestines and stitched up the wound. The patient, with much hope of the patient surviving, the pus followed, the wound being infected. There was very little rise of temperature and no signs of peritonitis. The muscles had, however, been badly bruised by the blunt tasks of the elephant, and the necrosed tissues sloughed away in three or four days, together with the stitches, so that the wound had to be sewn up again. The patient, however, recovered in two months.

#### VITAMINS IN VERSE.

A FORTNIGHT ago we quoted, in the course of an article on biochemical products, one stanza from a witty and ingenious poem, "The A B C of Vitamins," which appeared in the January issue of the *St. Bartholomew's Hospital Journal*. So far from incurring blame for introducing light verse, however apt, into a serious discussion, we have had a number of requests to reprint the poem in full. Some readers wish for it as *memoria technica*, because they find difficulty in recalling offhand the properties of the several vitamins. Impressed with this argument, we have approached the editor of our contemporary, and he and his gifted contributor, "C. H. A." have courteously given their assent to republication of the verses for the enjoyment of a wider circle.

#### THE A B C OF VITAMINS.

A.

Oh fine and fat was Ralph the rat,  
And his eye was a clear cold grey.  
How mournful that he ate less fat  
As day succeeded day,  
Till he found each cornea daily hornier,  
Lacking its Vitamin A.

"I missed my Vitamin A, my dears,"  
That rat was heard to say.  
"And you'll find your eyes will keratinise  
If you miss your Vitamin A."

B.

Now polished rice is extremely nice  
At a high suburban tea,  
But Arlathnot Lane remarks with pain  
That it lacks all Vitamin B,  
And heri-beri is very very  
Hard on the nerves, says he.

"Oh take your Vitamin B, my dears!"  
I heard that surgeon say;  
"If I hadn't been fed on standard bread,  
I shouldn't be here to-day."

C.

The scurvy flew through the schooner's crew  
As they sailed on an Arctic sea.  
They were far from land and their food was canned,  
So they got no Vitamin C.  
For "Devil's use of orange juice,"  
The skipper had said, said he.

They were victualled with pickled pork, my dears,  
These mariners bold and free.  
Yet life's but brief on the best corned beef  
If you don't get Vitamin C.

D.

Though its price we find a trifle high,  
I am sure you'll like it well,  
For it's rich in Vitamin D,  
Though its price we find a trifle high,  
Or our ultra-violet light.

So swallow your cod-liver oil, my dears,  
And bonny big babes you'll be.  
Though it makes you sick it's a cure for the rickets  
And teeming with Vitamin D.

E.

Now Vitamins D and A, B and C  
Will ensure that you're happy and strong;  
But that's no use; you must reproduce  
Or the race won't last for long.  
So Vitamin E is the stuff for me,  
And its praises end my song.

We'll double the birth-rate yet, my dears,  
If we all eat Vitamin E.  
We can blast the hopes of Maria Stopes  
By taking it with our tea.

C. H. A.

Our earlier quotation of stanza D has brought us a rendering of it from Mr. William Holloway which may please medical men who have preserved their taste for elegiacs. It runs:

Namque igitur vitam vitam quod instat abest.  
Si "D" Vitamin, vita quod instat abest.  
Etsi oleo jecorum insidias frustivimus ejus,  
Luceque quam violae, caeruleo ferit.

#### LOBAR PNEUMONIA WITH DIPHTHERIA AND MALARIA.

DR. S. K. CHAUDHURI (Benares) writes to report the case of a lad, aged 17, who developed the usual signs and symptoms of lobar pneumonia, with typical sputum. On the fifth day a greyish patch was found on the soft palate and diphtheria bacilli were demonstrated in it. Injections of antidiphtherial serum were given to a total of 40,000 units and the recovery was uneventful, except for a rise of temperature in the fourth week, due to malaria, which also yielded to suitable treatment.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 48, 49, and 50 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.  
A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 66.

# A British Medical Association Lecture ON CHRONIC MUSCULAR RHEUMATISM AND PANNICULITIS.

DELIVERED TO THE SOUTHPORT DIVISION

BY

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CHRONIC rheumatic diseases are, generally speaking, of microbe origin, and can usually be traced back to a preceding attack of acute rheumatism, influenza, dysentery, or some other infection, and hence they may be due to a considerable variety of germs. But whatever the original infection may have been, the basic pathological change which is the cause of the symptoms and sufferings of the patient once he has become the victim of what we designate "chronic rheumatism" is in all cases the same, and consists in a low form of inflammation of the white fibrous tissues which constitute so large and important a part of the locomotory system of the body—namely, the aponeuroses, sheaths and fibrous origins and insertions of muscles, periosteum, the innumerable ligaments of joints and their synovial membranes, fasciae, nerve sheaths, and the subcutaneous areolar tissue. Fibrosis of the internal viscera and arterial system is not a feature of chronic rheumatic conditions. In acute rheumatism, on the other hand, carditis and valvulitis—both inflammations of fibrous tissue—are very common, whereas in gonorrhoeal, searlatinal, and other so-called rheumatisms they may fairly be described as rare, although their occasional occurrence is quite well recognized. These differences in the incidence of infection are difficult to explain, but they are of very considerable clinical interest and importance.

Chronic rheumatism, then, is essentially a fibrositis of the locomotory system—the *habitus externus* of older writers, as opposed to the internal organs—and, as fibrous tissue is so widely spread, it may affect many regions of the body, or may be confined to one or a few parts; but whatever its situation or whatever name it may go by—lumbago, pleurodynia, sciatica, torticollis, coxalgia—it has always the same pathology. The fibrositic tissue is a local reaction to an irritant, and is therefore a sequel rather than a primary disease, just as valvular heart disease or fibroid lung are sequels to an acute rheumatic or a tuberculous infection and once established they remain permanently, and may ultimately give rise to serious troubles of a totally different character long after the original infection which caused them has died out.

As time does not permit a survey of the whole ground, I propose to confine my remarks to the two commonest manifestations of fibrositis—namely, chronic muscular rheumatism and panniculitis—because they furnish the great bulk of cases seen in practice, they give rise to a vast amount of chronic ill health and disability, and, relatively speaking, they are fairly amenable to treatment if it is founded on a knowledge of their pathology and intelligently carried out.

## CHRONIC MUSCULAR RHEUMATISM.

The morbid anatomy is simple enough. As the result of local infection or local irritation spreading more or less widely from some centre or focus elsewhere in the body serous exudation takes place in small patches of fibrous tissue; these swell up and become painful, active proliferation and formation of numerous fibroblasts occur, and there is an overgrowth of the fibrous tissue of the local nerve twigs and minute blood vessels. The two last seem to me to be of importance in determining the typical symptoms of chronic rheumatism, the inflamed nerves being responsible for the pain, and the inflamed injured vessels for

the subsequent great liability of these lesions to exudation of serum and swelling from slight causes. When first formed the inflamed patches are soft and consist of a good deal of undifferentiated matrix, but as time goes on they become much harder in consistence and very definitely fibrous. On palpation through the skin they can usually be readily felt, and their tenderness on pressure is a further and useful aid to locating them.

The pathological fibrous tissue differs from the healthy normal in being painful on pressure, in being very sensitive to irritation, in a tendency to contract, and in the fact that it can be dispersed by massage or absorbed by the *vis medicatrix naturae*. Its formation is a local reaction to the virus of certain infections, among which acute rheumatism, influenza, tonsillitis, rheumatoid arthritis, mucous colitis, gonorrhoeal septicaemia, dysentery, and coliform infection are common and definitely known, although there are probably others not so easily traceable. In many cases it starts at an early age in life. Chemical poisons such as lead, arsenic, and alcohol, which are notorious as causes of neuritis, do not give rise to a more general fibrositis such as we are considering, nor in my experience do *vaguo streptococci* and *staphylococci*, although they have often been accused. The original infection may disappear, leaving behind it a legacy in the shape of the new pathological fibrous tissue, or it may persist in a more or less latent condition (as is so fully recognized with tubercle and syphilis) and insidiously keep up and increase the fibrositis, so that with increase of years there is continuous increase of rheumatism. Scar tissue formed during suppuration, adhesions, and pelvic cellulitis have the same origin and pathology, and may be equally productive of symptoms. But microbe infection does not seem to be a necessary factor. Sprains of muscles and joints, accompanied by tearing of the tissues with exudation of serum and blood, are often followed by formation of new pathological fibrous tissue, and the consequent pain, weakness, and disability may be very persistent or even lifelong.

As has been previously mentioned the new inflamed fibrous tissue is very susceptible to many and diverse forms of irritation hardly felt by the healthy individual, and hence unwonted muscular exertion, exposure to cold and wet, keen winds, moist heat, changes in barometric pressure, slight infections, and intestinal fermentation are apt to cause serous exudation; the exudation is not readily got rid of by the thickened capillaries, it exerts pressure on the inflamed nerves, and a "rheumatic attack" is the result. In a changeable climate with continual barometric variations some people are thus never free from more or less rheumatic pain, although an anticyclone with high pressure and dryness of the atmosphere may give them some temporary relief at times. The disturbing influence may have a general effect on all the rheumatic tissue throughout the body, or it may be confined to a single area, as is seen in an attack of lumbago after undue use of the lumbar muscles or of torticollis after exposure to a draught.

The morbid anatomy explains the familiar symptoms. Aching, weariness, and pain are all different degrees of the same symptom and are due to the neuritis, while the stiffness is due to stagnation of the circulation and exuded serum. Thus the stiffness so often felt in rheumatic tissues after resting arises from the latter cause, and tends to disappear as soon as a little active movement has improved the local circulation. The symptoms of pain and stiffness are most often complained of in parts liable to muscular strain and to exposure, such as the small of the back, lower limbs, neck, and shoulders, but the abdomen and inner aspects of the thighs may show equal abundance of rheumatic tissue, although they do not suffer so much owing to being less exposed to strain and external influences. They are often, however, just as tender on pressure or if they do happen to be exercised.

During an acute exacerbation with pains all over the body the patient should remain in bed for two or three days and be treated on general principles with mild analgesics and diaphoretics—Dover's powder, salicylic compounds, phenazone and similarly acting substances, hot baths, and so on. If the attack be confined to a small

area—say a torticollis—massage is most helpful in addition to the usual liniments, poultices, and other local applications. Its object is to get rid of the exudation and improve the circulation in the inflamed area, and hence it should be begun as early as possible and given as effleurage firmly and deeply, but short of increasing the irritation and pain.

Before starting on a prolonged course of treatment designed to reduce or get rid of the fibrositic tissue it is absolutely essential that a strenuous effort should be made to deal as effectively as possible with diseased tensils, gonococcal foci, chronic dysentery, colitis, and other known predecessors of fibrositis. Unfortunately eradication of these is not always possible, and as long as they are present they remain sources of rheumatic fibrosis, and a permanent cure of the latter is also impossible. In certain of these cases protein shock therapy is worth considering. Many patients, however, seem to have got rid of the original infection, leaving only the fibrositis to be treated, and this is a very practicable matter. There is no known drug which will bring about absorption of fibrous tissue, and hence for relief or cure of the chronic thickenings massage is our great *mainstay*, but it must be applied with a definite knowledge of what it is desired to accomplish. We wish to get rid of the exudation and the neuritis, and, if possible, to break up and disperse the little areas of new fibrous tissue, which is a much more tedious and difficult matter. A lubricant, such as oil, liquid paraffin, or vaseline, should be freely used, and the efficacy of the massage is greatly increased by the previous application of heat and moisture or dry hot air. For the first ten days or so gentle but firm and efficient effleurage should be given daily for about ten minutes to each part which is being treated. At the end of that time the local soft swelling and exudation have been got rid of, the neuritis is lessened, and the fibrous thickenings can usually be felt as more defined, somewhat hard and sensitive little masses which gradually become insensitve to the pain of the massage, which should then be given as hard as it can reasonably be borne by the patient, and applied specially to the small thickened painful areas. Light massage is valueless at this stage. Recent indurations clear up in three to five weeks, but the more fibrous and those of long standing take a very much longer time, and may never become broken down and absorbed. These last remain rheumatic subjects, and may require a few weeks' treatment once or twice yearly to keep them free, or comparatively free, from symptoms. Such patients should be taught to massage themselves, or get the assistance of some member of the household to do it. It is not difficult to learn. The treatment is always tedious and expensive, but so far it is the only means known of dispersing the rheumatic fibrous tissue. Ionization, diathermy, electricity, radiant heat, and such measures merely relieve the exudation and swelling, leaving the new fibrous tissue *in statu quo* and liable to become again acutely inflamed on the first opportunity. In the same way spa treatment by hot baths, purgation, diaphoresis, and diuresis temporarily removes the congestion and pain and stiffness.

In treating sciatica it should be borne in mind that it is most often due to rheumatic thickenings in the hip—not necessarily on the nerve itself, but involving one of its branches—and in the same way the cause of brachialgia is to be sought for in the deltoid, trapezius, and infraspinatus muscles chiefly. The pain seems to be reflected down the large nerve from pressure on the branch. In lumbago and torticollis the fibrositis may be widespread locally, or there may be only one or two very sensitive nodules from which the pain radiates widely, and in that case treatment should be concentrated on these. Fibrous nodules are not uncommon in the heel, and sometimes give rise to much pain and consequent lameness. These cannot be dispersed by massage owing to the thickness of the sole and their hardness. The only method of cure is to reflect the skin and remove the fibro-fatty tissue *en masse*, the result being invariably satisfactory.

Rheumatic headaches due to perineuritis of the temporal, supraorbital, or occipital nerves are best treated by blisters over the part where the nerve comes to the surface, and where it is usually found to be very tender on pressure.

Once the rheumatic thickenings have been dispersed or lessened under treatment an active outdoor muscular life should be led as far as is reasonably possible for the individual. He thus becomes hardened, and muscular exercise, draughts, and other slight causes of irritation cease to trouble him.

#### PANNICULITIS.

Panniculitis is a fibrositis of the panniculus adiposus, and has the same etiology and pathology as fibrositis generally. Its anatomical distribution, however, confers on it certain clinical characteristics which merit some special description. The new fibrotic tissue assumes two forms, according to its situation. Over the deltoids, shoulders, back, flanks, upper abdomen, hips, and outer sides of the thighs it is dense and evenly spread, giving the skin a hard brawny feel, while on the inner surfaces of the upper arms and thighs, abdomen, and pectoral regions it is in numerous pen-like masses lying in the subcutaneous fat and often forming veritable fibro-fatty pads at the inner sides of the knees and elsewhere. The little masses can be easily felt, and are exceedingly tender on pressure, as is likewise the whole subcutaneous overgrowth. Sometimes distinct encapsulated lipomata are found, and these have a core of inflamed fibrous tissue, as if the local irritation had determined their growth.

It is an extremely common condition in all degrees of severity in women of all ages, but is also found not infrequently in men, and in boys and girls. It seldom, however, takes on the same proportions in men as in women, and this seems to be connected with the much greater development of the panniculus adiposus in the latter. These patients, when the condition has become well advanced, complain of a constant sense of fatigue, dull or acute pains, stiffness, numb feelings, neuralgic headaches, and very often are distinctly neurasthenic. The skin bruises very readily, backache is often present, the weight of a coat tires the shoulders, and even the pressure of lying in bed may be painful. If from any cause an acute exacerbation of the whole fibrositic area occurs all the symptoms are intensified and may remain so for a week or more, often of severe suffering. Some of these people are not stout, but obesity greatly increases the symptoms and sufferings, and as so many women over 30, and particularly after the menopause, tend to lay on fat, medical advice is usually first sought at this time. Most of them, however, give a history of having been more or less "rheumatic" for years previously. There may be great increase of bulk all over the body, or it may be only round the lower abdominal regions, but the thighs, upper arms, and shoulders also rarely escape. The whole abdomen may be bulky, heavy, and pendulous, or may have several transverse folds of softer fibro-fatty tissue lying like cables across it. The new tissue may be chiefly of the dense hard kind, or of the fibro-fatty, or, most commonly, a mixture of the two. In a number of these cases, as time goes on, the irritant, whatever it may be, tends to affect at certain places the synovial membranes and the periosteum (both fibrous structures); the former hypertrophies and becomes painful and villous, and Heberden's nodes, bony swelling at the knuckles,ipping of the femur and tibia at the knee-joint, and bony changes in the vertebrae may occur from irritation.

This stage has lately been described as a separate clinical entity under such names as climacteric, menopausal, hypoglandular, and endocrine arthritis, and has been attributed to a failure of the thyroid, pituitary, and ovarian secretions exercising a direct effect on the joints. I take this, however, to be an erroneous interpretation of what happens. In all these cases a history can be obtained of rheumatic pains for years past—often very many years—and dating from acute rheumatism in childhood, or from influenza or some other infection. Whenever such a person lays on fat, as so frequently occurs at the menopause, the rheumatic symptoms become greatly intensified, and the increased weight throws a certain strain on the joints, and especially on the knees. At this stage many of these patients have no arthritis, but in time some of the synovial membranes and bones (through their periosteum) become



involved in the general fibrositic changes. In men affected with panniculitis the same clinical picture can often be seen, especially if they are stout and heavy. None of these people show any signs of true myxoedema or thyroid deficiency, and the condition is often met with long before the menopause, when menstruation is regular and when there is presumably no ovarian deficiency. If of child-bearing age these women bear children normally.

With regard to treatment, the principles affecting acute exacerbations and the original underlying causes have already been discussed, leaving for consideration how we may best get rid of the fibro-fatty overgrowth. In patients with a large amount of subcutaneous fat the most satisfactory results are obtained by means of diet and massage. The quantity of their carbohydrate food should be reduced by one-half or three-quarters, exercise suitable to the age and condition of each patient should be taken freely, and special medical exercises may be given in addition, and a daily dose of thyroid gland. The last has no specific action on the fibrosis, but assists in reducing weight. This regime should be continued until the patient has reached something like normal weight for the height and age, which often means a reduction of several stones. With loss of fat the symptoms lessen and the massage can be applied much more effectively, as the fibrotic tissue is then more directly reached. Patients of normal stoutness—and there are very many such—do not, of course, require these reducing measures.

The method of applying the massage is a matter of the first importance for successful treatment. It should be directed to the panniculus adiposus, and either powder or a minimum only of lubricant should be used. With the bare hand the grip is too firm and painful, and with much oil too slippery. The manipulation is a little difficult to describe, but very easy to demonstrate. A mass of the panniculus adiposus should be grasped with one or both hands, holding it between the thumb and thenar eminence on the one side and the rest of the hand on the other side, and then the two parts of the hand approximated with adequate pressure and a slow movement. The skin is usually bound down to the subjacent tissues, and it too should be grasped and manipulated with the object of loosening it and making it more flexible. Such treatment is painful, often exceedingly so if not carried out gently, and bruising is very readily produced at first. It may take five or six weeks before any but very light pressure can be borne, but gradually the neuritis is reduced, and then harder treatment can be given. It is always, however, a painful and disagreeable and tedious process. The patient should always be warned that treatment must be continued for six or twelve months or even more, and that during that time several courses of massage of eight weeks or so will be necessary; and that if left untreated the condition is certain to go on from bad to worse. Many patients can be taught to treat themselves to a certain extent.

In cases where the fibrositis is of the hard brawny type dieting often fails to reduce the bulk to a satisfactory degree, the new tissue is much more resistant to massaging, and the prognosis is in consequence not nearly so good, but the symptoms can always be greatly ameliorated. Such patients usually remain "rheumatic" and require renewed courses of treatment from time to time for relief of their symptoms.

Finally, as regards the important question of individual prophylaxis, I have formed the opinion that many sufferers from muscular rheumatism and panniculitis have acquired the fibrositis at an early age from an attack of acute rheumatism, and continue to harbour in a latent condition the specific germ of the disease. After recovering from the acute attack children should be carefully examined and any fibrositic areas massaged while the deposits are still soft and easily dispersed. Further, they should be given at bedtime for some months a nightly dose of sodium salicylate or salicin, with the object of eradicating the infection. After tonsillitis, influenza, and other acute infective causes, all patients should be similarly examined, and, if necessary, treated by massage. Unfortunately we have no specific drugs to help us for most of these cases.

## Hunterian Lecture ON NEW METHODS OF SURGICAL ACCESS TO THE BRAIN.

BY  
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(With Coloured Plate.)

THE problem of obtaining easy access to the interior of the skull has become of increasing importance with the modern demand for large openings, in which it shall be possible to replace the bone without fear of risking its vitality. The problem raises several questions, each of which demands separate consideration. First we must consider how access to the skull itself is to be obtained; secondly, our osteoplastic flaps must be so designed as to secure their blood supply; thirdly, the actual division of the bone presents a mechanical problem of no mean order; and lastly, the control of hæmorrhage at every stage of the operation is of vital importance to the patient.

### *Blood Supply of Scalp and Skull Independent.*

It is a primary condition in the formation of an osteoplastic flap that a sufficient blood supply for the bone should be maintained, and with this object it has been customary to turn down the scalp with the bone in one piece. I believe that this is quite unnecessary, and that osteoplastic flaps can be formed with equal security and with far greater facility if the scalp is turned down first. The skull receives the great bulk of its blood supply through the muscles which are attached to it and from the mucous membrane which lines its cavities. The dura forms a periosteal lining, and as such carries its own blood supply, but only minute vessels from this source actually enter the bone. The scalp, on the other hand, is separated from the periosteum of the calvaria by a layer of loose areolar tissue, in which there can be found only a few vessels of trivial importance, which can have no appreciable effect on the vitality of the skull itself. These points will become clearer if we consider certain details in the anatomy of the scalp and the calvaria.

### *Structure and Blood Supply of Scalp.*

The scalp consists of three layers—the skin, the superficial fascia, and the galea aponeurotica. The skin is very thick, the galea tough and thin, and they are bound together by a thick and dense layer of superficial fascia, in which ramify the whole of the blood vessels and nerves. So closely, indeed, are the three layers connected that the scalp must be regarded as a single structure, carrying a blood supply which is for all practical purposes entirely



FIG. 1.—Muscles and blood supply of scalp.

independent. The galea is a tough membrane stretched over the calvaria and really forming the tendon of the occipito-frontalis muscle. Posteriorly it is attached to the superior curved line of the occipital bone; anteriorly it joins the frontalis muscle, and through it becomes continuous with the orbicularis oculi, having no direct attachment to the front of the skull. Laterally it has a weak attachment to the temporal line and to the dense temporal fascia which covers the temporal muscle, but it can be readily separated from this fascia almost down to the level of the zygomatic arch. In the whole of its extent it is separated from the pericranium by a loose

areolar tissue in which a few small veins may be found, but which contains no vessels of practical importance.

The blood supply of the scalp arises from various sources, and all its vessels enter it beyond the limits of the attachments which we have described. In front the supraorbital and frontal arteries are derived from the ophthalmic branch of the internal carotid, and ramify upwards in the forehead. Laterally the superficial temporal branch of the external carotid extends upwards just in front of the ear, dividing at about the level of the upper margin of the lobe into anterior and posterior branches, which ramify widely over the whole of the side of the head. Posteriorly the occipital and posterior auricular arteries, both derived from the external carotid, supply the whole of the back of the scalp. Between these arteries there is the freest possible anastomosis, so that portions of the scalp can be raised in almost any direction without danger to their vitality. The point, however, which I wish to stress is that these flaps can be raised without endangering the vitality of the subjacent bone, since it is in no way dependent upon the scalp for its blood supply.

#### Blood Supply of Skull.

This will become still more obvious if we consider the blood supply of the skull itself. More than half of its lateral aspect is covered by the temporal muscle and its

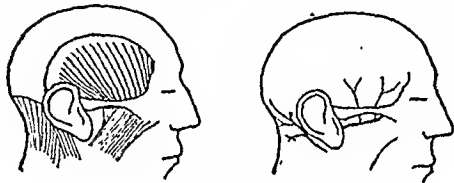


FIG. 2.—Muscles and blood supply of skull.

fascia, whilst, behind, the broad surface of the occipital bone below the superior curved line furnishes an origin for the large mass of muscle which occupies the nuchal region. These muscular attachments can be made to furnish ideal hinges for osteoplastic flaps in almost any situation, they carry a blood supply sufficient to maintain the vitality of the bone, and they form, in our opinion, the only means by which the blood supply can be maintained. Their blood vessels are entirely distinct from those which supply the scalp. In the temporal region the chief vessels are the temporal branches of the internal maxillary artery, whilst in the occipital region the most important vessels arise from the occipital artery as it lies deeply beneath the sterno-mastoid and the digastric, actually grooving the occipital bone.

#### Scalp Flaps in Different Regions.

There are three primary regions from which the brain can be approached—the *temporal*, *occipital*, and *frontal*—and in each instance the scalp flap required presents certain peculiarities to which we must now direct attention. In each instance, however, the scalp flap should be so fashioned, if possible, as to overlap by fully half an inch the proposed incision in the skull.

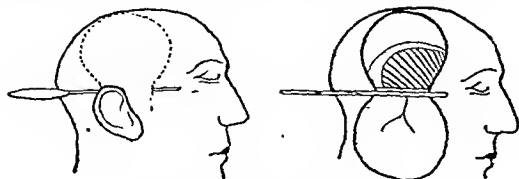


FIG. 3.—Temporal scalp flap.

In the *temporal region* a flap of any dimensions may be formed, care being taken that the anterior portion of the incision lies well in front of the ear, so as to avoid injury to the superficial temporal artery. In this instance a great advantage is gained by first marking out the pedicle with two small incisions, one in front of and one behind the ear, tunnelling through with a blunt dissector in the areolar

layer, passing one blade of a soft intestinal clamp through the tunnel so formed, and with it clamping the base of the pedicle. If this is done there will be no bleeding whatever from the cut margin of the flap itself, and the attention of the surgeon can thus be directed solely to preventing bleeding from the opposite side of his incision. After the incision has been made and the bleeding arrested, the whole flap can be turned down as far as the clamp at its root without the division of anything except soft areolar tissue, and without bleeding from a single point.

In the *occipital region* the scalp can only be turned down as far as the superior curved line of the occipital bone, since below this point it is firmly attached to the muscles. If an attempt is made to raise it beyond this point the origin of the occipitalis muscle must first be divided and the skin must then be dissected away from the muscles to which it is united by dense and vascular fibrous tissue, and bleeding may be considerable. With the methods of approach which we now adopt we always respect this attachment, and never go beyond it. None the less we can turn down osteoplastic flaps in this region and even remove the bone without ever detaching the scalp from the muscles to which it so firmly adheres.

In the *frontal region* superb access to the bone may be obtained by very simple means. If an incision is carried boldly across the brow, coming down just in front of

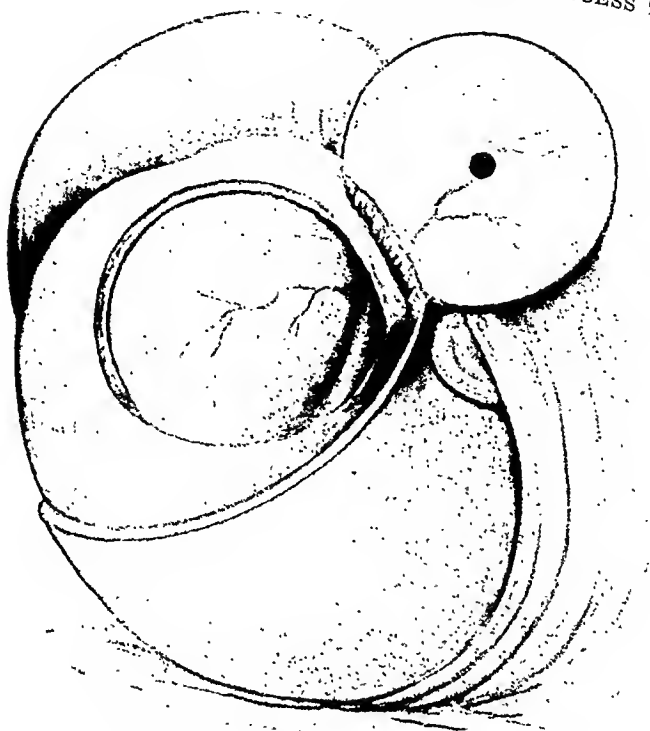


FIG. 4.—Frontal scalp flap.

the ear, it will be found that the whole of the forehead can be turned down without the slightest difficulty, even beyond the upper margins of the orbit. It is true that the anterior branch of the superficial temporal artery is divided, but the forehead has an ample blood supply apart from this. I would again point out that even in this region the vitality of the bone is in no way jeopardized, and that an osteoplastic flap consisting of one-half of the frontal bone may be formed with perfect success on the temporal muscle as a base. When the scalp flap is replaced the suture line is entirely out of sight and the nerve supply of the forehead is still intact. I have repeatedly carried out all these procedures under local anaesthesia with a conscious patient; there has been an entire absence of either shock or pain; and in the case of the frontal flap the only additional precaution taken was to cover the patient's eyes and face with a sterile bandage.

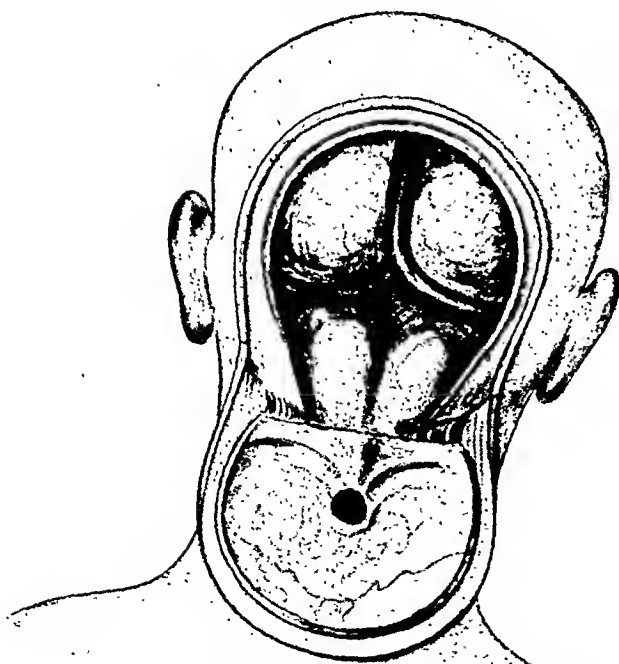
#### Control of Haemorrhage.

The control of haemorrhage from the scalp is a matter of the very first importance to which sufficient attention is rarely paid. Any loss of blood at this point is entirely unjustifiable and may prejudice the further stages of the operation very seriously. Bleeding from the smaller vessels is best controlled by preliminary injection of the whole line of incision with 1/2 per cent. novocain, to which about 1 per cent. of 1 in 1,000 adrenalin has been added. At the same time it is our custom to infiltrate the whole of the subaponeurotic space in the operation area with the same solution. If this is done half an hour before the operation there will be no bleeding at all from the smaller vessels, and only the larger arteries will require attention. These may be seized in special forceps, such as those of De Martel, which grasp the whole thickness of the scalp, or they may be compressed by seizing the galea in artery forceps and drawing it over the cut area. The arteries themselves it is impossible to seize owing to the density of the tissue in which they lie. Personally I use small steel clips which are crushed with forceps on to the margin of the scalp. They hold it quite firmly without injury, they are so small that they are not in the way, and at the end of the operation they are very easily



I.—RIGHT FRONTAL OSTEOPLASTIC FLAP.

S. A. SENEH



II.—OCCIPITAL OSTEOPLASTIC FLAP.

S. A. SENEH



removed. In the case of the temporal flap I have already described the means by which bleeding from its margins is prevented. In the frontal flap the incision lies in a watershed area where vessels are very small, and the only two vessels which bleed are the anterior branches of the superficial temporal artery. The absolute bloodlessness of this line of incision is remarkable and a very great advantage.

Though a detailed consideration of the formation of osteoplastic flaps will be deferred until later, it will be convenient to consider the principles on which they are designed. In the temporal region a flap of any dimensions can be turned down on the temporal muscle. In the frontal region a large flap can be turned outwards, based as a hinge on the thick anterior portion of the same muscle. It is upon this muscle, and not upon the scalp, that the bone is in any event dependent for its blood supply. In the occipital region the whole of the back of the skull, as we shall see later, can be turned down on the nuchal muscles as a hinge, offering superb access to the whole of the posterior aspect of the brain.

#### The Division of the Bone.

We must now turn to the technical methods at our disposal for the division of the bone. In general terms three methods are in common use. In the first a series of trephine holes is made through the skull along the intended line of section, and these are joined by means of a saw or some variety of cutting forceps; in the second a Gigli saw is substituted for the forceps; for the third method a powerful electric motor is necessary, and the procedure consists in drilling a series of holes and joining these up either by means of a circular saw or some form of burr electrically driven. The first two methods are certainly primitive, and they demand a degree of exertion on the part of the surgeon which is detrimental to his manual skill when he comes to deal with the brain itself. The third method is effective, but it involves the use of a powerful electric motor and of a somewhat cumbersome and costly apparatus.

It has long seemed to me that it should be possible to cut through the skull entirely by hand if the problem could only be reduced to the terms of ordinary engineering. I have now succeeded in devising an appliance by which the skull can be divided entirely by hand with great facility and so smoothly that the operation can be easily accomplished on the conscious patient under a local anaesthetic. The appliance was specially designed for the formation of large osteoplastic flaps, and it enables the surgeon to form these with a facility, a rapidity, and a precision hitherto unapproached.

The instrument (Fig. 5) consists essentially of a stud, A, and a lever, C. By means of a locking device the stud is securely fixed in a half-inch hole previously drilled at the centre of the proposed bone flap. Around this can turn

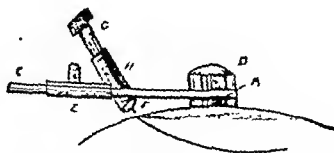


FIG. 5.

the long lever C, on which slides an adjustable carriage, E, carrying a cutting chisel, F, which closely resembles the parting tool used in turning. This chisel can be advanced from a socket, H, which supports it, by means of a screw, G, so that the depth of the cut can be adjusted with the nicest accuracy. The method of procedure is as follows:

A very large flap consisting of scalp only is turned down. It must be so large as to overlap by fully half an inch the farthest limits of the bone flap which is to be formed. As there is no anastomosis whatever between the vessels of the scalp and of the bone, the turning down of the scalp does not interfere in the slightest degree with the vitality of the bone, whilst it greatly facilitates access to the latter. At the centre of the projected bone flap the muscle and pericranium are divided and drawn aside, and a hole is drilled

with a special brace. Into this hole is inserted the split stud, A, resembling an expanding mandrel, and into the centre of this is screwed a pin, B, which forces it open and locks it into place. The lever C is now dropped over the pin, and held in place by a nut, D, the carriage E is adjusted to the correct radius, and the cutting tool F is advanced

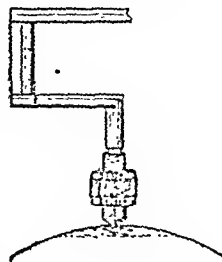


FIG. 6.

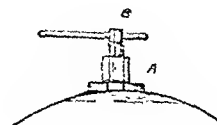


FIG. 7.

until it just projects from its housing, H. It will now be found that on swinging the lever round its fixed fulcrum the skull can be cut with astonishing facility, and without the slightest suspicion of violence. The cuts are taken in long sweeps, omitting the base of the flap, which is always so arranged that the skull at this point is thin. After each cut the tool is advanced a fraction of a millimetre and another cut is taken. In a very short space of time it will be found that the thinner parts of the skull have been penetrated and the cutting is now limited to the thicker part, where hard bone can still be felt with a seeker at the bottom of the slot. The form of the tool precludes any possibility of injuring the dura, but as soon as the seeker shows that the dura has been reached these parts of the incision will naturally be left alone. The bone is by this means almost completely divided over three-quarters of a circle, and two flat steel levers are now inserted into the slot which has been formed. Very slight pressure on these levers is required to crack the thin layer of inner table still remaining and the thin base of the bony flap, which is now turned down still attached to the soft parts, usually formed by the temporal muscle. The tool is set at such an angle that the margin of the bone flap

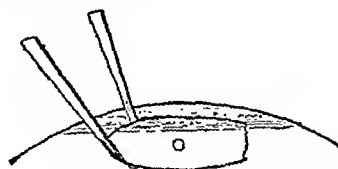


FIG. 8.

is bevelled, and therefore when the latter is replaced it lies snugly in position against the corresponding bevel of the skull itself. I know of no other method by means of which such accurate and firm coaptation can be obtained.

A difficulty in using the instrument arose from the impossibility of holding the head steady against such powerful leverage. This has been overcome by a simple device. After drilling the hole for the centre pin, another small hole is drilled at a distance of one inch from its centre. To enable this to be done accurately a jig is provided consisting of a stud, which fits the centre pinhole and from which a plate extends carrying a hole through which the drill is passed for the formation of the secondary hole. A long lever is provided with a pin, which fits the secondary hole, and with a hole through which is passed the centre pin of the instrument. The lever is thus rigidly attached to the skull, and if its extremity is held by an assistant it absolutely prevents rotation.

There is no instrumental limit to the size of the bone flap which can be formed, and a bony disc six inches in diameter can quite easily be turned down in the temporal region. For most operative work, however, a flap of from three to four inches in diameter will be sufficient. One of the most remarkable features of the instrument is the rapidity with which these large flaps may be formed, the average time taken for cutting the bone varying in my own experience between two and three minutes. The tendency of modern cerebral surgery is to explore the brain through very large openings, and it is for this purpose that the instrument has been devised. It is equally applicable to



any region of the skull, but it will find its greatest utility in the formation of large temporal flaps. The manipulation of the instrument is very easy, but its action is so unusual that it is absolutely essential that, before attempting to use it on the living subject, the surgeon should familiarize himself with its use both on the dried skull and on the cadaver.

#### *The Surgical Motor.*

Although the craniotome is so effective there are a few cases to which it is not applicable—where, for example, a flap of other than circular outline is required, or where it is necessary to enlarge an opening already made. For this purpose I have devised a new form of surgical motor which seems to present many advantages. (Fig. 9.) Its general arrangement will be understood from the accompanying illustrations, the simple construction being rendered possible by an entirely new form of universal joint. The entire weight of the operating end is supported by that of the motor, M, which acts as a counterpoise, so that the surgeon has the advantage of a powerful and massive tool, without the inconvenience of its weight.

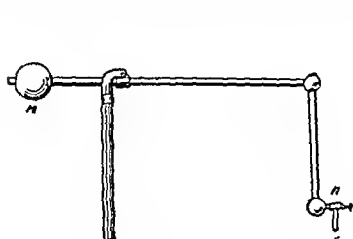


FIG. 9.

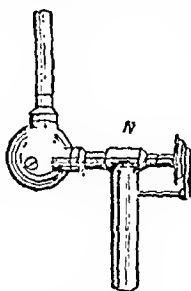


FIG. 10.

Into the nose, N, of the instrument may be inserted drills, burs, or circular saws, and as these are driven slowly and with great power, their action is both safe and rapid.

The saws are provided with guard discs, so that they can be adjusted to cut to any depth from 1 to 10 millimetres. Starting with a large disc and a shallow cut, the size of the disc is gradually reduced and the depth of the cut correspondingly increased until the inner table is all but severed. A series of holes has already been drilled, and as these are joined up by the saw cuts the depth of the skull between each pair of holes can be accurately gauged. In this way the densest bone can be cut with the greatest ease and with absolute safety. As regards asepsis, the two terminal arms of the appliance can be boiled, after which they are encased, for convenience in handling, in a sleeve of stockinette.

#### *Osteoplastic Flaps.*

Having shown the possibility of obtaining a full exposure of the bone by first removing the scalp, and having described the apparatus at our disposal for dividing the bone, we are now in a position to discuss the actual formation of osteoplastic flaps. We shall consider these separately as they are required for approaching the lateral, posterior, or anterior regions of the skull.

#### *The Temporal Flap.*

Lateral approach by means of a temporal flap is the commonest mode of access to the brain. Not only is it required for the removal of tumours in the sensorimotor region and in the temporal lobe, but it is often the most convenient and effective method of obtaining decompression. A large scalp flap is first turned down, as we have already described, bleeding from the flap being controlled by a clamp across its base, and from the scalp by clips attached to its margin. The total loss of blood should be trivial, and all bleeding must be absolutely checked before the next step is taken. The scalp flap and the exposed area are carefully protected by gauze pads moist with warm saline.

The bone flap required is now marked out with a compass, and the bone is divided round three-quarters of a circle with the craniotome, the temporal muscle which is to form the hinge being carefully preserved. The levers

are inserted and the thin bone in the temporal fossa is cracked, when the bone flap can be turned down and out of the way. The bone usually cracks at a point half an inch or more from the base of the skull, and it is convenient to strip down the temporal muscle as far as the temporal crest and to remove the thin bone with punch forceps. In this way maximum use is made of the opening



FIG. 11.—Temporal osteoplastic flap.

in the skull, and if the bone is replaced the defect left at its base forms a very useful subtemporal decompression.

Although the opening made for exploration can scarcely be too large, it may happen that in the case of an inoperable tumour the opening made for exploration is larger than need be left for decompression. When it is suspected that this may be the case the following plan has been adopted with complete success. After centring the craniotome a preliminary cut is made half an inch within the outline of the proposed flap, the outer table only of the bone being cut through. The carriage is now readjusted to the full size of the flap, which is then formed as described. If, after exploration, it is desired to leave a permanent decompression the outer half-inch of the bone flap is easily removed with bone forceps. The bone now floats as a valve, surrounded by a half-inch gap, across which union cannot occur, whilst the temporal muscle which forms its pedicle furnishes an entirely adequate blood supply. In a case of vascular tumour on which we operated four years ago, in a boy of 12, this arrangement has answered perfectly, and the valvular action is still free.

#### *The Occipital Flap.*

Posterior approach to the brain has usually been obtained by piecemeal removal of the occipital bone below the lateral sinuses, and this has been generally regarded as a region entirely unsuited to the formation of osteoplastic flaps. The situation has, however, been entirely altered by the craniotome, which enables huge osteoplastic flaps to be turned down in this region with precision and safety, affording an access to the cerebellum, the brain stem, and the occipital lobes never before achieved. At the same time the bone, in whole or in part, can be replaced with perfect accuracy and with absolute security. The effectiveness of the method can be sufficiently judged from the fact that the whole of the back of the skull, from the lambda to the foramen magnum, can be turned down in five minutes with the utmost ease, without the slightest violence, and often without any change either in the pulse rate or the blood pressure of the patient.

A scalp flap is first turned down, as we have already described, as far as the superior curved line of the occipital bone, to which it is attached. This flap should overlap the proposed skull flap by half an inch. A point is now selected about half an inch above the external occipital protuberance, and here a hole is drilled for the centre pin. The bone at this point is very thick, and it may not be necessary to drill completely through; indeed, it is an advantage not to do so, as a large emissary vein may be encountered. Should, however, bleeding occur, it is immediately stopped by the insertion of the centre pin, which is then secured in place. The skull is cut as usual, and as it is here often half an inch or more in thickness the power of the craniotome is fully demonstrated. A channel is cut which divides the thick bone completely and extends below the lateral sinus on each side. With a specially guarded chisel the extremities of this channel are extended towards the foramen magnum, when it will be found that on raising the bone the whole posterior margin of the foramen magnum is included in the fragment. Seizing the upper margin of the bone in forceps it is drawn forcibly

backwards, so as to avoid injury to the medulla, and it is then turned downwards over the nape of the neck, still attached, of course, to the whole of the nuchal muscles.

The only risk in this procedure is that of haemorrhage from the large emissary vein which communicates between the torcular Herophili and the vascular diploë of the occipital bone. In raising the bone this vein is torn, and the finger of an assistant must be immediately applied to stop haemorrhage. A small piece of muscle, cut ready for the purpose, is now applied and held in place by the finger for three minutes, when it will be found to adhere firmly and to have stopped the bleeding. Occasionally a similar but smaller vein may be torn from the superior longitudinal sinus, but it is easily dealt with in a similar manner. There would seem to be no risk whatever of injury to the sinuses themselves.

The field now obtained is very remarkable. In the centre lies the torcular, the lateral sinuses spreading outwards on each side, whilst above these the occipital lobes are exposed to an extent of perhaps two inches. Ideal access to the cerebellum is offered, and if necessary the posterior arch of the atlas can be removed. But most important of all is the relaxation of the tentorium, which results from the removal of its posterior support, so that it can now move upwards freely and release the pressure on the medulla. Provided there is no undue pressure in the upper chamber this may provide sufficient decompression without any opening of the dura, and we have had a case of midbrain tumour with secondary hydrocephalus in which this procedure alone was sufficient to secure permanent relief. In any case a combination of this with aspiration of the ventricles will give all the relief of tension that can be desired.

Two other points must be noted. The exposure of the occipital lobes renders puncture of the lateral ventricles easy, and the surgeon has at his disposal a simple means of reducing the cerebral pressure to any desired degree. In addition, the full exposure of the sinuses enables him to introduce fluid into the circulation at the end of the operation, often a consideration of the most vital importance. The walls of the sinuses are by no means fragile, and if a fine needle is used puncture does not involve the slightest risk of bleeding, for the opening seals itself at once.

On dividing the dura over the cerebellum it will be found that the mobility of the tentorium is of the greatest advantage, for by displacing it upwards the available space below may be greatly increased. A still further advantage may be gained by freeing the dura on each side for a short distance from the skull, though care must be taken not to injure the large mastoid emissary veins.

Mobilization of the tentorium; so far as I am aware, is an entirely new procedure, and it is only rendered possible by the occipital osteoplastic flap which has been described. Without the craniotome the formation of such a flap is scarcely a mechanical possibility, for it demands the clean cutting of the densest part of the skull over a very large circle. The trauma to the patient which would result from attempting to do this by any other method would be so serious as to prohibit its performance. Moreover, the flap must be turned down with great rapidity if serious haemorrhage is to be avoided from the large emissary vein to which we have referred. With the method here described the actual turning down of the bone flap is practically

instantaneous, and in no case has the bleeding remained uncontrolled for a longer period than two seconds. I am so impressed with the value of mobilization of the tentorium that I feel that this possibility alone justifies the invention of the craniotome.

If removal of the bone is desired it should be peeled off the muscles from below upwards, when it will be found that they separate from it without any bleeding at all. The contrast with the haemorrhage which occurs in the usual method of stripping the muscle off the bone is very remarkable. It will, however, be necessary to cut through the aponeurotic attachments to the superior curved line with a pair of scissors. If the bone is replaced the margin of the foramen magnum and a portion of the thin bone above it may with advantage be removed, as can be done with the greatest facility.

#### The Frontal Flap.

Anterior approach is rendered much easier by the frontal scalp flap which we have already described. This places the whole of the frontal region at our disposal, and allows the formation of osteoplastic flaps on a generous scale. The thick anterior portion of the temporal muscle, the origin of which extends right up to the angular process of the frontal bone, furnishes an ideal hinge and preserves an adequate blood supply. If the craniotome is used the centre will usually be placed a little above the temporal line, and the line of division of the bone will be just above the superciliary arch and to one side of the middle line, although the latter may be crossed without risk if a really full exposure is desired.

This method of approach furnishes admirable access to the frontal lobe and, if this is displaced, to the falx cerebri, in its anterior portion. It is, however, of still greater value in the approach which it offers to the pituitary gland. If the bone flap is properly formed it will be found that the

whole of the bone overlying the frontal lobe has been removed, and that the lobe can therefore be displaced upwards with quite unusual facility. If the hyperextended position of the head is adopted it will be found that the frontal lobe actually falls away from the orbital plate, so that the route to the pituitary is opened up even without mechanical retraction, and all contusion of the brain is avoided.

In this region, if a very extensive exposure is required, or if there is uncertainty as to the side on which a tumour is situated, it is sometimes an advantage to form a large angular flap; or indeed to expose both sides of the brain at the same time. After the frontal scalp flap has been turned down this can be done with the greatest facility by means of the surgical motor which we have described and a guarded circular saw, after drilling a series of holes as guides to depth. One saw cut should be coronal, one horizontal and just above the superciliary arches, and one sagittal and to one side of the middle line. By this means a double exposure is easily obtained with very little disturbance.

The new methods of obtaining access to the brain which I have thus briefly described appear to offer considerable advantages over those in general use. They are exceedingly precise, they demand very little exertion from the surgeon, they involve a minimal destruction of the tissues,

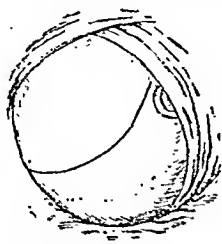


FIG. 12.—Exposure of right frontal lobe (1).

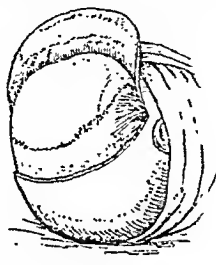


FIG. 13.—Exposure of right frontal lobe (2).

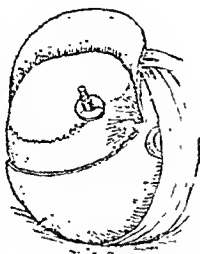


FIG. 14.—Exposure of right frontal lobe (3).

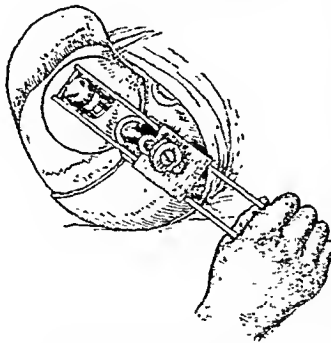
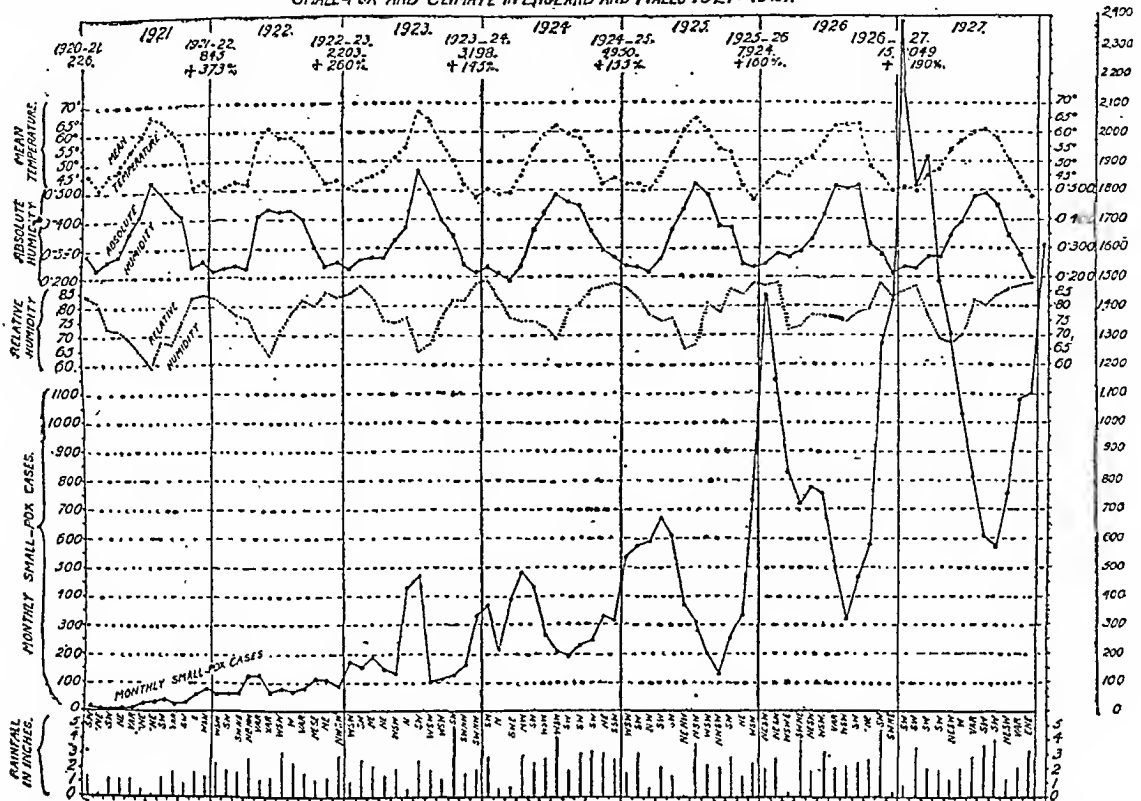


FIG. 15.—Exposure of right frontal lobe (4).



## SMALL-POX AND CLIMATE IN ENGLAND AND WALES 1921-1927.



with November absolute humidities much below the average.

In a similar manner an early decline of the disease may be associated with unusually high absolute humidity in February, as in 1926, and the second slight rise in May and June of that year followed low absolute humidity in the former month, and the second sharp fall occurred as usual after the rise in the absolute humidity in June and July.

The foregoing data will suffice to demonstrate that the main features of the monthly small-pox curve year by year can be explained by the absolute humidity data to a remarkable extent in this country, as well as in India.

#### Rainfall and Direction of the Wind.

In a presidential address to the Royal Meteorological Society in 1890 Mr. Balwin Latham pointed out that small-pox broke out in this country after a very dry period in 1870 and in other such years. But Sir Arthur Newsholme found this relationship to be by no means constant, and he attributed the recurring epidemics, for want of a better term, to "epidemic constitution"—whatever that may mean. In India I showed a very close relationship between short monsoon rain and subsequent epidemic small-pox, and that in the only area with much winter rain in the North-west Frontier Province a slighter decline of the disease followed the cold weather rain, although the temperature is low there in the winter. This raises the question of the influence of rainfall on the disease in this country, so I have given the monthly data in inches at the bottom of my chart, together with the direction of the prevailing winds, which may next be studied.

In the first place, low rainfall in the winter and spring months of high small-pox prevalence is usually accompanied by low temperatures and north or east winds, and consequently low absolute humidity, favouring increased small-pox. We find examples of this in the remarkably low absolute humidity in June, 1923, associated with the sharp Gloucester outbreak; and in February and March, 1924, in relation to the late March and April rise to the maximum in that year, following an unusual decline in

February after the opposite conditions of south-west winds and relatively high absolute humidity in January. Again, the late April small-pox maximum in 1925 followed low rainfall, north-west winds, and very low absolute humidity of the previous month, and the very low rainfall of only 0.38 of an inch in December, 1926, accompanied by north-east winds, was followed by the highest small-pox rate of the whole chart in January, 1927, aided by continued low rainfall in that month. Once more, the rapid rise of the disease in November, 1927, followed low rains and north-east winds in October, and the further rise in January, 1928, followed low temperature and north-east winds, but with high rainfall in the last two weeks of December. Thus low temperature and absolute humidity, followed by increased prevalence of small-pox, are commonly associated in the winter and spring months with low rainfall and north or east winds.

When we turn to the summer period of low small-pox incidence we find totally different conditions, for at this season low rainfall is usually accompanied by high temperatures, which produce relatively high absolute humidities in this country in spite of low rainfall, and so are followed by decreasing small-pox—as, for example, in the second week in June, 1925, when in the absence of rain even a north-east wind was accompanied by very high temperature and absolute humidity, and was followed by declining disease. This explains Sir Arthur Newsholme's experience, for it is now evident that only scanty rains in the winter and spring months are likely to be associated with low absolute humidity and increasing small-pox, while low rainfall in the summer will favour high temperatures and low small-pox.

#### The Future Outlook of Small-pox in England.

The most striking feature of the chart is the steady increase in each of the last four seasons at an average rate of 160 per cent. over the previous year in geometrical progression, and there seems to be no apparent reason why this should not continue in view of the increasing neglect of vaccination in the rising generation. With the exception of the Gloucester outbreak in 1923 and the infection of South Wales last year, the great majority have occurred

in the North of England, no fewer than 615 of the highest monthly figure of 675 in January, 1926, having been reported from Durham and West Yorkshire. Possibly the lower winter temperature and absolute humidity in the North may be one factor in this distribution. The data are not yet sufficient to afford scope for forecasting the probable incidence some months ahead, as in India, but it may be significant that the less marked summer decline in 1924 than in 1923 and 1925 was associated with lower summer absolute humidity in 1924, as I should expect a cool summer to produce less reduction of the disease, and a cold winter and spring should favour an increase.

The immediate outlook is complicated by twenty-four counties reporting cases at the end of January, 1928, against nine at the same period in 1927, but against this is the fact that the great rise early in 1927 was largely due to small-pox getting out of control in Durham, with nearly half the total January cases in that one county, which is not the case this year. The recent very mild January and early February is unfavourable to the rapid increase of the disease, but in view of the maximum occurring as late as April in two years with especially low spring absolute humidity, it is too early to say whether the high small-pox rate of last year will be exceeded this year or not, but a cold spring is likely to result in some increase on the 1927 figures. A few more years of neglected vaccination and we are likely to possess better data for forecasting the epidemics here, as in India.

Nor should we forget that the present widespread mild small-pox is a reliable measure of what is likely to happen when the fatal African and Indian form once more gets a firm footing in the country of Jenner, as it nearly did in May, 1927, with five deaths among eleven cases in London, when a serious disaster was only stayed off by the fine teamwork of the medical profession in tracing and vaccinating contacts.

#### Conclusion.

The mild type of small-pox now endemic in England and Wales has increased each year for the past four seasons at an average rate of 160 per cent. on the previous year. Its seasonal prevalence is closely related to the absolute humidity, as I have previously shown to be the case in India. Low absolute humidity favours and high checks the disease, and in this country the mean temperature curve closely follows the absolute humidity one, although this is not the case in India, where the yearly epidemics can be foreseen several months ahead. In England the probable course can only be forecast at present for the succeeding month. A cold winter and spring are likely to result in increased small-pox.

## ERGOT POISONING AMONG RYE BREAD CONSUMERS.

BY

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ATTENTION was first drawn to the prevalence of symptoms suggesting poisoning by ergot by one of us (J.R.) some eighteen months ago. An increase in the number of cases showing symptoms has led us to investigate the condition thoroughly.

In the first place it was noticed that the disease is confined to the Jewish population of the city, and it is found that the symptoms are only met with in that portion of the Jewish community which uses rye bread as an article of diet. In no case is the condition met with among those who eat white bread.

We have carefully collected and recorded cases, and have had analytical and physiological tests made on the rye in order to prove the cause of the symptoms met with.

Early in the investigations it was observed that the general symptoms complained of were coldness in the extremities, numbness and lack of sensation in the fingers—a sensation like an insect creeping over the skin—headaches, depression, gastric disturbances, shooting pains, twitchings in the limbs, and staggering gait. It was further observed that the patients who complained of these symptoms were Jews and later that these Jews ate black or rye bread. On the other hand, none of the symptoms complained of were observed among that portion of the Jewish population who ate white bread. It was then suggested that the rye bread might be the source of the trouble. From this it was concluded that the symptoms were due to ergot, which, as is well known, so readily contaminates the rye. It was also noticed that the symptoms were much more pronounced in the Russian, Polish, and German-born Jews than in English-born Jews. This is explained by the fact that black bread is the bread commonly used on the Continent, whereas in this country its place is taken by white bread. Further, on account of its slightly bitter taste the black bread proves more palatable than the comparatively tasteless white bread. In addition to this, black bread is found to be more satisfying and is a little cheaper than white bread.

In some households it is found that one member may show no symptoms of ergotism whatever, whilst all the other members of the family are variously affected. Questions elicit the information that the unaffected member does not eat rye bread. In many of the cases first seen rye bread was stopped as an article of diet; this was followed by an early diminution in the symptoms, and a complete disappearance of them in most cases.

Rye is by far the most susceptible grain to infection by the parasitic fungus *Claviceps purpurea*. The grain is infected just as the flowers are opening, and the fungus enters at the end of the grain. The infection is only possible at this time, as the shell later becomes too hard for the fungus to penetrate. This most commonly occurs during a spell of sunshine following a cold, damp period, and the fungus can more readily be detected and demonstrated after a cold, damp raising and harvesting season—for example, that of autumn, 1927. Grain that is infected with ergot is seen to be black in colour, and when the cereal has been ground it can be observed as small black specks in the flour. It is probable that some consignments of rye grain are ergotized and some are free from the infection.

In the ordinary course of events precautions are taken to prevent infected grain from passing to the consumer. This is accomplished by a process known as "screening," whereby the grain is passed through a sieve and the large infected grains are eliminated. If a sufficient proportion of infection is demonstrated in this manner, then the rye so contaminated is classified as unfit for use. This method of detection, however, is inefficient, as it does not prevent the small infected grains from passing through. Thus all the small infected grains are passed on as fit for use. All the small infected grains are passed on as fit for use. All the small infected grains are passed on as fit for use. It is infected rye grain eventually becomes black in colour. It is therefore easy to identify with the naked eye. The grain is then ground and, after passing through the hands of various middlemen, is bought by the baker for bread-making.

Rye flour has very poor keeping qualities, and therefore, as far as possible, it is only ground to meet consumption. Old rye is the best for use; freshly ground rye deteriorates in twelve hours, when it gives off a peculiar fishy odour. When this is smelt the baker invariably takes it as an indication that the flour must be used up quickly; otherwise it will be unfit for use. The rye used is home-grown when available, although lately a large percentage has been imported from Canada. In the baking warm water is added to the rye, and it is then allowed to "sour"; this takes about twelve hours. The last batch may be eighteen hours old before baking. The bakers get twice the wage of ordinary bakers, and no machinery is used in the process.

Samples of the grain, rye flour, rye meal, and the bread were submitted to Mr. H. Heap, the Manchester city analyst, who reported that the grain submitted showed 1 per cent. of ergotized rye.

On cutting sections of the infected grain the fungus



*Claviceps purpurea* was at once seen invading it, and the fungus showed up well after staining with methylene blue and eosin. Sections of grain were also stained with iodine and potassium iodide for starch, none of which was seen in many sections, owing to its having been replaced by the fungus. Extracts from the rye were also tested physiologically for ergot, and the results were positive. Mr. Heap has, moreover, been able to grow the fungus from the rye.

The three chief constituents of ergot are spheacelinic acid, cornutine, and ergotine. However, ergot is not as yet definitely split up into its component parts or active constituents, and little is at present known of them specifically.

It is found that the average Jewish person consumes about 1/2 lb. of rye bread per diem, the flour of which contains 1 per cent. of ergot. Now 1/2 lb. of bread will contain about 5 to 6 oz. of flour, the rest being the water, which is added before baking; 5 oz. of flour equals 2,285 grains, of which 1 per cent. is ergotized. Each person is thus consuming 22.85 grains of ergot daily. The ordinary medicinal dose of ergot, taking the liquid extract of ergot as a sample dose, is 10 to 30 minims, which equals 10 to 30 grains. Thus each individual is taking rather more than the average dose of ergot each day. On account of freshness the ergot is also likely to be more potent than the medicinal ergot which has been kept for a time; also grain harvested during last autumn, if infected by ergot, is likely to contain fresher principles than that of the ergot from the previous harvest. It is found that rye bread takes time to rise before baking, especially in the winter months, when it is colder; and the flour mixed with water is allowed to stand for a time to "sour," during which time it is likely that the fungus may increase in quantity.

The symptoms observed in these Jewish patients correspond very closely with those produced by chronic ergot poisoning. The severity of the symptoms produced seems to increase with age, children being slightly and elderly people more acutely affected. This may be due to the elderly people having taken rye bread for many years. The foreign-born Jews, who have always eaten rye bread, are the most affected.

The first symptoms observed are coldness of the extremities combined with numbness. These symptoms are especially observed in tailors, buttonholers, etc., who find that their fingers are numb, and they have difficulty in keeping up with their work. They often notice that they prick their fingers without feeling it. Raynaud's disease amongst the Jews during this winter would appear to be more prevalent than heretofore. We have also come across a man, aged 47, who has a definite dry gangrene of both hands. The gangrene of this man is not associated with diabetes or any similar condition, and it is possible that, as a rye bread consumer, his gangrene is due to ergot poisoning.

A very typical sensation, which is found in all marked cases, is that of an insect creeping under or over the skin. This sensation is volunteered by the patients in most cases. Itching is also a common symptom. They also suffer from nervousness and depression, whilst headaches are well marked. Pains in the abdomen are frequently complained of, whilst among the more severe cases staggering gait and ataxia may be found. In most of the long-standing cases the blood pressure is definitely raised—for example, a woman aged 44 had a systolic blood pressure of 174.

It has been observed that these cases quickly improve when rye bread as an article of diet is discontinued.

A large number of the symptoms are due to general contraction of the arteries all over the body, and it is probable that if the poisoning should become more severe such serious conditions as Raynaud's disease and gangrene will become more frequent. Ergot has the power of contracting the pregnant uterus, and it is likely that chronic ergot poisoning may cause many abortions in early pregnancy. Unfortunately no record is available of these cases, as the Notification of Births Act only applies to children born after the expiration of the twenty-eighth week of pregnancy.

Treatment consists in stopping the consumption of the contaminated bread at once, and it is remarkable how quickly patients recover when this is done. They should be kept warm, and drug treatment is necessarily only palliative.

We are much indebted to Mr. H. Heap, M.Sc., F.I.C., the city analyst, for his careful analysis of the samples sent, and for his help and advice.

## THE INFLUENCE OF PARTURITION UPON INSANITY AND CRIME.

ABSTRACT OF A PAPER READ BEFORE THE MEDICO-LEGAL SOCIETY ON FEBRUARY 23RD, 1928.

BY

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IN 1922 the Infanticide Act relieved the courts from the painful task of finding a verdict of murder against a woman, mentally deranged by childbirth, who kills her newly born child.

The records of Broadmoor show that of the total female receptions from 1900 to 1924, 42.8 per cent. were in respect of child murders due to insanity associated with childbirth, the majority being crimes committed during lactation. To escape punishment a woman pleading puerperal insanity must prove (a) that she was suffering from the disease when she committed the offence; (b) that she was incapable of distinguishing right from wrong, or was under the influence of a delusion which prevented her from understanding at the moment the nature of the act which she was about to commit. The law assumes the delusion to be a fact, and if the fact would justify the act of violence then the prisoner would be entitled to a verdict of "guilty, but insane." This is provided for by the Criminal Lunatics Act, 1884. As many critics have pointed out, it is difficult to see how a person can be both insane and guilty. Before the Infanticide Act was passed the practice was for the jury to bring in a verdict of "not guilty, on the ground of insanity," which seems more logical. It should be borne in mind that a verdict of "guilty, but insane" can be passed upon a person sane at the time of the trial. A prisoner who is admittedly insane when about to be tried is, of course, unfit to plead, and is therefore detained during His Majesty's pleasure—that is, until he recovers his reason and becomes fit to plead.

From this it is plain that a woman suffering from puerperal insanity who murdered her child knowing that she was doing wrong would be liable to be convicted and sentenced to death for murder unless she were able to avail herself of the Infanticide Act, which makes an exception from the general law. On the other hand, if she established a defence of insanity she would be found guilty of murder, but insane, and locked up during His Majesty's pleasure, so that even in these circumstances she would suffer punishment of no light order.

The Infanticide Act provides (Section I):

"Where a woman by any wilful act or omission causes the death of her newly born child, but at the time of the act or omission has not fully recovered from the effects of giving birth to such child, and by reason thereof the balance of her mind is disturbed, she shall, notwithstanding that the circumstances were such that but for this Act the offence would have amounted to murder, be guilty of felony, to wit, infanticide, and may for such offence be dealt with and punished as if she had been guilty of the offence of manslaughter of such child."

As a corollary, Section II entitles a jury to find a verdict of infanticide where the charge is one of murder. To put the matter in a nutshell, in respect of a newly born child the mother has a period of absolution under the Act. When that period has expired she is dealt with on the same principles as other persons charged with murder. It is obvious that the Act requires two things—the woman must be mentally unbalanced and the child must be newly born. The absence from the Act of any definition of the term "newly born" has occasioned some discussion.

In a case relating to a young woman named Mary Donoghue, heard last November (1927), the Court of

Criminal Appeal, consisting of the Lord Chief Justice, Mr. Justice Avory, and Mr. Justice Salter, decided that a child more than a month old was not newly born within the Act. Subsequently, when correcting a statement in a textbook, Mr. Justice Avory expressed the opinion that a child three weeks old did not come within the Act. We therefore do not yet know what constitutes in law a "newly born child," except that one more than a month, and possibly three weeks, old does not come within the category.

In medicine the definition of a newborn child is somewhat vague. Obstetricians look upon the newly born or neo-natal infant as one under ten days, but frequently, for purposes of mortality statistics and diseases, this period is extended to one month. The convalescent period, or puerperium, of the mother normally lasts eight to ten days. At the end of this time the uterus has become reduced in size to a pelvic organ and the uterine discharge, or lochia, has ceased. The mother should therefore be normal, but convalescent. Ten days after parturition is usually the time agreed upon for the discharge of patients from hospitals, homes, etc. In private practice nurses are engaged for one month—witness the term "monthly nurse"—to look after mother and baby till the end of this period. In no case is the infant looked upon as newly born after one month from birth. A woman ought to be fully recovered at the end of a month from delivery. This might well be the legal standard under the Act in its present form.

The state of the law is most unsatisfactory so far as it affects cases of puerperal insanity, a term used to denote an abnormal mental state during pregnancy, labour, the puerperium, or lactation. The three chief forms are confusional, intermittent (manic-depressive), and dementia praecox. Latent tendencies are often stirred into action or precipitated by strain, exhaustion, or septic intoxication due to pregnancy, labour, or lactation. The attack may come on at any time within at least six weeks after childbirth, and may last for days, weeks, months, or even years. The nearer to labour and the more acute the attack, the more likely the patient is to recover quickly and completely. Usually the symptoms are those of the confusional type.

In cases of puerperal insanity it should be impossible to apply the ordinary rules relating to criminal acts by the insane. Apparently, as the law stands, a woman suffering from puerperal insanity who killed her child during the first day of its life, when presumably it would be regarded as newly born, would be guilty of the lesser offence of infanticide, whereas if she killed it when six weeks old she would be guilty of murder. Unless she could prove that she did not know that she was doing wrong, or was under the influence of a delusion, she might be sentenced to death.

It may be alleged that the Infanticide Act was intended to apply only to those cases in which a woman, after giving birth to a child, destroys it in a moment of mental anguish, although she knows she is doing wrong. If this reading of the Act is correct, it involves great injustice. Why should a woman who kills her child in such circumstances be treated with more leniency than one suffering from puerperal insanity who kills her child at, say, six weeks?

"Fear of exposure, shame, depression, even misery following the breaking of the moral law should not be confused with the symptoms arising from the disordered mind; such were the reactions of the normal mind—in fact were direct evidence of it."—J. R. Lord, *Journal of Mental Science*, July, 1927.

It may be said that the general law concerning acts by insane persons is a sufficient protection for sufferers from puerperal insanity, but this should not apply to puerperal insane cases.

Puerperal insanity is a well-recognized disease of motherhood, just as much as puerperal sepsis, and should be treated accordingly. A verdict of infanticide is equivalent to one of manslaughter, so that the offender does not escape lightly. If the prisoner relied upon the general law, and succeeded, the verdict would be one of "guilty, but insane," which would for all time brand her as a murderer and involve her imprisonment, perhaps for a long period.

The question is further complicated by the fact that puerperal insanity associated with crime most frequently occurs during the later periods of suckling, owing to physical and mental exhaustion. It occurs among badly nourished, overworked, and poorly fed women. It is due to the strain of nursing, and many milder cases are cured by weaning and general treatment. It is usually melancholic in type. The patient has suicidal or homicidal tendencies, often on impulse. She may cut her throat or strangle or drown her infant. Many patients are difficult to cure, and may end their days in an asylum. In many criminal asylums a considerable number of women are incarcerated because of homicidal acts towards their infants or children due to lactational insanity. This may be due to the fact that during lactation there is less skilled and constant supervision than during the puerperium. It must be recognized that as the acute maniacal non-homicidal type is most common within ten days of childbirth, and the later melancholic, suicidal, homicidal type during lactation, no legal distinction should be made between the various weeks or months when the symptoms occur. Needless to say, a woman afflicted in this way has "not fully recovered from the effect of giving birth" to her child, to use the language of the Infanticide Act. Therefore she should be entitled to the benefit of its provisions. If the law absolves the mother who commits infanticide upon her ten days old child, it should just as readily absolve the depressed mother who, worn out by lactation, puts an end to her infant's life.

The words "newly born" should be deleted from the Act, subject to a proviso that its operation should be limited to a period of six or nine months from the date of birth. It would afford protection for mothers suffering from what the medical profession recognizes as puerperal insanity, and it would also cover cases in which a woman, although not insane, in a moment of distraction kills her child shortly after its birth. It is important to mark the difference between the two classes of case. Unhappily the murder of infants is only too common, but they are usually killed either at birth or shortly afterwards. Therefore the extension of the period would in practice be limited to cases of puerperal insanity. It is fully recognized that many infants are deliberately made away with, and nothing should be done to weaken the law in such cases.

Motherhood is a necessity for the race. It is the factor of motherhood that makes the woman insane and causes her, when suffering from a disease due to motherhood, to destroy her offspring. There is a marked difference between a murder committed by a person suffering from general paralysis of the insane, or even paranoia, and one committed by a mother in the delirium of childbirth or exhausted by nursing.

A debate took place in the House of Lords on the Children Bill, 1908. Lord Loreburn, the Lord Chancellor, with the concurrence of the Home Secretary, proposed to insert a new clause providing that:

Where a woman is convicted of the murder of her infant, and that child was under the age of 1 year, the court may, in lieu of passing a sentence of death, sentence her to penal servitude for life or any less punishment.

In support of the clause he said that the passing of the death sentence in such cases was a mockery, as such a sentence had not been carried out since 1849. He thought that public opinion was shocked at the idea of the death sentence being passed in cases where it was manifestly inhuman to carry it out, and on the other hand it was very much to be regretted that the death penalty should be nominally inflicted when there was no reality behind it. The bill was ultimately rejected by 42 votes to 36.

Any change in the law should be limited to women who are mentally unbalanced owing to pregnancy, parturition, or lactation. The removal of the term "newly born" from the Infanticide Act, coupled with the proviso suggested in the present paper, would meet the difficulties recognized by speakers who opposed the clause.

The following points demand consideration: (1) The definition of the term "newly born" under the Act. (2) Should the law be altered to give more extended protection to the parturient and nursing mother who, when suffering from puerperal insanity, destroys her child?

## CHOLECYSTOGRAPHY BY THE ORAL METHOD WITHOUT THE USE OF CAPSULES.

WITH A REPORT ON FORTY CASES.

BY

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OWING to the objection which many surgeons still have to the use of tetraiodophenolphthalein intravenously, it is often necessary to administer the salt by the mouth. Much has been written on this subject, and various methods have been devised to allow capsules containing the salt to pass through the stomach with their outer coats intact. In this hospital, as in others, results were good with the aid of capsules which had been freshly coated with keratin, but after a short period of storage the capsules passed through the bowel undissolved. Realizing that this is a great disadvantage, especially in the smaller hospitals, or in private practice, where not many cases are examined, an attempt was made to dispense with the use of capsules altogether.

Spruill<sup>1</sup> examined a series of 23 cases, giving the salt mixed with cream of wheat, and this method was tried here in several cases. Whether the wrong patients were selected, or the wrong method of cooking the cream of wheat was employed, is not clear, but, at any rate, all the patients (five) on whom this method was tried developed sickness, and one had headache. An alternative vehicle was therefore sought for, and on the suggestion of Mr. Adamson, pharmacist to this hospital, the salt (grains  $v$  per 10 lb. body weight) was first mixed with white of egg before being added to the cooked cream of wheat (about 4 ounces). The idea underlying this was to fix, or partially fix, the salt until it should have passed through the pylorus, and, whether or not this effect was produced, the method has been satisfactory, as is shown by the following table and by the operative findings.

	Normal.	Pathological.
Number of cases where no unpleasant effects were produced	13	13
Number of cases where unpleasant effects were produced	7	2

The unpleasant effects produced were as follows: headache (1), nausea (5 cases, of which 3 were slight, and were due to the appearance of the mixture, which is certainly an objectionable feature of the method), diarrhoea (2 cases, one of which proved later to be a carcinoma of the caecum), and vomiting (one case, in which similar attacks had previously occurred, "but not so severe"); vomiting ceased after the administration of sodii bicarb. gr. xx, liq. morph. hydrochlor.  $m\bar{x}$ , aq. ad ss.).

It is no longer necessary to attempt to demonstrate the value of Graham's test, but the following figures show that this method of administering the salt is satisfactory. Of the "pathological" cases 12 have been operated on up to date, and 11 were definitely abnormal. The remaining case showed an apparently normal gall bladder; the report on this case was "doubtful pathological—gall bladder appears to throw a faint shadow." Three of the "normal" gall bladders were examined at operation, and were normal, at least to palpation and to the naked eye. In several cases the test was repeated, owing to the large amount of free salt which was present in the bowel, but in each of these cases the finding was the same at the second as at the first examination.

No attempt has been made to reproduce films of gall bladders; this has been done too often already, but the density of the gall-bladder shadow in this method was as intense as that obtained in any other oral method which has been employed here.

The cases examined were nearly all out-patients, and the address of the patient was noted on the first attendance at the x-ray department. Later, the following form, which

explains the technique employed, was sent, examination being arranged on a day to suit the convenience of the department, and the form being sent five or six days before the day of examination.

### SPECIAL X-RAY EXAMINATION.

#### Instructions to the Patient.

- (1) Take a dose of castor oil on.....night.
- (2) Attend at the dispensary of hospital on.....between 2.30 and 4 p.m. If desired a messenger may be sent—personal attendance is not necessary.
- (3) Take the material provided by the dispenser at 9.30 that night, as instructed.
- (4) Take nothing but water after this.
- (5) Attend at x-ray department at 9.30 a.m. on....., having taken nothing but water since taking the special meal.
- (6) Still having taken nothing but water, attend at the x-ray department again at 2.30 the same afternoon.
- (7) Have a meal, with as much fat in it as possible.
- (8) Attend for final x-ray examination at 4.30 p.m.
- (9) Report to the doctor who attends you in out-patient department on his next day for seeing patients.

The blank spaces are filled with the names of three consecutive days—for example, Monday, Tuesday, and Wednesday, if the examination is fixed for Wednesday.

I am indebted to the physicians and surgeons of Salford Royal Hospital for so kindly helping by providing cases, and for their useful suggestions at various times. I am also indebted to Drs. Rythell and Higgins for permission to publish these cases.

#### REFERENCE.

<sup>1</sup> *Amer. Journ. Roentgenol.*, March, 1927.

## THE OPERATION OF EVERSION OF THE SAC FOR HYDROCELE.

BY

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It has always been a puzzle to me why the simple and efficient operation of eversion of the sac for hydrocele is not practised more frequently in England. Of all operations for hydrocele it is perhaps the easiest, and achieves its object with least disturbance of tissue. It is, I think, much preferable to Bergmann's operation of excision of the sac, which, apart from the element of time involved, entails much stripping of tissue and tying of vessels, and is fairly frequently followed by post-operative haematomas; whereas eversion of the sac may easily be done within five minutes (I have often done it in two) and without tying a single vessel, the only buried suture being that holding together the edges of the everted sac.

One objection frequently urged against eversion is that it is apt to be followed by recurrence; but this need never be if the operation is correctly performed.

I do the operation under local anaesthesia as follows: An injection of morphine is given half an hour beforehand. The inguino-serotal fold is seized with the fingers of the left hand and the cord imprisoned; into the substance of the cord 5 c.cm. of a 1 per cent. novocain-adrenaline solution is injected. This renders the testicle insensitive to manipulation. The assistant now grasps the tumour with both hands, gathering up the loose serotum beneath, in such a way as to make it protuberant and tense. Along the line of the proposed serotal incision 10 to 20 c.cm. of a 1/2 per cent. novocain-adrenaline solution is injected. (I prefer the serotal to the inguinal incision, as there are few or no vessels to tie, and access is direct to the best part of the sac to incise.) An incision 2 to 3 inches long is now made over the tense tumour, and deepened layer by layer along the full length of the cut until the translucent sac becomes evident. Lane's forceps are clipped on to the edges of the serotal wound on each side. The point of the knife is plunged into an avascular part of the tunica and the fluid evacuated into a tray, but the blade is not removed from the rent until the cut edges are secured with forceps, otherwise their retraction makes them difficult to define. The assistant now releases his hold of the serotum and takes up one of the forceps on the tunica, the surgeon the other.

The opening is enlarged with scissors along the anterior surface of the sac, avoiding blood vessels. The testicle is drawn through the ample hole and the tunica everted like a cuff. The assistant holds up the testicle while the operator, introducing forceps or fingers into the scrotal wound, eases it out so as to form a roomy bed in which the testicle may lie when it is returned, without tension on the sac. Two pairs of Lane's forceps are now used on either side, one to embrace the cord (c), the other the gubernaculum (g), or rather what remains of it, which

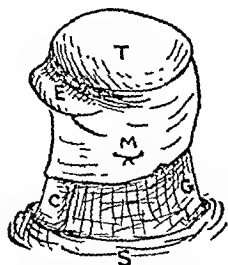


FIG. 1.—Eversion of sac. T, testicle; E, epididymis; C, cord; G, gubernaculum remains; M, mattress suture.

is very little. The two forceps are held apart, displaying a web of tissue between them partly covered by the everted sac (Fig. 1). To this web the sac is secured by a through-and-through mattress stitch of catgut, or an opening is made in it with pointed forceps and the edges of the sac are approximated and secured through the rent with a single mattress suture. If the sac is very redundant an additional pleating stitch may be applied to it on the outer side of the cord, as is done in the usual operation. The testicle is now

replaced and the scrotal wound closed with an intradermal or a running mattress stitch, which, better than any other, obviates the tendency to incurvation of the edges. A scrotal suspender secures a gauze dressing in place.

The whole operation is very quickly performed. The points I would recommend as safeguards against recurrence are: (1) the making of a new bed for the testicle by easing out the depths of the scrotal wound; (2) the securing the edges of the sac to the web of tissue behind the testicle.

In the operation as it is usually done the everted sac is merely constricted by a stitch or two beside the cord, and no new cavity is made for the testicle. There is thus a tendency—though not as often as is supposed when the technique is careful—for the sac to retrovert when returned. Most recurrences, I feel sure, occur at the time of replacement, or very shortly afterwards, for “the endothelial surface of the serous sac faces the serotal fibrous and cellular tissues to which it becomes adherent in a short time” (Jacobson).



FIG. 2.—Jaboulay's operation.

Jaboulay in his original operation released the testicle by ligating and dividing the gubernaculum testis, and then folded the two sides of the divided sac behind the testicle and fixed them there with a few sutures (Fig. 2), one of which included the superficial tissues of the cord (Binnie); or he even cut away, in addition, part of the redundant sac before stitching them together behind the testicle (Thomson-Walker). No recurrence can follow such a procedure, but I think that in the usual class of ease it involves unnecessary interference with structure, though when the sac is thick and eversion difficult it is best to open it up, and then to peel off the parietal tunica from the thickened adventitious coverings, and thus, having released the testicle, to evert round it and the cord the now membranous tunica, as in the Jaboulay operation. In Wylls Andrews's “bottle” operation a small opening is made in the upper pole of the sac and the testicle is displaced through this and the sac inverted and drawn up the cord—a procedure which gives no absolute safeguard against recurrence.

Eversion of the sac is, generally speaking, contraindicated when the sac is very much thickened and calcified, for the main reason that it does not then reduce the size of the tumour to any extent; but in these cases, and even in the leathery sacs of infected haematocoeles (and incidentally in pyoceles), I have often saved testicles that might otherwise have been sacrificed by everting the sacs, swabbing out their roughened inner surfaces with zinc chloride

solution, packing them with iodoform gauze and leaving the wound partially open; and instituting in a day or two Carrel-Dakin drip until the cavity gradually obliterated itself. It is remarkable what a degree of pliancy and shrinkage the sac eventually attains.

## A METHOD OF MAKING A BLOOD FILM.

BY

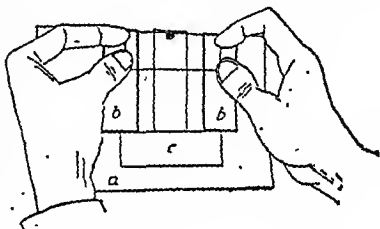
FREDERICK COCK, M.R.C.S., L.R.C.P.,  
SURGEON COMMANDER, R.N.

THE following method of making blood films is one of several tried in an attempt to get a more even distribution of the red and white blood cells. In an ordinary blood smear most of the leucocytes are found at the margins of the film, but the method about to be described leaves the majority of these cells in the centre of the film. This may be a step in obtaining the result originally aimed at—namely, even distribution of cells in a film.

A piece of glass about the size of a half-plate negative (a in the accompanying diagram) is cleaned, and on one side white paper is gummed so that the quality of the film can be more readily observed in preparation; b and b are each two glass slides stuck together with Canada balsam and mounted two inches apart on a; c is a single glass slide mounted in the position shown.

A drop of blood is taken on the end of a slide and placed between b and b, and a second slide is made to rest on b and b at right angles to the first, so that

there is the thickness of a slide separating the glass surfaces between which the drop of blood lies. Contact of blood between upper and lower slides is made by raising the latter,



which is then allowed to fall back on the stage. The upper slide is now passed over the lower, the drop of blood following and leaving a very thin film behind, the time taken to traverse the slide being about thirty seconds. The margins of such a film consist mostly of red blood cells, while in the central zone numerous white blood cells and blood platelets are deposited. This arrangement is so striking that after using Leishman's stain the bluish tint of the central zone, due to the basophil elements of the blood, can be seen by the naked eye; the margins are stained pink. Under the microscope the numerous white blood cells and blood platelets in the central zone immediately arrest attention, and in some specimens there will be fields where not a single red blood cell is to be seen. The number of white blood cells in a given field varies considerably, but fifteen to thirty cells are quite commonly observed, and I have counted over sixty.

Differential counts are rapidly made, but since occasionally the white blood cells in a field are very numerous confusion is likely to arise at first in counting; after a little practice large numbers can be dealt with, or the difficulty may be met by using a higher magnification.

The results of such “drop smear” preparations compared with ordinary blood films may be enumerated as follows:

1. In drop smears most of the white blood cells are found in the centre of the film, while in ordinary films they gather at the margins.
2. There is a tendency for the various white cells to occur in groups—for example, numbers of polymorphonuclears are found together, and so with the other kinds of cells.
3. In comparing differential counts I find almost invariably an increase of about 8 or 10 per cent. polymorphonuclears and 4 per cent. eosinophils over the counts made with films prepared in the ordinary way. This is possibly explained in the next paragraph.
4. In an ordinary blood film basophil masses are sometimes observed. These I take to be detritus from ruptured cells,

and many more such masses must be carried to the end of the film in preparation. Ruptured eosinophil cells also are sometimes seen, and are very obvious, provided that the granules of the cells have not been scattered too far apart. It appears that the eosinophil is very easily ruptured, and the polymorphonuclear comes next in this respect. In a drop smear evidence of ruptured cells is seldom observed, and, considering that the film is made by passing a drop of blood over the slide, it is not likely that cells will suffer mechanical injury.

5. In drop smears the cells of the central zone are well separated one from another, they suffer little if any distortion, and they take the stain well. Red blood cells can be studied at the margins of the film, but it is in conditions where information regarding the white blood cells is required that the above method would appear most useful.

The question of the comparative accuracy of differential counts in the two methods is rather complicated. For instance, in comparing counts of 100 cells from a blood film made in the ordinary way it is not uncommon to find a difference of 10 per cent. in the polymorphonuclears, and the final result after counting 300 or 500 can only be an approximation. For the present I am not prepared to make any statement regarding the comparative accuracy of the two methods.

The following advantages of examination of pathological fluids by the drop smear method are worth noting: the films are thin and evenly spread; the results are far better than those obtained by using the end of a slide or the platinum loop; the cells suffer no damage; casts are often spread out in a beautiful fashion, and, owing to the thinness of the film, micro-organisms are readily recognized. There is no difficulty in making the films, and others may be able to devise further useful modifications of the method.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### OEDEMA OF THE UPPER EYELIDS.

APPARENTLY trivial symptoms and signs may frequently be indications of serious disease, and, conversely, the opposite occasionally holds good—grave signs and symptoms resulting from comparatively simple conditions.

Oedema of the upper eyelids is a particularly instructive example of the latter, and requires especial wariness on the part of the practitioner.

A robust schoolboy is seen, presenting an alarming oedema of one or both upper eyelids and a raised temperature. The swollen area is so tender and so suggestive that an exploratory operation is undertaken for supposed acute frontal sinusitis, but no disease is discovered. Despite operation the oedema persists, until the actual cause of the condition becomes self-evident by the staining of the patient's dressings or pillow, which indicates a septic wound or abrasion on some part of the scalp, originally sustained some days previously and completely overlooked. Antiseptic fomentations produce rapid resolution of the oedema, which operation had failed to relieve.

I have seen two cases of this type, both in young schoolboys. One case followed the course just depicted, while the other rapidly resolved after less drastic treatment. Curiously, in both cases the wound was found in the occipital region of the scalp.

The swelling of the upper eyelid is no doubt due to the spread of infection along the lymphatic network in the subcutaneous tissue of the scalp, which is continuous with that in the loose areolar tissue of the lid. The condition, I believe, is well known to ophthalmic surgeons, but seems to deserve wider appreciation.

Liverpool.

JOHN ROBERTS, M.B., F.R.C.S.

#### FOREIGN BODY IN THE BLADDER.

ON observing a case reported under the above heading in a recent number of the JOURNAL (December 17th, 1927, p. 1140), I thought the following somewhat similar case might be worth recording.

An unmarried woman, aged 20, was admitted to hospital on November 8th, 1927, having been diagnosed as a case of ischio-rectal abscess (right-sided) by her own medical attendant. For about a fortnight previous to her admission she had had pain and tenderness in the right buttock. For about six months she had been treated for pyuria, which, in spite of clearing up on the exhibition of hexamine, always recurred when the hexamine was discontinued.

On admission she complained of intense pain on defecation and of pain in the right buttock. There was an indurated, red area about 1½ inches in diameter over and just external to the ischio-rectal fossa.

On November 11th she was given an anaesthetic and an incision was made into the inflamed area. About a cupful of purulent and necrotic material was evacuated, and then the seep which was being used impinged on something hard and slightly mobile. On digital examination this was felt to be a speicle of unknown material. A piece about 1 inch long was broken off and turned out to be lead pencil. Slight bleeding from the urethra led to investigation there, and on passing a finger into the bladder—an operation rendered simple by the fact that the urethra was dilated so as to admit a finger easily—it was found to be almost completely filled by a soft, crumbling mass of phosphatic material. This calculus was broken down, and embedded in it was found the remainder of the pencil, which had pierced the posterior wall of the bladder just to the right of the trigone. The pencil was removed, and, with the piece removed via the ischio-rectal fossa, measured 4½ inches in length. The bladder and sinus in the buttock were irrigated very thoroughly with boric lotion, and drainage of the sinus provided for. An uninterrupted recovery was made, the opening in the bladder healing up spontaneously, and the patient was discharged on January 1st, 1928. Micturition was normal, and the urine was normal also.

On being questioned the patient stated that two years previously she dreamt she was going to have a child, and inserted the pencil then with the object of preventing this.

It seems remarkable that the pencil, after penetrating the bladder, should reach the ischio-rectal fossa without doing any damage to the vagina or rectum, alongside both of which it lay.

I am indebted to Mr. C. J. Pinchiug, O.B.E., for permission to publish this case.

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Hospital.

#### THREE PERFORATIONS OF THE ILEUM CAUSED BY FISH-BONES.

THE following is an unusual case of general peritonitis resulting from perforations of the ileum due to swallowed fish-bones. The patient, being a staunch devotee to Christian Science, at first refused admission to hospital, then relented; she later refused operation, and finally consented only when in *extremis*.

During the night of April 6th-7th, 1927, an unmarried domestic servant, aged 49, was admitted to hospital with a history of sudden onset of severe abdominal pain, stabbing in character, on April 3rd, necessitating confinement to bed. There was some relief the next day, when she vomited two or three times. The bowels were quite normal. In the early morning of April 5th the pain was much worse, but this passed off, and she was able to perform her domestic duties. In the evening of this day a marked increase of the abdominal pain compelled her to return to bed. She vomited several times during the night, and was unable to retain food or fluids. In spite of all this she did not consult her doctor until the evening of April 6th, when he advised immediate removal to hospital. To this she objected, but when he repeated the advice three hours later she consented.

On admission the abdomen was somewhat distended, there was generalized rigidity, particularly in the lower abdomen, and a diagnosis of general peritonitis was made with no little assurance, but the cause remained obscure. Operation was advised but refused, and for four hours the patient remained adamant, consenting to operation about 3 a.m. on April 7th.

**Operation.**—The abdomen was opened through a paramedial incision. Free brownish, stinking sero-pus was found in the abdomen, the intestines being generally distended and inflamed; the appendix and pelvic viscera were normal. In the course of searching the pelvis for a cause of the peritonitis a sharp point was felt in the wall of the ileum; this proved to be the point of a fish-bone projecting from the wall of the gut, around which the intestinal contents had escaped. The bone was removed and the perforation sutured. The whole of the gut was then carefully examined and two other similar points were found; the bones were taken out and the wall was repaired. Pelvic drainage was instituted and the abdomen closed.

The patient's condition was extremely poor at the end of operation, but convalescence proceeded without hindrance to complete recovery.

Questioned as to the mode of introduction of these bones, the patient admitted having hurriedly taken a large meal of brill on the night of April 1st, and that she had had difficulty with the large coarse bones. These have been examined by Mr. Henry Crowther, curator of the Leeds City Museum, who states that the specimens are probably brill bones, and draws attention to certain characteristics—namely, the fluting, the elasticity, the hollowness, and finally, the very sharp point.

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Leeds General Infirmary.



## SUPERNUMERARY THUMBS.

A CASE of bilateral polydactylism has recently come under my care, and may be of some general interest.

The patient is a woman, aged 25, under treatment for bronchitis. The deformity consists of supernumerary thumbs. The thumb of the right hand has two almost parallel proximal phalanges, and is nearly twice as thick as the normal from the head of the carpal to the interphalangeal joint, which is greatly enlarged; here the thumb is cloven into two perfectly formed terminals, inclining at an angle to each other in a forceps-like fashion. The left thumb had also a completely formed but rather small extra top, projecting at a right angle from the lateral aspect of the interphalangeal joint. As this had no communication with the joint cavity, and as it seemed to be a nuisance, I removed it, under local anaesthesia, by the simple expedient of transfixing it through its base, tying a double ligature and cutting away the redundant part. Both thumbs function to the full extent, and the left one has now a normal appearance. The closest inquiry into the family history reveals nothing abnormal on either side, and the woman is herself the mother of three normal children.

The evident lack of hereditary influence and the bilateral, and almost symmetrical, nature of the deformity make the case somewhat remarkable.

Leeds.

R. H. MITCHELL, M.B., B.Ch.Dub.

## Reports of Societies.

## VESICO-VAGINAL FISTULAE.

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland, held in the Royal College of Physicians on February 3rd, the president, Dr. GIBSON FITZGIBBON, read a note on two cases of twisted broad ligament with cyst, and showed specimens. The interest in the specimens was that both showed necrosis from strangulation. Both patients had a period of symptoms pointing to an "acute abdomen," but these tended to subside, and the condition might have been overlooked in the first case, except that the patient complained of pelvic pressure, which it was thought might be due to prolapse. In the second case a history of an acute attack suggestive of acute abdomen two years before the present attack was obtained. The symptoms, however, subsided, and from the nature of the adhesions and the condition of the pedicle of the tumour it seemed likely that the attack was due to twisting of the pedicle, while the present attack was most probably due to some intermittent and partial intestinal obstruction caused by adhesions. The president then showed a third specimen of an ovarian cyst with a twisted pedicle. This patient was operated on soon after the torsion had occurred, and while the symptoms were still acute; she showed haemorrhage, infarction, and it was doubtful whether the symptoms would have subsided without operation.

Dr. L. L. CASSIDY read a paper on vesico-vaginal fistulae occurring during labour. He said that injuries to the urinary tract during labour might be due either to wounds caused by instrumental delivery or to trophic disturbances, the result of prolonged labour. The nature and extent of the injuries due to the latter cause depended upon the amount of pressure and the length of the labour, resulting in (1) ischuria puerperalis, with puerperal cystitis if infection follows; (2) pressure necrosis; (3) vesico-vaginal fistula, following necrosis. The last-named condition was more likely to arise in the case of flat pelvis than in a generally contracted one, where the pressure was more evenly distributed. He mentioned the suggestion put forward by Fritsch that the frequency with which vesico-vaginal fistulae occurred amongst Polish Jews was due to the early age at which they married, the immature pelvis causing such compression and over-stretching of the soft parts that fistulae followed. Where injuries to the bladder resulted from interference with delivery their more common causes were false indications for interference, deficient technique, or both combined. The lesion most commonly arose after forceps delivery, especially high forceps, and sometimes after perforation. Brow presentations, delivered as such, might also cause severe bladder injuries. Ureteric fistulae sometimes arose. According to Bum and Docderlein each advocated an operation for the closure of such fistulae, but the operation of lower uterine segment Caesarean section would probably take the place of the methods which necessitated splitting of the pelvic bones. Intraperitoneal lesions of the bladder should not arise during the course of gynaecological operations. During vaginal Caesarean section the bladder should be carefully kept out of the way by means of an anterior speculum during division of the cervix. Difficulty was sometimes encountered in the recognition of fistulae, both by the patient and by the obstetrician. Should such doubt arise careful measurement of the amount of urine passed in the twenty-four hours should be made, and catheterization or even cystoscopic examination carried out if doubt still exist.

In regard to treatment Dr. Cassidy held that the most important point was that no attempt should be made to repair the fistula until three months had elapsed since the birth of the child, on the grounds that safe union would not take place, and that spontaneous healing, though rare, might occur. This was favoured by a normal puerperium. Should there be signs of spontaneous healing a retention catheter should be used. Three important principles were to be borne in mind in connexion with the repair of vesico-vaginal fistulae: (1) Great care must be taken that no trauma of the bladder was occasioned during previous cystoscopic examination. (2) There must be thorough exposure of the parts and complete separation of the bladder wall from the vaginal mucous membrane, so that the edges might be brought together without tension and tied loosely. (3) A retention catheter should be left in for seven days. Dr. Cassidy concluded by bringing to the notice of the Section a series of ten cases which had been treated in the Coombe Hospital since 1922, and in which the above principles were observed. In nine of these cases the patients were completely cured; one was considerably improved and could retain urine for three hours, but there was still slight leakage. Nine of the women were delivered previously by forceps. One fistula followed upon amputation of the cervix.

The President remarked that in some of these cases there was considerable loss of tissue in the process of sloughing, and there was practically no cervix left. He thought that the question of closing vesico-vaginal fistulae really depended on the amount of cicatrization, and in being able to hold the bladder wall together. If this could be done the case usually healed up very well. Dr. Cassidy had referred to fistulae occurring following pubiotomy; he (the president) did not think that this often happened. While he was Master of the Rotunda he had seen only one instance; in no other case had he ever had any bother with bladder fistulae. After confinement a patient often suffered from loss of control for some time, but he thought it better to leave time—even as long as three months—for cicatrization to occur before operating. It was important not to operate in a hurry. Mobility of the bladder seemed to him the essential point in closing bladder fistulae.

Dr. D. G. MADILL suggested that with large fistulae it would be very difficult to get the amount of separation necessary in order to bring the bladder wall together. He had not had experience of large fistulae, but in some cases of small fistulae he had had difficulty in getting an absolute closure of the bladder; when the catheter was taken out there was a slight leakage, and the operation had to be performed over again before this cleared up. He had recently adopted Mayo's type of operation in three cases, and the fistulae all successfully closed straight away. He had experience of other operations, such as flap splitting, but in his opinion the essential part of the operation was separation of the bladder from the anterior vaginal wall for a considerable area all round.

Dr. J. S. QUINN said that he had been working with Dr. FitzGibbon at the Rotunda Hospital when they had had a series of cases of vesico-vaginal fistulae, and in three of the larger cases there had been no question of closing the fistulae altogether at the first operation. In one case they had seen what looked like a cystocele, but it turned out to be the fundus of the bladder which had prolapsed through the non-existing base of the bladder; in this case the bladder had sloughed away. Every case of vesico-vaginal fistula should be treated on its merits, and it was a mistake to suppose that because one operation was successful in a certain case it would be successful in every case. To his mind the main thing was to bring together the bladder walls with no pressure on them; if this could be achieved by any method, success would almost invariably follow. Recently these cases had become comparatively rare; older obstetricians had met with a great deal more of this kind of work; in fact practically all their work had been the closing of vesico-vaginal fistulae.

Professor A. H. DAVIDSON said that Dr. Cassidy's results were so good that they made it possible to approach the operation of closing of a fistula with a much greater degree of confidence. He had recently had two cases of fistulae which had been very difficult to diagnose: one was a case of uretero-vaginal fistula. He had made a supra-pubic incision and dissected down till he had come on the left ureter; he had then followed up to the bladder, and found it half opening into the vagina and half torn into the bladder. The fistula had been cured, and he had been able to catheterize the ureter later on. The second was a case of fistula following operation for prolapse. He had opened the abdomen and the fundus of the bladder had split right across, and he had got at the fistula from inside the bladder. The fistula had not closed, and he thought he would have to operate again. It was possible that the fistula would now be more accessible by the vaginal route.

### ETIOLOGY OF CHRONIC ARTHRITIS.

At a meeting of the Manchester Medical Society on February 1st, with the president, Dr. J. GRAY CLEGG, in the chair, a discussion on the etiology of chronic arthritis was opened by Dr. J. B. BURT.

Dr. Burt began by protesting against the theory that all chronic arthritis was caused by some focal sepsis: it was just as reasonable to say that there was only one cause of chronic arthritis as to assert that there was only one cause of heart disease. Certain authorities were quoted to show some of the fallacies of the focal sepsis theory. Trauma and vitamin deficiency were briefly mentioned as possible causes, and also gout and peptone hypersensitiveness. Subendocrine conditions were discussed at length as a further cause, and the distinctive clinical signs of arthritis due to endocrine deficiency were described. These occurred chiefly in women at the menopause, but were also seen in girls at the onset of puberty, in thyro-pituitary deficiency, and in some cases of osteo-arthritis of the hip in men over 60. Reasons were given why this type had not been recognized as a special group.

Mr. HARRY PLATT agreed that there was a tendency to exaggerate the importance of focal sepsis as a primary etiological factor in chronic arthritis as a whole, but the question was still unsettled. The bacteriological and histological examination of tissues removed in cases of osteo-arthritis of the hip had given conflicting results. Cultures made from osteophytes and from portions of the distorted head of the femur had proved sterile in the speaker's experience, in contrast with the findings of Warren Crowe. On the other hand, the histological changes in the thickened joint capsule resembled those seen in other forms of fibrous tissue lesion where a definite inflammatory or microbic basis was admitted. Mr. Platt then discussed certain types of chronic arthritis. A pure traumatic arthritis without the intervention of other etiological factors had long been recognized, and was seen to follow faulty union in fractures of the shafts of the leg bones; or fractures involving the ankle-joint itself. Another factor of great importance was static error or incongruity

of joint surfaces. Maladaptation of joint surfaces was by no means uncommon, particularly in the hip-joint. This condition obviously could follow an injury or a mild inflammatory attack. But more interesting still was the joint incongruity due to congenital causes. In recent years the significance of the minor congenital anomalies of the hip-joint had been much studied by Munk Jansen, Calot, and others. Congenital subluxation of the hip was present in a fair proportion of otherwise normal individuals. Such hip-joints tended to react to conditions of strain or infection known as pseudo-coxalgia. Calot had claimed that the affected subluxation, and that the osteo-arthritis of middle life represented superimposed changes in a hip already defective from birth. Mr. Platt thought that this sweeping dictum could not be accepted, but it was fair to state that the very beginning had been known to become the seat of chronic arthritis in later life.

### SURGICAL TREATMENT OF DIVERTICULITIS.

At a meeting of the Liverpool Medical Institution on February 2nd Mr. K. W. MONSARRAT read a paper on the surgical treatment of diverticulitis.

Mr. Monsarrat first described the distribution of diverticulitis, and of this development in the colon according to the figures given by Dr. Spriggs and Mr. Marxer. He stated that the conditions in which the disease was evident clinically could be described under five headings: acute and chronic diverticulitis without complication, acute and chronic perforative diverticulitis, and diverticulitis associated with stenosis. An analysis was given of eighteen cases under these five headings. Mr. Monsarrat expressed the opinion that in acute diverticulitis without complication no surgical treatment was indicated, and that patients suffering from chronic diverticulitis could be kept in health if they would submit to regular medical treatment. He described four cases of acute perforation of a diverticulum, and mentioned that this condition was treated on ordinary surgical principles. In regard to chronic perforation he held that the surgical treatment should be limited to opening and draining consequent abscesses. Lastly he described the treatment of diverticulitis associated with stenosis. Resection of the affected bowel was the operation of choice, but was only likely to be possible in a minority of cases. Operation might be rendered impossible by the situation of the stenosis or the extent of the disease in the bowel. The alternatives to resection were short circuit and colostomy. He had had one case in which colostomy was followed by subsidence of the disease and disappearance of the stenosis. In a second case a patient had remained well after a short circuit operation; a third case was reported of resection with cure.

### Reviews.

#### DUBLIN SURGERY.

COLLECTIONS of papers are often of more interest than systematic treatises, although they may not so thoroughly cover the ground; into short contributions on those subjects which interest him most a surgeon is likely to put the best outcome of his practical experience. The small volume now under notice is no exception to this generalization. In Sir WILLIAM WHEELER's *Selected Papers on Injuries and Diseases of Bone* the general medical public now has the advantage of reading the *Selected Papers on Surgical Topics*, which the author privately published, together with the results of the very valuable and outstanding experiences which he has had since the year 1916.

In his introductory essay on the necessity for team work and travel, the author strikes a note of enthusiasm and yet of criticism that will find an echo in many minds. His description of the career of a typical case of goitre, from

*Selected Papers on Injuries and Diseases of Bone.* By Sir William Ireland de C. Wheeler, M.D., F.R.C.S.I., F.A.C.S. Hon. London: Baillière, Tindall and Cox. 1923. (Demy 8vo, pp. xx + 145; 100 figures. 10s. 6d. net.)

its arrival at the Mayo Hospital in America to its final discharge "cured," is most vivid and convincing, but the reader is impressed with the magnitude of the problem which faces those who would try to make such a system universal. Still, as an advance towards the ideal of surgical treatment the work of the Mayos may well be set before us as an inspiration to further effort.

The Dublin school has always been well to the front in the treatment of fractures, and has contributed largely in the past to our knowledge of these injuries. Sir William Wheeler is a worthy representative of that school, and he has well maintained its reputation in the four lectures delivered two or three years ago in London at St. Bartholomew's Hospital on fractures of the lower extremity. These remind us of the great change which has come over our knowledge and our treatment of fractures of the pelvis, and of the important share which radiography has in that treatment, as in the cure of fractures in general; the section on the treatment of complications, such as injuries of the bladder and urethra, is particularly valuable. His remarks on the extension treatment of fractured femur are full of practical value. "Mal-union and non-union are due probably in 90 per cent. of cases to maltreatment. They are a reproach to surgery, and can always be avoided." In these words the author boldly throws down the glove and challenges those apologists who appeal to constitutional peculiarities or the interposition of soft parts as excuses. He follows Sir Robert Jones in discriminating between absolute non-union and delayed union, and in reserving operative intervention for the former condition only, after Thomas's "hammering and damming" method has had a proper trial. The comments on the treatment of fractured patella, of Pott's fracture, and those of the tarsus are all full of practical good sense.

The short paper on "sleeve" amputations and that on the treatment of Pott's disease are useful reminders of known methods. The same may be said of other articles in the volume. The work of American surgeons, and especially of the Boston school, has lately drawn attention to the sacro-iliac joint and its disorders, and it is interesting to read the opinions of a European author, who has recently surveyed American surgical practice, on this subject. Disease of this joint is, in Sir William Wheeler's opinion, far commoner than has been believed, and its early symptoms and signs can be, and ought to be, recognized more often than has been the case. He describes and freely illustrates the operation for laying open and draining this joint, which he has found practical. His fourteen points about bone grafts are of great value and should be noted by any surgeon who is thinking of performing a grafting operation and wishes to avoid disappointment.

In fine, there is very much in this book of great value and nothing that is not worth reading and marking.

### INFECTIOUS DISEASES.

Dr. E. W. GOODALL, who recently retired from the fever service of the Metropolitan Asylums Board, has employed his leisure in bringing out a third edition, under a somewhat different title, of the work on *Infectious Diseases*,<sup>2</sup> originally undertaken in collaboration with the late Dr. WASHBOURN. The considerable additions to our knowledge in the nineteen years which have elapsed since the appearance of the second edition have called for a very complete revision and enlargement of the work. The principal changes have been the addition of an introductory chapter on epidemiology and two new ones dealing respectively with epidemic encephalitis (including epidemic hiccups) and epidemic poliomyelitis, and the omission of the chapter on plague.

The book is well up to date and is of value, not only as representing the long and extensive experience of an acute observer, but also the work of one who is more familiar with the literature of the subject than the bibliographical references would suggest. We do not, for

instance, find a single reference to the literature of diphtheritic paralysis, only one in the few pages dealing with Vincent's angina, and only two on the section on nephritis, which date from 1889 and 1894 respectively, while first-hand references to Continental literature are particularly scanty.

A drawback to the publication is its high price, which is partly due to the large number of illustrations, some of which, as we remarked in our review of the second edition (*JOURNAL*, 1908, ii, 1813), might well have been omitted, especially those on scarlet fever, rubella, and the early stages of small-pox. The work, however, will be welcomed alike by epidemiologists and clinicians who desire authoritative information on the subject of infectious diseases.

### PHYSICAL DIAGNOSIS.

Books on physical diagnosis do not always make attractive reading, but the appearance of a ninth edition of Professor R. C. CABOT's *Physical Diagnosis*,<sup>3</sup> first published in 1905, shows that an account of what an experienced physician has found useful is more popular with the rank and file of the profession for everyday practice than a treatise containing all the described tests available for pathological investigation in the clinical laboratory, valuable as such a work may be for reference. Copiously illustrated as a book of this kind should be, attention may be specially directed to the admirable series of changes in the hands in various diseases, and to the photograph of twelve students listening at once to a chest by means of Bowles's multiple stethoscope, the limitations of which are pointed out. The text gains interest from references to the author's long clinical experience and to statistics of the incidence of various visceral diseases at the Massachusetts General Hospital; thus he frankly mentions that in two cases with well-marked Corrigan's pulse in life he "was confronted *post mortem* with a narrowed, rigid aortic valve." Dogmatism is useful for the student, and may be welcomed by some of more advanced age; writing on the supposed effects of tobacco on the heart, he quite definitely lays it down that there is not any cardiac abnormality or group of abnormalities that can be referred to the effects of tobacco alone, for almost always some other factor can be discovered in the background. The sections on the blood, tuberculosis, and the cardio-vascular system have undergone a good deal of revision, and the author's preface mentions particularly the addition of reference numbers corresponding to the Gamble-Cabot diagnosis records, a set of phonographic records taken in 1926 to illustrate the normal and abnormal heart sounds.

This edition, then, fully maintains the reputation of Professor Cabot as a clear, interesting, and honest-minded teacher of students, whether young or qualified.

### MILITARY PSYCHOLOGY.

Mr. F. C. BARTLETT, who is reader in experimental psychology and director of the psychological laboratory in the University of Cambridge, has written a book on *Psychology and the Soldier*,<sup>4</sup> which consists of selections from lectures delivered in connexion with a course of military studies for officers. He quite rightly points out that a psychological examination of the recruit is just as essential as the physiological or "medical" examination. This was made abundantly evident in the late war, where the failure to take into account the intellectual status of the soldier had lamentable consequences. It was surprising, moreover, when quite simple psychiatric examinations were instituted in the American recruiting camps, to discover how considerable was the proportion of recruits who were mentally unfit for military service. Useful as these tests as to mental capacity were, however, a large number of recruits who passed the examination in them broke down before reaching France with what have been well termed "anticipation neuroses." Most of these were temperamentally unfit to

<sup>2</sup> *A Text-book of Infectious Diseases*. Being the third edition of Goodall and Washbourn's *Manual of Infectious Diseases*. Revised and in large part rewritten by E. W. Goodall, O.B.E., M.D., B.S. Lond. London: H. K. Lewis and Co., Ltd. 1928. (Demy 8vo, pp. xvi + 718; 15 diagrams, 34 charts, 26 plates. 30s. net.)

<sup>3</sup> *Physical Diagnosis*. By Richard C. Cabot, M.D. Ninth edition, revised and enlarged. London: Baillière, Tindall and Cox. 1927. (Med. 8vo, pp. xxi + 536; 6 plates, 279 figures. 25s. net.)

<sup>4</sup> *Psychology and the Soldier*. By F. C. Bartlett, M.A. London: Cambridge University Press. 1927. (Cr. 8vo, pp. viii + 224. 7s. 6d. net.)

react to the army situation, and, as Mr. Bartlett observes, there is no test by which the defect of temperament can be discovered. As he well puts it, "By intelligence tests a man may be safely ruled out, but by intelligence tests alone a man cannot safely be ruled in." It should be said in this connexion that, in the experience of the reviewer, nearly all the men breaking down in the manner here described had been more or less inadequate in civil life; but this fact could only be elicited by full investigation of the social history.

In the development of his theme the author makes it clear that psychology may give valuable guidance in determining who is and who is not fit or adapted for the military life, in deciding what the fit person can justly be expected to do well, in training body and mind, in detecting and guarding against undue fatigue, and in taking precautions against nervous and mental disorders. Mr. Bartlett considers that training in psychology should be made part of any general scheme of preparation for a military career. He suggests that whether for war or for peace-time organization the psychologist who works in the academic laboratory should be asked to train the officer in methods and theory, and the officer having the necessary inside practical knowledge should then apply the methods and theories to his practical problems. This readable book affords an interesting instance of the value of vocational psychology as applied to a particular form of employment. It is not written for the medical practitioner, but we can recommend it to the officers of the army and naval medical services, to whom a knowledge of psychology cannot fail to be of considerable service.

#### NOTES ON BOOKS.

MR. SIDNEY SPOKES's biography of *Gideon Algernon Mantell* contains a sympathetic account of this pioneer of British geology, who started his professional life as a country doctor at Lewes, where he was born in 1790. While carrying on an extensive practice in this town and the neighbouring country he found time for epoch-making geological work, his first important publication being *The Fossils of the South Downs*. Shortly afterwards appeared in the *Philosophical Transactions* the account of the discovery of the iguanodon, in recognition of which he was elected F.R.S. at the early age of 35, when his nomination paper was signed by John Abernethy, his former teacher at St. Bartholomew's Hospital, and William Clift, curator of the Huerian Museum. In 1835 Mantell moved to Brighton, where he continued his practice in combination with his geological researches, and established a museum in his house; but after three years' stay in that town, where he found the medical profession far from sympathetic, he migrated to Clapham Common, where he remained for the next six years and found a much more congenial atmosphere, and was a frequent and highly appreciated lecturer at the local Athenaeum. The remaining eight years of his life were spent in Pimlico, where his time was occupied by his practice, his scientific work, and correspondence with contemporary geologists and palaeontologists, such as Owen, Lyell, Murchison, and Silliman. The whole of his professional life was a constant and heroic struggle against poverty and ill health, including rheumatism and a spinal complaint which appears to have been of the nature of osteo-arthritis. The work is illustrated by portraits of Mantell at various periods of his career and a photograph of his spine, which is preserved in the museum of the Royal College of Surgeons of England.

Mr. W. E. TAYLOR, who is professor of psychology in Smith College, must have expended much time and trouble in the compilation of his work entitled *Readings in Abnormal Psychology and Mental Hygiene*. The book is intended for the student of psychology rather than for the psychiatric student. As Professor Joseph Jastrow states in an introductory chapter, a knowledge of the leading facts and principles of abnormal psychology forms an integral part of the psychologist's training. It has a vital message also, he observes, for the practical-minded humanitarian, now conveniently known as a "social worker," in whose field devotion and high purpose require the support of authentic information and critical insight. The book consists of admirably selected extracts from the writings of well-known psycho-pathologists and psychologists. It includes a lengthy

bibliography. It will be useful as a book of reference for those for whom it is intended. It is scarcely suitable for consecutive reading, and it includes more than the average student of psychology could be reasonably expected to assimilate.

*The Creator Spirit: A Survey of Christian Doctrine in the Light of Biology, Psychology, and Mysticism* is the text of Canon C. E. RAVEN's Hulsean Lectures at Cambridge (1926-27) and the Noble Lectures at Harvard (1926). It contains an appendix on "Biochemistry and mental phenomena" by Dr. JOSEPH NEEDHAM, Fellow of Gonville and Caius College, Cambridge, who, after discussing the question whether any real relations between mental and physico-chemical phenomena are possible, and whether any are known or not, concludes that, though in the future an ever-increasing number of mental phenomena will receive satisfactory treatment in physico-chemical terms, there is nothing at all in this for the philosopher or the theologian to regret. In his eight lectures, the first four being based on his Hulsean and the remaining four on his Noble Lectures, Canon Raven treats the old problem of the conflict between science and religion in the light of modern knowledge and phases of thought with great skill, wide knowledge, and sympathy.

\* *The Creator Spirit: A Survey of Christian Doctrine in the Light of Biology, Psychology, and Mysticism*. By Charles E. Raven, D.D. With an Appendix on Biochemistry and Mental Phenomena by Joseph Needham, M.A., Ph.D. London: Martin Hopkinson and Co., Ltd. 1927. (Cr. 8vo, pp. xv + 310. 8s. 6d. net.)

#### THE OXFORD ENGLISH DICTIONARY.

OF the many good things the nineteenth century bequeathed to the twentieth through its belief in the capacity of individual initiative and enterprise to accomplish big undertakings is the *Oxford English Dictionary*. The first part was published on February 1st, 1884; the final sheets were returned for press by Mr. Onions on January 5th, 1928, and the last part will be published on April 19th. Seventy years ago the Philological Society, after considering and rejecting schemes for the production of supplements to standard dictionaries, resolved to accept the ideal of Trench, author of the *Study of Words*, then Dean of Westminster, to prepare and somehow to find means to print and publish "a completely new English dictionary." It was realized that the task would be very big, but no one then had any definite idea of what the cost would be in time and money. It proved to be in time fifty years of continuous labour by a succession of skilled editors, helped by large sub-editorial staffs, and £300,000 in money.

From the first it was realized that the kind of complete dictionary aimed at could only be produced through the co-operation of many voluntary contributors, and even in 1857 Trench had received offers from seventy-six. When the larger scheme was got fully under way the number had increased tenfold, and the maximum of over eight hundred, reached in 1881, was maintained to the end. They read books, copied out passages from them to illustrate meanings and shades of meaning, and verified facts; one contributor, Mrs. Moore, who came on an unusual word describing the seeds of a certain plant, procured some of the seeds, gummed them on her slip, and pasted transparent paper over them. Not all the contributors were British; there were a few in other European countries, and several in the United States. The slips, as prepared, were sent to the scriptorium or dictionary rooms, where they were pigeon-holed, with others referring to the same word, ready for the editor. Nearly all the work of editing has been done in Oxford. Herbert Coleridge, the first editor, was of Balliol, but had barely made a start when he died of consumption in 1861. Furnivall, who succeeded him, was keenly interested in the enterprise from the start, and remained a diligent contributor until he died, at the age of 85, in 1910. He was a lively writer and an exuberant controversialist, who must have been surprised to find himself a lexicographer. He was much concerned with the publication of early English texts, and for this purpose founded several societies. His hobby, if it may be so called, made him a very valuable contributor as long as he lived, and during the eighteen years for which he was editor he not only kept the project alive in its infancy, but watched over its adolescence by continuing the

\* *Gideon Algernon Mantell, LL.D., F.R.C.S., F.R.S.: Surgeon and Geologist*. By Sidney Spokes, M.R.C.S. London: John Bale, Sons, and Danielsson, Ltd. 1927. (Demy 8vo, pp. xv + 263; illustrated. 12s. 6d. net.)  
\* *Readings in Abnormal Psychology and Mental Hygiene*. Edited by W. E. Taylor. London and New York: D. Appleton and Co. 1927. (Demy 8vo, pp. xvii + 783. 16s. net.)



collection of material (slips) and organizing sub-editing. The dictionary reached early manhood when, in 1878, Dr. J. A. H. Murray, then a master at Mill Hill School, took the matter up, and a year later, acting on behalf of the Philological Society, signed an agreement with the Clarendon Press for the publication of the dictionary. From that time it has been an Oxford enterprise, having indeed had many connexions with that University all along. Murray began work at Mill Hill, where he erected a scriptorium, and was helped by his brother-in-law and one assistant. In 1885 he removed to Oxford, and put up another scriptorium in the garden of his house. There he worked for thirty years, until his death at the age of 80. In the interval he was joined by three other editors, who took over certain volumes from him: they were Dr. Henry Bradley, who was responsible for E, F, G, L, M, and parts of S and W (he died in 1923); Dr. W. A. Craigie, who joined the staff in 1897, and from 1901 until he went to Chicago to be professor of English in 1925 edited Q, N, R, U, V, and parts of S and W; and Mr. C. T. Onions, M.A. Lond., who began to help Drs. Murray and Bradley in 1895 and became an independent editor in 1914. He has worked in this capacity ever since, with the exception of two years, when he was engaged in producing the Oxford *Shakespeare Glossary* and editing *Shakespeare's England*. Another valuable by-product of the great dictionary was the *Concise Oxford Dictionary*, a scheme of Furnivall's, carried out later on by H. W. and F. G. Fowler; recently this was supplemented by the *Pocket-Oxford Dictionary* by the same authors.

The big Oxford Dictionary is a great achievement, and no other language possesses anything so good. We do not recall ever having gone to it without finding what we wanted, provided the word was in use when the volume in which it would find its proper place was issued. Though forty-four years is a short time in the life of a language, it is long enough for a good many new words to have come in. The Oxford University Press recognizes this, and announces in a special (February) number of its *Periodical* that a supplement is in preparation, "the main object of which will be to include words" (aeroplane and appendicitis are instanced) "which were born too late for inclusion." It is added, with fine liberality, that "copies of the supplement will be offered free to all holders of the complete dictionary."

Apart from its completeness, due to the inclusion of all words in use (not omitting scientific words) and of all words that ever have been used, even though now obsolete, the feature that gives the Oxford Dictionary its unique character is that it is constructed on a historical method. The first use of the word and its meaning at that time; and subsequent changes in meaning, and expansions and extensions of meaning, are all indicated and illustrated; the origin and etymology of the word also are explained and discussed, so that the book as a book makes fascinating reading—dangerously fascinating a busy man may sometimes find it. As the *Periodical* notes, a series of articles, "Medical Terms in the New English Dictionary" (as the book used to be called), was long an established feature of the BRITISH MEDICAL JOURNAL. They were written by the late Dr. J. A. Ballantyne of Edinburgh, who thus enabled our readers to keep track of the progress of the dictionary, and provided a gauge of its completeness in every direction. It may be too big and too dear (fifty guineas) for most private libraries, but no public, university, or college library can afford to be without it. Its motto might be "Thorough."

## INTERNATIONAL HYGIENE.

### THE LEAGUE OF NATIONS HEALTH ORGANIZATION.

WHATEVER the progress of the League of Nations in other respects, its Health Organization is advancing rapidly, and, according to the Information Section, may now be described as world-wide, not only in its membership, but in the range of its services. In addition to the fifty-five nations in the League, the United States and the Union of Soviet Socialist Republics have continued to take part in all the principal branches of the health work, and when members and corresponding members of the various com-

missions are included it can be claimed that there is no country of importance from the point of view of public health which does not co-operate. The information regularly received and disseminated by the service of epidemiological intelligence relates to three-quarters of the population of the globe. The bureau at Singapore receives information from 140 Eastern and Southern ports. It is proposed to set up a subsidiary centre of epidemiological information at Melbourne, and certain preliminary experiments have been made at Algiers for a similar centre in Africa.

Two general interchanges of public health personnel took place last year, one in Great Britain and the other in Germany; but only one—in India—is contemplated for this year. The public health courses organized in Paris and London in connexion with the system of interchanges are being continued. The Health Committee at its recent session decided to establish an international public health school at Rio de Janeiro, and an international school for infant and child hygiene at Buenos Aires. Research continued last year, under the League's encouragement, in a number of institutes on such subjects as antidyenteric and other serums, on tuberculin, and on the diagnosis and treatment of and immunization against scarlet fever. The insulin standard previously adopted has been distributed widely to the appropriate authorities, and a unit of insulin has now everywhere the same meaning. No difficulty has been experienced in producing samples of pituitary extract of uniform strength by following the same methods in their production. Standards for neosalvarsan and sulfarsenol have been prepared, and samples have been distributed to several countries for international trial and report. The Health Committee has decided to approach institutes concerned with the determination of blood-groups in order to suggest the international nomenclature.

The pox and vaccination was set up by 1925, and has now investigated a number of problems, especially concerning the preparation and examination of vaccine lymph. The cancer commission has completed its investigations into the differences in the incidence of certain forms of cancer in various countries. It has not been possible to draw any definite conclusions as regards racial susceptibility to cancer, since the term "race" is too vague, but certain facts have been brought out concerning the efficacy of early operation, and also the relatively greater liability to cancer of unmarried or barren women and mothers not nursing their children. The final report of the experts dispatched to equatorial Africa to inquire into the problems of sleeping sickness has been received, and the Governments which participated in the first international sleeping sickness conference in London in 1925 are being asked whether they would be prepared to send technical delegates to a second conference, with the object of studying the report and the recommendations. The malaria commission has presented its second general report, and a special meeting of the commission is to be held, to which malariologists from the United States will be invited, to discuss certain aspects of the problem so far as it relates to America.

The Health Committee has adopted the report of its opium commission describing eucodal and dicodide as products the manufacture and sale of which should be controlled by the convention, and this is being communicated to the Governments. The committee, on the initiative of the commission, has also reported to the Office International d'Hygiène Publique, which acts as an advisory council to the Health Committee, that dilaudide and the so-called esters of morphine, such as benzyl-morphine, should similarly come under the convention. A preliminary investigation has been made of social insurance in various European countries, and a joint international commission has been set up, representing both the public health services and the health insurance organizations, with a view to putting on a more systematic basis the haphazard efforts at prevention which have been found in the social insurance inquiry so far as it has proceeded, and to reduce the overlapping of public health services. An inquiry is also proceeding in certain countries, both of Europe and Latin America, into the medical and social causes of stillbirths and infant deaths. Finally, there is the question of leprosy, as to which there are proposals for the setting up of an international centre in Brazil, particularly for the elucidation of certain obscure questions concerning spread and treatment.



# THE HISTORY OF THE PHYSIOLOGICAL SOCIETY (1876-1926).

A RECORD OF FIFTY YEARS.

COMPILED BY

SIR E. SHARPEY-SCHAFFER, F.R.S.

It is generally recognized at the present time that the British school of physiology occupies a foremost position in the biological sciences owing to the outstanding character and varied nature of the notable discoveries that have been made by many workers during the last thirty years. A very remarkable record of achievement stands to the credit of British workers in many departments of physiology, and amongst these may be mentioned the great advances made in our knowledge of the functions of the nervous system; the nature of the activities of ductless glands; the physiology of the circulation, both in relation to the central pump and also to the part played by the peripheral and capillary circulation; the phenomena of nutrition, including not only the question of vitamins; but also the action of minute quantities of inorganic salts and the action of the sun's rays; and, lastly, fundamental researches on muscular activity and contractility generally, together with investigations on the electrical phenomena accompanying the activities of living matter.

This great progress has been due not only to individual discoveries of interest, but has depended still more on the discoveries being of such a character as to lead to the enunciation of general principles, thus tending to remove from physiology the reproach sometimes levelled at the biological sciences, that they consist mainly of a catalogue of facts or observations. The conceptions we now entertain as regards integration in the nervous system, the chemical correlation of organs and functions by means of hormones, are outstanding examples of the remarkable progress made by physiological workers in the last few years. Such discoveries connote a great deal more than the mere record of certain interesting experimental results, and they open up vistas of great promise for the future. Sir Edward Sharpey-Schafer, who has himself played no small part in this progress of physiology during the last fifty years, has compiled the history of a society—the Physiological Society—that is not only very closely linked with this development of physiology in the British Empire, but has also exerted a notable influence on this science wherever it is cultivated. It may, indeed, be claimed that this society, founded only some fifty years ago, has had an even wider influence, as it has served as the model on which a number of other vigorous and younger societies have been moulded, and these, in their turn, have exerted no small influence on the progress of biological and medical science.

The Physiological Society owed its origin not only to the

awakening, after a long sleep, of physiological studies in England, under the influence of the inspiring teaching of William Sharpey at University College, London, but also, and very largely, to the anti-vivisection agitation that arose in the early seventies as a sequel to the commencing development of physiological investigations at that time. In 1875 a Royal Commission was appointed to inquire into these matters, and in due course reported, and subsequently an Act of Parliament was passed for the purpose of regulating experiments on living animals. In consequence of the report of the Royal Commission a meeting was held at 49, Queen Anne Street on March 31st, 1876, at the request of Dr. John Burdon-Sanderson, and was attended by nineteen persons interested in physiology, including Sharpey, Huxley, Michael Foster, George Henry Lewes, Francis Galton, G. J. Romanes, Francis Darwin,

and two who happily are still with us, E. A. Schafer and David Ferrier. On the motion of Dr. Michael Foster, seconded by George Henry Lewes, it was resolved:

"That an association be formed, under the name of the Physiological Society, for promoting the advancement of physiology and facilitating the intercourse of physiologists."

The record of the work of the society during the fifty years of its existence, as shown by Sir Edward Sharpey-Schafer, reveals how admirably it has fulfilled the objects expressed in this resolution. It is only necessary to allude to two facts in proof of this. The records of the society show that every really notable discovery in physiology made by workers in this country during the last fifty years has, in the first instance, been brought before this society, and thus it has undoubtedly fulfilled its obligation in promoting the advancement of physiology. Further, the well-known spirit of camaraderie that inspires the working physiologists of this country is proof in itself of the good the society has done in "facilitating the intercourse of physiologists." In later years

this side of the society's activities was extended, with manifest advantage, far beyond the confines of these islands, and international relations were entered into and led to much friendly intercourse between foreign and British physiologists.

The great success of the society in achieving its aims was doubtless due to several causes; thus many of the men who played so large a part in its foundation were animated by broad views in biological matters, and were concerned in placing physiology on a secure basis as an independent science and not merely as a scientific auxiliary to medicine. Huxley, G. H. Lewes, Francis Galton, G. J. Romanes, E. Ray Lankester, Thistlethwaite, Dyer, are names of men distinguished by their work for biology, and all of these took an active part in the foundation and in the early work of the society. In Sharpey, Burdon-Sanderson, and Michael Foster the society had the support of the three men to whom the development of physiology in this country, both as regards teaching and as regards the inspiring of research, was



Photograph by]

[A. Swan Watson, Edinburgh.

SIR EDWARD SHARPEY-SCHAFFER, F.R.S.,

Professor of Physiology in the University of Edinburgh.

mainly due. All three laid the foundations of modern physiology in this country in University College, London, where Sharpey was professor from 1836 until 1874, and Burdon-Sanderson, under Sharpey's influence, began experimental investigations in 1866 and succeeded Sharpey in the chair of physiology in 1874. Foster, who gave up general practice at the instigation of Sharpey, and because, as he once told the writer, he had come to the conclusion that no sane man could make a diagnosis in medicine—such were the contradictions of medical teaching in his time—became the teacher of practical physiology and histology in 1867. Subsequently (in 1870) he went to Cambridge, and there built up a school of physiology that has achieved results of the first importance, and even as early as 1876, when the Physiological Society was founded, had already amongst its workers such men as W. H. Gaskell and J. N. Langley.

Although the society was fortunate in having amongst its founders men of such wide outlook, of such outstanding intellectual ability, and of such remarkable personality, nevertheless this was by no means the only factor in determining its success. Much of this success is to be attributed to the rules and remarkable constitution of the society. Thus at the outset the membership was limited, and the members were for the most part active working physiologists, but they had the right to introduce guests.

It is also interesting to note that the society was originally intended to be a dining club, and one rule lays down that the meetings shall commence with dinner at the early hour of 6 p.m., later altered to 7. Another rule of some importance provided that at each meeting one member should be elected, on the motion of the secretary, to act as chairman. Hence the society never had an official head or president, and this may have had some influence in making the proceedings, even in later years, less formal than is usually the case in scientific societies. It has been the custom to adhere to the rule that all business of a formal nature should be transacted at the dinner meeting. The inaugural meeting, with Dr. Michael Foster in the chair, was held at the Criterion Restaurant on May 26th, 1876, and twenty-two members were present with fourteen guests. Amongst the latter were Donders of Utrecht, Marey and François Franck of Paris, and Lovén of Stockholm, together with William Bowman, W. B. Carpenter, and William Marcet. William Sharpey and Charles Darwin were the first two honorary members of the society, and Francis Galton, George Henry Lewes, and Francis M. Balfour all attended the first meeting.

In the first few years of the life of the society, as is seen from Professor Sharpey-Schafer's interesting narrative, the main business seems to have been to keep a watchful eye on the proposed legislation and on the administration of the Act regulating experimental work on living animals. Further, the society gave advice with regard to the allocation of the Government grants administered by the Royal Society for the furtherance of physiological research. In the records of these awards, preserved in the minutes of the society, it is interesting to see the recommendations as to grants that have enabled workers to carry through successfully researches that have become famous with the lapse of time. Thus in 1876 there is the record of a recommendation of a grant to Mr. G. J. Romanes to carry on "observations on the locomotor system of the medusae," and another with reference to work by Mr. Langley on "The action of the sympathetic on the submaxillary gland."

The international relations of the society were marked even in these the earliest days of its life, as is shown not only by the number of foreign guests often present at the meetings, but also by the minutes of the year 1878, which contain the record of a letter of sympathy addressed to the Société de Biologie on the occasion of the death of Claude Bernard. A resolution was also passed in this year recording regret at the death of George Henry Lewes, one of the original members, and one who took very great interest in the development of physiology in this country, and in whose memory the well-known George Henry Lewes studentship in physiology was subsequently founded.

In the years 1879 and 1880 a new development took

place that ultimately led to the full realization of the wishes of the founders as to the promotion of the advancement of physiology. In 1879 a special afternoon meeting was held at King's College to hear an address by Professor Arthur Gamgee on "Old and new experiments relating to fibrin ferments, with a demonstration of the rapid coagulating action of a solution made by extracting washed blood clots with 8 per cent. NaCl solution." This meeting was attended by eight members and one visitor. In 1880 the scientific meetings of the society were definitely commenced; the first was held on December 9th, 1880, in the physiological laboratory of University College, London, under the chairmanship of Professor Burdon-Sanderson. Eighteen members and three visitors were present, and amongst the visitors was Sydney Ringer, who at that time was actively engaged in his work on the action of inorganic salts on living tissues, especially the heart, that has made his name famous. He did not become a member of the society until 1884. From this time onward, scientific meetings were held in the afternoon prior to the dinner, at regular intervals, in the laboratories of colleges, medical schools, and at the Universities of Oxford and Cambridge. In later years such meetings were held further afield—for example, in Edinburgh and at many provincial universities—but wherever they were held they retained their fundamental and original characteristics, and it is to these, perhaps, rather than to anything else, that the society owes its most remarkable success in promoting the advance of physiology and thus fulfilling the aims, not only of its founders, but also those of all active workers in physiology.

The meetings of the Physiological Society have always been remarkable for the interest awakened in those present in the subjects brought forward for their consideration, and also for the freedom and candour of all discussions that took place. The remarkably "live" character of the meetings was due to many causes, but mainly to the following. Practically all members were actively engaged in prosecuting investigations of one kind or another, and the communications made to the society were generally of the nature of actual demonstrations of some experimental result recently obtained by the investigator. In fact, one of the rules laid down that demonstrations should always have priority over oral communications, and hence the meetings often consisted only of a series of demonstrations. Thus physiologists had often the opportunity of witnessing the progress of researches and not simply listening to the recital of a piece of finished work. Inasmuch as there was no published record of any discussion that took place, criticism was not only often remarkably free and outspoken, but still more often it was most beneficial, and many workers must look back with pleasure and thankfulness to the assistance they often received from others more experienced who witnessed and criticized their experimental results. Such was the friendly feeling amongst the members that no one hesitated to bring forward striking experiments obtained, it may be, at an early period of an investigation and before work had advanced to an extent sufficient to justify conclusions. No claims of priority were either advanced or allowed on the mere basis of these experimental demonstrations, and it is difficult to over-emphasize the valuable results that were obtained by the steady following of such methods. All the members felt that they were in active contact with the most recent additions to knowledge in the making, and this led to an enthusiasm for physiology that has had much to do with its progress during the last fifty years. At a later stage in the history of the society the rapid progress of physiology led to the publication by the society of short abstracts of its proceedings, and recently the control of the *Journal of Physiology* has become part of its work, and thus the influence of the society has been still further extended.

Sir Edward Sharpey-Schafer, in his full and interesting account of the society, deals not only with its work as a whole, but has greatly added to the value and interest of the record by including in it short accounts of biographical detail of a very large number of the members; and in the case of deceased members he has been successful in obtaining their portraits. In fact, the volume may be

regarded as a biographical dictionary of the physiologists of this country for the last fifty years, and must for this reason have a real permanent value, quite apart from its interest in many other respects.

The author has dealt with a subject of no little interest in the history of science and of scientific medicine in this country, and has shown in an attractive manner the profound influence that a working society, founded and conducted on sound lines, can exert on the advancement of science and the progress of knowledge.

JOHN ROSE BRADFORD,

M.D., F.R.S.,

President of the Royal College of Physicians of London.

## NATURAL CAPACITY IN THE POPULATION.

GALTON LECTURE BY MR. C. J. BOND.

THE Galton Lecture for this year was delivered at the Rembrandt Hotel, South Kensington, before the Eugenics Society by Mr. C. J. BOND, C.M.G., F.R.C.S., of Leicester, on February 16th. It was preceded by a dinner, which was presided over by Major LEONARD DARWIN, Sc.D. It was well attended, and the audience included many ladies. Among those present were the Bishop of Winchester, Lord Dawson of Penn, the Dean of St. Paul's, Dr. Fremantle, M.P., Dr. H. H. Dale, Secretary of the Royal Society; Sir Arthur Keith, F.R.S., President of the British Association; Sir William Beveridge, Director of the London School of Economics; Dr. C. S. Myers, F.R.S., Director of the Industrial Institute of Psychology; and the Right Hon. William Graham. The subject of the lecture was "The distribution of natural capacity in the population," and the conclusion to which the lecturer led up was that there was a need for a national stocktaking, or a census of the people which would reveal the mental qualities.

### Racial Decline.

In the opening part of his lecture Mr. Bond contended that civilization and races, like individuals, passed through successive stages of growth, maturity, and decline. The life of a nation was the expression of hereditarily transmitted racial qualities of mind and body. This national life was renewed from below, and depended largely on the mental and bodily qualities of the citizens in the large middle section of society. Under modern conditions there was a strong and growing tendency for the lowest social groups—those including the mental defectives and individuals of a low mental grade, the habitual pauper, and the innately criminal classes—to contribute an undue proportion to the numbers of the population. Such a condition in social, as in individual, life was abnormal, and indicated the commencement of racial decline. Although racial decline was the direct biological effect of breeding from degenerate and inferior stocks, there was also an indirect sociological effect of much importance. The burden of the economic support of these degenerate groups was largely borne by the more capable citizens above, who were themselves thus handicapped in rearing their own families. If, in addition, the ability of these worthier citizens to bear this burden was also depreciated by inter-breeding with inferior stocks, a double injury was inflicted on the nation.

Evidence pointing to deterioration in the mental and bodily qualities of the British people was to be found in the numerous inquiries and official and unofficial reports which had appeared in recent years. The conclusion to be drawn was that there was an urgent need existing for a national stocktaking, or a census of the people which would reveal quality as well as numbers.

The fact that mental qualities, intellectual, temperamental and moral, would no doubt be of increasing importance in the civilization of the future made it essential to include these qualities in the proposed inquiry. Though the ultimate nature of neural, as of psychical, energy was unknown, yet something had been ascertained as to the conditions under which neural energy operated. That which was transmitted in heredity was the neural or physical mechanism of varying degrees of organization, through which, or in which, the psychical phenomena became manifest.

### The Differential Birth Rate and Conception Control.

The essential points in regard to the relative fertility of different social groups in the population to-day from the eugenic standpoint were: (1) That the birth rate was lowest in the upper levels of society and in the professional and salaried groups in the large middle section of the population, and that

it rose as a descent was made to the ranks of unskilled labour. (2) This alteration in the previous normal incidence of fertility had grown rapidly in recent years. (3) It was operating on a very large scale, and must, if continued, have a very serious influence on the whole population. The practice of contraception was to-day more prevalent among the educated upper and middle classes, and less prevalent in the unskilled labour groups, while it was practically absent in the lowest degenerate sections of society. Birth control, then, as at present practised, was undoubtedly exercising a dysgenic influence on society. The remedy, however, did not consist in the curtailment of knowledge, but in its spread, on wise lines, to all sections of the population, poor as well as rich. This spread of knowledge in regard to birth control must also include instruction in the duty of adequate parentage in the case of married persons of sound stock and healthy constitution.

### The Kind of Census Needed.

An inquiry into the distribution of natural capacity in the population should be included in the census schedule for 1931 by asking questions of genetic or racial importance as to size of family, etc., which were in the schedule for 1911, but were omitted in that of 1921. Certain data of genetic importance should also be added in the system of birth certification and registration. In addition to such information as could be obtained from a census of the whole population a more intensive inquiry might be carried out into certain representative samples taken from the children of school age, and from industrial workers, who might be examined under the Insurance Act at the time of entrance into industrial life, and periodically afterwards. The object of the inquiry must be to reveal quality as well as numbers, and to show in what sections of the population civic was associated with racial worth.

### Eugenics and Medicine: Civilization of the Future.

Much advantage to eugenics (Mr. Bond continued) and to medical science would accrue if the interest and active co-operation of the medical profession could be enlisted in the study of genetic problems. Medical men possessed unrivalled opportunities for observing and recording the hereditary transmission of mental and bodily characters from parents to offspring and from generation to generation, but at present this valuable knowledge was largely lost to the nation. Medical science would also greatly gain by further research into the influence of the hereditary factor in disease. But in order to bring about this active co-operation between medicine, genetics, and eugenics a different outlook must first be established towards genetic problems in all bodies and institutions concerned with the education of medical students.

It might be objected that since no one knew what human civilization and human life would be like in the future, any attempt to produce, along eugenic lines, mental and bodily qualities suited to the future environmental conditions must necessarily fail. It might, however, be predicted that human evolution would proceed along psychical lines, and that the human environment of the future would be one in which brains counted for more than muscle. In such an environment intellectual and moral qualities, character, personality, and capacity for citizenship would be very important features in the equipment of the future citizen, and there would be no room, at any rate, for mental deficiency.

### Practical Conclusions.

If such an inquiry or national stocktaking as was suggested should point to some deterioration in the population, then, among the remedial measures, the first place must be given to education. It was only by education along biological lines that a sound public opinion could be formed concerning eugenic problems, or that a racial conscience could be aroused. Segregation along biological lines must be brought about between the fit and the degenerate sections of society. The mentally defective groups, including the habitual pauper, the inebriate, and the innately criminal class, must be segregated during the reproductive period of life, while in some cases, after careful inquiry, expert advice, and judicial sanction, sterilization might be necessary.

Although man had grown but little in mental stature during historic times, there were encouraging signs for the future. The power to control not only the environmental conditions in the outside world, but also the quantity and eventually the quality of human life produced, would enable civilized man to change human nature and to raise mental and moral capacity to a higher level. But this artificial selection under human control must be of the right kind, and it must be exercised in the right way—namely, along lines calculated to promote true racial welfare. At the present time much legislation and many sociological methods for improving the conditions of life were not founded on sound biological principles. The aim of the eugenist would be to bring about a wider outlook and a sounder public opinion concerning racial problems.

# British Medical Journal.

SATURDAY, FEBRUARY 25TH, 1928.

## CLINICAL TEACHING IN MEDICINE.

THE eighth series of *Methods and Problems of Medical Education*,<sup>1</sup> brought out at intervals since the autumn of 1924 by the Division of Medical Education of the Rockefeller Foundation, is a mine of information on the methods of teaching and equipment of medical students in various centres in parts of the world as far asunder as Pekin and Paris. Attention may well be drawn to some of the information given in the eleven articles on the teaching of medicine and the lessons to be learnt from them, leaving those on surgery, gynæcology, and pediatrics, and the considerable series on cardiological clinics, for later study.

The first two articles, by Professor A. Chauffard and Sir Archibald Garrod, are of the nature of general surveys of the teaching of clinical medicine in France and in England, and necessarily touch on the historical aspect of clinical teaching in order to show how the present plan has been evolved. In France the oldest medical faculty is that of Montpellier, where from the thirteenth century students followed the practice of medical men, though it was not until the fifteenth century that it became a university. In Paris chairs in clinical medicine were not instituted until the end of the eighteenth century, Corvisart giving his first clinical lecture at the Charité on May 20th, 1799. Professor Chauffard points out that medical students, while spending the first two years in working at anatomy and physiology, attend the hospitals in order that familiarity with the symptoms of disease and their education as medical men should begin as early as possible. During the first year they all follow the clinical professors' visits, but in the subsequent years they have the advantage of being taught in small groups by the "professeurs agrégés" and the hospital physicians, thus, to some extent, resembling the British routine. Sir Archibald Garrod outlines the history and evolution of clinical teaching in this country from the sixteenth century until the establishment of the professorial units in 1919. He describes the advantages and possible drawbacks of these units with complete detachment, as the first director of the professorial unit at St. Bartholomew's, impartially indicating what the students gain from being taught by the ordinary physicians, with their various interests and experience. He reminds us that the clinical clerks and dressers of to-day are the direct successors of the apprentices and pupils of the past. Turning to a rather different aspect of the subject, he recalls that the medical schools of the new universities have grown out of pre-existing medical schools, so that the universities have not had the opportunity of establishing and organizing medical schools from the start with a new hospital untrammelled by ancient custom and vested interests; the reverse is very frequently the case in the United States.

It is interesting to contrast the English and foreign

<sup>1</sup> *Methods and Problems of Medical Education*. (Eighth series.) Division of Medical Education, the Rockefeller Foundation, New York. 1927. (Imp. 8vo, pp. 372; illustrated.)

medical schools as regards the clinical years when students come into intimate contact with patients by holding clinical clerkships. In their account of the arrangements at the Second (Cornell) Medical Division of the Bellevue Hospital, New York, Drs. Eugene F. Du Bois and P. Reznikoff state that in American medical schools the clerkships are usually reserved for the final year, by which time the student has almost completed his period of systematic training and is about to become his own instructor. Professors Henry Christian, J. H. Means, and F. W. Peabody, describing the teaching at Harvard, say that after one and a half academic years of instruction, intended to give the student a knowledge of clinical medicine and a drilling in the methods used in its practice, as well as information about the more important data of medical diseases, the final year sees a complete change in the routine; the student is then put in full contact with the patients, and applies the methods he has previously learnt to the examination and consecutive study of cases in the wards and out-patient departments. According to the professor of propædæutical clinical medicine and general pathology in Amsterdam, Dr. I. Snapper, the students there, after passing their examination in anatomy and physiology, attend for two years demonstrations on cases, and take practical courses in the methods used for investigating them; after a further examination their practical education begins, and they work in the wards and out-patient rooms for several months as so-called co-assistants. A special feature of medical teaching in Holland is that during the two years devoted to normal anatomy, physiology, and histology, a theoretical introduction to the clinical sciences is given by means of a course in general pathology.

It must be admitted that, just as our students concentrate on physiology and anatomy before entering the wards and out-patient departments for continual contact with the sick, so, on strictly consistent and logical grounds, it might be argued that they should acquire a thorough working knowledge of morbid physiology and morbid anatomy and of the methods of clinical investigation before being turned loose among patients. This, however, is completely foreign to our system of beginning clinical work directly after the examination in anatomy and physiology has been passed, and picking up while thus occupied a knowledge of pathology and of clinical methods. The advantage of the British method—a continuation, as Sir Archibald Garrod points out, of the old apprenticeship plan—is that the clinical instinct, difficult as this important faculty may be to define, but nevertheless invaluable, is thus engendered. Continued and close study of patients is an education which, when combined with a good knowledge of laboratory work, makes the best type of clinical physician. It has long been recognized in this country how difficult it is to carry out successfully what is *a priori* the proper plan—namely, to teach students auscultation and percussion before they begin to deal with medical patients. Professor F. R. Fraser, in giving an account of the Department of Medicine at St. Bartholomew's Medical College, says that a few years ago an attempt was made to set aside a period of three months, immediately before the clinical appointments, for introductory courses in pathology, clinical medicine, and surgery, the course in medicine including instruction in history-taking and physical examination. But this obvious dissociation of the instruction in bedside methods from the actual responsible clerkship proved unsatisfactory, and at the present time this course is

given at the beginning of the first in-patient clerkship. The usual order in which these medical appointments at St. Bartholomew's Hospital are held is: three months' in-patient clerking under one of the ordinary physicians, then three months as pathological clerk to a "firm," three months' out-patient clerking, and a further three months' in-patient clerking—in the last year—in the professorial unit.

Thus it may be said that the British plan of picking up clinical methods and pathology while in daily and hourly contact with patients lacks the advantage of coming fully armed to the task of solving a pathological problem, which should be provided by the American plan of preparation for clinical clerkships. But, on the other hand, the ideal medical man cannot be rapidly made out of a well-drilled laboratory pupil; he requires experience, which develops the intuition and human touch that nothing else gives in quite the same degree; and certainly it was these qualities that made the great clinical physicians of this country in the past.

### CRANIAL INCISIONS.

THERE will ever be a certain fascination for the surgeon in the problems of surgical approach, and that to the skull is one of the most difficult. In other regions the actual approach, the exposure, is made through soft tissues, and is a matter of minutes only. None the less, surgical technicians have found much to absorb their interest, and to exercise their ingenuity, in the matter, for instance, of opening the abdomen or of exposing the hip-joint; and it would be not unfair to say that on occasion some warmth has been generated in the defence or the criticism of some particular method. The fundamental issues are the same in the case of the skull, but here the approach to the brain is physically more difficult.

The ideal before the surgeon in making all incisions is that they should be relatively atraumatic, that they should be speedy, that they should give good exposure of the parts, that they should be easily and firmly closed at the end of the operation, and, lastly, that they should remain closed. The ideal incision is that which makes the operation easy, for what is easy is generally safe; and while it is not always true that that which is difficult is unsafe, there must always be a greater element of risk in it.

The mechanical difficulties of the free exposure of the brain add only a small amount to the risks of cerebral surgery, for the whole essence of neurological surgery lies not so much in what is done to the skull as in what is done to its contents. It has, we think, often been a source of wonder to the general surgeon that the neurological specialist should be so indifferent to the means he uses for opening the skull. If the surgical onlooker sees a sequence of half a dozen men at work he will probably see half a dozen methods, all different in some degree; and the plain fact, as it seems to us, is that it does not very much matter. The occasional operator on the skull is apt to be much more interested in the boring of the bone and in the methods of cutting it than in the later stages. It has been said, a little unkindly perhaps, that operators upon the head may be divided into two classes, skull surgeons and brain surgeons, of whom the former vastly outnumber the latter. To cut a disc out of the skull with a trephine without opening the dura gives an enormous pleasure and feeling of importance to senior residents in hospitals. Just why this should be so it is not very easy to understand; perhaps

it is because they may have very nearly done something important without incurring the risks that something really important might have entailed.

We hope there is no need for us to say that in making these few remarks it is very far from our intention to belittle the importance of Mr. H. S. Souttar's new instrument. His craniotome—described in the Hunterian Lecture, printed with illustrations at page 295 this week—is the most valuable and most rapid bone-flap cutter that has yet been invented. The danger is that now he has made the approach to the brain a little easier the generality of surgical folk may think that one of themselves *plus* a craniotome equals a neurological surgeon. The circular saw we are less impressed with; there is, of course, nothing new in the idea of using a saw of this type; the ingenuity lies in the transmission system, an engineering feat of no small magnitude. The less mechanically minded of surgeons are grateful to such men as Mr. Souttar for solving their problems for them. We have not seen Mr. Souttar use the circular saw, but we well recollect seeing a New York surgeon take a good hour to cut a bone flap with an Albee saw or some modification of it. Such constant soundings had to be taken that progress was most tedious. The Souttar craniotome, on the other hand, seems to be almost fool-proof, and will probably supersede other implements. Its disadvantage, we think, is that it cuts a circular flap. This is not a bad shape in the parietal region if made large enough (Mr. Souttar's advice that it should be three or four inches in diameter is a conservative measurement), but on many occasions the rectangular flap is a more useful shape, especially in the frontal region.

Mr. Souttar's recommendations for occipital exposure will be read with the greatest interest by all whose special hobby this is, and he appears to have made a most valuable contribution to the subject. Experience is the only test, and we shall follow the results of extended experience with his instrument with lively curiosity and appreciation.

### TESTIMONIAL TO SIR DAWSON WILLIAMS.

SOME of our readers will be aware that preliminary steps are being taken to promote a testimonial to Sir Dawson Williams, who lately retired from the Editorship of the *BRITISH MEDICAL JOURNAL* after thirty years in that position and nearly fifty years' close connexion with the editorial work of this *JOURNAL*. There is a widespread feeling that the occasion should not pass without some recognition, from the profession as a whole, of his long and distinguished services to the science and practice of medicine. We understand that it is accordingly proposed to issue a general appeal, and to send to the medical press a first list of supporters for publication on March 10th. Those wishing to be included in this list are invited to send their contributions, not later than March 3rd, to Sir StClair Thomson, who has been asked by the provisional Executive Committee to act as honorary treasurer. Though the committee does not wish to limit the amount of individual donations, it hopes that the sum eventually received will include a large number of contributions of two guineas or less, and so represent the profession generally. Cheques should be made payable to Sir StClair Thomson and sent to 64, Wimpole Street, London, W.1, and the envelopes marked "Dawson Williams Testimonial." We feel sure that this proposal to honour one who has served the British Medical Association with such outstanding ability and devotion will commend itself to members in every branch of professional life.



## EPIDEMIC ERGOT POISONING IN ENGLAND.

EPIDEMIC ergotism is well known as an affliction of mediæval Europe, but it has been generally assumed that this is one of the plagues that the advance of civilization has banished. It will therefore come as a surprise to many to read the account of a recent epidemic of ergot poisoning described by Drs. Robertson and Ashby in our present issue (p. 302). This epidemic has occurred, moreover, not in the wilds of Eastern Europe, but in Manchester. Records of epidemic ergotism date back to the ninth century, and all through the Middle Ages terrible outbreaks of poisoning occurred amongst rye-eating populations after wet summers. Large numbers were killed in these epidemics, and many only survived after losing the greater portion of their limbs from gangrene. Before the advent of steam transport the unfortunate inhabitants of districts which depended on rye often found themselves faced, after a wet summer, with the alternative either of starvation or of poisoning from the consumption of ergotized rye. The improvement of communications due to the advent of steam transport naturally reduced the frequency and severity of such epidemics, but it did not abolish them, for several have been recorded during the last half-century in Eastern Europe. Last summer provided the optimum conditions for the growth of ergot in rye, and no doubt ergot was very prevalent in the grain. It is, however, rather a shock to learn from the present report that grain containing 1 per cent. of ergot has been in use in England as human food. The pharmacology of ergotism is somewhat obscure. Ergot contains about one part per thousand of two specific alkaloids—namely, ergotoxine and ergotamine—and these can cause high blood pressure, gangrene, and abortion. The symptoms described in the present outbreak—namely, disorders of sensation, twitchings of the limbs, and staggering gait—are more associated with the spasmodic type of ergot poisoning (as opposed to the gangrenous type), and the active principle in the former is unknown. Fortunately, the cases in the Manchester epidemic were relatively mild, but the event is a curious example of the way in which an obsolete and half-forgotten danger to health may be revived by some change in conditions. The fact that the eaters of black bread contracted ergotism and the eaters of white bread escaped shows that there is, at any rate, one sound reason for the popular prejudice in favour of the latter.

## THE THYROID AND MENSTRUATION.

AN example of the functional relation which exists between endocrine glands is afforded by the thyroid and the ovaries, as evidenced by the frequency of menstrual irregularities in affections of the thyroid. Disorders of menstruation are also not uncommonly observed in other diseases in which metabolism is affected—as, for example, in diabetes and tuberculosis. In these conditions, however, menstruation is usually suppressed, but in diseases of the thyroid either suppression or excess of menstrual activity may be found. This was thought to be dependent upon the degree of activity of the thyroid, but a study of the literature shows no general agreement. Thus, either amenorrhoea or menorrhagia has been recorded as being present both in myxoedema and in exophthalmic goitre—conditions which exhibit the two extremes of abnormal function of the thyroid. Drs. H. Gardiner-Hill and J. Forest Smith have recently made an investigation in the Medical Unit of St. Thomas's Hospital, to ascertain the type of menstruation occurring in a large series of cases of diseases of the thyroid of different grades.<sup>1</sup> In this investigation they examined more than 300 patients, including 9 cretins, 100 adolescent goitres with varying degrees of thyroid function, 86 cases of exophthalmic goitre and hyperthyroidism, 41 of

myxoedema, 24 of parenchymatous goitre, and 22 of simple adenomatous goitre. In order to provide confirmatory evidence of the degree of thyroid activity estimations of basal metabolism were also carried out. Turning to the results obtained, and taking into consideration the whole series of cases investigated, it was found that menstruation may or may not be affected in these diseases, but that when menstruation is affected the alteration tends to be in a uniform direction. The degree of thyroid activity and the type of menstruation vary inversely, as there is often a tendency to menorrhagia in hypothyroidism and to amenorrhoea in hyperthyroidism. The observations of Gardiner-Hill and Forest Smith may be summarized as follows: In cretinism the onset of menstruation is usually delayed, and if not adequately treated may never appear, but if suitably treated menstruation tends to be regular and normal. In adolescent goitre, with no signs of thyroid disturbance apart from the goitre, menstruation is usually normal; with hyperthyroidism the menstrual periods are often delayed, scanty, and irregular, and with hypothyroidism menorrhagia occurs. In exophthalmic goitre menstruation may be normal, but in the more severe cases the periods are scanty and irregular, and in the most severe cases amenorrhoea is generally present. In myxoedema before the menopause menorrhagia is commonly present. The impression that myxoedema is sometimes accompanied by amenorrhoea is due to the fact that this disease frequently develops after the menopause. Finally, in parenchymatous and simple adenomatous goitres there is usually no disturbance of menstruation, but in patients with hypothyroidism menorrhagia has been observed.

## TATTOOING AND REMOVAL OF TATTOO MARKS.

THE ancient practice of tattooing, which probably dates back to the prehistoric cave-dwellers, and has reached its highest development in the islands of the South Pacific and in Japan, presents many points of medical interest. In certain lands it is employed as a form of preventive medicine in virtue of special designs warranted to avert the evil eye, while, on the other hand, in modern medicine many examples have been recorded of patients infected with divers diseases at the hands of those who practise this form of decorative art. Dr. Marvin D. Shio, in an interesting article<sup>1</sup> on the subject, mentions that Bercheron in 1862 was able to report no fewer than eight deaths as the direct result of tattooing, with many other cases of serious septic infection. Leprosy and tubercle have several times been transmitted in this way, and syphilis quite frequently; a single operator with mucous tubercles in his mouth is said to have infected as many as nine patients in a single day. Modern antiseptics have much reduced the risks of tattooing, as of other and more useful operations, but since the practice is peculiarly attractive to the denizens of the "underworld," and is often carried out on alcoholic subjects by alcoholic operators, the attendant hazards still remain considerable. But the commonest problem associated with tattooing to be presented to the surgeon is that of the removal of the marks. It is a problem which has scarcely yet been satisfactorily solved. Tattooers have therefore been in the habit of doing what may be considered the next best thing—namely, the bowdlerization of obscene designs or the concealment of some mark of identification by the superposition of something new on the same site. Surgical, electrolytic, and chemical methods have all been tried in the effort to secure complete removal without a scar. Except in the comparatively rare instances when the design can be excised and the wound sutured or even skin-grafted, the resulting scar is always a serious matter, but Dr. Shio has been able to obtain good results by the method of Variot, which

<sup>1</sup> *Journ. Obstet. and Gynaecol. of the British Empire*, Winter Number.<sup>1</sup> *Journ. Amer. Med. Assoc.*, vol. 90, p. 94.

consists of tattooing into the design a 50 per cent. solution of tannic acid in water. The area to be treated is painted with the tannic acid solution and tightly stretched so as to minimize the pain to the patient, and tattooed closely all over. To accelerate the process several needles—for example, ten—can be used simultaneously if mounted in a convenient manner. From time to time an assistant adds fresh tannic acid, so that the tattooing is always done through the solution. When all is complete the whole area is grey and swollen and the pigment almost obliterated. It is then rubbed over with a stick of silver nitrate, and a heavy black deposit of silver tannate is formed, which extends right down to the corium where the original pigment was laid down. After fifteen or sixteen days a slough, like a thin piece of leather, comes away, leaving a thin new layer of epithelium beneath it. This gradually assumes the appearance of the normal skin, and in favourable cases no scarring persists. If, however, the hair follicles have been destroyed within the tattoo mark there will be some scarring. Dr. Shie considers that the best field for this method lies in the removal of accidental tattoo marks such as are left by powder explosions depositing carbon. But he owes his very considerable experience of tattooing and its removal to the fact that he has been connected with the Marine Hospital of Cleveland, frequented by sailors—a folk among whom the practice is notoriously popular.

#### EPIDEMICS IN PEPYS'S DIARY.

At the social evening of the Royal Society of Medicine on February 15th, when Sir James and Lady Berry received a large company of Fellows and guests, Colonel W. P. MacArthur, just returned from Shanghai, gave a very interesting lecture on the medical references in Samuel Pepys's diary. It was remarkable also as a feat of memory, for, without the use of a single note, the lecturer had every name, date, quotation, and reference at his finger-tips. He reminded his audience that the diary began in 1660 and covered a period of nearly ten years. The medical references are numerous, and, unless our memory is at fault, Sir D'Arcy Power once wrote a charming paper on the medical history of Mrs. Pepys. Colonel MacArthur recalled the diarist's account of a successful experiment in blood transfusion, which "may be of mighty use to man's health, for the mending of bad blood by borrowing from a better body." Pepys had some reflections also on his own operation for stone. A stone larger than a tennis ball, according to Evelyn, was removed, and this pathological relic Pepys carried about in his pocket to show his friends. The mid-seventeenth century saw fearful ravages from small-pox, and Pepys told the story of the tragic disfigurement of Frances Theresa Stuart, a court beauty, said to have been the original of Britannia on the coinage. In March, 1668, the unfortunate lady is "mighty full of the small-pox," which, Pepys added sententiously, "is the greatest instance of the uncertainty of beauty which could be in this age." A very heavy toll was taken by small-pox at this time, and it did not spare the royal family. Colonel MacArthur appeared to think it was small-pox which caused the death of the young Duke of Gloucester in 1700, and so cleared the way for the Elector of Hanover, George I, to the English throne, but the *Dictionary of National Biography* says otherwise. In the Tudor period Colonel MacArthur failed to trace any similar record of small-pox virulence. At that time it was bracketed with measles and accounted a childish affection. It was interesting to speculate whether the mild type of small-pox now prevailing would again be mentioned in the diary in the summer of 1661, and was attributed by Pepys to the extraordinarily warm weather, which persisted through the autumn and into the winter.

This strange fever was not plague, small-pox, or typhus, with all of which Pepys was too familiar, but it could be gathered from the pages of Sydenham to have been malaria, or, as Sydenham called it, intermittent fever. The most extensive of Pepys's medical interests was concerned with the London plague of 1665. This was an epidemic of bubonic plague affecting the chief residential district of London—the City—which was at that time filthy and congested. It was the last of a long series of epidemics which had flared up at intervals; the seventeenth century had already seen three great outbreaks. Pepys's earliest mention of the epidemic was in April and May, when he noted the great fear and dread in the City, several houses being shut up and marked with the plague sign. In his own parish there were as many burials in four weeks as there had been in the whole year before. Entire families were wiped out. The bills of mortality, to which Pepys made frequent reference, were originally concerned with plague deaths only; but from 1592 they were issued weekly by the London Company of Parish Clerks, and gave the deaths from all causes. Four principal outward manifestations of the plague were noticed—namely, the botch or bubo, the carbuncle, the token, and the blain; of these only the first is now commonly found in association with plague. A letter by Pepys showed that the diarist stayed on in London until the recorded deaths reached 6,000 in a week, and the nights, although lengthening, were too short to conceal the burials. His household returned to London in December. Plague persisted in London for another fourteen years, but with the enforcement of cleansing orders and a higher standard of sanitation there was no further epidemic. In conclusion, Colonel MacArthur said that those who had estimated Pepys's character from the more frivolous pages of his journal might do well to recall that he was an indefatigable and conscientious worker, a most efficient public servant, and an honest man according to the ideas of his time. He received many honours, he was President of the Royal Society, Master of Trinity House, Warden of the Cinque Ports, member of Parliament, friend and correspondent of Isaac Newton, John Evelyn, and Hans Sloan. But he had a claim to the goodwill of the medical profession because he held the science of medicine in high regard—a regard by no means universal in old times, as witness a passage from a book almost as intimate and revealing as the diary, namely, the Paston Letters. In a letter written by Margaret Paston to her husband in 1464 occurred this distressing passage: "Also for Goddys sake be war what medesyns ye take of any fysissians in London; I schal never trust to hem be cause of your fadr and myn onkyl, whoys sowlys God assoyle."

#### DUTCH AND DANISH CONDENSED MILK.

In August last year the Minister of Health dispatched a commission to the Netherlands and Denmark for the purpose of inquiring into the conditions of production of the milk used in preparing condensed brands. This visit followed an earlier one to the two countries paid by delegates from the city of Liverpool; we gave a short account of the report of this deputation on April 2nd, 1927 (p. 635). The present commission consisted of Dr. J. M. Hamill, a medical officer of the Ministry of Health, together with Mr. T. A. Hole, a milk inspector, and Mr. J. Mackintosh, professor of dairy husbandry at the University of Reading. The report of Dr. Hamill and his colleagues has just been issued. It is satisfactory to note that neither in Holland nor in Denmark did the observers find the conditions of milk production markedly superior to those existing in England. In Holland cows are milked in the fields instead of sheds for six months in the year. Any disadvantages in the cleansing of utensils are neutralized by the rapidity with which the milk is removed to the condensery or

creamery. The floor construction in the cowsheds is generally superior to English construction. This is due to the sheds having been built for the specific purpose of housing cows, instead of being intended originally for some other purpose. The commission was struck by the similarity in principle of Dutch Government regulations and our own for controlling the purity and cleanliness of milk. Administration works smoothly. The Dutch authorities have not yet adopted official veterinary inspection, but the matter is now under consideration. Private organization for controlling the purity of milk and the health of the cows is good, and in the co-operative societies has attained considerable efficiency. Conditions in Denmark are similar to those in Holland, but the cowsheds are said to be even superior to the average Dutch type. Government regulations for the control of purity and cleanliness of milk resemble those of our Milk and Dairies Order for milk intended to be consumed as such. But milk intended for conversion into condensed milk is exempt from these regulations, though others of a less specific and detailed character are now in contemplation. The commission concludes that neither in Holland nor in Denmark are the conditions of production, the regulations, or the administration sufficiently different to warrant any differentiation, on the grounds of danger to health, between dairy produce in England and that in the two countries visited. Nor is it thought that English regulations place any significant burden upon the English farmer which is not already borne by the farmers of Holland. Otherwise the main interest of the report for the British farmer should be the evidence it offers of the successful results of co-operation in the production, transport, and distribution of milk, and in the manufacture of milk products in the two countries investigated. These points were emphasized also in the report of the Liverpool deputation.

#### THE EVILS OF TOBACCO.

PROHIBITION, like drug-taking, whets the appetite for further indulgence. It appears that in America there are many people who regard tobacco as the next subject for legislative attention. To inform the public on the matter there exists a Committee to Study the Tobacco Problem, which includes in its membership not only Mr. Henry Ford, a chief executive of the boy scouts, and a professor of theological exegesis, but also numerous medical and physiological professors at universities. The committee has recently issued a book by Dr. Pierre Schruppf-Pierron, professor of clinical medicine in the University of Cairo, entitled *Tobacco and Physical Efficiency*.<sup>1</sup> The president of the committee, Dr. Alexander Lambert, in a foreword, claims that the object aimed at is an unbiased presentation of every variety of opinion. Professor Vaguez of Paris has written a preface, and explains why he advises the total abandonment of tobacco in patients with cardiovascular lesions, manifest or latent. At the end of the book there is a very complete bibliography of the literature of tobacco. As regards Professor Schruppf-Pierron's contribution, we can only say that it is not very illuminating. He states that tobacco may cause headache, migraine, vertigo (how true of the first pipe!), insomnia, and amnesia; but in many conditions of a graver nature that are mentioned it might be better to say merely that sufferers from such disorders sometimes smoke tobacco. It is satisfactory, however, to learn that the charge that tobacco causes actual lesion of the heart is "not proven," and that in women smoking itself has no apparent influence on the functions of the genital system. The author is of opinion that further controlled clinical and laboratory

studies are desirable to ascertain the ultimate effect of prolonged moderate use of tobacco, as well as of its free use. He wisely adds that the dangers of excessive indulgence in tobacco should not be exaggerated, and that tobacco should not be placed on the same plane as morphine and cocaine. Recollections of nonagenarians enjoying their pots of beer and pipes of shag lead us to endorse this view. Our readers will remember that on October 22nd, 1927 (p. 719), we published Professor W. E. Dixon's Norman Kerr Lecture on the tobacco habit. The very reasonable conclusions at which Professor Dixon arrived included a plea for further investigations, especially into the question how far the use of tobacco leads to vascular degeneration. Professor Schruppf-Pierron's book confirms our opinion that the effects of this very slow poison are not yet ripe for dogmatic statement.

#### THE UNITED HOSPITALS CLUB OF ST. THOMAS'S AND GUY'S.

THIS ancient club held its centenary dinner on February 16th last. It was founded on February 15th, 1828, by two general practitioners—then called apothecaries—educated at the Borough hospitals, St. Thomas's and Guy's. Its object was to maintain and keep alive the friendship that had always existed between the two great institutions, lest this should be imperilled by the opening of the independent school at Guy's in 1826. The United Hospitals Club is proud to remember that its foundation was owing to the general practitioner; for at the foundation meeting, held at the London Coffee House, twenty apothecaries were present and only two members of the staff of the hospitals. The club consists of eight of the staff from each hospital and nine general practitioners, who by dining together four times a year renew the dual friendship. The club entertains guests, and during the hundred years of its existence has welcomed most of the prominent members of the profession both from home and abroad. It was not until 1836 that the complete separation of the two schools took place, in consequence of a disagreement as to the attendance of the students of each hospital on the practice of the other, whilst the removal of St. Thomas's to Lambeth sixty years ago further emphasized the separation. More than ever then did the club appreciate its usefulness; not that now it is needed to increase the friendship between St. Thomas's and Guy's—that is impossible—but rather as a concrete and permanent reminder of past relationship and an earnest of future good feeling. At its centenary dinner, under the joint chairmanship of two of its oldest members—Sir George Makins (St. Thomas's) and Mr. C. H. Golding-Bird (Guy's)—it broke one of its most rigid rules, which permits only members of the profession as guests. It entertained last week the treasurers of the two hospitals, Sir Arthur Stanley and Mr. F. P. Whitbread, thus clinching the union, in public, of two famous medical institutions now removed a distance from one another. Perhaps Guy's Hospital reaps the greater advantage from the club, for its founder, Thomas Guy, was a governor of St. Thomas's. In this filial relationship Guy's may claim to have a full share in the traditions of St. Thomas's, extending back over six centuries, of which, indeed, St. Thomas's has good cause to be proud.

At the meeting of the President and Council of the Royal Society on February 16th it was decided to recommend fifteen candidates for election as Fellows. Among those chosen are two members of the medical profession: Dr. Carl Hamilton Browning, professor of bacteriology in the University of Glasgow, and Dr. Major Greenwood, professor of epidemiology and vital statistics in the University of London.

<sup>1</sup> *Tobacco and Physical Efficiency*. By Pierre Schruppf-Pierron, M.D. Preface by Henri Vaguez, M.D. With a foreword by Alexander Lambert, M.D. New York: E. B. Hoeber, Inc. 1927. (5½ x 8½, pp. xiii + 134. 1.85 dollars net.)

## "THOSE OTHER PRACTITIONERS."

AN ADDRESS TO THE

ABERNETHIAN SOCIETY OF ST. BARTHOLOMEW'S HOSPITAL,  
JANUARY 26TH, 1928,

BY

LORD DAWSON OF PENN.

My intention is to refer to those practitioners who do not give allegiance to the medical profession and are styled unqualified. That such should have existed in past centuries does not cause us surprise, but that their activities show little sign of abatement in this age of scientific inquiry should prompt us to reflection. No doubt the desire for gain and notoriety is a partial, and in some instances a complete, explanation of their activities, but many of them, however mistaken, have an honest belief in themselves and their work.

### *The Unqualified Practitioner.*

A quack may be described as a man who makes baseless and boastful pretensions for a method of treatment. He may be one who deceives himself before deceiving other people, or one who deceives other people without deceiving himself. It has to be admitted that the quack may exist inside as well as outside the ranks of the profession. For my present purpose I exclude from this purview those who have the intention to be impostors and whose methods are designedly dishonest. The unqualified or irregular practitioner need not be a quack. In some instances his methods of treatment are helpful, provided they are applied under the right conditions.

To keep the art of medicine firmly set on the rock of knowledge and defend it against false doctrine what vantage ground should we select? I suggest to you that we should take our stand on diagnosis. Here our position is unassailable. To attempt to treat disease without knowing what is wrong would be folly. Diagnosis must precede treatment, and the knowledge of diagnosis can only come from years of training in the sciences of physics, chemistry, biology, anatomy, physiology, pathology, bacteriology, and then in the study of the bodies and minds of the sick at the bedside. Educational authority must, in the public interest, see that such training is adequate.

However much public opinion might be carried away by this or that cult or miraculous cure and demand of us to take its exponents into our confidence, it never would give these independent practitioners the rights and duties of medical men, any more than it would permit a heaven-born though untrained engineer to drive a train or an Atlantic liner.

Diagnosis, then, is our sure ground; it is a clearly defined and exclusive province of medicine and the sciences on which the latter is based. On the other hand, treatment is not the apanage of doctors alone. The art of healing has in all ages been the concern of peoples and has been blended with their desire to help and save. Its instinctive promptings exist in each individual—man and beast; witness the dog who licks the inflamed paw or seeks out a special variety of grass. The apothecary or "village dame" of former ages gathered from the countryside the herbs and simples from which potions, having reputo amongst the people, were made. The herbalist would gather the wood anemone with the ceremonial ordination "I gather thee as a remedy against all disease." Similar ceremony attached to rosemary, and the Druids called mistletoe "All heal." Nor did surgery escape the influence of popular belief.

If we survey the field of treatment to-day we find it on the one hand adjacent to such defined and ordered territories as anatomy, physiology, chemistry, and pharmacology, and in other directions merging into the less defined regions of mind, feeling, faith, belief, even superstition, all of which penetrate far back into time and human history. That medicine should have as one of its styles and titles "The art of healing" reminds us that for the public a main purpose of our existence is to make suffering people

well. Thus it is that unqualified practitioners centre their activities in the treatment of illness. From the innumerable cults and cures, past and present, I will select a few examples.

### *Perkins and Mesmer.*

Elisha Perkins (1740-99) was in the earlier part of his career a country practitioner. Later he invented the "metallic tractors," which consisted of two rods of metal—one of gold, copper, and zinc, the other of iron, silver, and platinum. These rods were drawn over the affected part, and acted by the electricity they were alleged to produce. They cured most things—pain, rheumatism, tumours, boils, pleurisy, and various nervous diseases. The vogue was great—all sorts and conditions of men, including noblemen, statesmen, and divines, supported his claims; real cures resulted, though how permanent they were is doubtful. Then came decline. Finally Dr. Haygarth of Bath showed that tractors of wood painted like the metal ones produced even greater cures, and so the bubble burst.

Mesmer (1734-1815), who took his M.D. at Vienna in 1766, based his cures on the use of magnetism. In Vienna he was not accepted, but, moving to Paris, his reputation grew and he became the rage. At first he was only misguided. When his influence grew vanity obscured his honesty, and one reads of all the paraphernalia of the charlatan—spacious salons, stained-glass windows, coloured lights, fragrant fumes, velvet, and soft music. Let me quote:

"In the middle of the principal salon was deposited an oval vessel, about four feet in its major diameter and one foot in depth. This receptacle contained a number of wine bottles, filled with magnetized water, well corked, and disposed in order, with their necks outwards. The vessel was filled almost to the brim, and iron filings were thrown into it at intervals, to increase, it was said, the magnetic effect. An iron cover, called the *baquet*, perforated with many holes, completed the apparatus—a long movable rod of iron issuing from each aperture for the patients to apply to the diseased parts of their bodies. The patients sat round the vessel, holding each other's hands, and pressing their knees together as closely as possible, in order to facilitate the circuit of the magnetic fluid.

"The assistant magnetizers then entered—stalwart and handsome young men, who were supposed to pour into the patients from their finger-tips a fresh supply of the magnetic fluid. They embraced the patients between the knees, rubbed them gently down the spine and along the course of the nerves, pressed gently on the bosoms of the females, while fixing them with a magnetic glance from their eyes—in anticipation of the Ancient Mariner and the Wedding Guest in Coleridge's ballad."

It is difficult to believe how Mesmer took possession of public attention. His methods attracted the Court and the Government. The latter offered a pension of 20,000 francs and a decoration if he would communicate his discovery to physicians nominated by the King. This offer he evaded. Later commissioners investigated his pretensions and reported against them, and finally he became discredited.

### *Osteopathy.*

The osteopath is the descendant of the bone-setter, and it is an interesting fact that Barker succeeded to the practice of Hutton, who was a well-known bone-setter of the Victorian era. Osteopathy ascribes maladies to misplacements of anatomical parts, and especially to faulty arrangements and alignment of the vertebrae. The treatment consists of manipulation of the misplaced parts with a view to their correct replacement. It is done with vigour and often accompanied by clicks, which provoke a strong and confident statement that the malady will immediately cease, and so sometimes it does. I have not heard of skiagrams being taken before and after the treatment. One may discern in these treatments (a) physical examination and treatment of the body, and (b) influence on the patient's mind. Sometimes there is a dexterous manipulation of the part affected, and in other instances there is only a ritual handling of the body, and this is made the means of exerting forcible impressions on the mind.

There is nothing radically unsound in these methods. When they fail it is because a false diagnosis of the condition has been made. If the manipulation is harmless there may remain a beneficial effect due to suggestion. Where the case is one unsuitable for manipulation grave harm may result.

There are gifts of hands often inborn—not acquired—a dexterity without a reasoned basis, and therefore not teachable to others. Such is so-called manipulative surgery. If it were practised within its proper ambit, if it were only applied after skilled diagnosis had been made and skilled direction given, how useful it would be! I come back to what must ever be our undeviating insistence—diagnosis must precede treatment.

#### *Faith-healing.*

I now pass to the consideration of methods of treatment which depend on mental influences and use but little manipulation or other physical modes of approach. I will select Coué's teaching, and what may be conveniently comprised under the term "faith-healing."

M. Coué's method seeks to take control of the patient's subconscious mind: the constant and rhythmical repetition of the phrase "*Ça passe*" for the time so occupies the subconscious mind that the latter is impervious to the influence of reason. With periodic repetition of this exercise the impression remains, and the subconscious mind accepts and keeps the idea that this or that symptom has passed.

The merit of M. Coué's method is that it trains the patient to help himself. But is that all? No; M. Coué's forceful, cheerful personality, his atmosphere of sincerity and confidence, made a deep impression on his patients; he immediately secured followers who passed into disciples; and the fact that he impressed on his hearers that his personality counted but little deepened his influence, for is it not true that mental influences often reach their best when they are incidental rather than intentional, implicit rather than explicit? The Coué method is, in short, auto-suggestion reinforced by suggestion.

So far, so good. The method, applied to functional disorders, whether standing alone or as part of organic disease, is one of usefulness, and only disadvantageous because of its detachment from other treatment and when its claims go beyond facts. But when its claims are extended to the curing of developed structural disease then a doctrine is being propounded which is not only erroneous, but dangerous; and a similar false doctrine is found in the teaching of Christian Science and some forms of faith-healing. There is no evidence, for example, that a tumour disappears under psychical treatment, and such teaching is dangerous because it leads patients to postpone physical treatment until too late. "Render unto Caesar the things which are Caesar's, and unto God the things that are God's."

Faith-healing is so large and diffuse a topic that I will limit myself to healing by the influence of a personality. Here the healing depends on the attributes of the personality and the reaction of the patient. The attributes of the healer are in part inborn, though cultivation may do much to enhance them; whether they can be inspired from without—that is, implanted by Divine gift—is a question outside our present inquiry.

Our daily experience leads us to conclude that the influence of mind is an integral part of the art of healing. Let me give you two examples. A patient, after weeks of unconsciousness due to typhoid fever, gradually emerges and for a fortnight remains on the threshold of consciousness. We all know how painful and enfeebling that phase can be—dreams, terrors, eries, restlessness, insomnia—and narcotics and hypnotics gave but poor results. Then, by good fortune, comes on the scene one nurse who, by touch and voice—or shall I say through touch and voice?—quells the troubled spirit, gives sleep, and contributes in no small measure to recovery.

Another example. An aged lady, great in mind and character, had recurrent carcinoma of the breast and suffered agonies of pain in her arm. One day she said "Would you mind if we let a healer try and help my arm?" and she mentioned the best-known healer of that time. I assented, and offered to meet the healer in consultation. For several weeks that healer substantially reduced the pain and brought her peace. One day she said to me, "I feel the good Mr. X can do me is over, and I would like his visits to cease." By that time the end was nearer and morphine carried us through.

In both these instances we saw mind healing at its

best. Why? Because it was not dissociated from physical healing. When dissociated, mind healing loses its sense of proportion, its pretensions grow and grow, the healer falls with dangerous facility into a dependence on the accidentals rather than the essentials of his art. He thus gets on to a basis of falsity rather than truth, and he becomes as sounding brass and tinkling cymbals. There is no department of treatment which goes mad so easily as psychotherapy.

The remedy for these dangers is to secure that all forms of treatment should be guided and co-ordinated by the doctor; but this supposes a wide comprehension on the part of the medical profession of what treatment includes and a readiness to secure the help of ancillary callings. Such comprehension is growing apace. I need only instance the midwife, the masseur, the electrician; and why not the manipulator and healer, provided always one essential—that diagnosis and direction precede treatment?

#### *Mind and Body.*

As regards mind treatment, there is danger of it losing direction in the learning of medicine; on the one hand advances in pharmacology rightly give prominence to specific remedies like digitalis, insulin, emetine, quinidine, etc., and on the other hand there is a tendency to push the estimate and treatment of the mind factor into the ken and care of the psychotherapist. Therein lies error: body and mind cannot be thus separated either in diagnosis or treatment. In both functional and organic diseases there are the reactions of mind and temperament, and we have to study not only the material disease, but the complete fabric or make-up of this or that personal illness.

Moreover, structural disease may have a psychical as well as a physical beginning. Let me instance Graves's disease and certain forms of high blood pressure. Inborn traits and reactions—impressionability, sensitiveness, over-conscientiousness—reacting on some varieties of physical make-up will produce, say, increased secretion or vaso-constriction. Then develops what may be called physiological habit, and so gradually there evolves full-fledged structural disease.

Thus is emphasized the importance of the study of medicine by the student at the bedside. There he will study first the symptoms and signs of physical disease, and at the same time will be brought in contact with characters, temperaments, and difficulties of patients' lives which go far to determine the form of their illnesses. In this way imaginative insight will gradually become one of the qualities of the student's mind.

The psychical factor in illness is likely to play a larger, not a smaller, part in the future; the material resources of civilization have developed so rapidly that they have outstripped man's power of adaptation, and strains and conflicts will need more careful consideration. That is seen in the increase of illnesses due to "exhaustion" states, which illustrate that the best healing of the mind is that which is not obtrusive and still less exclusive, but rather accompanies a sound physical treatment. Absence of the latter and the ascribing of the illness to "neurasthenia" or erroneous habits of thought are apt to delude the patient. Even if true, the "sick" are not yet prepared for this; they cannot get away from the feeling that what is physical is real and something they cannot help; whereas what is psychical is unreal and something they can help. This misconception is perhaps due to mistaken teaching about the doctrine of freewill.

From this I am led to suggest that psycho-analysis should be limited to selected cases, and its practice to the few who are specially trained and possess the needful gifts of mind. Psycho-analysis requires the clinician; it should never be crude and lay bare a patient's soul. Clumsy questioning, like clumsy surgery, can easily produce irreparable damage.

I plead, therefore, that we should take a large and comprehensive view of treatment: that physical and psychical healing—or, as it will some day be, physical and psychical education—should not be divorced from each other, and that all forms of treatment should be co-ordinated and directed, though not necessarily executed, by the doctor and based on sound and accurate diagnosis.



## Scotland.

### Proposed Compulsory Treatment of Venereal Diseases in Edinburgh.

THE Edinburgh Corporation is at present promoting a parliamentary bill<sup>1</sup> for compulsory treatment of venereal diseases, and the medical officers of Parliament and the medical officers on the subject. The corporation holds that at present the scheme for treating these diseases is not yielding results commensurate with the expenditure involved, and that the purely voluntary system, having received an adequate and exhaustive trial, has proved ineffective for the purpose of preventing infection. They therefore desire to try the methods they propose for an experimental period of five years. According to a statement which has been issued over the signatures of Councillor Given (convener of the Public Health Committee), Mr. Andrew Grierson (town clerk), and Dr. W. Robertson (medical officer of health for Edinburgh) the publication of the report of the Royal Commission in 1916 led to extensive propaganda for the object of public enlightenment on the grave evils of these diseases and to the establishment of facilities for their treatment free of cost, with, so far as the patient was concerned, as little publicity as possible. As a result, it is stated, local authorities were brought into touch with a large amount of this disease, and many of the patients treated had been cured. Under the Edinburgh Corporation venereal diseases scheme a total of 19,059 new patients had reported for treatment during the five years 1921 to 1925. During the period, however, a very considerable number of these patients had ceased attendance long before they were considered cured. During 1925-26, for example, there had been 903 such defaulters, while the total number of defaulters during the five-year period was 5,129. It is considered that the fact of there being in each year an average of over 1,000 cases of possible infective disease known to the public health authority, while this authority is powerless to deal with them, is far from satisfactory when viewed from the public health aspect of preventable disease. This also leads to the local authority expending very considerable sums of money without an adequate return. The expenditure in connexion with the Edinburgh scheme in the past year was £21,862, of which £11,125 was recovered in the form of Government grants. The operative clause of the bill now to be submitted to Parliament provides that when the medical officer of health has reason to believe that any person is suffering from venereal disease and liable to infect other persons, and when such person neglects or refuses to undergo treatment by a medical practitioner or at a treatment centre established by the corporation, the medical officer of health may notify him to consult a medical practitioner or attend a treatment centre. Failure to carry out such a requisition and the giving falsely, without reasonable cause, of information that a person is suffering from venereal disease are to be punishable by fine. The executive committee of the Edinburgh and Leith Division of the British Medical Association, at a meeting held on February 18th, discussed the proposals of the Edinburgh Corporation, and passed a resolution in support of them. The matter will come before the Division on February 28th. The bill was discussed this week by the Parliamentary Medical Committee, together with representatives of Edinburgh Corporation (see p. 330).

### Glasgow Victoria Infirmary: Admission of Paying Patients.

The fortieth annual meeting of the Victoria Infirmary of Glasgow was held on February 15th. The annual report of the Institution was noticed in the JOURNAL of February 11th (p. 235). Mr. William Gray, chairman of the governors, made an important statement at the meeting in regard to the admission of patients for treatment on payment of an inclusive modified fee. He said that the governors had been impressed by the strong recommendation of the Hospital Services Committee, which had been appointed by the Government to inquire into the work done by the voluntary hospitals in Scotland. Most of the

witnesses before this committee had urged the need for hospital facilities for persons of moderate means who could not afford the charges of the ordinary nursing homes. The practice of providing beds for paying patients was now spreading, and the question of extending it to the whole hospital system was one of the definite issues before voluntary hospitals. After careful examination a suitable scheme had been formulated by the governors of the Victoria Infirmary, and this would be put into operation as soon as the necessary accommodation was available. It was proposed to admit patients on payment of an inclusive fee of six guineas per week, which would be sufficient to cover maintenance and nursing charges as well as a modified fee to the surgeon performing the operation. The speaker expressed indebtedness to the surgical staff of the institution, who had agreed to carry out the work at a scale of fees much below the ordinary charges. The scheme would, however, not interfere with the patients for whom the voluntary hospital was intended, and the present accommodation would not be used for fee-paying patients, for whom an annexe to the existing hospital would be built, with access to the present operating theatre. He felt convinced that the decision of the governors to extend the field of the Victoria Infirmary in this direction would be welcomed by a large section of the citizens, who could feel that there was some prospect of treatment being carried out under the most favourable conditions, at a cost which it would be within their ability to pay without undue anxiety.

### Glasgow Royal Asylum.

The annual meeting of the Glasgow Royal Asylum was held on February 16th, with Professor Glaister in the chair. Dr. D. K. Henderson, medical superintendent, in his report said that there had been 518 patients in the asylum at the close of the year, while the total number under treatment during the year had been 671, and the average daily number resident 527. There had been 138 admissions and 153 discharges, with 59 deaths. All the patients admitted were private cases, and of these 76, or over 60 per cent., had been voluntary patients. Attention was drawn to the fact that this was a record for this mental hospital, and was an indication of the growing tendency in regard to mental hospitals generally. The voluntary patient made the best and quickest recovery as a rule; indeed, the great majority of patients who got well from mental diseases did so within the first year after admission. Thus of the 51 recoveries 47 took place during the first twelve months of residence, and of these the great majority had recovered within three months after admission. The chairman, in moving the adoption of the report, said that many people were going about to-day whose mental balance was a very precarious affair, but who could not be certified as insane, although they were deficient in the power of adapting themselves to their social environment, and so did not conform to necessary requirements. At the present time many sexual crimes were committed by these people, and he was convinced that the only remedial treatment of value to them would be confinement in a place of custody.

### Royal Medical Society of Edinburgh.

The annual dinner of the Royal Medical Society of Edinburgh was held in the Royal College of Surgeons on February 16th. Dr. W. Mitchell Innes, senior president of the society, presided, and the guest of the evening was Dr. A. Logan Turner. In proposing the toast of the Royal Medical Society Dr. Logan Turner remarked that Charles Darwin, when he was a student in Edinburgh, attended the meetings of the society regularly, and spoke of it in his autobiography. Many of the students who were now members would in future belong to other societies, but they would always look back with pleasant memories to the days they had spent in this society. The society for a time had gone down, but since the war it had enjoyed increasing prosperity, which its friends trusted might long continue. One of its earliest activities had been the founding of a library, which had steadily grown until there had now risen the important question of the accommodation and proper arrangement of its books, and he hoped that this matter would be settled satisfactorily.

<sup>1</sup> The essential clause of this bill will be found in the SUPPLEMENT this week at page 66.

Dr. J. A. Bruce, one of the society's presidents, in replying, said that in the present year the membership had showed an increase of 60, which was a record for the society. Dr. L. B. Wevill, proposing the toast of the Edinburgh Medical School, said that the greatest feature of the school had been its success in turning out good general practitioners. A medical school must ultimately stand or fall by the average of men which it turned out, and Edinburgh in the past had produced practitioners of great intellectual honesty, of keen observation, and possessed of a capacity to draw logical conclusions from the facts which they observed. On this type of man the greatness of the Edinburgh Medical School had been based.

Attention may be drawn here to the fact that an appeal has recently been issued by the officers of this society in order to raise an endowment fund of £3,000 for the purpose of ensuring the proper preservation of the library and rooms and of obtaining the services of a full-time librarian. The scheme is intended to celebrate the bicentenary of the society, which will fall in 1937, and it is launched at this early date in order to give members an opportunity of paying ten annual contributions—if they prefer to do so—instead of giving a lump sum. Old members who desire to subscribe to this object should send subscriptions to the treasurer, Royal Medical Society, 7, Melbourne Place, Edinburgh.

## Ireland.

### Medical Services in the Free State.

THE Minister for Local Government and Public Health, accompanied by the Secretary of the Department, Mr. T. MacArdghail, and Dr. Stephenson, lately received a deputation representing the Irish Medical Committee. The deputation consisted of Drs. A. McBride, J. F. O'Connor, O'Brien (Wexford), McCann, Conor Maguire, Armstrong, and J. P. Shanley, with Dr. T. Hennessy (Irish Medical Secretary), and Mr. C. H. Gick (Secretary, Irish Medical Association). The questions raised related to the dispensary medical service, to county hospitals, to the public health service, and to miscellaneous matters. The deputation pointed out the inadequate salaries paid to dispensary medical officers, particularly in Mayo and Longford, and asked the Minister to regulate the salaries in these counties on the basis of the scales sanctioned in other counties. The Minister, while fully sympathizing with the medical officers, stated that he was not at present prepared to issue sealed orders determining the salaries in these counties. He promised to explore the situation fully so as to ascertain the most desirable way of dealing with it. Dr. Hennessy drew attention to the transfer of medical officers by local authorities, and urged that transfer should be regarded as promotion, not as patronage, and that seniority and meritorious service, and post-graduate qualifications and experience, should be the determining factors. He considered that such transfers, in the first instance, might be restricted to the county areas. It was suggested that the local authority seeking to transfer an officer should state in the first place if it intended to limit the selection to the county. Attention was drawn to certain cases in which local authorities had not accepted the locumtenents nominated by the medical officers during holiday and sick leave. The policy of the department to afford all reasonable facilities to dispensary medical officers to enable them to avail themselves of their holiday leave, and the legal aspect of the question, were explained. During the discussion of questions relating to county hospitals the deputation stated that the salaries of county surgeons were inadequate, and a scale of £800 to £1,200 was suggested. No decision was come to, but the Minister stated that individual cases would be examined as occasion arose. The deputation was opposed to an inclusive salary for county hospital surgeons in any circumstances. The relationship of the county surgeon and the matron in regard to the control of county hospitals was considered, and a few alterations in the general regulations were suggested to strengthen the authority of the medical officer. Dr. O'Connor undertook to submit amended regulations raising the points at issue.

The department in this matter would raise no objection if its general policy was not transgressed—that is, the matron to be primarily responsible for administration and the medical officer for treatment. The members of the deputation expressed general acquiescence with the draft regulations relating to private wards for private patients issued by the department, and urged that these regulations should be applied to all county hospitals. It was stated by members of the deputation that persons who were able to pay the full cost of maintenance and treatment and medical fees were being treated in the Poor Law wards of county hospitals, and the hospitals were being freely utilized by persons not eligible for relief. Longford was mentioned as the outstanding example of both forms of these abuses. A thorough examination of the records of this and other hospitals was promised by the Minister. As regards the delay in appointing county medical officers of health in certain counties, the Minister said that the matter was not being overlooked, and would be pressed as opportunity offered. As regards medical research the Minister said that he had had the question under consideration for some time, and if a suitable scheme was submitted by a committee representative of the medical schools he would make representations to the Department of Finance for a grant. The consideration of other questions, relating to registration fees for births, deaths, and marriages, and fees for the committal of dangerous lunatics, was deferred, as the discussion of the previous matters had occupied over two hours.

## England and Wales.

### Small-pox in London.

THE number of cases of small-pox under treatment in Lambdon on Tuesday, February 21st, was 19, an increase of 3 since February 17th. All these cases are being treated at the Long Reach Hospital of the Metropolitan Asylums Board. In addition 8 cases of possible infection were under observation at the Board's diagnosis station at Rotherhithe, as against 7 in the previous week; 3 of these 8 cases, however, were on the point of being discharged from observation, and of the remaining 5 it was reported that 4 had not shown as yet any signs of small-pox. The procedure is for suspected cases to go first to this Rotherhithe station, where they are seen by the medical superintendent of the small-pox service, who decides whether they should go on to Long Reach (to which they are transported by river ambulance), or be returned home as free from the disease, or, if their condition is doubtful, be kept for further observation. The majority of the cases at Long Reach and of the recent suspected cases are from the Southwark area, and of these nearly all are related to the outbreak at the Poor Law institution of the Southwark guardians. All the cases reported are of a mild type, with no special features; they approximate in this respect to the majority of the cases recorded elsewhere in the country, but they differ from the small-pox cases in London of recent years, which, though few in number, have been more often virulent in character.

### Royal Bath Hospital, Harrogate.

Financial considerations were prominent at the annual general meeting of the Royal Bath Hospital, Harrogate, on February 15th. The secretary, in his annual statement, reported that the number of patients in 1927 was considerably in excess of any previously recorded since the policy had been adopted of keeping the hospital open through the winter months. During the past year accommodation for electrical treatment and remedial exercises had been much improved. The honorary treasurer stated that of the £12,000 asked for in connexion with the centenary fund, less than £8,000 had been received. So far as the hospital itself was concerned a financial profit had resulted on the year's working, but the Rawson Convalescent Home showed a deficit of £189. To complete the work contemplated in connexion with the centenary some £2,000 to £3,000 was still required, and for the moment the very necessary improvements proposed were at a standstill. Dr.

G. L. Kerr-Pringlo, replying to a voto of thanks to the medical staff, referred to current exaggeration of the cost of treatment at Harrogate, and mentioned that the average was said to be about 26s. a week. During the four winter months December to March there was accommodation in the hospital for those who could not afford the charges at the Royal Baths, with residence in the town, and who were able to pay three guineas a fortnight; many patients were already being admitted each year, and the number was increasing. He hoped that a proportion of the charges made might soon be placed to the credit of a medical fund for research into rheumatic diseases. Most of the patients treated in the hospital were suffering from the rheumatic group of diseases, and the institution, already constituted a rheumatic clinic. At present the laboratory cost the hospital £350 annually, towards which only a small endowment of about £50 was available. Dr. Kerr-Pringlo urged that more extensive propaganda should be adopted, since many patients came from large manufacturing towns from the West Riding which did not contribute towards the support of the hospital as they might. He thought the time had come for the launching of a crusade in Yorkshire against rheumatism; Harrogate, owing to its site and its well-equipped hospital, might well be the centre of an intensive campaign against this disease.

#### Temporary School Medical Staff's Remuneration.

The London County Council at its meeting on February 14th decided to increase the rate of pay of its temporary school medical staff. The staff is divided into two classes, those employed on a sessional (that is, a half-day) basis and those appointed on a part-time yearly engagement. The revised pay for the first class will be 30s. a session, instead of 27s. 6d. as hitherto, and for the second class £198 a year for duty consisting of three half-day sessions a week, instead of £180. The first of these classes has at present a personnel of 22, fluctuating according to the needs of the work. The second has a personnel of 53, of whom 13 serve for six sessions a week (so that their remuneration will now be £396 a year), and 40 for three sessions a week. All the existing engagements of these officers (with the exception of one who has resigned, and in whose place another has been appointed) have been renewed for a further period of one year.

## Correspondence.

### GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—Stimulated by your review of the annual report of the Medical Research Council I turned to the report itself, and there, in the summary of the work done at St. Thomas's Hospital on gastric physiology and pathology by Professor Maclean and his colleagues, I find this striking passage:

"The gradual decrease of acid concentration in the stomach during the completion of digestion is shown to be a function of the stomach itself, and in no way to be dependent on regurgitation of alkaline duodenal contents. The increase in neutral chlorides which coincides with a diminution in active hydrochloric acid is due to the neutral chloride actually secreted by the stomach itself. This has been conclusively proved by experimental work with dogs combined with clinical observations."

I first heard rumours that Professor Maclean had been led to this conclusion about a year ago, and since then it has been known and accepted apparently by quite a number of people. Now that we have this *ex cathedra* pronouncement of conclusive proof, may I express the hope that before very long we may be given what some of us have been anxiously waiting for—to wit, the evidence? Speaking for myself, I find it a very disturbing thought that in talking of the importance of the regurgitation of the duodenal contents I am daily teaching an erroneous doctrine; but if I am to be true to the faith that is in me I am bound to do this, until Professor Maclean tells me not only that I am in error, but also where my error lies. If in my present state of ignorance and impatience for the truth I may be permitted one mild criticism,

I would add that I am not particularly attracted by this reversal of the older custom of giving the evidence first and the conclusion last.—I am, etc.,

London, W., Feb. 15th.

GORDON W. GOODHART.

### THE NEW PORTRAIT OF JOHN HUNTER.

SIR,—I knew nothing of Sir Arthur Keith's discourse on the portraits of John Hunter until I read it in the *BRITISH MEDICAL JOURNAL* of February 11th (p. 205). It is perhaps just as well that I did not, for, in consequence, Sir Arthur was free to express his individual opinion of the recently discovered portrait which has been accepted and hung in the Royal College of Surgeons of England. Sir Arthur is sure that the painting represents John Hunter, and he gives his reasons with his usual lucidity and punctilious accuracy.

The picture was one of 157, the collection of Mr. McCormick of Hertford Street, sold at Christie's on December 1st, 1922. All were distinctly labelled and bore great names, which in the main were not justified by the prices obtained, but some were very fine, notably Sir Joshua Reynolds's "Captain Bligh," 260 guineas; a beautiful Th. de Keyser portrait of a lady, 250 guineas; and a gentleman by Raeburn, 230 guineas. Picture No. 131 had been labelled by Mr. McCormick "John Hunter, Esq., F.R.S., by Thomas Gainsborough," but in Christie's catalogue Gainsborough was not mentioned and the picture was attributed to one "Seton," whose name does not appear in any work of reference to which I have access.

No. 131 hung on Christie's wall for some days, and I went backwards and forwards to the College of Surgeons comparing the portrait carefully with the Reynolds life-mask of Hunter in the museum. To my mind the picture agreed with the mask in every particular. The wart, the shape of the nose, the skull, were all in the painting, and the colour of the eyes, grey-blue, and the slight squint all agreed with what I had read of Hunter's face. The painting was entirely in the manner of Gainsborough, the coat was in style and colour exactly what I knew Gainsborough was fond of, and so I bought the picture. During Gainsborough's fatal illness, of some months' duration, he was closely attended professionally by Hunter, and as we know that the artist painted to the very end of his life, how likely that he should ask his wonderful surgeon to give him a sitting. He painted Hunter exactly as he saw him, so faithfully described by Sir Berkeley Moynihan as a little ugly, red-haired, cantankerous Scot: The truthfulness of the portrait was probably distasteful to Mrs. Hunter, and it may have remained in the studio. When her husband died Mrs. Gainsborough quickly sold off everything, and the picture would easily be lost.

We know on the authority of Allan Cunningham that Gainsborough never signed his pictures and rarely dated them. I bought the portrait because I am convinced that it represents John Hunter, and I believe it was painted by Thomas Gainsborough.—I am, etc.,

London, W.I, Feb. 15th.

G. BUCKSTON BROWNE.

### THE ACUTE ABDOMEN.

SIR,—The admirable article by Mr. Flint in the *BRITISH MEDICAL JOURNAL* of February 11th (p. 209) omits, no doubt from want of space, reference to one very important early sign of a diffuse leak. This is the sign of reversed abdominal movements. In the normal patient, when the chest comes out the abdomen comes out (except in the first three breaths, which are self-conscious). If, however, the abdomen goes in when the chest comes out the patient has a perforation of some kind and a generalized involvement of the peritoneum. It is an earlier sign than rigidity, and many lives have been saved by its recognition.—I am, etc.,

Liverpool, Feb. 20th.

FRANK JEANS.

SIR,—In the correspondence columns of your issue of February 18th appear two letters criticizing my paper on the above subject, published on February 11th. Mr. Morrison takes exception to my use of the word rigidity as an indication of early mischief in the abdomen, preferring to

use the word resistance. He says this is no academic quibble. I venture to think it is. I grant there are degrees of abdominal rigidity both in respect of intensity and surface extent, but in all cases the term rigidity is perfectly correct. If Mr. Morrison will refer to a good dictionary he will find rigidity defined as the quality of resisting change of form, and I submit that exactly expresses the muscular state when an organ beneath is inflamed. Mr. Rankin also comments on this matter of rigidity. He says "It is regrettable that so many practitioners think there can be no acute lesion in the absence of rigidity." This criticism cannot be fairly levelled against my paper, for I state quite clearly that an acute appendix lying in the pelvis may be unaccompanied by rigidity of the anterior abdominal muscles, and also that it is not one of the early signs of acute obstruction of the intestine.

I would suggest to Mr. Rankin that if he wishes to criticize my paper he should read it again more carefully, and perhaps then he will not accense me of referring to faecal vomiting as one of the symptoms with which to diagnose an early acute obstruction, for the only occasion on which I mention faecal vomiting is when I say "faecal vomiting only occurs after the third or fourth day, and therefore has no useful place in diagnosis," and he may also find that I am one of "those who know what they are talking about."—I am, etc.,

Leeds, Feb. 19th.

E. R. FLINT.

SIR,—Mr. Flint's interesting article on the acute abdomen suggests to me the value of a cottage hospital staffed by local practitioners in the treatment of acute abdominal conditions and in the elimination of the "too late factor."

In the town of 12,000 inhabitants in which I live we have a hospital of this type; it is staffed by the local practitioners, amongst whom there is none of outstanding surgical ability. In the treatment of the acute abdomen this lack of special surgical ability seems more than compensated by the rapidity with which—because of our hospital—we are able to act. Our patients have little fear of accepting our advice quickly and of being treated in their homely local hospital by their own doctors. Because the town is a small one, and surgical results are therefore quickly known, the population is well educated in the advantages of early operation in acute surgical conditions.

On our part we brook no delay, and operate at once in order to save ourselves unnecessary difficulties. As a result of doing our own urgent surgery, we doctors get into the habit of making a definite diagnosis as quickly as possible, and of acting upon it; this habit carries itself into our general private work, and greatly increases the efficiency of all our medical work in the town.

Our figures during the two years in which the hospital has been at work are necessarily very small, and to that extent are an unreliable guide, but I believe that other small cottage hospitals throughout the country can produce similar figures. Our figures are:

	Cases.	Mortality.	
Acute appendicitis ...	25	Nil	0.0%
Pneumococcal peritonitis ...	1	Nil	0.0%
Strangulated herniae ...	3	Nil	0.0%
Perforated duodenal and gastric ulcers ...	7	Nil	0.0%
Acute obstructions ...	9	4	44.4%
Ruptured ectopic gestation	2	Nil	0.0%
Ruptured ovarian cysts ...	2	Nil	0.0%

Of these cases three acute obstructions, one ruptured ectopic gestation, and three perforated duodenal ulcers were operated upon by a surgical specialist. The mortality of the 47 cases is 8.3 per cent.

My own conviction is that the way to eliminate the "too late factor" in urgent abdominal surgery is to encourage general practitioners to undertake this type of work, which is often considerably less difficult than the complicated midwifery with which general practitioners habitually deal.—I am, etc.,

February 12th.

G. P.

## THE FUTURE OF OBSTETRICS.

SIR,—Dr. R. W. Johnstone (BRITISH MEDICAL JOURNAL, January 7th, p. 6) and previous writers have raised points of vital importance as to the part to be played by the midwife and by the general practitioner in the conduct of obstetrics. We have heard the opinions of specialists, we hear murmurings of discontent from some of the older established practitioners, but we do not hear much from those who have but recently entered upon practice fresh from a modern training. Now in all matters of progress the future must be given more consideration than the past, or even than the present—often a transitory state. May I, therefore, as one of only two years' experience in practice, offer my views on this important subject—views shared, I believe, by a good many of my contemporaries?

If we contrast obstetrics as carried on years ago and at present, we see that we have progressed from: A, an untrained, ignorant, and dirty handymaid, plus B, a general practitioner, trained and experienced up to a point but without aseptic surgical and other modern methods, to C, a trained and certified midwife, plus D, the modern general practitioner, who has trained in an atmosphere of preventive and aseptic midwifery.

What an advance is C over A! Equally all will admit that B and D bear little comparison. Surely, then, the more completely do we co-operate the two forces C and D the further and quicker do we climb up the hill toward ideal midwifery. The suggestion of Dr. Johnstone and other writers to dispense largely with D at the actual confinement in normal cases is, to my mind, a definitely retrograde step.

It does not take much thought to discover why, in the minds of Dr. Johnstone and other obstetrical experts, this suggestion has been fostered. It is, I think they will agree, largely owing to the fact that force D is not quite properly fulfilling its work; partly because the whole of force D is not at an equal standard of modernization (time alone will rectify that), but much more because D has not fully realized the advantages that the provision of C affords him. Equally C does not always realize the advantage of complete co-operation with D, and is too much inclined to look upon a case where the help of D has had to be called upon, either before, during, or after labour, as somewhat of a failure on her part.

Dr. Johnstone mentions as essential the ante- and post-natal examination and supervision of every pregnant woman by a medical man. This I am inclined to place as the most essential condition of real preventive midwifery, and it is being largely overlooked at the present time, as in a big number of cases carried through by midwives medical men are never consulted at any stage.

As things stand in our industrial areas at present the expectant mother may: (1) consult her doctor, in which case she receives supervision throughout (unless her doctor neglects his duty); (2) apply for admission to a hospital, in which case she probably receives ante-natal supervision from the hospital clinic, but post-natal supervision is more doubtful; (3) consult a private midwife, in which case she usually receives no medical supervision at any time; (4) consult the matron in charge of Association midwives, in which case she may be referred to her doctor for examination, but usually is not, being told that the services of a doctor are quite unnecessary, even sometimes after having expressed a wish for her own doctor to attend her as well.

The state of things in the latter two cases is one instance of the failure of each to realize the advantages of co-operation with the other. It would at once be rectified by all midwives, or matrons in charge of midwives, being required to refer cases to their own doctor for consultation.

To my mind the "family doctor" should be the first person sought by the expectant mother, or the first person to whom she is referred if she first consults a midwife. He should be primarily responsible for her condition throughout, and he can only be this if he actually attends at her confinement (in all but the very poorest of circumstances this is possible). His duties are, however, very different from what they were. He provides ante-natal supervision; he insists on the engagement of a certified midwife; should abnormal conditions be found he satisfies himself that

adequate help will be available or makes hospital arrangements; he attends at the confinement, but purely as a bystander if labour is normal; he carries out necessary post-natal examination and treatment.

Now this means to say that his midwifery is not the burden to him that it was in the days before there were competent midwives. At the confinement he is not compelled to waste hours; his patient realizes that he is engaged as a responsible overlooker of the job in hand. He has not the slightest incentive or excuse to resort to forceps unnecessarily, and he quite likely may not be present at the actual moment of birth. During the puerperium he is not obliged to visit as often, knowing that he can rely on his midwife. His fee is, under these conditions, quite adequate at the rate at present usual in industrial districts.

This, in my opinion, is the ideal way in which the midwifery of our industrial and suburban areas should and can be carried out. I do not consider that the establishment of municipal clinics for ante- and post-natal work is the right means to carry out the principle of ante- and post-natal supervision. Neither do I approve of sweeping large numbers of normal cases into hospitals. The ideal place for the birth, if normal, of the children of a family is the home, and the right person to supervise that birth is the family doctor. By the first confinement in the family more than all else does he gain the parents' trust, and it must ever be remembered that, by the trust of the individual family in their medical practitioner, so grows the trust of the community in the profession as a whole. This trust of the public in the medical profession has of recent years shown signs of weakening, and must be strengthened, as it is of fundamental national importance.—I am, etc.,

Halifax, Feb. 9th.

R. M. PEARCE.

#### SPECIALIST PUBLIC HEALTH SERVICES.

SIR,—A leading article in your issue of February 11th (p. 228) reviews the report by Dr. James Pearse (of the Ministry of Health) on "The co-ordination of the public health services in the counties of Essex, Hampshire, Gloucester, and West Sussex." Dr. Pearse's report raises some very important issues, particularly to the specialist public health services. By this "new way in public health" each sanitary district, or combination of two, three, or four sanitary districts, within the county has a medical officer of health who also acts over the same area for the county council as assistant school medical officer, assistant tuberculosis officer, and sometimes assistant maternity and child welfare officer.

How does all this affect the national campaign against tuberculosis? First, it must be pointed out that, of the four counties mentioned by Dr. Pearse, only two, Essex and Hampshire (and Essex only in part), have tuberculosis work undertaken by these "omnibus specialists." Secondly, the population of these areas covered by the one officer is very small; the average population of eleven of such areas in the county of Essex is 33,202. The scheme as outlined in your article makes one of the chief recommendations of the Departmental Committee on Tuberculosis (published in 1912, and known as the "Astor Report") impossible, for this committee definitely recommended that the tuberculosis officer of the dispensary should be a whole-time officer, of suitable age and attainment, and should be an expert on the subject of tuberculosis to command the confidence of the general practitioners. Is it possible for a medical officer of health who is responsible at the same time for all the services mentioned in Dr. Pearse's report to be a real specialist in tuberculosis? Will any general practitioner treat him as a consultant?

It is said that varied public health work in a combined district is less monotonous than specialized work, say, in tuberculosis. Surely the fault in other areas, where the work is said to be monotonous, is the lack of proper facilities to allow the tuberculosis officer to be a real specialist. If he does, as in some areas in England (and as he should do elsewhere), his own x-ray examinations and artificial pneumothorax work, and is in close touch with, or, better still, is in charge of, hospital beds—to say

nothing of non-pulmonary work—surely it is entirely false to say that such work can only be monotonous.

Much is often made of overlapping in county areas. If the county staff are real experts at their work the overlapping vanishes, because the smaller districts within the county accept the reports and work of the county authority. This is what actually occurs in Lancashire, and no doubt in many other areas.

Is it the policy of the Ministry of Health to support the scheme described and commended by Dr. Pearse, and to split up all the counties in England into small areas? Everyone knows the splendid tuberculosis work done in, say, Birmingham, Bradford, or Sheffield. Are the patients with tuberculosis, or those suspected of having tuberculosis, in a county area to have no chance of equal specialist advice and treatment?

Should not the present county dispensary areas be made much larger instead of smaller, to bring the general standard of county work nearer to the best county boroughs? Such areas would provide for a graded specialist tuberculosis service with varied work and better prospects, facilities for artificial pneumothorax treatment and artificial light treatment, the use of x rays for the purposes of diagnosis by the tuberculosis officer, and beds in one or more tuberculosis hospitals, under the care of the senior tuberculosis officer and his assistants for each area.—I am, etc.,

G. LISSANT COX,

Central Tuberculosis Officer, Lancashire.

Preston, Feb. 14th.

#### SHOCK AND ABORTION.

SIR,—There seem to be two kinds of shock: that in which death is immediate or occurs "in a few minutes," and that in which death is delayed for several hours, twenty-four or more. Shock caused by criminal abortion apparently belongs to the former category. "Senex" in his interesting letter (February 11th, p. 239) points out that since the passage of a uterine sound is ineffective, something more than the mere introduction of a foreign body is needed to set up "uterine shock."

Two factors are concerned in the production of the first variety of shock: (1) the mental state of the patient and (2) the effect of pain. Fright, fear, emotion may produce such an unstable state of the nervous system that the heart may be inhibited or stop on the least provocation. Pain, which may produce faintness, and in the case before us arises from dilatation of the internal os or distension of the uterus, may be that provocative. Shock caused by criminal abortion seems to be due to these causes, death being the result of an abnormal nervous reflex, conditioned by unstable nervous centres.

The same factors are at work in the rise of the other kind of shock, of which the post-operative variety is perhaps the best example. A patient who has made up her mind to die as the result of a forthcoming operation, or one who is unduly afraid, is more likely to suffer from and succumb to shock than the individual confident in her surgeon. But in this case the whole body becomes changed—there is something beyond a mere nervous reflex at work. The reaction of the tissue cells becomes abnormal, and the effect of these cells on the related capillary blood flow is thereby deranged.

A primary universal dilatation of the capillaries can hardly be supposed to be the cause of the sudden death in the first variety of shock. It thus seems reasonable to infer that the capillary dilatation of the ingravescens variety of shock is a secondary phenomenon. It is secondary to the deranged activity of the tissue cells—of striated muscle cells, of gland cells, of nerve cells.

All the tissue cells presumably are connected with the central nervous system, and their state of being conditioned by "trophic" impressions. If the mental state of the patient can inhibit the heart, fright or despair produced by the knowledge of a serious pathological process can presumably inhibit or derange the activity of other tissue cells. Added to this is the effect of the operative procedure itself, plus that of the anaesthetic. Anaesthetics affect not only cerebral cells, but presumably other cells. Morphine, so





the forceps were left in the body from want of care on Dr. Graham's part. But the mere fact that such actions at law are possible when surgeons are called upon to make instant decisions in the interests of the patient on the operating table is, to say the least, disquieting.

A point of some importance, not mentioned in the above account of the action at law, is that Dr. Graham himself reported the circumstances to the coroner, with the result that an inquest was held, when all the facts came out, and the verdict returned was death from natural causes—perforated gastric ulcer. The defence of the case was undertaken by the Medical Defence Union.

#### A CLERICAL ABORTION-MONGER.

THE "Jekyll and Hyde" career of the Rev. Francis Bacon, aged 70, who, while performing duties as vicar of All Saints, Spitalfields, was also, as "Howard Barron, LL.D.," carrying on three businesses which advertised and supplied varieties of treatment to pregnant women with the object of procuring abortion, ended in a sentence at the Old Bailey on February 20th of fifteen months' imprisonment in the second division.

It appeared that Bacon for many years had done good work in facilitating emigration among boys in the East End of London, and had taken part in voluntary missionary work and lecture tours in America. In 1917, while lecturing on war films, Bacon met a man named Carlton, who was similarly engaged, but who also ran the Powell Manufacturing Company, Limited, which gave advice and treatment to women in early pregnancy. An agreement was entered into between the two men whereby Carlton assigned half the shares in the company to Bacon. Apparently the concern proved profitable, for two further businesses, advertised as "Dr. Mary Lano" and "Hannah Brown, Ph.D.," were started with the same illicit object, the promoters employing a permanent manageress named Annie Bolton, daughter of a chimney-sweep, who was unable to follow her occupation as a school teacher owing to deafness.

When the police commenced criminal proceedings Carlton escaped to Bermuda, but Bacon and Bolton found themselves in the dock at the Old Bailey to answer charges of conspiring to supply noxious things to women knowing that they were to be used with intent to produce miscarriage. "Dr. Hannah Brown's female remedies" were variously classified as: "No. 1 treatment," price 5s., "No. 2 treatment," price two guineas, and "No. 3 treatment," price five guineas—the actual cost of the drugs being but a few shillings. The cumulative effect of these treatments was described by Sir William Wilcock, consulting medical adviser to the Home Office, Dr. Lynch, senior official analyst to the Home Office, and Dr. Malcolm Donaldson, gynaecologist, as likely to cause illegal miscarriage.

The cross-examination of Annie Bolton showed without shadow of doubt what was the real object of the businesses. Bacon and Carlton had said to her that it was breaking the law to send the treatment to pregnant women, but at the same time they drew a distinction between pregnancy of a few weeks and of some months. A stock letter was sent to all customers stating that the treatment was not for women who were pregnant, but "quite a lot" of the women who wrote for treatment said they were in the early stages of pregnancy. They were all supplied, and Bolton unhesitatingly agreed with the counsel who was cross-examining her that the stock letter was "eyewash." Bolton's damning admissions forced her counsel to withdraw her plea of "not guilty" and to enter a plea of "guilty." For his part Bacon threw the whole blame on the shoulders of the woman defendant. The stock letter, he said, was not "eyewash." Such a warning that the treatment was not for pregnant women was not an incitement to them to take it, and it was contrary to his intentions that Bolton sent the treatment to such women. He admitted he had no medical training. Why he chose the name of Hannah Brown was "because it was a good old family name" suitable for the business.

Bacon was subjected to searching questions by the Recorder on his use of degrees. His counsel had said he was given the LL.D. in Canada and the D.D. in the United States. In reply to the Recorder Bacon said that he used the business name of Hannah Brown, Ph.D., not to deceive the public, but rather to attract the public! Admittedly it was a false statement. Strictly, he supposed his description of himself on a pamphlet as "Howard Barron, D.Sc.," was a lie too, but "it is the ordinary commercial morality." The jury performed their plain duty in finding him guilty. Bolton received six months in the second division, as the Recorder felt that she had been carrying on the traffic too long for him to treat her as a first offender. Bacon's conduct was described by the Recorder as despicable and deplorable. Concealing an illicit traffic under the cloak of hypocrisy, Bacon had made money by preying upon the agony of poor expectant mothers, jeopardizing their health. A preacher of the Gospel, he had pleaded commercial

morality as an excuse for deceiving the public, and, most contemptible of all, he had sought to shield himself behind a subordinate.

The Recorder, in referring to the difficulties of the press, seems to have overlooked the fact that full information as to the nature of the traffic in remedies for "female irregularities" has been available to anyone interested in the subject since the publication of the report of the Select Committee on Patent Medicines in 1914. The committee recommended absolute prohibition, not only of all advertisements likely to suggest that a medicine is an abortifacient, but of all advertisements referring to sexual weakness. It also recommended legislation to prevent three very general practices of the vendors of these nostrums—namely, the enclosure with one remedy of printed matter recommending another, the invitation to sufferers to correspond with the vendor of the remedy, and the use of the name of a fictitious person in connexion with a remedy. Any newspaper manager sufficiently interested in the source of advertisement revenue to pursue the subject further might have learnt, from the evidence tendered to the committee by the representatives of what was held out as legitimate business of this nature, that no harm would be done by its total suppression. The report of the Select Committee deals very largely with methods of advertisement, and in spite of the general preoccupation with other matters at the date of its publication (August 4th, 1914), its existence should not be unknown to newspaper proprietors. In face of this fact it is difficult to agree with counsel for the Crown that "there was nothing in the wording of the advertisements to make the newspapers suspicious," or with the Recorder that "there was no blame to be attached to the newspapers," and that "the Press was placed in a very difficult position and did exercise a great deal of discretion and tact." In our opinion advertisements of this nature (however decently worded), which do not now appear in every newspaper, should not appear in any.

#### The Services.

##### DEATHS IN THE SERVICES.

Colonel Robert Hall Forman, Army Medical Service (retired), died in London on February 16th, aged 73. He was born at Halifax, Nova Scotia, on November 2nd, 1854, the son of J. R. Forman, C.E., of Craigpark, Ratho, Midlothian, and was educated at Merchiston School and at Glasgow University, where he was captain of the University Rugby fifteen. While still at college he obtained a commission as surgeon in the Imperial Turkish Army, and served in that capacity in the Russo-Turkish war of 1876-77. Returning to Scotland he qualified in 1877 as L.R.C.S.Ed. and L.F.P.S.Glas., and in the following year graduated at Glasgow as M.B. and C.M. Entering the army as surgeon on March 5th, 1880, he attained the rank of colonel on January 8th, 1906, and retired on November 2nd, 1911. After the great war began he rejoined for service on January 22nd, 1915, and served as inspecting officer on the staff of General Sir Francis Lloyd, commanding the London Division. He was a keen Freemason, and devoted much of his leisure to work on behalf of the craft. When he left India he held the rank therein of Grand Master of Scottish Lodges in India.

Major William Hunter Riddell, M.C., Indian Medical Service (retired), was accidentally killed by being knocked down by a motor on the Crieff-Muthill road, Perthshire, on December 27th, 1927, aged 45. He was born on September 22nd, 1882, and educated at Edinburgh University, where he graduated as M.B. and Ch.B. with honours in 1906. After studying in Paris, and filling the post of house-surgeon of the Staffordshire General Infirmary, he entered the I.M.S. as lieutenant on July 27th, 1907. He attained the rank of major on January 27th, 1919, and retired, on account of ill health, on April 4th, 1919. He served in the recent great war, was mentioned in dispatches in the *London Gazette* of July 27th, 1916, and received the Military Cross on June 24th, 1916.

#### Universities and Colleges.

##### UNIVERSITY OF OXFORD.

At a congregation held on February 18th the following medical degrees were conferred:

D.M.—E. W. N. Hobhouse, H. A. Gilkes, D. S. Davies.  
B.M.—R. Oddie.

##### UNIVERSITY OF LEEDS.

DR. A. MASSEY has been appointed Honorary Demonstrator in Public Health.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week gave the Companies Bill and minor measures a second reading. In reply to a question, on February 16th, the Home Secretary said that owing to pressure of business he was not at present able to introduce legislation on juvenile offenders and on sexual offences against young persons; he would see what could be done by administrative action. He hoped that a report would be published this year covering the work of the Children's Branch of the Home Office since publication of the last report in 1895. Supplementary Estimates were discussed on February 20th and 23rd, and an Empire Settlement Act Amendment Bill on February 24th. Debates regarding hospitals and medical affairs under the National Insurance Act arose on February 20th.

### Parliamentary Medical Committee.

At the first meeting of the Parliamentary Medical Committee for 1928, on February 14th, Dr. Fremantle was re-elected chairman; Dr. Vernon Davies (acting honorary secretary during the closing weeks of last session) being absent no honorary secretary was elected. The committee decided to try to arrange a visit to the army medical establishments at Aldershot, and also another visit to the Medical Research Council's institutions at Mount Vernon and Mill Hill. The committee further discussed the bill introduced by Sir R. Gower against experiments on dogs. A suggestion was made that amendments to the bill should be concerted between the committee and the Research Defence Association and put down. After a discussion on vaccination and small-pox the Medical Committee agreed to ask the Minister of Health to publish as soon as possible the report of the Committee on Vaccination. This report is understood to have been completed.

### Edinburgh Corporation Bill (Venereal Diseases).

Dr. Drummond Shiels drew the attention of the committee to the Edinburgh Corporation's Bill already laid before Parliament. The object of this bill is to secure further compulsory powers for dealing with venereal disease. (See this week's SUPPLEMENT, p. 66.) A letter from Mr. W. Graham relating to the bill was also before the committee, which took note of the fact that two of its members, Dr. Graham Little and Dr. Salter, had issued an invitation for members interested in the subject to meet and concert action in the House of Commons. The Medical Committee agreed that the bill raised questions of the highest importance, on which it could not then take a decision. It decided to invite representatives of the Edinburgh Corporation to address the committee regarding the bill on February 21st, or a later date.

On February 21st the spokesmen of the Edinburgh Corporation—Mr. Given (convener of the Public Health Committee), Mr. A. Grierson (town clerk), Dr. W. Robertson (medical officer of health), and Dr. D. Lees (venereal diseases officer)—met the Parliamentary Medical Committee. Dr. Fremantle presided and Dr. Drummond Shiels acted as honorary secretary. The town clerk of Edinburgh said that the corporation recognized the difficulties which critics of the bill suggested, but thought that the proposals made by the bill were the best which had been suggested to check the spread of venereal infection. Edinburgh asked permission to use these powers as an experiment. Certain members of the Medical Committee asked why Edinburgh did not secure compulsory notification of venereal diseases, as Bradford had done. The answer was that the corporation thought the proposals of the bill better, and in accord with the Trevethin report. The officials thought that, as Bradford had secured compulsory powers from Parliament without debate, Edinburgh was entitled to have its case heard before a parliamentary committee. They reported that at a conference of the large local authorities of Scotland all had declared themselves in favour of the Edinburgh proposals. The corporation was prepared to give some protection to doctors who reported suspected cases, and was ready to add a protective clause to the bill if this were desired. The discussion, which lasted about an hour and a half, showed that the Parliamentary Medical Committee was united in support of the objects of the bill, but no verdict on its proposals was suggested. (The statement for the Edinburgh Corporation which was the subject of debate by the Parliamentary Medical Committee and representatives of the Corporation is referred to in Scottish news at page 323 of this issue.)

### Certification under the National Insurance Acts.

#### Charges against Panel Doctors.

While the House of Commons was in Committee on Supplementary Estimates on February 20th, a discussion arose on the action of panel doctors in giving certificates to patients. The debate was on a Supplementary Estimate of £340,000 for the salaries and expenses of the Ministry of Health, including grants in aid in respect of benefits and expenses of administration under the National Health Insurance Acts. In the vote was included a sum of £210,000 for sickness, disablement, maternity, and other benefits, in addition to the original estimate.

Sir Kingsley Wood, in presenting the Estimate, explained that the £210,000 was necessitated by the continuing high expenditure on benefits by approved societies. There had been an increase in the number of attendances of insured persons for medical treatment, and claims for benefit had been made very freely, this state of affairs no doubt being accentuated in a time of considerable unemployment. It was a very disturbing feature. The Ministry of Health had taken every possible opportunity of reminding societies of the need of controlling the issue of insurance claims by such means as improved sickness visitation and the use of the regional medical services. The matter had been constantly discussed with the medical profession at many conferences, and the British Medical Association had the matter under close consideration as a result of a meeting with it on January 19th last. New regulations were brought into operation from October 1st, 1927, whereby a fortnight's delay was imposed on the transfer from one doctor to another, except where both doctors consented. That might have some material effect on these claims.

Mr. Rhys Davies said that they were informed that 150,000 persons had come into the health insurance scheme as voluntary contributors under the Widows' and Orphans' Contributory Pensions Act. This was about 10 per cent. above the estimate of the actuary. Proceeding to criticize the medical profession, he said that what they were failing to do accounted more than anything else for this increased expenditure. Three of the approved societies in Durham had complained about loose certification. So far as he was aware, no approved society declined a genuine claim for disablement or sickness benefit, but when they were suspicious that a doctor was giving medical certificates merely to increase the number of insured persons on his panel, the societies were entitled to say that that doctor should be stopped. In the course of the discussion they would no doubt be told that the panel doctor could not increase the number on his panel merely by granting certificates loosely. The Insurance Committee for the county of Durham had passed a resolution asking the Minister of Health to conduct an inquiry into this subject of loose certification. What was the Minister of Health doing about it? As a matter of fact, the Minister was afraid of the medical profession. When it was a question of dealing with a board of guardians they had heroes, but when the British Medical Association was "on the job," then the Minister quaked at once. (Laughter.) Was it true that this increased expenditure was partly due to the fact that the stamina of the people had deteriorated because of poverty and destitution? (Cries of "No.") Was it the experience of the approved societies that the increased sickness was greater in the distressed areas? That could easily be found out. He would give figures to prove that where a panel practitioner had a great number of persons on his panel he was not so careful in prescribing. Where a doctor had 2,500 persons on his panel the average frequency per insured person in connexion with prescriptions was 0.554; when he had fewer than 1,000 persons on his panel the average frequency was 0.237. There had been several allegations in Salford that doctors had been "touting," and he understood that there had been an inquiry into the allegations. He would like to know what was the result of that inquiry. He wished to add that the medical profession as a whole could not be charged with doing what he had suggested. They were not guilty of it, but only just a few, who ought certainly to be brought to book by the Ministry of Health, and made to do their duty to the State and to the approved societies.

Some approved societies, Mr. Davies said, had to realize their investments to meet the claims for benefit. That was the most serious aspect of the work of the societies, and this was the first time that they had been in that position. Were it not for the interest on their investments, the approved societies would now be heading straight for bankruptcy. In 1926 the total sum brought in by the approved societies' funds in contributions amounted to £27,000,000, and the interest on that was £1,000,000. A total of £28,000,000. Payments out for benefit amounted to £30,000,000, and the cost of administration was £5,000,000. That made a total of £35,000,000, and left a balance of only £2,000,000. The interest on investments of these societies ought to be safeguarded by the Minister of Health, but he had been browbeaten by the Chancellor of the Exchequer. Did the extension of the average age of the insured persons in the last decade account for the increase in the average rate of sickness? He wished to ask some questions on the work of the regional medical officer. Was it a fact that some panel doctors, who were in practice themselves, were also acting as regional medical officers? He took it for granted, of course, that a panel doctor did not become a judge of his own case. How many regional medical officers were there, and were they sufficient? How many regional dental officers were there? The work of these officers had been very good; were there sufficient to carry out

the task? The Minister of Health might consider the appointment of someone to act in the same capacity in relation to optical treatment and appliances as he had done in regard to dentistry.

Mr. Meller said that he was very glad to find that in his reference to the sickness experience of societies Mr. Davies had not alleged that there was unlingering among insured persons. Malingering in this country was very rare, and he believed that the malingering was made, and not born. If any unlingering had occurred in connexion with the sickness experience of societies in this country it had been due very largely to the lax methods which had been adopted by the medical practitioners. He joined with Mr. Davies in saying that, although the allegations which he had made with regard to doctors were extended only to a few, and although a very large proportion of them endeavoured to carry on their work quite fairly and properly, in the best interests of their patients, there were unfortunately many instances in which doctors had not paid that regard to the patient which they ought to have paid. They had been free enough to give medicine where medicine might not have been required, but slow in giving what he believed was very much better than many bottles of medicine—that was to say, to give a few healthy admonitions and send them about their business. The medical profession had said that their difficulty had arisen from the fact that they found it extremely hard to maintain the patients on their panel with the competition of other doctors in the neighbourhood. Many a man started to-day, not by buying his practice, but by putting up his plate and hoping that the number of insured persons would be fairly distributed in the district, and that he would get his share. It was not perhaps unnatural for him, when he was told that the patient was suffering from some complaint which he could not diagnose and which he could not disprove, to give him his certificate quite readily. There had been instances—and a good many, unfortunately—of medical men themselves saying that patients had come to them, and had said, “If you do not give the certificate I can get out down the street.” The medical man, in such a case, had found himself in the dilemma of either retaining the patient or seeing him go to another doctor down the street. In that way he might lose not only insured patients, but patients who were not insured persons. It was a difficult position, and unfortunately it seemed to be spreading. The best men in the medical profession were standing out against it, and wanted to stop it. He believed that the Ministry of Health was anxious to assist the strong doctor in resisting these unfair claims upon him and the unfair competition of certain men in the profession. He regretted very much the comparative ease of transfer from one panel doctor to another which had been allowed. Under the old system, when a period of six months or even a year was required, there was no hardship to the insured person, but it gave the doctor the opportunity of acting as firmly as he ought to act. The present practice, which gave the opportunity of transferring at any moment, with the consent of the late doctor and the proposed new doctor, or the other common practice that, with a fortnight's notice, a man or woman might transfer from one doctor to another simply because they might have been upset by something the doctor had said, was improper and ought to be stopped. Indeed, he believed that the medical profession was in favour of a longer period between the transfer from one doctor to another. The regional medical officers were set up some time ago because it was discovered that a very large number of claims were being made upon societies without any real grounds to justify them. Certificates of comparatively minor ailments, such as debility, continuing for some time, were given, and there was no satisfactory means of checking the doctor. Thereupon the Ministry set up regional medical officers. What had been the result? The report of the Ministry of Health for 1926 gave some figures with regard to the number of cases submitted for examination in that year. Some 420 cases were sent by societies to be examined by the regional medical officers, because the societies had some doubt as to the genuine incapacity of the insured persons concerned. There were 450,000 cases referred, and of that number about 60 per cent. either declared off before the examination or were found to be capable of work, while only about 40 per cent. of the people who had been referred by the societies were found to be incapable of work. It did seem that there was something wrong in a method of certification which allowed certificates to be issued in respect of 60 per cent. when they ought not to have been issued, and that only 40 per cent. of the cases were incapable of work. If it meant that further examination, further overseeing of the medical men, was needed, he hoped the request of Mr. Davies would be acceded to by the Ministry. Some reference had been made to the fact that certain of these examinations as part-time officers. In fairness to them it ought to be agreed that they did not examine within their own area, but medical referees entirely free from any suspicion, devoted only to the work of examining panel patients, and not having to bring by the apathy of the Ministry of Health.

Mr. Barker said that the condition of health in his constituency and in Monmouth generally was deplorable. There was more than quoted statistics from recent reports of the medical officers of health of Brynmawr urban district and of Nantyglo, and from more particularly for the county of Monmouth. Mr. Barker dealt in his opinion, partly due to lack of sufficient nourishment. The health of the working classes, he contended, was being endangered by the apathy of the Ministry of Health.

Dr. Vernon Davies said that there seemed to be in that debate rather a concerted attack upon members of the medical profession, which might to a certain extent have been justified, or might not.

One of the fundamental difficulties of the National Health Insurance Act was the question of certification and the free choice of doctor. The whole system of medical behaviour between doctor and patient had been altered. In the old days the doctor as a rule was the friend, helpmeet, and medical adviser of his patients, and his patients trusted and obeyed him. But the Insurance Act created a new state of affairs, and the medical man, instead of being the master, became the servant, and was now absolutely the servant of the insured population. They could take him on when they liked and dismiss him when they liked. Panel practitioners were human beings, and, in the majority of cases, had their living to earn. As a rule panel practitioners were as good or as bad as ordinary individuals, and they could be divided into three sections. There was the man who was conscientious, honest, and determined to do his best, and, at the other end of the scale, they had the man who was perhaps not so particular; he would not say that he was dishonest, but perhaps he was a little lax and careless. Between these two extremes was the man who wanted to do what was right, and was not able to do so. What was the reason? A patient came to the doctor to get a certificate. The doctor, if he was honest, as all doctors would like to be, gave a certificate if he thought that the patient was entitled to it. The difficulty did not occur at the onset of the illness, but towards the end, when the patient should go back to work. The doctor might think that the patient was fit for work, but the patient might think that he was not, and desire to draw benefit a little longer. The honest, conscientious doctor would cross the man off; but the doctor who was not quite so particular said to himself: “I might as well please my patient.” The other man perhaps said: “It is my object to have as many patients as I can, and if I can please my patients it does not matter about the national health certificate.” So long as they gave the patient the free choice of doctor they would be up against that difficulty. The difficulty did not always end there, because the man might have a family of five or six children who were private patients. The man might leave the doctor and not allow any of his family to go to him. Moreover, the same man might say to his friends that Dr. So-and-so was too particular and signed one off far too quickly.

The doctors undoubtedly were to blame in certain cases, and he had no desire to stick up unnecessarily for the medical profession. On the other hand, they must remember that they were putting very great temptations in the doctor's way. The doctor was in a very difficult position. He might be deceived by patients in certain cases if the patients wished to deceive him. On the other hand, the doctor was up against the approved societies, who were an extremely foolish body of individuals. An essential point in the administration of the Insurance Acts was that the medical man, the approved societies, and the chemists should work together, because their aims were the same—namely, to keep the insured persons healthy and to administer the funds to the best advantage. The approved societies did not like to pay benefit if they could help it, and when benefit was paid they were anxious that the patient should get off benefit as soon as possible. He would not say that they went spying round, but they sent their visitors, and if a poor woman happened to be lifting a kettle off the fire, or if she had a duster in her hand, or if a man happened to be out one minute after six o'clock, there was trouble. Instead of working with the medical men societies were too apt to send cases to the medical referee. He had found, over and over again, when he was in practice, that the majority of cases thus sent to the medical referee were the absolutely genuine cases, and the particularly doubtful cases had never been spotted at all. If the approved societies had asked his honest opinion they would have got it, and, in that event, they would have been able to send to the referee the proper cases. They had worked against the medical men because, in the old days of the club, they had the medical men under their thumb, and they had never forgiven the Ministry of Health and the Government for deciding that the doctors should not be put under the approved societies. It was absolutely necessary that they should make the right of free transfer very much more difficult than it was. No patient should be allowed to transfer without giving a specific reason. Mr. Rhys Davies had said that there had been a lot of over-prescribing. That was true; but again the doctor was in a very difficult position. If a patient said he was ill and wanted a bottle of medicine, and the medical man refused to give him one and told him to go home and do something that would do him good, the patient thought that he was not being properly treated, and that the doctor was no good. Such a doctor might find that a complaint had been made against him to the Medical Committee or the Insurance Committee, and that might cause him some trouble. Therefore, when a doctor had a discontented patient he gave a bottle of medicine. Fortunately, people were nowadays getting better educated, and recognized that medicine was not always necessary. At the same time there was in the industrial population the greatest belief in the efficacy of a bottle of medicine, and they could not afford altogether to neglect its psychological effect. He thought that a panel of 2,500 was far too many for any medical man. As a rule, doctors had private patients as well as panel patients. The danger was that a doctor might miss something, and then there was a scandal. But what was the doctor to do? If a doctor had 2,000 patients on his panel it meant about £800 a year. That sum did not go far, as the expenses of a doctor were appalling. The result was that a doctor must have a big panel to make it a paying proposition, and if they gave him a big panel he could not do the work properly. At some time or other he was bound to neglect it, and there would be complaints. “Touting” for patients was another curse of the Insurance Act. Since that Act came into force the standard of medical men had deteriorated, and there was not the same class of men coming into medicine to-day as there was fifteen or twenty years ago. Therefore they would get these



eases of "touting" where a young man anxious to make a practice would do something or other to get others in.

Mr. Whiteley said that there had been loose certification in Durham. There was a great desire in the county that there should be an inquiry. Something ought to be done.

Sir K. Wood, replying to the debate, said that the increase in the level of sickness had been pretty general, and was not characteristic of any particular industry. He wished to correct the view that had been put forward as to the number of insured people who were permitted to go on the panel of a particular doctor. The maximum number of insured persons permitted to a single panel doctor was 2,000. The average number of insured persons on doctors' lists up and down the country was not anywhere near 2,500, but about 1,000. It was a matter of considerable controversy and anxiety why the very large sum of money provided under the Insurance Act for sickness benefit should have been exceeded. It was true that the influenza epidemic did not wholly explain the persistence of high expenditure, and it might be that insured persons were looking more carefully to their rights under the Insurance Act, and that their claims for benefit were being made much more freely. The statements which he had made in that House twelve months ago had been very amply confirmed in all parts of the House that night. He found that the number of cases referred to the regional medical officers for a second opinion rose from 201,291 in 1921 to 377,180 in 1926, which was an abnormal year owing to industrial troubles, and was actually 313,011 in 1927. Comparing the figures of 1927 with those of 1925, he found that the number of persons referred to the regional medical officers had increased by 55 per cent. These were astonishing results, because the proportion of persons examined who were found to be capable of work had increased from 24 per cent. to 28.8 per cent. Another astonishing figure was that 44 per cent. of the people who were referred to the regional medical officers failed to attend the examination or declared off before the date of their examination, and the proportion of persons referred for examination who came off the fund, either by failing to attend or as the result of the medical examination, increased from 57.7 per cent. to 59.8 per cent. He was not going to endeavour to say who was responsible, whether it was the people who presented themselves for examination, or who failed to attend after notice had been given to them that their case was going before the regional medical officer, or whether it was due to faulty certificates by the medical profession. But these facts showed that the approved societies and the medical profession of the country had seriously to take this matter into account, because this excessive sickness was bearing on the approved societies, and the people who had to stand the racket in the end were the insured persons. It was only right that the greatest care and precaution should be taken in the administration of their affairs. The investigations into sickness ought to be of various kinds. In the first place, the Ministry had impressed on the approved societies their responsibility in the matter. In the second place, the Ministry had had a conference with the British Medical Association, which was engaged in an inquiry into this particular matter. Thirdly, the Ministry had advised the increased use of medical referees. The department was anxious to obtain, as far as possible, self-government by the approved societies, and that national insurance should be conducted by the societies themselves.

Mr. Rlys Davies: Is the right hon. gentleman aware that the approved societies have little control over the medical profession?

Sir K. Wood said that Mr. Davies knew the difficulties and delicate matters that obtained in a profession of this kind, but he thought that a very fair balance had been struck between the representatives of the approved societies on the one hand and of the great profession on the other. "You cannot," Sir K. Wood continued, "make the medical profession the servant of the approved societies, but, administering as they do an Act of this kind, they must be prepared to obey certain rules and conditions which I think are fair and sufficient. This discussion will serve a useful purpose in bringing these facts before the country, and the House has seen the serious state of affairs as far as sickness is concerned. The speech of Dr. Vernon Davies was a reasonable one, and did not disguise the seriousness of the position or the fact that there are a large number of people obtaining benefits which they ought not to obtain. Everyone who values the work of the approved societies must realize that these things must stop."

Dr. Watts remarked that he held no brief for the panel doctor; indeed, his personal opinion was that any man in the medical profession who accepted service under the National Insurance Act deserved what he got. The Act had had an ill effect on the health of the country generally. That Act was the greatest fraud ever perpetrated upon the country, and it should be repealed. In regard to certification, the panel doctor naturally took the line of least resistance, and accepted the statements of his patients, as it would be manifestly impossible to make a thorough and detailed examination in each case. Therefore it was unreasonable for members to blame panel doctors—foolish and misguided though they might be to take service under the Insurance Act. Unquestionably the approved societies had of late years been entirely wrong in their administration of the Act.

The Estimate was agreed to by 189 votes to 96.

#### Ministry of Pensions Hospitals.

The House of Commons, on February 20th, went into Committee of Supply on a Supplementary Estimate taken vote of £10 for expenditure in respect of sundry public buildings in Great Britain not provided for in other votes. Sir V. Henderson, Under Secretary to the Home Office (speaking on behalf of the First Commissioner of Works), explained that this token vote was really in connexion with the provision of hospital accommodation

in a new Ministry of Pensions hospital at Dunston Hill, Newcastle-on-Tyne. The new hospital would deal with general medical and surgical cases. The present hospital had been in use since 1920, but the accommodation there was more than was required. The present hospital accommodated about 450 patients, whereas the actual requirements at present did not exceed 120. The nurses employed at the hospital were quartered some distance away. It had been decided to re-house the patients and the nurses in one building, and arrangements had been made to take a lease for fourteen years of the old manor house and grounds known as Dunston Hill, five miles from Newcastle. The lease was determinable if necessary at the end of seven years. The cost of the alterations and works services would be £22,565. The building would house 120 patients and the nursing staff. The re-housing, so far as the nurses were concerned, would be complete by July of this year. It was estimated that there would be a saving on the new scheme of £6,800 a year. It was possible to deal with the matter by a token vote, the necessary money having been obtained from savings on certain other services.

Lieut.-Commander Keaworthy congratulated the Ministry of Pensions on deciding to remove this hospital out into the country. The lease of the new hospital, he said, was too short; it ought to have been for ninety years. After the hospital ceased to be necessary for the use of ex-service men it could be taken over by the Ministry of Health and used for the treatment of tuberculosis. There was a tremendous shortage of such hospitals on the North-east coast. He believed that the real solution of the difficulty would be to have Government hospitals in the future.

Sir V. Henderson said that it would be out of order for him to deal with the question of the future of the hospitals or the question of their control by the Ministry of Health. The Office of Works considered that a fourteen years' lease was sufficient. The new hospital would be well away from the road and the house stood in its own grounds. The House agreed to the vote.

Major Tryon stated, on February 16th, that the three Ministry of Pensions hospitals in Scotland—Bellahouston, Craigleith, and Edinbhall—held only 226 in-patients on February 10th, as compared with 557 on the same date in 1926. Arrangements had been made to close Craigleith hospital at an early date. The Ministry would retain hospital accommodation of the best quality in Scotland under its own control so long as it was needed.

Sir L. Worthington-Evans informed Colonel Woodcock that 3,454 beds were available in the military hospitals in this country; the maximum number occupied on any one date last year was 3,277, and the annual average occupied was 2,061.

#### Control of Venereal Disease.

Sir J. Gilmour, replying to Mr. Buchanan, on February 21st, said that since August, 1921, resolutions in favour of the general principle of compulsory notification of venereal disease, in one form or another, had been submitted to the Scottish Board of Health by twenty-nineburghal authorities, by combined venereal diseases authorities representing burghs in by the Convention of Royal Burghs at a deputation about a year ago, compulsory notification. In present sider that the exercise of such p... the Public Health (Scotland) Act, 1897, would be an appropriate method of dealing with the matter.

Mr. Buchanan asked whether, in view of the fact that certain corporations were approaching the House for powers, it would not be better, before anybody was granted any powers, that full inquiry into the subject should be instituted by the Department. Sir J. Gilmour: No, sir; much the best way would be to allow the matter to be discussed in the House. Mr. E. Brown asked whether the Secretary for Scotland had not also received a number of strong protests against the suggested course of action. Sir J. Gilmour said that he had received communications, both pro and con. Mr. Hardie asked if it was not against the best interests of government, either national or local, to do things by piecemeal, such as dealing with one town rather than another. Was it not better to have a full review, and then to legislate? The Speaker, inter-vening, said that that was a matter to be discussed on the bill itself. (See discussion on the Edinburgh Corporation Bill by the Parliamentary Medical Committee.)

**Dogs Act (Amendment) Bill.**—In this bill, introduced by Mr. Briggs, one subsection runs as follows: "Any person who takes possession of a stray dog shall forthwith either return the dog to its owner, or deliver the dog to a police officer of the police area in which the dog was found, and inform that officer where the dog was found." A fine not exceeding 40s. is prescribed for failure to comply with this subsection.

**Factory Inspectors in Scotland.**—Sir William Joynton-Hicks, on February 20th, told Mr. Buchanan that the staff of factory inspectors allocated to Scotland comprised nineteen inspectors and two inspectors' assistants. It was at full strength, except for a recent vacancy, caused by the death of an inspector, which would be filled shortly. The staff in 1914 consisted of sixteen inspectors and five assistants.

**Salaries of Medical Officers.**—In a reply to Captain Crookshank, on February 16th, Mr. Chamberlain said he had not consulted the law officers of the Crown about the refusal of his department to make grants towards the salaries of county medical officers and other medical persons unless such salaries were in accord with the schedule of the British Medical Association. He was aware that the Lindsey County Council was dissatisfied over such a case. Captain Crookshank asked whether the Minister would now modify his action seeing that the Trade Disputes and Trade



Unions Act, 1927, forbade local authorities to lay down the condition that their employees should be members of trade unions. Mr. Chamberlain said the Act contained such a provision, but he did not think it applied to this case.

**Wingfield Orthopaedic Hospital.**—In reply to Sir Robert Hamilton, on February 16th, Lord Eustace Percy said that on April 7th, 1927, the medical inspectors of the Ministry of Education, at the close of their inspection of the Wingfield Orthopaedic Hospital, Headington, Oxford, conferred with the house committee at the request of that body, and in the course of the discussion commented adversely on the efficiency and suitability of the secretary of the hospital and of the manager of the workshops. The inspection was under the Education Act and in accordance with the usual practice. Action subsequently taken by the managers was at their own discretion.

**Tinned Foods.**—The Minister of Health is advised that the nutritive value of tinned foods is, in general, comparable with that of other cooked foods. He has no evidence suggesting the necessity for him to set on foot expert inquiries into the effect of these foods on the public health.

**Infant Death Rate in County Durham.**—Mr. R. Richardson, on February 16th, asked if Mr. Chamberlain's attention had been called to the report made in December, 1927, by the medical officers for Chester-le-Street and Houghton-le-Spring, and again in January for Houghton-le-Spring, to the effect that the infantile mortality rate in Houghton-le-Spring was over 200 and in Chester-le-Street 147. Mr. Chamberlain said he had not officially received these reports, but would obtain them. Mr. Richardson asserted that medical officers in various parts of Durham had reported increases in the infantile mortality rate, and had expressed the opinion that it was largely due to lack of nourishment for mothers and children.

#### Notes in Brief.

Three out of the necessary seven signatures by members of the Council of the League of Nations are still lacking to the International Opium Convention, signed at Geneva in February, 1925.

On February 20th Sir Shirley Benn presented a bill to amend the law relating to the marriage of persons with their nephew or niece by marriage, and it was read a first time.

There were 1,224,140 lb. of opium exported from India in 1926, including 88,000 lb. of medical opium sent to this country. In the same year the produce of the acreage in British India was 1,682,700 lb. Figures for 1927 are not yet available.

Twenty-six nursery schools are at present recognized by the Board of Education. The provision of two others has been approved, one of which is now in course of erection.

## Medical News.

**THE Hunterian Oration** will be delivered before the Hunterian Society of London at the Mansion House on Monday next, February 27th, at 9 p.m., by Dr. Anthony Feilding, on "Sciatica: its varieties and treatment." The Hunterian Society of St. George's Hospital has invited the Hunterian Society to take part in a joint commemoration of the bicentenary of John Hunter. A special meeting will accordingly be held in the board room of St. George's Hospital on Thursday, March 1st, at 9 p.m. The meeting will be in the nature of a conversation, and short addresses will be delivered by Sir Humphry Rolleston and Sir Crisp English.

As a sequel to the conference on maternal mortality at the end of last October a further meeting will be held at the Central Hall, Westminster, on February 28th, at 3 p.m., when Mr. Arthur Greenwood, M.P., will speak, and the Hon. Mrs. Alfred Lyttelton will take the chair. It will be proposed that steps should be taken to obtain a medical inquiry into every maternal death due to childbirth; that further instruction in midwifery should be introduced into the medical curriculum; that an official committee should be appointed to consider the training and employment of midwives; that the provisions of the National Health Insurance Acts should be modified to make medical and midwifery services available for mothers, both for ante-natal care and during and after confinement; and that local authorities should be encouraged to make their maternity services adequate.

**THE post-graduate course of lectures and demonstrations at the Manchester Royal Infirmary** will be resumed on March 2nd, when Dr. A. H. Holmes will give a demonstration of medical cases. On March 6th Mr. Howson Ray will lecture on mucous colitis. The lectures and demonstrations, which are free to members of the medical profession, will begin at 4.15 p.m. each day, and tea will be served at 3.45.

**A COURSE of three post-graduate lectures on cancer** will be held at the Leeds Medical School on Wednesdays, March 7th, April 4th, and May 9th, at 3.30 p.m. Sir Berkeley Moynihan will deliver the first lecture, which will be of an introductory nature; Professor G. E. Gask will speak in April, on radium in the treatment of malignant disease; and Professor G. Grey Turner will deal with cancer of the rectum, in May. Those

who intend to be present are asked to inform the secretary of the British Empire Cancer Campaign, 47, Park Square, Leeds, at least two days before each lecture. The course is free to medical practitioners, and tea will be provided.

**THE Fellowship of Medicine** announces that Dr. Neill Hobbonse will give a lecture on aetiology in relation to cerebral disease and abnormality on February 27th, at 5 p.m., at the house of the Medical Society of London, 11, Chandos Street, W. There will be a demonstration in surgery by Mr. Aleck Bonrue at the Samaritan Hospital for Women on February 29th at 2.30 p.m., and Dr. Heald will demonstrate on cases treated by electro-therapy on the same day, at 5 p.m., at the Royal Free Hospital. The lecture and the two demonstrations are free to medical practitioners. From March 5th to 17th there will be three courses as follows: in diseases of children at the Queen's Hospital, taking up the whole of each day; in gynaecology at the Chelsea Hospital for Women, occupying some mornings and some afternoons; and in ophthalmology at the Royal Eye Hospital during the afternoons only. From March 19th to 24th there will be an all-day course in diseases of the chest at the Brompton Hospital. From March 19th to 31st a course in orthopaedics will be held at the Royal National Orthopaedic Hospital in the mornings and afternoons, and a practitioners' course in medicine, surgery, and the specialties in the late afternoons at the Hampstead General Hospital. The April courses begin on the 16th of that month. The general course of work, consisting of attendance at the ordinary practice of some forty London hospitals, continues without interruption. The programme for this course and the tickets, which may be taken for any period from one week to one year, together with the syllabuses of the special courses, may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

**A POST-GRADUATE course in recent advances in pediatrics** will be held under the auspices of the Paris Faculty of Medicine at the Hôpital des Enfants-Malades, 149, Rue de Sèvres, from April 2nd to 14th. The fee is 250 francs, and further information may be obtained from the secretary of the Faculty of Medicine, 12, Rue de l'École de Médecine, Paris.

**THE Council of Industrial Medicine** has arranged a meeting for Friday, March 2nd, at 5.30 p.m., at 12, Stratford Place, W., to discuss the treatment of industrial accidents and the value of adequate treatment of industrial rheumatism.

**THE Irish Medical Schools' and Graduates' Association** will hold its annual London dinner on Saturday, March 17th (St. Patrick's Day), at 7.45 p.m., at the Savoy Hotel, when the guest of honour will be General Sir Hubert Gough. The honorary dinner secretary is Dr. F. R. Holmes Meyrick (59, Kensington Court, W.8).

**ALMOST simultaneously with the appearance of Sir Leonard Rogers' paper on small-pox and climate in England and Wales in our present issue** there has been published by the Oxford University Press his Robert Boyle Lecture on "Climate and disease incidence in India: forecasting epidemics," delivered last June. The price of the pamphlet is 1s.

**This week's issue of the Autocar** is intended especially for new motorists; its contents include notes on learning to drive a car and a classified buyer's guide.

**THE Bishop of Willesden** preached at St. Andrew's Church, Holborn, on February 19th at the thanksgiving service for the centenary of the Royal Free Hospital; the Lord Mayor was present, together with the Mayors of Holborn, Finsbury, and Islington. The Bishop described the origin of the hospital, to which we referred on February 11th (p. 236), and commented on the valuable work it was now doing, particularly in the education of women for medical practice.

**THE first congress of the German Society for Researches on the Circulation** will be held at Cologne on March 5th and 6th, and the German Balneological Congress will be held at Baden, near Vienna, from March 28th to the 31st.

**THE medical visit to Prague and the Czechoslovakian spas last Easter**, of which some account appeared in our issues of May 14th, May 28th, and June 4th, 1927, is to be followed this spring by a tour through several Yugoslav provinces. We gather that it will be more of a pleasure party than a professional expedition, the only place with a special appeal to doctors being the Rockefeller Institute at Zagreb. The journey out and home will be by way of London, Harwich, the Hook of Holland, and Munich; apart from this all the travelling will be in motor cars. A most attractive itinerary has been arranged, and places in Yugoslavia will be visited which ordinary tourists rarely see. The party is due to leave on April 3rd and return on April 24th; the charge will be £41 16s., to include all travelling expenses, motor cars, hotels, and tips. Wives or daughters of medical men joining the tour will be welcomed. Typed particulars of the route, with information about passports, postal arrangements, and so on, may be had from Mr. Henry Baerlein (the Bath Club, 34, Dover Street, London, W.1), who organized so successfully last year's travel in Czechoslovakia.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Pacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### FIREMEN'S CRAMP.

**DR. R. S. MORSEHEAD** (Shoreham) writes: "Ship" (February 18th, p. 291) will find a most interesting account of "Firemen's cramp" in *Possible Worlds*, by J. B. S. Haldane.

"E. L. M." writes: An answer to the query of "Ship" will be found in an article by Dr. A. Vavasour Elder in the *Medical Press and Circular* of October 7th, 1925. The writer advises the addition of 3 drachms of common salt to the gallon of water for drinking, and the avoidance of lead water as much as possible. The recommendations are based on the researches of Sir Josiah Court and Professor K. Neville Moss on miners' fatigue.

#### CLEANING DENTURES.

"L. M." writes: I find that the deposit is all removed by leaving the dentures at night in half a tumbler of water, to which a small quantity, say half a teaspoonful, of concentrated ensoil has been added; "milton" will do as well. Of course, the dentures should be first washed with soap and water to remove any grease. With a nightly soak in ensoil and water there will be no further trouble; if the deposit is very thick it will take a few nights to remove it.

#### INCOME TAX.

##### Cash Basis for Gross Income.

"M. B." has hitherto been assessed for income tax on the basis of cash receipts; he has recently bought a new practice—the book debts have not been taken over—and the inspector of taxes now declines to accept the cash basis.

"M. B." cannot successfully appeal in such circumstances. The cash basis is admittedly incorrect in theory, but is accepted in practice where the circumstances are such as to create the assumption that the value of the year's bookings unpaid is about equal to the cash received for work done in previous years. He should, however, claim a reasonable amount as a deduction from outstanding debts in respect of the amount which he will probably not receive, and he should not pay tax on cash received for work done in prior years—for example, if he has given up his former practice the cash receipts therefrom no longer affect his income tax liability.

##### Subscriptions to Societies.

"A. A. C.," who writes from an infirmary, and whom we therefore assume to be assessed under Schedule E, inquires as to the allowance for subscriptions to the British Medical Association and scientific societies.

The point was before the High Court in 1925 in the case of *Simpson v. Tate*, when Mr. Justice Rowlatt declined to accept the argument that such expenses were necessary to obtain the periodicals requisite for professional work. In that case it was not a condition of Dr. Tate's employment as county medical officer that he should be a member of the bodies in question. If that condition can be shown to apply to "A. A. C.'s" employment he would be on stronger ground, and we believe that in such circumstances the Board of Inland Revenue would admit the claim to deduct the subscriptions.

### LETTERS, NOTES, ETC.

#### DRUG TREATMENT OF PNEUMONIA.

**DR. D. M. MACDONALD** (Ayrside, Westmorland) writes: In spite of Dr. Maddlow's clever satire (*JOURNAL*, February 11th, p. 238) on the absence of satisfactory drug treatment in pneumonia, I endorse the experience of Dr. Wiggins, which also appeared in that issue, with reference to the undoubted efficacy of the prescription containing creosote and potassium iodide. I cannot claim his 100 per cent. successes, and attribute the failure, first, to delay in seeing the patient in the early stage of the malady, and, secondly, to the presence of complications. If I remember rightly, the prescription was contributed to your columns by Dr. Mathison, who also furnished me with a modification of the mixture for the disease in children, as follows:

A child aged 12 would get one-half the dose of an adult.	
" 6 " "	one-third " "
" 4 " "	one-fourth " "
" 1 " "	one-twelfth " "

Dr. Mathison opens treatment with a dose of calomel; I have not used the saline mixture given at intervals between doses of the above prescription, but the use of Dover's powder at bedtime is extremely helpful. I have given increasing doses of the iodide alone, and creosote by itself, but in my opinion the results never equal the two in combination. I would suggest that Dr. Maddlow give the prescription a fair trial and report the results in a future issue of the *JOURNAL*.

#### RUNNING AS A RECREATION.

**DR. F. E. FREMANTLE, M.P.**, contributes to the February issue of the *L.A.C. News*, the official publication of the London Athletic Club, an interesting note on running as a recreation, in which he advocates popularization of this healthy and inexpensive form of exercise. He believes that breakdown in middle life may be prevented by cross-country running, and pleads for the opening up of the neglected bridle paths for this purpose. In the course of a life he—like the late Dr. H. in 1895—has found that heart and did not interfere with this form of sport. The possibility of ensuring the preservation of the heart and circulation in good order by even a short run every day certainly deserves consideration in these days as an economical form of recreation, and Dr. Fremantle looks upon it as "one of the surest means of enjoying and prolonging life."

#### DANGEROUS DRUGS.

**COLONEL W. G. FRIDMORE, I.M.S. (ret.)**, writes: Is anything being done to extend the utility of the Dangerous Drugs Act? It is not sufficient to obtain opium and its derivatives or its prescription, and then only with special licence; it should be, but almost anyone can go into a chemist's shop and buy euphonia, the quantity varying with the desire of the buyer and respectability of the chemist. Some will sell twenty-five tablets of 5 grains each without question: Some, whose sense of honour is a little higher, will say, "Of course, your doctor knows that you are taking this?" Some will refuse to sell any. But there are many chemists who will sell without a question, and all the drug addict has to do is to visit half a dozen chemists to collect the same number of bottles, each containing twenty-five tablets of 5 grains each. This I know is being done by a young girl patient of mine. Why are not the same precautions necessary with sulphonal and the barbitone group as with morphine and cocaine?

#### RECORDS OF CANCER CASES.

"L. S. A." writes: Dr. Grainger's letter in your issue of January 21st (p. 117) brings to mind a contribution by Sir D'Arcy Power to the *Cancer Number of the Practitioner* of April, 1893, p. 418, which, perhaps, I may be allowed briefly to epitomize. In a village, not named, so many cancer cases had occurred that he went down and investigated the neighbourhood as well as the cases. He found local circumstances in such marked relation to the houses where cancer had occurred that he ended his communication thus: "It will almost certainly prove that there is some intermediate host whose chance of detection will increase or diminish with the care which is taken to examine the fauna and flora of the districts where cancer is most prevalent." Is it not glaringly obvious that where the "causa causans" is in and of operation is the very place in which to seek for it, and that the presence of any accomplice may lead to discovery? Why is not this local clue thoroughly followed up?

#### MOSQUITO BREEDING AND POOL-PROOF GUTTERING.

**DR. F. G. CAYSTON** (Durban) writes in reference to the tapered guttering advocated by him in a letter published in our issue of January 7th (p. 38): "The model and plans . . . have been shown at a meeting at the Colonial Office of the Colonial Advisory Medical and Sanitary Committee, and have been presented to the museum of the London School of Tropical Medicine, where they will be exhibited."

#### VACANCIES.

**NOTIFICATIONS** of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 50, 51, 54, and 55 of our advertisements columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 52 and 53.

A short summary of vacant posts notified in the advertisements columns appears in the *Supplement* at page 67.

## An Address

ON

## THE PRINCIPLES OF DIAGNOSIS.\*

BY

ROBERT HUTCHISON, M.D., F.R.C.P.,

PHYSICIAN TO THE LONDON HOSPITAL.

It is written that there abideth Faith, Hope, Charity, these three, but the greatest of these is Charity. And so in Medicine we have Diagnosis, which is a matter of faith; Prognosis, which is a question of hope; and Treatment, which is only too often an affair of charity; but the greatest of these is Diagnosis. For without accurate diagnosis it is impossible to forecast the course and outcome of a disease or to treat it satisfactorily. Indeed, as someone has truly said, "The first part of treatment is diagnosis, and the second, diagnosis, and the third, diagnosis." I need make no apology, therefore, for directing your attention to some reflections on such an important subject on this occasion.

Diagnosis is based on an accurate interpretation of symptoms and signs. I am aware that there has been in recent times an attempt to ignore any distinction between these and to speak of all the manifestations of disease as symptoms. I think there is an advantage, however, in keeping to the old division and to call "symptoms" all the subjective results of disease which are described to you by the patient, and "signs" all the objective phenomena which you discover on physical examination. It is true that there are some manifestations of disease which occupy an intermediate place between symptoms and signs—disorders of sensation, for instance—but this does not invalidate the general utility of keeping the subjective and the objective separate.

Symptoms are elicited by taking the history and by the cross-examination of the patient upon it. This is the patient's contribution to the making of the diagnosis, and its value cannot be over-estimated. The importance of the symptoms—and therefore of the history—in the diagnosis varies greatly in different cases, but it is perhaps greatest in cases of abdominal disease, and least in cutaneous diseases and organic disease of the nervous system. If you are dealing with a stupid, deaf, or confused patient, or one who has little power of expressing himself in words, your difficulty in eliciting symptoms may be very great. Inasmuch, however, as the whole diagnosis may depend upon your success it is worth while to exercise great patience and to spend much time in the cross-examination.

All symptoms are not of equal diagnostic importance, and in the case of voluble patients a good many of them may safely be ignored. There is usually one symptom, however, which troubles the patient more than any other, and to this the term "presenting symptom" is sometimes applied. Special attention should always be given to it. Although it is a good rule not to ask leading questions when taking a history, it is legitimate—once a preliminary diagnosis has been made on the presenting symptom—to ask for "corroborating" symptoms which the patient may not have specially observed or which he may have omitted to mention.

The detection of signs depends upon observation and training in clinical methods of investigation, both general and special. It may be doubted whether ordinary bedside observation of the signs of disease is as good now as it was a generation or two ago—in the time of such men, to mention only two who were at my own hospital, as Jonathan Hutchison and Hughlings Jackson. There is, I believe, a real danger lest the increased use of laboratory tests, x-ray examinations, and other short cuts to diagnosis should lead to a neglect of the information to be obtained by the skilful use of the unaided senses, and to a comparative atrophy of these from disuse. Most clinical teachers must be aware of this.

There are two sorts of error in diagnosis by signs—one

negative, the other positive. Negative errors are perhaps commonest, and arise from overlooking signs which are present; they are chiefly made by those ill trained in clinical methods. Positive errors consist in detecting signs which have no real existence—the discovery, in short, of mares' nests. They are chiefly made by those with observational zeal but little knowledge or experience. The apex of the right lung, the pulmonary area of the heart, and the right iliac fossa are the regions in which mares' nests are specially common.

Having elicited the symptoms and signs which are present, knowledge is necessary in interpreting them, for without knowledge one is "mind-blind." I remember well the first case of encephalitis lethargica which I saw, just when the disease was beginning to appear in this country. The symptoms and signs were obvious enough, but the assemblage of them meant nothing. I could not put a name to the disease, and it was only after the publication of cases by Professor Arthur Hall and others that I recognized, retrospectively, what I had been dealing with. Such mind-blindness may at times affect one even as regards a disease which one has seen before, as the result of temporary fatigue; for, as Dr. Samuel Johnson remarked, "Sudden fits of inadvertency will surprise vigilance . . . and casual eclipses of the mind will darken learning." Seen again next day, when one is fresh, the whole clinical picture at once falls into focus.

After observation and knowledge comes judgement as a factor in the making of a diagnosis; indeed, I believe it to be in some respects the most important factor of the three. Every doctor must be a judge. He has to weigh the evidence of symptoms and signs, and allot to each its proper value in making the diagnosis. Now we have Hippocratic authority for the belief that "judgement is difficult," and, indeed, medicine has been defined as "the art of coming to a conclusion on insufficient evidence," so it need be no matter for surprise that errors of judgement so often lead to erroneous diagnosis.

We can increase our powers of observation by training and practice, and we can extend their range by means of special instruments and methods. We can increase our knowledge by study and experience, but can we improve our powers of judgement? I greatly doubt it. Judgement seems to be an inborn faculty, the result of a union of mind and character, which a man either has or has not, and it is almost as difficult for him to increase it as to add an cubit to his stature. As Stephen has said:

"The one talent which is most worth all other talents put together in all human affairs is the talent of judging right upon imperfect materials, the talent if you please of guessing right. It is a talent which no rules will ever teach, and which even experience does not always give. It often coexists with a good deal of slowness and dullness, and with a very slight power of expression. All that can be said about it is, that to see things as they are, without exaggeration or passion, is essential to it; but how can we see things as they are? Simply by opening our eyes and looking with whatever power we may have. All really important matters are decided, not by a process of argument worked out from adequate premises to a necessary conclusion, but by making a wise choice between several possible views."—Stephen's *Liberty*, etc., p. 332.

What is sometimes called "clinical instinct" is, in truth, simply a power of rapid instinctive judgement, and it may be lacking in men of high intellectual ability and present to a marked degree in those who are in other respects mentally their inferiors. It seems to be much the same as "common sense" and closely allied to a sense of humour, which is the same thing as a sense of proportion. Those who lack it are apt, in making a diagnosis, to fail to see the wood for the trees.

If the natural powers of judgement are to be improved it is only, I believe, by general mental culture, and not by purely scientific training, that it can be done. The study of "humanism," by which is meant the philosophy of knowledge as opposed to its practical application, must be the means. As someone has said, sanity, humour, breadth of view, and powers of criticism are the distinguishing marks of the humanist, and it is at these that we must aim. It is for this reason that I regret the modern tendency to make the scientific studies of the

\* Delivered before the Midland Medical Society, October 27th, 1927.

Secondly, Don't diagnose rarities. Remember the saying of that wise physician Samuel Gee, "Common things of most commonly occur." I was associated for a time in my early days with a physician who had acquired a reputation in the diagnosis of unusual and rare cases, although, as a matter of fact, he was oftener wrong than right. I remember going round the wards with him one day when he pointed to a sudden elevation of temperature in a chronic case of pulmonary disease and inquired its cause. I replied that I believed it was due to the patient having developed an ischio-rectal abscess, as he had a tender swelling in the usual situation. "Well," he replied, "I have seen an empyema point there." When at a consultation I hear a doctor begin "I once saw a case," etc., I know he is going to make a bad diagnosis. Cases

so uncommon as only to be seen once are not likely to be seen again.

Thirdly, *Don't be in a hurry.* Wait till you have all the facts, remembering that a laboratory report (for example) may at the last moment upset all your calculations. Reserve your decision, therefore, in a difficult case; take it, as the Scotch lawyers say, "to avizandum." If you come to a premature conclusion it is difficult to alter it afterwards, not only because it involves awkward explanations to the patient, but because, by the mere fact of having made a diagnosis, you become insensibly biased and more impervious to the reception of fresh evidence. It is for this reason that all "snap-shot" diagnosis is to be condemned. It is impressive but perilous. "Life," as Dr. Johnson said, "is not to be sacrificed to an affectation of quick discernment, or of crowded practice, but may be required, if trifled away, at the hand of the physician."

Fourthly, *Don't be faddy.* This is the besetting sin of the specialist. He sees only what he is always seeing and what he wants to see. To the cardiologist few hearts are healthy; to the tuberculosis expert no lung is sound. The syphilographer sees disease only in terms of syphilis; the psycho-analyst only in those of sex. Beware, therefore, when you find yourself always diagnosing the same thing; beware also of the "stunt" of the moment—"avitaminosis," "foetal sepsis," "disturbance of endocrine balance," or what not. Try to see the case steadily and see it whole.

Fifthly, *Don't mistake a label for a diagnosis.* Such "diagnoses" as "gastritis," "neuritis," "influenza," "neurasthenia," are, more often than not, mere labels; they have no essential relation to reality. It may be necessary in the exigencies of practice, and in order to satisfy the patient's mind, to use such labels for a time, but don't let them deceive you into thinking that you understand the nature of the case. Be mentally honest.

Sixthly, *Don't diagnose two diseases simultaneously in the same patient.* Remember the law of "paucity of causation." Don't, for example, explain some features of a case by a diagnosis of cancer and others by assuming the presence of tuberculosis. There is, of course, no reason why patients should not run two diseases simultaneously, but as a matter of fact they rarely do. Make it a rule, then, if you possibly can, to account for all the clinical features of the case by assuming the presence of only one pathological process.

Seventhly, *Don't be too cock-sure.* "Think it possible," as Cromwell said to the Scotch bigots, "that you may be mistaken." On the other hand, don't hesitate too long between two alternative diagnoses, like the proverbial ass between two bundles of hay. Cock-sureness in diagnosis is the vice of the inexperienced; excessive caution that of the man who has seen too much.

Eighthly, *Don't be biased.* Avoid preconceptions. Approach every case with an open mind, and don't listen to the opinion of others, even that of the relations or nurse, till you have formed your own. This is the main reason for consultations: the consultant approaches the case, or should do so, with an open mind. It is also the justification for the layman's desire for "an independent opinion"—that is, for the opinion of one who is approaching the case fresh and without any preconceived ideas about it.

Finally, *Don't hesitate to revise your diagnosis from time to time in a chronic case.* Things may change, new signs may appear which put a totally different complexion on the matter, and the original and provisional diagnosis may no longer be able to stand. I was once told by a shrewd and experienced practitioner that he made it a rule always to re-examine his patient on the morning of a consultation. On the one occasion when he omitted to do this he was badly caught out.

In conclusion, let me say that it is quite impossible that you should always be right in your diagnosis, if only for the reason that disease does not always play the game. It is better, however, to be wrong on sound principles than right by chance. Guessing is to be avoided at all costs; for if you once get into the habit of guessing you are diagnostically damned.

## RAIN-BEARING WINDS AND EARLY PHTHISIS IN DERBYSHIRE.

BY

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AND

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COUNTY MEDICAL OFFICER OF HEALTH FOR DERBYSHIRE.

THE county of Derby provides a remarkable proof of the effect of strong prevalent rain-bearing winds upon the course of early phthisis, amply confirming the recent evidence from Devonshire and West Shropshire. Incidentally it also furnishes interesting indications of an effect of subsoil on the course of phthisis which will not surprise those who have followed the work already published regarding the effect of subsoil on the prevalence of the disease. We shall set forth our findings as briefly as we can.

We have dealt with 306 first-stage cases, which had been treated at the County Sanatorium (near Chesterfield), and followed at their homes for four years after their discharge, as was done with the cases in Devonshire and West Shropshire. The results for the whole county of Derby, taken as a unit, are as follows: in respect of south-west, west, and north-west winds—

### Mortality.

Sheltered cases	...	...	...	...	6.96%
Exposed cases	...	...	...	...	14.13%

or, confining attention only to the indisputable cases—that is, deaths certified as due to phthisis and living cases in which tubercle bacilli had been discovered in the sputum:

Sheltered cases	...	...	...	...	14.05%
Exposed cases	...	...	...	...	28.72%

### Arrests.

Sheltered cases	...	...	...	...	68.69%
Exposed cases	...	...	...	...	63.87%

or, considering only indisputable cases, as above:

Sheltered cases	...	...	...	...	61.39%
Exposed cases	...	...	...	...	41.49%

These figures, significant as they are, do not, however, show the real extent of the contrast, because of certain peculiarities of the geology, configuration, and rainfall of the county, which we shall now explain.

### Access of Westerly Winds.

Derbyshire lies a little to the north of the centre of England, and so receives its westerly (chief rain-bearing) winds as follows.

The north-west wind arrives directly from the sea, with no outside intervening heights to break its force or abstract its rain. The west wind is also a direct sea wind for the extreme north of the county, but for the greater part of its surface comes across the mountains of Wales. The south-west wind, for the entire county, has crossed the Welsh mountains. Of these winds the south-west is the commonest, and the wind which most often blows as gales. Next in frequency, and in gale-frequency, is the north-west. At Buxton the west and south-west winds are rainier than the north-west.

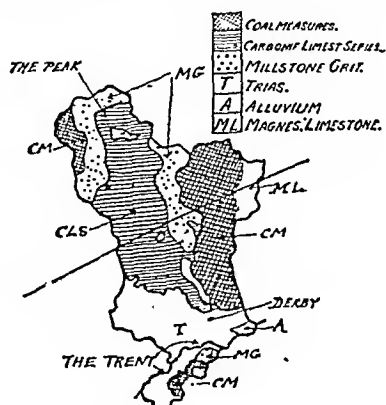
### Natural Divisions of the County.

The geological formations of Derbyshire divide it naturally into three great areas, indicated on the accompanying sketch-map, and these areas differ conspicuously in respect of altitude, configuration, and rainfall. They comprise:

1. A north-western area, of high ground, highest in the north (where it culminates in the Peak—2,083 feet high), having a main plateau running nearly north and south, mostly over 1,000 feet in altitude, the whole area presenting pronounced contrasts of exposure and shelter. It has



a rainfall of from over 40 inches in the north (50 inches at Buxton) to 35 inches in the south. The subsoils are mainly millstone grit, carboniferous limestone, and carboniferous limestone shale, but there is a patch of coalmeasures at the extreme north-west.



2. A north-eastern area, of much lower altitude, with an undulating surface, which slopes from west to east and from north to south, with much less decided shelters (so much so, indeed, that the assessment of some of them is doubtful), having a considerably lower rainfall than the north-western area—namely, generally between 30 and 25 inches. The subsoil consists mostly of coalmeasures, but there is also a considerable stretch of magnesian limestone in the north-east.

3. A southern area, which contrasts strikingly with both of the former. Nearly all of it is relatively low-lying, much of it below 200 feet above sea-level, and a little of it along the Trent even under the 100 feet level. There is hardly any actual shelter, but all winds reaching it do so across much higher country. It has a low rainfall, mostly rather over 25 inches, but, along the north of the Trent valley, slightly under 25 inches. The area consists almost wholly of trias, a subsoil which former work by one of us showed to be associated with some of the lowest phthisis death rates in England. There is some alluvium along the Trent, a small patch of millstone grit at Melbourne, and a larger patch of coalmeasures in the south-east.

#### The Elimination of Subsoil as a Conflicting Influence.

To judge fairly, therefore, of the relations of phthisis and rain-bearing winds we must disentangle the influence of subsoil. This can easily be done by considering the effect of the rain-bearing winds over each geological formation separately. The same procedure also eliminates the influence of differences of rainfall and exposure; for millstone grit and the carboniferous limestone series (formations upon which phthisis mortality in England is relatively high) have here the heaviest rainfall, and the most pronounced exposure; whilst trias (on which phthisis prevalence in England is relatively low) has here the lowest rainfall and lies in a sort of hollow. The coalmeasures have been divided by us into north and south, on account of the different heights and rainfalls; we do not think that grouping the very small patch of north-western coalmeasures with the large area of north-eastern can lead to any error. The trias and coalmeasures of the southern area are considered separately. Melbourne, the only millstone grit locality in the south, must be taken with millstone grit generally, as it must not be confused with localities on the contrasting soil of trias. Most of the cases on alluvium are in the southern area; the exceptions are only a little to the north of it under very slightly heavier rains; they may therefore fairly be considered together.

We have satisfied ourselves that no other conflicting influences exist.

#### Results.

Taking, then, the effect of these winds over each subsoil separately, we reach the striking results shown in the following tables.

SUMMARY I.  
Percentages of Mortalities on Different Subsoils.

	(1) All Cases.		(2) All Deaths, but only Positive A and L Cases.	
	Sheltered.	Exposed.	Sheltered.	Exposed.
Millstone grit ... ..	3.45	21.10	5.0	30.80
Carboniferous limestone series	8.33	33.33	16.0	50.0
Northern coalmeasures ...	13.65	16.06	27.27	43.34
Magnesian limestone ...	0	25.0	No cases	No cases
Trias ... ..	No cases	9.10	"	17.66
Southern coalmeasures ...	"	4.35	"	5.56
Alluvium ... ..	"	5.55	"	12.50

Note.—Throughout these tables A=arrested; L=living, but not arrested and D=dead, certified from phthisis.

SUMMARY II.  
Percentages of Arrests on Different Subsoils.

	(1) All Cases.		(2) All Deaths, but only Positive A and L Cases.	
	Sheltered.	Exposed.	Sheltered.	Exposed.
Millstone grit ... ..	82.76	36.84	80.0	30.8
Carboniferous limestone series	58.34	33.33	52.0	16.7
Northern coalmeasures ...	68.15	65.42	45.46	33.33
Magnesian limestone ...	66.64	62.50	No cases	No cases
Trias ... ..	No cases	69.7	"	41.17
Southern coalmeasures ...	"	73.50	"	72.22
Alluvium ... ..	"	77.78	"	50.0

SUMMARY III.  
Totals.

	Sheltered.			Exposed.		
	A.	L.	D.	A.	L.	D.
(1) All Cases.						
Millstone grit ... ..	24	4	1	7	8	4
Carboniferous limestone series	23	16	4	3	3	3
Northern coalmeasures ...	15	4	3	53	15	13
Magnesian limestone ...	8	4		5	1	2
Trias ... ..	4			23	7	3
Southern coalmeasures ...				17	5	1
Alluvium ... ..				14	3	1
Totals ... ..	79	28	8	122	42	27
Percentages ... ..	68.69	24.35	6.96	63.87	22.0	14.13
(2) All Deaths, but only Positive A and L Cases.						
Millstone grit ... ..	16	3	1	4	5	4
Carboniferous limestone series	13	8	4	1	2	3
Northern coalmeasures ...	5	3	3	10	7	13
Magnesian limestone ...						2
Trias ... ..	1			7	7	3
Southern coalmeasures ...				13	4	1
Alluvium ... ..				4	3	1
Totals ... ..	35	14	8	39	28	27
Percentages ... ..	61.39	24.55	14.05	41.49	29.79	28.72

Thus in Derbyshire, as in Devonshire and West Shropshire, there is a remarkable body of evidence showing that patients with early phthisis die more often and recover more rarely when residing in exposure to strong prevalent rain-bearing winds than when residing in shelter from them, and this to a degree which cannot be considered negligible.

It is obviously important that phthisis sanatoriums should be located in shelter from these winds, and even more important that phthisis patients, on leaving their sanatoriums, should be advised to reside for some years in such shelter.

## ON IRRADIATED ERGOSTEROL AS A DRESSING FOR WOUNDS:

WITH SUGGESTIONS AS TO ITS MODE OF ACTION.

BY

C. J. BOND, C.M.G., F.R.C.S.,

HONORARY CONSULTING SURGEON, LEICESTER ROYAL INFIRMARY.

AN inquiry undertaken four years ago into the effect exercised by irradiated and non-irradiated cholesterol and some other unsaturated fatty substances on the cellular constituents of the blood (recorded in a communication to the Physiological Section of the British Association last September) had previously demonstrated the fact that blood incubated in a closed cell on a film of cholesterol crystals deposited from ether on a slide showed increased leucocytic activity and also agglutination, followed by haemolysis of the red cells, and that these changes were much more marked in the irradiated than in the non-irradiated film. It was this fact which led to the use of cholesterol, dissolved to saturation point (about 3½ per cent.) in liquid paraffin, as a dressing for ulcers and granulating wounds.

In 1925 a very extensive wound of the upper limb, in which, as the result of a machine strap accident, the entire skin surrounding the elbow had been stripped from the limb, and in which two unsuccessful attempts at autogenous skin grafting had been previously made, was dressed daily for some weeks with this cholesterol paraffin mixture, and later, when the sloughs had separated and granulations began to appear, the surface of the wound was irradiated through the cholesterol paraffin coating every other day with the ultra-violet rays from a mercury vapour lamp. After nearly six months of this treatment the wound eventually healed without cicatricial contraction, and the lad recovered with a functionally useful arm.

Following the discovery by Rosenheim and Webster in England, and Windaus and Hess in Germany, that irradiated ergosterol contained a much higher content of antirachitic or vitamin D substance than irradiated cholesterol, irradiated ergosterol, dissolved in the same way in liquid paraffin, was used in the place of the cholesterol as a dressing for varicose ulcers and for infected and granulating wounds. Good results were obtained both in the reduction of infection and in the promotion of healing.

Latterly "radiostol" in oil, diluted with liquid paraffin and soaked in gauze, has been found to be a convenient form of dressing. In two cases in which healing had been delayed by *B. pyocyaneus* infection it was noticed that the infective process was arrested in the part of the wound in contact with the irradiated ergosterol dressing, although it was still present in the area dressed by liquid paraffin, used as a control.

These observations showed that irradiated ergosterol so applied to wounds not only reduces infection and promotes healthy granulations; it also stimulates the ingrowth of epithelial cells from the margin, and so favours the healing process.

Experiments have also been carried out to test the bactericidal effect of irradiated as compared with non-irradiated ergosterol. Films of ergosterol were spread on the under surface of glass slips, some of which were irradiated and the remainder used as controls. The irradiated and the non-irradiated films were then inoculated with a suspension of *Staphylococcus aureus* in normal saline and placed film downwards on agar or blood serum

jelly, and incubated in Petri dishes. The colonies were found to be more numerous and larger on the non-irradiated than on the irradiated films.

These experiments require, however, to be repeated with other types of organisms, both aerobic and anaerobic.

### Mode of Action.

The first suggestion I wish to make is that the beneficial effect of irradiated ergosterol, when used in solution in liquid paraffin as a dressing for wounds, may be due to a further continued irradiation effect on the wound tissues after the primary irradiation of the sterol by the ultra-violet rays from the mercury vapour lamp has ceased. The question of the physical and chemical action of the irradiated substance still remains.

In the BRITISH MEDICAL JOURNAL of October 8th, 1927 (p. 637), I described a colour test for distinguishing irradiated from non-irradiated ergosterol, which depends on the oxidation of potassium iodide by liberated oxygen, and the formation of a pink or a blue coloured iodide of starch when a solution of boiled starch dissolved in potassium iodide solution is applied to such an irradiated film. This and similar colour tests with ammonium ferrous sulphate and potassium thiocyanate solutions, and the haemolytic effect of the irradiated sterol on a suspension of washed red cells previously described, and the fact that ergosterol can be activated by ozonized air, all suggest that the taking up of oxygen during irradiation and the subsequent liberation of the oxygen may be the mechanism by which the irradiated sterol acts upon the blood and tissue cells and epithelial cells in the wound.

According, however, to Rosenheim and Webster (*Lancet*, September 17th, 1927) the conversion of ergosterol and the formation of vitamin D is brought about equally well in an atmosphere of nitrogen, the supposition perhaps being that the change consists in a molecular rearrangement only.

Experiments carried out by myself, in which thinly spread ergosterol films were irradiated through water covering the film, and also with films spread on the under surface of quartz slips, placed film downwards on mercury, and then irradiated through the quartz (atmospheric oxygen being thus excluded), showed that no activated substance had been formed capable of liberating iodine when tested by the starch potassium iodide and other colour tests.

These and other observations suggest the conclusion, either that ergosterol when treated by ultra-violet radiation takes up oxygen which can be subsequently liberated and is itself vitamin D, or that two substances are formed from the sterol during radiation—one a vitamin, which does not take up and subsequently liberate oxygen, and the other a substance of a peroxide character, which does take up oxygen and gives the starch potassium iodide colour reaction, and which haemolyses the red cells. If two substances are formed then the further question arises which of these substances exercises the stimulating and healing effect on wounds.

The fact that the activated substance which forms during irradiation is a fat-soluble material is of considerable importance; for, unlike a water-soluble material, a fat-soluble substance can transmit oxygen through the lipid coatings of the cell and its nucleus, and if it is also an oxygen carrier, soluble in fats, it may exert its influence on red cells, leucocytes, and tissue cells in the way described.

In support of this view it is interesting to find that when large and well-formed crystals of ergosterol, deposited slowly from solution in tetrachlorethane (Westron) on a slide, are viewed with polarized light after irradiation only the very small crystals become completely isotropic or non-polarizing. The larger crystals still contain a luminous core surrounded by a non-luminous non-polarizing layer of resinous material, which appears to protect the central core from further change.

If we assume that only one fat-soluble oxygen-absorbing and oxygen-discharging substance is formed during irradiation, then such an assumption seems also to imply that it is in virtue of this fat-soluble character, in conjunction with its capacity for liberating oxygen, that vitamin D exerts

its physiological effect on both general and local metabolism.

The further fact that irradiated ergosterol ("radiostol") after long exposure to atmospheric oxygen (especially in a warm temperature) is found to lose its antirachitic value, and also its capacity for liberating oxygen, and no longer oxidizes potassium iodide, as shown by the starch test, is also important. It may perhaps be explained on the assumption that the oxygen additive compound undergoes rearrangement, in consequence of which the oxygen is no longer easily liberated, the final product being the inactive resinous material.

My object in putting forward these suggestions is, first, to point out the value of certain irradiated sterols when used as a dressing for wounds, and secondly, to indicate certain directions in which, as it seems to me, further research would be very useful in throwing light on the mode of action of vitamin D.

Put shortly, the present position is this: we know from the brilliant work of a number of observers that irradiation will convert ergosterol and other unsaturated sterols into a substance having antirachitic qualities—that is, vitamin D. We have now shown that irradiation will also produce from the ergosterol a fat-soluble substance containing oxygen, some portion of which can be readily liberated. We also know that ozonization (and possibly other methods) will convert ergosterol into an oxidizing substance, but we do not yet know whether ozonization will produce an antirachitic substance. Neither do we yet know whether the vitamin D and the oxidizing substance are one and the same thing.

## AUTOGENOUS RESIDUAL VACCINES:

THE THERAPEUTIC RESULTS OBTAINED IN A SERIES  
OF 360 CASES.

BY

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THE method of preparation of these vaccines was described in this JOURNAL six years ago. On that occasion the results obtained by the treatment of cases of chronic bronchitis in the out-patient department of Salford Royal Hospital were presented and compared with cases treated by a similar stock vaccine prepared according to the older and usual method. The conclusion was drawn that the residual vaccine was superior.<sup>1</sup>

The original technique for the preparation of residual vaccines has been slightly modified. One washing, combined with the use of hydrogen peroxide as introduced by Deau,<sup>2</sup> is found to be sufficient. This paper contains the results obtained when autogenous vaccines are used, and the whole of the cases now described were treated with that type of vaccine.

Detailed comment is best made under the separate group headings, but it is necessary to draw particular attention to the means employed for assessing the benefit or otherwise of the treatment. Almost without exception the result has been assessed by some other medical practitioner, usually the patient's private doctor. A minority of the records were upon hospital case sheets, and where I have been compelled to pass an opinion upon them myself I have classed as successful only those cases which showed a marked improvement obviously related to the administration of the vaccine; cases which showed a slight improvement or no change are failures, and those cases which, from inadequacy of notes or some other reason, showed an obvious benefit not attributable with certainty to the vaccine therapy, are classed as "Not traceable." Cases which slowly improved after vaccine therapy had ceased a month or so previously are deemed to be failures. The remainder of the untraced cases are so owing to disappearance of the patient or to my failure to establish contact with the patient's doctor.

It will be seen that the standard of assessment is of a simple order—succeeded or failed. Obviously such a classifi-

cation must be considered in relation to the disease. Thus the successful treatment of furunculosis means a complete and lasting cure. On the other hand, an advanced case of rheumatoid arthritis cannot be expected to yield so completely to vaccine therapy that all bony deformity disappears; in this case one looks for freedom from pain, disappearance of the swelling of the soft tissues, increased mobility of the affected joints, cessation of periodical acute attacks, and the patient's restoration to a more active life. An early case may be expected to clear up completely. Every case, however, is susceptible to analysis by means of a simple question—Was the vaccine therapy really worth while considering the results and the nature of the case?

I wish to offer my thanks to all the medical practitioners whose time I have taken up and whose memories I have racked in my efforts to assemble these records.

The results now published comprise all the autogenous residual vaccines made between January 1st, 1924, and December 31st, 1926.

Total vaccines prepared ... ..	448
Results not traceable ... ..	53
Still under observation ... ..	35
Results now recorded ... ..	360

The cases still under observation will be mainly, but not necessarily, the most recent. A vaccine for chronic nasal catarrh requires some time before its result is apparent so far as prophylaxis is concerned, whereas the result to be obtained in a case of rheumatoid arthritis may, and frequently does, declare itself after two doses.

It will be convenient to consider the results in seven groups.

### GROUP A.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Furunculosis ... ..	45	40	5	88.9
Pyogenic abscess ... ..	4	4	0	—
Sycosis ... ..	3	2	1	—
Total of group ... ..	52	46	6	88.5

The failures in furunculosis include a diabetic who refused to limit his diet in any way, and a patient in whom a large carbuncle had already spread to the cord and produced myelitis when I first saw him. The three cases of sycosis barbae show two-thirds of successful results, which is probably unduly flattering.

### GROUP B.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Rheumatism and rheumatoid affections ... ..	63	50	13	79.3
Gonococcal arthritis ... ..	3	3	0	—
Total of group ... ..	66	53	13	80.3

In the gonococcal cases the organism was isolated in pure culture from the affected joint. The rheumatic group require explanation and comment. Before a vaccine is prepared a preliminary bacteriological examination is always undertaken. Cultures are made from the throat and faeces as a routine. When pyorrhoea or some other suppurative lesion is present the appropriate cultures are made. The predominating organism I have found to be a streptococcus—*haemolyticus*, *salivarius*, or *faecalis*—or the enterococcus. I have never seen anything to suggest that these streptococci concerned in the rheumatoid group are in any way different from the standard types of these varieties; it is, of course, quite possible that in a susceptible case certain strains do produce toxins which have rather more affinity than usual for the joints and heart valves.

The majority of the vaccines in this group were made from the faeces, and an arbitrary standard of suitability

for vaccine treatment is therefore necessary. The normal proportion of streptococci and enterococci in the faeces is from nil to 2 per cent.; a vaccine is not prepared unless the proportion is greater than 20 per cent. A pure culture is not uncommon. Two specimens separated by a twenty-four-hour interval are obtained, as it is found that the proportion is apt to vary a little from day to day. The standard medium for all routine examinations in the Salford laboratory is nutrient beef broth agar containing 2 per cent. of ox serum. It is possible that a higher percentage of streptococci is thus found than would be the case on "plain" nutrient agar, which is never used.

Other organisms that have been found in the faeces in high proportions and which have given satisfactory results in an autogenous vaccine—and therefore presumably have a causal relationship to the disease—are *Staphylococcus aureus*, *B. lactis aerogenes*, Friedländer's bacillus, *B. proteus vulgaris*, and various diphtheroid bacilli. Approximately one-half of the rheumatoid cases examined show these bacterial abnormalities or foci of infection. Where no abnormality is found a vaccine is not administered, and the results of stock vaccines in such cases have not been impressive. This probably explains why the vaccine treatment of the rheumatoid diseases is the subject of such conflicting opinions. The cases for which a vaccine is proposed must be bacteriologically examined first.

GROUP C.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Intestinal toxæmia ... ..	21	16	5	76.2
Erythema and urticaria ...	12	9	3	75.0
Mucous colitis ... ..	4	2	2	—
Total of group ... ..	37	27	10	73.0

The cases of intestinal toxæmia are a mixed group that showed wide variations of blood pressure, vague skin eruptions, dyspepsia and diarrhoea, anaemia, and in a few instances a mental complex that had been dismissed by various observers as neurasthenia. The improvement in these cases was frequently dramatic. It may be thought that the results obtained were largely produced by suggestion, but several of the patients had had treatment far more spectacular than a bottle of vaccine, and it is difficult to see how suggestion could cure anaemia.

The second section in this group comprises cases which were found to have an infection, usually in the bowel or throat. Where no bacterial abnormality was found a vaccine was not prepared, and about two-thirds of the cases sent for examination were rejected on this ground as being unsuitable for vaccine therapy.

The organisms isolated were varied, and no one organism seemed specially prominent as a cause. The bacteria found comprised *B. lactis aerogenes*, *B. acidilactici*, *B. diffluentis*, *B. proteus vulgaris*, *B. coli communis*, Morgan's bacillus, streptococci, and *Staphylococcus aureus*.

GROUP D.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Cystitis ... ..	33	27	6	81.8
Pyelitis, pyonephrosis, and pyelonephritis ...	13	9	4	69.2
Vaginitis (not venereal) ...	3	2	1	—
Total of group ... ..	49	38	11	77.5

The remote results of treatment of this group appear to depend upon the age and sex of the patient. Young women and most men remain clear when they have once been cured, but middle-aged and elderly women, particularly if married, show a decided tendency to relapse after

about two years' freedom from trouble. A further course of vaccine treatment will put them right again for another period of about the same length.

GROUP E.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Sepsicæmia ... ..	2	1	1	—
Pyæmia ... ..	1	0	1	—
Osteomyelitis ... ..	3	2	1	—
Chronic cellulitis ... ..	2	1	1	—
Erysipelas ... ..	1	1	0	—
Ulcerative endocarditis ...	1	0	1	—
Total of group ... ..	10	5	5	50

The only inference that one can extract from the above figures seems to be the folly of waiting for an autogenous vaccine when a stock one, ready on the spot, could have been given several days earlier for a set of conditions in which time is all-important. It is probable that better results would have been obtained by the use of one of the two special types of stock residual vaccine, designed for the purpose, and given the moment the condition was diagnosed or even suspected. They could have done no possible harm.

GROUP F.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Chronic and recurrent acute catarrh of the respiratory passages, including bronchitis	101	92	9	91.1
Asthma accompanied by bronchitis	15	12	3	80.0
Ulcerative tonsillitis and "septic throats"	10	8	2	80.0
Localized infections of nasal sinuses and antra	6	4	2	—
Total of group ... ..	132	116	16	88.0

The first section of this group is the largest and the most satisfactory in its results. The average period of protection given by the vaccine is about two years—two complete winters. All the usual causal organisms have been found; the only point of interest is the connexion of the pneumococcus with a certain type of catarrh. In the course of routine work it has been observed that cases of nasal catarrh with a blood-stained discharge or a tendency to catarrhal deafness are more commonly associated with the pneumococcus than with any other organism. At the same time, the association is not as complete as that between bronchitic asthma and the streptococcus.

The asthma cases were interesting inasmuch as they showed the clearest division of the disease into two types—the purely "neurotic" and the type in which the asthma is secondary to chronic bronchitis; that is, asthmatic attacks occur only during or immediately after an attack of the former disease. The organism invariably present is a streptococcus, usually of the *salicarius* variety. It is customary to find this organism forming at least 95 per cent. of the total organisms present in the sputum. A pure culture is not remarkable.

It will be seen that the results of treatment of bronchitic asthma are gratifying. On the few occasions when I have been persuaded to supply a stock streptococcal vaccine for a patient suffering from the other type of asthma I have never seen any result that could be called successful. The benefit in the bronchitic type cannot be due to the action of a non-specific protein. If it were so, the vaccine should benefit both types indifferently. A survey of the facts indicates that the role of the streptococcus could hardly be more specific.

## GROUP G.

Disease.	Total Cases.	Success.	Failure.	Percentage of Success.
Pyorrhoea ... ..	2	2	0	—
Chronic septic ulceration ...	2	1	1	—
Suppurating sinuses (not tuberculous)	3	2	1	—
Septic thrombo-phlebitis ...	1	1	0	—
Hepatic abscess (not amoebic)	1	0	1	—
Aene vulgaris ... ..	3	2	1	—
Unna's ulcerating inguinal granuloma due to <i>B. pyocyaneus</i>	1	0	1	—
Total of group ... ..	13	8	5	61.5

This last group does not call for comment at length. The two cases of pyorrhoea were similar—young women who wished to save their own teeth. Pyorrhoea cases associated with rheumatism are placed in Group B.

## Grand Total of all Cases.

Total cases ... ..	360
Success ... ..	294
Failure ... ..	66
Percentage of success ... ..	81.5

## CONCLUSION.

I would again draw attention to the fact that the benefit in the vast majority of these cases has been appraised by independent observers, which fact is rendered doubly important by the nature of the results. The high proportion of success obtained is attributable to two factors. In the first place, selection of suitable cases by bacteriological examination provides one with clinical material that offers a rational basis for the use of vaccine therapy. The results are influenced accordingly. The second factor is the residual vaccine itself, which has an inherent therapeutic efficiency greatly superior to that of the older "whole" type of vaccine.

In recent years the production of improved types of antigens has engaged the attention of a number of workers. The most recent paper on the subject is by Arkwright,<sup>3</sup> and deals with typhoid and paratyphoid vaccines. Amongst other facts elucidated he shows that a heat-stable antigen is more efficient than a heat-labile one obtained from the same organism, and notes the interesting detail that a heat-stable antigen that had been heated to 100° C. gave slightly better results than the identical antigen unheated. Precisely the same result is revealed in the tables published in my original paper on residual vaccines.

Holder and Ferry<sup>4</sup> have produced antigens that differ in the mode of preparation, and almost certainly in their composition, from those of Arkwright and myself. At first sight such results may appear contradictory, but that is not necessarily so. The improvement upon heating the heat-stable antigens can be explained in one of two ways. It may be supposed that the antigen itself is actually improved by heating, which is improbable. The alternative is more feasible: it is that some substance inimical to antibody formation is destroyed by the heat.

The aggressins have not received much attention in recent bacteriological studies, but it has been shown by Bail and subsequent workers that their action is to paralyse the tissue resistance against bacterial invasion, although the aggressins themselves are not toxic, and that immunity can be created against aggressins or against bacteria. When a mixture of bacteria and their aggressins is administered the host experiences increased difficulty in the production of an adequate resistance.

This experimental evidence indicates two methods of producing immunity, and it is conceivable that the immunogens of Holder and Ferry depend in part at least for their efficiency upon the small quantities of aggressin present in the washings. The heat-stable antigens are probably freed from their aggressins when heated, and are therefore capable of stimulating to the fullest extent the resistance appropriate to them.

If this conception of the action of these different bacterial substances be correct, it follows that a mixture of bacteria and their aggressins, such as is represented by an ordinary "whole" vaccine, cannot be as efficient as some of the fractional types of vaccine. Further experience with many of these fractions may show that they are not in opposition to each other as potential remedies, but will perhaps be used most effectively at different stages of the same disease.

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## HAIR-BALLS IN THE ALIMENTARY TRACT:

WITH THE  
RECORD OF A CASE OF INTESTINAL OBSTRUCTION DUE TO  
FOUR HAIR-BALLS.

BY

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HAIR-BALLS occurring in the gastro-intestinal tract are not often met with. When found the stomach is the commonest situation for their development, but they may be rarely present in any part of the intestinal tract. The literature contains a few accounts of masses of hair situated in the ileum giving rise to intestinal obstruction, of which the case here recorded is an example.

A woman, aged 30, was admitted to the Norfolk and Norwich Hospital on October 15th, 1925, complaining of abdominal pain. She was married at the age of 24, and had one child, aged 4 years. She had been in good health up to December, 1924, when, on visiting her husband's relatives, she became strange in her manner and difficult to manage. Her mental condition became worse, and she was admitted to the Norfolk County Mental Hospital on January 5th, 1925. On admission her condition was diagnosed as recent mania.

From January to June, 1925, she was difficult to manage, irritable, and destructive. She then began to improve mentally, but at the same time her physical condition deteriorated; she rapidly lost weight, and suffered from constipation, followed by diarrhoea, abdominal pain, and distension. The stools became very offensive. On October 15th, 1925, she was discharged from the mental hospital, and the same day was admitted to the Norfolk and Norwich Hospital.

## Condition on Admission.

The patient was a tall, pale, emaciated woman. Her mental condition was fairly good; she could answer questions intelligently, although she was very ill and in pain. Temperature 99°, pulse 100, respirations 18. The tongue was furred and the breath foul. There was no evidence of any disease of the lungs. The abdominal wall was very thin and the abdomen distended, especially below the umbilicus. There was tenderness all over the abdomen. A fairly well defined swelling could be felt in the region of the caecum. Its surface was smooth and its margins clearly outlined. It was irregular in shape, and measured about 3 by 4 inches. It was painful to touch. The rectum was ballooned, and a bimanual examination was impossible because of the pain and tenderness. The diagnosis of chronic intestinal obstruction was made, owing to the swelling felt in the abdomen being possibly of inflammatory nature arising in connexion with the appendix.

An exploratory operation was advised and performed soon after admission to hospital.

## First Operation.

The abdomen was opened by a mid-line incision below the navel. The lower part of the ileum was found to be much distended, red, and inflamed, and one loop was adherent in the pelvis. On freeing this a small perforation in the intestine was visible. The caecum and the lower part of the ileum were drawn out of the abdomen and packed off. The wall of the lower two feet of the ileum was found to be much thickened, and its lumen contained soft bodies which could be separated one from another. The small bodies which could be separated one from another. The small perforation in the bowel was examined, and a piece of hair was seen projecting through it. The intestine was then opened, and very extensive ulceration of the mucous membrane of the intestine. A large collection of offensive fluid was removed by irrigation, and the intestine drained by a rubber tube stitched in place by Witzel's method. The intestine was then stitched to the abdominal wall.

After the operation the patient's mental condition deteriorated for a time and she was difficult to manage, but she gradually improved, both mentally and physically. The enterostomy worked satisfactorily, although it was difficult to keep the skin of the abdominal wall round the opening free from superficial ulceration. From time to time the patient passed motions by the rectum naturally.

## Second Operation.

On December 10th, 1925, two months after the first operation, it was decided to close the opening in the small intestine by a second operation. This was done by resecting 8 inches of small



intestine and joining the intestine by an end-to-end anastomosis. The patient made a good recovery from this second operation. She improved rapidly, and six weeks later was discharged from hospital. She has been heard from frequently since, and is now enjoying good health.

In 1779 Bandamant described the first reported case of hair-ball; since then over 100 cases have been recorded. The condition is frequently found in animals in the season when the hair is shed, but rarely gives rise to symptoms, as the hair-balls are usually expelled by vomiting or passed in the faeces. In human beings the hair-eating habit is generally confined to young females, occurring usually in individuals of nervous constitution with perverted appetites, or in patients who have definitely exhibited symptoms of insanity.

Hair-balls may be multiple or single; those developing in the stomach are usually single. The hair is gradually worked up into a mass by the gastric movements until at length it entirely fills the organ and forms a cast of the stomach, with a prolongation in some cases through the pylorus into the duodenum. In the small intestine, in which they are very rare, the hair-balls are not infrequently multiple; they take the shape of the intestinal tube, and may be, when closely pressed together, faceted.

The clinical symptoms caused by the presence of a hair-ball in the gastro-intestinal tract depend on its position, its size, and the development of obstructive and inflammatory conditions to which it may give rise. Ledra-Henzl states that the stomach is exceptionally tolerant of foreign bodies, but eventually rebels when the limit is reached. Ultimately symptoms appear, such as pain, vomiting, and attacks of diarrhoea alternating with constipation, and there is much wasting. The breath becomes foul, and the stools are offensive. In the case here recorded these typical symptoms were present. The development of obstinate constipation was first noticed; this was followed by occasional vomiting; later on the constipation alternated with attacks of diarrhoea. There was marked wasting, and an abdominal tumour was discovered. It has been alleged that the patient's hair may be deficient in the frontal region, but this is unusual in cases in which hair-balls are found in the stomach. In cases in which complications have not developed a marked feature is the very slight disturbance of nutrition. In the rare cases in which hair-balls have been found in the intestine the lower part of the ileum is the site where they have usually lodged.

The clinical picture presented has usually been one of chronic intestinal obstruction associated with wasting, abdominal distension, and vomiting; in addition, an abdominal tumour is usually present. As the hair-ball usually occupies the stomach the tumour, when present, is generally situated in the epigastric region, and may extend from one hypochondrium to the other. Its outline is well defined, and its surface is smooth and hard. It is usually movable. These were the characteristics in this case, with the exception that the tumour was situated in the right iliac fossa and reached to the mid-line of the abdomen. Occasionally the sensation of crackling, or deep-seated crepitation, is made out on palpating the swelling.

The x-ray appearances of hair-balls in the stomach have been carefully studied and described by Thurstan Holland. It has been observed that the first mouthful of an opaque meal spreads out to form a cap over the upper end of the tumour. The shape of the tumour is very characteristic when covered by the opaque meal.

#### Treatment.

The treatment consists in removing the foreign body by operation. A carefully thought-out technique is necessary during the removal of the hair-ball as the discharges surrounding the mass are often foul and septic. In the case here recorded it was necessary to drain the intestine for a considerable time. A second operation was performed later to close the faecal leak, and this necessitated resection of a segment of small intestine, about 8 inches in length, and an end-to-end anastomosis.

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## THE SCOPE OF SURGERY IN THE TREATMENT OF CHRONIC RHEUMATOID AND OSTEO-ARTHRITIS.\*

BY

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COMMUNICATIONS on the treatment of chronic rheumatoid infections may almost be regarded as chestnuts in the programmes of medical societies. I take it that this tendency to discuss the various problems connected with these diseases is an index of our failure to arrive at any generally accepted solution of them. The subject is certainly one of exasperating complexity, and the average late results of the more severe examples of rheumatoid arthritis may well discourage the most optimistic of clinicians. The issue on this occasion is, at any rate, clearly defined, being limited to the surgical aspect. I shall not attempt or consider any classification beyond that in the title, nor do I propose to consider the surgical treatment of what may be the primary focus of infection. I think the simple subdivision is sufficient to guide us in radical local treatment, and the surgery of the presumed primary focus would carry us too far afield.

For the purposes of surgical treatment it will, I think, be sufficient to accept the chronic rheumatoid group as including several infective conditions, the results of which on individual joints may vary within wide limits. This statement is as true of the late results in individual joints as of the earlier clinical course. In the late stages of joint change, due to what has been called rheumatoid arthritis, we may meet with extreme capsular fibrosis associated with varying degrees of destruction of the articular cartilage. Ankylosis may be fibrous or bony.

Osteo-arthritis may be accepted as a change in a joint initiated locally by some biochemical reaction; the association with injury is no doubt in many cases an important factor in the production of the process, but it does not materially affect the question at issue in the treatment of the condition. The local changes may be clearly separated from the first-mentioned variety by the fact that ankylosis never occurs, although absorption of articular cartilage may be complete, and that periarticular fibrosis is never a prominent feature.

It must be admitted at the outset that both conservative and radical treatment of joint disease of the character under consideration can at the best ameliorate the condition, and seldom, if ever, restore the state to normal.

In chronic rheumatoid arthritis it is generally agreed that no drastic treatment to the joints can be applied while the infective process is still active, on account of the risk of producing a local or distant extension of the condition. A few authors have advocated synovectomy of several of the affected joints at an early stage; but I think there is little support for this method. Evidence of activity is given by the presence of fever and the signs of local inflammatory reaction about the joints. While this is present surgical treatment will be limited to the avoidance of contractures and to holding the parts affected in such a position that function will be interfered with as little as possible should ankylosis of the joint ensue. This is not a dramatic part of surgical treatment, but it is, none the less, a very important one, and one that is perhaps insufficiently recognized, if we are to judge by the serious and disabling deformities which come to hand for treatment in late stages. The reason for this is perhaps partly because the treatment of rheumatoid arthritis in the active period is considered a medical matter. The comfort of the patient is bound to influence the practitioner, and attitudes of maximum comfort or minimum discomfort assumed during periods of active inflammation of a joint may be progressively exaggerated till they lead to extreme flexural deformities. I do not propose to describe in detail what may be regarded as the ideal positions which should be maintained for all the important joints during an acute or subacute arthritis. They

\* Abstract of a paper introducing a discussion at the Medical Society of London on February 27th.

are well recognized and hold good for any process liable to leave a stiff joint. I should like to draw attention to a few deformities which are too commonly met with, and which can, as a rule, be avoided by suitable splintage or support. In the lower extremity an acute and painful effusion into the major joints will lead to the adoption of the flexed position of the thigh and knee in the first attempt to relieve pain. The hip-joint can be ankylosed in flexion to 20 or 30 degrees without interfering seriously with function, provided there is no adduction. Fixed flexion of the knee-joint beyond 5 or 10 degrees should be avoided. Extension in a Thomas's splint of a light weight without any splint will prevent this deformity being excessive.

In the upper extremity one of the most disabling deformities often seen after a polyarthritis is flexion at the wrist-joint. This joint can be kept straight or slightly extended in a light plaster casing, which leaves the fingers free without discomfort to the patient. The position of the shoulder and elbow should also be considered.

The next stage of polyarthritis in which surgical measures may apply is in the chronic phase. All signs of the infection should have died out, ankylosis or contractures are established, and the problem becomes essentially an orthopaedic one. It is not always easy to settle when this time has arrived, and it undoubtedly varies with the nature of the infection. It is most undesirable to operate if infection is still latent, and the matter may be tested by mobilizing a small joint under anaesthesia, and observing the local and general reaction. Operations undertaken at this stage will be of two types: first, to correct the disabling deformity, and secondly, to restore the movements in stiff joints. The two conditions may be dealt with at the same time in some cases.

In order to correct deformity one of three methods may be employed—namely (1) manipulation under anaesthesia, (2) graduated extension, (3) open operation.

1. Manipulation under anaesthesia is often sufficient to correct contracture of short standing. It is clearly valueless in those cases in which bony ankylosis has occurred. Against the use of the method it must be admitted that the procedure is more likely than anything else to light up any latent infection. I do not think, however, that this is sufficient reason to cut the method out. It should be approached with caution, and with due observance of the condition of the patient. In some cases it will not only correct a faulty position, but may restore a considerable degree of movement to a joint previously stiff.

2. Graduated extension may be employed on special joints, as the knee and hip, for similar purposes. It has the merit of involving no risk of causing a flare-up, but it must be admitted that it is not alone likely to be effective in those cases in which there has been much destruction of articular cartilage or fibrosis in and around the joint.

3. An operation designed only to correct position will be in the nature of an excision of the joint, coupled with the division of contracted capsular structures and even tendons in the neighbourhood. In some instances in which there is bony ankylosis a simple osteotomy may be sufficient. This operation is most often used for ankylosis of the hip-joint. It should, however, be noted that osteotomy is a delusive operation in those cases unless the ankylosis is sound. If it is only fibrous there will be a tendency for flexion and adduction to recur.

Operations undertaken to restore movement have not much vogue in relation to chronic rheumatoid arthritis, but in most instances in which ankylosis of several major joints has occurred it should be considered. There is no doubt that after many of these infections an arthroplasty, though it appears satisfactory in the first month or so, tends to stiffen up. The technique of the subject will be gone into further when considering the surgery of osteoarthritis.

The surgical problem in relation to the treatment of osteoarthritis is simpler. We are dealing here with a relatively common disease in which no question of any local bacterial infection arises. The chief difficulty is in the selection of cases suitable for surgical treatment. Pathological changes vary in degree in a remarkable way, and to an extent unexplained by any recognized etiological factor. Though the disease in its advanced form may be

practically monarticular, cases occur in which many joints are involved, and the problem then presented is not unlike that of chronic rheumatoid arthritis. The severity of pain experienced by the patient is usually the reason which decides him to seek radical treatment. Its degree is remarkably variable in its incidence, and bears no direct relation to the extent of the anatomical change. It would appear that it is the result of changes in the capsule of the joint, rather than in the articular surface. In view of the fact that bony ankylosis does not occur in this disease when it is allowed to run its natural course, freedom from pain cannot be assured at any stage.

The incidence and chronic nature of the disease naturally leads to a trial in sequence of conservative measures, such as drugs, vaccines, diet, baths, and various forms of physiotherapy. The search for focal infection and attempt to eradicate it must be regarded as essential in all early cases; I confess that in the late stages it does not appear to me to be of such crucial importance. In the early stages surgical measures will be limited to the provision of rest from weight-bearing for the affected joint. This is clearly of most importance in the lower extremity. The weight-relieving calliper or ambulatory splint will often be of service, and if properly fitted will certainly arrest the progression of the articular change.

Manipulation, as in the case of rheumatoid arthritis, is the simplest surgical procedure which can be applied. It aims at breaking down adhesions, or, rather, stretching fibrosed or capsular structures which limit movement or are the source of pain. When the disease is advanced and associated with gross osteophytic outgrowths, I do not think much good can be obtained by the method. In my experience the benefit received has generally proved only temporary in nature. I do not wish to suggest that the method should not be employed regularly. It is of striking value in early cases of chronic arthritis in the knee and shoulder in which the changes are mainly capsular.

When we come to the disease in its advanced form the direct indications for a radical operation may be clearly defined as two in number—namely (1) progressive deformity in relation to the joint affected, (2) persistent pain. These indications hold good whatever anatomical form the disease assumes, and whether the probable causative factor appears to be trauma, toxic absorption, or bacterial infection.

The character of the operation selected will be influenced by the number of joints involved and the life expectation of the patient. The operation may take the form of what may be termed (1) speculative arthrotomy, (2) an operation aiming at ankylosis, or (3) an arthroplasty, an operation planned to restore movement at the affected joint. The decisions as to which of these procedures is suited for any particular case must, as stated above, depend on several factors.

1. Speculative or exploratory arthrotomy has its most important field in the knee-joint. It will generally be undertaken in those cases in which there is pain without deformity, or recurrent attacks of effusion into the joint associated with symptoms of internal derangement. Good exposure of the joint is obtained by a vertical lateral excision; action is then taken in accordance with the state found. Loose bodies may be removed, pedunculated and hypertrophic villi may be excised, marginal osteophytes removed, or the articular cartilage trimmed or shaved where it appears diseased. In those cases of so-called "lipoma arborescens" a complete synovectomy may be carried out. The operation is a conservative one, and should not materially interfere with the subsequent normal range of movement at the joint; it does not involve a prolonged period of incapacity. In my experience the results are often much better than would be expected from the limited nature of the operation. I do not know whether such results are to be attributed to the mechanical measures adopted or to the period of rest and careful after-treatment usually involved.

2. Arthrodesis, if effectively attained, clearly is the most radical and final operation; it cures the pain for good and all, its only drawback being the mechanical disability entailed by the stiff joint. I am inclined to think that it is the operation of choice in the hip-joint in a patient with

a good expectation of life, provided that the disease is monarticular. It is generally accepted as being the most effective procedure when the knee is seriously involved, and when deformity is developing in relation to that joint. In many cases the operation undertaken to secure bony ankylosis may fail to produce this, leaving in some cases fibrous ankylosis, and in others a false joint. This failure to secure bony union does not seriously prejudice the result in the upper extremity, and even in the lower pain will be relieved by the measure, though some deformity or contracture may develop. Failure to secure bony ankylosis results from either an incomplete operation or inadequate or insufficient fixation afterwards.

3. Formal arthroplasty, or operations designed to leave a movable joint, are naturally in favour if they are effective in curing symptoms and in giving a sufficiently stable joint. In the case of the metatarso-phalangeal joint of the great toe an operation of this character is carried out as a routine by many surgeons for conditions of hallux rigidus or valgus. The good results obtained in this operation cannot, however, be employed as an argument in favour of a similar procedure for the major weight-bearing joints, the knee and the hip. In these articulations it is clear that there is risk of the new-formed joint undergoing in course of time the same pathological changes that were responsible for the primary condition. This risk is so definite in the case of the knee that I think an arthroplasty should only be aimed at here in exceptional circumstances. In the hip-joint operations aiming at mobility appear to be coming more into vogue, being generally based on Whitman's method of reconstruction. Membrane or fascia, after the method of Baer or Putti, is often interposed to secure a movable joint. My own view is that the operation should be limited to the elderly and to those cases in which, on account of disease in the opposite hip or of other joints in the same extremity, mobility is particularly important in order to secure reasonably good function.

This survey represents a brief sketch of a complicated problem. It will be noticed that I have not referred in detail to the treatment of osteo-arthritis of the spine and sacro-iliac joints; this has not been done because the technical methods employed in these areas must still be regarded as on trial. I have not entered into the surgical technique of the different methods discussed, as a full account of these can be found in the literature. My aim has been to indicate the importance of surgical supervision from an early stage in all cases of chronic arthritis, and to demonstrate the possibilities of radical treatment of the more advanced forms.

## CONGENITAL DISLOCATION OF THE HIP: A METHOD OF CONTROLLING THE PELVIS DURING REDUCTION.

BY

F. WILSON STUART, M.Ch.,

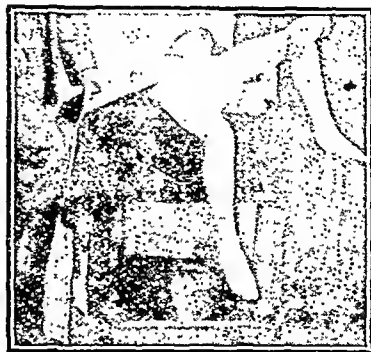
SURGEON TO BIRMINGHAM CRIPPLES' UNION AND ROYAL ORTHOPAEDIC AND SPINAL HOSPITAL (AMALGAMATED), AND TO MANTFIELD ORTHOPAEDIC HOSPITAL, NORTHAMPTON.

To every orthopaedic surgeon with experience of a considerable number of cases of congenital dislocation of the hip-joint in patients of varying ages it must be apparent how inadequately control of the pelvis can be carried out by an assistant during attempts at reduction. The chief reason for this is that in pressing downwards on the opposite side of the pelvis in an attempt to fix it, the assistant is converting the pelvis into a short-armed lever, the effect of which, when pressed down, is to raise up the opposite side of the pelvis from the table, carrying the vacant acetabulum with it. The manipulator is at the end of the long-armed lever—namely, the knee of the dislocated femur—and his efforts to lever the head over the posterior lip of the acetabulum are really aiding the assistant in raising the pelvis from the table, and therefore a great deal of energy is wasted as the result of their applied forces acting in the same direction.

This action of opposing levers is very evident when dealing with the older cases—patients aged 5 years and upwards.

Some time ago I was faced with the problem of reducing a case of bilateral dislocation in a child aged 6, big for her age, muscular, and with strong femora. The femoral heads were unusually high above the acetabula. An attempt to reduce the left hip failed completely and was abandoned till a future date, after a considerable range of telescopic movement had been obtained by alternate extension and relaxation. Meanwhile both hips were to be subjected to daily stretching.

A fortnight or so later a second attempt was about to be abandoned when, on considering ways and means, it occurred to me to make use of the roller towel which had been employed for counter-extension purposes, and, passing the left limb through one loop, the two strands were crossed on themselves and continued over both anterior superior iliac spines, being well spread out so as to cover the whole pelvic front: the assistant put his foot in the other loop as it hung down towards the floor. A triangular block was then placed between the pelvis and the great trochanter, against which the towel passed. This enabled me at once to apply extension at the femoral condyles with both hands, the limb being in the abducted position, and to lever the head into the acetabulum at the same time.



I have since employed this method successfully in three other cases—one a child aged 9 years—and have found that the adductors stretch easily without any kneading or hacking with the hand. The amount of force applied is under the complete control of the surgeon, the action of the towel converting the pelvis into a very efficient fixed point.

The accompanying illustration should make my meaning quite clear.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### HEMIHYPERTROPHY.

THE case recorded below is, I think, of sufficient interest to warrant publication.

The patient, a boy, was 12 years of age when first seen. The left leg, it was said, was short, and the right sometimes "pained." The father, mother, and seven other children were healthy. There had been a suspicion of inequality at the age of three weeks, and shortening of the left leg was definitely noticed when he started school at the age of five years: it was corrected by a boot. For the past five years there had been intermittent attacks of intense oedema of the right leg extending to the top of the thigh, starting with pain in the groin and accompanied by pyrexia, anorexia, and signs indicating toxæmia, but no vomiting. During the attack pain in the whole leg was extreme: the urine was scanty and dark (probably febrile), the face swelled as with toothache, and the arm throbbled and swelled. These attacks occurred irregularly and subsided with rest, lasting about ten days to a fortnight.

The right side of the body, including face, arm, and hand, was bigger than the left, but the enlargement was most marked in the lower limbs. There was oedema of the soft tissues, which increased on standing or walking, but subsided after two or three days in bed. The right leg was 2 inches longer than the left, and resulting scoliosis and limp were present. The right calf was 2 inches greater in circumference than the left, and the right thigh  $1\frac{1}{2}$  inches. On x-ray examination the bones were found to be normal, but the right was larger than the left. The urine was normal, and the Wassermann reaction negative.

The interest of this case centres, I think, round the intermittent attacks. It has been suggested that the enlargement might be due to a pituitary, a sympathetic, or suprarenal anomaly. I think this would be hard to reconcile with the condition, and feel that it is in all probability a diffuse unilateral lymphatic or reticulo-

endothelial hypertrophy. The attacks would then correspond to the intermittent inflammation which occurs in other lymphatic overgrowths, such as cystic hygromata.

B. L. McFARLAND, M.D., M.Ch.(Orth.),  
Assistant Honorary Orthopaedic Surgeon, Royal Liverpool  
Children's Hospital.

### POLYMASTIA.

Accessory nipples are common enough; bilateral accessory mammae are comparatively rare, and still more so when normal lactation occurs in them.

The subject of the accompanying illustration, aged 25, has just given birth to her first-born female child. Below each mamma is an accessory organ, that on the left



being a complete breast, with prominence, nipple, and small areola; whilst on the right side is a full-sized nipple with practically no areola and no mammary prominence—quite distinct, however, from the main gland. The accessory mammae are not visible ordinarily, being hidden by the overhang of the main organs. All four are secreting milk abundantly, though the accessory ones are not being used.

Is the condition purely accidental—that is, a congenital abnormality? If so, they should occur anywhere on the body, whereas they always, in my experience, appear in the "mammary line"—that is, anterior border of axilla, just below the main breast, or over the rectus sheath, though some authorities state they have been found on the outer side of the thigh. Or has man evolved from an originally polymastic type? If so, why are there so few "throw-backs"? The child has not inherited the condition.

Penzance.

G. B. RICHARDSON, F.R.C.S.Eng.

### GALL-STONES WITH ACUTE PANCREATITIS AT THE AGE OF 16.

The association of gall-stones and cholecystitis with the great majority of cases of acute pancreatitis has been recognized for a good many years, although there is still some controversy as to the method by which these conditions may cause pancreatitis. The principal rivalry lies between two views—either that the pancreatitis is due to a spread of some infection from the gall-bladder through the lymphatics, or that infected bile regurgitates into the pancreatic ducts from the common bile duct, this process occasionally being due to the impaction of a gall-stone at their common opening at the ampulla of Vater. The following case appears to be a good example of the latter sequence of events, and, occurring at the remarkably early age of 16, is sufficiently unusual to be recorded.

A girl, aged 16, was admitted to the Wolverhampton and Staffordshire Hospital in October, 1926, with the history that thirty-six hours previously there had been a gradual onset of pain in the upper abdomen, with nausea, loss of appetite, and, later, vomiting. In the last twelve hours the pain had settled to the lower abdomen, and was then more marked on the right side. The bowels had not been open for three days, but she stated that this was not unusual. There was no history of any previous abdominal trouble.

She did not appear to be very ill; the temperature was 99°, and the pulse 116; there was no cyanosis. All over the abdomen rigidity and tenderness were present, though not very marked; the point of maximum tenderness lay over the upper part of the right lower quadrant, while the left lower quadrant was the part least affected. I made the not unusual diagnosis in such cases of "acute appendicitis," and operated for this condition.

#### Operation.

On opening the abdomen through a right pararectal incision I found the peritoneal cavity contained a large amount of straw-coloured slightly turbid watery fluid. The appendix was normal. Four or five small spots of fat necrosis were found on the mesentery and the omentum, whilst a mass could be felt in the upper part of the abdomen. A drainage tube was placed suprapubically by a stab wound, and the first wound was closed. A

right paramedian incision made above the umbilicus exposed a soft mass, about 4 by 2 inches in size, of a dark, almost black colour, lying between the stomach and the transverse colon, and arising from the head of the pancreas. This mass was incised freely, showing necrotic tissue. The gall-bladder was felt to be slightly distended and to contain a number of small gall-stones. Two tubes were left in to drain the necrotic area, and the wound was then partially closed. The gall-bladder was not drained as the condition of the patient was not good towards the end of the operation.

The patient survived for five days after the operation, her appearance during the last three days being that of a case of diffuse post-operative peritonitis. Glycosuria appeared for the first time twenty-four hours after the operation. There was no cyanosis, except in the last thirty-six hours, when the circulation was failing.

#### Post-mortem Examination.

The subcutaneous fat was soft and friable. There was peritonitis with free pus bathing the coils of small intestine in the lower abdomen. In the pancreas all normal tissue had disappeared from the head, which was replaced by a sloughing mass with extensive areas of fat necrosis around it; this was almost black in appearance, but had no haemorrhage of any size. The ducts in the pancreas could not be identified in the necrotic area. There was no sloughing in the body and tail of the pancreas, which were firm and contained occasional bright yellow spots of fat necrosis. Considerable fat necrosis was found around the tail of the pancreas and in the fat around the left kidney. The gall bladder contained a large number of small yellow faceted stones, but was of normal size, with only a slight degree of inflammation of the wall. The common bile duct was slightly dilated and contained about twelve small gall-stones, whilst one stone about  $\frac{1}{4}$  inch in diameter was found in the ampulla of Vater.

I am indebted to Mr. W. F. Cholmeley, under whose care the patient was admitted, for permission to publish these notes.

BASIL M. TRACEY, M.B., B.S., F.R.C.S.,  
Late Resident Surgical Officer, Wolverhampton  
and Staffordshire Hospital.

Norwich.

### FRACTURE OF THE NECK OF A RIB BY INDIRECT VIOLENCE.

We are unable to find any record of this accident in the literature, though, by the courtesy of the librarian of the Royal Society of Medicine, we append references to similar fractures of the bodies of ribs by muscular action.

A man, aged 60, but appearing ten years younger than his declared age, spare, wiry, and athletic, reported on September 2nd last that eight days earlier he had suddenly experienced severe left lumbar pain whilst driving at golf. This had almost disabled him at the time and had persisted. Examination disclosed a round, soft, tender swelling, about the size of a florin, in the left lumbar region, three inches from the middle line and two inches below the twelfth rib. It was unattached to the skin, which moved freely over it, and it became more pronounced and was more tender when the lumbar muscles were put into action. Support gave immediate partial relief. It was evidently due to muscular herniation through a tear in the fascia. There was then no indication of any other injury, though the patient, from a previous experience, several years earlier, of fractured ribs in another situation, expressed his belief that a rib had "gone." Repeated external investigations directed to this point failed to elicit any confirmation. In spite, however, of the relief given at first by strapping, and later by a broad Churton's bandage, the pain continued to cause much disability, and in course of time became more definitely centred round the area of distribution of the tenth left dorsal nerve rather than in the lumbar muscles. This localization being difficult to explain by the muscular injury three segments below, a radiograph was taken by Dr. Brailsford on September 17th. This disclosed "a fracture of the neck of the tenth left rib and osteo-arthritis of the lumbar spine." The fracture is transverse, midway between the tubercle and the head, with very slight disturbance of alignment.

The arthritic changes are probably due to a marked gouty diathesis.

The simultaneous production of two such lesions as the result of muscular action is remarkable. The special points of interest are two: (a) that the acme of the strain fell on two points some four inches apart; (b) that the strongly supported neck of the tenth rib (rather than the body) should have been fractured, presumably by torsion.

GUY BRANSON, M.D.Lond.  
JAMES F. BRAILSFORD, M.B.

Edgbaston.

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## British Medical Association.

## CLINICAL AND SCIENTIFIC PROCEEDINGS.

## LEEDS DIVISION.

*Difficulties in Cardiac Diagnosis.*

A MEETING of the Leeds Division, to which all members of the medical profession in Leeds and district were invited, was held in the board room of the General Infirmary at Leeds on February 17th. The chairman of the Division, Dr. A. HAWKARD, presided, and a British Medical Association Lecture was given by Dr. JOHN PARKINSON, physician in charge of the cardiological department at the London Hospital, on common difficulties in cardiac diagnosis.

Dr. Parkinson said that the time at his disposal would permit of a brief description of only a few of the numerous points in cardiac diagnosis. Palpitation was a clinical entity, common to many conditions, but most frequently met with apart from organic heart disease. Its basis had often to be looked for in hypersensibility of the nervous system, and in toxic and dyspeptic conditions. In simple tachycardia the heart rate was normal when the patient was undisturbed, but the response was excessive on exertion or emotional excitement. It was not a heart affection, but occurred under various conditions, such as pulmonary tuberculosis, exophthalmic goitre, and neurasthenia. The attacks began and stopped gradually. The trouble might be lifelong, and might not be due to any definite cause; it might interfere with the amount of exertion possible. In simple paroxysmal tachycardia the attack began and ended quite suddenly. Change of posture, exertion, and emotion did not alter the pulse rate. The condition was compatible with long life, and no definite cause might be obvious. In ventricular extra-systoles the pulse tracings showed intervals between two normal beats of exactly the length of two normal periods with the extra-systole intervening. The venous pulse showed a normal *a* wave and an abnormal *c* wave corresponding to the ventricular extra-systole. Extra-systoles might disappear; they might be a lifelong complaint, and might not always be traceable to any definite cause. The pulse tracings in auricular fibrillation never showed a regular pulse; the contractions were entirely irregular in time and force. This irregularity was the real difference between the pulse tracings of this and of other cardiac irregularities. In a tracing, for instance, showing extra-systoles there were portions of the tracing quite regular. The term "regular" as applied to pulse tracings did not convey definite knowledge.

The diagnosis of cardiac pain was of the utmost importance. Cardiac affections unattended with pain were the more numerous, diagnosis was admittedly difficult, and mistakes were common. As to the site of cardiac pain, the term "precordial" was vague and conveyed no definite meaning. The term "sternal" was more descriptive, and it might be any part of the sternum. Pain at the apex or below the left breast and down the left arm did not necessarily mean angina pectoris, but might be neuralgic in character. The pain in angina pectoris commonly ran across the chest above the breasts to the right shoulder or to the left shoulder, and down the inner side of the arms; the area of distribution of pain might include the neck and the lower jaw. If the right arm and the neck were affected the condition was very likely to be true angina pectoris. Recently a variety of angina pectoris had been separated off due to coronary thrombosis and cardiac infarction. In this condition there was, with the patient at rest and apart from any stress, a sudden onset of pain across the sternum extending to both arms, neck, throat, and back, in which the patient was collapsed, with vomiting and sweats, suggestive of acute abdomen, referable to the stomach or liver regions, with low temperature, low blood pressure, and lasting for hours or days. Such a seizure differed from angina pectoris, in which the onset was during exertion, the duration short, and the patient immobilized, but in which there was no vomiting or alteration of temperature and blood pressure.

The morbid condition in cardiac thrombosis was usually arterio-sclerosis; other morbid conditions, such as syphilis

and high blood pressure, caused a small proportion of the cases. In arterio-sclerosis there was a loud aortic second sound. Arterio-sclerosis might result in angina pectoris, or be a complication of it. In regard to enlargement of the heart, if the heart was really enlarged this meant a serious and dreaded condition, and great care should be taken to avoid the use of this expression unless the diagnosis was certain. For the determination of cardiac hypertrophy percussion was only roughly correct; an x-ray examination was necessary for definite diagnosis.

The lecturer showed a large number of lantern slides illustrative of his subject, and particularly laid stress on the presence, in arterio-sclerosis, of enlargement of the ascending aorta and a prominent knuckle in it on the left side near the clavicle.

In the discussion which followed Professor WARDROP GRIFFITH agreed about the doubtful value of percussion. He illustrated the point by the true story of two eminent professors who, when blindfolded and set to percuss a heart, failed ignominiously. He mentioned the value of palpation in estimating the size of the heart, and the necessity, in the case of a small thorax, of recollecting the relative size of the heart and the chest. Dr. BARNES inquired about the prognosis in reduplication of heart sounds, and Dr. PARKINSON replied that in many cases there was no prognostic significance, but that oedema indicated a grave prognosis.

The lecture was listened to with great interest and much appreciation, and a hearty vote of thanks was accorded to Dr. Parkinson on the motion of the CHAIRMAN, seconded by Professor GRIFFITH.

## Reports of Societies.

## THE SCOPE OF SURGERY IN CHRONIC ARTHRITIS.

A MEETING of the Medical Society of London, with the president, Mr. H. W. CARSON, in the chair, took place on February 27th. An interesting ceremony was the bestowal of the honorary fellowship of the society upon Sir Thomas Barlow.

Mr. MAX PAGE opened a discussion on the scope of surgery in the treatment of chronic rheumatoid and osteoarthritis. A full abstract of his paper is published at page 343.

Mr. HARRY PLATT (Manchester), continuing the discussion, said that the classification of the various types of chronic non-specific arthritis could not be better made than under the two headings rheumatoid arthritis and osteoarthritis. This classification offered a sound basis for a consideration of the role of surgery in such affections. In rheumatoid arthritis surgical measures, and more especially reconstructive operations, had a limited application. It was unnecessary to consider in detail the correction of deformities by such well-recognized methods as gradual stretching, cautious manipulation under anaesthesia, open division of contracted joint capsules, osteotomy, or arthrodesis. The speaker's experience of the operation of synovectomy, occasionally practised in the major joints, was disappointing. Pseudarthrosis operations were also unsuitable, except for bilateral ankylosis in important joints, such as hip or elbow. In osteoarthritis a more promising field was available. Osteoarthritis of the hip-joint—a definite clinical entity—presented most opportunities for surgical intervention. The patient sought relief, either because of intolerable pain or because of the disability of lameness due to increasing joint stiffness. Four methods were worthy of consideration, each having its definite indication. The first was forced movements under anaesthesia. This was often followed by temporary relief from pain and the restoration of a fair range of movement. The procedure could be recommended in younger patients where the joint change was in an early stage. The second method was excision of osteophytes, thickened capsule, and other formations. Such operations were based on the procedure known as cheilectomy; their scope was very limited. The third method was arthrodesis, which was the pivotal operation in osteoarthritis of the hip. This was eminently suitable in the younger and more



robust patients. Ankylosis was not easy to obtain owing to the extreme sclerosis of the joint surfaces. There were certain drawbacks to arthrodesis, one being the abnormal strain thrown on the lumbar spine, expressed in terms of backache, but that should not dissuade surgeons from regarding arthrodesis, with all its limitations, as the method of choice. The fourth method was reconstructive excision of the femoral head, an operation which gave good results in older patients. A comfortable joint with a limited range usually resulted. The operation competed to a certain extent with arthrodesis. It took a shorter time to carry out, at least in his own hands, and it gave the patient perhaps a movable or at least a comfortable hip. Finally, he mentioned that the combination of spondylitis deformans with bilateral ankylosis of the hip-joint (*spondylose rhizomélique*) was by no means rare. The condition took many years to develop, and before the stage of ankylosis was reached little could be done. After the hip-joint had fused it was urgently desirable to mobilize one side by carrying out a pseudarthrosis below the level of the joint.

Mr. HERBERT FRANKEL (Harrogate) said that the hip-joint cases which he had had to tackle had been practically all of them cases of the osteo-arthritic variety in elderly subjects. The three cardinal indications for operation were relief of pain, restoration of mobility, and correction of deformity, but it was the first of these almost always that brought the patient to the surgeon. Most patients were very clever with a hip which was merely stiff, but pain drove them to seek relief. The operation best suited for this condition was remodelling or reconstruction of the head of the femur. He had found in practically every case on which he had operated that the capsule, instead of being a thinish membrane allowing a certain amount of movement, was very much thickened, contracted, and actually adherent to the articular femoral head. As to the results of this operation, the pain had been removed and a few degrees of added mobility secured, but even a small amount of extra mobility to these people was well worth having. The alternative was arthrodesis, extremely difficult to do, requiring a good deal more prolonged after-fixation, and offering no advantage in respect to mobility. Certainly in the cases he had tackled—mainly those of older people—the operation of arthrodesis would not have been an improvement on the one described. With regard to the knee-joint, an arthroplasty had been in some cases sufficiently successful to please the patient, if not to satisfy the surgeon.

Mr. McCRAE AITKEN said that the cases in which he had seen successful results had been mainly those in which the patient's disability was due to adduction and external rotation. Of these two he would place more emphasis on the latter as a straining factor in walking and in maintaining pain in the affected joint, more particularly the low backache pain from which these patients suffered. It was when the external rotation got corrected by the freeing of adhesions that these patients were made comfortable for a considerable time. More attention should be paid, both in the early positional treatment and in the after-treatment, following any operation, whether extensive or limited, to the position in which the patient was going to balance and carry weight afterwards. Postural balance was a very important factor to the patient.

Dr. WARREN CROWE complained that although the announced subject was the scope of surgery in arthritis, no speaker had defined that scope. In fact, there was no scope for surgery (he was not speaking of advanced orthopaedics) in arthritis at all. The disease must be extinct before the surgeon came on the scene. The surgeon was dealing with end-results, and if he confined himself to end-results he would have a certain proportion of successes, but the more he meddled with the disease when it was active the less successful would his total results appear. The scope of surgery proper, therefore, was limited to deciding at what stage it was safe to operate. In the treatment of arthritis three people were involved—namely, the general practitioner, the physician, and the surgeon. The two latter seldom came into the picture at all; the general practitioner was the man who treated

arthritis, and what it was necessary to do if possible in all public discussions was to try to impress on general practitioners the early results of simple orthopaedic surgery so as to avoid the "wheeled chair" deformity which was so very difficult to deal with afterwards.

Mr. GORFNER HOLMES said that there were some surgeons who maintained that no self-respecting physician should ever handle a splint. If that was so the surgeon came early into demand in the case of arthritis. The point as to when surgical treatment should be started was very important. In the spa hospitals patients were seen in all stages of arthritis, but the more he saw those cases the more he sympathized with the difficulties the general practitioner had to contend with in the early stages. There was nothing more humbling to the man who had handled the late stages of arthritis with some freedom and success than to be called upon to handle the early and most difficult stage, and know when to splint and when to manipulate.

Dr. C. W. BUCKLEY (Buxton) quoted the case of a patient who had been suffering from arthritis for a period of fifteen years. Within the last two years one knee—the worse of the two—had been arthrodesed, and on operating the marrow of the bone was found to be soft and absolutely of the consistency of butter. The bone, however, was placed in position, and the patient kept in plaster-of-Paris for three months. Since the operation there had been no trace of pain, and the whole condition of the patient had improved to an extraordinary extent. That was an indication that it was sometimes desirable to operate for relief of pain even if the disease had not completely subsided. Many of the knee-joint cases which were beginning the chair-life were doing so through habit which had led to a spasm of the hamstrings and a contraction of the capsule of the joint. He was disappointed not to have heard more of the application of manipulative surgery to conditions of that kind.

Mr. MAX PAGE, replying to the discussion, said that the remarks of the various speakers had emphasized the fact that, at any rate, the surgeon could relieve the final stages of advanced joint change. With regard to the value of all these operations it must be a matter of several years before the merits of arthroplasty and arthrodesis on the major joints could be exactly assessed; the results were yet young. No mention had been made in the course of that discussion of the very useful part played by surgery in relieving arthritic conditions of the smaller joints—for example, of the fingers—but that was a field in which much good could be done.

### CHRONIC APPENDICITIS IN CHILDREN.

At a combined meeting of the Sections of the Study of Disease in Children and of Surgery of the Royal Society of Medicine on February 24th a discussion was held on chronic appendicitis in children. Mr. G. E. WAUGH, president of the first-named Section, was in the chair.

Dr. ROBERT HUTCHINSON, opening for the Children's Section, raised the question whether there was such a condition as chronic appendicitis in childhood. He did not agree with the statement that in childhood appendicitis was either acute or non-existent; it was, however, rare to meet with the chronic condition. He asked whether chronic appendicitis always arose out of an acute attack, or might it be chronic from the start. If an acute attack necessarily preceded the chronic disease, then the history should reveal some such event; it was not always discernible, though it might have been too mild to have received much attention. There seemed to be no reason why the disease should not be chronic throughout, as in the case of tonsillitis. He did not think "appendix dyspepsia" occurred in the child; it was rather an affection of the colon than of the stomach which was apt to be simulated. In the child recurring episodes of abdominal pain were more common, with or without vomiting and slight fever, lower abdominal pain being the most constant. If the patient was only seen between attacks there might be no physical signs. If there was no tenderness elsewhere, pain on pressing over McBurney's point was significant, especially if it was referred to the epigastrium. Pain confined to the

right iliac fossa was rarely due to chronic appendicitis, but if it came on after exertion rather than after meals it suggested that condition. Inflamed glands might give pain on palpation of the right iliac fossa. Radiography could not determine the diagnosis; indeed, it might only add another element of doubt. Many conditions might simulate chronic appendicitis in childhood; enlarged glands, kinking of the ileum or appendix, a mobile caecum, and an adherent Meckel's diverticulum could not be certainly distinguished from chronic appendicitis, nor from each other, except by exploration. Ureteral obstruction by stone should be distinguishable by x rays and by examination of the urine and urinary passages. Pelvic affections in girls could be detected by bimanual rectal examination, if necessary under an anaesthetic. Ovarian pain without a discoverable organic basis might occur in girls at about puberty, and ceased with the establishment of regular menstruation. It might be impossible to distinguish pain arising in the colon from the pain of appendicular origin; the former was very common in childhood, and was sometimes accompanied by vomiting. The more frequent the pain and the closer its relation to meals, however, the less likely was the condition to be chronic appendicitis; in intestinal colic a long retrocaecal and adherent appendix might be the cause. Slight attacks of appendicitis of acute form were often mistaken for bilious attacks. Some surgeons seemed to believe that appendicectomy could cure cyclical vomiting; his own view was that true acidosis attacks, with repeated vomiting and the presence of acetone bodies in the urine, were of hepatic origin, but the child with acidosis attacks was likely to have appendicitis. His own practice, when brought into contact with a child who had recurrent abdominal pain, with or without fever and vomiting, and in whom chronic appendicitis was likely to be the cause, was to advise exploration of the right iliac region—not appendicectomy; this advice was the more readily given if the child was going abroad to school, or if the parents were anxious about the possibility of appendicitis, or if there was a strong family history of the disease. He did not promise a cure of the symptoms; he stated merely that the fears of an attack of appendicitis might now be set at rest. In the majority of such cases within his experience the symptoms had not been caused by appendicitis, yet in only a few cases was the result of the exploration entirely negative. In some a kinked appendix was found, in some there were enlarged glands or a band of some kind; very generally there was some condition which justified the exploration.

Mr. A. J. WALTON, speaking from the surgical side, said that his view was that chronic appendicitis in the adult rarely occurred as a primary disease; it resulted usually from an acute attack. Most patients with so-called chronic appendicitis had atonic conditions of the caecum associated with vaginal ptosis. In the acute variety of appendicitis he included cases having gangrenous, perforated, and seriously inflamed conditions. In his category of chronic cases were those without active symptoms, even though the condition was a late sequel of an acute attack, and also those with distension, fibrosis, and stricture formation, or external dense adhesions. Perhaps the category might include cases in which the appendix was not diseased, but showed senile atrophy or was involved in a Jackson's membrane. In 906 cases of appendicitis uncomplicated with other lesions 601 were classified as acute, 305 as chronic; there was about an equal incidence in the sexes. Of the patients 186 were under 14 years of age, and so came into the present discussion, but only 33 of them were chronic. In 17 the chronic condition had followed acute attacks which had subsided after careful medical treatment. Acute appendicitis still showed an alarmingly high mortality in children, hence any short illness associated with severe pain and vomiting should be regarded with grave suspicion. In his series there were five cases with enlarged mesenteric glands, especially those at the ileo-caecic angle. In these five there were short "colicky" attacks, though sometimes there was also a dull aching pain. In five cases of viscerotaxis in girls aged 13 there had been frequent attacks of pain in the right iliac fossa and lower abdomen; the attacks had been of only a few days' duration, and a significant differentiating point was that there was no accompanying inflammatory mass. In four of his

cases there were threadworms; the mild attacks had suggested appendicitis, and at the operation the appendix seemed to be slightly inflamed. The threadworms were found in the lumen. About 33 per cent. of cases of appendicitis occurred in children under the age of 14, and in them it was a more serious condition than in adults, probably because children were less likely than adults to notice earlier symptoms. He did not find any cases in early life which had been chronic from the beginning.

Mr. HERBERT W. CARSON referred to a paper which appeared five years ago in a medical journal in the United States suggesting that chronic appendicitis was a myth. He did not doubt, from his experience, that chronic appendicitis in children did occur, but in certain respects it differed materially from the condition in adults. With Dr. Hutchison he agreed that "appendix dyspepsia" did not exist in children, neither did they have the symptoms of viscerotaxis, though occasionally they had a mobile caecum. In children it was common to find the appendix in the dangerous "five o'clock position"—that is, hanging over the pelvic brim. He agreed with Mr. Walton concerning the occurrence of threadworms in the appendix; he thought they caused chronic appendicitis rather than an acute perforative lesion. Enlarged glands in the ileocaecal mesentery he did not consider were tuberculous from the outset; rather they were chronically inflamed glands upon which tubercle bacilli were easily implanted subsequently owing to low resistance. In distinguishing these enlarged gland cases from appendicitis he relied more on the character of the attacks than on either temperature or tenderness. In the former condition there were many attacks, but pain was not continuous between them, as it was in appendicitis.

Dr. G. A. SUTHERLAND was still of the opinion that chronic appendicitis did not exist in children. He criticized one reason given by Dr. Hutchison for advising surgical exploration of the right iliac fossa—that, namely, of relieving the parents' fear lest the condition might be appendicitis; this he regarded as an instance of treating the parents instead of the child—a sort of conspiracy against the child's physical well-being. He would deal with such a child on much the same lines as a doubtful heart case—by letting it play about and carefully observing the result.

Mr. V. WARREN LOW deprecated the ideas expressed by Dr. Sutherland, and thought that to allow a child with such symptoms to run about would invite such a disaster as perforation.

Dr. A. P. CAWADIAS recommended that the terms "acute" and "chronic" in respect of appendicitis should be abolished; this would lead to a great clarity of conception, what was now spoken of as the acute disease being regarded as a paroxysm. Temporizations based upon the idea that a case might be only chronic had led to many disasters. It was better to risk an occasional operation for which there was proved to be small justification than to let a patient die, but the number of unnecessary explorations would be much reduced if a thorough examination were made, not only of the abdominal region, but also of the thoracic, and of the nervous system.

Mr. L. E. BARRINGTON-WARD did not think there was danger of any surgeon mistaking acidosis for appendicitis. Many cases showing symptoms such as had been described were due to alterations in the relation of the ileum to the caecum.

Mr. MAITLAND JONES admitted uncertainty as regards the diagnosis of chronic appendicitis in children, and desired more minute guidance as to symptoms. He agreed with Dr. Hutchison that in some cases it was quite good practice to "treat the parents."

The CHAIRMAN (Mr. Waugh) said that the pathologist could not give much practical help in this condition; it was necessary to weigh the probabilities in a symptom-complex which might be very varied. He drew particular attention to the primary tuberculous appendix, more common when the appendix was in a hernial sac than when in the abdomen, and also to the primary streptothrix appendix; he reviewed the subject in a general way from the surgical standpoint.

## RHEUMATIC INFECTION IN THE YOUNG.

At a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on February 24th, the president, Dr. S. MONCKTON COREMAN, in the chair, Dr. REGINALD MILLER read a paper on some public health aspects of juvenile rheumatism.

Dr. Miller dealt first with the prevalence of rheumatism in the young, and mentioned that in no country was rheumatic infection more common than in Great Britain, where it affected the elementary school children most seriously. Heart disease seemed to be more frequent among children leaving school than among new entries, and more common in urban than in rural schools. In secondary schools information about the prevalence of rheumatism was scanty, but the speaker quoted some figures supplied by Dr. Pearso Williams with regard to the Polytechnic Secondary School, which indicated that whereas the proportion of boys with rheumatic heart disease was 1.53 per cent. this was distributed unevenly, so that among scholarship boys from the elementary schools the incidence was 2.57 per cent., and among the fee-paying boys only 0.98 per cent.; this class incidence was an important point. Dealing next with mortality Dr. Miller mentioned some of the difficulties in estimating the death rate due to rheumatic infection, and after discussing various published figures concluded that the number of deaths due to rheumatic heart disease in this country was about 20,000 in each year. With regard to the invalidism caused by rheumatic infection in London it had been estimated that about one-quarter of the children absent from the elementary schools for long periods were those affected by rheumatic infection. Dr. Miller then dealt in some detail with the age and class incidence of the disease. Most of the first attacks occurred between the ages of 7 and 8, while at puberty the type of the disease changed to the adult variety. There appeared to be three reasons for the age incidence: chronic tonsillar infection, the beginning of school life, and the diminished resistance to infection shown during the years of childhood. Dr. Miller emphasized the point that rheumatism was a disease of the hospital class and was rare in private practice; but investigation of the lower limit of its incidence suggested that it was less common among the very poorest. He said that this view had been criticized, and he dealt with certain pieces of evidence, including some recently published work; a map of Birmingham with the incidence of rheumatism marked upon it did not resemble at all closely another map defining the areas of poverty. The deductions from this peculiar class incidence of the disease were that rheumatism was not altogether governed by poverty, nor did it spread by infection. Dr. Miller went on to affirm that juvenile rheumatism was essentially an environmental disease. He quoted the report of the Medical Research Council, which indicated that in Poor Law residential schools rheumatism was very rare, and yet these children came from homes where they would certainly have contracted rheumatism had they not been removed. The absence of overcrowding, the provision of good food, the short distance necessary to get to school, and the prevention of sitting in damp clothes were no doubt important, and there was evidence to show that the housing of children of this class was an important consideration. Dr. Miller mentioned the association between tonsillitis and juvenile rheumatism, adding that chronic tonsillar sepsis was present in about 85 to 90 per cent. of rheumatic cases. He emphasized the importance of damp dwellings in the production of rheumatism, and said that rheumatic infection attacked children through the tonsils; cold and damp dwellings predisposed children to recurrent attacks of catarrhal colds. The disease was commonest in cold, damp countries, and some unpublished work by Mrs. F. G. Shrubbsall showed that the sites of the homes of rheumatic children tended to be in low-lying areas and to follow the watercourses. Other evidence quoted included the report of the Committee on Rheumatic Heart Disease of the British Medical Association (SUPPLEMENT, July 3rd, 1926, p. 3), which showed that 62 per cent. of all rheumatic children investigated were found to be living in obviously damp homes; a recent series of cases in West London

investigated by the speaker gave much the same results. The reason why the very poorest families escaped rheumatism was that the overcrowding of many people into one room tended to keep it warm and dry. Dr. Miller then dealt with the organized effort against juvenile rheumatism, and said that the difficulty of obtaining the support of the public in the work of prevention and the task of providing dry and warm homes for the poor classes seemed very great. Notification had been tried in Paddington for some months, and despite the legal limitations of the type of case which could be notified the speaker thought this procedure was well worth while. The supervision of rheumatic children, especially by the children's hospitals throughout the country, was rapidly increasing and Dr. Miller mentioned the importance of calling such centres "rheumatic" rather than "cardiac" if they were to perform their true function of preventing heart disease. He referred also to the need for further accommodation for cardiac patients requiring prolonged rest in bed, and urged that such facilities should not be too far from the metropolitan hospitals. Dr. Miller dealt finally with the role of the school medical service, which, he urged, should secure the warming and drying of all children arriving damp at school; he also asked that certificate stating that a child should not attend on wet days or only for half-days should be allowed. Dr. Miller stated that in his opinion the ordinary routine of school medical inspections failed to discover the rheumatic child or the victim of heart disease in the great majority of cases. Treatment should be undertaken only by those who had the facilities for dealing with every possible rheumatic emergency; it should not be conducted at minor ailment centres.

Dr. J. TERTIUS CLARKE, in a paper on the pathogenesis of rheumatic fever in its climatological relationship to a possible insect carrier, said that during thirty years' service in the Malay Peninsula he had never seen a case of rheumatic fever, chorea, or subcutaneous nodes, and he had never found mitral stenosis at *post-mortem* examinations. Rheumatic diseases appeared to be very much less frequent in the tropics, and yet inflamed tonsils were as common in these parts as in England. He discussed the geographical distribution of rheumatic fever, mentioning first some of the difficulties in diagnosis. He quoted figures in support of his own observations that rheumatic fever did not occur in the tropics: Coming next to the question of the rat-flea *Ceratophyllus fasciatus*, the speaker showed that its distribution was in the temperate climes, corresponding closely with that of rheumatic fever. The flea required a high but not excessive degree of humidity for all its life phases, in its larval and most delicate state a wet skin killed it almost at once. Its host, the brown rat, lived in out-of-door burrows and under dwellings. The flea was essentially a town flea, and would only bite certain persons, which might perhaps explain the rheumatic diathesis. Dealing with environmental conditions, Dr. Clarke said that damp town houses were favourable to rats, and therefore encouraged rat-fleas. Since the flea had a very long life, sometimes more than 600 days, it might be the meteorological conditions of the earlier months of the year which produced the peak of rheumatic infection in the late autumn months. Dr. Clarke then discussed the similarity between the lesions of rheumatic fever and those produced by other protozoal infections, and summarized the evidence against the streptococcal origin of the disease. He believed that the disease was caused by a protozoon or spirochaete which was carried by the flea *Ceratophyllus fasciatus*.

The president, Dr. COREMAN, mentioned some of the difficulties of accepting Dr. Miller's deductions, remarking that in many rural districts the conditions with regard to damp were quite as bad as in the towns. Dr. J. A. GROVEN dealt with some of the evidence which Dr. Miller had brought forward. He thought that the class incidence which appeared in the figures quoted was due to the fact that most of the investigation on rheumatism had related to children coming from the better parts of the towns and not from the very poorest neighbourhoods. Close analysis of figures obtained at St. Thomas's Hospital did not support the hypothesis that the very poorest classes escaped; what evidence there was pointed the other way. Dr. F. G. SHRUBBSALL discussed the question of the sites of the houses

from which rheumatic cases came. It was a curious fact that aliens living under the same conditions appeared to escape the rheumatic infection which afflicted English children. He replied vigorously to Dr. Miller's criticisms of the school medical service. Dr. J. NANN DONNIE emphasized the very careful nature of the examinations made by the school medical service. He mentioned a special investigation he was making on 100 rheumatic children, and he described the type of pre-rheumatic child for which he was constantly looking among the entrant children.

### HYSTERECTOMY IN PUERPERAL SEPSIS.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on February 17th, the president, Mr. COMYNS BENKELEY, in the chair, Dr. BERNHARD SOLOMONS showed specimens of two uteri which had been removed for puerperal sepsis.

Dr. Solomon emphasized the difficulty of determining the optimum time at which a hysterectomy should be performed in cases of puerperal sepsis. He regarded a continued raised temperature and pulse rate in spite of treatment, an arrest of involution, the presence of irregularities on the surface of the uterus, and an offensive discharge as cardinal signs that this treatment might be adopted. The first patient had a prolonged illness, and it was not until the twenty-fifth day that it was decided to remove the uterus. At the operation this was found to be in great part necrotic, and Dr. Solomon showed a drawing of the uterine wall. The patient died soon after operation. In the second case, after a very difficult delivery owing to a complicated presentation, there was continuous pyrexia. A fortnight after the labour his manual examination suggested the formation of a uterine abscess, and a hysterectomy was performed. This patient made an almost uninterrupted recovery.

### Multiple Myomas in Young Patients.

Mr. J. ELLISON read a communication entitled "Two extreme cases of multiple myoma in sisters under 25 years old." The first patient was 24 years old, and was first seen when two months pregnant. She was complaining of severe pain, and the uterus was much larger and more irregular than the duration of pregnancy would suggest. Mr. Ellison opened the abdomen and found a very large number of fibroid growths scattered over the surface of the organ. A subtotal hysterectomy was performed and the patient made an uninterrupted recovery. Her sister was seen by Mr. Ellison soon after and was found to have an enlarged, retroverted uterus of irregular shape, suggesting the presence of multiple fibroid tumours. She had complained of abdominal pains for a considerable time, and curetting did not relieve them. Mr. Victor Bonney operated, as he was doubtful about the condition of the appendix. He removed ninety-five fibroids by multiple myomectomy, and the patient made a good recovery. When Mr. Ellison last saw her she was well and had no return of abdominal pain.

### Pregnancy and Epidemic Encephalitis.

Mr. FREDERICK ROQUES read a paper on pregnancy and epidemic encephalitis based upon twenty-one cases, of which he had full notes, and upon some 200 other cases collected from the literature. He considered the influence of pregnancy, labour, and the puerperium upon acute epidemic encephalitis. He believed that pregnancy exerted no untoward influence upon the disease. He also found that the process of delivery did not produce any marked improvement in patients suffering from encephalitis. With regard to the influence of the disease upon labour, there seemed to be no tendency to miscarriage or premature labour. The process of labour itself seemed to be exceptionally easy in cases complicated by acute epidemic encephalitis. It appeared that the senses of such patients were dulled, and their capacity for perceiving pain abolished or diminished. After labour retention of urine occasionally occurred, and might be due to central paralysis, resulting from the disease. Mr. Roques's study suggested that the encephalitis had little effect upon the child, though he thought that epidemic encephalitis neonatorum

was a rare but definite clinical entity. The author then considered the question of Parkinsonism and its relation to pregnancy. He discussed the diagnosis of encephalitis as a complication of pregnancy, and in conclusion drew attention to various points in the treatment.

### HISTOLOGY OF THE GLOBUS PALLIDUS.

The usual quarterly meeting of the Royal Medico-Psychological Association was held on February 16th at the City Mental Hospital, Fishponds, Bristol, the chair being occupied by the president, Dr. HAMILTON MARR. A resolution of appreciation of the good work done for many years by Sir Frederick Willis as chairman of the Board of Control was carried with acclamation.

Dr. E. BARTON WHITE read a paper entitled "Some points in the histology of the globus pallidus." He said that among the changes in this body in different diseases various authors had referred to striking changes in the walls of the blood vessels, manifested as a deposit of an amorphous material in their outer walls which was often sufficient to obliterate their muscular and elastic fibres. The process simulated calcification. One-half of the hundred cases examined by Dr. Weston Hurst at Queen Square Hospital showed this change in the vessels, sharply limited to the anterior half of the globus pallidus; the ages of those patients ranged from 20 to 81. Hurst had shown that the material was not calcium, but a large portion of it was easily stainable iron; the material was also detected lying free in the corpus striatum. Hurst found that the deposit did not represent a senile change, that it was not related to arterio-sclerosis, and that in some of the cases no pathological change could be seen in the nerve cells of that nucleus. These deposits seemed to indicate, in that worker's view, a proclivity for the globus pallidus to degenerate in the second half of life. Dr. G. Hadfield had shown that acute bilateral necrosis might affect the part of the globus pallidus in which the vessel change was found, and that a rich deposit of iron salts was present in the walls of the vessels of the pallidus in half the persons examined who had no chronic nervous disease, their ages being over 50. Dr. Barton White's figures corresponded with these. The paper was supported by the exhibition of a series of very convincing slides, and the speaker submitted, as his conclusion, that the deposition demonstrated was as frequent in all forms of mental disorder as in chronic neurological cases and as in normal brains, and that therefore it could not be regarded as pathognomonic of any particular nervous disease, as some had previously contended.

Dr. GEOFFREY HADFIELD said the deposit was not a minute microscopical quantity, but that it could be easily detected with the aid of a hand lens. Many had concluded that the change in the vessels was pathological and that it caused, or largely contributed to, neurological signs and symptoms; it had, for instance, been suggested as a cause of post-encephalitic Parkinsonism, also as playing a large part in the causation of paralysis agitans. The change must be related to the fact that the globus pallidus was very rich in iron salts, as could be readily seen by putting a slice of brain into potassium ferrocyanide and hydrochloric acid, when it rapidly became a deep blue. An investigation led him to the conclusion that the iron which appeared in the vessel wall came from the nucleus itself, and was therefore intrinsic iron; he also considered that it was derived from a precursor in the nucleus which did not stain. The site of the deposit in the nucleus strongly suggested that the process was actually a degenerative one. It was, he said, tempting to think that perhaps the globus pallidus was a vestigial structure which was undergoing evolutionary atrophy. There seemed to be no specific association with diseases. It was a possibility that this deposition of iron might predispose to disease; it certainly would alter the permeability of the vessels. The condition always seemed to be absent in children, but in old people it was frequently found.

Professor E. FAWCETT agreed that the globus pallidus was one of the oldest parts of the encephalon, and thought that Dr. Hadfield's suggestion that a degenerative process

resulted in these depositions seemed fairly sound. Dr. J. R. LORN mentioned the importance to psychiatrists of the basal ganglion as being probably the seat of the central mechanism of the emotions. Dr. Brander at Bexley had investigated the presence of iron in cases of general paralysis, and had discovered it in large quantities. Dr. Barton White, however, did not appear to have arrived at the same conclusion. The presence of the iron in the globus pallidus might indicate a regression of function, and indeed that the structure was a dying one. The extent of regression would vary in individuals. Dr. G. E. PRACUMEL asked whether the author had investigated the brain of a patient who died of pernicious anaemia, and, if so, whether iron was found in that case. He inquired also whether there was any analogy between the reaction found in the globus and the staining and pigmentation discovered in the brain after haemorrhage.

Dr. BARTON WHITE, replying, said that in one case of four persons dying of general paralysis there was certainly no iron deposited.

Dr. HADFIELD, replying, stated that he had not examined any cases of pernicious anaemia, but that in that disease the pigment was taken out of the blood by a phagocyte. In the cases which had been examined there was no reason to suppose that there was any excess of iron in the circulating blood, nor in the pathological series as contrasted with the normal. He believed that the deposit occurred apart from any phagocytic cell action. He thought haemorrhage could be eliminated as a cause of the pigmentation or the change in the globus pallidus, since in the majority of these cases there was no sign of a pathological lesion.

#### *The Mental State in Cardiac Disease.*

Dr. CAREY COOMBS read some notes on the mental state in cardiac disease. He said he had reviewed about 2,000 cases of cardiac disease, and from them he had drawn certain inferences as to the connexion between such disease and mental disorder. He suggested answers to the following questions: (1) Was there evidence that mental disorder caused cardiac disease? (2) Did the circulatory disturbances arising from cardiac disease often upset the mental functions? (3) How far were both cardiac disease and mental disorder, when they occurred together, due to a common cause? In the war mental disturbance was often the chief factor in causing functional tachycardia, and mental stress and worry were appreciable factors in producing high arterial tension. He did not believe there was any form of heart disease which arose out of mental disorder. As to whether cardiac disease could be directly responsible for mental disorder, he had been impressed by the absence of unimpeachable evidence in support of such a view; still, severe cardiac disease was so terrible to contemplate that it might well upset the mental equilibrium of the person concerned, and also the deficiency in the cerebral circulation might result in mental trouble. It was rare to find insanity as a sequel of rheumatic heart disease. The incidence of insanity in uncomplicated heart disease was not higher than that of insanity in the general population. There were some conditions in which mental and cardiac symptoms appeared together and might be ascribed to a common cause. In persons with senile heart disease, for example, the failure of the heart to supply blood adequately to the periphery was only one of many factors concerned.

The PRESIDENT (Dr. Marr) thought there would be general agreement that heart disease *per se* seldom caused mental disorder; when mental disorder followed heart disease it could usually be ascribed not to cardiac conditions, but to the circumstances which brought about the diseased state—namely, the autotoxin or microbic effect on the blood. With regard to heart conditions affecting the mind, it was usually the mental condition which caused the functional aberration. This was certainly so in very many of the cases of shell-shock during the war; the heart condition usually came on after mental exhaustion.

Dr. LORN agreed with the president; the action of the heart was very much involved in the psychoneuroses and the neuroses. Insanity was so closely associated with the toxæmias that it was difficult in a given case of acute

insanity to decide whether the heart condition was due to the mental state or to the accompanying toxæmia.

The readers of both the papers were cordially thanked and, at the invitation of the hospital visiting committee, members and visitors lunched together, Mr. JOHN CURLE, J.P., mayor of Bristol, presiding.

#### HIGH BLOOD PRESSURE.

At a meeting of the Manchester Pathological Society held on February 8th, the president, Mr. F. H. WYRMACOTT, in the chair, communications on the subject of high blood pressure were made.

Dr. J. CRIGTON BRAMWELL and Dr. R. ELLIS in a joint paper referred to the difficulty in defining the upper normal limit of blood pressure. In common with many other physical attributes the range of variation followed the ordinary type of normal frequency curve. A systolic reading of 150 mm. Hg should not be regarded as necessarily pathological even in young people. There was little tendency for the systolic pressure to rise between the ages of 20 and 40, and even in healthy old people a systolic reading of under 150 was common. The high pulse pressure in old age was a compensatory mechanism to overcome the loss of elasticity in the arteries. Even apart from any structural change the elasticity of the arterial walls might be greatly impaired by a high diastolic pressure. Hence a relatively small rise in diastolic pressure would entail a much greater rise in pulse pressure if the heart was to maintain its output. In this respect a high diastolic pressure was just as important as a stiffened arterial wall in determining the limitation of exercise tolerance. The sphygmogram in cases of hyperpiesis resembled that of aortic stenosis, the maximal pressure in the aorta being attained relatively late in systole. With regard to prognosis in these cases, the condition of the kidneys was of the first importance. In primary hyperpiesia, though the pressure might be higher, the outlook was not quite so grave as in the renal cases; in these the age incidence was lower, and they generally ended in uræmia. The diastolic pressure was of special significance in relation to the ultimate prognosis, because it represented the liability which the heart was called upon to undertake. The systolic pressure, on the other hand, was more closely related to the immediate issue, since it indicated the capacity of the heart to meet its liabilities. A falling systolic associated with a rising diastolic pressure was always a very bad omen, in that it signified heart failure.

Professor J. SHAW DUNN said that an account of the morbid anatomy of persistent hypertonus might still very well start with a reference to the long-established fact that chronic nephritis, primarily a disease of the kidneys, commonly produced a high blood pressure. The available evidence, including the temporary rise of pressure in acute nephritis, pointed to the circulatory change being a reaction to impairment of excretory function. It might be that some potent but hitherto unrecognized pressor substance was retained in the body owing to impaired excretion, and so acted in excess on the vessels. Another explanation, no less likely, was that in accordance with Cushing's view all excretory substances were eliminated from the blood stream by filtration under pressure of the blood, and that where the field of filtration was limited a greater pressure was required to secure adequate elimination. In the more mysterious group of non-renal cases, or essential hypertonus, many of the morbid changes in the organs were of secondary character and of late development. These were degenerative phenomena such as cerebral haemorrhage and cerebral softenings, atheroma in arteries, and shrinkage of the kidneys. Local softening and patches of tissue atrophy seemed to depend at times on the blood pressure, though high, being inadequate to perfuse some of the vessels, the contraction of which helped to raise it. These degenerative changes varied markedly in degree in different instances; they appeared to be most marked in cases where death occurred from cerebral haemorrhage. In other instances, a smaller group where death was due to failure of cardiac compensation the arterial intima was frequently healthy and the kidney were smooth and of normal size or even larger. The



structural changes which might be said to occur in all cases of essential hypertension, or at any rate which were found even in the earliest cases at the *post-mortem* examination, were (1) hypertrophy of the left ventricle of the heart; (2) hypertrophy of the middle coats of the arteries generally, in Professor Dunn's experience invariably accompanied by some fibrosis of the media, a degenerative feature, but an earlier stage of pure hypertrophy might be presumed; and (3) changes in minute arterioles of the size of the afferents to renal glomeruli. An affected vessel showed thickening with fatty degeneration of its intimal coat, starting exactly at its origin from the parent trunk and extending throughout its length. From its distribution and character this lesion hardly suggested the action of a toxin in the ordinary sense; if such was concerned it was difficult to see why the parent vessel should escape damage so completely as it often did. The morbid condition seemed on the whole more likely to be due to a poor blood supply in the smaller vessel, resulting from contraction of the larger one. If this explanation of the change could be supposed to hold good then all the earliest structural changes in hypertension were mostly evidence of the mechanism for maintaining it, or of defects arising from the operation of that mechanism; the ultimate causal agency remained quite obscure. If this agency was an abnormal pressor substance it had still to be demonstrated. Other possibilities might be imagined on lines of analogy with chronic nephritis—such, for example, as the presence in the blood of a substance of low solubility which demanded excessive filtration for its elimination even by normal kidneys; lead and perhaps uric acid might suggest this type of action. Increased osmotic pressure of the blood colloids would also require a greater filtration pressure.

Mr. GEOFFREY JEFFERSON dealt with blood pressure readings in the course of operations, especially on the central nervous system. The systolic blood pressure and the pulse rate were recorded every five, or in some cases ten, minutes regularly, and the curves so obtained gave valuable information as to the condition of the patient, and some indication, at any stage, of his ability to undergo prolongation of the operation. In more than one instance patients whose systolic pressure had fallen as low as 45 or 50 mm. of mercury had made uneventful recoveries.

### FORCEPS DELIVERY AND PROPHYLACTIC GYNAECOLOGY.

A MEETING of the Edinburgh Obstetrical Society was held on February 8th, with Dr. HARC FLETCHER, the president, in the chair. Dr. LINDSAY (Glasgow) read a paper on the reduction of forceps delivery as a basis for prophylactic gynaecology.

Dr. Lindsay first described the various causes of intra-natal trauma affecting the birth canal, and suggested that this was often due to the application of forceps. The trauma might be visible to the naked eye, or might be almost microscopical, and in many cases was due to the over-stretching of the para-cervical tissue or pubo-cervical fascia. Ante-natal supervision should make it possible to minimize materially the number of forceps cases, and in Dr. Lindsay's opinion the only case which would require forceps delivery was the one where there was a moderate amount of overlapping of the foetal head at the beginning of labour. Forceps delivery would also be advisable in cases of occipito-posterior presentations which could not be rotated by hand, and in those difficult instances where there was resistance of the pelvic floor, and narrowness or tenseness of the introitus of the vagina was marked. He therefore emphasized the necessity for the careful teaching of ante-natal supervision to students. With regard to the standard indications for forceps delivery he thought that they could be very much reduced, since he did not believe, for example, that forceps were warranted in cardiac cases, Caesarean section being much more satisfactory. Foetal signs of distress were certainly definite indications for intervention, but such was only permissible when the labour had progressed sufficiently to make delivery a matter of safety for the mother; he saw no benefit in delivering a debilitated child quickly when such a rapid delivery would

entail a degree of maternal injury. In his opinion the mother should be the first consideration. In primary uterine inertia he was opposed to the use of forceps, since delivery could often be effected by emptying the bowel and the bladder, and by giving a hot vaginal douche. In secondary uterine inertia the uterus required a rest; morphine was indicated in such cases, and not forceps. Perineal rigidity should be treated by the administration of light anaesthesia, when relaxation usually occurred. If rigidity persisted anaesthesia, and such expedients as fundal pressure or administration of pituitary extract, would often evoke the necessary power. Until these simple methods had been tried forceps should not be employed for this minor indication. If forceps were necessary they should be employed in such a way as to prevent serious birth injuries; it had been proved that they were safe only when applied in the biparietal diameters. Dr. Lindsay considered the axis-traction forceps a dangerous instrument, for, when applied with the head in the oblique diameter of the pelvis, the vagina was pulled taut and forcibly twisted as rotation of the head progressed. This often caused extensive vaginal lacerations. In Dr. Lindsay's opinion the best instrument to-day was the Kielland modification, which was a long forceps and practically straight, the pelvic curve being almost negligible. This instrument was always applied to the biparietal cephalic diameter, no matter what the position of the head; it was smaller than the Milne-Murray forceps, and had no fixation screw or axis-traction apparatus. It remained under the control of the operator, who knew the amount of force he was expending. There was much less compression of the child's head, and, what was more, the compression was always maintained in the safest cephalic diameters. If the high forceps operation was to remain at all in obstetric practice then the Kielland forceps was the ideal instrument. Dr. Lindsay condemned the use of forceps as a lever and as a rotator, and concluded that it should be employed as a tractor and considered as a compressor, the latter action being only utilized in the planes where it would be most efficient and where the compression would least damage the child. He added that if this line of practice were followed it would be realized that the only safe forceps delivery which one could complete in those unfavourable surgical circumstances usually found in working-class areas was the low forceps operation.

### THYROIDECTOMY IN TOXIC GOITRE.

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on February 10th, the president, Professor A. FULLERTON, in the chair, Mr. D. KENNEDY read a paper on the operation of thyroidectomy for toxic goitre.

Mr. Kennedy advocated the standardization of the operation so as to lessen its dangers, shorten the convalescence of the patient, and improve the results. He recommended ligation of the vessels before they entered the gland tissue, whether the whole or part of a lobe was to be removed; in this way there would be no haemorrhage, the danger of shock was greatly lessened, and the post-operative condition of acute thyroid poisoning would not occur, at all events in a degree to endanger the patient's life. The steps of the operation should be thought out beforehand and performed with deliberation. Open ether well diluted with air was the most satisfactory anaesthetic, and 1/4 grain of morphine and 1/100 grain of atropine were administered about thirty minutes before the operation, the patient being always carried to the operating table. Local anaesthesia was not satisfactory, and combined local and general anaesthesia was useless and a waste of time. To expose the thyroid vessels fully, and to free the recurrent laryngeal nerve and the parathyroid glands from any danger of injury, the gland should be dealt with inside the capsule. The cut muscles should be accurately sutured to prevent scarring. Lugol administered in preparing the patient for operation helped to lessen the severity of the symptoms and to improve the condition of the patient, but its utility ceased after administration for a few weeks. Mr. Kennedy said that the results of operation had been gratifying; in suitable cases the mortality was nil, and complete

recovery was assured. No operation was advisable if the heart muscle was degenerated or where a pathological condition such as kidney disease had developed.

The PRESIDENT referred to the difficulties met with in operations for toxic goitre in connexion with the recurrent laryngeal nerve, which was often surrounded by the branches of the inferior thyroid artery, and thought that the question of shock following this operation was not so simple as Mr. Kennedy had made out.

Mr. S. T. LWIN suggested that Mr. Kennedy had failed to distinguish between exophthalmic goitre and toxic goitre; he believed that any surgeon who operated indiscriminately on cases of exophthalmic goitre would encounter fatalities. Every case of exophthalmic goitre should be admitted first into medical wards, and an operation should not be undertaken until a physician had recommended both the time when it should be performed and its extent.

Mr. R. A. STONEY agreed that ligation of the vessels was an essential preliminary to thyroidectomy, but if the thyroid was much enlarged the isolation and identification of the vessels were by no means simple. It was sometimes very difficult to reach the inferior thyroid vessels, and when there had been prolonged medical treatment, and especially x-ray therapy, so many adhesions were formed that it was almost impossible to free the gland. It might be hard to invert the lower pole of the gland and expose the inferior thyroid artery; in these cases he approached the inferior thyroid vessels from the inside, and it was thus possible to avoid the trachea, which often caused difficulty in respiration. He had tried local anaesthesia, but had not found it satisfactory. He always used rectal ether supplemented by a certain amount of open ether on the mask, which gave rise to no difficulty.

Mr. KENNEDY, replying, said that he would never hesitate to operate on any case of exophthalmic goitre, provided that the cardiac muscle was not affected. He looked upon the difference between exophthalmic goitre and toxic goitre as being one of degree. In operating on these patients difficulties were encountered with adhesions, but these had to be dealt with as in other operations. He did not ligature the pole, but tied the vessels directly; after ligation he divided freely and opened the lower pole.

#### *Obstetrical Fractures of the Femur.*

Mr. R. A. STONEY read a paper on two cases of obstetrical fractures of the femur.

An infant, 2 days old, was admitted to hospital with a fracture of the right femur at the junction of the middle and upper thirds, which had been produced in attempting to bring down one leg in a breech presentation. The child was treated by extension of the thigh in the vertical position. One month later the extension was taken down and the leg was x-rayed; the photograph showed malunion with considerable overlapping and backward displacement of the lower fragments, both fragments being surrounded by a large mass of callus. Two years later the child was again seen; she was able to walk and run perfectly, and the x-ray showed a femur which appeared perfectly normal except for a slight thickening of the compact tissue over the outer side of the bones in the region of the fractures. The medullary canal had been perfectly reproduced.

The second case was that of an infant, 8 days old, admitted with a fracture of the left femur at the same level, produced in the same way as in the former case. Though the limb was in a Thomas splint, the x-ray examination showed marked displacement. The case was treated with extension in the vertical position, and an x-ray photograph taken a month later showed union with abundant callus in excellent position.

Mr. Stoney said that according to some authorities the treatment of these cases was simple, merely folding the thigh on the abdomen and holding it there by a broad swathe. Plaster-of-Paris from the thigh to the ankle, with the thigh at right angles to the abdomen, was also said to give good results. One writer on surgical diseases of children had suggested that good results were obtainable in all cases by almost any treatment. From the experience of his two cases it would seem that extension in the vertical position was in every way satisfactory; the results were good, it was easy to nurse the patient, and the infant did not object to the position. Care should be taken to apply the extension plaster to the thigh as well as to the leg, and to see that the weight was sufficient to keep the buttock off the bed. It was advisable in these small infants to sling both legs, since if only the broken one was slung and the other was left on the bed, it was impossible to control the movements. The probable cause of the bad

result in the early stage in the first case was the fact that the sound leg was merely tied to the crossbar and was not counterpoised with a weight and pulley. It would appear, however, that at this early age a good first result might be confidently expected, even if the x-ray showed that the union was not automatically perfect.

#### VITAL STATISTICS OF WEALTH AND POVERTY.

At the meeting of the Royal Statistical Society on February 21st Dr. T. H. C. STEVENSON of the General Register Office read a paper on vital statistics of wealth and poverty.

Many attempts, he said, had been made to estimate the influence upon health of prosperity and the lack of it, but the extent of our ignorance of the subject attested the difficulties of its investigation. His paper described a method of dealing with it employed in the recently published report of the Registrar-General on occupational mortality during 1921-23, and discussed the degree of success attained in the light of the results arrived at. The method most commonly employed had been the comparison of returns for complete populations selected as representing wealth and poverty; but the samples so secured were far from pure or free from influence by other factors. If the contrasts in wealth and—what was probably quite as important in its influence on health—culture were to be obvious the numbers available for examination would be limited; and, on the other hand, if the field of investigation were extended the difficulty of assessing degree of local wealth and culture became formidable. Classification of individuals by income was not possible under present conditions in this country, though it had been employed on a very limited scale in America. Estimation of poverty by housing conditions was very unsatisfactory, as bad housing was only one of the handicaps of poverty, so that it was impossible to determine how far the excess of mortality associated with bad housing was due to poverty and how far to the direct effects of overcrowding, etc. Even if full details of income were available, these in themselves would not provide an ideal basis of classification, as it was probably the cultural associations of wealth which promoted longevity rather than wealth itself. The clergy, for the most part poorly paid, were singularly healthy. The method advocated for meeting the conditions to be considered was that of inferring social position from occupation. By this means regard could be paid to (average) culture as well as income, and the total occupied population could be included in the inquiry. The results attained by a scheme based on these lines had been described in the report referred to, and the regularity and consistency of the graduation so obtained of mortality from various causes appeared to be in itself evidence of the success of the social classification so arrived at. Instances of such regularity were quoted by Dr. Stevenson, mortality from many forms of disease increasing without interruption from a minimum in the highest to a maximum in the lowest social class. Respiratory diseases, including phthisis, furnished the most pronounced examples of this type of distribution, which tended to be reversed for diseases of the digestive system, and for diabetes in later life, mortality from appendicitis increasing without interruption from a minimum for the lowest to a maximum for the highest of the five social classes distinguished. The case of cancer was especially interesting. Mortality from this cause followed the usual type of social distribution, being lowest in the highest and highest in the lowest section of society. But this graduation was found to apply to cancer of certain sites only, mortality from the remainder being much the same for all classes. The graded sites, which were responsible for about half the total deaths (in males, for whom alone the requisite occupational information was available), alone the requisite occupational information was available, included the upper alimentary canal from mouth to stomach, inclusive, the skin, and the larynx. It appeared, therefore, that cancer of these sites was largely preventable, though the factors determining its differential incidence would first have to be recognized.

## Reviews.

### GAS POISONING.

THE publication in the Monograph Series of the American Chemical Society of a treatise on a problem in industrial hygiene by two well-known physiologists seems to us to be an event of real significance. It is a practical expression of that liaison between the laboratory and our social organization which many advocate in theory, but too seldom are at any great pains to realize in practice. The book which occasions this comment is by Professor YANDELL HENDERSON and Dr. H. W. HAGGARD, and is entitled *Noxious Gases and the Principles of Respiration Influencing their Action*. It will be agreed at once that the authors are well qualified to instruct us in the principles of respiration, and, further, that the sympathy towards questions of applied physiology which is betrayed in much of their work will incline us to listen to what they have to say on this grave problem of industrial gas hazards.

Readers of the *BRITISH MEDICAL JOURNAL* may recall two lectures by Professor Henderson which we had the privilege of publishing during his recent visit to this country. The substance of those lectures is the foundation of this book, and the same lucid argument and forcible persuasion will be encountered again. It is surprising that in the enormous library of toxicology there does not appear to have been any earlier book dealing specifically with the problem of the special nature of poisons which find entrance to the body through the lungs. It is well that the omission is now repaired, for, if we accept the statement of the authors, it is "almost the only field in the whole range of modern sanitation in which fatalities throughout the civilized world are increasing from year to year."

Four introductory chapters summarize those principles of respiration and of the behaviour of gases and vapours which are fundamental to the consideration of the absorption and elimination of volatile substances. As the authors acknowledge, the discussion goes much further than that in any current textbook in representing a vital function as a mechanism. For the practical problem in hand physiologists will not be inclined to quarrel with this adventure. The succeeding chapters are devoted to the classification of the chief groups of gases of social importance upon the basis of their physiological action. This leads to the separate consideration of asphyxiants, irritants, anaesthetics, and inorganic and organo-metallic gases. The general action, symptoms, and sequelae of each group are discussed, and a description follows of the special characteristics of individual members. The chemical field covered is comprehensive. A final chapter discusses the prevention and treatment of poisoning by noxious gases. A selective but adequate bibliography accompanies the text.

The authors write for chemists and engineers rather more than for medical men, because "in general chemists are in immediate contact and control, and are increasingly responsible for the human portion of the machinery of production, and for the determination and prevention of the poisonous aspects of the products which they manufacture." They believe that in this subject popular education has so far outstripped medical instruction that "police-men, electric linemen, and boy scouts frequently save lives that a physician cannot." Unless members of the medical profession are familiar with the matter of the book under review it will be difficult for them to challenge this statement.

### DISEASES OF NOSE, THROAT, AND EAR.

THE well-known work on *Diseases of the Nose, Throat, and Ear*<sup>2</sup> which, under the editorship of Dr. LOGAN TURNER, may be taken to represent the work and teaching of the Edinburgh School of Medicine has now achieved the well-

<sup>1</sup> *Noxious Gases and the Principles of Respiration Influencing their Action*. By Yandell Henderson and Howard W. Haggard. American Chemical Monograph Society Series. New York: Chemical Catalog Co., Inc. 1927. (Med. 8vo, pp. 220; 12 figures. 4.50 dollars.)

<sup>2</sup> *Diseases of the Nose, Throat, and Ear for Practitioners and Students*. Edited by A. Logan Turner, M.D., LL.D., F.R.C.S. Ed. Second edition, revised and enlarged. Bristol: John Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1927. (5½ x 9, pp. xxiv + 410; 234 figures, 11 plates. 20s. net.)

merited success of a new edition. From a modest origin it has developed into a comprehensive textbook, although it retains its previous character. Each section has been expanded where necessary, so that it is not merely brought up to date, but it is scarcely possible to discover any point about which useful information is lacking. The editor has evidently been a wise guide to his associates, and has so arranged the sections that the whole is well balanced, while there is a sober restraint and an absence of fads and fanciful ideas. This plain statement of the case, however, in some places is associated with a style so crude that improvement is really needed, and frequently some literary polish would be welcome, though this does not apply to all the sections. Opportunity has been taken to remedy some minor defects, and the illustrations have been improved, but it is sad that such an important group, as those depicting the stages of the mastoid operations are not more realistic, for as they are they would give but little help to an inexperienced operator. There is, however, no other book which includes laryngology and otology with such success, for there is no undue stress laid upon any particular section, which is the common failing of such books. Although it has reached its present size it is not unwieldy; but is packed with information, and has attained the right proportion between an elementary textbook and a work of reference. The present edition should surpass the previous issues in popularity.

Progress during the seven years which have elapsed since Dr. DAN MCKENZIE produced his *Diseases of the Throat, Nose, and Ear*<sup>3</sup> has induced him to enlarge the second edition, which is now issued, though time does not appear to have modified his views in any important details. The size to which this new volume has been expanded must give serious concern to the reader, although Dr. McKenzie has eluded the vigilance of his publisher; this great increase might have been avoided by a judicious selection of material and condensation of language, without omitting anything the least important. The author, as before, freely acknowledges the work of his colleagues and many others, although he gives comparatively few references, and these in no systematic fashion; throughout he makes it clear that the book is based on his own personal experience and opinions. The expansion is due, however, chiefly to the desire of the author to give acknowledgement to the observation of others—in such matters, for example, as tuberculosis of the larynx and meningitis. Valuable as the book is as the expression, not only of his own matured judgement, but that of the teaching school he represents, yet it does not attempt to be the book of reference and authority which a volume of this size might well have claimed to be. It must, however, be judged by the standard of the first edition, and the reader will certainly find here full information and advice on every point which can possibly be held to come within the provinces of otology and laryngology. There are various debatable topics upon which it would be easy to challenge the views of the author, and herein there is but little change from the first edition; but he has the courage of his opinions, and supports them with sound logic and argument. This edition, therefore, more than deserves to repeat the success of the previous one—to which it is certainly superior in its breadth of view—as a comprehensive work on the subject. It should be added that the book is published in a generous style and is magnificently illustrated.

Dr. SYME has enlarged the second edition of his *Handbook of Diseases of the Nose, Throat, and Ear*<sup>4</sup> to something like double the size of the first, and he has been wise to follow this policy of decompression, for the contents were so tightly packed that their utility was impaired. Even now the author attempts to cover a wide field in such a way that he is compelled to touch very

<sup>3</sup> *Diseases of the Throat, Nose, and Ear*. By Dan McKenzie, M.D., F.R.C.S. Ed. Second edition. London: William Heinemann. 1927. (Sup. roy. 8vo, pp. vi + 677; 254 figures, 3 plates. 45s. net.)

<sup>4</sup> *Handbook of Diseases of the Nose, Throat, and Ear*. By W. S. Syme, M.D., F.R.C.P. and S. Glas, F.R.S. Ed. Second edition. Edinburgh: L. and S. Livingstone. 1927. (Cr. 8vo, pp. xv + 400; 26 figures, 21 plates. 12s. 6d. net.)

briefly on many points. The book, however, gives a general representation of his own practice, without attempting to follow any orthodox lines. It is presumably addressed primarily to the students and post-graduates of his own teaching school, but it will be found a useful guide to any house-surgeon or during a short course of post-graduate instruction. If Dr. Syne has not put forward the full capacity of otology and laryngology at the present time—and indeed he has not attempted this—yet he will be found a safe guide in all conditions and maladies that commonly occur. He nearly always writes from experience, and seldom from authority, and the whole book is expressive of his own personality. The superficial treatment of some subjects rather indicates that he considers them of minor importance, and the book is not one in which to search for information on obscure points or rare diseases, but there are many flashes of wisdom and much practical advice. Not only has the text been improved, but also the illustrations and the general style, so that the new edition deserves a prominent place among the smaller books on these subjects.

### TONIC HARDENING OF THE COLON.

*Tonic Hardening of the Colon*,<sup>3</sup> which forms the subject of a volume by Dr. STACEY WILSON, is a condition which has been well known for several years. It is, however, hardly recognized as a well-defined ailment, and references to it in medical literature are scanty. It leads to a train of symptoms, often of a serious nature, which may be puzzling to the practitioner who is unaware of the underlying cause, and which are readily curable by a simple line of treatment if the true nature of the ailment has been detected in time. Dr. Stacey Wilson has given a full account of the condition from his own long experience, and his book will doubtless be appreciated by general practitioners. The lesion is usually localized to the region of the caecum or sigmoid colon, and consists in a prolonged over-activity of a segment of the colon of the type described by Sherrington as "postural muscular activity." The segment becomes like a hard rubber tube and necessarily causes increased contractile activity of the colon muscles, which in its turn intensifies the reflexes originated by the normal activities of the bowel, producing symptoms having a very wide range. The only certain evidence of the ailment is the presence of abnormal hardening and tenderness, and in the absence of a systematic examination of the colon there is nothing in the symptoms to demonstrate to any medical man the existence of the ailment. The author admits that some may suspect that the disease he describes exists nowhere but in his imagination, and these he advises to palpate the colon in the left iliac fossa in a series of a score or two of cases, and, where hardening is found, look for the symptoms and try the effect of the treatment he describes.

The reflex circulatory disturbances associated with hardening of the colon are shown in such symptoms as lassitude and inability to work and deadness of the fingers from generalized contraction of the arterioles; and a more local effect occurs as swelling and cyanosis of the fingers, such as is seen in Raynaud's disease. In a few cases vasomotor angina pectoris has been met with. The connexion between tonic hardening of the colon and mental symptoms appears to be important, and it is not generally recognized. The author states that it is by no means unusual for a degree of mental depression to arise, of sufficient severity to induce suicidal tendencies, and cases are cited in which treatment of the colon has restored the mental balance in these and other forms of emotional instability. The intimate reflex relationship between the stomach and the colon explains the frequent occurrence of gastric disturbances, of which the most important are pyloric spasm with a certain amount of dilatation, reflex vomiting, and occasionally hardening of the muscles of the stomach, associated with tenderness and severe vomiting. As regards the function of the colon itself, no recognizable disturbance may be present;

constipation, however, is very liable to occur, and at times there may be considerable dilatation above the contracted segment. Other symptoms mentioned are brachial neuralgia, giddiness, and palpitation; and a case is cited in which the pain in the colon appears to have been intensified at the menstrual periods, leading to the diagnosis of dysmenorrhoea, relief being obtained by treatment directed to the colon. The prognosis is, as a rule, good when the condition is recognized early and receives adequate treatment on the simple lines laid down by the author. Where, however, neurasthenia has resulted from the ailment, the outlook may be far from satisfactory.

### ACTINOTHERAPY.

*Actinotherapy for General Practitioners*,<sup>4</sup> by Dr. H. G. FALKNER, bears a strong family resemblance to a number of other works previously published on the same subject. There is a semi-technical introduction dealing with the physics and history of the medical uses of ultra-violet light, which is the only department of actinotherapy dealt with, and a somewhat lengthy section describing the various types of apparatus put on the market by enterprising manufacturers, and copiously illustrated from their catalogues; further on a considerable portion of the book is devoted to an enumeration of the various diseases treated, fortified by cases illustrating the wonderful results obtained. Speaking generally, ultra-violet therapeutists are nothing if not optimists. Perhaps the most interesting and novel parts of the book are the chapters in which Dr. Falkner describes the results he has obtained from tests of the various sorts of goggles on the market as regards their impermeability to ultra-violet and also infra-red radiation, and those in which he shows how lamps fitted with different electrodes vary enormously in their output of ultra-violet rays from time to time. The same pair of electrodes, working apparently under constant conditions, will at one moment produce a copious supply of ultra-violet rays, while within a few minutes the output will fall off to a small fraction of its former quantity. The best and most uniform results, he finds, are given by electrodes made of a substance called "metallium," but the composition of this material is not given. Confidence in Dr. Falkner's electro-physical experiments, however, is not increased by reading the observation which convinced him that ultra-violet light is closely allied to x rays—the observation that his "big raying lamp" (no doubt an extremely powerful illuminant) could throw a shadow of the bones of the hand and forearm on a white wall. It might have been thought that any medical student would have known that this was caused by the fact that the flesh is to a certain extent translucent, while bones are much less so, and the shadow cast by the latter has nothing whatever to do with x rays. Nevertheless, although this book is often open to a certain amount of criticism, its perusal will enable a beginner to get a fair idea of the methods and practice of employing ultra-violet radiations in therapeutics.

### PHARMACOGNOSY.

*Pharmacognosy and Materia Medica*,<sup>5</sup> by H. C. WASHBOURN and W. H. BLOME, is a textbook for students in pharmacy and a handbook for practising pharmacists. One of the authors is a professor of pharmacy and the other is a director of the laboratories of a chemical firm, and hence together they possess a first-hand knowledge of the needs of both the student and the practising pharmacist.

Pharmacognosy is one of the most difficult subjects on which to write a readable textbook, because most of it must necessarily be composed of detailed descriptions of the appearance and characters of plants and drugs. The authors of this volume have reduced their material to manageable dimensions by eliminating descriptions of the

<sup>3</sup> *Tonic Hardening of the Colon*. By T. Stacey Wilson, M.D. and B.Sc. Ed., F.R.C.P. (Lond.). Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xxiii + 210. 8s. 6d. net.)

<sup>4</sup> *Actinotherapy for General Practitioners*. By H. G. Falkner, L.R.C.S.L., L.R.C.P.L., L.M. Rot. Hosp. Dub., O.B.E. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. x + 152; 26 figures. 7s. 6d. net.)  
<sup>5</sup> *Pharmacognosy and Materia Medica*. By Homer C. Washbourn, Ph.C., B.S. (in Phar.), and Walter H. Blome, Ph.C., M.S. With a chapter on Vitamins and one on Insulin by Walter Flitz, M.S. New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd. 1927. (Med. 8vo, pp. ix + 585; 110 figures. 25s. net.)

microscopic characters of drugs, and also by making what they have to say about the physical characters of drugs fairly short and concise. It is profusely illustrated, and contains an account of the history, habitat, properties, and uses of each of the vegetable and animal drugs in the *United States Pharmacopoeia* (tenth edition) and in the *National Formulary* (fifth edition), and of a limited number of other non-official drugs; the total has thus been restricted to a moderate number.

As a result of these restrictions and limitations the authors have been able to produce a very interesting volume, and one that will serve as a handy work of reference in respect to all the more important drugs. In addition to the usual information many interesting scraps of history and descriptions of the methods of cultivation of drugs have been included. The volume concludes with two chapters by Mr. W. Pitt, giving a short account of the vitamins and of insulin.

### AN ECONOMIST ON STIMULUS.

In his Rede Lecture last year at Cambridge, which has recently been published in a small volume, Sir JOSIAH STAMP gave his views on *Stimulus in the Economic Life*<sup>9</sup>; he began by distinguishing stimulus from incentive, and went on to examine the increment in incentive. After describing methods of stimulating capital, and laying down a provisional classification of stimulus according to its results, the author said that "the economic life is a complex reaction between a physical world, obeying the laws of physics and chemistry, and living organisms obeying more elusive biological and physiological principles, the whole relationship being worked upon by individual and mass psychological and 'spiritual' forces." Various stimuli are then passed in review, especially those which have been made the subject of physiological and psychological investigation in labour tasks. Sir Josiah Stamp is doubtful whether Knoepfel's view, that an ideal attained by a piece-worker is automatically replaced by one still higher, is true as a rule. General experience, he says, points to a standard amount of earnings which the worker will exert himself greatly to reach, but will not exert himself greatly to exceed. It is pointed out that the change in the value of money has meant that business enterprise has been unconsciously subsidized by the slow unseen robbery of past accumulations of capital. The fallacy of "the standard of life," "the living wage," and "the motive of adequate profit," in that they are all relative conceptions, is pointed out. Sir Josiah Stamp thinks that while a time of depression is a forcing ground for reorganization and the elimination of non-essentials, prosperity, not necessity, is the mother of invention. He is not convinced, apparently, that the cash nexus is the chief bond between the worker and his work; but he is uncertain whether a new or substituted incentive may be found, or whether, "in an environment with a higher sense of duty, or a different ethical bias, the response to an extra-profit stimulus, or to a higher wage stimulus, may be entirely different."

### NOTES ON BOOKS.

To Sir KENNETH GOADBY has fallen the happy experience of being called on for a third edition of his work on *Diseases of the Gums and Oral Mucous Membrane*<sup>9</sup> within five years of its first publication. The book is the outcome of years of laboratory and clinical work, informed always with the spirit of research, and its popularity is a tribute to the pioneer in dental bacteriology, both as a clinician and as a laboratory worker. In this edition the chapter on general diseases of mouth origin has been recast with good effect, and some fresh cases have been recorded of uncommon affections originating in the same region; the disease, indeed, must be rare which has escaped the author's personal observation. As might be expected, the value of the book lies largely in a constant correlation

of bacteriology with clinical symptoms, but the advice on actual treatment is often of equal value. The author makes an important clinical observation (p. 131) when he says: "Chemical examination of the stomach in cases of chronic oral infection invariably gives a large excess of lactic acid together with a diminution in the normal hydrochloric acid present"; and very justly draws attention to his observation, published in 1911, that slow and progressive joint infections followed injection into rabbits of a special type of mouth streptococcus. The book, however, suffers from serious blemishes. Chapter I should be rewritten—or even cut out; there is a tendency to redundancy, and often the author's style leaves the reader perplexed. Nevertheless, it is a work we can recommend to all interested in mouth conditions.

Why should American babies from the age of 5 months require a special manual of graduated exercises? Most babies one sees here are eager to kick and push and stretch in that delightful interval between the bath and redressing. Apparently Dr. WILKES of the New York Nursery and Child's Hospital does consider that a daily course of systematized exercises would benefit all infants. He has therefore drawn up a series of twelve exercises, and collected them into a book called *Baby's Daily Exercises*.<sup>10</sup> They are very clearly set out and very well illustrated. No doubt such exercises, if carefully and intelligently performed, would increase the infantile musculature. The necessity is a matter of opinion. The author does give warning that "babies who have had kidney trouble should be exercised very cautiously."

The *Minutes of the General Medical Council and of its Various Committees*<sup>11</sup> for the year 1927 have now been published, with twenty-one appendixes, in a volume which includes the customary detailed reports of the two sessions of the General Medical Council and its Executive Committee, and those of the English, Scottish, and Irish Branch Councils. The longest of the appendixes comprises the final report (nearly 200 pages in length) of the Education Committee on the progress made throughout the country towards the readjustment of the medical curriculum in accordance with the resolutions adopted by the Council on May 26th, 1922, which came into force on the first day of the following year. The *General Index* to the minutes of the General Medical Council and of its Executive and Dental Committees, and of its three Branch Councils, from 1903 to 1927, has also been published. It relates to volumes xl to xlv of the *Minutes*. The plan of previous editions has been followed, and each subject is fully indexed, the references being arranged chronologically, with appropriate sub-headings.

<sup>9</sup> *Baby's Daily Exercises*. By Edward Theodore Wilkes, B.S., M.D. New York and London: D. Appleton and Co. 1927. (Sup. roy. 10s. 6d., pp. xi + 77; 14 figures, 4s. 6d. net.)

<sup>11</sup> *Minutes*, 12s.; *Index to Minutes*, 7s. 6d. London: Constable and Co., Ltd. 1928.

### PREPARATIONS AND APPLIANCES.

#### "SEPTICEMINE" AND "IODASEPTINE"

*Septicemine* (Cortial) has the chemical constitution of iodo-benzon-methyl-di-formine and contains 33 per cent. of iodine. It also contains 45 per cent. of formaldehyde in organic combination. This drug is given intravenously; the adult dose is 1 to 2 ampoules. Favourable results have been obtained by French clinicians with this drug in septicæmias of various forms. Vaucher and Uhrig (BRITISH MEDICAL JOURNAL, *Epitome*, January 21st, 1928, para. 63) state that the drug causes no toxic symptoms. The drug is also recommended for a wide variety of acute infectious diseases. It is supplied in ampoules of 4 c.c.m.

*Iodaseptine* (Cortial) has the chemical formula of iodo-benzon-methyl-formine and contains 42 per cent. of iodine. This compound was discovered in 1910 and has been used extensively by French clinicians. The drug can be given by mouth in the form of tablets and can also be injected intramuscularly, or, preferably, intravenously. The intravenous dose is from 0.5 to 2.0 grams in the form of a 10 per cent. solution. The drug has been favourably reported on in the treatment of chronic rheumatism, pulmonary tuberculosis, and syphilis. It is supplied in the form of tablets (0.2 and 0.3 gram) and in ampoules containing 5 c.c.m. of a 10 per cent. solution.

Both drugs are supplied by the Anglo-French Drug Co., Ltd., 238a, Gray's Inn Road, London, W.C.1.

#### CONCENTRATED TETANUS ANTITOXIN-GLOBULINS.

Messrs. Burroughs Wellcome and Co. are now supplying concentrated tetanus antitoxin-globulins containing 2,000 units in each cubic centimetre. Concentration is effected by elimination of proteins of no antitoxic value from the serum. A considerable reduction in volume is secured, and the administration of high unit doses is therefore facilitated. "Wellcome" concentrated tetanus antitoxin-globulins is prepared at the Wellcome Physiological Research Laboratories and is issued by Burroughs Wellcome and Co., Snow Hill Buildings, E.C.1, in phials containing 20,000 international units in 10 c.c.m.

<sup>9</sup> *On Stimulus in the Economic Life*. By Sir Josiah Stamp, G.B.E., Hon. Sec.D., LL.D., F.B.A. London: Cambridge University Press. 1927. (Cr. Evo. pp. 68, 3s. net.)

<sup>10</sup> *Diseases of the Gums and Oral Mucous Membrane*. By Sir Kenneth Goadby, K.B.E., M.R.C.S., L.R.C.P., D.P.H. Cantab. Third edition. London: Oxford University Press. 1928. (6½ x 9½, pp. xvi + 412; 118 figures, 10 plates, 22 2s. net.)



## RADIUM TREATMENT IN DENMARK.

In a paper read before the Danish medical society Medicinsk Selskab, and published in *Ugeskrift for Læger* on January 5th, Dr. E. Collin describes the work of the radium station in Copenhagen during the five-year period April, 1920, to April, 1925, in which a fairly uniform technique was employed: 1,650 patients were treated, of whom 384 were gynaecological cases. Among the non-gynaecological benign new growths there were 285 cases of angioma, 54 of keloid, 67 of callosities, and 159 of warts.

*Superficial Radium Therapy.*

The results in the cases of benign superficial tumours were excellent. Inquiries into the subsequent fate of these patients showed, in the case of angioma, recovery in 80 per cent. and marked improvement in 20 per cent. The corresponding figures for keloid were 37 and 60 per cent. respectively. All the cases of callosities were cured, and 85 per cent. of the warts. In 15 per cent. the patients treated for warts could not be traced. Only 50 per cent. of the patients treated for corns were cured, but the remainder were much improved. Discussing in detail the treatment of angioma, Dr. Collin states that complete recovery could be obtained in almost every case in which the size of the new growth was no larger than that of a walnut. He had found unsuited for radium treatment the perfectly flat naevi, which are more fitted for other methods of treatment, such as freezing, and the pedunculated angioma, which are better treated by excision. On the other hand, the red, or cyanosed, raised, or deep-seated haemangioma of the skin or mucous membrane reacted satisfactorily to radium treatment, which often succeeded after other methods had failed.

Almost all the cases of keloid benefited from radium treatment, the skin becoming flatter and paler and a soft and hardly visible scar being left. At the same time relief from the pain and itching, which often complicates this condition, was obtained. But in a large proportion of cases some trace of the keloid remained, preventing the claim of a complete recovery. While radium treatment was given to the cases of keloid of old standing, with the formation of pale, cartilaginous tissue, the more recent and still pink keloid was found to react satisfactorily to x-ray treatment, which was also available at the radium station. The tender and most troublesome plantar callosities were found to react satisfactorily both to radium and to x-ray treatment, and the successes achieved in this class of case were the more gratifying as many of the patients had been unsuccessfully treated by other methods. Although ordinary warts of the hands disappear as a rule under skilled x-ray treatment, and nearly always under radium treatment, the practice was adopted of passing on these cases to dermatological clinics. The radium station has also paid little attention to corns, for radium treatment is apt not only to be ineffective, but often even injurious, since a periosteal reaction frequently occurs about the bone lying immediately under the corn. But, if other methods of treatment fail, skilled x-ray treatment may be given, since it is often beneficial and does no harm. In a class midway between the benign and malignant new growth Dr. Collin places naevus verrucosus and pigmentosus, which he had found responded most satisfactorily to radium treatment.

*Treatment of Malignant Growths.*

Among the 600 cases of malignant new growths treated in the period under review there were 84 during the first three years in which the disease involved the face or lips, and the subsequent fate of the patient was investigated after an observation period of five to seven years. In practically all these 84 cases the diagnosis of basal-celled carcinoma was verified by a microscopic examination, the exploratory excision for which never did harm. No correlation (such as described by French workers) could be established between the microscopic picture on the one hand and the reaction of the new growth to treatment on the other hand. Many of the patients had previously been operated on once, or more often, or had relapsed after x-ray treat-

ment. It was observed that a carcinoma of the skin which had become resistant after repeated courses of x-ray treatment might well still be sensitive to, and disappear as the result of, a single radium treatment, and it was this observation which induced the Copenhagen radium station to abandon almost completely the x-ray treatment of carcinoma of the skin in favour of radium, except in the small and easily operable cases in which the cancer was excised. There were many patients in whom the disease had become resistant to x rays as the result of skilled or unskilled treatment of this kind elsewhere. With regard to the latter class, Dr. Collin deplores the attempts of x-ray amateurs to tinker with malignant disease. Both x-ray and radium treatment must be in skilled hands if the best results are to be obtained.

In the three-year period 1920 to 1922 recovery was effected in 72 per cent. of the cases of carcinoma of the skin. In 13 per cent. the fate of the patient could not be ascertained, and in 15 per cent. failure to cure the patient was recorded. In every case in this latter class the patients had already undergone protracted x-ray treatment, which in some cases had lasted for years. These patients reached the radium station in a hopeless state, and the lesson to be learnt from them is that when an epithelioma recurs after one, or at most two, x-ray treatments, it should be operated on or given radium treatment. On the other hand, it cannot be regarded as a mistake to give x-ray treatment to a case of cancer of the skin hitherto untreated, but to give one x-ray exposure after another for the same case is a mistake.

*Radium and X-ray Treatment Compared.*

In addition to being successful in cases which have become resistant to the x rays, radium possesses the advantage of leaving, as a rule, a hardly visible scar—a matter of considerable importance in cases of cancer of the face. While the x rays provoke a certain degree of cicatrization and retraction of the tissues treated, the scar formed under treatment with radium is soft and often invisible, being covered by normal-looking skin if the dosage and technique have been correct. Relapses after radium treatment of cancer of the skin are most rare, and when they do occur, they are usually to be found in the margin of the original patch, where they are, in most cases, amenable to treatment. In the overwhelming majority of cases a single radium treatment was sufficient to cure cancer of the lip locally, but in this class of facial cancer the cosmetically successful results were often marred by distant metastases. For this reason the practice has been adopted at the radium station of giving preventive x-ray treatment of the glands in the neighbourhood, and this measure appears already to have reduced the frequency of metastases. Of the 26 cases of cancer of the lip treated in the three-year period under review, 19 could be said to be cured, an observation period of five years having existed in 15 cases, and one of four years in 4 cases. Of the remaining 7 patients, 2 were not traced, and in 5 cases the treatment failed to arrest the disease. Considering that large operation statistics show a recovery rate of only 40 to 50 per cent. in this class of case, these results of treatment with radium must be regarded as encouraging, both from the cosmetic and the functional point of view; it is doubtful whether they could be achieved by other means. In the case of small, strictly limited cancers of the lip it may, indeed, be just as well to excise them as treat them by radiotherapy, but if the growth recurs, it should always be treated with radium, supplemented by preventive x-ray treatment of the local glands.

Much less encouraging were the experiences of the radium station in the case of cancer of the mouth, tongue, larynx, and oesophagus; none of the 8 patients with cancer of the oesophagus who were treated was still alive. As for cancer of the mouth and tongue, local healing, which was apparently complete, was effected in most cases; but in two or three years there was a recurrence of the disease elsewhere. Dr. Collin gave details of a case of inoperable cancer of the tonsil and palate in which four years were added to the life of a man who would otherwise have been prematurely doomed. There were only 32 cases of

cancer of the breast and thorax—that is, cases of recurrence of the disease after an operation for cancer of the breast—treated; all were inoperable from the outset, and terminated fatally. Dr. Collin still recommends combined x-ray and radium treatment as a palliative measure in such cases. Of the 6 cases of cancer of the penis, 2 showed freedom from recurrence after an observation period of three years and one after five years. For such cases, particularly when the patient is young, the best method would seem to be radium treatment of the glans penis, and x-ray treatment of the local glands; x-ray treatment of the tumour of the glans itself would, on the other hand, seem to be of comparatively little value.

Dr. Collin does not detail his gynaecological cases, but he admits that the results achieved with radium might not prove to be as good as those in Sweden, where, with the inclusion of many operable cases, a recovery rate of up to 50 per cent. after an observation period of five years has been claimed. The difference between the two countries in this respect depends on the fact that in Denmark a high proportion of the cases coming to the radium station are already advanced. Dr. Collin ends his paper with an appeal for a systematic and energetic educational campaign in favour of early detection of the disease.

## EPIDEMIOLOGY IN THE LAST HUNDRED YEARS.

### SIR WILLIAM HAMER'S CHADWICK LECTURES.

EPIDEMIOLOGY in England during the last hundred years was the subject of two Chadwick Lectures delivered by Sir WILLIAM HAMER at the House of the British Medical Association on February 16th and 23rd. The chairmen were, respectively, Sir WILLIAM COLLINS and Sir JAMES CRICHTON-BROWNE.

### *The Germ Theory and the Old Epidemiology.*

In his first lecture Sir William Hamer began by remarking that in epidemiology, as in all branches of scientific inquiry, certain periods or "climates" of opinion were successively encountered. Dr. Crookshank had indicated four periods occurring during the last four and a half centuries, each of them marked by different phases of medical thought and observation. In the first of these, which closed with the era of Willis and Sydenham, wide epidemic prevalences were observed and compared generally without resolution into component diseases, and symptoms obviously due to meningitis, encephalitis, and myelitis were described in relation to occurrences that would now be called disease groups. The next period was one in which systems of nosology were based upon symptoms, the symptom groups in question being usually considered as different elements of special epidemic constitutions. The third period, beginning about 1800, was one in which persistent efforts were made to distinguish specific diseases by the findings of morbid anatomy, and the fourth period, from forty years or so ago, was characterized by the distinction of many specific diseases by association with specific organisms. The lecturer dated from about the middle of the nineteenth century—at which time also the General Board of Health was established—the laying of the foundations of a new epidemiology in this country. By 1883 Hirsch could say that epidemiology bore a character quite different from the same science twenty or thirty years earlier, having filled out in proportions and acquired finish to an extraordinary degree. It was about then that Sir William Collins drew attention to the dangers of an excessive zeal for specialism, and to the tendency, even then existing, to lay undue stress upon the germ and neglect the soil. But "the rain descended and the floods came and beat upon the (epidemiological) house." Pasteur's researches focused attention upon germs, and Koch's special technique made its appearance. Those working on bacteriology in the eighties made frequent announcements regarding the compliance of successive newly described organisms with Koch's postulates, until the old epidemiology, like the silk stockings of Sir John Cutler, which were darned with worsted until scarcely any of the original silk remained, almost disappeared from view. But shortly after the opening of the twentieth century the fact came

to be recognized that bacteriology had sown a reasonable allowance of wild oats, and that a halt must be called. It was agreed that bacteriologists had by then outgrown Koch's postulates as Koch himself outgrew them, and that account must be taken of the results of fifty years' patient examination by epidemiologists of the influence of environment, including conditions of cleanliness, space, dryness, pure water and food. All this, with the increasing knowledge of protozoology, filter passers, enzymes, and the recent demonstration of the mutability of bacilli, made it clear that attention must still be concentrated upon the systematic development of a discipline as conceived and exploited by Hirsch. Progress in knowledge of epidemic diseases was seen to be dependent on a unity of opposites, such as the teaching of Sydenham concerning epidemic constitutions, and of Pasteur and Koch concerning the germ theory of disease.

### *The Return to the Hippocratic Method.*

In his second lecture Sir William Hamer further developed his theme under a plea for a return to the Hippocratic method, remarking that Hippocrates had clearly been of opinion that the soil and surroundings as well as the seed required consideration. The lecturer took an illustration from the influenza epidemic of 1918, the official description of the "setting" of which presented a close resemblance to Sydenham's account of epidemic "constitutions" in 1673-75. Sydenham had reiterated that while the bowels, brain, and lungs were successively attacked, the accompanying diarrhoea, stupor, and pneumonia were all merely symptomatic of one "stationary fever," with all the characteristics of influenza. Furthermore, Sydenham's view that the fever or influenza worked more easily and rapidly near the crests of the pandemic waves, and with more difficulty and more slowly in the intervening troughs, had received ample confirmation. One interesting conclusion to which the lecturer had been led in his study of influenza was the toll which it had levied during the last two and a half centuries upon men of marked ability; and in some conspicuous instances the facts were on record that the influenzas of past times had made havoc of the lifework of notable men and women. Influenza, as Daniel Webster had said, was the "crux of epidemiology." It was not merely, as it had long been supposed to be, a pandemic disease, reappearing once or twice in a generation, but it was ever present, now smouldering, and then, every ten, fifteen, or twenty years, hursting into flame. Its great prevalences were specially favoured by war, famine, overcrowding, and free communication with sufferers from the disease in the early stages of their illness. Despite the huge increase in means of communication and traffic during the last one hundred years, coupled with the entire absence of systematic attempts to limit spread of the disease by sufferers in the early stages, the mortality in London from the influenzal group of diseases appeared not to be appreciably greater, in proportion to population, than it was 150 years ago. Great influences for good had been better food and housing, more cleanliness, and the provision of medical and nursing care in serious cases. To these should now be added carefully considered measures for preventing sufferers from coming into contact with others in the early highly infectious stages of the illness. Above all, it should be appreciated that the most extravagant and bizarre efforts made, under the influence of panic, at times of widespread prevalence were as nothing compared with the steady and continued prosecution of a considered campaign against the influenzal group of diseases conducted on epidemiological lines. The records of recent years abundantly bore witness to the fact that field observations and research should have their place as well as observations and research in the laboratory, and that the two sets of findings should be placed alongside one another and co-ordinated. Given such a consummation, it might be surmised that in public health, as in other scientific work, an age of professionalism and specialism would slowly but surely give place to an age in which interest was taken in general principles, as well as in stubborn and irreducible facts. That was a lesson which he who ran might read in the history of epidemiology during the past hundred years.

## Nova et Vetera.

### A GREAT FLOOD IN 1829.

#### EXPERIENCES OF A SCOTTISH DOCTOR.

Nor for many years has public attention been so directed to the catastrophic ravages of floods as it has been during the last twelve months. More than a year ago the bursting of reservoir dams near Wemyss Bay and in North Wales gave an inkling of what enormous damage can be caused by the sudden loosing of a torrent of water upon a peaceful and unsuspecting country-side. Since then, apart from what might be called in a comparative sense minor visitations in different parts of the country, there have been during recent months the great Mississippi floods, the Fleetwood disaster, and lastly, the tragic overflow of the Thames into many London streets and houses.

It might be of interest, therefore, to make some reference to the tremendous deluge which swept some parts of the north-east corner of Scotland almost one hundred years ago, generally referred to as "The Great Moray Floods." Those who have visited that part of the country—and they must be many, as in these days golf courses and magnificent fishing rivers attract large numbers of holiday makers—will recall this district as a particularly favoured one in respect of weather. It justly boasts of the finest climate in Scotland for dryness and sunshine, claims which are amply substantiated by the wealth of its fruit crops and the almost prodigal splendour of its flower gardens. On to this land of milk and honey, and in the middle of summer, there suddenly descended one of the most extensive and devastating floods ever recorded.

A very complete history of all the circumstances and the widespread damage caused has been handed down by Sir Thomas Dick Lauder, Bt., in a monograph, first published in 1830, entitled *The Great Floods of August 1829 in the Province of Moray and Adjoining Districts*. From the carefully prepared meteorological tables contained in the book it would appear that during the months of May, June, and July, 1829, the heat was unusually great. On the 3rd and 4th of August a deluge of rain fell all over the district; the wind, which previously had been from the west, suddenly changed to a strong blow from the north-east. Between 5 a.m. on August 3rd and 5 a.m. on August 4th a rainfall of  $3\frac{1}{2}$  inches was accurately recorded. The actual fall on the mountain range of the Cairngorms, which dominates this district, must have been far greater. The result was that the rivers Nairn, Findhorn, and Lossie, the Spey, the Deveron, the Don, the Dee, and the North and South Esks broke their bounds and swept all before them—houses, bridges, roads, cultivated lands, were simply wiped off the map. The whole aspect of the country was changed: new river channels were formed, ships were wrecked, harbours were damaged and in some cases irretrievably silted up, so that even at the present day some of the dire effects of this inundation are still visible.

The work of years of steady progress disappeared in one night. Owing to nearly all the bridges being down and to the damaged state of the roads communications for mails and passengers were hopelessly disorganized for a long time afterwards. Whilst the damage to material was enormous, and has been faithfully recorded, it is strange that the author, whose powers of observation were unusually acute, and whose industry was immense, makes no attempt to estimate the total loss of life, which must have been considerable. There was another very heavy fall of rain on the 27th and 28th of the same month, amounting to 2½ inches, but the consequences were not nearly so serious, possibly because the wind held in the west and north instead of backing into the east as on the earlier occasion.

Dick Lauder collected the stories of many eye-witnesses, and the following extracts bearing on the adventures of one of the local doctors seem worthy of repetition.

"On Monday, the 3rd of August, Dr. Brands of Forres was called professionally to the western side of the river. He forded on horseback, and, ere he had crossed the second branch of the stream, he saw the flood coming thundering down. His horse was caught by it; he was compelled to swim; and he had not long touched dry land ere the river had risen 6 feet.

Whilst at dinner at Moy, he observed it branching out into numerous streams. . . .

"At day-break Dr. Brands hurried down to the offices, and ascended the tower to look out from the top. The prospect was awful. The wide waste of waters was only bounded by the rising grounds about Forres, skirting the flooded plain to the south—by those about Dalvey to the west—whilst, towards the north and east, the watery world swept off uninterruptedly into the expanding Firth and the German Ocean. He looked anxiously for the houses of Stripe Side. They were still standing; but the powerful and agitated stream that rolled around them, and between them and the offices, seemed to threaten their speedy destruction. . . .

"All direct communication with the country northward of Moy was cut off by the flood of the burn meeting that of the river, and floating entirely over the bridge; they therefore took their way by the avenue on the south side of the house. At the gate, about 100 yards in front of it, they found the water very deep; but, though their horses were frequently swimming, they managed to get on by keeping the line of the road. At the distance of a mile from Moy, the water became so deep and strong that they were compelled to make for the rising grounds. The lad now left Dr. Brands with the intention of going round by Dalvey, towards Earnhill and Kineorth, whilst the doctor proceeded towards the Bridge of Findhorn, with the hope of getting one of the fishermen's cables. As he was approaching the bridge, he learned that the last of the three arches, that on the west, had fallen the instant before; and, when he got to the brink, the waters were sweeping on, as if it had never been, making the rocks and houses vibrate with a distant and tremulous motion. At the Turnpike House, at the end of the bridge, he was told that all the boats had been swept away. . . .

"From the brow of the bank to the north-east of the toll-house, Dr. Brands commanded a full view of the flooded country from one extremity to the other. The mightiness of the inundation baffled all description. The waters, breaking out from the pass at Conlerrnose, covered Mundole, and swept furiously through the estate of Balnagieith, carrying corn, trees, hedges, and everything along with them, and rolling over the strong embankment lately constructed along the turnpike road by Mr. Leslie. Meanwhile the chief current was playing furiously against the southern approach of the bridge; and, whilst Dr. Brands was looking at it, the usually dry arch, at its farther end, burst with a loud report, its fragments, mixed with water, being blown into the air as if by gunpowder. . . . The row of fishermen's houses, on the right bank, a little below the bridge, were already in one mass of ruin, and the scene of devastation was complete. . . . Looking down on the houses of Waterside, the hamlet of Broom of Moy, and others, the doctor could see nothing but a few roofs peeping from the midst of the inundation, and as there was now no chance of getting a boat he returned towards Moy. In his way thither his mare was compelled to swim for a great way, and she afterwards stuck in the mud where she touched the ground and was nearly drowned."

Perhaps we may remark in conclusion that Dr. Brands was fortunate in having a horse to ride on such a perilous journey rather than having to trust himself to a motor car.

### ROYAL MEDICAL BENEVOLENT FUND.

At a recent meeting of the committee forty cases were considered and £630 voted to thirty-two applicants. The following is a summary of some of the cases relieved.

Widow, aged 56, of L.R.C.P. who died in 1901. Up to 1914 she relied on boarders for her maintenance, but owing to ill health has had to give up this work, and her income is now reduced to about £21 per annum. Lives with an aged father, who needs constant attention. Voted £5 pending further inquiries.

Widow, aged 55, of M.R.C.S. who died in 1905. Apart from an annuity of £30 per annum is dependent on her earnings by needlework. Rent 17s. 6d. a week, but she sublets two rooms for 10s. a week. Voted £26 in quarterly instalments.

L.R.F.P. and S., aged 77, who mostly practised abroad. Since 1921 has not been able to do any work and has now come to the end of her resources. Voted £36 in quarterly instalments.

Daughter, aged 64, of L.S.A. who died in 1873. Earned her living for thirty-five years as governess-companion, and on having to give up this work was persuaded to take paying guests in a small house. On account of failing health she had to ask the last guest to leave, and a friend found her penniless with several small bills owing. The friend raised a small fund to meet immediate needs; this was being disbursed at the rate of 10s. a week, but was almost exhausted. Voted £30 in quarterly instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

## DEATH OF SIR DAWSON WILLIAMS.

EDITOR OF THE "BRITISH MEDICAL JOURNAL," 1898-1928.

WE have to announce, with deep regret in which all our readers will share, that Sir Dawson Williams died suddenly on Monday, February 27th, at his country home near Bourne End, Bucks. It is but a month or two since he retired after thirty years' work as Editor of the *BRITISH MEDICAL JOURNAL*, and only last week we recorded that a fund had been opened for the purpose of recognizing his long and most distinguished services to medical science and the medical profession. What was to have been a testimonial must now take the form of a memorial. Supporters of the fund will like to know that his own wish, on bearing of the proposal, was that the money raised should be used in such a way as would link his name with some object appropriate to his work.

Sir Dawson Williams's health had given concern to his colleagues and intimates for some years past—indeed, ever since the middle of 1920, when a severe and prolonged heart attack incapacitated him for many weeks. Although he continued to shoulder the cares of editorship for seven more years, those around him were aware that the burden was becoming too heavy for his physical strength, and it often seemed that only his indomitable will-power and devotion to the *JOURNAL* kept him going. Nevertheless,

the parting was a wrench. We are thankful to know that the sadness he felt at ending his lifework was relieved by the countless messages of admiration and affection that came to him during the past few months from medical men and women throughout the world. These public and private expressions of regard touched him deeply. In a letter to his closest colleague—the last of many beautiful letters—he wrote: "Few men can have had such ample opportunities as I of knowing the good things their friends could say of them. . . ." All his many friends had hoped that Sir Dawson Williams would have been spared to enjoy a little quiet after long toil. His mind was vigorous up to the end, and only a week before he died he wrote, at our request, the charming note on the *Oxford English Dictionary* which appeared in our last issue.

A full obituary notice will appear in these columns next week. The memoir will include a number of personal tributes from leading members of the profession. The funeral will be at Little Marlow Cemetery to-day (Friday, March 2nd) at 3.30 p.m. A memorial service has been arranged for Monday next, March 5th, at 1.45 p.m., in St. Paneras Church, near the headquarters of the British Medical Association in Tavistock Square.

## British Medical Journal.

SATURDAY, MARCH 3RD, 1928.

### LABORATORY METHODS IN DIAGNOSIS.

ALTHOUGH the very proper effort to establish more and more firmly the scientific basis on which the art of medicine rests must inevitably tend to emphasize the academic aspect of medicine, it would be disastrous if this were to bring about any slackening of endeavours along the line of clinical observation. In an address on diagnosis which is published at page 335 of this issue, Dr. Robert Hutchison suggests that as a result of the increased facilities for laboratory and other investigation, which are to some extent intended to apply the findings of academic medicine to practical uses, there is to-day some deterioration in bedside observation as compared with former days. If this indeed be so, it behoves us to be careful, for modern educational demands require an increasing amount of time to be spent in the laboratory, and presumably (unless familiarity is to breed contempt) an increasing attention to laboratory methods.

The question therefore arises, Is there really any reason why laboratory methods, even if multiplied far beyond those in use to-day, should divert attention from the clinical study of disease? The answer is certainly in the negative if only the nature of the information these laboratory methods afford is clearly recognized. On this point, however, there

appears to be a good deal of misapprehension, and even Dr. Hutchison seems perilously near error when he speaks of "laboratory tests and other short cuts to diagnosis" (italics ours), though his whole argument makes it abundantly clear that for him, at least, there can be no such short cuts. Laboratory workers, like other specialists, are apt to be over-enthusiastic about their own branch of work, and to attach undue weight to the information they are able to give; but no laboratory method yet devised can provide a short cut anywhere; on the contrary, it can only put another fact at the clinician's disposal, and so increase the number of data, whose value it is his business to assess in coming to a considered opinion. But laboratory methods do provide facts; and it is here that the clinician is sometimes at fault, for if the laboratory finding is not in harmony with his clinical conception of the case he is apt, especially in his teaching, to draw distinctions between "clinical observation" and "laboratory methods" which are by no means flattering to the latter. This is all wrong; there is no real distinction between the two types of observation.

The fact that a patient has an eosinophilia, a raised blood urea, or a positive Wassermann reaction, is merely a clinical observation which it happens to be more convenient to make in the laboratory; but if we were to take the necessary apparatus to the bedside, such investigations would in no essential way differ from those made, say, with a stethoscope or a thermometer, and the information they give is much of the same order. Viewed in this light laboratory methods merely give additional clinical

facts. Occasionally it may be a fact which dominates all others, but far more often it is one which, fitting into its place with others in the mosaic, helps to complete the diagnostic picture. Sometimes, indeed, the fact is one for which no place can be found, but this should not be made a ground of complaint against laboratory methods; it is merely evidence of our present ignorance. In the early days of the Widal reaction it was sometimes a complaint that the reaction was negative in a clinically clear case of typhoid fever, but the subsequent recognition of the paratyphoid organisms proved the accuracy of the laboratory work; and doubtless much that seems contradictory to-day will be made plain by the knowledge of the future.

It is, however, not to be denied that danger lurks in too great emphasis upon the importance of the laboratory, and it would be an interesting experiment if, during some part of their career, students could be prevented from access to all reports from special departments, and were made to rely entirely on their own investigations. For some minds there is a curious attraction about facts elicited from a test tube or by the microscope, as being more scientific than those observed by the unaided senses, and this is a prolific source of error. The sensible plan seems to be to collect all the facts that are within our reach by whatever means they are obtained, and then, taking Dr. Hutchison's wise words to heart, pray that we may be granted the supreme diagnostic gift—a right judgement in all things.

### LIGHT THERAPY AND IMMUNITY.

THE beneficial effects of light therapy have been so clearly defined with regard to growth and nutrition that this aspect of the subject has naturally received more recognition than has been accorded to the almost equally promising effects of radiation in another province of medicine—namely, resistance to microbic infection. Not to explore this field would certainly be an example of neglecting the obvious, because there is surely no axiom of hygiene to which assent would be given with more unanimity than to an acknowledgement of the invigorating action of sunlight, particularly in convalescence from infectious disease. Like many other familiar things, however, this recuperating action of sunlight is difficult to investigate by quantitative scientific methods and to define in scientific language. It is generally believed that here, as also with growth and nutrition, it is the ultra-violet rays which are the most effective, but there is little reason to suppose that increased resistance to infectious disease is due to the bactericidal powers of the rays themselves.

Although the ultra-violet rays are so effective in sterilizing bacterial cultures and protozoa in test tubes, they do not penetrate sufficiently to exert a lethal action on microbes in the body. The good results obtained in the treatment of lupus with ultra-violet rays are not to be ascribed to a local disinfecting action of the light on the tubercle bacilli, as was formerly supposed, but rather to a general increase of resistance. It would be a great advantage if we could define more exactly what is meant by a general increased resistance, a state apparently analogous to the natural immunity acquired on recovery from an infectious disease such as enteric fever. Since the labours of immunologists have reaped such a rich harvest in the investigation of the serological reactions of enteric fever, with the discovery of agglutinins, precipitins, complement-fixing antibodies, and so on, it was

natural that in the study of increased microbic resistance after radiation the immunity reactions of the blood should receive a thorough investigation. Gain quickly came from this—and so far, we are relieved to say, without any addition to immunological vocabulary. The test which has proved most useful has been the study of the bactericidal power of the blood, a test designed to express in quantitative terms the property of actually killing or preventing the growth of cocci and bacilli when incubated with a sample of blood.

Ultra-violet radiation has an easily determined action on the bactericidal power of the blood, but the effect of radiation is not necessarily to enhance the bactericidal property. In fact, Gonce and Kassowitz<sup>1</sup> have proved that daily quartz lamp treatment over a period of two to eleven weeks—avoiding any marked erythema, and general, febrile, or focal reactions—does not as a rule improve, but actually tends to lower, the destroying power of the blood for certain test bacteria, such as staphylococci and *B. coli*. In some of these cases, however, the bactericidal power of the blood was substantially raised; and, since we may assume that it is an advantage to raise and injurious to lower the bactericidal power of the blood, it seems obvious that some of their patients were benefited and others injured by the radiation. This conclusion is supported by their records, and finds its explanation in experimental work carried out lately in this country by Colebrook, Fleming, Maitland, and others.

The increased bactericidal power of the blood found in some cases after radiation is not due to any change in the fluids, as proved by the fact that when serum has separated from blood known to be powerfully bactericidal this serum provides an excellent culture medium for bacteria. The bactericidal power of the blood appears to depend on the cells and not the fluids of the blood; in fact, it bears a direct relationship to the number of phagocytes per cubic millimetre. The actual amount of phagocytosis undertaken by any single cell is neither increased nor diminished by radiation; the altered property is due to increase or decrease in circulating phagocytes. This being so it becomes important to consider in greater detail what effect radiation has upon the leucocyte count of the blood. Some years ago this question was investigated by J. H. Clark,<sup>2</sup> who found that ultra-violet rays shorter than 3,000 Angström units induced a great increase of lymphocytes, while the polymorphs remained constant; on the other hand, the near ultra-violet rays, just below the visible portion of the spectrum, had a depressing effect on the lymphocytes and gave rise to an increase in neutrophils lasting only a few hours and followed by an abnormal decrease. Other observers have found that the total white count fluctuates a great deal in any individual after exposure to ultra-violet rays, but the fluctuation varies in different persons, and even in the same person, after repeated exposures to light. Gonce and Kassowitz<sup>3</sup> found that differential counts made at the seventh hour after irradiation showed a relative and absolute increase in the polymorphs, and a relative and sometimes an absolute decrease in the mononuclear cells. By the end of twenty-four hours the total and differential counts usually returned to the same level as had existed before the first exposure. They found an improvement in the bactericidal power of the sample of blood taken at the height of leucocytosis.

If this work is confirmed by other investigators, it

<sup>1</sup> *Journ. Amer. Med. Assoc.*, January 28th, 1928, pp. 280-284.

<sup>2</sup> *Amer. Journ. of Hygiene*, 1, 39, January, 1921.

<sup>3</sup> *Loc. cit.*



will prove that, as far as the bactericidal power of the blood is concerned, the immediate effect of ultra-violet radiation has a direct relationship to the number and character of the leucocytes of the blood. Whether or not the lowered bactericidal power observed in the blood of the majority of their patients after radiation was due to a leucopenia is a question the authors do not attempt to answer. But one other practical point of importance mentioned in this paper deserves emphasis—namely, that the bactericidal power cannot be inferred directly from the number of leucocytes per cubic millimetre of circulating blood, because the phagocytic capacity varies considerably in different individuals, although the antibacterial function of a single white cell may be constant for one individual.

In a recent discussion on ultra-violet radiation therapy at the Medical Society of London (reported in our issue of February 18th at page 259), one speaker, referring to the abuses of ultra-violet ray therapy, classified these under three heads: "Extravagant claims, injudicious doses, and home use." The study of the bactericidal power of the blood has shown how important is the question of correct dosage and proper control of treatment. Having been reminded of the inherent dangers of this valuable remedy, we are glad to recall here that the attitude of the medical profession towards the employment of ultra-violet ray treatment and other forms of electrotherapy carried out by unqualified persons has recently been before the Council of the British Medical Association, and that the matter has been referred to the Science and the Ethical Committees for consideration and report.

#### ETHYL PETROL.

SIR WILLIAM POPE, professor of chemistry in the University of Cambridge, in a letter to the *Times* on February 22nd, has called public attention to the possible dangers attending the use of ethyl petrol. His views have been supported by Dr. H. B. Baker, president of the Chemical Society, in a letter in the same newspaper of February 25th, and one result has been a question in the House of Commons to the Home Secretary, which elicited the fact that the responsibility in this matter rested with the Ministry of Health and not with the Home Office, but that the latter "has been following closely the investigations which have been carried out in the United States." We have already discussed the possible dangers of tetra-ethyl lead as an addition to petrol (February 27th, 1925, p. 273, and January 14th, 1928, pp. 61 and 64), but in view of the great importance of this question we have thought it well to give a summary elsewhere (p. 367) of the investigations to which the Home Secretary has referred. These investigations have led to the conclusion that the use of ethyl petrol (or ethyl gasoline, as it is called in America) has not given rise to toxic symptoms. We would point out, however, that the conclusions of the committee appointed by the Surgeon-General of the United States Public Health Service carry considerably more weight than do the conclusions of the other investigators; and that the committee emphasized strongly the need for further investigation. The necessity for continued investigation appears to us to be obvious. There is no doubt that tetra-ethyl lead is an exceptionally dangerous volatile compound of lead, and lead is the most insidious cumulative poison known to medical science. The evidence available shows that tetra-ethyl lead, diluted in the form of ethyl petrol, has been used for a comparatively short time without any obvious toxic effects being produced. This is a very fortunate occurrence, but it would be foolish to assume that the continued and extensive use of this mixture will of necessity be free from all danger. Sir William Pope indicates

some of the possible dangers that may arise when familiarity breeds contempt and carelessness, and we would strongly support his demand that the Ministry of Health should organize an exhaustive official inquiry. We have no reason to distrust the findings of the American committees of investigation, but the detection of incipient lead poisoning is a very difficult task. In the case of any scientific discovery of importance it is usual to check the results by independent investigations, and surely this ought to be done when the safety of a large section of the community depends on the soundness of the conclusions. Moreover, if it be assumed that the conclusions in question are absolutely correct, the need still remains for a careful watch to be kept lest new dangers arise. This is particularly necessary because lead is a cumulative poison, and, unless the first signs of poisoning are detected, great damage may be done to the health of the community before the effects are obvious enough to arouse public alarm.

#### EVOLUTION OF RECEPTION ORDERS FOR MENTAL PATIENTS.

Dr. J. R. LORD, late president of the Royal Medico-Psychological Association, has written an interesting historical account of the evolution of the reception orders for mental patients in England and Wales, in which he describes the very important part played by Lord Shaftesbury in lunacy legislation during the middle of the nineteenth century.<sup>1</sup> Lord Shaftesbury's attitude towards the question of judicial intervention in the process of certification of mentally deranged persons has often been misunderstood. Dr. Lord, in the course of his examination of the various lunacy enactments of that time and of Lord Shaftesbury's share in them, is careful to dispel this misunderstanding. He shows that only one motive actuated Lord Shaftesbury—the resolve to procure early and efficient treatment for the mentally afflicted. It was this that caused him, on the one hand, to press for the intervention of the justice in rate-aided cases—for without such intervention such cases would be immured in workhouses and be deprived of the advantages of institutions specially designed for the treatment of the insane—and, on the other hand, to oppose strenuously the justice's intervention in private cases, because this could only result in inducing people to keep back the patient as long as they could before they submitted him to treatment in a mental hospital. The value of the intervention of the justice in the process of certification of cases of mental disorder has been challenged many times since Lord Shaftesbury's day, and not solely in the case of private patients, but in rate-aided cases too, on the ground that it is now an anachronism. The recent Royal Commission on Lunacy came to the conclusion that the intervention of the judicial authority is still a necessity, even in the case of the Provisional Treatment Order, whose adoption they recommend. The Commission took care to point out that the value of such intervention depended ultimately on the methods pursued; but even so, it is difficult to escape from the validity of Lord Shaftesbury's observations in his answers to the questions put to him at the Dillwyn Select Committee of 1877. These observations are most apposite to-day. "Just consider it this way," he said. "Supposing you called in the intervention of the magistrate, he must act either ministerially or judicially: if he acts ministerially what earthly use is he? He merely signs his name to the documents . . . it is a mere ministerial act and affords no security whatever. Supposing, on the other hand, he acts judicially and is called to sit in judgement on the certificate, and then signs his name at the foot of the document and says it is

<sup>1</sup> *The Evolution of the Reception Orders for Mental Patients in England and Wales: A Historical Survey.* Reprinted from the *Journal of Mental Science*, October, 1927. London: Adlard and Son, Ltd.

good and sound, he exonerates the medical man from his great responsibility: he exonerates the man who signs the order: he exonerates the man who admits the patient into the asylum because he has declared everything to be good and current: however bad it may be it is endorsed by the judicial man who has been called in by Act of Parliament to sit in judgement on that certificate." "We should object," he says elsewhere, "to an inexperienced layman taking upon himself to reverse the decision of the medical man." Dr. Lord is confident that in the changed circumstances of to-day Lord Shaftesbury, if he were alive, would feel that judicial intervention in the certification of the poor insane was no longer necessary, but to be condemned for the same reason as he condemned it in regard to the private insane—namely, that it delayed early and effective treatment.

#### A CRITICISM OF "B.C.G."

THE results claimed by Calmette and his co-workers for prophylactic vaccination against tuberculosis by means of the "Bacille Calmette-Guérin" vaccine (B.C.G.) have already been criticized by certain observers, mainly from the statistical point of view, and in reply it has been urged that the good results were so obvious to clinicians that statistical difficulties could be ignored. A recent paper by A. Wallgren,<sup>1</sup> who is in charge of the medical side of the Children's Hospital at Göteborg, contains so careful an analysis of Calmette's published conclusions that the criticisms in it cannot be so easily met by such a generalization. He first deals with the oral route chosen for the administration of the vaccine, casts grave doubts upon the amount of absorption likely to occur, and remarks that Calmette himself prefers the intravenous or subcutaneous route for the prophylactic vaccination of animals. The next point made is that following the infection of children by the tubercle bacillus which is survived a state of immunity develops; the sole clinical mode of estimating this immunity at the present time is the tuberculin test. Children who show no reaction to tuberculin are regarded as possessing no specific immunity, and yet according to Calmette's figures only 6 per cent. of infants vaccinated by B.C.G. give a positive reaction with tuberculin. So far Wallgren's criticisms have been on controversial ground, but he is more destructive when he gives a detailed analysis of Calmette's published work. As a basis for estimating the results of vaccination Calmette takes figures which show that of 1,364 infants born of tuberculous mothers in France in 1922, 24 per cent. died during the first year of life "from affections presumed tuberculous." A further inquiry in Belgium in regard to infants born of tuberculous mothers and brought up in contact with them gave the slightly lower mortality rate of 20 per cent. Against these basic figures Calmette brings forward a group of children numbering 1,317 who, up to January, 1926, had been vaccinated with B.C.G., and he states that only 1.8 per cent. of these children exposed to tuberculous infection died of the disease. But when the 1,317 cases are more closely analysed it appears that 564 had been protected for over a year, and of these only 231 had been in contact with tuberculosis. Since among this group of 564 infants 45 are dead, it may be argued that if this mortality is distributed among those 231 in contact with tuberculosis the rate becomes 20 per cent.—the basic figure for comparison. This juggling with the figures is, of course, pushing matters to an extreme, but Wallgren's point is rather that the tables published by Calmette do not contain evidence which puts such adjustments out of court. Dealing still with these 1,317 cases, Wallgren goes on to show that some 96 infants are stated to have died of non-tuberculous diseases, but no necropsies were held, and in the list of causes of death in this group, based on clinical

diagnosis, the largest mortality group is labelled "congenital weakness." May not, he asks, tuberculous infection cause death from congenital weakness or provoke the fatal issue in infants debilitated for other reasons? The other causes of death, such as gastro-enteritis, influenzal bronchopneumonia, and athrepsia, may all be attributed to some tuberculous origin unless this is negated quite definitely by necropsy. These are but some of the questions which Wallgren raises, and it is clear that much more detailed information is necessary, especially of the mortality rates of vaccinated children brought up in contact with tuberculous mothers, before the optimistic claims of Calmette can be completely accepted.

#### THE DEPOPULATION OF MELANESIA.

In an interesting study on the depopulation of the New Hebrides and other parts of Melanesia,<sup>1</sup> Dr. P. A. Buxton points out that remains of vanished peoples are to be found in several parts of the Pacific. Thus, a race of sculptors, now extinct, once flourished on Easter Islands, while in the Caroline Archipelago there were cyclopean builders of whom even less is known. Who these people were and how they lived is a mystery. In other races in the Pacific, however, the decline in population is of more recent date, while in some—such as the natives of the New Hebrides—the decrease is still in progress, and may be studied to-day. It is among these people that Dr. Buxton, while on an expedition of the London School of Hygiene and Tropical Medicine in 1924-25, has made his investigations. He shows how the inhabitants of Melanesia in general, and of the New Hebrides in particular, are now dying out, and among the causes of this he includes constant wars, the practice of magic, insanitary housing, improper infant feeding, the treatment of women under the prevailing gerontocracy, and the prevalence of abortion, infanticide and other customs which have prevailed from time immemorial. These conditions cannot, therefore, be held directly responsible for the depopulation, since this has only set in during the last century. Here it may be noted that it was not until the early years of the nineteenth century that contact with the foreigner became frequent. Not only did constant bloodshed then ensue, but diseases hitherto unknown, and against which the natives had acquired no immunity, were introduced, and began to decimate them, measles alone carrying off thousands. Many writers also assert that syphilis was introduced by Europeans, and that it is largely to blame for the dying out of the natives. Buxton, however, contests this view, and maintains that the disease in question is yaws, or framboesia, which is very prevalent throughout the islands. The "blackbirding" which was among the horrors connected with the sandalwood traffic was an important factor in the depopulation, but Buxton considers that the greatest of all the curses inflicted on the islands by Europeans was the labour traffic, which began about 1850. For many years, and often by force or fraud, natives were carried away to work in the plantations of Fiji, Queensland, Samoa, and New Caledonia, and even in the mines of western South America, many of whom never saw their native country again. That these practices were eventually suppressed can be placed to the credit of the Presbyterian missionaries, who, however, as Rivers pointed out, were also partly responsible for the decay of the population, inasmuch as they rapidly destroyed the communal life and interests of the natives, while putting next to nothing in the place of what they had destroyed. Further, the form of government of the New Hebrides, a joint administration by Great Britain and France, established in 1906, is not conducive to the introduction of reforms or even to rapid and decisive administration, so that the suppression of abuses is apt to be neglected.

<sup>1</sup> *Acta Paediatrica*, 1927, vii, 120.

<sup>1</sup> *Transactions of the Royal Society of Tropical Medicine and Hygiene*, vol. xix, No. 8.

Among the endemic diseases malaria, and especially yaws, and among the imported diseases dysentery, tuberculosis, and other pulmonary diseases, are important factors in depopulation. Apart from these causes, Buxton considers that two very disquieting facts are, first, that though the rate of decline of the population is now less than it was half a century ago, the race continues to die out, irrespective of the abolition of "blackbirding" and the reduction in the severity of epidemics; and secondly, in all parts of the islands about 118 males are born per 100 females, this disproportion persisting through life.

#### CHOLERA BACTERIOPHAGES.

A PRELIMINARY report of work carried out by the Cholera Bacteriophage Inquiry under the Indian Research Fund Association in 1927 has recently been submitted by Dr. F. d'Herelle of the Pasteur Institute, Paris, and Major R. H. Malone, I.M.S., of the Central Research Institute, Kasauli.<sup>1</sup> The authors first studied in detail twenty-three cholera patients who were undergoing treatment at the Campbell Hospital, Calcutta, during the period April 27th to June 20th, and they made the following observations. In three cases no bacteriophage was present on admission, and all the cases proved fatal within twenty-four hours. Dr. d'Herelle recalls that in 1921, while in Indo-China, he failed to isolate bacteriophages in 100 fatal cases of cholera. In another three of the Calcutta cases the bacteriophage was weak from the start, became weaker, and finally disappeared; these cases proved fatal within twenty-four hours after disappearance of the bacteriophage. In two cases where the bacteriophage was strong on admission recovery was prompt. In two other cases the power of the bacteriophage fluctuated, but finally became potent, and there was delayed recovery in each case. In the majority of the cases (thirteen out of twenty-three) the virulence of the bacteriophage towards the cholera vibrio was feeble at first, but became exalted and attained its maximum potency in twenty-four to forty-eight hours after the onset of the disease. The authors conclude that recovery or death from an attack of cholera depends upon the presence and behaviour of the bacteriophages. They found that intravenous saline injections were helpful in prolonging life and giving the bacteriophage time to reach the necessary exaltation in virulence; in the six cases where the bacteriophage was absent the injections were of no avail. Moreover, it was proved that, while the inherent power to attack vibrios varied in different races of bacteriophages, this power could be raised, and the authors were able, by means of passage through other patients, to raise the potency of even the two strongest strains in their series of twenty-three cases. With these exalted bacteriophages the investigators then proceeded to treat a number of cholera patients in four villages where outbreaks of the disease had not long started. Altogether, in the four villages forty-one patients were treated with bacteriophages; and only three, or 7.3 per cent., of these died; in the same villages 107 patients were untreated with bacteriophage, and of these 70, or 65.4 per cent., died. Prompt notification of an outbreak of cholera in a fifth village (Nawar) afforded the authors an opportunity of testing the prophylactic powers of cholera bacteriophages. In this village, consisting of 345 houses mainly occupied by Jats, the water supply is derived from thirteen public and nine private wells. Six cases of cholera occurred on August 2nd, of which three proved fatal, while six further cases with two deaths occurred next day. On August 4th 30 c.c. of a culture of selected bacteriophage were added to each of the two wells supplying the contaminated area. No fresh case was reported after this "salting" of the water, and the Jat patients who

drank of these wells recovered. The authors recognize that the evidence of this single experiment is not of much value; but Dr. d'Herelle refers to his more extensive experiments in fowl typhoid, where in each case the epizootic ceased immediately after spreading the bacteriophage in the environment. It certainly seems reasonable to suppose, with the authors, that greater success should follow when auxiliary bacteriophages of proved anticholera virulence and in sufficient quantity are, so to speak, rushed up to the support of exposed persons at the very beginning of an epidemic, than when, in the natural course of events, valuable time is lost before the first convalescents begin to pass in their stools potent bacteriophages which then (like the vibrios themselves) become disseminated by flies and drinking water. Still more reason is there to expect that the use of highly virulent bacteriophage cultures should prove helpful in the treatment of these patients who, on their own account, produce no bacteriophage, or at best only a feeble and evanescent one. The results of further experiment in both directions will therefore be awaited with great interest, and should these confirm those already reported a rational and practical expedient will be available for the control of cholera epidemics and the care of cholera patients.

#### SPORTS DOCTORS.

THERE have been and are in this country surgeons with special experience in the diagnosis and treatment of injuries incurred in the pursuit of various sports, but no attempt has as yet been made to develop the study of these injuries into a specialty. In Germany, however, where things are apt to be taken more seriously, Professor Dr. Hermann Altmann of Leipzig has produced a work<sup>1</sup> which treats systematically of most sports and bodily exercises, and of their medical and surgical aspects. His plan is to print an article by a specialist in each sport and to follow it by another dealing with its medical aspects. Thus there is an article on rowing, which goes into a good many details as to boats and the weights of members of crews, etc., written by Dr. Altmann himself. This is followed by another on the tactics of rowing matches by Olympia Master Hermann Wilker, and, to complete the subject, one on the medical aspects of rowing by Dr. Rolf Friedländer of Berlin. Dr. Altmann thinks that a "Sportarzt" is not properly equipped to treat sportsmen unless he possesses at least a theoretical knowledge of those games and sports with which they amuse or occupy themselves. Professor Bier of Berlin, in an introduction, supports Dr. Altmann, and urges that every medical man who wishes to use sports as therapeutic measures should say to himself that to do so he must correspondingly have exercised his body and have got an insight into the means of physical exercise. Before the last decade of the nineteenth century Germany trusted to implement gymnastics as taught in gymnasiums for exercise, but after that time an interest sprang up in games as practised in England and America. The German sport authority (Behörde) for athletics was founded in 1897, a society analogous to our Amateur Athletic Association. There is a great deal of interest to us in the medical part of the introductory article on "Leichtathletik" (a convenient term which includes most of the sports practised here at such meetings as those of Oxford and Cambridge). It is interesting to note that Dr. Arno Arnold of Leipzig quotes Dr. Parkes Weber's account of the thrombosis of the inferior vena cava from which the late Dr. Rivers Pollock suffered at the end of a hurdle race. He appends to his article an elaborate form to be used by surgeons in the examination of athletes and would-be athletes, as used by the German High School for Bodily Exercises. If this is conscientiously filled up there can be little left to be known about the habits and physique

<sup>1</sup> *Indian Medical Gazette*, 1927, lxii, No. 11, p. 614-616.

<sup>1</sup> *Kleine Sportskunde*. Unter Mitarbeit von fachgenossen herausgegeben. Leipzig: G. Thieme. 1928. (M.9.50.)

of the subject of it. Association football is very shortly described, and Rugby barely mentioned. Boxing, wrestling, mountaineering, skating, ski-ing, cycling, and even flying receive due attention, as well as almost every other kind of sport. Swimming is dealt with at some length, but golf and cricket get scarcely more notice than do croquet and bowls. These four are lumped together as "turf games," but Mr. Ernest Glass of Hamburg welcomes the spread in Germany of golf.

#### IMPRESSIONS OF AMERICAN UNIVERSITIES.

For three months in the early part of 1926 Dr. Edwin Deller—the academic registrar of the University of London—was the guest of the Laura Spelman Rockefeller Memorial in order that he might quietly and informally investigate and discuss educational problems in the universities in various parts of America, and now with a winning consciousness of his "infirmities" he has placed his impressions on record in an interesting pamphlet.<sup>1</sup> In the first place, he was struck by the keenness of the American belief in education, which is shown in the practical way of the exemption of universities from national and local taxation. The ideal of the American university has been built up out of the British tradition of "sound learning," the German spirit of research, and the American conception of even broader service to the community in the way of producing good citizens. But here Dr. Deller raises the question of the danger of making utility rather than intellectual training the object of university education. In British medicine instruction has been mainly ancillary to hospital work, whereas in Germany the university has for many years been the predominant partner in the combination with the hospital. In America both the relations may be seen, respectively, in the case of the Mayo Clinic attached to the University of Minnesota and the Rockefeller Institute and Hospital in New York. The strongest feature of the American university appears to be the provision for post-graduate instruction, and in some States the activities of the universities have made them the most esteemed governmental organs; this is due in part to the relatively undeveloped condition of the other State organs and the low opinion in which legislators and "politics" are held. Some of the American universities are extremely well provided with money, but all have their difficulties, especially in maintaining a high standard of education for the appalling number of students, often very inadequately prepared, and who, their teachers say, are often without any very clear objective, except to get on in a land where material success is too prone to be regarded as the ultimate good.

#### SIR CHARLES HASTINGS LECTURE.

THE second of the Popular Lectures instituted by the British Medical Association, and associated with the name of its founder, Sir Charles Hastings, will be given by Sir George Newman, K.C.B., Chief Medical Officer of the Ministry of Health and the Board of Education, on the evening of Wednesday, March 21st. Sir George Newman has chosen as the title of his lecture "The fundamentals of health." It will be delivered in the Great Hall of the British Medical Association's House in London, and the chair will be taken at 8 o'clock by Lord Cozens-Hardy. The first Hastings Lecture was given a year ago by Sir Berkeley Moynihan, President of the Royal College of Surgeons of England, on "Cancer and how to fight it," and it attracted widespread public interest. Admission is free by tickets obtainable from the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Seats not occupied by ticket holders by 7.50 p.m. will be available for other members of the public.

<sup>1</sup> *Universities in the United States: Some Impressions.* By Edwin Deller, LL.D. University of London Press, 1927. (Demy 8vo, pp. 46, 2s. net.)

## TETRA-ETHYL LEAD AS AN ADDITION TO PETROL.

### INVESTIGATIONS IN THE UNITED STATES.

AN American correspondent has suggested to us that in recent articles in the *BRITISH MEDICAL JOURNAL* on the possible dangers of ethyl petrol sufficient weight was not given to the negative conclusions arrived at by certain committees who have investigated the effects produced by this substance. The matter is of such great potential importance that we think it advisable to give our readers a somewhat fuller summary of the evidence available.

Two separate committees in the United States have investigated the effects produced by ethyl petrol. The first investigation was carried out by the Bureau of Mines, who entered into an agreement in October, 1923, with the General Motors Research Corporation of Dayton, Ohio, according to which the corporation paid the expenses of a research by the Bureau into the effects produced by exposure to the exhaust fumes of engines using ethyl petrol. The Bureau first investigated the effects on animals of exposure to the exhaust of an engine using ethyl petrol of normal constitution (that is, one part tetra-ethyl lead in 1,270 parts by volume of petrol). They concluded that

"the effects of exposure to the concentration of lead prevailing in the air during this campaign were not manifested by the storage of lead, pathology, haematology, symptoms, weight, and growth of the animals exposed."

They next investigated the effects of exposure of animals to the exhaust of engines using five times the commercial concentration of tetra-ethyl lead. In this case "distinct storage of lead was found in all species and groups of animals exposed during campaign 2," but "no characteristic symptoms of lead poisoning were obtained, except loss of weight in some animals." Upon the basis of these results the Bureau of Mines published a preliminary report in the autumn of 1924<sup>2</sup> recording these negative findings.

About this time, however, various things happened. Eldridge<sup>3</sup> published a report from the Chemical Warfare Service showing that daily application to the skin of a dog of 0.1 c.cm. per kilo of pure tetra-ethyl lead produced lethal results. This association of tetra-ethyl lead with gas warfare was alarming, and the alarm was increased by the occurrence of fatalities in the factories making tetra-ethyl lead. Hamilton, Reznikoff, and Burnham<sup>4</sup> in 1925 recorded eleven such fatalities in the previous seventeen months. They also criticized severely the experimental methods and conclusions of the Bureau of Mines.

In May, 1925, the Surgeon-General, U.S.A., appointed a strong committee to investigate the toxicity of ethyl petrol ("ethyl gasoline" is the American name), and the production of ethyl petrol was suspended until the committee reported. This committee reported in January, 1926,<sup>5</sup> after eight months' work. Meanwhile the Bureau of Mines continued their work for another year. They examined the effects of exposing animals to the vapour of unconsumed ethyl petrol, and also studied the effects of applying ethyl petrol to the skin. When animals were exposed to the vapour of commercial ethyl petrol they found no evidence of storage of lead, and also found that "the weight and growth of the animals were normal, which included those born on test." With ethyl gasoline containing two and a half to five times the normal content of tetra-ethyl lead they found: "Some of the animals exposed to 0.10 per cent. ethyl gasoline vapour showed distinct storage of lead," but also "no inhibition of growth or loss of weight was noted to occur in animals exposed to 0.1 and 0.5 per cent. ethyl gasoline vapours." When ethyl gasoline was applied to the skin they found that

"ethyl gasoline containing the commercial amount of ethyl fluid (1 in 1,270), applied daily in doses up to 1 c.cm., when it is limited to skin absorption is apparently no more injurious than straight gasoline."

This work was apparently finished in December, 1925, but for some reason or other the full report was not published until 1927. The report consists of a stout volume of 447 pages. Meanwhile the report of the Surgeon-

General's Committee was published in January, 1926. The committee examined transport and garage workers who had been working with ethyl petrol for two years. In view of the importance of their conclusions we reprint them in extenso.

"On the basis of this investigation the committee feels that the following general conclusions are justified:

"1. Drivers of cars using ethyl gasoline as a fuel, and in which the concentration of tetra-ethyl lead was not greater than 1 part in 1,500 parts by volume of gasoline, showed no definite signs of lead absorption after periods approximating two years.

"2. Employees of garages engaged in the handling and repairing of automobiles, and employees of automobile service stations, may show evidence of lead absorption and storage, as indicated by the lead content of the faeces and the appearance of stippled cells in the blood. In garages and stations in which ethyl gasoline was used the amount of apparent absorption and storage was somewhat increased, but the effect was slight in comparison with that shown by workers in other industries when there was a severe lead hazard (Group E), and for the periods of exposure studied was not sufficient to produce detectable symptoms of lead poisoning.

"3. In the regions in which ethyl gasoline has been used to the greatest extent as a motor fuel for a period of between two and three years no definite cases have been discovered of recognizable lead poisoning or other disease resulting from the use of ethyl gasoline.

"In view of these conclusions your committee begs to report that in their opinion there are at present no good grounds for prohibiting the use of ethyl gasoline of the concentration specified as a motor fuel, provided that its distribution and use are controlled by proper regulations."

A very important qualification is, however, appended to these conclusions:

"In conclusion we beg to say that we are conscious of the fact that the conclusions to which we have come in this report, although based upon most careful and conscientious investigations, are subject to the criticism that they have been derived from the study of a relatively small number of individuals who were exposed to the effects of ethyl gasoline for a period of time comparatively brief when we consider the possibilities in connexion with lead poisoning. A more extensive study was not possible on account of the limited time. It remains possible that if the use of leaded gasolines becomes widespread conditions may arise very different from those studied by us, which would render its use more of a hazard than would appear to be the case from this investigation. Longer experience may show that even such slight storage of lead as was observed in these studies may lead eventually in susceptible individuals to recognizable lead poisoning or to chronic degenerative diseases of a less obvious character. In view of such possibilities the committee feel that the investigation begun under their direction must not be allowed to lapse."

Another piece of evidence is an unpublished paper courteously forwarded to us by Dr. R. A. Kehoe.<sup>6</sup> This work was done between October, 1926, and April, 1927. The authors examined 143 persons who had been exposed to ethyl petrol as garage mechanics, filling station attendants, or tank wagon employees, and 69 persons doing similar work with ordinary petrol. About 40 per cent. of the cases had been exposed to ethyl petrol for more than a year, and 16 per cent. had been exposed for more than three years. The cases were examined carefully for signs of lead excretion and for lead poisoning. The authors conclude:

"On the basis of this study it is possible to state conclusively that there is no evidence to indicate that appreciable lead absorption has occurred in the case of persons who have had the maximum exposure up to the present to the hypothetical hazards associated with the distribution and handling of ethyl gasoline. On the other hand, evidences have been found that the methods of study are sufficiently sensitive and accurate to discover signs of lead absorption, if this had occurred."

This we believe to be a fair summary of the evidence at present available regarding the possible dangers associated with the use of ethyl petrol. The value of the evidence is, of course, very difficult to assess exactly. It depends upon the accuracy of very delicate technique—for example, the estimations of fractions of a milligram of lead in the excreta and the estimation of slight deviations from normal of the red blood corpuscles. Furthermore, important questions arise regarding the intensity and the duration of the exposure to ethyl petrol, and also regarding the possibility of individual variations in susceptibility to lead

poisoning. We mention these considerations to emphasize the point that a very large amount of work over prolonged periods will be necessary before any certain and final conclusions can be reached in this difficult problem.

#### REFERENCES.

- <sup>1</sup> *Experimental Studies on the Effect of Ethyl Gasoline and its Combustion Products*. Report of the United States Bureau of Mines to the General Motors Research Corporation and the Ethyl Gasoline Corporation. By R. R. Sayers, A. C. Fieldner, W. P. Yant, and B. G. H. Thomas. (447 pp.) Department of Commerce, U.S.A. 1927.
- <sup>2</sup> *Journ. Amer. Med. Assoc.*, 85, 1511, 1924.
- <sup>3</sup> Eldridge Report 28. *Chemical Warfare Service*, October 5th, 1924.
- <sup>4</sup> A. Hamilton, P. Reznikoff, and G. M. Burnham: *Journ. Amer. Med. Assoc.*, 81, 1481, 1925.
- <sup>5</sup> Report of Committee appointed by the Surgeon-General of the United States. *Health Hazards in Sale and Use of Ethyl Gasoline*. January 17th, 1926. (12 pp.) Names of Committee: W. H. Howell, A. J. Chesley, D. L. Edsall, Reid Hunt, W. S. Leathers, J. Stieglitz, C. E. A. Winslow. Abstract of findings published in *Journ. Amer. Med. Assoc.*, 85, 370, 1926.
- <sup>6</sup> *A Study of the Health Hazards associated with the Distribution and Use of Ethyl Gasoline*. By R. A. Kehoe, K. V. Kitzmiller, R. L. Crudginton, W. F. Mackie, W. E. Brown, L. Sanders, F. Thammann, and J. Cholak. (47 pp.)

### ANTI-STREPTOCOCCAL ACTION OF CERTAIN ARSENICAL PREPARATIONS.

SOME interesting and possibly important conclusions with regard to the application of chemotherapy to streptococcal infections are to be found in a special report<sup>1</sup> which is published this week by the Medical Research Council. This contains an account of a study by Dr. Leonard Colebrook of the effect of certain organic arsenical compounds on streptococci *in vitro* and in the human body. During the war Captain S. R. Douglas, R.A.M.C., and Dr. Colebrook, both working in connexion with the Council, commenced an investigation into the use of drugs of the salvarsan and neosalvarsan type in the treatment of wound septicaemia. More recently Dr. Colebrook has turned his attention to puerperal infections, and has attempted to provide data for planning a chemotherapeutic attack upon such conditions. He has studied the degree and duration of bactericidal power conferred upon the blood by the administration of different doses of various arsenical compounds, and has also considered the complicating factor of concurrent leucocytic poisoning. It is mentioned that careful clinical trials on similar lines are also proceeding in London and Manchester.

#### Nature of the Experimental Work.

The starting point of the present inquiry was the belief that the anti-syphilitic arsenicals, when administered to man, might exert a directly destructive action upon pathogenic bacteria in the body as well as upon spirochaetes and protozoa. The first demonstration of the conferring of bactericidal power on the blood serum by the administration of a drug was made by Sir Almroth Wright in 1912 in connexion with the guinine derivative ethyl hydro-euprein, or "optochin," which Morgenroth and Levy in 1911 had shown to be capable of saving mice experimentally infected with pneumococci. Douglas and Colebrook in 1916 demonstrated that similar results followed the use of neosalvarsan in the case of staphylococci. Many other chemical agents have since been tried, but on entering the blood stream they appear to become "fixed" by the serum proteins, the blood cells, or the tissues. Moreover, Fleming's work in 1924 made it clear that so much damage might be done to the normal protective elements in the blood, particularly to the leucocytes, that far more harm than good might result from the use of such drugs in treatment. The present investigation, therefore, was directed also to ascertain whether the injection of medicinal doses of certain drugs would injure the normal protective mechanism of the body. The arsenical compound to be tested was accordingly added in increasing quantity to human blood *in vitro*, and its effect was observed upon the phagocytic capacity of the blood, the appearance of the leucocytes, and the bactericidal potency. It was found that the addition of arsenicals to normal blood *in vitro* had little effect upon its opsonic power other than to increase it slightly sometimes. All the compounds incubated with normal blood in amounts exceeding one part in 40,000 for

<sup>1</sup> *A Study of Some Organic Arsenical Compounds with a View to their Use in Certain Streptococcal Infections*. By Leonard Colebrook, M.B., B.S. Medical Research Council, Special Report Series, No. 119. London: H.M. Stationery Office. 1928. 1s. 3d. net.



twenty-four hours exerted a slowly destructive action, chiefly on the polymorphonuclear and large mononuclear leucocytes. The next step was to determine whether the leucocytes in the body were similarly affected, and it was shown that whereas after a large dose of novarsenobenzene there was a falling off in the activity of the leucocytes in three cases out of four, particularly when the patients were suffering from severe infections, the administration of kharsulphan and metarsenobillon did not appreciably reduce the leucocytic efficiency, even when given in doses which maintained bactericidal potency in the serum for two to four days. It became likely, moreover, that by suitably adjusting the dose of the arsenical preparation in the blood it would be possible to secure bactericidal potency without doing any appreciable harm to the leucocytes. To establish this point experiments were performed upon the blood *in vitro* and also in the living body.

#### Summary of Experimental Results.

A small group of trivalent arsenicals comprising salvarsan and two of its derivatives—namely, novarsenobenzene and the dimethylene bisulphite (sulfarsenol, metarsenobillon, and kharsulphan)—were found to exhibit certain properties distinguishing them sharply from almost every other known compound which it has been proposed to use for the chemotherapy of bacterial infections; no pentavalent arsenical showed these properties. When injected into the living body this small group conferred upon the blood the peculiar bactericidal powers characteristic of their simple solutions, which powers were retained by the blood for a considerable time. It is suggested that, owing to the slowness with which these drugs are excreted and enter into combination with the blood or tissue cells, a considerable portion of the injected dose is retained for a time in solution in the blood plasma. This bactericidal effect is most marked in the case of the haemolytic streptococci and the pneumococci; streptococci of the *viridans* group and staphylococci are less affected, while there is hardly any action on the enterococci and certain diphtheroid and coliform bacilli. It was found that 1 c.cm. of the serum from a patient who had received an injection of one of these arsenical compounds would sometimes kill as many as one to two million haemolytic streptococci, but somewhat lower figures were more usual. The bactericidal power thus acquired by the serum reaches its highest point immediately after an intravenous injection of novarsenobenzol; it then diminishes, somewhat rapidly at first, and then more slowly, during the following twenty-four to forty-eight hours. By the intramuscular or subcutaneous injection of metarsenobillon, kharsulphan, or sulfarsenol, repeated at suitable intervals, it has been maintained in several patients for three or four days, and in one case, using metarsenobillon, for four weeks. The arsenic compounds tested were found to have the following order as regards toxicity for human leucocytes. The least toxic were metarsenobillon, kharsulphan, and sulfarsenol, approximately equal; next came stabilarsan, salvarsan, and neosalvarsan, while the most toxic of all was silver salvarsan. The leucocytes of patients suffering from very severe streptococcal infections were found to have an increased sensitivity to this toxic action. It was shown experimentally that the dosage could be adjusted so as to secure the minimal effect on the leucocytes with a maximal bactericidal potency of the blood. In solutions of low concentration or in the serum of patients it was found that the bactericidal effect was very slow in developing; implanted streptococci often multiplied at first, but were killed after a period of six to twenty-four hours.

#### Lines of Future Investigation.

Dr. Colebrook concludes his report by mentioning a number of questions arising out of his results and requiring further research. There is, first, the elucidation of the source of the bactericidal power; is it due to the simple solution in serum of the drug, or to the presence of some "alteration product" formed in the body, or to the elaboration of some antibody under the stimulus of the arsenical? At present the evidence indicates that the first of these is concerned. The second question is whether the bactericidal power is related to one specific feature of the chemical structure of the arsenical preparation; if this

could be established as a fact the way would lie open to the preparation of still more effective therapeutic agents. The nature of the difference in the action between these drugs and other disinfectants is striking, and invite research, as also the question whether the streptococci can become resistant to them. Another interesting and practical point is the possibility that both spirochaetes and bacteria which are not killed by dilutions of arsenicals in a short time, such as one or two hours—the usual experimental period—may succumb to weaker dilutions if exposed to them for some days, as has been shown to be possible now with certain of these in the human body. A series of doses is suggested for the clinical use of the three selected arsenicals by intramuscular and subcutaneous injections and the importance of improving the circulation through the infected areas is emphasized. This report will undoubtedly provoke discussion and stimulate research in what may prove to be a very fruitful field.

#### CONFERENCE ON MATERNAL MORTALITY.

A VERY largely attended meeting to discuss maternal mortality was held at the Westminster Central Hall on February 28th. The gathering consisted almost entirely of women, who represented county nursing associations, infant welfare centres, and maternity and child welfare committees. The chair was taken by the Hon. Mrs. ALFRED LYTTELTON, D.B.E., who was supported by Sir George Newman, Dame Janet Campbell, Lady Barrett, and others whose names appear in the list of speakers. A message from the Queen was read stating that Her Majesty viewed with grave concern the continued high rate of maternal mortality, and felt that a very real endeavour should be made to remove this reproach from the national life. "The Queen trusts this may be achieved through the education of mothers themselves in the need for ante-natal care, through inquiry into the immediate causes of mortality in childbirth, and through a wider provision of first-rate medical and midwifery services."

At the conclusion of the meeting the following comprehensive resolution was carried unanimously:

That steps should be taken to obtain a medical inquiry into every maternal death due to childbirth;

That the attention of the authorities responsible for the education of medical students should be drawn to the need for further training and experience in midwifery as a preliminary to general practice in medicine;

That an official committee should be set up to advise upon the whole question of the training and employment of midwives;

That action should be taken in every area to induce all local authorities to make their maternity services adequate;

That the provisions of the National Health Insurance Acts should be readjusted and extended so that medical and midwifery services should be available for mothers both for ante-natal care and during and after confinement.

It was understood that the resolution would be sent to the Ministry of Health.

Dr. J. S. FAIRBAIN said that maternal mortality was lowest in those countries, like Holland, which had a well-trained service of midwives. In particular he emphasized the importance of post-certificate training, mentioning also that the Universities of Durham and Leeds now assumed a lecture course for midwives as part of their university duties. But in addition to the training of midwives it was necessary to make the profession economically and otherwise attractive enough for women to practise it.

Mr. ARTHUR GREENWOOD, M.P., formerly Parliamentary Secretary to the Ministry of Health, said that there were three lines of possible advance: the development of national health insurance, the development of the work of local authorities as regards maternity and child welfare, and the improvement of the social environment. If only the existing powers of local authorities with regard to ante-natal and post-natal care were fully carried out the stubborn total of 3,000 maternal deaths a year would begin to decline.

After Miss STREEK had spoken from the point of view of rural nursing, and Mrs. HARRISON BELL, a signatory of the Minority Report of the Royal Commission on National Health Insurance, had urged additional insurance benefits in the shape of midwifery, medical examinations before and after confinement, and medical attendance at the confinement if necessary,

the meeting was thrown open to general discussion. Dr. S. G. Moore said that there was a town in England where the women who were confined might be divided into two groups. In one group there were three times as many maternal deaths as in the other. In the group with the low death rate every woman was visited during pregnancy by a woman doctor, who saw to it that she was normal, or, if not normal, sent a report to her family doctor, whereby the case was followed up.

Lady SELBORNE said that the United States had a higher maternal mortality than Great Britain, and there it was doctors who were employed, not midwives. She thought that conditions were better now, but she recalled a time when doctors in attendance on lying-in women took extraordinarily few precautions. Another speaker, who said that she was a town councillor, declared that the crux of the problem was the training of the medical student. This lady urged that doctors should be subjected to the same discipline as midwives, and suffer the equivalent penalty if they neglected to observe any proper care. Miss E. M. DOUBLEDAY thought that the appointment of doctor at the ante-natal centre should be given to one who was specially qualified for the work. Many of these appointments went to persons who had no special experience in obstetrics.

Dr. ETHEL BENTHAM urged that the necessary research into this whole subject should include an economic as well as a medical inquiry. Another speaker regretted the absence from the resolution of any reference to permanent injury and invalidism resulting from childbirth. The conclusion of one health visitor who spoke was that the death rate was practically level in all classes of society. One speaker, again a woman, ventured to plead for good scientific teaching on birth control to be given at the ante-natal centres.

A strong determination was evident throughout the debate that the total of maternal mortality must by all means be reduced; but the remarks of many who spoke from the side of the social and municipal services seemed to betray a feeling that, in the exact words of Lady Selborne, "there is a danger in the doctor"!

## Canada.

[FROM OUR SPECIAL CORRESPONDENT.]

### British Columbia.

A PLAN has been evolved in British Columbia for the collection of convalescent serum for the treatment of anterior poliomyelitis. This has been made possible by the action of the Provincial Board of Health Laboratories of British Columbia, who have announced that they will pay 5 dollars for useful quantities of blood (80 to 100 c.c.m.), and in proportion for larger amounts. This is the rate at which ordinary donors of blood for transfusion are paid. The laboratories will be responsible for collecting the blood, testing its Wassermann reaction and preserving it on ice, subject to call in suitable cases. It is intended to use the serum especially in the treatment of early or advancing cases, and if supplies permit, for prophylaxis also. This action is a commendable example of foresight in dealing with this disease, which was existent in the West to a disconcerting extent within recent months, although not assuming the nature of an epidemic.

### The Hospital Campaign in Montreal.

An interesting issue has developed out of the last campaign for financial support of the hospitals in Montreal. One of the first and largest subscriptions to the fund was from the Bank of Montreal, to the extent of 200,000 dollars, and other banks and corporations were similarly generous. The contribution of the Bank of Montreal is now being opposed by some of its shareholders in the city of Quebec, who seek to set aside this gift on the ground that such donations are in excess of the powers of the board of directors under the Bank Act. The action is generally regarded as a test case to decide the right of directors of corporations to make donations to public institutions. The defence is made that the money is being devoted to the work of four hospitals in Montreal, which are of service to all the inhabitants of the province, irrespective of race or religion, and that many of their patients are unable

to pay for the cost of their treatment. It is pointed out also that these hospitals render a much more widespread service to the community at large by their training of nurses, besides providing clinical facilities for the medical faculties of universities. For the hospitals to carry out these functions properly involves a continual and heavy outlay, and if such burdens were not borne in part by voluntary subscription the cost would have to be met by taxation, in which corporations would have to take their part. The success of the campaign, it was shown, depended on the advance pledges of the banks and corporations. Many of the larger subscriptions were secured on the express understanding that at least 3,000,000 dollars would be pledged before the opening of the campaign. It has been the custom for many years to raise funds for the hospitals by such campaigns, and it has always been recognized that contributions by banks and other organizations are a necessary incident in the business conducted by them in the community from which they derive their revenues. This particular subscription from the Bank of Montreal was not at all disproportionate to its position and the value of its business in the community, quite apart from the fact that the business of the bank, as of other corporations, is dependent largely on the growth and welfare of the city and upon the provision made for the care of the sick, including the employees of the customers and depositors, as well as of the banks themselves. One direct interest of the Bank of Montreal in the campaign arose from the fact that out of the money collected the bank has already received substantial repayments on account of advances previously made in the form of overdrafts to the hospitals.

### Scholarships for Tuberculosis Workers.

As evidence of their continued interest in public health the Sun Life Assurance Company have taken steps to provide travelling scholarships for salaried tuberculosis workers in Canada. It is recognized by the company that the grant which they have so generously given towards extra-mural teaching of medicine in Canada (which is now being renewed for its third successive year) does not reach those engaged in the specialization of tuberculosis. They therefore have offered thirty travelling scholarships, to be given to those named by the Canadian Tuberculosis Association. Each candidate will receive 500 dollars from the company, provided that a similar amount is added by the executive of the association, at the same time granting leave of absence with continuance of salary. The recipients will travel in England, France, and Italy, visiting research laboratories and institutions for the tuberculous. Perhaps the activity which it is most desired that they should study is the sheltered employment schemes in England for the families of the tuberculous, especially the Papworth colony.

### The Law Regarding Narcotics.

The stringency of the law in Canada regarding the giving of narcotics is illustrated by a recent case in Ontario. It happened that a young doctor just beginning in practice gave some ground for suspicion that he was violating the law, and a trap was set for him by the detective department. As a result of this he was found to give morphine and cocaine in considerable quantities, to be carried away by the patient. He was accordingly convicted before a police magistrate, who, taking the circumstances into account, did no more than fine him 200 dollars. This sentence was carried to the Court of Appeal, which not only upheld the judgement, but found that the sentence had not been in accord with the requirements of the law, which imperatively required imprisonment. The upshot was a sentence of three months in prison (the shortest term allowed). The *Canadian Medical Association Journal* has taken this opportunity to remind the medical profession generally of the law on the matter.

### Professor J. B. Collip.

The Medical Faculty of McGill University announce the appointment to the chair of biochemistry at McGill of Professor J. B. Collip, at present on the staff of the University of Alberta. Professor Collip's brilliant research work on the parathyroid glands is well known, and the

Montreal University have reason to be proud that he has been added to their staff. He succeeds Professor A. B. Macallum, who has resigned after a more than usually long and brilliant career in teaching and research.

## Union of South Africa.

[FROM OUR CORRESPONDENT IN PRETORIA.]

### Health of Pretoria.

PRETORIA, the administrative capital of the Union of South Africa, lies in the high veld, and its altitude of 5,000 feet above sea-level preserves it from a tropical climate. North of Pretoria the land slopes away rapidly to the low veld, and sub-tropical conditions are soon encountered. Nevertheless, sultry conditions are met with in the capital, and in very wet summers malaria is liable to occur in the district. The year ended last June was particularly dry, there having been only twenty inches of rain—approximately half of the previous year's rainfall. Only twelve cases of malaria were notified in the municipality during the year; eight of the patients had either come to Pretoria from elsewhere or had been infected outside the area. Of the four locally infected persons three lived near the railway lines to Delagoa Bay and Pietersburg, regions in which malaria is prevalent; the train transport of infected anophelines is not an uncommon event. The rainy season, as elsewhere in the Transvaal, occurs chiefly in the latter half of the summer, and the present year has been ushered in by very heavy rains. Conditions favourable for mosquito-breeding are therefore being produced in the district, and the health authorities are intensifying the preventive measures. The oppressive summer conditions are not entirely due to latitude. The town lies in a valley between parallel ranges of quartzite hills running east and west. Air movement is therefore much restricted, and the cooling power of the atmosphere is considerably less than that of Johannesburg on the south, which, in addition to being freely windswept, is located a thousand feet higher on the high veld. Privileged houses are rapidly creeping up the slope of the southern range of hills. Here are cooler conditions, and the houses have the northern aspect which is so much sought after in the southern hemisphere.

In his annual report for the year ended June, 1927, the medical officer of health draws attention to the very satisfactory European vital statistics. The European population, exclusive of the inmates of the central prison, mental hospital, and leper institution, is 42,000, and there are 23,000 coloured persons—Africans, Eur-Africans, and Asiatics. The European death rate was 6.99 per 1,000, as compared with 7.7 in the previous year. The death rate for the coloured races was 16.0 per 1,000. The European infantile mortality rate of 48.48 per 1,000 births is the lowest on record for Pretoria; last year's figure, which was considered to be very low, was 2.5 higher. The non-European infantile mortality rate continues, however, to be high—315 per 1,000 registered births. Excluding imported cases the infectious diseases notified among Europeans were: typhoid 67, scarlet fever 25, diphtheria 20, measles 209, whooping-cough 100, other infections 33; among non-Europeans: typhoid 26, diphtheria 2, measles 17, whooping-cough 8, tuberculosis 13, other infections 8. The high typhoid incidence among Europeans is partly to be attributed to the zeal of the local health authorities in searching for hidden cases. This is supported by the fact that only two of the Europeans died, whereas of the twenty-six natives eight died. These figures suggest that most of the European cases, even when comparatively mild, are notified, whereas the bulk of the milder native cases escape notification. In diagnosis blood tests are extensively used, and many of the clinically doubtful cases were diagnosed by a positive complement fixation test. Nevertheless, the number of cases is high for modern conditions, and protective vaccination was extensively employed by Besredka's oral method. The vaccine was administered, in all, to 1,497 persons—545 Europeans and 952 non-Europeans. The individuals so immunized included 830 persons living in houses from which cases

had been notified, 296 persons employed in dairies, and 171 natives newly engaged by the town council and housed in the municipal location. This method of administering dead cultures of typhoid bacilli by mouth was found to be quite effective, and for preventing the contamination of milk by ambulant native patients or intestinal carriers the method is considered by the medical officer of health to afford much greater security than does periodical blood testing of native employees. The chief cause of the local primary outbreaks appears to have been contaminated milk, which was proved to be responsible for at least twenty-one cases. The continuance of the conservancy system in certain parts of the town is also blamed, and is undoubtedly a very important cause of spread of intestinal diseases. With its rapidly growing population Pretoria is having some difficulty with its water supply, and schemes are under consideration for its increase. In dry spells inhabitants are not permitted to use the municipal supply for flower gardens. Slight contamination still appears to occur at all the sources; of 161 samples taken during the year at the various intakes and reservoirs, 89 showed *B. coli* in 20 c.cm. or less. The degree of contamination is hardly dangerous, but it is evident that some of the springs are not sufficiently protected.

### Native Infantile Mortality.

The lay press is giving prominence to the high native infantile mortality figures appearing in the recently published health reports of the larger Transvaal towns. In Pretoria the figure for all coloured races last year was 315 per 1,000 registered births. The natives (Bantus or Kaffirs) suffered most heavily, their rate being 388.5 per 1,000, though this figure is an improvement on that of the previous year, which was 483 per 1,000. In Benoni the rate is quoted as 847 per 1,000, the number of deaths in native infants under 1 year in January, 1927, being equal to the number of births during the month. On the West Rand conditions, though bad, are better than on the eastern end of the Reef; in Krugersdorp last year the native infantile mortality rate was 320.14 per 1,000 births, but these figures undoubtedly exaggerate the state of affairs. Notification of native deaths is practically complete, but that of births is very defective. The reason for this is probably that the native parent is apprehensive of additional taxation following on admission of increased population. In these circumstances a death rate stated in terms of the number of births is clearly misleading. Still, the number of native infant deaths in the larger towns has for many years been notoriously high. This is to be attributed very largely to the insanitary conditions under which these people reside in the towns. In the kraals where they live simple, if exceedingly primitive, lives the mortality would appear to be lower, although accurate figures are unobtainable. Many of the children in the towns are the offspring of prostitutes; they are often neglected, and in some cases deliberately allowed to die. With a large native male population living for twelve-month periods in compounds along the Reef, prostitution is almost unavoidable. Conditions are, however, being greatly improved by the Government's active policy of removing from urban and industrial areas all native women not officially married either by European or Bantu custom, and by limiting the numbers of married natives in the towns strictly to those that are required for labour purposes. The Natives (Urban Areas) Act allows individuals from the native territories to remain in towns only long enough to seek employment. If at the end of that time employment has not been obtained the native returns to his kraal. By these means it is hoped to prevent the further detribalization of the Bantu races. Experience has abundantly proved the evil results of close association in slum areas of detribalized natives and Europeans. In the industrial compounds the male native is well looked after, and his health in general is very good; it is when he finds his way into the poorer quarters of the towns and has no fixed employment that the worst evil results to health and morals occur.

### Health Legislation.

In the annual report of the Department of Public Health Dr. J. A. Mitchell, Chief Health Officer for the Union, reviews the legislation affecting public health passed during

the last parliamentary session. Certain clauses only of the Public Health Act Amendment Bill were passed as Act No. 36 of 1927. That dealing with the alluvial diamond diggings makes the Mining Commissioner, acting under the authority and instructions of the Minister of Public Health, the local authority. Some direct sanitary supervision of the diggings had become an urgent necessity. Supporting for often quite long periods a large population who are content to exist in the most deplorable huts, sanitation is considered to be of secondary importance, and the most noisome conditions are tolerated. Typhoid soon makes its appearance, and emergency hospitals have to be constructed. Another clause makes provision for periodical visits by medical officers to places lacking medical aid, the cost being met out of moneys specially voted by Parliament for the purpose. The unfortunate position of the small farmer or settler in remote localities, often forty or more miles from the nearest doctor, and not infrequently in a malarial area, had attracted public attention. If his cow or horse becomes ill a Government veterinary officer is available on payment of the bare transport costs of the officer; but if the farmer or a member of his family is affected the Government has in the past given no assistance, and he has had to summon a medical practitioner at ordinary rates—which the necessary time and transport rates render ruinous or prohibitive if repeated visits are required. To remedy such conditions the Chief Health Officer advises the co-ordination and unification of local and central administrations with control of preventive and curative activities, coupled with the cautious and gradual building up of a State-aided medical service, both preventive and curative, for all members of the public who wish to avail themselves of it, beginning with the inhabitants of remote and perhaps malarial rural areas, and with school children in both urban and rural areas throughout the Union. The clause in the present Act makes a beginning in this direction. It reads:

"Wherever the Minister is satisfied that, owing to lack of medical aid, prevalence of malaria, or other disease, or other special circumstances in any area, assistance from public funds in providing facilities for the medical treatment of the inhabitants of such area is justified, he may, out of moneys specially voted by Parliament for the purpose, provide for periodical visits to a centre in such area by a district surgeon or other medical officer."

Such visits or tours will not only bring medical aid within reasonable reach of the inhabitants, but will also encourage prevention of insanitary or unhealthy conditions, local, domestic, or personal. Indigent patients, so certified by a magistrate, will be treated free; all others will be treated at the same rates as are charged by the district surgeon at his headquarters, and, where special travelling is involved, only the extra mileage will be charged, the Government paying the cost of travelling to and from the out-station. This system, while ensuring fair remuneration to the doctor, does not tend to pauperize the people. It is hoped that it will prove very useful and advantageous, not only to the inhabitants of the areas concerned, but, by promoting agricultural and general development, also to the Union as a whole.

## Scotland.

### Edinburgh University New Professors.

At a meeting of the Curators of Patronage of the University of Edinburgh, held on February 23rd, Dr. W. T. Ritchie was elected professor of medicine in succession to Professor G. Lovell Gulland. Dr. Ritchie was educated at the Edinburgh Academy and graduated M.B., C.M. at Edinburgh University in 1896. After graduation he held the post of resident physician to the late Sir James Affleck, and subsequently spent a period of post-graduate study at Vienna. After holding various positions as clinical tutor and assistant pathologist in the Royal Infirmary, Edinburgh, he became assistant physician to this institution. During the late war he served with the R.A.M.C. in Egypt, and for his services in this connexion was awarded the O.B.E. He is the author, in collaboration with the

late Dr. Graham Brown, of *Medical Diagnosis*, a manual of clinical methods, and, with Dr. John Cowan of Glasgow, of a textbook on *Diseases of the Heart*. He has also published numerous papers dealing with heart-block, the action of the vagus nerve on the heart, the action of the heart in health and disease, etc. For some years after the war he acted as a lecturer on the practice of medicine in the School of Medicine of the Royal Colleges at Edinburgh, and he at present holds the position of physician to the Royal Infirmary, Edinburgh, and consulting physician to the Deaconess Hospital, Edinburgh.

At the same meeting of the Curators Professor James Kendall, professor of chemistry in New York University, was elected professor of chemistry at Edinburgh University in succession to Sir James Walker. Professor Kendall is an Edinburgh graduate, having taken the degrees of M.A. and D.Sc. at Edinburgh. After graduating he engaged in research under Professor Arrhenius at Stockholm, and became instructor in chemistry in Columbia University at New York in 1913. In 1922 he was appointed professor of chemistry at this University, and edited and revised the textbooks on chemistry of his predecessor, Professor Smith. Professor Kendall has published many original communications dealing with inorganic and physical chemistry, and he was elected a Fellow of the Royal Society in 1927.

### Jubilee of the Caledonian Medical Society.

The jubilee meeting of the Caledonian Medical Society was held at Edinburgh on February 23rd and 24th. It may be recalled that this society traces its beginning to February 23rd, 1878, when three Highland undergraduates attending Edinburgh University decided to found a society with the object of promoting the professional knowledge of its members by the consideration and discussion of medical and surgical subjects. They were afterwards joined by four other enthusiastic Celts, and the seven members held weekly meetings at their various rooms for the discussion of papers contributed by each member in rotation. Most of the original members qualified in 1878, and the society remained in abeyance until 1881, when five of the seven original members met in Manchester to reconstitute it. The membership was then enlarged to fifteen, and a manuscript journal was started which was circulated among the members. During the next few years the number of members increased to thirty, and annual meetings were held in various parts of England and Scotland. In 1891 it was resolved to have the journal printed, and it has now become a regular quarterly publication. To-day the society has a membership of 500, including Scotsmen scattered over Britain and the dependencies beyond the seas.

### Festival Dinner.

The jubilee proceedings began, on February 23rd, with a dinner in the hall of the Royal College of Physicians, Edinburgh, at which about 120 members and guests were present. The chair was taken by Dr. S. Rutherford MacPhail, and Dr. W. A. Maenaughton acted as emcee. These members, who were two of the original three founders, are joint presidents of the society for this year; the third founder, Dr. Donald MacLennan, died twenty-three years ago. The toast of "Caledonia" was proposed by Lord Alness, Lord Justice Clerk, and that of "The Universities and Medical Corporations of Scotland" by Dr. David Rorie. The latter toast was acknowledged by Professor H. J. C. Grierson of Edinburgh University, who referred to the tie which had always subsisted between medicine and literature, by Dr. R. A. Fleming, president of the Royal College of Physicians, and by Mr. Alexander Miles, president of the Royal College of Surgeons.

The Rev. Dr. Norman Maclean, Moderator of the General Assembly of the Church of Scotland, proposed the toast of "The Caledonian Medical Society," and in doing so said that the Church was really the mother of the medical profession, which had sprung out of the bosom of the Church in the Middle Ages, when the churchman and the doctor were one person. To-day, he added, the medical profession and the Church were two hands of the one institution, and the glory of the medical profession lay in the general practitioner. The chairman, replying to this toast, recalled the history of the society, and said that its 500 members

to-day had more ambition than those of most other medical societies because they had a special patriotic side to preserve—the medical aspect of Celtic tradition, Celtic literature, and Celtic folklore, which were in danger of passing into oblivion. The toast of “The Guests” was proposed by Dr. C. E. Douglas and acknowledged by the Rev. Dr. J. Harry Miller, C.B.E., Moderator-Elect of the General Assembly of the United Free Church of Scotland.

#### Annual Meeting.

The annual meeting of the society was held on February 24th in the hall of the Royal College of Surgeons, Edinburgh, when Dr. W. A. Macnaughton gave a presidential address in which he referred to some of the changes which had taken place in medical life and medical knowledge and practice since 1878, when all the medical classes were taught within the walls of the old University, for the new medical school had not yet arisen. Speaking of the cost of living in 1878, he said that while 35s. a week was regarded as the average expenditure of a student for board and lodging, he himself had shared a room with a fellow student who became one of the best practitioners in the North, and their landlady's weekly bill seldom exceeded one-third of this figure. Modest as these figures were compared with present-day charges, he had been assured by an Aberdeen graduate of the same period that his weekly bill, eked out by regular parcels from home, seldom exceeded 6s. The medical classes at that time, in the seventies included a larger proportion of students than they did now. Referring to the services in the Highlands and Islands, he said that a great change had taken place since 1878 with respect to medical attendance and skilled nursing within the Highland area. The central feature of the scheme, which had been introduced in 1912, was that no patient, however far he might be from the doctor's residence, should pay more than 5s. for a first visit and 3s. 6d. for a subsequent visit in the same illness, the mileage for such visits being payable out of a central fund subsidized by the Government. This was a great concession to the struggling crofter who lived in some Highland glen twenty miles from the nearest doctor. To the doctor the advantages of the scheme were that his payment was assured, although he had probably far more travelling and less leisure now than in the past. Highly qualified surgeon-consultants had been established in such places as Stornoway and Lerwick, where local hospital facilities were available; and before long a system of other specialized services would be introduced. The last fifty years had also witnessed the establishment, by local endeavour, of a large number of cottage hospitals in various parts of the Highlands, and no doubt the usefulness of these could be still further extended if they were linked up with a general hospital such as that at Inverness. In the near future, too, every parish, both on the mainland and in the Hebrides, would enjoy the advantages of the services of a duly trained nurse.

#### Reception by the University.

In the afternoon a reception was given by the University of Edinburgh to the society. Principal Sir Alfred Ewing received the guests in the Upper Library Hall in the Old College, and, in an address of welcome, referred to the jubilee of the society as a remarkable attribute to the efficiency with which it had fulfilled its intended objects. A number of medical manuscripts and early printed books, referring chiefly to Scottish medicine, were on exhibition in the hall, and an address dealing with these was delivered by Dr. John D. Comrie. Dr. Comrie's survey included Michael Scot's book on physiognomy, of which no fewer than eighteen editions had appeared between the early printed copy of 1477 and the year 1660. From 1400 onwards there had been a copious Gaelic medical literature in Scotland belonging to the medical attendants of the Highland chieftains, usually members of the families of Macbeth or Macdonnachie. These showed that the Highland physicians were well-educated men, with a knowledge of Latin, who had travelled abroad. Reference was also made to a fifteenth century Lowland Scottish practitioner, William Schevez, who amassed at St. Andrews a notable collection of books, and who was for many years physician to James III. Several Latin translations of

Galen and other ancient writers were also shown, as well as more recent manuscripts, including a small book bearing the title *Ane Gude Boke of Medicines Called the Treasure of Poore Men*, 1595, which was typical of the medical treatises upon which the Scottish doctors relied after the influence of the Church, with its monastic libraries, had passed away. A copy of the *Discourse on the Whole Art of Chyrurgerie* by Peter Lowe, who, in 1597, was the first Scottish writer on surgery, was also exhibited.

#### Glasgow Royal Infirmary.

The 133rd annual meeting of the Glasgow Royal Infirmary was held on February 13th in the Merchants' House, Glasgow. Lord Provost Mason presided, and referred to the necessity which at present existed of obtaining added subscriptions to meet the increased activity of the institution. Mr. James Macfarlane, LL.D., chairman of the managers, referred to the proposed auxiliary hospital and nursing home at Canniesburn, and said that the managers were waiting till they had collected a sum of between £50,000 and £60,000 before proceeding with the building. Up to the present £45,000 had been received or promised spontaneously, and the managers now felt that the new scheme might be begun. The managers felt some anxiety about meeting the cost of maintenance at the infirmary, as the report showed this had been steadily increasing, and when the new extension was set up the cost would be still further augmented. He was confident, however, that the public of Glasgow would provide the necessary funds. The report shows that in the year 1927 the number of persons who received treatment at the infirmary was 82,852, a figure which represented 8,733 persons in excess of those who received treatment during the previous year. On the financial side there was a shortage over the year's working of £12,896. The ordinary expenditure amounted to £119,464, while the average cost of each patient under treatment was £7 4s. 7½d., as compared with £7 16s. 9½d. for the previous year.

## England and Wales.

#### Mental Deficiency Act, 1927.

THE Board of Control has issued a pamphlet (Circular 702) drawing the attention of local authorities to the provisions of the Mental Deficiency Act, 1927. This Act removes certain defects in the principal Act (the Mental Deficiency Act of 1913), and also enlarges the powers, and to some extent the duties, of the local authorities. Under the principal Act the condition of mental defectiveness was defined as one which must have existed “from birth or from an early age.” Under the new Act mental defectiveness is defined as “a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury.” The altered definition allows, therefore, cases of mental defect arising from encephalitis lethargica to be dealt with under the Act. Indeed, it was the large number of such cases throughout the country that led to the repeal of the definition of mental defectiveness as stated in the principal Act. The need for providing suitable accommodation for such post-encephalitic cases was urgent. There is now no legal impediment to their being certified as mentally defective, and so trained and cared for. The criterion of certifiability, except in the case of feeble-minded children, is whether the individual is so mentally defective that he requires care, supervision, and control.

#### Cancer Research in Birmingham.

Following the favourable reports from Liverpool on the treatment of malignant disease with lead by Professor Blair Bell and his fellow workers, a subcommittee was appointed to have medical control over cancer research in the Birmingham General Hospital, and it was decided to investigate the use of lead in such conditions. After various initial difficulties had been overcome, in-patient accommodation was obtained, since it was found that the treatment could not safely be given to out-patients. The report of the committee on the work accomplished in 1927



has now been published in the February issue of the *Birmingham Medical Review*. The number of cases of malignant disease treated with lead was thirty-four; nineteen of the patients were women and fifteen men. The preparations used were colloidal lead in twenty-three cases, lead glycine in eight, and both preparations in two cases. The remaining patient received an injection of colloidal lead prepared in the hospital laboratory with gum arabic. The questions of toxicity and the too rapid decomposition of the lead preparation were carefully studied, and a colloidal lead phosphate was found to be most suitable, though lead glycine proved to be markedly less toxic. The committee concludes that, since ten of the thirty-four patients derived benefit, lead treatment has a distinct therapeutic value, and deserves further investigation. In view of the very small quantities of lead found in the tumours examined the committee doubts whether Blair Bell's original hypothesis of a specific affinity of cancer tissue for lead can be upheld. It is thought more likely that the action of this metal is indirect, and that two explanations are possible: (1) that lead injections stimulate the production of some active body in the serum, liver, or elsewhere; (2) that colloidal lead or lead salts, by their conversion to phosphate after injection, must render some of the phosphate of the blood unavailable in its usual form—nuclein synthesis, a necessary accompaniment of growth, might thus be effected. It is added that there is reason to believe that the main therapeutic value of lead lies in its ability to restrain metastasis or to destroy small and recent growth deposits. With the exception of one case of sarcoma in bone, no benefit was obtained by any patient who had a large malignant mass. It is thought that the most profitable results will be obtained by treating patients who have undergone palliative incomplete operations, either by surgery or radiation.

#### Supervisory Centres for "Rheumatic" Children.

The Education Committee of the London County Council has had under consideration a resolution from the Invalid Children's Aid Association asking that the school medical service may keep in closer touch with elementary school children who are "rheumatic" and marked for observation. The committee records what has already been done under arrangements made recently by the Metropolitan Asylums Board whereby certain beds are set apart at Queen Mary's Hospital, Carshalton, and elsewhere for children suffering from rheumatism, heart disease, and chorea. Up to December 31st 170 children had been admitted under this scheme, but 535 nominations had been received, and fresh plans are being pressed forward at Queen Mary's which will give 350 places for rheumatic children at that hospital. Children who have hitherto failed to obtain admission owing to lack of accommodation are being assiduously followed up by the school medical service and by the association just named. Co-operation with the medical officers of the metropolitan boroughs has also been established. In Kensington and Paddington rheumatism in children has been made a notifiable disease, and in cases where the home of a rheumatic child, dealt with under the scheme, seems to have a bearing on the etiology of the disease, the medical officer is informed, with a view to improving the home conditions before the child returns from the residential hospital. The committee is of opinion that in London some progress has been made along all the various lines of action for local education authorities summarized by Sir George Newman in *The Health of the School Child*. The school doctors are paying special attention to rheumatism, a register of cases has been established, school supervision is being carried out, and residential accommodation for acute and subacute cases is being organized. What is now chiefly required is the development of rheumatism supervisory centres to which parents might bring suspected children or children requiring observation. At such centres advice would be given upon management, and the first symptoms would be detected, suggesting the necessity for special measures. Three rheumatism supervisory centres have already been established in West London—namely, in Paddington, Marylebone, and Kensington. The committee is of opinion that no attempt should be made to organize such centres as

*ad hoc* institutions, but that they should be formed in natural relation with the other remedial activities at hospitals and treatment centres already provided under the council's scheme. It is also thought that it would be advantageous to have some experience on a limited scale before a complete scheme is devised, and endeavours are therefore to be made during the coming year to organize five such centres on experimental lines—two in North-east and East London, to be formed at hospitals (for which purpose the Queen's and the London Hospitals appear to be the most suitable), and three in South London in association with treatment centres. The two hospitals to be invited to co-operate will receive a grant of £100 a year, and the authorities of the centres will be given increased provision for medical, nursing, and organizing assistance. The general administration of the arrangements for rheumatic children will be in the hands of one of the assistant medical officers of the public health department.

#### District Nursing in London.

At the annual meeting of the Central Council for District Nursing in London on February 23rd, under the presidency of Sir William J. Collins, the principal matter brought up on the report of the executive committee was the recent change of policy on the part of the Metropolitan Asylums Board with regard to scarlet fever and measles. Until lately the Board's hospitals were available for all scarlet fever patients requiring admission, but only a limited number of measles patients were received when accommodation was available. In view of the decline in the severity of scarlet fever, however, and of the fact that the death rate from measles in London is now six times as great as that from scarlet fever, greater facilities have been afforded by the Board for the treatment of measles, and the beds for scarlet fever patients have been restricted. After a conference with medical officers of health of the metropolitan boroughs and others, the executive of the Central Council has come to the conclusion that the home nursing of scarlet fever can be undertaken with careful precautions, provided that the nurse is not in attendance on any maternity case. A reminder was given, moreover, that a similar conference had been held some years ago to discuss the nursing of measles, which was subsequently undertaken by the district nursing associations without any complaint being made of transference of infection. The view of the council that scarlet fever nursing could be thus arranged has been communicated to the affiliated associations. It was also reported to the meeting that efforts were being made to establish a district nursing service in those parts of the Greater London area within the county of Middlesex which had hitherto been without such provision. The Rev. J. Scott Lidgett announced that certain midwifery training bursaries, to which the trustees of the London parochial charities made grants, were greatly valued, eagerly taken up, and usefully employed. It may be added that the function of the Council is to assemble the various religious, philanthropic, and official interests in the systematization of arrangements for district nursing throughout the metropolis, and to promote its adequacy and efficiency.

#### Courses in Psychology at the Maudsley Hospital.

A new series of lectures and practical courses of instruction for the diploma in psychological medicine will commence at the Maudsley Hospital, Denmark Hill, S.E.5, on March 6th, at 2.30 p.m., when Dr. F. C. Shrubsole will give the first of six lectures on the practical aspect of mental deficiency; they will be continued on succeeding Tuesdays, with the exception of April 10th. A course of eight lectures on morbid psychology by Dr. E. Mapother will be given on Wednesdays at 2.30 and 4 p.m., from March 7th. Dr. A. A. W. Petrie will deliver three lectures on therapeutics on Tuesdays at 4 p.m., beginning on March 20th. Mr. R. Foster Moore will lecture on abnormalities of the fundus oculi on April 16th and 23rd at 2.30 p.m. The first of a course of eight lectures by Dr. Bernard Hart on the psychoneuroses will be given on April 30th, and continued on succeeding Mondays, at 3 and 4.30 p.m. Dr. W. Norwood East will deliver four lectures on crime and insanity on May 1st and the three following Tuesdays at 3 p.m., and Dr. F. L. Golla will give four

lectures on the pathology of mental diseases at 2.30 p.m. on Fridays, commencing May 4th, and followed by four demonstrations of the pathology of the central nervous system by Mr. Charles Geary. Three lectures on the legal relation of insanity and treatment will be delivered by Dr. C. Hubert Bond on Fridays, May 4th and 18th, and Tuesday, May 15th, at 4.30 p.m. Six demonstrations in clinical psychiatry will be given by Dr. E. Mapother on Wednesdays at 2.30 p.m., commencing on April 18th. Dr. F. M. R. Walsho will commence a series of six clinical demonstrations in neurology on Thursday, March 8th, at the National Hospital, W.C.1, at 2.30 p.m. On Thursday, April 18th, at 3 p.m., the first of a series of six demonstrations in neurology by Dr. Golla will be given at the Hospital for Paralysis and Epilepsy, Maida Vale, W. The fee for the whole course is £10 10s. In addition to the special lectures and demonstrations of the course opportunity is provided for clinical work at the Maudsley Hospital. A certain number of whole- or part-time clinical assistantships are also tenable. Further information about the courses may be obtained from the Director of the Central Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5.

## Ireland.

### National Health Commission (Irish Free State): Payment for Medical Certification.

ARISING out of the request of the deputation from the Irish Medical Committee to the National Health Commission for further information with regard to the decision of the Commissioners to change the area of the pool for payment from the dispensary district to the county, the Commissioners have supplied a large amount of tabulated information. In an accompanying letter it is stated:

As explained at the conference the Commissioners have decided that they would not be justified in continuing to use the dispensary area as a basis for calculating the payments for medical certification for the following reasons: (1) As will be seen from the figures in the statements enclosed, the results are obviously unsatisfactory. In the area where the capitation rate is 2s. 8d. the rates per certificate vary from £1 to 3½d. in the March quarter. In the area where the capitation rate is 2s. 1.6d. the rates per certificate vary from 10s. 1½d. to 2½d. in the June quarter. (2) Apart from the financial results shown above, the system is unsatisfactory owing to the fact that it is not possible to obtain accurate figures of the number of insured persons in the dispensary areas without incurring expense which would be very much higher than the results obtained would justify. (3) The calculations on the dispensary basis entail much work and expense in the department, and it is not possible to defend the continuance of expenditure on a scheme which produces such obviously inequitable results. The Commissioners therefore propose that the scheme must be altered, and that in future the unit on which calculations will be based shall be either (a) the administrative county area, or, alternatively, (b) the area in which the capitation rate is uniform.

Dr. Power, chairman of the Irish Medical Committee, in a letter to the Local Medical Committees urging the retention of the dispensary district as the unit for the pool, states that the dispensary medical officer in rural areas treats almost all insured persons, and is therefore in a position to prevent malingering and unnecessary demands on the societies' funds, at the same time protecting his interest in the dispensary pool. Though this does not apply so freely to towns, it is yet a very important and salutary factor. Dr. Power remarks that excessive certification on a dispensary basis can militate only against the interests of those in a small area, and could easily be checked if the Commissioners brought the fact to the notice of the societies operating in the district and to the notice of the Local Medical Committee of the county. However, if those who certify in excess are allowed to go on they will operate only against their own pool. Figures have been presented showing that there has been an increase in the number of certificates issued year by year for some time past. The societies also complain that as a result the demands on their funds are becoming proportionately heavy. Dr. Power agrees that there are reasons why this might be so, but he thinks that the discrepancy between the cost of certificates in different areas

in the same county cannot be attributable entirely to the incidence of disease, or to the properly growing insistence by insured persons on their rights. He suggests that the causes of cheap certification should be investigated in the areas in which it occurs by the Commissioners (who are cognizant of the localities) and the societies, so as to discover the real state of affairs, and apply a remedy if necessary. The certificate values referred to by Dr. Power are from figures supplied by the Insurance Commission, and he gives an instance of a county where Dr. H. (the highest) gets 3s. per certificate, Dr. L. (the lowest) gets 5d. per certificate. The contributions from 414 persons make a certification pool of £50. Now, H. at 3s. per certificate issues 333 certificates annually in respect of 414 insured persons to get that amount, while L. at 5d. per certificate (in his area) to get that amount must issue 2,400. This is a matter for immediate investigation by the societies. According to Dr. Power the county pool idea is not a remedy; it would, if adopted, make things much worse. Thus H. is awarded 3s. per certificate in his district and L. is awarded 5d. per certificate in his district; the county basis is 9½d. Now (he continues) let H. and L., each having issued certificates in respect of 414 insured persons, and therefore drawing £50 each from their respective district, make a common pool equal to £100, and now re-withdraw it on the county basis of 9½d. As it is assumed in the Commissioners' circular, each one will issue the same number of certificates as heretofore, the ratio of certification being H.—1, L.—7.2. In this £100 pool the portion of H. is reduced to £12 4s., and his loss equals £37 16s., while the share of L. becomes £87 16s., with a gain of £37 16s. Where H. got £50 for adequately certifying 414 insured persons each year he now gets £12 4s. for the same service; and where L. certified a similar number for £50 he now gets £87 16s. for the same service. A distribution on those lines is the inevitable result of the adoption of a county scheme. Dr. Power asks: Could the medical profession as a whole support such a grossly unfair proposal? Does it not tend to demoralize those taking part in it? Does it not offer temptation to increase still further the number of certificates each year, and is that fair to the societies? The cost and difficulties of administration are the only objections to dispensary pools which have any substance, and when the Commissioners limit themselves to those points, Dr. Power would be prepared to advise his colleagues to go into the matter with them.

## Correspondence.

### GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—In reply to the letter of Dr. Gordon W. Goodhart which appeared in your issue of February 25th (p. 325) I should like to state that the evidence which he so much desires has already been fully communicated to the members of the Biochemical Society at their meeting held as long ago as November, 1926.

Corrected proofs of two papers dealing with this work have been returned to the editors of the *Journal of Physiology* some little time ago, and presumably these papers will appear in the next number of the *Journal of Physiology*. The titles of the two papers are: (1) "The factors influencing the concentration of hydrochloric acid during gastric digestion" (MacLean and Griffiths); (2) "Variations in the acidity and total chloride contained in the secretion from an isolated Pavlov pouch in the dog" (MacLean, Griffiths, and Williams). I trust that the evidence contained in these communications will satisfy Dr. Goodhart.

In conclusion I would add that I am not particularly attracted by Dr. Goodhart's reversal of the older custom, generally observed among scientific men, of writing a personal letter before rushing into print. Had Dr. Goodhart written to me directly I would have most gladly furnished him with a copy of the manuscript and any other information I could give him on this subject.—I am, etc.,

London, Feb. 27th.

HUGH MACLEAN.

# "DYSPHAGIA ASSOCIATED WITH ANAEMIA."

SIR,—In their important paper on dysphagia associated with anaemia, published in the *JOURNAL* of February 18th (p. 256), Mr. A. Mason Jones and Mr. Robert D. Owen refer to a case reported by me in the *Guy's Hospital Reports* for October, 1926. I called the condition the "Plummer-Vinson syndrome," as I was not then aware of the earlier work of Brown Kelly and Paterson on the subject. These authors, however, did not mention splenomegaly, and gave no details of the nature of the anaemia present, but they describe in detail the glossitis, which appears to have been overlooked by Plummer and Vinson. In all of the four cases I have now seen, and in the one described by Dr. J. A. Ryle in the *Guy's Hospital Reports* for January, 1927, the characteristic dysphagia was associated with glossitis, non-Addisonian anaemia, and splenomegaly.

It is clear that the dysphagia is not caused by any gross organic disease, but there is no evidence in favour of Plummer and Vinson's view that it is hysterical in origin. The theory that it is due to reflex spasm, which was first suggested by Brown Kelly and Paterson, and which has been followed by Mason Jones and Owen, has much to be said for it; but, although I adopted it in my paper on the subject, I am now inclined to think that any spasm which is present is secondary, the primary cause being achalasia of the pharyngo-oesophageal sphincter of Nages, the condition being exactly analogous with achalasia of the cardiac sphincter, which was formerly erroneously described as cardiospasm. Achalasia of the cardia has now been proved, by the pathological investigations of Stokes and Rake<sup>1</sup> to be due to inflammatory and degenerative changes in Auerbach's plexus, which prevent the normal relaxation of the sphincter when it is reached by peristaltic waves carrying food down the oesophagus. If similar changes were present in Auerbach's plexus at the upper sphincter, relaxation at the beginning of the act of deglutination would be prevented. Such changes could readily be caused by a direct spread of inflammation from the mucous membrane to the deeper-lying plexus. There can be little doubt that the atrophic glossitis and pharyngo-oesophagitis present in these cases is a result of a streptococcal infection, which is also responsible for the anaemia and splenomegaly. Dilatation of the closed pharyngo-oesophageal sphincter gives relief, just as the passage of a mercury tube is the most effectual treatment of achalasia of the cardia.—I am, etc.,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, Feb. 22nd.

## COLLECTIVE INVESTIGATION AND TUBERCULIN.

SIR,—From time to time throughout the course of the last thirty-seven years, since the first announcement by Koch of his discovery of an agent which would prevent the development of tuberculosis in animals, and arrest the disease if present, the *BRITISH MEDICAL JOURNAL* has consistently viewed and reviewed the available evidence fairly and hopefully, and one is struck by the sustained interest and balanced judgement brought to bear, throughout this long period, on a subject agitated by the greatest variations of opinion and by the ebb and flow of prejudice of every description.

Yet notwithstanding the critical examination of the reports available up to date, it still remains for you to ask, so recently as July, 1927, "To what extent is tuberculin of value in the diagnosis and treatment of tuberculosis?" and to remark that "practitioners feel that they are without guidance as to the cases in which, and the conditions under which, tuberculin is of value; guidance to which they are entitled the more, since systematic treatment by tuberculin is advocated by medical men with experience of its value."

It appears to me that the guidance asked for demands a thorough re-examination of the whole basis of the subject; that is to say, a reinvestigation into the course and results of cases treated in accordance with Koch's own final conclusions and directions. Discarding the pre-

liminary conceptions of 1890, except in relation to diagnosis, such a re-examination would involve an inquiry into the action of T.R. (1897) and B.E. (1901) in such cases, and with the observance of such directions, as Koch himself laid down, undertaken after a thorough and minute examination of and acquaintance with the whole of Koch's work on the subject. Extraordinary as it may appear, adequate clinical examination of Koch's important work on this subject has not yet been accomplished; certainly it has not been accomplished to such purpose as to carry conviction to medical opinion in general, though one may note your opinion, stated in 1911, that "already results were accumulating which should convince everyone but the incurable sceptic."

The recent revival of a former ideal of the British Medical Association—namely, the direction of the collective scientific acumen of its members towards the solution of important medical questions—together with the failure of other bodies to deal adequately with the subject, induces me to appeal to the Association to undertake this important work itself. There is sufficient individual initiative and knowledge to set on foot here and there, in this Division or that, collective research upon a sufficient number of suitable cases, under suitable conditions, for a sufficient length of time, and under the scrutiny of competent observers, and so to furnish, or assist in furnishing, within a few years, some satisfying answer to the urgent and insistent questions which are now being asked.

In this case collective investigation might well begin with the Divisions themselves, leaving collation and co-ordination to develop from a natural tendency to correlate the work as it progresses. No rigid uniformity of procedure need be insisted upon; the issue is a fairly simple one. It is to demonstrate the effect of rapidly increasing doses of T.R. or B.E., administered in accordance with Koch's methods, in simple, early, uncomplicated cases of tuberculosis, especially such as present lesions whose progress is capable of being watched by actual inspection.

The obstacles in the way of private investigation are almost insuperable, owing to the impossibility of inducing a sufficient number of suitable cases to undergo a long tedious course of treatment, often at the mercy of every idle opinion. In collective investigation there would be scope for a selection of suitable cases from a wide field, observation by trained observers, and the building up of a solid body of common knowledge and instructed opinion, with all the weight which such a settled body of opinion would exercise.

Judging from considerable experience, I have very little doubt as to what the verdict would be, and if this important work is to be retained to any extent in the hands of the general practitioner, instead of those of the specialist or State official, the method here advocated would form an invaluable means of diffusing knowledge on a line of work which is far removed from ordinary methods of practice.

In any case, the present range of applicability of tuberculin is already wide, the possibilities of the subject are of universal importance, and further demonstration and research are of extreme urgency.—I am, etc.,

Wandsworth, Feb. 23rd.

ROBERT CARSWELL.

## SHOCK AND ABORTION.

SIR,—One kind of shock referred to by Mr. Paramore in his interesting letter in your columns to-day (p. 327) appears to be that which Brouardel in his lectures (translated under the name of *Death and Sudden Death*) calls inhibition.

There is no doubt that death by inhibition is intimately related to the mental state of the patient at the time of the reception of the trauma, whatever it may be. Equally—or perhaps it is really the same thing differently stated—death by inhibition is particularly likely to occur in connexion with injury or offence to particular organs or regions. Again, personal idiosyncrasies and varieties of constitution have to be borne in mind. But one is more and more convinced of the paramount importance of the patient's psychological state at the moment of the trauma. Fear, shame, and the like count for much; the unexpectedness of a trauma counts for much; and, singularly but

<sup>1</sup> Vide *Guy's Hospital Reports*, lxxvii, 141, 1927.

indisputably, he or she who is "keyed up," to receive an injury or lesion that is feared and dreaded *without displaying emotion* in the ordinary way, is very likely to suffer from inhibition. Again, associations come into play. I knew once a very brave and gallant soldier who fainted to disappearance of his pulse whenever an attempt was made to vaccinate him. There had been distressing circumstances attendant on his first vaccination.

Some discussion on these and other aspects of the question of shock (including that of delayed shock) took place at a meeting of the Medico-Legal Society in, I think, 1913, and is duly recorded in the *Transactions* of that body.—I am, etc.,

London, W., Feb. 25th.

F. G. CROOKSHANK.

### MEDICAL EXAMINATIONS FOR LIFE ASSURANCE.

SIR,—The more cases one examines for life insurance the more one becomes convinced that the medical profession, as a whole, unnecessarily wastes probably thousands of hours per annum which, with a little help from the insurance companies, could be easily avoided.

Everyone who does this work must have been struck by the difficulty that practically all proposers for life insurance have in answering questions concerning family history. To be asked suddenly to give the age of father, mother, and perhaps several sisters and brothers, when these are living, is often a question requiring time for thought. When, however, several of these people have been dead many years it becomes increasingly difficult to answer correctly their age at death, the year of death, and what precisely was the cause of death.

Some companies realize this difficulty and forward these details on a printed form, which the proposer has had time to consider previously, thus saving, in some cases, five to ten minutes' concentrated thinking and arithmetic in the examiner's consulting room, with a possible negative result.

The other factor which leads to waste of time is the lack of knowledge on the proposer's part that he will have to pass a specimen of his urine in the presence of the examiner. My experience is that the last act of almost everyone before presenting himself for medical examination is to empty the bladder, so that if he should be able to pass urine there is rarely enough to take the specific gravity without dilution. I have found that the companies for whom one examines many cases are quite willing to have the family history details sent with the proposal papers, or with the medical examiner's form. It is the sporadic cases which take up so much of one's time.

To overcome these annoyances would be an easy undertaking for the Central Office of the British Medical Association, and I feel that the profession would be deeply obliged to them for doing so. The insurance companies, I am convinced, would be willing to help. All that would be necessary is an undertaking on the part of each company to provide the proposer with a copy of the family history details, to be filled in before coming for examination, and to tell him that he will need to provide a specimen of urine, passed in the presence of the examiner. Women would be told to take a specimen in a bottle.—I am, etc.,

W. M. ROSSON, M.D., F.R.C.P.

Northampton, Feb. 20th.

### SPECIALIST PUBLIC HEALTH SERVICES.

SIR,—Your leader in the *JOURNAL* of February 11th (p. 228) commends the appointment of district medical officers of health who are also school medical officers, maternity and child welfare officers, and tuberculosis officers under the county council (so-called omnibus appointments). While we all believe it is an advantage to the service that these officers should be under the county councils, and recognize that the appointment provides, as you suggest, "an escape from the backwaters of the health service," there is yet another aspect of the matter, where tuber-

culosis is concerned, which deserves attention. Such an officer would almost essentially be a junior, and without much clinical knowledge of tuberculosis. To diagnose and above all to advise as to the treatment of tuberculosis necessitates prolonged experience and training, and a man of less capacity could not inspire the confidence of the general practitioner, without which the tuberculosis campaign is almost impossible; most of the practitioner concerned would be more competent to diagnose and treat tuberculosis than the officer appointed.

Surely the solution of the tuberculosis problem lies in the appointment of consultant officers of wide experience covering an area large enough to afford adequate remuneration for whole-time men, together with modern aids in diagnosis and treatment. The value of the additional appointment of a part-time consultant, as in some districts is small, for he will not obtain the same personal contact with practitioners as the whole-time officer.—I am, etc.,

Paignton, Devon, Feb. 22nd.

E. WARD.

### EDINBURGH CORPORATION BILL.

SIR,—We notice that a statement is made in your report of the meeting of the Parliamentary Medical Committee on February 21st that "The discussion, which lasted about an hour and a half, showed that the Parliamentary Medical Committee was united in support of the objects of the bill. . . ."

We submit that this is a travesty of what occurred at that meeting, if we understand the language your Parliamentary correspondent uses. The objects of the bill, as set out in the pamphlet conveying the case for the corporation, are to secure compulsory treatment both of defaulters who discontinue treatment before official discharge and of persons who are suspected of infection, but who have not sought treatment. A large majority of members present spoke against these objects very definitely.—We are, etc.,

E. GRAHAM LITTLE,  
RICHARD H. LUCK,  
A. VERNON DAVIES,  
ALFRED SALTER,  
THOMAS WATTS.

House of Commons, Feb. 24th.

\*\* Our Parliamentary correspondent regrets that the sentence objected to by the signatories to the above letter did not convey clearly the idea he wished to express—that is, that the aim of the bill is to secure that persons who break off treatment at venereal disease clinics shall be induced to resume it till they are innocuous.

### TREATMENT OF ACUTE PNEUMONIA.

SIR,—Dr. Maidlow's letter in the *JOURNAL* of February 11th (p. 238) cannot be allowed to pass unchallenged. It breathes the spirit of a bygone age—an age of frock-coats, top-hats, dandereary whiskers, and ponderous platitudes. The days of adopting a line of expectant treatment and hoping for the best have had their innings, and must make way for rational treatment. Bulky volumes of therapeutics are of very little help when one gets down to bed-rock facts. Where one does receive much help is in the *Letters to the Editor*, *Notes and Queries*, and the small print generally in the *BRITISH MEDICAL JOURNAL*.

Dr. Maidlow speaks well of champagne, rum, and cider in the treatment of pneumonia—he likes his comforts—but sodium nucleinate is good, potassium permanganate better, and collosol manganese best of all, even though it does tickle the buttocks. No man with any initiative can stand by and persuade himself that he is doing the best for his patient by filling him up with expectorants, cardiac stimulants, and alcohol. I have used potassium permanganate for a sufficiently long period to be convinced of its great value in most of the commoner constitutional diseases, and collosol manganese has displaced, in my hands, messy poultices and fomentations.

It is very easy for an experienced practitioner to get into a rut, and very difficult for him to get out of it. Ho

has been treating a disease by one method for twenty years, and continues to use the same method for the next twenty. This should be discouraged, otherwise we should still be treating diphtheria with ipecacuanha wine and leeches.

This is an era of restlessness and of research, and we must not rest content until we have pneumonia under control, in much the same way as we have, say, diphtheria. I may be as a voice crying in the wilderness, "Make straight the curve on the temperature chart"; but we must do it, or our labours are in vain.—I am, etc.,

Dennistoun, Glasgow, Feb. 18th.

H. L. McCORMICK.

### THE ACUTE ABDOMEN.

Sm,—It is unfortunate when those who know what they are talking about suffer from an incapacity to impart their knowledge.

I happened on Mr. Rankin's letter before reading Mr. Flint's lecture. From Mr. Rankin I gathered that Mr. Flint depended on the "classical symptoms" (including faecal vomiting) for the diagnosis of intestinal obstruction; that Mr. Rankin had knowledge of earlier signs, which he kept secret; that a rising pulse rate was the surest indication for laparotomy.

It was not clear whether Mr. Rankin made his diagnosis and waited for the pulse rate to rise, or operated on all patients with rising pulse rates (in the latter case may the fates protect Mr. Rankin from a diaphragmatic pleurisy with pneumonia). I further gathered that Mr. Flint recommended high enemata and other non-operative treatment for intussusception, Richter's hernia, etc.; also that cases suspected of acute abdominal conditions may be observed by properly trained competent surgeons, never by general practitioners, nor, apparently, by Mr. Flint (in the opinion of Mr. Rankin).

My curiosity was aroused, and I turned to the paper of this reactionary Mr. Flint. I was puzzled to find no reference to high enemata in treatment, though there was a statement of the diagnostic significance of their results. As to faecal vomiting, there was merely the statement that it had "no useful place in diagnosis." In place of the opium, bleeding, and blisters that I had expected was the astonishing advice, "the earlier operation is performed the better."

Perhaps Mr. Rankin may find time to read this interesting lecture again, with care, and to supplement its deficiencies in a constructive manner by divulging his own methods for the early diagnosis of these dangerous diseases from the many other cases of vomiting and abdominal pain that are almost the daily experience of the general practitioner, but seldom reach the operating surgeon.—I am, etc.,

Chingford, Feb. 21st.

E. BILLING.

Sm,—Mr. Flint has evidently read my letter with less care than I gave to his article. He must not do himself the injustice of thinking that his name and reputation have not reached Glasgow. The note of disappointment sounded in my letter was based on the fact that in a paper given by one who knows what he is talking about so much classical chaff should obscure the valuable grains of his personal experience.

His statistics and those of "G.P." in your issue of February 25th (pp. 325 and 326) amply confirm my thesis that practitioners brought up on the classical clinical symptomatology of the moribund will continue to look, and look till it is too late, in cases of intestinal obstruction—the most deceptive of all the types of the acute abdomen.

Hourly observation of the pulse-respiration and pulse-temperature ratios as a guide to exploration in every case of abdominal discomfort or pain associated with nausea or vomiting should certainly be routine practice. Can the profession as at present organized do it?

I salute Mr. Jeans and trust that our abdominal expansions will always synchronize with our chest expansions.—I am, etc.,

Glasgow, Feb. 26th.

WILLIAM RANKIN.

### Obituary.

F. D. BENNETT, M.R.C.S., L.R.C.P.,  
London.

Dr. FRANCIS DILLON BENNETT, who recently died, was born in Sydney, Australia. He came to England in 1878, and after studying medicine at St. Bartholomew's Hospital obtained, in 1880, the diplomas M.R.C.S., L.R.C.P., and L.S.A. In addition to conducting a private ophthalmic practice he was for many years medical officer to the Army and Navy Co-operative Society.

Dr. Bennett was associated with the Royal Eye Hospital for more than thirty years, being senior clinical assistant to Sir William Collins. His knowledge of ophthalmology was very thorough, and both in refraction work and in ophthalmoscopic diagnosis his judgement was sound and reliable. He served for a considerable period on the board of management of the hospital, where his sagacious advice and equable temper often helped to smooth out difficulties and to increase the reputation of the institution. During the war he acted as consulting ophthalmic surgeon to the Anglo-French Red Cross Society, and was created a Chevalier of the Legion of Honour and received the Médaille Reconnaissance Française; he was also awarded the medal of the British Red Cross.

Dr. Bennett took an active interest in the work of the British Medical Association. He was honorary secretary of the Westminster Division from 1918 to 1923, a member of the executive committee from 1922 to 1927, and vice-chairman in 1926. He was also a member of the Metropolitan Counties Branch Council from 1918 to 1926.

A colleague writes: As one for whom the death of Dr. F. D. Bennett has brought to an end a close friendship covering over forty years, I am expressing the feelings of a host of people to whom the end of his well-spent life has brought a deep sense of personal loss. He had a positive genius for friendship, making friends wherever he went and retaining their affection to a remarkable degree. Quiet, reserved, and grave in manner, he seemed to most people on first acquaintance kindly rather than warm-hearted, but it did not take long for them to realize that he was one of those rare spirits for whom the joys and sorrows of others are of far greater importance than their own. He shared the troubles and anxieties of the many friends who sought his advice on every conceivable subject. None was ever sent empty away, and his sound judgement rarely failed to solve their special problems. Not often is a man found of whom it can honestly be said that he was universally respected, at the same time capable of winning the affection of all with whom he was brought in contact; but it was so with "Ben," as he was known to his intimates all through his life. Greatly beloved and deeply mourned by all who knew him, his passing leaves a gap in many lives.

Dr. HARVEY HILLIARD (formerly chairman of the Westminster Division) writes: By the death of Dr. F. D. Bennett the British Medical Association in Westminster loses a staunch supporter and the medical profession a confrere who set the highest professional example. For several years he acted as secretary of the Westminster Division, and did his best to bring together the medical men in the district in a spirit of friendly co-operation. Bennett was a man whose kindness of heart was one of his chief characteristics, and gained for him the affection of all who knew him.

T. C. GUTHRIE, M.B., C.M.,  
Tunbridge Wells.

We regret to announce the death, on February 18th, of THOMAS CLEMENT GUTHRIE of Tunbridge Wells in his 61st year. Dr. Guthrie was born at Liberton in Midlothian, and received his medical education at the University of Edinburgh and St. Thomas's Hospital. He graduated M.B., C.M.Ed. in 1892, and obtained the diplomas M.R.C.S., L.R.C.P. five years later. He held the appointments of house-surgeon at the Edinburgh Royal Infirmary and the Royal Hospital for Sick Children, and was assistant physician to the Victoria Dispensary for Diseases of the Chest. Some thirty years ago he settled



Mr. Kidd said he was suspicious of the Minister's reference to the extra cost incurred through increased sickness. Last year Scotland was still suffering from the coal stoppage, and had the wettest season on record. The weather, acting on vitality lowered after the stoppage, accounted for the increased sickness. He asked the Minister to be slow in assuming that medical practitioners had been too facile in allowing panel patients medical treatment, or too slow in turning them off the list. If they interfered with the discretion of the doctor, on whom was the supervision to rest — on official medical men representing the Ministry, or should the doctor have the assistance of other panel doctors? He had found cases where a doctor objected to being overruled on the quality of the medicine which he prescribed. They should not create the impression that there were two classes of patients, only one of which received certain medicines even though they were equally necessary to the other. Mr. Seryngeour did not think there was any ground for saying that the doctors were slack in attending to the interests of the patients or of the approved societies. He had not for some time heard a complaint in Scotland that a doctor had more than the maximum number on his panel. Mr. Campbell Stephen said the working classes frequently complained that the doctors were far too particular in certification. Very often these poor people were sent back to work when, if they had been members of the middle classes, they would still have been receiving every medical attention and the best of treatment. Because they happened to be poor people the doctors insisted that they should go back to work. Nevertheless, the Minister was now going to bully the doctors, though he had no evidence to show

that medical men in Scotland were not acting properly in this matter. The House should think seriously before it allowed the Secretary for Scotland to impose new conditions on the medical profession in order that they might send working people to work when they were unfit. He asked why in Glasgow there had not been the regular election for the medical panel committee. Medical men in Glasgow had pressed for the election, yet the Minister refused to have it. Mr. Duncan Grunlan said he made no charges against doctors. He did not think they would find an instance in Lanarkshire, where a medical practitioner had signed a "lino" for the payment of health benefit to a person not entitled to it.

Sir Henry Cauley said the increase in sickness and disablement benefit in the last three years had been very serious. In numerous instances the doctor's desire to do his duty had brought him in conflict with his patient. The cure was to increase his independence. In many cases a panel doctor was approached by the father of a household and might be slow in certifying him as unfit for work or to receive benefit. The patient changed to another panel doctor, and the old panel doctor, who had been attending the man's wife and child in his private practice, lost that connection. That ought not to be allowed to arise. As much as a month should elapse before a patient could change his panel doctor. Mr. Westwood alleged that in his constituency (Peebles and Southern Midlothian) medical men were forming themselves into a limited liability company so that they could dispense the medicines which they themselves had prescribed. The original Health Insurance Act laid down that, save in exceptional cases, a medical man should not dispense the medicine he prescribed, but he could instance a case where a doctor had started a shop company, in which his wife took two shares and he the rest. This doctor did not hand prescriptions over to the patients, but took them away to dispense himself. He hoped the Secretary for Scotland would issue instructions that prescriptions must be given to insured persons so that they might obtain medicine from whatever chemist they chose.

Sir John Gilmour, speaking again, said that in 1925 the number of national health cases in Scotland on which doubt was expressed and which were referred to examination was 22,231. It was 24,016 in 1926 and 35,068 in 1927. Of men's cases examined by the referee in 1927 the practitioner's certificate was upheld in 45 per cent., and of women's cases in 35 per cent. The practitioner's certificate was reversed in 21 per cent. of the men's cases and in 24 per cent. of the women's. Of cases referred but not examined, 15 per cent. of the men were declared off the fund and 19 per cent. of the women. Of the men 14 per cent. failed to appear and of the women 19 per cent. There were not examined, for various reasons, 5 per cent. of the men and 3 per cent. of the women. If the cases were genuine the doctors had full right to make their recommendations. The Board had issued an order by which fourteen days' notice of change must be given. The object was to let the doctor feel that there was a time during which the fairness of his decision might be considered by himself and the referee. He had found it necessary to say quite plainly that some members of the medical profession were not observing as carefully as they should the duties laid on them. One must recognize the difficulties under which many of these cases were dealt with, but the fact remained. He hoped the medical profession would help the Board and the societies concerned, and that they should not be compelled to take more compulsory methods. He did not think a Select Committee was required to inquire into the charges he had made. The facts were patent and known to the approved societies, to the House, and to the medical profession. Replying to questions put during the debate, Sir John said election to the medical panel had not been proceeded with as there was a doubt as to whether it would be continued in view of a recommendation of the Royal Commission. He would investigate Mr. Westwood's allegations regarding dispensing by practitioners if that member would send him information. Mr. William Adamson protested against the diversions of money from housing. The Supplementary Estimate was carried by 229 to 69.

#### Qualifications in Ophthalmology of Medical Officers.

Sir John Gilmour, replying on February 22nd to Sir R. Hamilton, said that on appointing medical officers to their staff the Scottish Board of Health did not require candidates to possess special qualifications in ophthalmology other than the course now obligatory in the medical curriculum. But the majority of the present staff had had special experience in eye work, and in view of the special conditions of industrial blindness the whole medical staff had undergone a course of instruction by a consultant ophthalmologist directed to the peculiar problems arising under the Blind Persons Act. When cases presenting exceptional difficulty were reported, the Board authorized the employment of an eye specialist.

#### Small-pox.

Answering Mr. Rhys Davies, on February 23rd, Mr. Chamberlain said that in the present year five cases of small-pox had occurred in the Hindley urban district, and four in the Aspull urban district. The sources of infection had not been ascertained. He detailed the preventive measures taken. Absentees from works were visited. Picture halls, employment exchange, and post office and The schools, billiard halls were closed for matinee performances. were also disinfected. He was advised that overcrowding and bad sanitation did not cause outbreaks of small-pox.

Answering Mr. Groves, on February 23rd, Mr. Chamberlain said that of the 7,956 persons classified in the report of the chief medical officer of the Ministry of Health for 1925 as unvaccinated, 459 had been vaccinated during the incubation period, 72 of whom were over the age of 20. He did not think the added information would justify him in giving instructions that in filling up forms

giving details of small-pox cases the responsible officials should state whether the case was vaccinated during the incubation period.

On February 27th Mr. Chamberlain, replying to Mr. Groves, said that the notifications of cases of small-pox in England and Wales last year were as follows, the figures being provisional: In the thirteen weeks ended April 2nd, 1927, 6,153 cases; in the thirteen weeks ended August 2nd, 3,753 cases; in the thirteen weeks ended September 1st, 1,930 cases; and in the thirteen weeks ended December 31st, 2,928 cases. This made a total for the year of 14,764 cases.

On February 28th Sir Kingsley Wood informed Mr. Groves that he had seen a report of the proceedings at the coroner's inquest on the death of Mr. J. H. Chetter of Warrington, after vaccination imposed on him by his employers as an alternative to suspension from work for an indefinite period. Representatives of the Ministry of Health were not present at the post-mortem examination or at the inquest, and the vaccination was not carried out by a public vaccinator with Government lymph.

Replying to Dr. Vernon Davies, on February 28th, Sir Kingsley Wood said that during 1927 there were 49 deaths in respect of which small-pox was entered on the medical certificate as the cause, or one of the causes, of death; 2,582 cases had been notified during the first seven weeks of the present year, but no particulars on deaths were available.

#### Foot-and-Mouth Disease.

Mr. Guinness, replying to Mr. Hurd on February 27th, said that in March, 1927, the Ministry of Agriculture asked three of the Governments of South America which exported meat to this country to accept certain proposals designed to prevent the introduction of virus of foot-and-mouth disease into Great Britain. Last December Lord Bledisloe, then Parliamentary Secretary, conferred with representatives of the Argentine, Uruguayan, and Brazilian Governments. As a result, the Argentine Government issued a decree, which took effect on February 1st, the main provision of which was that the carcasses of infected animals, and those which had been in immediate contact with them, should not be exported to Great Britain. The Uruguayan and Brazilian Governments had adopted similar regulations. Lord Bledisloe reported that all three Governments were increasing their efforts to get foot-and-mouth disease under control. A British inspector, who was stationed in the Argentine Republic, reported that the disease was endemic. In a second progress report the Foot-and-Mouth Disease Research Committee had reported that in two instances the bone marrow in carcasses of experimentally infected animals, which had been frozen or chilled for seventy-six days, remained infective. There was thus experimental evidence that chilled or frozen carcasses of infected foreign cattle might introduce disease to this country, but there was no conclusive evidence that this happened under ordinary trade conditions.

#### Washington Convention on Hours of Labour.

In Committee of Supply on the Civil Service Estimates, in the House of Commons on February 27th, Mr. Shaw moved a reduction of £100 in the salary of the Minister of Labour to call attention to the failure of the Government to ratify the Washington Hours Convention. Mr. Betterson, Parliamentary Secretary to the Ministry of Labour, said that to accuse this country of deception because the Government had refused to accept as final a draft which, if ratified, would cause injury to hundreds of thousands of workers in this country was to ask them to adopt an action quite inadmissible and inexcusable. The British Government did not ratify because there were at this moment agreements in existence affecting many hundreds of thousands of British workers. Those agreements were valuable instruments in the maintenance of industrial peace and would be improved by ratification.

Dr. Vernon Davies said that there had been one great feature in the debate which had made it different from all the previous debates to which he had listened. That was that to-day the Government, by means of the Parliamentary Secretary, had made some attempt to controvert the charges laid against them. It was a peculiar thing that both the Labour party in wishing for ratification, and the Conservative party in opposing it, said that they did it in the interests of the workers. Both sides could not be right. Unfortunately, up to the present, the Government had not convinced him as he would like to be convinced. He was pleased that the Parliamentary Secretary had made certain specific statements which would be of the greatest possible value to the working people when they read and digested them. The fact first was that the right of Parliament was supreme. The fact that delegates were sent to Washington to ratify the Convention did not necessarily mean that the Government were compelled to give effect to the ratification. Another point well brought out was that the Convention must be ratified as a whole and not in part, and that was one of the reasons why the Government had not accepted it. A further point was that other nations had also the habit of not always ratifying the conventions made by their delegates. He wished to impress on the Minister of Labour that this question of the forty-eight hours week was a very vital one to the working people of this country. It was the one thing on which they had concentrated. They held the opinion that they had won the forty-eight hours week only by prolonged and bitter fights, and they were determined that in no circumstances short of very dire necessity would they ever give it up. What the Government had not quite convinced them of was that the non-ratification of this Convention was to the advantage of the workpeople of this country. If the Minister would give specific instances and simply say that if the Convention were ratified it would mean that the textile workers would be

working forty-eight hours a week with no overtime, but that in Germany they would be working, say, fifty hours, or sixty in Czechoslovakia, and so on, such a statement would carry conviction. Up to the present the Government had not been able to prove conclusively to him that ratification would be definitely to the detriment of the people, and he was compelled for the fourth time to speak against his party. He hoped the Minister would be able to make a strong case in proof of the statement that ratification would be detrimental to the workpeople and industry of the country, and that the Government regarded it as their duty, in looking after the workpeople's interests first and foremost, to refuse to ratify the Convention.

Sir A. Steel-Maitland expressed the hope that the employers' representatives and the Trades Union Council would sit down with him and help in the revision of the Convention, and work out a practicable scheme.

The motion for the reduction of the vote was defeated.

#### *Reorganization of Offices (Scotland) Bill.*

On February 28th Sir John Gilmour moved the second reading of the Reorganization of Offices (Scotland) Bill. The bill provides that on the appointed day the Scottish Board of Health, the Board of Agriculture for Scotland, and the Prison Commissioners for Scotland shall cease to exist. The powers and duties of these Boards, including the Prison Commissioners for Scotland, are to be transferred to and vested in a Department of Health for Scotland, a Department of Agriculture for Scotland, and a Prisons Department for Scotland, under the control and direction of one of His Majesty's Principal Secretaries of State, and consisting of a secretary and such other officers and servants as the Secretary of State may determine. The offices of the departments are to be situated in Edinburgh. The persons employed by the Board are to be transferred and attached to the department, and shall be in no worse position as regards tenure of office, salary, and superannuation allowance than if the bill had not passed. No vacancy in the office of members of the Scottish Board of Health existing at the passage of the bill or afterwards is to be filled, and that part of Section 3 of the Scottish Board of Health Act, 1919, requiring that the Board of Health shall at all times include certain members having the qualifications therein set forth, is to cease to have effect.

Sir John Gilmour said that the bill was practically identical with that of last year. While it abolished patronage, the bill did not lessen the possibilities of contact between outside interests in Scotland and the departments. The sole motive was one of efficiency. The bill left intact the same responsibilities, and it gave to the Minister in charge in the House of Commons additional assistance in that, in future, he would have the valuable advice of first-class civil servants. There was no intention of transferring the work of the departments to London, and to make that clear he had inserted a provision in the bill to the effect that the offices should be in Edinburgh.

Mr. T. Johnston moved the rejection of the bill, and contended that although the offices would be in Edinburgh, the power that directed the departments would be in London. The Government were deliberately attempting to take away the administration of public affairs in Scotland from skilled men selected because of their specialized knowledge, and transfer it to men who, whatever scholastic qualifications they might have acquired at Oxford or Cambridge, had not proved their fitness to control the departments. Mr. Barr seconded the rejection. Mr. Webb urged the Government not to smother the real experts in these departments by administrative chiefs. He admitted that it would be to the advantage of the Minister to have an administrative chief in each department. Mr. Kidd said that from his experience in the Board of Health there was probably no better service than that which had obtained in Edinburgh. There was, however, a great deal to be said for concentrated administration of the public service in the hands of the Civil Service.

The debate on the second reading was adjourned, and will probably be completed on March 5th.

**Pensions.**—On February 23rd Major Tryon issued figures showing that during 1927 the Ministry of Pensions employed 50 established whole-time medical officers and 190 unestablished ones, against 50 and 222 respectively in 1926, 50 and 329 in 1925, and 3 and 452 in 1924. In 1927 the average number of ex-service men receiving treatment was 27,700, against 34,700 in 1926, 44,600 in 1925, and 56,500 in 1924. The weekly cost of an ex-service patient in a Ministry of Pensions institution during 1927 was £3 0s. 3d., and of similar patients in other hospitals £2 18s. 7d. each. At the end of January, 1928, 5,300 ex-service men in England and 800 in Scotland were receiving, at the expense of the Ministry, treatment in institutions belonging to local authorities. Lieut.-Colonel G. F. Stanley, replying to Mr. Robinson on February 28th, said that the occasions which necessitated a visit by a medical officer of the Ministry of Pensions to a patient's home were comparatively few, and it had long been the practice of the Ministry to employ a medical man on a fee basis in the rare cases where the deputy commissioner of medical services was not able to visit the case with reasonable promptness. Discharge of patients under the arrangements made in connexion with the arrangements, had normally the services of their own medical officers available to call for purposes of treatment at home or otherwise, and the Minister of Pensions would not be justified in duplicating those arrangements.

**Tetra-ethyl Lead.**—The Home Secretary, in an answer on February 23rd to Commander Kenworthy, said the effect on the public health of the use of petrol diluted with tetra-ethyl lead was outside the jurisdiction of the Home Office. However, as

special measures might have to be taken for the protection of factory workers, that department had followed closely the investigations made in the United States. No evidence had been discovered there of any injury to the public. No regulations had been imposed in the United States on the use of this substance, but instructions were issued by the company supplying it, and the same was done in this country. The effect on workers in industry where there was a risk through exposure to tetra-ethyl lead would be carefully watched. So far no case of lead poisoning had occurred. He had seen a recent warning by Sir William Pope against its use. He would confer with the Ministry of Health to see whether the Department of Scientific and Industrial Research could investigate the matter more fully. Commander Kenworthy asked whether the Home Secretary would consider the effect of this substance in city thoroughfares. Sir W. Joynson-Hicks said the Ministry of Health dealt with public health. Colonel Howard Barry asked whether the Home Secretary knew that lead poisoning took a considerable time before it appeared. No answer was returned.

**Notifiable Diseases.**—Replying to Lord Sandon, on February 23rd, Mr. Chamberlain said the majority of infectious diseases were notifiable throughout the country, but a few had been made notifiable in certain areas only of London and the provinces for reasons which did not exist elsewhere. Nothing would be gained by uniformity.

**The Mosquito Pest.**—In reply to questions about the prevention of mosquitos in England, Mr. Chamberlain said the indiscriminate spraying of all marsh lands was not necessary and would probably be ineffective. He advised local authorities, when they had any particular pest, to apply to the Ministry of Health, which could send an expert to advise. A British Museum pamphlet on *British Mosquitos and Their Control* contained advice on the best methods to combat mosquito pests.

**Leprosy.**—On February 27th Mr. Amery, in reply to a question, said that in those parts of the Empire where leprosy existed active measures were being taken by medical departments for its control, in many cases in co-operation with the British Empire Leprosy Relief Association and other agencies. Medical officers trained in recent methods had been detailed for special duty in Nigeria, the Gold Coast, Fiji, and other colonies, while in all areas attention was being given to the possibility of the eradication of the disease by the establishment of treatment stations, as in Tanganyika, Nyasaland, Uganda, or by such other means as the situation demanded.

**Night Work by Boys in Mines.**—Commodore King, replying to Mr. Lee on February 28th, said he was aware that many of the 28,000 youths between 14 and 16 working underground in the collieries were expected to work on the night shift, and that youths of a similar age were not allowed by law to work on the surface at night. Medical examination was the practice at some collieries, but was not compulsory by law. In 1911, when Parliament passed the Coal Mines Act of that year, it was decided that the prohibition against night work by boys on the surface should not be extended to underground work, and this decision was confirmed by the Washington Convention of 1919 and by the Employment of Women, Young Persons, and Children Act of 1920. He was not aware of any sufficient reason for reversing this decision.

**Closing of Military Hospitals.**—On February 28th, in reply to Dr. Vernon Davies, Sir L. Worthington-Evans said that in 1922 the Military Hospital, Chatham, and the Royal Naval Hospital, the Military Hospital, Chatham, and the Royal Naval Hospital, were closed. Military patients at Chatham were now treated in the Royal Naval Hospital, Chatham, and naval sick treated in the Royal Naval Hospital, Chatham. Since the Alexandria Military Hospital at Cosham and the Military Hospital at Devonport had been closed, and military patients in these districts were now treated at naval hospitals. The Joint Medical Services Committee had the question of co-operation between the three medical services continually under review, and useful work was being done.

**Humane Killing of Animals.**—On February 17th General Charrles moved the second reading of the Slaughter of Animals (Scotland) Bill, to provide that in all Scottish slaughterhouses and knackers' yards the slaughtermen shall be duly trained and licensed, and shall, for all animals except swine, use a mechanical instrument. Colonel Moore said that over 2,000,000 animals were slaughtered yearly in Scotland. The bill was read a second time by 118 to 11, and sent to a standing committee. On February 16th Mr. Chamberlain said he did not see his way to introduce legislation to enforce the universal use of the humane killer in slaughterhouses.

**Inspection of Offices.**—On February 27th Mr. Chamberlain, in reply to Dr. Fremantle, said that he advised local authorities, on inquiry, that they had powers to undertake systematic inspection of offices as well as to inspect on complaint. He had not had any instance brought to his notice where a local authority had been impeded in such inspection.

#### *Notes in Brief.*

Mr. Chamberlain does not propose to issue a general instruction to hospitals under his control advising the provision of special beds for abnormally tall patients.

On February 1st, 1928, 50,556 houses were building under the Housing Acts and 95,205 more were authorized.

No case of foot-and-mouth disease has been definitely traced to imported agricultural or garden produce.

In the opinion of the Home Secretary it is too early to form an opinion on the efficacy of the regulations which came into force last October under the Lead Paint Act, 1926.

In the Admiralty hospitals of the United Kingdom 1,912 beds are available; the maximum number occupied on any day last year was 1,804. For Air Force hospitals the figures were 440 and 368.

Excluding lunatics, casuals, and persons only receiving domiciliary medical relief, 1,208,179 persons were receiving poor relief in England and Wales on February 4th, 1928.

On March 31st last 14,563 blind persons between 50 and 70 years of age were receiving pensions under the Blind Persons Act, and there were approximately 10,000 blind old age pensioners over 70. On the same date there were in England and Wales 258 blind children under 5 years of age and 2,554 between 5 and 16.

Mr. Chamberlain is advised that the information available does not justify further legislation on the use, for treatment of disease, of electrical methods as well as x rays and ultra-violet rays by unqualified practitioners.

The revenue from the sale of alcohol and narcotic drugs in the provinces of India in 1925-26 was 1,930.8 lakhs of rupees.

During 1927 seventeen applicants for service in the Post Office as boy messengers were rejected for flat-foot.

The Ministry of Health has received no report from the West Ham Board of Guardians on the health of the children boarded out by them. These children are regularly inspected.

The Government think it inexpedient to ratify the Convention accepting the prohibition of the use in war of asphyxiating poison or gases until all important Powers have ratified the Protocol, or have signified their intention to do so.

The average daily number of cases under treatment at Haslar Royal Naval Hospital in 1927 was 366, against 381 in 1926 and 538 in 1925. The peace accommodation is 88 officers and 1,059 men; the annual cost in the year ended September last was £105,419.

## Medical News.

A MEETING of the Harveian Society of London will be held at the Paddington Town Hall, W., on Thursday, March 15th, at 8.30 p.m., when Sir William Willcox, K.C.I.E., will deliver the Harveian Lecture on toxicology in its application to medical practice.

A Conference on the Place of the Practising Midwife in Relation to the Protection of Motherhood will be held at the Royal Society of Arts, John Street, Adelphi, on Wednesday, March 7th, from 5 to 7 p.m. The chair will be taken by Sir Francis Champneys, Bt., M.D., chairman of the Central Midwives Board, and the speakers will include Dr. John S. Fairbairn, Dr. J. A. Willett, and Dr. Oxley.

THE Right Hon. J. H. Whitley, M.P., Speaker of the House of Commons, will open the new building of the Leeds Dental School on March 16th at 2.30 p.m. Some particulars of the growth of the school and of the new building were published in our issue of January 14th, p. 72. After the opening ceremony visitors will have an opportunity of inspecting the rooms, and at 4 p.m. honorary degrees will be conferred upon the Speaker and other distinguished persons.

A DISCUSSION on neurases in the tropics will take place at a joint meeting of the Sections of Tropical Diseases, Psychiatry, Neurology, and Bacteriology of the Royal Society of Medicine to be held at 1, Wimpole Street, W.1, on Tuesday, March 13th, at 8.30 p.m.

THE thirteenth Guthrie Lecture before the Physical Society on electrodeless discharge through gases will be given by Sir Joseph Thomson, O.M., F.R.S., on Friday, March 9th, at 5 o'clock, at the Imperial College of Science and Technology, South Kensington. No tickets are required.

THE course of three post-graduate lectures on cancer at the Leeds Medical School on March 7th, April 4th, and May 9th is under the joint auspices of the Yorkshire Council of the British Empire Campaign and the Leeds and West Riding Medico-Chirurgical Society.

THE Fellowship of Medicine announces that Dr. C. M. Wilson will lecture on the chronic abdomen on March 5th, at 5 p.m., at the Medical Society of London, 11, Chandos Street, Cavendish Square, W.1. On March 6th, at 3 p.m., Dr. F. Herniman-Johnson will deliver a lecture, illustrated by radiographs, at the British Institute of Radiology, 32, Welbeck Street, W.1, on x rays as an aid in the diagnosis of abdominal disease, and on March 7th, at 5 p.m., Mr. T. Jefferson Fanlender will give a clinical demonstration at the Golden Square Throat Hospital. The lecture and two demonstrations are free to medical practitioners. Three two weeks' courses begin on March 5th—namely, in gynaecology at the Chelsea Hospital for Women, in diseases of children at the Queen's Royal Eye Hospital. An all-day course will be held at the Brompton Hospital for one week, beginning March 19th. From March 19th to 31st inclusive there will be a course at the Royal National Orthopaedic Hospital, and from March 19th

to 30th a course for the general practitioner at the Hampstead General Hospital daily from 4.30 to 6 p.m. No special courses will be begun subsequently until April 16th, but the Fellowship of Medicine provides a general course of instruction at hospitals, for which comprehensive tickets are issued for varying periods. Further information may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

A POST-GRADUATE course in neurology and psychiatry will be held, in English, at Vienna, under the auspices of the American Medical Association of Vienna, from June 1st to July 31st. Further information may be obtained from Dr. E. Spiegel, Falkenstrasse 3, Vienna I.

THE Central Committee on Rheumatism of the International Society of Medical Hydrology has decided to organize clinical conferences on cases of rheumatic disease in hospitals, with the assistance of members of the different national committees. In connexion with the inaugural meeting of the French Committee on Rheumatism in Paris on April 2nd a conference will take place, with the collaboration of French physicians, at La Pitié Hospital and the Salpêtrière. Any medical men desiring to attend this conference can obtain further information from the secretary of the French Committee, Dr. H. Forestier, 10, Rue du Mont Thabor, Paris (8).

THE tenth International medical post-graduate course, with special reference to balneology and balneotherapy, will be held at Carlsbad from September 23rd to 29th, 1928. Clinicians and scientists from the medical faculties of Austria, Bulgaria, Czechoslovakia, Denmark, England, France, Germany, Italy, Norway, Poland, Sweden, Switzerland, and the United States of America will give addresses. England will be represented by Professor Hugh MacLean and Dr. George Graham. An invitation is extended to all medical practitioners. Those who accept will receive a passport visé without charge and a 33 per cent. reduction on all State railways in Czechoslovakia. A programme of entertainments has been arranged. Full information may be had from Dr. Edgar Ganz, secretary of the medical post-graduate course, Carlsbad, Czechoslovakia.

THE Standing Committee appointed by the Board of Trade will hold an inquiry on March 5th and 6th as to whether the following imported goods should bear an indication of origin: surgical, medical, dental, and veterinary instruments and appliances, aseptic hospital furniture of all descriptions, dental supplies of all descriptions other than glassware, and dental furniture of all descriptions. The inquiry will be held at the Board of Trade Offices, Great George Street, S.W.1. Communications should be addressed to the secretary, Mr. E. W. Reardon, at that address.

THE second Hispano-Portuguese Congress of Urology will be held at Madrid from May 10th to 16th. Further information can be obtained from the general secretary, Dr. T. S. Corlisa, Calle de Alcalá 95, Madrid.

THE National Institute of Industrial Psychology, which was founded seven years ago for the application of the human sciences to the everyday needs of industry, has received an anonymous gift of £4,000 towards the cost of new premises.

WE have received the first issue, dated January 15th, 1928, of a new monthly journal on anaesthetics entitled *Narkose und Anaesthetica*, and published at Berlin under the editorship of Dr. H. Franken of the Freiburg University Women's Clinic, assisted by Drs. H. Eppinger and O. Pankow of Freiburg, E. Rehn of Bonn, and P. Trendelenburg of Berlin. The issue contains an original article by Dr. H. Lindemann of Düsseldorf on new methods for producing anaesthesia of the jaws and face, a review by Dr. Hans Killian of Düsseldorf on the results of rectal anaesthesia by avertin, and abstracts from current literature.

It is announced in the January issue of the *British Journal of Anaesthesia* that a prize of £50 is offered in commemoration of the late Dr. Sidney Rawson Wilson for the best research on inhalation anaesthesia between now and December 1st. In sending the essay a *nom de plume* is to be used; further information may be obtained from the editor of that journal "Ainsdale," Palatine Road, Withington, Manchester.

THE subject of tetra-ethyl lead as an addition to motor spirit, which is referred to at pages 363 and 366 of our present issue, was raised in the House of Lords on Wednesday by Lord Buckmaster, who moved that the Government should immediately set up a committee to advise as to the public danger that might arise from this cause. Lord Salisbury, in replying for the Government, said that an interdepartmental committee would be appointed forthwith, containing representatives of the Ministry of Health, the Home Office, and the Medical Research Council. On this undertaking Lord Buckmaster withdrew his motion, after insisting that eminent chemists ought to be included in the membership of the committee.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the **Irish Office** of the **British Medical Association** is 16, South Frederick Street, Dublin (telegrams: *Ilacillus, Dublin*; telephone: 4737 Dublin), and of the **Scottish Office**, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### PHYSIOLOGY OF DEFAECATION.

**DR. A. C. JORDAN** (London, W.) writes: In reply to numerous inquiries regarding the **v.c. foot-rest** referred to in my letter of February 18th (p. 292), the address of the makers is the **F.A.F.R. Company, 36, North Gate, Newark, Notts.**

#### FIREMEN'S CRAMP.

**DR. F. G. GARDNER** (Oxford) writes: I believe the view now held is that cramp occurring in firemen and others working in great heat is due to a deficiency of sodium chloride in the system, as the result of excessive sweating. If this is so, prevention should be a simple matter. A large quantity of cold water quickly swallowed will induce "cramp" in anyone—as many of us know from experience. A safer drink, and one more satisfying to the thirsty, is oatmeal water. A contributory cause of cramp is exposure of the abdomen, either at work or at rest; the rapid evaporation of the sweat causes "absorption of heat," and so the blood is "chilled" over a large and somewhat superficial area. Those who "go down to the sea in ships"—naval engineers and others—have opportunities of testing the theories I allude to in a very simple manner, and their experiences would be useful and interesting.

#### INCOME TAX.

##### Motor Car Renewals.

"H. C. M." bought an "H" saloon (11.4 h.p.) in 1922 for £750 and has now replaced that car by a "W" saloon (16 h.p.) for £495-£140=£355. He asks what claim he can make, "taking into consideration the increased horse-power." He has not made any annual claim for wear and tear.

\* \* Nominal horse-power is only one consideration among several indicating the capital value of a car, and seeing that the list price of the second car is £155 below that of the former car, we are of opinion that "H. C. M." may fairly claim the whole of the out-of-pocket expense—£355—as an expense of renewal.

#### Sale of Practice.

"R. A. M. C." was in partnership from October, 1922, to September 30th, 1926, and on his own account to September 30th, 1927, as from which date he sold his practice and has been unemployed. He has received applications for payment of tax "from the inspector's office, £34 odd, and from the collector's, £6 plus £27."

\* \* His liability will be represented by the tax applicable to (1) a half-share of the practice profits to September 30th, 1926; (2) the whole of the profits (as calculated on the usual average) for the half-year to March 31st (or April 5th), 1927; and (3) the half-year to September 30th, 1927, based on half the amount of the profits of the year to September 30th, 1926, or to whatever may have been the usual date taken for income tax purposes. If the whole of the cash received for practice debts is brought into the computation of the practice profits after the dissolution of partnership at September 30th, 1926, then the £100 received since September 30th, 1927, should be ignored. "R. A. M. C." will probably find that the applications by the inspector and collector refer to the same amounts of tax, and should not be regarded as independent.

## LETTERS, NOTES, ETC.

### RAPID FIRST LABOUR.

**SURGEON COMMANDER G. V. HOBBS, R.N.**, writes: The account of two cases of painless natural labour (*JOURNAL*, January 21st, p. 120, and 28th, p. 164) prompt me to mention the following case I attended some years ago, which I think must be equally rare. I was called one night to see a young married woman said to be suffering from acute abdominal pain. It was obvious she was in labour, and after examination I expressed the opinion that the child would not be born for some hours; I then found that she was unaware of her condition. I was also surprised when a perfectly healthy child of 7 lb. was born only two hours later, three and a half hours after the first pain. It appeared that seven months previously she attended her own doctor for the amenorrhoea, who, finding she was suffering from anaemia, gave him as a probable cause and prescribed for it. The patient thought this treatment beneficial, causing her to put on weight. There was no evidence of quickening, and she felt perfectly fit during the whole of her pregnancy, playing tennis, and even going for a twelve-mile walk with her husband the day before the child was born. The points of interest in the case are: (1) The short period of labour for a primipara—namely, three and a half hours. (2) The lack of distress of the patient: she was most anxious to get up the next day, as she felt so well. (3) The absence of any reason for concealment of her condition. (4) The fact that she was staying at the time with her mother-in-law, who evidently noticed nothing. (5) This case also illustrates the advantage of a pregnant woman leading a normal life, instead of pudoring to false modesty by staying indoors and taking very little exercise, a proceeding all too common at the present day.

**DR. M. M. RUSSELL** (Sutton) writes: At the risk of increasing incredulity I am prompted by recent letters in the *JOURNAL* to mention a case which I attended while on extern duty at the *Romunda Hospital, Dublin*, in 1915. I was called to see a stalwart young primipara in labour who, after I arrived, had three uterine contractions without any discomfort, with the head on the perineum. She then declared that the "baby was coming," and on the next contraction the head was born with the membranes intact, and was then completely withdrawn within the vulva again. I ruptured the membranes and the child was born forthwith. It was . . . here was no perineal laceration.

### A SCARLET RED DRY DRESSING.

**D . . .** Isle of Man) writes: I should like to mention of scarlet red incorporated into . . . out of indolent ulcers. It is prepared as follows: A solution is made of 20 grains of a Biebrich red (chemically . . . acid) in a . . . The lint is immersed in this solution for two days, during which period it should be occasionally compressed, so that the solution properly permeate the material. Without wringing or may thoroughly permeate the material. Without wringing or the use of artificial heat it is allowed to dry, and is then ironed at a low temperature. These details, even if only roughly followed, will furnish a satisfactory dressing, which should be applied at least twice a day, the piece of material employed being cut exactly to the size and shape of the ulcer.

### HAEMOPTYSIS IN INFANTS.

**DR. C. J. BATTLE** (Klerksdorp, Transvaal) records the case of a male European infant, aged about 3 months, who was found one morning with a little red blood running out of his mouth. He then commenced coughing and coughed up a bluish clot. Later he again coughed, went blue in the face, and coughed up blood he again coughed. The same night he passed black stools. The mixed with slime. The face was rather leaden. In the left lung child looked ill and the face was rather leaden. In the left lung there were many crepitations, chiefly in the upper lobe; there was no pyrexia and the heart was normal. In the afternoon fresh blood and a small clot or two were found in his mouth. It was stated that these had been coughed up; there had been no epistaxis, and there appeared to be nothing in the mouth or throat to account for the blood. The infant was given an injection of about 2 c.cm. haemostatic serum, which was repeated next day; the calcium was administered by the mouth. Two days later the temperature was 100° F. in the rectum, and on the fourth day it was normal again. There was no more haemorrhage after the first injection. On the second day of illness there were signs of bronchial catarrh in both lungs, and this lasted for a week or two. Since then, he has been well. Dr. Battle adds: The due to errors of diet, he has been well. Dr. Battle adds: The interest of the case appears to me to lie in the fact that haemorrhage from the lungs appearing at the mouth in infants is exceedingly rare, and, according to Porter and Carter of San Francisco in their book *Management of the Sick Infant*, is practically unknown.

### VACANCIES.

**NOTIFICATIONS** of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 46, 47, and 50 of our advertisements, columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 48 and 49. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 75.



## An Address ON CHRONIC INTESTINAL TOXAEMIA IN CHILDREN.

DELIVERED BEFORE THE HAMPSHIRE MEDICAL SOCIETY,  
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BY  
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THE chief object of this address is to direct attention to the type of child who is persistently out of health owing to chronic intestinal toxæmia. I shall deal, first, with the signs and symptoms by which it may be recognized; secondly, with the various forms of intestinal derangement responsible for it, some of which are special to childhood; and finally, with the principles of its treatment. But I have also a subsidiary purpose in view, which is to emphasize the fact that in many of these children the most conspicuous symptoms are those pointing to disorder of the nervous system, so that there is a danger that the causative physical condition may be overlooked and the case regarded as a purely psychological problem. In these days, when the psychology of the nursery is so much under discussion, this danger is, at least in my opinion, by no means remote.

### RECOGNITION OF THE "INTESTINAL CHILD."

The "intestinal child"—as, for lack of a better term, we may call the type produced by chronic intestinal toxæmia of all sorts—is often easily recognizable at sight, but it is seldom brought to see the doctor for any one very definite symptom. Occasionally it is brought for irregularity of the bowels, sleeplessness, persistent nocturnal rise of temperature, or bouts of feverish biliousness. Much more often it is brought that the parents may learn whether it is ill or not; and it is noticeable how often both parents accompany the child, so nonplussed are they about the whole business. "Why does it look like this? Why does it behave as it does? Surely there must be something wrong with the child." These are the things they say, the implication being, of course, that to such parents no child who is not placid but brilliant, and as least as beautiful as it is good, should have been vouchsafed. And indeed it must be confessed that the child brings its parents little satisfaction and no credit, for its appearance suggests exhaustion from a spell of debauchery, and its deportment is frankly impossible. In these days, when the sins of the children are visited upon the fathers unto the third and fourth generation, the parents of the intestinal child are little to be envied.

The symptoms of the child are perhaps best summarized under the headings of unhealthiness and unhappiness. In appearance (often so characteristic) it is thin and sometimes undersized; its complexion is pale, sallow, and muddy; its eyes, especially towards evening, are darkly ringed and the lower lids are baggy; its tongue is coated, its breath foul, and its odour often strong. Especially is it noticeable that the child looks completely tired out; it may feel and behave as though languid and exhausted, but more often it is feverishly active, chiefly in wrongdoing. Its appetite is bad, except perhaps for breakfast, after a purge, at a party, or on holidays. So bad may it be that meals are often a burden and sometimes a horror to the family. Its sleep is usually poor: awake late at night, disturbed by frightening dreams, it is agog to be up and doing at dawn. Sweating is common during the night, and a persistent low fever may be discovered. This not unnaturally adds to the parents' alarm, and often the doctor, who has hitherto regarded the whole business as due to bad management and spoiling, becomes obsessed with the idea of the presence of tuberculous mesenteric glands: in this he will seldom be correct. Perversions of appetite,

such as dirt-eating, gnawing of bedclothes, and others, are not uncommon.

The nervous symptoms are often more conspicuous than those of physical ill health, and I have already mentioned some of them. Taken as a whole the child is chiefly unhappy, and its misery spreads to those round it. It is unreasonable, ill humoured, cantankerous, self-centred, emotional, negative—everything, in short, that can make a child unpleasant. In milder cases it is shy, frightened, occasionally spiteful, and on the whole disappointing; but more often it is actively and aggressively unpleasant. Much has been made of the negativism of nervous children, but it is the inevitable expression of morose irritation and exhaustion. How also can a child show this? It cannot go home and bully its wife and family; so it shows its ill humour in refusing to do the ordinary things expected of it—the child's method of bullying.

The intestinal child is often in character singularly unlike its brothers and sisters. The parents, thinking on psychological lines, are reminded of the nervous taints and peculiarities in each other's relations, but surely in such circumstances a physical cause for the child's ill health should suggest itself.

In many cases the symptoms are altogether milder and less harassing, and here we see the difference between the normal and the neurotic temperament. The placid child, poisoned from the intestine, becomes sleepy, tired, apathetic, and protects its incapacity by withdrawing its interest from its surroundings. The neurotic child, on the other hand, becomes in its fatigue more restless, and so enters into the vicious circle so well demonstrated by adults who have command of their own course.

Thus far, then, we have the picture of our too-familiar friend the "nervous child." How are we to distinguish the group which originates in intestinal toxæmia? It is true that in most cases the very appearance of the child's face should suggest the presence of a toxæmia quite decisively; but there are other signs which point clearly to the intestinal tract, and of these I place reliance chiefly on the following: (a) enlarged abdomen; (b) the occasional or persistent occurrence of abnormal stools; (c) the presence of gross indigestion as shown by microscopical or chemical examination of the faeces; (d) the presence of much indican in the urine.

Enlargement of the abdomen is frequently overlooked by parents and doctor, and if recognized it is often misinterpreted. A child's abdomen ought not to swell visibly from time to time, or to diminish visibly after an action of the bowels. I always view with suspicion an abdomen of which the mother says it is the child's "best part." Enlargement of the abdomen must, then, be looked for, and if found must be explained. In intestinal toxæmia the distension is chiefly due to flatulence, the result of stasis, indigestion, malabsorption, and decomposition. The stools may be abnormal in various ways. Usually constipation is present, but this alone is not enough to give rise to toxæmia. The stools are frequently undigested or foul, and if careful notice is taken it will be found that at such times the child is worse: its complexion, appetite, temperature, and behaviour are all affected. The various forms of indigestion and malabsorption of food, as found by microscopical examination of the stools, I will deal with later.

But, it may be said, granted that there is an association between disorders of the nervous system and intestinal toxæmia, who is to say which is the cause and which the effect? Now I readily admit that just as there are "nervous children" without intestinal symptoms, so there is nothing to prevent a nervous child from developing intestinal toxæmia; further, that it is clear that in a neuropathic child nervous symptoms would be produced by a smaller degree of such toxæmia than in a more stable subject. Yet to distinguish between such causes and effects in individual cases is surely the customary task of the physician, and I here need only produce evidence that intestinal toxæmia is capable of producing the psychological picture of the "nervous child."

On this point I would say, first, that from the early days of babyhood intestinal derangement, apart from

pain, has a great effect on the nervous system: tetany and convulsions are but extreme examples of this. For a baby's misbehaviour there is still more merit in a dose of castor oil than in the most modern psychology of the nursery. In matters scientific the infant remains sadly out of date, and even the small child conservative. Secondly, as showing the possible production of nervous symptoms by intestinal toxæmia, I would cite as the clearest proof the child with coeliac disease. Here we have all the eccentricities of the "nervous child" in *excræsis*—the negativism, the introspection, the so-called "anorexia nervosa," and the rest of them. While psychological treatment alone is here a complete failure, correct dieting brings about gradually such a change for the better that the child becomes easy, well behaved, and lovable. Yet with an extra dose of fat, bringing back abdominal distension and foul stools, there reappear the irritability, the loss of appetite, and the unhappiness. I have seen this so often that I cannot doubt the sequence of events. Further evidence to the same point might be given. I could quote the experience of adults with intestinal toxæmia, the effect of Plombières treatment, and the alteration in the disposition of the "intestinal child" when properly treated; all these show that a toxæmia of intestinal origin can have a profound effect on the nervous system.

I will therefore conclude with two submissions. First, that any child who is brought to us for marked nervous symptoms and peculiarities should be examined with great care for some possible physical cause, particularly one originating in the intestine; remembering that the nervous symptoms are often so conspicuous that they are likely to mask the less evident intestinal symptoms. Secondly, I would urge that where intestinal toxæmia can be proved, a generous allowance should be made for the child's misdoings. I have seen such alterations in disposition in these cases that I am convinced that allowances should be made for these children on the ground that they are really ill children. I would even go further than this, and suggest that a like measure of charity be extended to the mother herself. For her to see her child looking often enough like a dissipated drug addict and behaving like a fiend is more than likely to make her morbidly anxious and unwise. After all, if our mothers may not be "unwise" with us, who may?

#### FORMS OF INTESTINAL DISORDER PRODUCING THE INTESTINAL CHILD.

Let me first exclude two conditions which should not be classed as causes of intestinal toxæmia—namely, simple constipation and abdominal tuberculosis.

Simple constipation does not, in my opinion, give rise to toxæmia. In a child, if it produces any symptoms, they are those of abdominal distension; pain, particularly after food (of which constipation is the commonest cause in a child); and perhaps some lack of appetite and disturbed sleep. Where toxæmia develops I class the case as one of toxic constipation or of the other types to be considered in a moment.

Abdominal tuberculosis is often diagnosed in those cases because there are chronic ill health, abdominal enlargement, and nocturnal fever with sweating. As a matter of fact, in the richer classes it is by far the least common cause of this triad of symptoms. Yet it is diagnosed because the doctor does not appreciate the alternative possibilities, and perhaps has not examined the stools. A child cannot be ill for two or three years from abdominal tuberculosis and yet show no abnormal signs in the abdomen. Tuberculous glands are the commonest lesion diagnosed, but there is no reason at all why their presence should be accompanied by foul and undigested stools. Some confirmatory sign should be elicited before such a diagnosis is made.

I turn now to the various digestive disorders which may give rise to intestinal toxæmia in children.

#### Coeliac Disease.

I put this first because it is both common and clearly recognized. I have not here in mind the classical form of the disorder, with its large, pale, offensive, unformed

stools containing a great excess of fat, chiefly in the form of fatty acids. Rather I refer to the milder type which I have elsewhere described as the non-diarrhoeic type, in which the stools are large, formed, coloured, and contain their excess of fat chiefly in the form of soaps. This type gives rise to abdominal distension and considerable toxæmia, and can, of course, be recognized by a careful analysis of the stools on ordinary and on fat-free diets. There are, however, a few points which are of aid in reaching a diagnosis clinically. Growth in height is retarded more constantly and more seriously in this group than in any of the other forms of intestinal toxæmia. Flattening or wasting of the buttocks is a suggestive sign.<sup>2</sup> Lastly, coeliac children are very seldom constipated, and in this they differ from most other cases of intestinal toxæmia. On the contrary, the bowels act very regularly, and however little the child may eat one day it will not fail to pass a good-sized stool the next. How often this leads to the erroneous conclusion that there is nothing wrong with the intestine! Yet it is a noteworthy point in favour of malabsorption of fat.

I must not forbear to mention that H. C. Cameron, who has written so instructively and delightfully on the "nervous child," has repeatedly laid stress on its inability in many cases to take fat well. In doing so he has had, I think, the tendency to acetonaemia chiefly in mind. The intestinal child is not the type which is prone to true primary acetonaemia (cyclical vomiting), although it may have feverish bilious attacks with secondary acetonaemia. In the coeliac cases the child cannot absorb fat properly, and to give it induces toxæmia and perhaps a low persistent fever. In other types of intestinal toxæmia cooked fats (of roast meat, sausages, rich gravies, etc.) will upset, just as they will similar cases in adults.

#### Starch Indigestion.

In spite of the amount of attention paid to it in the textbooks I have not found this to be a common cause of intestinal toxæmia. It can be easily recognized in a microscopical examination of the stools, and may be suspected where a child passes rather loose acid stools, pitted or honeycombed from the evolution of gas. Such indigestion sets up a secondary colitis. These cases seem chiefly to arise from overfeeding with starch, but there seems little doubt that rarely there is a great intolerance of starch.

#### Nut Indigestion.

In the last three or four years I have met with a dozen or more cases of chronic indigestion in which the stools were full of undigested nut cells. These are easily recognizable as being the only vegetable cells which contain oil. The amount of these has been in some instances sufficient to make the stool large and fatty. I am not satisfied that I have always been able to explain the presence of this, and suspect that crushed nut is being used in some foods which I have not yet traced.

#### Lamblia.

Infection by this flagellate protozoon is now very common amongst the children of the hospital class in this country. I have published<sup>3</sup> a study of the effects of it on them. It produces an enterocolitis with some distension of the abdomen and loss of weight. It is, however, more characterized by intractable diarrhoea than by an obscure toxæmia. The stools show all sorts of undigested food, mucus, but no blood. The flagellate is easily seen under the microscope during the diarrhoeic periods.

#### Toxic Constipation.

Lastly, there is the group of unclassifiable forms of intestinal indigestion similar to the usual adult type. Their origin is as difficult to dogmatize on in children as in adults. Personally, I believe that they arise in various ways. Some are the sequel to acute enterocolitis—for example, dysentery. Others are possibly the result of infection of the intestine from above—for example, infected tonsils or antra. By far the most common type,

however, is that which follows prolonged constipation: a harmless or simple constipation turns into a toxic constipation. How is this transformation brought about? I believe that abnormal infective agents have very little to do with it in ordinary cases, but that the sequence of events is increasing constipation causing faecal decomposition, which in its turn produces irritation and catarrh of the colon. In this the chemical irritants of decomposition are often aided by the use of improper purgatives and an unsuitable diet of "roughage." In my view it is the supervention of this mild colitis which permits the absorption of toxins from the bowel. A great function of the colon is to refuse to absorb the poisons which are ever present within it—at least in quantities greater than can be dealt with by the liver; it is not, therefore, unreasonable to assume that where the wall of the colon is abnormal its impermeability is impaired.

With the onset of the colitis there is not only toxæmia, but pain or discomfort in the hyperæsthetic colon may develop. Spasm of the colon (spastic constipation) is rare in childhood.

In such cases of stasis the stool is usually alkaline in reaction, and rather foul and greasy from the presence of a little mucus. Microscopically the food residues are found to be finely divided; the muscle fibres small, pale, rounded, with their striation largely lost. Although there is no excess of fat in the stool, many bundles of coarse fatty crystals can be found by the microscope. Oxalate crystals are also numerous. The benzidine test for occult blood is usually positive. The bacteria may be normal, but frequently there is a proportionate excess of streptococci. Other and more abnormal organisms are sometimes present, but I have seldom been able to trace any significance to them. Although the amount of mucus seen in the stool in ordinary circumstances is scanty, on washing out the bowel there is usually plenty, both old and recent. The urine contains a large amount of indican and many oxalate crystals.

Two conditions sometimes associated with toxic constipation require mention: parasites and appendicitis. This is the type of case in which threadworm infection is common. Except for local symptoms I do not believe its presence makes any difference. The so-called symptoms of threadworms are, for the most part, those of toxic constipation and colitis.

Recurrent appendicitis is common enough in children. Whether there is in them a condition similar to the so-called "chronic appendix" of adults is questionable. I will only say that I regard right-sided abdominal pain and tenderness as much more indicative of appendicular disease in a child than in an adult. My reason for saying this is, that although in adult cases there are many who still complain of the same pain after their appendix has been removed, it is very rare, in my experience, to meet such in childhood. With that I will leave it.

#### PRINCIPLES OF TREATMENT.

The treatment of intestinal toxæmia in children is apt to be long, and much patience and attention to detail are necessary to obtain good results. Here I can only very briefly enunciate the principles which should guide the treatment.

#### Rest.

Many of these children, when first seen, are tired and ill enough to benefit from a month's rest in bed. Where this is unnecessary, enough rest to ensure freedom from exhaustion must be maintained. Where restlessness is troublesome sedatives should be ordered; bromide is a sheet-anchor here. In older children adalin is very useful to promote sleep.

#### Diet.

Where the exact fault in digestion is known the alterations in the diet are clearly indicated. Dealing with the group of cases termed above "toxic constipation" the diet should be suitable for the associated colitis. This is quite different from that used for simple constipation, for the aim here is to give a diet which will leave a small smooth residue, and all sorts of "roughage" are

out of place. Fresh fruit, except orange juice and squashed ripe banana, should be forbidden, and cooked fruit given only sparingly and without pips or skins. The vegetables allowed should be only such as can be put through a sieve. Cooked fats of roast and fried food and rich gravies often disagree. On this diet, although the constipation may be increased, discomfort and distension are lessened, and a chance is given to the colitis to subside.

#### Aperients.

Much depends upon the selection of an aperient which, when given regularly, is efficient yet harmless. The aim should be to produce a stool which is soft but formed, avoiding either a constipated or a watery action. Liquid stools are far more toxic than are formed ones.

It is rather characteristic of the cases of toxic constipation that they are ordered doses of calomel once or twice a week. These, although they do temporary good, are liable to set up or increase colitis. Even for emergencies castor oil is safer.

Paraffin is, perhaps, the drug in most common use. Where quite small doses are effective there is small objection to its use; in large doses it is quite unsuccessful. Stools full of paraffin ferment readily, and a microscopical examination of them shows how great is the interference with protein digestion. On large doses children remain distended and toxic, and their tongues coated. An emulsion of paraffin and phenolphthalein has much more "cleansing" power, and, where it works efficiently in small doses, makes a good aperient for some of these cases. Cocoids of phenolphthalein make a very palatable aperient for small children, and magnesia may be sufficient for others. All preparations of senna and cascara are best avoided, if possible, for persistent use.

Where the child is old enough to swallow a tablet we have the group of bile preparations of which the proprietary preparation taxol is a pattern. These, in my experience, are extraordinarily successful, and on the whole a great advance on any of the other aperients for daily use. They produce no griping, the liver action is stimulated, the motions, with a properly adjusted dose, are soft but formed. In young children I have often prescribed taxol ground up in jam.

#### Intestinal Lavage.

Intestinal wash-outs are very useful in really severe cases, even though they may mean that the child will require more rest than would otherwise be necessary. They should be given about twice a week. The fluid used may consist of equal parts of Plombières water and ordinary water, or of a solution of 2 drachms of salt and 1 drachm of sodium bicarbonate to a pint of water; 1 to 1½ pints should be run into the bowel from a funnel, through a soft rubber catheter, and evacuated after being held in the bowel for a minute or two. Where proper Plombières treatment is available it is more efficient, but in children the wash-outs given at home are often quite successful. After six or eight treatments at three-day intervals it is usually possible to lengthen the intervals between the treatments. They should not be continued too long nor left off too abruptly.

#### Massage.

Some massage should be given, if it causes no pain, along the colon when cleared out by the wash-out. An overloaded bowel should not, I think, be subjected to massage; the bowel should first be emptied. Many cases show secondary dilatation of the stomach, and light massage for this is useful. General massage is rarely advisable, and should certainly not be ordered until all fatigue has passed off.

#### Later Measures.

As the child improves appetite and sleep return, and progress then is usually fairly assured. Additions may now be made to the diet and to the amount of exercise allowed. Change of air, and artificial or other sunlight, are of value.

#### REFERENCES.

- <sup>1</sup> *Lancet*, 1925, i, 72. <sup>2</sup> *Arch. Dis. in Childhood*, 1927, ii, 189. <sup>3</sup> *Ibid.* 1926, i, 93.

# Hunterian Oration ON SCIATICA: ITS VARIETIES AND TREATMENT.

DELIVERED BEFORE THE HUNTERIAN SOCIETY ON  
FEBRUARY 27TH

BY

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WITH the recent celebrations of Hunter's bicentenary fresh in all our minds it is quite unnecessary for me to insist on the debt which the medicine and surgery of to-day owe to him and his tradition.

That Hunter himself was fully alive to the interests afforded by the subject of my address may easily be seen from the following quotation from one of his lectures:<sup>1</sup>

"A gentleman complained of a pain in the hip, running down the outside of the leg and foot. Supposing it rheumatism I gave him James's powder, Dover's powder, and volatile tincture of guaiacum, but with no good effect. A liniment of opium to the leg and foot gave some relief. He at last perceived a tumour by the os ischii, just at the posterior edge of the gluteus maximus. This tumour increased and the person died. The tumour was found to fill a part of the pelvis, and had made its external appearance at the foramen magnum ischii, being filled with coagulated blood; but the pain in the limb seemed to have been produced by its pressing on a great branch of the nerve, but chiefly perhaps from the great ischiatic nerve being stretched very tight over the upper surface of the tumour. Here that happened which may often be observed: that is, the impression made on the trunk of the nerve gave a sensation as if it had been on the extremities of the nerve."

I make no apology for the choice of my subject for this Oration, trite though it may at first sight appear. The aggregate of suffering and of disability in the shape of work and wages lost through this common disorder is sufficient excuse for any attempt to clarify its causes or rationalize its treatment.

It is unfortunate that the term "sciatica" is one of those which have been accepted by the public and used by them to designate almost any kind of pain in the region of the lumbar spine, buttock, hip, and leg. Like certain medical terms—"rheumatism" or "anaemia," for example—it covers a multitude of sins; it sounds sufficiently scientific to lull the patient into a belief that the real nature of his symptoms is known, even allowing him to seek various forms of treatment—hydropathic, electrical, and so on—entirely on his own responsibility.

We should think of sciatica as merely signifying sciatic pain—that is, pain in the distribution of the sciatic nerve—without allowing it to connote any particular pathogenesis. This simple anatomical reminder will at once prevent us from lightly labelling as sciatica any case where the pain affects, for example, the front of the leg or the groin. It is hardly possible now to abandon the use of the term "sciatica," which is particularly useful in denoting one common variety of the disorder to which further reference will be made.

## TWO TYPES OF SCIATICA.

For purposes of convenience we may speak of (1) a secondary or symptomatic sciatica, and (2) a primary or essential sciatica. By secondary I mean a sciatica due to some gross pressure lesion; by primary or essential I mean that large group of cases where no gross pressure lesion can be demonstrated, whose exact etiology is a matter of doubt and dispute. Strictly speaking, it is, of course, inadmissible to call such cases primary or essential—there is probably no such condition—but the term is useful and difficult to replace.

May I remind you very briefly of a few important anatomical points? The great sciatic nerve is formed in the sacral plexus from the anterior primary divisions of the fifth lumbar and the first and second sacral nerves; smaller branches join it from the fourth lumbar and the third sacral nerves. From its position on the posterior pelvic wall where the plexus is formed the great sciatic nerve passes into the buttock through the great sacro-

sciatic foramen between the pyriformis and superior gemellus muscles. It passes down into the thigh in the hollow between the great trochanter of the femur and the tuberosity of the ischium.

The part played by the fifth lumbar nerve in the production of symptoms is a point of considerable clinical importance; anatomically this may be in part explained by the longer and more oblique course it has to take to reach the plexus, as well as by other considerations to which I shall have to refer later.

Before proceeding to consider what I have called the primary sciaticas something must be said about the secondary or symptomatic forms.

## SECONDARY SCIATICAS.

These may, of course, be due to a large variety of different lesions. Tumours of the rectum or of the pelvic organs, primary or secondary growths of the bones of the pelvis or of the vertebral column, disease of the hip-joint, the sacro-iliac joint, or the joints of the lumbar vertebrae; various affections of the actual nerve roots of the cauda equina within the theca or outside it, such as syphilitic inflammation or pressure by tumours; the effects of old injuries and disease of the spinal cord such as tabes dorsalis. All of these are possible causes of sciatic pain. In practice, however, the great majority of such possible causes are easily ruled out by a careful physical examination, which must in all cases include the vertebral column and hip-joint, the abdomen, including rectal and sometimes pelvic examination, and the nervous system.

In my experience it is relatively uncommon to find gross pressure lesions such as that produced by pelvic tumours, growths in the rectum, or abdominal disease overlooked. On the other hand, osteo-arthritis of the hip-joint is repeatedly overlooked as a cause of so-called sciatica, and much valuable time often wasted thereby on methods of treatment which can serve no useful purpose. Careful movements of the hip-joint by the observer should not produce pain in the case of true sciatica, nor is there any real limitation of the range of the movements of the joint. The importance of radiography is so obvious as hardly to call for mention.

I do not intend to weary you with a long discussion on the differential diagnosis of all the conditions which may produce a secondary sciatica, but it may, however, be of some value to remind you that the presence of any of the following signs or symptoms should at once arouse suspicion and seriously invalidate the diagnosis of a primary sciatica.

1. The distribution of the pain in any of the following areas: (a) the anterior aspect of the thigh; (b) the perineum, groin, or genital organs; (c) the abdomen or abdominal wall.
2. A motor paralysis of the leg or thigh or even a dropped foot.
3. Loss of the knee-jerk.
4. Any marked muscular atrophy.
5. The presence of the reaction of degeneration in any of the muscles showing slight wasting.
6. Any severe vasomotor disorders, and, of course, any such signs as oedema or trophic ulcerations.
7. Any interference with the nervous control of micturition, defaecation, or the sexual functions.
8. Lordosis or a gross deficiency in the movements of the spinal column.
9. Finally, the history of an operation for malignant disease should immediately raise doubts as to the innocency of any sciatic pains.

It is sometimes stated that a bilateral sciatica is always the result of some gross lesion—that is, a secondary sciatica. Certainly bilateral sciatic pains should always be regarded with grave suspicion, but I have satisfied myself in more than one case that it is possible for an essential or primary sciatica to affect both sides, as well as for a true perineuritis to affect both sciatic nerves.

## PRIMARY SCIATICAS.

We must now turn to consider the primary or essential forms of sciatica. Here it is useful to divide the cases into two groups: (1) those where the symptoms suggest that there is a neuritis of the trunk of the sciatic nerve itself—a true sciatic neuritis; and (2) those where there is no direct evidence of such a neuritis, but where there seems reason to believe that the seat of the trouble lies higher up in the region of the lumbosacral vertebrae. We

can if we choose call this latter group "sciatic neuralgia," but in my opinion little is gained in this further subdivision in nomenclature.

#### *Neuritis of the Sciatic Nerve.*

There can be, I think, no doubt that a true neuritis of the sciatic nerve does exist. It is an interstitial neuritis, or perhaps rather a perineuritis, not in any sense comparable to the degenerative lesions of the nerves which are found in the cases of multiplo neuritis or toxic polyneuritis due to such poisons as alcohol or arsenic. The great majority of cases do not afford us an opportunity of verifying by sight the exact nature of the lesion, but occasionally in cases of very long standing where the nerve has been exposed by open operation cicatrization of the nerve sheath with adhesions to surrounding structures has been demonstrated.

The precise etiology of these cases is generally uncertain. Like other forms of fibrositis, neuro-fibrositis, or neuritis it is now the custom to attribute them to some focus of infection in the body, and it is certainly good practice to institute a vigorous search for any such foci, and if they be found to remove them, if possible. Personally, however, I must confess to little success in this respect, and I doubt if I can recall a single example out of the many cases of sciatica I have seen where the finding of a septic focus, followed by its appropriate treatment, seems to have affected to any appreciable extent the course of the disease. Experience teaches that this form of neuritis occurs in diabetic subjects with a greater frequency than can be explained by mere coincidence; this possibility, therefore, must always be carefully borne in mind.

There are certain features which, I venture to submit, are of considerable value in the diagnosis of this particular form of sciatica. I have already mentioned certain diagnostic criteria which are of the greatest importance in establishing the presence of a gross pressure or secondary form of sciatica as distinguished from the form we are now considering. In the ordinary sciatic neuritis, as indeed in the other variety of primary sciatica which I shall describe presently, the sensory functions of the nerve are affected not merely out of proportion to the motor functions, but practically to their exclusion. A very different picture is generally presented by gross pressure lesions or by traumatic lesions of the nerve trunk. In these latter it is true that sensory symptoms may occur first, but they are soon followed by symptoms on the motor side, muscular weakness, dropped foot, gross muscular wasting, and, finally, even by trophic lesions. In the ordinary form of sciatic neuritis it is quite exceptional to find motor weakness of the limb. Some muscular wasting, it is true, may be found, but except in cases of unusual severity or very long standing it is generally slight in degree and more or less global in character—that is, affecting all the muscles of the limb equally, resembling, in fact, that wasting of the muscles associated with joint disease.

Little help in exact diagnosis is afforded by the well-known test of extending the leg at the knee with the thigh flexed on the abdomen. This manoeuvre will cause pain not only in a true sciatic neuritis, but in numerous other cases as well where the nerve or its roots are affected either by pressure or by inflammation. The simplest test for the presence of a real neuritis of the nerve trunk itself is tenderness on direct pressure. The points where this tenderness is most easily elicited are (1) over the sacro-sciatic notch, and (2) where the nerve enters the thigh midway between the tuberosity of the ischium and the great trochanter. In some cases also extreme tenderness may be found in the popliteal space and over the external popliteal division as this winds round the head of the fibula. Mere discomfort on pressure in these situations is insufficient to warrant the assumption of a real neuritis, which, if present, reacts to such a stimulus by a sensation of pain which is clearly acute.

Another almost invariable sign of a real neuritis is the disappearance of the ankle or Achilles jerk. Its absence, together with an exaggeration of the knee-jerk, is extremely common, and this combination constitutes quite a typical picture of the state of the deep reflexes in the

affected limb. It is remarkable with what rapidity the ankle-jerk may be lost; moreover, it is well to remember that it may never return, its perpetual absence being as it were a scar of the old disease which, many years after perhaps, may complicate the diagnosis of a new train of symptoms in the same patient.

#### *Sciatic Neuralgia.*

I pass on now to consider what is in my own view perhaps the most common form of sciatica. You will, I feel sure, all agree that even when the cases due to gross pressure lesions—that is, the secondary sciaticas—have been weeded out, and when the cases of definite neuritis of the nerve have also been excluded, there yet remains a very considerable moiety of uncertain nature. In this group the pains may be just as severe, just as persistent, and just as genuinely sciatic in distribution as in the forms I have already described. There may be in such cases practically no tenderness of the nerve trunk at all; further, the ankle-jerk is by no means invariably lost. A suggestive feature of these cases is the tendency of the pain to radiate, especially in the distribution of the fifth lumbar nerve root. It is quite common, for example, for the pain to appear first in the region of the outer side of the ankle or the outer aspect of the dorsum of the foot, not infrequently also round the head of the fibula. It is very uncommon, on the other hand, to find the pain referred to the sole of the foot or the actual calf of the leg. This so to say selective incidence of the pain upon the area supplied by the fifth lumbar nerve root, as compared with the areas innervated by the other roots constituting the great sciatic nerve, must in my opinion influence our views of the etiology of the symptoms.

At this juncture I should like to interpellate this question for your consideration. Why is sciatica so common? The correct answer to this question should provide a valuable clue to the problems of diagnosis and treatment. But can we find the answer?

#### *Scoliosis.*

There is one important symptom often associated with sciatica to which I have not yet referred—that is, scoliosis. In a certain number of the cases which do not yield rapidly to treatment and in a very large proportion of the chronic cases a scoliosis may be observed. It may be one of two kinds—the contralateral or the homolateral type. Of these the more common is the contralateral form. In this form a lateral flexion of the lumbar spine away from the affected side may be seen. Attempts by the patient, or the more forcible efforts of the observer, to correct this deformity immediately cause pains in the distribution of the affected sciatic nerve. Associated with this scoliosis in nearly every case is a rigidity of the lumbar spine, with defective flexion and extension as well as impaired lateral movements. Moreover, it is often possible, especially in thin subjects, to palpate an unusually firm and contracted condition of the erector spinae muscle.

There can be, I think, no doubt that this form of scoliosis is due to a muscular contraction, reflex in nature, exactly analogous to that with which we are so familiar in disease of joints elsewhere in the body. In this type of case with a contralateral scoliosis it is interesting to find further confirmation of the suggested lumbar vertebral site of the lesion in the not uncommon experience of a preserved ankle-jerk in association with severe sciatic pain; further, as Harris<sup>2</sup> has pointed out, saline injections of the nerve trunk are not as a rule successful in giving relief in those cases showing a contralateral scoliosis. This form of scoliosis will, as far as the lumbar articulations are concerned, produce a tendency to a wider separation of the articular surfaces of the intervertebral joints and enlargement of the intervertebral foramina on the side of the sciatic pain.

Less commonly found is the homolateral type of scoliosis, where there is a lateral flexion of the spine to the side of the affected nerve. One effect will be to lessen any possible tension on the roots or trunk of the nerve on that side. Harris<sup>2</sup> states that this form of scoliosis is readily amenable to treatment by the injection of saline solution into the trunk of the nerve at the sacro-sciatic notch or midway



between the great trochanter and the tuberosity of the ischium, an experience suggesting very strongly that in those cases with a homolateral scoliosis the lesion is probably a neuritis or a perineuritis of the nerve trunk itself.

Much less common than these two varieties of scoliosis is an alternating form, now homolateral and now crossed in the same patient. Putti<sup>2</sup> believes that these cases are due to a bilateral arthritis of the lumbosacral joints, and that the varying nature of the deformity is due to the need felt by the patient to rest the joints first on one side and then on the other.

#### THE CAUSATIVE LESION.

Enough has already been said to make clear my belief that in a large number of what I have provisionally called the primary or essential sciaticas the lesion probably lies higher up than is often supposed—in the neighbourhood, in fact, of the lumbar vertebrae themselves. We grant at once the existence of a true sciatic neuritis affecting the nerve trunk or its constituent roots in the plexus, in the latter case an intrapelvic situation. But there yet remains the large group where the symptoms suggest a vertebral or at any rate a juxta-vertebral lesion. This group demands close attention.

For the views I am about to put before you I claim no originality. They are based on those of the French school, notably the work of Sicard<sup>1</sup> and of Putti, as well as other orthopaedic surgeons. My excuse for asking you to consider them carefully is the fact that these conceptions have as yet found little mention in English textbooks. According to Sicard neuralgic pains in the distribution of a spinal nerve root, nerve plexus, or nerve trunk can be classified topographically as follows.

1. Neuralgias due to lesions of the posterior nerve roots within the spinal theca; to such the term "radiculitis" has been applied.
2. Neuralgias due to lesions between the posterior root ganglia and the origin of the nerve plexus. This condition Sicard has called "funiculitis," the funiculus being the name given to that part of the nerve root between the ganglion and the plexus. (It will be noted that the funiculus is that part of the nerve root which is mostly contained in the bony canal formed by the intervertebral foramina.)
3. Neuralgias due to lesions either of the nerve plexus or of the nerve trunk itself.

Sicard lays especial stress on the conception of funiculitis, and, since this lesion occurs in the situation of the intervertebral foramina, has coined the term "neurodocite" or "neurodocitis," indicating thereby some inflammatory lesion of the bony canal through which the nerve root passes, and by which the root is irritated.

It will be noticed that radiculitis is a lesion within the subarachnoid space, where the roots are still bathed by the cerebro-spinal fluid. Such lesions are not very common, if we except the syphilitic processes (including tabes), herpes zoster, and various forms of acute spinal meningitis.

The funiculus is a part of the nerve roots subjected to possibilities of very diverse types of lesions, traumatic and arthritic; and the region of the lower lumbar spines, especially the articulations between the fourth and fifth lumbar vertebrae and the fifth lumbar and the sacrum, is particularly prone to be affected, for reasons which I hope soon to give you.

The fact that a neuralgia is unilateral is, as Sicard points out, an argument in favour of an extra- as opposed to an intra-meningeal lesion—of a funiculitis rather than a radiculitis.

It is surely clear that the muscular contractions causing the rigidity of the spine and the scoliosis which we have already considered are powerful arguments in favour of such a conception as that of neurodocitis.

An examination of the cerebro-spinal fluid will provide, again according to Sicard, a further distinction between radiculitis and funiculitis. He states that in radiculitis a lymphocytosis of the fluid is found, while in funiculitis there is a characteristic condition of an increase in the protein without any increase in the cells, the "dissociation albuminocytologique" of the French authors. Greenfield and Carmichael<sup>3</sup> have found this increase in albumin in cases of sciatica up to as much as 0.1 per cent.—a very great increase. These authors state that in the cases with

a high albumin content the pain was severe and symptoms marked, suggesting an active process.

Sicard describes three clinical varieties of sciatica as follows:

1. High sciaticas—that is, those due to funiculitis or neurodocitis.
2. Middle sciaticas—those due to lesions either of the plexus or of the trunk of the nerve from the sacro-sciatic notch to its entry into the thigh proper.
3. Low sciaticas—those due to affections of the nerve in the popliteal space or of its external popliteal division in the leg.

His class of high sciaticas would include, therefore, those which I have here designated as vertebral or juxta-vertebral; the class of the middle sciaticas embraces those common forms of sciatic neuritis or perineuritis; while the low variety is formed by those cases of a more or less localized neuritis or perineuritis of a nerve lower down in the thigh and popliteal space, and even of the external popliteal nerve in the leg or just above the ankle.

It is perhaps easier to follow Putti, who calls the high sciaticas "central" and the middle and lower forms "peripheral." This last division is useful, as it follows what I consider a difference in the usual etiology of the cases, the central forms being those due to vertebral lesions, while the peripheral forms are those to which the term of neuritis or perineuritis is more properly applied.

If this conception of the central forms of sciatica be accepted as due to a vertebral lesion, probably of the nature called by Sicard a neurodocitis—a term whose meaning I have already discussed—we have still to find the answer to the question, Why is sciatica so common? or, to put it in another way, Why should the lower lumbar region of the spine especially suffer in this respect?

The anatomical peculiarities of this region appear to afford a satisfactory explanation. Danforth and Wilson,<sup>4</sup> in an interesting paper, have reported the results of their observations on the anatomy of the lumbosacral region in relation to sciatic pain. They found the intervertebral foramen between the fifth lumbar vertebra and the sacrum to be the smallest, and that between the fourth and fifth lumbar vertebrae the next smallest in this region. This is surely a significant fact.

These authors think that, anatomically, nerve pain due to joint lesions might occur, as regards the fourth lumbar nerve root, from (1) lesions in the intervertebral canal, and (2) at the lower margin of the sacro-iliac joint close to the great sacro-sciatic notch; and as regards the fifth lumbar nerve root, from lesions (1) in the intervertebral canal, (2) at the lateral margin of the joint, between the body of the fifth lumbar vertebra and the sacrum, and (3) at the lower edge of the sacro-iliac joint. They conclude by expressing the view that sciatic pain of the type studied is a symptom of disturbance in the lower lumbar spine, and that the site of the lesion is most frequently the lumbosacral junction, and the nerve chiefly involved is the fifth lumbar nerve.

I have already pointed out how in many cases the pain radiates especially, and sometimes solely, in the distribution of the fifth lumbar nerve root—for example, along the outer part of the leg below the knee and the outer aspect of the region of the ankle.

Other anatomical considerations are also of importance. It is well recognized that the fifth lumbar vertebra is peculiarly liable to congenital variations, of which the most striking is that termed "sacralization," though it is unlikely that this sacralization is often of itself responsible for sciatic pain. Putti has called attention to the frequency of various anomalies in the articular facets of the lumbar vertebrae, and especially of the fifth lumbar vertebra, which, he says, may alter the shape of, or reduce the capacity of, the intervertebral foramen, sometimes on one side only. Finally, the importance of the fifth lumbar vertebra as the foundation stone, as it has been called, of the whole spinal column must ever be borne in mind.

To Putti the central sciaticas are synonymous with a spinal arthritis, which he claims can always be demonstrated by good lateral and stereoscopic skiagrams. In this respect I must admit that my experience has been less fortunate.

Enough has been said, I hope, to convince you that there

are at least good grounds for supposing that in many cases of sciatica a vertebral lesion exists, probably of the nature of an arthritis, and that the nerve root principally affected is the fifth lumbar root.

But even when we have satisfied ourselves that our case of central sciatica is due to a lesion involving the nerve root or roots in the intervertebral canals we have yet to find the cause of this particular form of arthritis. This may be no easy task. Careful search for foci of infection must be made just as in other forms of infective arthritis elsewhere in the body. Teeth, tonsils, accessory sinuses, alimentary tract, and genito-urinary tract must all receive due consideration. I have already indicated my own experience of failure in establishing cause and effect in most cases in this matter of focal infection, but nevertheless I believe it is the right practice to make a careful search and treat adequately any infective foci found. And in this connexion it is well to remember the possibilities of a gonococcal infection, even of some antiquity, as a cause of the more chronic forms of inflammatory lesions of the spinal column. Such considerations, however, must never lead us to neglect the prompt symptomatic treatment of any case of severe sciatica.

From time to time the view is expressed that disease of the sacro-iliac joint is a common cause of sciatica. It will be readily appreciated from the brief anatomical digressions I have made that, theoretically at least, such a combination of cause and effect might easily occur. Actually, however, I believe the event to be rare, although I confess it is a possibility difficult to disprove. Certainly cases seldom if ever exhibit the classical symptoms of sacro-iliac disease, but these, it must be remembered, are those of an advanced disease of the joint, generally of a tuberculous nature. Quite minor inflammatory affections of the joint would certainly be very difficult to detect, both clinically and radiographically, although they might well be associated with sciatic pain.

There is, however, a considerable body of opinion, especially in America, which believes very strongly in the relation between sciatic pains and minor subluxations or strains of the sacro-iliac joint. This belief does not as a rule, I think, meet with general acceptance here, but it is a hypothesis well worth careful testing. Hoyt Cox<sup>7</sup> has recently well summarized certain American views on this point. He distinguishes two types of sacro-iliac subluxation: (1) the traumatic form, usually, of course, acute, which may follow a fall or a heavy lifting strain; and (2) a postural form, usually chronic, due to long-continued faulty postures. In this form the back is unduly flat, the lumbar curve obliterated, and the ilium tilted forwards at an abnormal angle with the sacrum. The chronic forms may also result from infections, with subsequent relaxation of the ligaments of the joint.

It is in this second or chronic type that sciatic pains are likely to form one of the principal symptoms of a clinical picture in which the following signs may also be found: (1) an undue prominence of the sacrum; (2) a rigidity of the spinal muscles; (3) an obliteration of the normal lumbar curve; (4) a lateral curve of the spine away from the affected side; (5) marked tenderness on pressure over the affected joint.

#### DIAGNOSIS.

According to Hoyt Cox x-rays are of little help in diagnosis, a fact which perhaps partly explains the hesitation with which these opinions on sacro-iliac subluxations are apt to be accepted. He states that the "pathological process consists of a definite displacement forwards of the ilium from the sacrum at the upper part of the joint, produced by extreme hyperextension of the spine, together with the strong muscular pull on the anterior part of the ilium."

The effects of trauma, however, are not confined to the sacro-iliac joint. There are obvious possibilities of injuries to the bony components of the lumbosacral region of the spine, and especially of the fifth lumbar vertebra, and fractures, even without displacements, are certainly capable of producing sciatic pain by involvement of the fifth lumbar nerve root itself, or of constant pains in the region of the buttock, referred later, perhaps, down the leg as well,

from involvement of the posterior primary division of this root. But, bony lesions apart, muscular and ligamentous injuries may lead to the formation of scar tissue which may implicate nerve fibres, perhaps of the superior or inferior gluteal nerves, leading to pain in the buttock and pains referred to the sciatic distribution. Such cases demand a clear appreciation of the site and nature of the injury before suitable treatment can be instituted.

#### TREATMENT.

It is obvious that in this, as in every condition in medicine, successful treatment depends on an accurate diagnosis, although palliative treatment may, of course, temporarily relieve all the symptoms. The treatment of the secondary forms of sciatica is clearly that of the causal factor, but where that is unfortunately not amenable to direct treatment we must be content with methods designed to mitigate discomfort and suffering.

Let us consider first the treatment of those cases where a real neuritis or perineuritis of the nerve is present. As previously indicated, a careful search for etiological factors will have been made, and any diabetic element in the case noted and treated. In the severe and acute cases rest in bed is nearly always essential. The application of a splint to the affected leg is sometimes advised, but in my experience this can seldom be tolerated; indeed, the maintenance of any position of the limb for long at a time is often almost impossible. Undoubtedly the most useful local method for the relief of pain is the application of heat in some form or another, whether this be achieved by poultices, fomentations, radiant heat, or diathermy. The last, when available, is a most useful method. Ultraviolet rays with the mercury vapour lamp or the tungsten are applied locally are also of value in the relief of pain.

Many authorities think highly of the value of electricity, either in the form of the simple constant current or of ionization. I must confess to having been little impressed by these methods of treatment, and now seldom employ them. For slighter cases some benefit may be derived from counter-irritation, whether this be effected by strong liniments or ointments, or by blisters, or by the old-fashioned method of painting with concentrated hydrochloric acid, but in any severe case such methods are generally of doubtful value. In the early stages of an acute neuritis massage is definitely contraindicated.

I cannot deal in any detail with all the innumerable drugs which have been used in this disease, either as supposed cures or as mere relievers of pain. Any condition amenable to medicinal treatment, such as constipation or urinary infections which may be a factor in the causation, must, of course, receive prompt treatment. The salicylates and the iodides are about the only drugs which seem to have any direct effect on these cases. The intravenous injection of sodium iodide has been advised, but I cannot say that I have found this method to possess any particular advantage over the ordinary form of medication by the mouth.

Analgesic drugs will nearly always be needed in cases of any severity, especially for the relief of pain at night. Aspirin, phenacetin, phenazone, may all be tried; "dialaceticin" is a useful compound, and I have also found "allonal" of value. A mixture of drugs which I have found effective is a cachet containing 5 grains of aspirin, 5 grains of pyramidon or amidopyrin, and a small dose of heroin, say one-eighth or one-quarter of a grain. It need hardly be said that the use of morphine should be restricted as much as possible, although in really bad cases its use for a time will be almost imperative.

Cases of sciatic neuritis which do not yield fairly rapidly to treatment along these lines, say in two or three weeks at most, may be very advantageously treated with injections of saline solution into the nerve trunk—a method which marks a distinct advance in our therapeutic armamentarium. This method is particularly indicated in cases where there is definite evidence of the presence of a true neuritis, such as marked tenderness on pressure of the nerve and loss of the ankle-jerk. The best sites for the injection are just below the sacro-sciatic notch and at a point on a level with the tuberosity of the ischium. The method is now well known, so that I need not enter into all the details, but it is important to make certain that

A man, aged 30, was admitted to St. Bartholomew's Hospital on June 16th, 1927, having been sent up by his doctor on account of irregular fever. The history was as follows. He was in his usual health until May 7th, 1927, when he had an attack of unsustained pain which lasted four hours and was severe enough to double him up; later that day he vomited three or four times. He felt better the next day and continued at his work; but three days later, not feeling in his usual health, he consulted his doctor.

The patient was ordered to bed and stayed there until his admission to hospital some six weeks later. During the whole of this time until June 9th he had no definite symptoms or signs beyond feeling ill and becoming progressively weaker. From June 9th to June 16th, approximately five weeks after the onset of his illness, he had a rigor every day. There was nothing in his family or past history of importance relating to his present condition, and he had never been abroad.

On admission he looked very toxic and ill; he had a muddy complexion and a drawn anxious expression, and there was great emaciation. Temperature 99.8° F., pulse 120, respirations 30. He was not jaundiced, the tongue was dry and furred, and the breath was offensive. There was a slight fullness in the right lower chest extending downwards to the right hypochondrium: the respiratory movement of the right side was restricted. Vocal fremitus was absent in the right axilla and right base, the percussion note being much impaired and the breath sounds weak over this area. There were no added sounds in the lungs, and the left lung was normal. The heart was normal. The abdomen moved well on respiration; there was a slight fullness in the right hypochondriac region continuous with that in the right lower chest. The liver dullness was increased to the fourth rib above in the mid-clavicular line, but it did not extend downwards beyond the costal margin. There was no tenderness or rigidity even on deep palpation over the liver, spleen, or right iliac fossa. The spleen and kidneys were not felt. The urine was normal. A white blood count showed 27,000 cells per c.mm.

On June 17th the right chest was explored in the seventh intercostal space in the post-axillary line, with negative results. Next day, under x rays, it was seen that the right dome of the diaphragm was abnormally high and that its movements were limited. The diagnosis of right subphrenic abscess was suggested. On June 19th the right subphrenic space was explored, with negative results. During these few days his temperature rose to 103° F. each evening, and fell to 99° each morning. The pulse varied from 130 to 120, the respirations were 25. There were no rigors.

During the next few days his general condition became worse and the physical signs changed. The conjunctivae became slightly jaundiced, his spleen became palpable, and there was epigastric tenderness. In addition there was now a definite outward bulging of the right hypochondrium, and the liver was palpable below the level of the costal margin. A white blood count showed 27,000 cells per c.mm.; a differential count revealed a polymorphonuclear leucocytosis. Blood culture was negative.

On June 25th the patient was extremely ill; he was seen for the first time by Mr. T. P. Dunhill, who made a diagnosis of right subphrenic abscess or hepatic abscess, and advised an exploratory laparotomy. This was performed on the same day by Mr. Dunhill, nitrous oxide gas and oxygen being the anaesthetic, together with local anaesthetic (1 per cent. solution of novocain) for infiltration of the anterior abdominal wall. The abdomen was opened through a right paramedian incision. On opening the peritoneal cavity the liver was found to be much enlarged, a deep purple colour, and intensely congested; it blanched on pressure and was oedematous; there was no perihepatitis. There were some areas paler than normal, and on palpation they felt firmer than the intervening liver tissue, suggesting induration underlying them deep in the liver. The largest of these areas, about three inches in diameter, was situated in the left lobe of the liver, and smaller ones were in the right lobe. It was then decided to explore the indurated area in the left lobe with a syringe. Pus was discovered and about 1 c.cm. withdrawn. The gall-bladder was normal: the portal vein was palpated and appeared to be thickened. The appendix was next examined and found to be surrounded by recent adhesions, the last two inches of it being buried in a loop of mesentery. On peeling it out this two inches was dissected with fluid, which afterwards proved to be mucoous. It was lying in a mass of material which was obviously the remains of an abscess. Appendicectomy was then performed; the peritoneal cavity was packed off and the left lobe of the liver was next opened up with Spencer Wells forceps at the point at which pus had been found; the haemorrhage was considerable, but no more pus escaped. A rubber drainage tube was inserted deeply into the liver and held in position by a catgut suture, two other sutures controlling the haemorrhage. The abdomen was then closed.

The pus from the liver was examined pathologically and proved to be Gram-negative coliform bacilli.

**After History.**—Pus was discharged in large amounts through the drainage tube for the first few days, and then the quantity gradually diminished. The temperature varied from 100° to 93.4° F., pulse from 130 to 110, respirations 26. The patient felt better, the appetite rapidly improved, and he slept well. On the fourth day after the operation the white blood count showed 22,800 cells per c.mm. On the eighth day the drainage tube came away with the dressing; the temperature dropped to normal, and blood count was 7,200 cells per c.mm. He made an untroubled recovery and was discharged on the twentieth day. He was seen again on November 23rd, when he was in the best of health and had regained his normal weight.

The interesting features of the case are: (1) The mildness of the signs and symptoms from the beginning of the illness, including the attack of appendicitis, up till the onset of the rigors some five weeks later. (2) The interval which elapsed between the attack of appendicitis and the onset of suppurative pyelophlebitis and hepatic abscess, as indicated by the rigors. (3) The slight jaundice, profound

toxaemia, rapid prostration, enlarging liver and spleen associated with the onset of portal pyaemia, and leucocytosis.

The whole story is typical of this condition, except for the fact that the patient recovered. The significance of the case lies in the importance of draining the liver and in the proof it affords that the condition, although one of extreme gravity, is not necessarily fatal.

While in St. Bartholomew's Hospital the patient was under the care of Dr. C. M. Hinds Howell and the Surgical Professorial Unit, to whom we wish to express our thanks for permission to publish the case notes.

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## THE EXAMINATION OF URINE FOR PUS.

BY

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THE presence of pus in the urine can only be established certainly by microscopical examination. Other methods of testing for it, such as the guaiac and caustic potash tests, or simple turbidity estimations, only give positive results when much pus is present; they are open to many fallacies because they are not in any way specific. Microscopical examination requires some preliminary preparation of the urine; this has been hitherto effected by centrifuging or sedimentation. A method which obviated preliminary preparation would be an advantage, because the apparatus necessary for centrifuging is not always available, and it may be inconvenient to wait while the cells of the urine settle in a conical vessel. Moreover, each of these methods has certain inherent disadvantages too often overlooked. In the case of the centrifuge the faster the revolutions and the longer the time revolved the more numerous are the formed elements swung to the bottom of the tube, so that a diagnosis of pus is more likely to be made by the owner of a powerful centrifuge than by one who relies on simpler apparatus. The disadvantages and fallacies of sedimentation are so obvious that it is surprising to see such methods still trusted. The rate of sedimentation depends on so many variable factors, and the cells are often unrecognizably deformed consequent on the increased alkalinity accompanying bacterial fermentation.

The following method of microscopic examination of urine for pus can be performed immediately the urine is voided. The test is completed in two or three minutes, and the only apparatus required is a microscope, a pipette, a ruled slide, and cover-glass. The method has the great advantage also of expressing the amount of pus quantitatively as cells per cubic millimetre, a procedure of special value in those doubtful cases in which one observer reports "excess of leucocytes" and another "small quantities of pus." It allows also a record to be kept of the progress of the disease, the increase or decrease of pus being registered as easily as the temperature and pulse.

*Method of Counting Leucocytes in Urine.*

The formed elements of the urine (casts, red blood corpuscles, and leucocytes) are enumerated in a counting chamber by a method similar in principle to that employed for blood counts. The chamber differs in that the glass cell is 0.2 mm. in depth and not 0.1 mm. as in the ordinary haemocytometer, and the area of the ruled lines is 16 sq. mm. The Fuchs-Rosenthal slide for enumeration of cells in the cerebro-spinal fluid is very suitable for this urine test and the one now recommended, but other cerebro-spinal fluid chambers providing a depth of 0.2 mm. may be easily adapted. The ordinary haemocytometer cell is unsuitable because the volume enclosed in it is too small. The ruled area of the Fuchs-Rosenthal slide encloses a square, each side of which is 4 mm. in length, the enclosed space therefore being 16 sq. mm. (See Fig. 1.) This large square is divided into sixteen smaller squares, distinguished by being bordered by three lines, each of which encloses one square millimetre. Each of these is again divided into sixteen squares, bounded by sides 1/4 mm. in length. Since the cell is 0.2 mm. in depth (this being the distance between platform and cover-glass) the volume enclosed in the whole cell is  $16 \times 0.2 = 3.2$  c.mm.

The urine to be tested is shaken thoroughly to distribute the cells evenly; a sample is then taken with a clean rubber test pipette, and a drop of the urine is transferred to the platform of

the slide and allowed to run between the platform and cover-glass. A minute or two having been allowed for the formed elements to settle, the cells are counted by moving the ruled slide to and fro across the microscope stage until the whole ruled area has been surveyed.

The most convenient objective to use for this purpose is an 8 mm. or 1/3 in. dry lens providing an initial magnification of about 20. This objective with a  $\times 10$  eyepiece includes comfortably in its field of view four of the smallest squares (see Fig. 1, A), and this permits the whole field of 16 sq. mm. to be surveyed in eight light and four from right to left, 200 (diameters) leucocytes and red easily.

Most microscopes in common use are provided with only two dry lenses, a 16 mm. or 2/3 in., and 4 mm. or 1/6 in. The 8 mm. objective recommended for this test is intermediate between the two; it is well worth while to exchange the 16 mm. for an 8 mm. objective for cell count work. The test can be performed with the 4 mm. or 1/6 in. objective and a low power eyepiece, but, although the magnification is quite satisfactory, the microscope field is much more restricted than with an 8 mm. or 1/3 in., so that only one of the smallest squares is completely enclosed in the field of view. (See Fig. 1, B.) Thus sixteen journeys must be made—eight from left to right and eight from right to left—before the whole field has been surveyed. The 16 mm. or 2/3 in. objective, although offering a wide microscope field (Fig. 1, C), does not provide sufficient magnification, even when combined with a high eyepiece, to permit distinction between leucocytes and bodies which closely resemble them in size and shape. It may be used for the rapid examination of a urine almost free from cells, but if formed elements are present in the urine it will usually be necessary to re-examine the field with a higher objective to determine what should or should not be counted. A mechanical stage is almost indispensable. In an emergency the count can be made without a movable stage if the observer has acquired sufficient dexterity to move the slide by hand, but a mechanical stage saves time and energy and ensures much greater accuracy. Unless pus is present in large quantities all the sixteen large squares must be counted—that is, the whole ruled area. The volume thus surveyed is 16 sq. mm. by 0.2 mm. = 3.2 cubic millimetres. The number of cells observed in the whole ruled area divided by 3.2 gives the number of cells per cubic millimetre. It is sufficiently accurate for practical purposes to count all the cells in the sixteen squares and divide by 3. If pus is present in such large quantities that each microscope field shows several cells, then the survey of all the 16 sq. mm. may mean counting several thousand cells. For such specimens a shorter method is sufficient. Only the first four of the sixteen 1 mm. squares need be counted, and the figure obtained is multiplied by 4 and divided by 3 to give the cells per cubic millimetre.

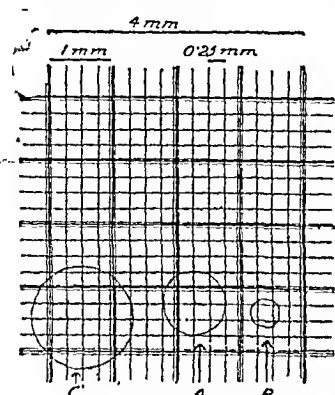


FIG. 1.—Ruling of Fuchs-Rosenthal slide magnified nine times. A=field of view with 8 mm. objective and  $\times 10$  eyepiece; B=field of view with 4 mm. objective and  $\times 5$  eyepiece; C=field of view with 16 mm. objective and  $\times 10$  eyepiece.

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#### Leucocyte Content of the Urine in Health.

A few leucocytes are often found in the urine of healthy men and women who give no history of any disease of the genito-urinary organs. Whether or not such cells are physiological, or represent the after-effects of some morbid lesion too slight to evoke symptoms, is a question on which urologists have held different views. For practical purposes it is generally admitted that if only an occasional leucocyte or two is found in a centrifuged urine after searching several fields of the microscope, the urine may be regarded as normal; but the fact that a few leucocytes may be present in the urine of healthy people necessitates a definition of the normal limits before a numerical definition of pyuria is possible.

The cell count method of examining urine for pus has been applied to more than 700 samples of urine; of these examinations 411 were of men and women free from genito-urinary disease and 291 were of cases of urinary sepsis. The summary of results obtained with normal men and women is recorded in the following table.

	Nn. of Counts.	No. of Individuals.	Maximum Count.	Minimum Count.	Average Count.
Healthy men ...	288	157	50	0	2.1
Healthy women ...	123	85	50	0	7.1

#### A Numerical Definition of Pus.

A total of 291 counts has been made on patients suffering from various diseases of the genito-urinary tract, including nephritis, pyelitis, cystitis, prostatic abscess, urethritis, stone in the ureter, and many undetermined inflammations. Insufficient data have been collected to permit any sort of classification of the pus counts of different pathological conditions; for the present purpose they are grouped together as individuals suffering from some disease of the genito-urinary tract in whom the diagnosis of pyuria was justified. The counts ranged from 100 to 5,000 leucocytes per c.mm. In most cases of acute inflammation a leucocyte count higher than 500 cells per c.mm. was obtained; in more quiescent or chronic cases the figure was less than 500. Experience has shown that a count of more than 100 leucocytes per c.mm. points to disease of the genito-urinary tract, and justifies the designation pyuria. Urine should be described as containing pus when more than 100 leucocytes are present per c.mm. This allows of a very generous margin above the average count of 2.1 cells per c.mm. for men and 7.1 for women, but such a wide margin is advisable because of the normal range of variation. What significance, if any, should be attached to counts between 50 and 100 will probably have to be decided separately for each individual case when other sources of information have been explored.

#### Comparison with Previous Standards for Pus.

In deciding whether or not a urine shall be said to contain pus reliance is sometimes placed upon the number of leucocytes seen per field of the microscope after the urine has been allowed to settle or been centrifuged. Obviously no comparison is possible between the standard now recommended of 100 leucocytes per c.mm. and the number of cells per field of the microscope, because the thickness of the drops adds yet another variable factor to those already mentioned inherent in the process of centrifuging and sedimentation. Comparison was made with other methods by adding leucocytes to normal urine until the tests became positive and then counting the cells, and by diluting pus-containing urine with normal urine until the tests became negative and again counting the cells. These comparisons, repeated on many occasions, only served to emphasize how crude and full of pitfalls are all methods for the detection of pus other than by the microscope. These comparisons may be summarized in a sentence by saying that urine which is clear from every other possible cause of turbidity must contain more than 400 leucocytes per c.mm. before the pus causes sufficient opacity to be detected by the naked eye, and the guaiac test and liquor potassae test are often negative with urine containing more than 500 cells per c.mm.

#### The Examination of Urine for Blood.

The cell count method of estimating pus is applicable also to the study of haematuria. An occasional red blood corpuscle may be found in the urine of healthy people, but except after injury or disease of the genito-urinary tract, or during menstruation in women, there are always far fewer red blood corpuscles than leucocytes. The discovery in the urine of more than 2 or 3 blood cells per c.mm. is an important observation, but the counting of the cells has no practical value except when both red blood cells and leucocytes are found, and the question is raised whether the condition is one of uncomplicated haematuria or whether blood and pus are both present. When both red and white corpuscles are enumerated the cell count method will decide this question, thereby showing whether or not the relationship existing in the blood of one leucocyte to 500 red blood cells is maintained or exceeded in the urine.

First count the red cells per cubic millimetre of the urine (after suitable dilution if necessary) and divide by 500 to give the number of leucocytes expected to accompany this quantity of blood. Then count the number of leucocytes per cubic millimetre actually present in the urine (after taking the red cells with acetic acid if necessary), and if this figure per cubic millimetre exceeds the estimated figure by more than 100 pus is present in addition to blood.

The delicacy of the cell count method for detection of blood is proved in a convincing way when a comparison is made between this and other methods. It was noticed during routine testing, and has been frequently verified by



the simple experiment of adding blood to urine and then counting the cells, that all methods of testing for blood other than microscopic are not only valueless, but a positive source of deception. The guaiac test for blood is hardly ever positive unless the urine is red in colour, and experiment has shown that more than 10,000 red blood corpuscles must be present per c.mm. before this point is reached. The pyramidon and heazidine and spectroscopic tests are only positive when the urine is either obviously red or has a "smoky" tint, "smokiness" being reached only when the urine contains at least 1,000 red blood corpuscles per c.mm. When less than 1,000 red blood cells are present per c.mm. no test other than the microscope will show the presence of blood. On the other hand, the cell count method may be relied on when such small quantities of blood as 10 red blood cells or even less are present per c.mm. The delicacy of the cell count method is revealed when these facts are presented in an example. A specimen of urine containing about 800 to 900 red blood corpuscles per c.mm. would show no smokiness and no trace of blood to the naked eye, and the guaiac, benzidine, and spectroscopic tests might all be negative, and yet the presence of blood would be indisputably demonstrated by the cell count method after the urine had been diluted more than one hundred times.

#### Practical Points.

The specimen of urine to be examined should be the first passed in the morning, and the patient should be instructed to pass the urine direct into a wide-mouthed bottle, or into a clean receptacle from which it is to be transferred at once to a clean bottle. The figures given above are based on early morning specimens; lower counts are obtained if a specimen is collected only an hour or two after the bladder has been emptied and the patient has taken a lot of fluid. Specimens may be accepted if an interval of more than four hours has passed since the last micturition, but in all doubtful cases the early morning specimen must be insisted on. The urine should be examined on the day on which it is passed.

#### Turbid Urines.

Urine need not be clear from crystalline or amorphous deposit of inorganic salts, but if these are dense accurate counting becomes impossible. A cloud of phosphates may be quickly dispelled by a drop of acetic acid. A deposit of urates and oxalates cannot be easily removed by any chemicals, but urine turbid from this cause usually becomes quite clear by dilution with an equal volume of warm water.

#### Recognition of Leucocytes.

Only round cells of the size and shape of leucocytes must be counted. Until the eye has become trained to

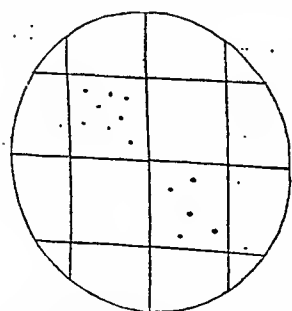


FIG. 2.—Field of view obtained with 8 mm. objective and  $\times 10$  eyepiece, enclosing four  $1/4$  mm. squares, reduced for reproduction to one-fifth of the size actually seen. Red blood corpuscles in upper left-hand square and leucocytes in lower right-hand square.

red blood cells have been drawn to scale, and in the lower right-hand square leucocytes. An impression of the relative size of things can be obtained by recollecting that each of these smallest squares is bounded by lines 250 microns in length. Red blood cells in urine usually measure 8 to 9 microns in diameter, a little less than  $1/25$  of the boundary

line, and leucocytes usually measure 10 to 12 microns, a little more than  $1/25$  of the boundary line.

Epithelial cells must not be included in the count. These are usually larger, often irregular in outline, with a relatively small conspicuous nucleus. Squamous cells are easily distinguished and disregarded; caudate cells with a tail-like prolongation of the body, and pear-shaped cells, usually attributed to the renal pelvis or neck of the bladder, must not be included in the count. In judging whether or not a cell should be counted as a leucocyte special attention should be paid to the size, the definite rounded outline, and the presence of a nucleus. The recognition of a leucocyte is an accomplishment that becomes progressively easier with experience. No advantage is gained by trying to stain the cells, and the so-called differential stains purporting to distinguish epithelium from blood cells are unreliable. Acidifying with acetic acid makes the cell nuclei more conspicuous, but with experience in the counting of leucocytes even this simple step is usually unnecessary.

#### Recognition of Red Blood Cells.

Red blood corpuscles are more difficult to distinguish than leucocytes, and it is well before attempting to count erythrocytes to become familiar with the shapes they may assume, whether the disc is viewed through the centre or periphery. Accurate measurements are necessary in doubtful cases.

#### Storing of Apparatus.

After use the slide and cover-glass are conveniently disinfected and stored in methylated spirit. The glass pipette should be well rinsed out with water and stored standing in a test-tube containing 1 per cent. formalin. After use for a urine containing much pus the pipette should be boiled or thrown away. The pipettes are made by drawing out glass tubing in the blowpipe flame, and it is useful to have about a dozen at hand.

#### Summary.

The most accurate method of determining whether or not pus is present in urine is to count the leucocytes in a chamber similar to that used for counting the cells in cerebro-spinal fluid. The sample to be tested must be the first urine passed in the morning or after an interval of four hours. The test can be completed in two or three minutes, and provides a quantitative record comparable from day to day. It is suggested that no urine should be said to contain pus unless it contains more than 100 leucocytes per c.mm.

## SARCOMA OF THE STOMACH.

BY

JAMES S. HALL, M.B., B.S.LOND., F.R.C.S.ED.,  
SURGEON, VICTORIA HOSPITAL, DEAL.

THE following case presents so many features of interest, apart from the extreme rarity of the condition, that it seems worthy of record. Most of the surgical authorities consulted either make no reference to the incidence of this type of growth or else quote it as a "rare pathological curiosity." In this instance the only practitioner to diagnose the case as one of malignancy was the anaesthetist, who was not acquainted with the physical signs or the clinical history.

A man, aged 40, was first admitted to the Victoria Hospital, Deal, on April 14th, 1927, under my colleague the late Dr. F. M. S. Hulke. The diagnosis made on admission was chronic duodenal ulcer. The history was typical: pain an hour or two after food, slightly relieved by food, melaena, some wasting. A skiagram after a barium meal confirmed this diagnosis. There was a rapidly acting stomach with considerable deformity of the duodenal cap, no filling defects, no sign of crater in the lesser curvature, and, to complete the picture, an apparent duodenal ileus.

Dr. Hulke commenced medical treatment, and the results were excellent. The patient put on weight, a stone or more, regained his healthy appearance, and was discharged fit a month later. After three months of rather strenuous work he came to consult me with a view to operative treatment of his condition. His previous good health had disappeared, he was emaciated, had frequent vomiting, and melaena with a good deal of pain and discomfort. He was therefore readmitted to hospital on August 15th for a preliminary course of rest and dieting, as his condition was too poor to risk immediate operation. During the following

week he had so much tenderness and rigidity in his epigastrium that no tumour could be felt. After the first week he was considerably better; the vomiting and melaena had ceased.

**Operation.**—On August 22nd he was taken to the theatre with a view to removing the appendix and performing duodeno-jejuno-stomy. Under general anaesthesia a movable epigastric tumour, about 4 inches in diameter, was felt through the abdominal wall and explored through a right paramedian incision. It proved to be a growth of the middle of the stomach, slightly adherent to the pancreas, with multiple glands in the gastro-hepatic and gastro-colic omenta. I removed the growth with the enlarged glands and a small portion of pancreas by the modified Polya method, leaving about a quarter of the cardiac end of the stomach to anastomose to the side of the jejunum. Convalescence was uneventful.

Macroscopically the stomach showed two large ulcers about 2 inches in diameter, facing each other on the anterior and posterior walls, with very thick heaped-up edges and obvious neoplasms in their bases. A section of one was sent to a pathologist, who reported as follows: "This is a difficult specimen about which I felt doubtful. A second opinion I obtained was given as follows: 'The gastric wall is occupied by small polygonal cells of connective tissue type and oat-shaped form. Being almost absolutely uniform in character, without admixture with chronic inflammatory cells, the condition cannot be related to a hyperplastic gastritis or leather bottle condition. The diagnosis would be spindle-celled sarcoma.' I hesitate to accept this diagnosis as the condition would be extremely rare, and I think there are other possibilities. Without knowing anything of the clinical condition, I do not care to express a definite opinion."

Having fortunately preserved the specimen I forwarded a section of the growth from the other ulcer and an enlarged gland. A second report read: "This is evidently a deposit of small round-celled sarcoma which has become ulcerated, a very rare condition. The gland does not appear to be affected."

The patient was seen again four months after the above account was written; he had then gained 2 st. in weight and all signs of malignancy had disappeared.

From a surgical point of view one would certainly say from the specimen that the sarcoma supervened upon chronic ulceration, but that is a pathological point I am not qualified to dispute.

The salient points of the case are rather remarkable—the clinical evidence of duodenal ulcer, the condition found at operation, and the points against malignancy, especially the considerable improvement after rest and diet. I have no information as to the prognosis of these cases, if, indeed, any have been operated upon before.

I would like to express my thanks to Dr. Ponder for the pains he has taken to give me an accurate statement of the microscopical condition of the growth.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### MECKEL'S DIVERTICULUM IN STRANGULATED INGUINAL HERNIA.

The following case, in which a Meckel's diverticulum was found in a strangulated inguinal hernia, seems worthy of record.

A married woman, aged 66, was admitted to the Royal Infirmary, Liverpool, in October, 1927, with a history of having been acutely ill for three days with a lump in the right groin, abdominal pain, and vomiting; strangulated inguinal hernia was diagnosed. There was a tender, tense, rounded swelling at the lower end of the right inguinal canal; the skin moved freely over it, and there were no signs of inflammation of the cutaneous tissues. The patient stated that she had had a rupture for some years, and that three days before admission, while exerting herself, a sudden severe pain had appeared in the groin, causing her to vomit.

On opening the sac some sanguineous fluid escaped, and a tube was discovered about three inches long, and intensely congested at its distal end. This tube had a small mesentery, and at first sight I took it to be the appendix. On pulling out the portion of bowel to which it was attached, however, a loop of small intestine presented instead of the caecum. After ligaturing and dividing the mesentery (or meso-diverticulum) the tube was clamped at its base, the stump invaginated, and the loop of small intestine returned to the abdomen. The sac was removed in the usual way and the inguinal canal repaired.

The patient made an uninterrupted recovery and no complications have arisen since.

Pathological examination of the tube showed the structure to be typical of a Meckel's diverticulum.

HUGH RED, M.B., F.R.C.S.,  
Honorary Assistant Surgeon, Royal Infirmary,  
Liverpool.

## UNUSUAL COMPLICATIONS OF PNEUMONIA.

In view of the exceptional symptoms, course, and complications the following case of pneumonia appears to be worthy of record.

A man, aged 65, when first seen complained of headache, slight headache, and "cold chills." He had not had a rigor, and did not look very ill. His tongue was very dry and red; the pulse was 100, the respirations 20, and the temperature 101.5° F. Physical examination was negative. The next day he had a slight cough, with a little yellow sputum. The chest was resonant, with a few rales at both bases. He had no pain. On the third day the cough had almost gone and the general condition was the same. On the fourth day he had severe hiccup, which continued almost without pause for two days. He also had slight conjunctival jaundice. On the fifth day jaundice became very deep over the whole body, and the abdomen was greatly distended, though no cause was found. The patient passed a small, soft yellow stool, and the urine was

On the sixth day the jaundice returned, and there was a suspicion of the right lung. The pulse was 100, and the temperature 103° F. The abdomen was still greatly distended; and on this day a hard, globular swelling about the size of an orange was noted in the left iliac fossa. This had a clear edge below, but the upper margin was ill defined; there was a resonant note over it, and it did not move on respiration.

The diagnosis up to now had been influenza with mild bronchitis, and later early pneumonia, possibly. The jaundice presented a difficulty, but was recognized as occurring rarely in influenza. The distension was attributed to a condition of paralytic ileus due to profound toxæmia. The lump could not be explained, and was the chief difficulty.

Dr. J. H. Thornley, honorary surgeon to the Scarborough Hospital, saw the case in consultation, and agreed to take the man into hospital. During the following day the patient became gradually much worse, and died that evening with definite signs of a right-sided pneumonia.

At the necropsy marked pneumonia was found in the lower lobe of the right lung; the heart contained ante-mortem clot. There was no lump within the abdomen, but a large hæmatoma was present in the abdominal wall.

The unusual points in this case are: (1) The huge hæmatoma. I cannot find a record of this occurring in the abdominal muscles during influenza and pneumonia. I would suggest that the cause was thrombosis of a vessel in the abdominal wall. (2) The marked jaundice.

I am indebted to Dr. Thornley for the later history of the man, for the necropsy findings, and for helpful suggestions generally.

Scarborough.

N. WALSH, M.B., Ch.B. Leeds.

## Reports of Societies.

### ANAESTHETICS IN OBSTETRICS.

At a joint meeting of the Sections of Anaesthetics and Obstetrics of the Royal Society of Medicine on March 2nd, with Dr. Cecil Hughes, president of the Section of Anaesthetics, in the chair, a discussion was held on anaesthetics in obstetrics.

Mr. EARDLEY HOLLAND, opening the discussion from the obstetric standpoint, said that he was glad to see that obstetricians were beginning to take an interest in anaesthetists of their art which hitherto they had almost neglected. The requirements of the obstetrician were that the anaesthetic should be simple and safe in administration, and capable of being used by those inexperienced in the use of general anaesthetics. Pain must be abolished and, if necessary, kept in abeyance for long periods of time, but there must be no interference with the force or frequency of the normal uterine contractions, or with the safety of the mother and the foetus. Chloroform and ether were equally good anaesthetics, but the latter needed more expert administration, as it was more difficult to ensure quick results and required more elaborate apparatus. Stovaine was useful in certain obstetric operations, but was not advised in "common labour." Morphine was a good analgesic for the mother, but was dangerous to the foetus. For common labour he believed that intermittent chloroform, as administered by Simpson, its originator, was the best way of ensuring relief from pain. If administered by means of a Junker bottle with a small hand-bulb it was difficult to give an overdose, and so an unskilled person

could be allowed to administer it in the presence of the obstetrician. Chloroform should not be given until the second stage of labour was beginning. In the first stage fairly large doses of chloral (30 grains) might be given, and if necessary repeated; morphine and hyoscine in small doses were also useful. These ensured relief from pain without marked interference with the uterine contractions. Mr. Holland pleaded that Simpson's method should be taught to students. It was difficult to keep patients in the first stage of anaesthesia without practice. It was a reproach to obstetrics that in hospitals and in the practice of midwives common labour should be conducted without the use of chloroform or some other general anaesthetic. The first stage of anaesthesia was ample to relieve pain for the second stage of labour, and with it there was relaxation of the levator ani muscle, with consequent shortening of the time of labour, as there was less resistance to the passage downwards of the head. The anaesthesia needed deepening towards the end of this stage, when the head was engaging the cervix and stretching it. He referred also to the effect of emotion on labour pains. Suitable mental treatment was valuable during the last months of pregnancy, so as to ensure the co-operation of the patient by gaining her confidence. Pain was greatly increased if a patient were unduly apprehensive or frightened by tales told by her friends. Psychic treatment tended to make the ordeal less terrible, and she went through it with far less emotion.

Dr. JOSEPH BLUMFIELD agreed as to the desirability of anaesthetics being given in common labour, but denied that anaesthetists had only just commenced to take an interest in obstetric anaesthesia. Their opportunities had been limited hitherto by lack of invitations to co-operate with the obstetricians. In his opinion nitrous oxide and oxygen, owing to the bulk of the apparatus necessary for their effective administration, could not be used as a routine in private houses. Moreover, it was difficult to give these gases in a wide bed such as was commonly used for parturition. They caused a condition of excitement in many people which militated against proper asepsis for the accoucheur. He believed chloroform was the anaesthetic of choice. Regarding synergistic analgesia, he was surprised at the choice of this route of anaesthesia. The pelvis was already full, and it was proposed to add several ounces of fluid. Ethylene and acetylene, excellent for producing quick loss of consciousness, were unsuitable if the anaesthesia had to be prolonged. Ethyl chloride was very useful, and could be used repeatedly in small doses without any ill effects on the patient.

Mr. W. GULLATT said there were three types of confinements: (1) among the poor and in hospital; (2) in a doctor's practice, where the practitioner gave the anaesthetic and conducted the confinement; and (3) among the wealthier classes, where an obstetrician and an anaesthetist were employed. In the first group an anaesthetic was not usually given. Chloroform was the most useful anaesthetic in the second group, and where a skilled anaesthetist was employed, as in the third group, the choice of anaesthetic could safely be left to him. Chloroform certainly delayed delivery more than did ether, and the use of this anaesthetic increased the probability of forceps being needed. On the other hand, the immobility of the patient which followed chloroform lessened the chance of contamination of what should be a sterile field. Probably nitrous oxide, oxygen, and ether were the ideal anaesthetics for confinements, but these necessitated the presence of a skilled anaesthetist, and so had to be ruled out of court as the routine procedure. Chloroform had its dangers, and might lead to changes in the liver and kidneys; any existing toxæmia might be increased by its use, and if a second operation subsequently became necessary chloroform was very risky, and should not be used on any account. Spinal anaesthesia with stovaine was useful for Caesarean section, but should not be given with an inhalation anaesthetic, even of nitrous oxide, as lung complications were very likely to ensue.

Dr. H. A. RICHARDS said the selection of an anaesthetic for a woman in labour depended on the state of the patient, just as in general surgery. The first anaesthetic could consist of any suitable drug, but on no account

should a second anaesthetic contain any chloroform. Nitrous oxide was not suitable when the patient was in a state of apprehension of pain, as it only tended to excite her, and chloroform could be dispensed with in cases of Caesarean section. If stovaine were used he recommended that a small dose, such as 0.4 cg. in saline solution, should be given. If nitrous oxide were used he preferred to give it without oxygen, but with air, and possibly with a little carbon dioxide.

Dr. H. E. G. BOYLE had been much impressed with what he saw in the United States, where nitrous oxide and oxygen were given to a great extent. So far from being diminished, he believed that the uterine contractions were increased both in force and frequency, and the length of the labour thereby shortened. A little ether should be added when the head was being born. This could be cut off before the body was delivered, and oxygen and carbon dioxide substituted. After the birth of the body the nitrous oxide and oxygen should be continued until the placenta was delivered.

Dr. BECKETT-OVERY believed that in the hands of the unskilled nitrous oxide and oxygen were dangerous; chloroform could be given by the woman herself with the help of a Junker inhaler. During the first stage he liked to give morphine and hyoscine, as it led to calm and quiet.

Mr. SYDNEY MALKIN said that he had had a limited experience with synergistic analgesia and thought it might be useful. Of twenty cases analgesia had been entirely successful in twelve; two failed completely; one patient showed undue excitement; in one case, with a quick second stage, the child was born blue, and the rest were not entirely satisfactory. Dr. CLARKE strongly approved chloroform, both in obstetrics and in general surgery. When properly given, according to the Scottish method, it was both safe and satisfactory. Dr. Z. MENNELL believed that the method of nitrous oxide and oxygen as used in America was excellent in America, where all obstetric cases were dealt with in private and public hospitals, but that in this country it was impracticable because of the drawback of lack of portability of the apparatus.

#### MEASUREMENT OF BASAL METABOLISM.

At a meeting of the Liverpool Medical Institution on February 16th, with the president, Dr. JOHN HAY, in the chair, Dr. H. S. PEMBERTON and Dr. R. T. GOODYEAR made a communication on the clinical value of basal metabolism measurement.

Dr. Pemberton, dealing with the clinical side, compared this method of measuring thyroid activity with the well-established tests of functional efficiency of other tissues, and defined it as the measurement of resting heat production or minimal oxygen consumption under basal conditions. He contended that it now had, or should have, its place in the diagnostic armamentarium of the modern general hospital. In discussing the practical value which might be obtained from a knowledge of the basal metabolic rate, he drew attention to four questions: (1) In the case of apparent hyperthyroidism or goitre, what was the actual level of thyroid activity? (2) In cases in which there were no definite signs of altered thyroid activity was there, in fact, an alteration in so far as this was expressed by an abnormal basal metabolic rate? (3) The success or otherwise of treatment as reflected in a movement of the basal metabolic rate towards normal; guidance from this movement as to subsequent treatment; and a comparison between alternative methods of treatment. (4) The prognosis as measured by the basal metabolic rate.

Dr. Goodyear described in detail the working of the modified Benedict instrument in a room especially set aside for the purpose. The production of the basal state, the many factors which influenced it, and the difficulties in technique were discussed. The standards of Aub and Du Bois were those upon which estimations were based. He laid stress upon the careful preparation and the handling of the patient while undergoing the test, and particularly the lighting, decoration, and heating of the basal metabolism room. The reliability of the results was also discussed in detail.

## Rebels.

### EDEN AND LOCKYER'S "GYNAECOLOGY."

THE third edition of EDEN and LOCKYER'S *Gynaecology*<sup>1</sup> will receive a hearty welcome, for it has already established itself as one of the soundest and sanest presentations of the subject published in this country. From the first the authors set themselves the difficult task of striking an even balance between the pathological and the clinical aspects of gynaecology, and they are to be congratulated on having maintained that balance throughout successive editions. From the standpoint of those specially practising and teaching this branch of medicine the thorough manner in which the pathological side is treated has made it essential for them to find a place for this volume on their bookshelves. It gives in small compass a judicious summary and world-wide review of the advances in gynaecological pathology, particularly in morbid histology.

This edition has called for considerable addition both to text and illustrations. The physiology of menstruation—both the histology of the endometrium throughout the cycle and the influence of the corpus luteum—has been revised in the light of recent research, including the work of Wilfred Shaw on the formation and structure of the yellow body. Other new matter calling for mention is the full account of adenomyoma—or endometrioma, as it is now more often termed—and its place in the causation of the tarry blood cysts of the ovary, as worked out by Sampson and Bailey. The book has, too, a correspondingly valuable practical side, and the more modern means of diagnosis and treatment are fully considered and weighed. The section on operations is clearly written and well illustrated; the attention paid here to the after-treatment of both abdominal and vaginal operations is particularly worthy of notice, and must prove of value to those who have the after-care of the patients as well as those who operate.

The section on cancer of the uterus provides a good example of the authors' skill in combining the scientific and practical sides of their subject. The naked-eye and microscopic characters and the mode of spread of the various forms of uterine cancer, together with their features as found on clinical examination in their early and late stages, are fully described and illustrated, and possible lines of treatment, operative and otherwise, and selection of cases are carefully discussed. Treatment by radium is regarded with an open mind and optimistic outlook, and the technique for its application is exemplified by figures showing a front and side view with a tube in the canal and needles palisading the periphery of the growth. The dosage advised is, however, smaller than that commonly adopted. The difficulty in reaching glandular and cellular-tissue metastases is stressed, and deep x-ray radiation advocated for them.

The inclusion of puerperal sepsis in the infections is greatly to be commended, for it cannot be reasonably separated from other infections of the female genital tract, although customarily it is allocated to obstetrics. Good use has been made of the old surgical division of the subject into general and regional, but we question whether this classification is any less open to the objection the authors make to a pathological classification—that it tends to dissociate conditions which are in close clinical relation.

This new edition of a good book deserves all the appreciation accorded to its predecessors.

### FRACTURES.

SCUDDER'S *Treatment of Fractures*<sup>2</sup> is recognized as a leading authority wherever the English language is spoken or read, and the issue of the tenth edition will be welcomed by all who have to do with these injuries—that is to say, by every medical practitioner—for the spread of the motor

car epidemic makes it impossible for any man to foresee when or where he may be called upon to treat a fracture. We are not surprised to learn from Dr. Scudder that the incidence of fractures is increasing in the United States, but the figures he quotes are appalling. He tells us that in 1924 155,000 cases of fracture were treated in "A Grade" hospitals in that country. How many cases should be added for hospitals of lower grade we cannot tell, but the figures above quoted signify that one person in seven hundred suffered from fracture in one year and was fortunate enough to be admitted to hospitals of A grade. This new edition has been brought thoroughly up to date, the operative treatment being especially fully discussed and described, including both plating and grafting methods. The importance of team work is emphasized. For the first time Dr. Scudder has, in this edition, confined the articles on special subjects to specialists. Dr. Joseph C. Bloodgood writes on pathological fractures, Dr. F. W. Bancroft on bone repair, Dr. Kurt H. Thoma on fractures of the maxilla and mandible, Dr. James Menoll on massage, Dr. Frank Richardson on anaesthesia and anaesthetics, and Dr. Edward Truesdell on birth fractures, a subject that he is peculiarly qualified to deal with. Dr. Scudder recognizes that if better functional results in fractures are to be attained, treatment, especially in difficult and complicated cases, should be carried out by specialists, or at least by general surgeons who have had special experience, and that such treatment should be initiated as early as possible, if it is to give good results.

The publishers of Dr. ETIENNE'S *Traitement des Fractures par le Praticien*<sup>3</sup> say that "this little book has been written for the practitioner who, in the presence of a fracture, without radiographer, special apparatus, or skilled assistance . . . has to decide on and apply treatment." Any practitioner in such a predicament has our sincerest sympathy, for the absence of radiography alone presupposes that he is fighting with one hand tied behind him, and that he may be the victim of an action for malpraxis. This is a handy little guide to the rudiments of fracture treatment, and contains useful hints as to first-aid. Unlike most Continental surgeons, the author seems to have some knowledge and some appreciation of the merits of Thomas's splints. The figure which purports to represent the conditions in a fracture of a vertebral body does not show the ordinary compression fracture, but a fracture-dislocation, which is uncommon. In the case of a fracture of the patella we are told that there is only one logical method, and that that is open operation and "corlage." How the practitioner in the circumstances presupposed by the publisher is to carry this out we do not know. No other method of treatment is so much as alluded to.

### BIRTH INJURIES OF THE NERVOUS SYSTEM.

DRS. FORD, CROTHERS, and PUTNAM, in their book on *Birth Injuries of the Central Nervous System*,<sup>4</sup> have attempted to arrive at a more exact definition of the group of true birth palsies than has been hitherto attained. The subject of "cerebral" birth injuries is dealt with by Dr. Ford, who states that there is convincing evidence that the congenital diplegias which constitute by far the largest group of infantile spastic palsies are not to be attributed to meningeal haemorrhage at birth, but are the result of various pathological processes of intrauterine origin. Cerebral birth injuries producing lesions of a kind that would lead to congenital diplegias he considers to be rare, and he concludes that the great majority of infantile palsies can no longer be lightly attributed to faulty obstetrical procedures. As regards hydrocephalus, no final statement can be made about its relation to birth injury. Marked enlargement of the head may occur, with extensive bleeding into the ventricles or subarachnoid spaces; but

<sup>1</sup> *Gynaecology for Students and Practitioners*. By Thomas Watts Eden, M.D., C.M., F.R.C.P.Lond., F.R.C.S. Ed., and Cuthbert Lockyer, M.D., N.S., F.R.C.P., F.R.C.S. Third edition. London: J. and A. Churchill, 1928. (Roy. 8vo, pp. xv + 822; 555 figures, 32 plates, 3ss.)  
<sup>2</sup> *The Treatment of Fractures*. By Charles Locke Scudder, A.B., Ph.D., M.D., F.A.C.S. Tenth edition, revised. Philadelphia and London: W. B. Saunders Company. (Roy. 8vo, pp. 1240; 2,016 figures. 55s. net.)  
<sup>3</sup> *Traitement des Fractures par le Praticien*. Par Dr. Etienne. Préface du Professor Jeanbrau. Paris: Masson et Cie. 1927. (8½ x 7½, pp. 194; 145 figures. 16 fr. sans.)  
<sup>4</sup> *Birth Injuries of the Central Nervous System*. By Frank R. Ford, P. Crotthers, and Marian C. Putnam. London: Baillière, Tindall and Co. 1927. (8½ x 7½, pp. 57 figures. 38s. net.)

"Cerebral Birth Injuries" by Bronson Vol. XI. xiii + 164;

usually the blood becomes absorbed, though possibly hydrocephalus may result occasionally from plugging of the iter. The common diffuse meningeal haemorrhage, which is not large enough to cause death, apparently leaves no residuum as a rule. The real birth injuries to the brain are caused by the rarer intracerebral haemorrhages and necroses, by depressed fractures with laceration of the brain, and by some encapsuled haemorrhages which compress and soften the cortex. The true birth palsies are apparently represented, not by the diplegias, but by the congenital hemiplegias, the monoplegias, and the asymmetrical and unequal bilateral spastic paralyses; asymmetrical congenital defects of the brain will, however, be unavoidably included in this group since they are clinically indistinguishable. If this view is correct it would appear that only about 6 per cent. of all infantile cerebral palsies are due to birth injury, but the group is not well enough defined to permit of exact numerical estimation. Recurrent convulsions occur in about one-third or more of these cases, and it is probable that about 2 or 3 per cent. of all epilepsies seen in children are related to birth injury. Severe grades of mental defect are probably not related to birth injury, with the exception of that type which develops in association with frequent convulsions.

Birth injuries of the spinal cord are considered by Crothers and Putnam. The ordinary type of brachial palsy is well understood; it is produced by traction, usually lateral, and in general is characterized by paralysis of definite groups of muscles. In a number of cases, however, where the disability was paralysis of the arm, the authors found evidence that the spinal cord was also involved, and they have come to the conclusion that in most cases where the spinal cord is affected the cause has been traction exerted during delivery and not congenital or other pre-natal influences. The most fragile and least elastic structures, they contend, are the spinal cord, the membranes protecting it, and the nerves, and it is these structures which are liable to suffer from undue traction. The authors note that obstetrical textbooks are almost completely silent on this point; and they consider that until more emphasis is placed on the importance of the control of traction as a factor in successful delivery, accidents will occur in unnecessary numbers. If no adequate warning is given by teachers that traction may result in serious injury to the spinal cord, the individual practitioner may use it to the detriment of the children he delivers.

#### SYNOPSIS OF SURGERY.

POPULAR books seem to grow in bulk with every new edition, and the eighth edition of *A Synopsis of Surgery*<sup>2</sup> by Mr. E. W. Hey Groves, is no exception. It would almost seem that it has outgrown its original title, and that the present volume is deserving of a more imposing name. Written as it is in short, concise sentences, on subjects well and extensively classified, it covers such an enormous and increasing field that it is in danger of becoming more a book of quick and easy reference than a "crum" for the student on the threshold of his surgery examination.

With each edition new work is introduced on various subjects without elimination of that which has become obsolete. Not that anyone desires the latter to pass into oblivion, for it can be retained in all the larger textbooks, but its reappearance in a synopsis tends to make the book top-heavy. For example, the older forms of treatment for syphilis, and such operations as necrectomy and nerve stretching, could be dispensed with, and for facial tie stretching is advised and no mention made of alcohol injections. Recent work, such as cholecystography and ventriculography are mentioned, and lipiodol injections could usefully have been included with these, also the relation of the vertebral spines to the spinal segments, rather than its enlargements. Several black-and-white illustrations have been incorporated in the text, and as an appendix there is a chapter on surface markings.

<sup>2</sup> *A Synopsis of Surgery*. By Ernest W. Hey Groves, M.S., M.D., B.Sc.(Lond.), F.R.C.S.(Eng.). Eighth edition. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1927. (Cr. 8vo, pp. viii + 674; 146 figures, 13 plates, 17s. 6d. net.)

All students will find in these pages what is necessary for their pass examinations, a great deal of practical help and wisdom to guide them in their period of hospital apprenticeship, and concise references on most of the important points of surgery likely to arise in the course of busy general practice.

#### NORMAL HISTOLOGY.

THE thirteenth edition of *Piersol's Normal Histology*,<sup>6</sup> revised, and in part rewritten, by Professor ADDISON of the University of Pennsylvania, shows a welcome advance, though all too small, in the physiological treatment of the subject. Histology is the easiest subject to master in the medical curriculum, and the easiest to teach. Hence it is too often taught in uninteresting fashion, and the student fails to obtain that familiarity with the minute anatomy of the normal tissues, as distinct from the "spotting" of organs, which is so necessary for the later study of morbid anatomy. The decay of morbid anatomy is partly due to lack of vision in histological teaching.

As an example of the anatomist's outlook the book is satisfactory, and many new illustrations have been added, notably those showing vascular injections of various organs. Considerable space is devoted to those organs which are examined in the *post-mortem* room, and the section dealing with the blood has been amplified. From the point of view of the physiologist the work suffers from an inadequate description of the appearance of freshly examined tissues and from a lack of historical consciousness of the continuity and interrelationship of form and function in the work of all the masters in this subject. There is a useful appendix of routine methods and a list of selected references based on the reading lists that are such a feature of American seminars. This list includes about 165 titles, of which 130 are purely American. The student would benefit in his reading if he were made acquainted with some of the giants of histology, such as Kölliker, Ranvier, and Virchow among the earlier, and Sobotta, Schaffer, and Schäfer among the more recent. The description of the blood vessels is still inadequate, and the statement that the intima of the veins sometimes contains muscle is not in keeping with the description in Piersol's textbook of anatomy. We find no reference to the Rouget cells of the capillaries, or to the work done thereon by Clark of Philadelphia, or to the direct examination of the circulation of the blood in the kidney described by Richards of the same school, and the masterly Harvey Lecture by Gideon Wells on calcification and ossification is omitted from the reading list.

The section dealing with the nervous system is in keeping with the anatomical tradition, but suffers from brevity. The histology of degenerating nerve is still omitted. The clinical and pathological significance of Wallerian degeneration is one of the main weapons of the histologist, and the most important of the few that he has. The stria of Gennari in the visual cortex is not figured or described. At a time when increasing attention is being paid to metaplasia of tissues, senescence, and normal decay, it seems a pity that the histology of the ductus arteriosus, ductus venosus, allantois, Wolffian duct, and foetal oesophagus should be omitted, for the student will surely hear of them during his later studies in morbid anatomy.

#### NOTES ON BOOKS.

*Treatment by Manipulation*<sup>7</sup> is the second edition of Mr. TIMBRELL FISHER's *Manipulative Surgery*, which was reviewed by us in our issue of December 26th, 1925 (p. 1231). We do not quarrel with Mr. Fisher's change of title, although a captious critic might object that all surgical treatment is treatment by manipulation, for the cheirourgus is essentially a manipulator. The sections on osteopathy, tennis elbow,

<sup>6</sup> *Piersol's Normal Histology*. Thirteenth edition, now first edited and in part rewritten by William H. F. Addison, M.D. Thoroughly revised and reset. London: J. B. Lippincott. 1927. (Med. 8vo, pp. viii + 477; 432 figures, 25s. net.)

<sup>7</sup> *Treatment by Manipulation*. By A. G. Timbrell Fisher, M.C., F.R.C.S.(Eng.). Being the second edition of *Manipulative Surgery*. London: H. K. Lewis and Co., Ltd. 1928. (Demy 8vo, pp. xi + 209; 62 figures. 9s. net.)



chronic arthritis, and lesions of the sacro-iliac joint have been rewritten and enlarged. As regards the last named, Mr. Fisher's views now approximate to those held by the Boston school in America, but in a book on manipulation we can hardly expect to find a recommendation of fixation operations in extreme cases of subluxation. His discussion of osteopathy and chiropractic is timely, and the instances he quotes of damage done by osteopaths and chiropractors should be a warning to those who are inclined to be indulgent towards such practices, and will furnish valuable arguments to medical practitioners who are trying to guide their patients into safe ways. As regards the elusive syndrome known as tennis elbow, but not confined to tennis players, we note that Mr. Fisher does not mention the method of treatment which has been so successfully used by Mr. G. Percival Mills of Birmingham, and which was described in our issue of January 7th (p. 12). Mr. Fisher's remarks on the value of movement and rupture of adhesions in various cases of chronic arthritis are worthy of notice.

Under the editorial direction of three distinguished surgeons of Berlin, Halle, and Berno, a *System of Urology*<sup>8</sup> is being prepared. The first volume deals with urology generally, and in particular with its surgical anatomy. A careful account is given of operations on the kidneys, ureter, bladder, and male generative organs. The physiology and pathology of the urinary secretion are similarly dealt with on an elaborate scale. The book is copiously illustrated, and there is a useful index. It is a good example of the characteristic type of German publication which endeavours to combine the textbook and the reference volume.

Dr. JOAN ROSS, now lecturer in pathology at the London School of Medicine for Women, brought out in 1925 a book on *Post-mortem Appearances*,<sup>9</sup> which was favourably noticed in these columns (1926, i, 331). It has now deservedly passed into a second edition, which has been revised and enlarged by some additions. The book is a little longer, but there is every reason to repeat what we said on the previous occasion, except those suggestions then made as to slight changes, which have been adopted.

All workers on mosquitos in tropical and South Africa will be greatly indebted to Miss ALWEN M. EVANS for her *Guide to the Anophelines of Tropical and South Africa*,<sup>10</sup> which appears as one of the Memoirs of the Liverpool School of Tropical Medicine. As the author states, "it is not in any sense of the word a monograph . . ." but it is all the more useful to the medical and sanitary officers in these countries, for whom, in fact, the volume is likely to prove indispensable. A key for all adult species and a key for larvae of the six most widely distributed species is given, followed by a systematic and bionomic account of each, with excellent illustrations in the text, and at the end a series of plates of breeding places and many very beautiful delineations of arrangements of scales and tarsus markings.

Volume XLVII of the *Transactions of the Ophthalmological Society of the United Kingdom*<sup>11</sup> contains the proceedings during the past year of this society, and also of the Midland, North of England, and Irish Ophthalmic Societies, and of the Oxford Ophthalmological Congress in 1927. Good illustrations are provided for the various papers, and the present issue, like its predecessors, constitutes a valuable record of progress in ophthalmology in Great Britain.

*Lippincott's Pocket Formulary*<sup>12</sup> requires a somewhat capacious pocket. The volume has been compiled by Dr. GEORGE E. REHBERGER in order to provide the medical practitioner with a ready reference manual. The first section gives an alphabetical list of diseases and symptoms, with appropriate treatment and prescriptions. Some of the conditions may sound quaint to English ears, such as eaked breasts and milk sickness. The latter part of the book contains lists of U.S.P. X drugs, of drugs in the *National Formulary*, and of new and non-official remedies. Sundry tables of weights, measures, and so on are appended.

<sup>8</sup> *Handbuch der Urologie*. Herausgegeben von A. v. Lichtenberg, F. Voelcker, H. Wildholz. Erster Band, Allgemeine Urologie I. Berlin: J. Springer. (Roy. 8vo, pp. x + 754; 312 figures. R.M.33.)

<sup>9</sup> *Post-mortem Appearances*. By Joan M. Ross, M.D., B.S.Lond., M.R.C.S., L.R.C.P. With a preface by E. H. Kettle, M.D. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1928. (Fcap. 8vo, pp. ix + 228. 7s. 6d. net.)

<sup>10</sup> *A Short Illustrated Guide to the Anophelines of Tropical and South Africa*. By Alwen M. Evans, M.Sc. Liverpool School of Tropical Medicine, Memoir (New Series) No. 3. London: Hodder and Stoughton. 1927. (7½ x 10½, pp. 54; 10 figures, 12 plates. Paper cover, 7s. 6d. net; cloth, 8s. 6d. net.)

<sup>11</sup> *Transactions of the Ophthalmological Society of the United Kingdom*. Vol. XLVII. London: J. and A. Churchill. 1927. (Demy 8vo, pp. xlviii + 467; 82 figures, 3 plates. 30s. net.)

<sup>12</sup> *Lippincott's Pocket Formulary*. By George E. Rehberger, M.D. London: J. B. Lippincott Company. 1927. (4 x 8½. 15s. net.)

## LIVER EXTRACT IN THE TREATMENT OF PERNICIOUS ANAEMIA.

REPORT BY THE MEDICAL RESEARCH COUNCIL.

THE following preliminary report on the liver treatment of pernicious anaemia has been received for publication from the Medical Research Council.

The treatment of pernicious anaemia by addition of liver to the diet, introduced in America by Minot and Murphy, has already been widely adopted with encouraging results. An important development of this has recently become possible through the successful preparation, by Cohn and others, of an extract of liver containing in small bulk the unknown factor which produces the ameliorating effect. The treatment is thereby made available for patients who cannot tolerate the large daily consumption of liver itself.

In the past autumn, through the courtesy of the Pernicious Anaemia Committee of Harvard Medical School, the Medical Research Council received information about this method of preparing liver extract, and were invited to make trial of it with a view to assisting introduction of the treatment in this country. On the basis of this information experimental work was undertaken in the Council's laboratories at the National Institute for Medical Research, and a modification of the American process was found, through the co-operation of Professor F. R. Fraser of St. Bartholomew's Hospital, to yield a satisfactory extract. To increase the scope of the work the Council then invited the co-operation of manufacturing firms likely to be interested, and arrangements were made for clinical trials of the preparations thus obtained in adequate quantity.

Supplies of liver extract made on a manufacturing scale by the modified process were received from the Boots Pure Drug Company, from the British Drug Houses, Limited, and from Messrs. Burroughs Wellcome and Co.

It is at present impossible to gauge the therapeutic effects of liver extracts in pernicious anaemia by any other method than that of direct trial upon human patients. The extracts supplied by the three firms were, therefore, distributed widely to various hospitals, and clinical reports upon the activity of the several preparations have been received from the following physicians: Dr. John Cowan, Glasgow; Dr. S. P. Davidson, Edinburgh; Professor E. C. Dodds, Middlesex Hospital; Professor T. R. Elliott, University College Hospital, London; Professor A. W. M. Ellis, London Hospital; Sir Thomas Houston, Belfast; Professor W. E. Hume, Newcastle-on-Tyne; and Professor E. Mellanby, Sheffield. To these, and the colleagues who have been associated with them in this work, the Council are much indebted.

A total of 34 apparently clear cases of the disease came under treatment. The object of the trials was to test the activity of each extract as rapidly as possible, rather than to watch the results over a long period of time. For this purpose the early increase in the count of reticulocytes—the young red cells with special staining properties—was adopted, as it had been found to be satisfactory in the American work. This rise is usually associated with clear sensations of improvement on the part of the patient, and it is succeeded by a progressive increase in the general red cell count, while the relative proportion of reticulocytes diminishes.

Out of the 34 cases all but 2 showed a good response. In 23 of these the conditions were such that other reasons for the improvement than the administration of the extract were clearly excluded. In the remaining 9 the response during treatment was no less marked, but the possibility of natural remissions or the influence of other treatments, such as previous administration of fresh liver, rendered the conclusion less certain. The daily dose of extract, corresponding to half a pound, or 250 grams, of liver, generally brought a clear rise in reticulocytes, culminating about the twelfth or fifteenth day; double that amount daily excited an earlier reaction, with a maximum as early as the fifth day. As illustrating the remoter benefit in a case that had been treated with only the smaller doses, but over a longer period, the total red cell count rose from 750,000 to 5,000,000 in thirty-four days.

These effects are identical with those obtained with liver itself, although the effect of a given dose of the extract is not so great as that of the quantity of liver from which it is

derived. Time has not yet permitted an estimate of any possible deterioration of the extract on keeping.

These preliminary reports enable the Medical Research Council to state that the preparations submitted have been found to be satisfactory. The process used in making these extracts has not necessarily any peculiar value as compared with possible alternatives, but it is one capable of ready application on a large scale. The Council believe that further progress will be best facilitated if extracts of the type which they have investigated are now made available, along with any others introduced apart from the Council's action, to the medical profession in general.

It is understood that supplies of these liver extracts will at once be obtainable, through the usual commercial channels, from the firms already named. The Council are not themselves able to deal with any applications for the material.

## THE GLASGOW MEDICAL JOURNAL.

### A CENTENARY NUMBER.

A HUNDRED years have passed since Dr. William Mackenzie launched the first number of the *Glasgow Medical Journal* upon the waters of Scottish medical life. His name and a list of the appointments which he held occupy such a prominent position on the title-page of the first number that it is fair to assume that even if he did not himself build the ship, his at least was the hand that knocked away the dog-shores and allowed the vessel to glide down the metaphorical ways, as so many tall ships and ocean liners have done on the banks of the actual Clyde. This centenary occasion is celebrated by the publication of a commemorative number which consists entirely of historical articles and notes, and is illustrated by a number of portraits and views. It includes also papers on medical journalism by Sir Dawson Williams and Sir Squire Sprigge.

Sir Dawson Williams's contribution—which now has a sad interest as being the last of the few articles he ever signed—traces the origin of newspapers to the newsletters of business firms, such as the great Augsburg house of Fugger, whose system, at first intended only for their own use, was afterwards extended, so that their periodical dispatches were allowed to be copied and sold to the public. This interesting article is illustrated by reproductions of the title of the earliest French medical paper, the *Journal de Médecine* of 1683, and the first British one, the *Medicina Curiosa* of 1684, of which latter only two numbers are known to have been published. Our late Editor recalls that the first person to issue a newspaper in the modern sense—that is to say, a printed sheet published at regular intervals—was a Doctor of Medicine, Theophrastus Rendudot, whose *Gazette* and *Nouvelles Ordinaires* appeared in Paris in 1631.

Sir Squire Sprigge would put back the origin of medical journalism to a date somewhat earlier than 4000 B.C. when an unknown Babylonian physician recorded a case of incurable dropsy on a clay tablet; but he evidently realizes that as one swallow does not make a summer, so one, or even several, clay tablets do not constitute a medical periodical. He assigns the honour of being the first British medical newspaper to the *Foreign Medical Review* of 1780. Other journals followed this, some of which survived the date of the first appearance of the *Lancet*, which in 1823 made a complete innovation in the matter and manner of medical journalism. It had its rivals, as Sir Squire Sprigge tells his readers, among them the *Provincial Medical Journal*, the organ of the great Association founded by Sir Charles Hastings, and our lineal ancestor.

The *Glasgow Medical Journal* resembles perhaps more some of the earlier medical publications in that it has at no time been published at shorter intervals than one month. Indeed, for nearly half the time of its publication it was a quarterly, but since the year 1877 it has appeared regularly once a month. It has long been produced by the Glasgow and West of Scotland Medical Association, of which Dr. J. Wyllie Nichol is president, and the two editors to-day are Mr. John Patrick and Dr. George A.

Allan. The *Journal* has not been without its local rivals during its long career, of one of which there is an entertaining account in the leading article of this centenary number, "The *Glasgow Medical Journal* and its Editors." This was the *Glasgow Medical Examiner*, which had a brief existence in 1831, and was revived in 1869. It became known as the "Mustard Plaster," so called partly from the colour of its wrapper, but still more on account of the blistering qualities of its articles. Even so late as 1869 it ridiculed Lister, congratulating its readers on his removal to Edinburgh and on the hope that "our Alma Mater will no doubt be purified from even the smell of the quackish puffed nostrum" (that is, carbolic acid). Gairdner was bracketed with Lister as a subject of its denunciation. But the *Journal* itself was not always polite in its reviews of books. In 1853 Syme came in for very rough treatment, even being reminded by the reviewer of individual patients whom he had failed to cure.

The principal of the University, Sir Donald MacAlister, has contributed a short note on that school as it was a hundred years ago, when the professor of botany was Sir William Hooker, afterwards director of Kew Gardens, whose son and successor, Sir Joseph, the friend of Darwin and Huxley, died as recently as 1911. The school was flourishing, for at that time the number of matriculated students of medicine was 428. The Scottish universities at that period, and for some time afterwards, had no rivals in Great Britain as regards medical degrees, for Oxford and Cambridge scarcely counted as schools of medicine, and London University was not. Yet few Englishmen seem to have availed themselves of the opportunities offered at Glasgow, for of the thirty-eight degrees granted in 1827 in medicine or surgery, only two were conferred upon Englishmen. Probably Edinburgh offered greater attractions. Sir Donald MacAlister's article is illustrated by a photograph of the picturesque old college in the High Street.

The old universities did not condescend to meddle with the "base mechanic art" of surgery, except in so far as it was studied by physicians who professed to control the practitioners of surgery. Thus in Glasgow, as in London, we find the teaching of surgery in the hands of corporations of less dignity than the universities. The Faculty of Physicians and Surgeons of Glasgow was established by a charter of King James VI in the year 1599, and given authority, among other things, to examine all persons professing the art of chirurgery. It is noteworthy that in the same charter it is enacted that no one is to practise *medicines* "without a testimonial of a famous university quhair medicine be taught." When the University took to granting degrees in surgery, as it did in 1816, competition between it and the Faculty became keen. Despite the prestige of the additional title of "Royal" which was granted by King Edward in 1909, the Faculty finds itself handicapped by the action of the Carnegie Trust, under which many students' university fees are paid. Although the Faculty had furnished surgical teaching to its apprentices, the extramural school really dates from the year 1744, when William Cullen, a physician, founded it by instituting courses of lectures, but Dr. John Henderson tells us, in his article on "The position of extramural teaching in Glasgow," that the era of continuous teaching in Glasgow dates definitely from the establishment of the medical school of Anderson's College in 1799. This very flourishing school at one time called itself Anderson's University, although it was never incorporated as such. It still continues to contribute largely to the educational needs of Glasgow medical students, and among its teachers have been many distinguished men, not the least of whom is the present regius professor of surgery, Dr. Archibald Young. Besides a former school of medicine of the Western Infirmary, the Royal Infirmary has also had its medical school, for which a charter was obtained in 1875, and this school is still carried on, notwithstanding the competition from which it and Anderson's College suffer from the University.

This centenary number contains much more than is of interest, including a paper by Dr. Fergus on the Glasgow hospitals, and the editors, Mr. Patrick and Dr. Allan, deserve congratulations on the result of their labours.

## THE JOHN HUNTER BICENTENARY.

## CELEBRATION AT ST. GEORGE'S HOSPITAL.

THE two Hunterian Societies—one of them the Hunterian Society of London, particularly of the City, founded in 1819, and the other the Hunterian Society of St. George's Hospital, founded in 1832, but not taking the name of Hunter until 1850—united at St. George's Hospital on March 1st to celebrate the bicentenary of John Hunter's birth. The gathering, which was of the nature of a conversation, took place in the board room—not the board room of John Hunter's time, which has disappeared, but on almost the same site. Behind the speakers was the couch on which Hunter died, his portrait was over the mantelpiece, and various prized writings and other relics of him were on exhibition. Dr. HUGH GAINSBOROUGH, who presided, said that St. George's Hospital, in which Hunter worked and died, was the most appropriate of all places for a celebration, for the proudest of many proud boasts of St. George's was its connexion with Hunter.

Sir HUMPHRY ROLLESTON said that the four most famous names in British medicine were those of William Harvey, the physiological physician; Thomas Sydenham, the master of practical medicine; and John Hunter and Joseph Lister, the two greatest surgeons the world had ever known. In two months' time the tercentenary of the publication at Frankfurt of Harvey's *De Motu Cordis*, which marked the birth of experimental physiology, would be duly honoured. The Lister centenary was fresh in the mind, and Sydenham's tercentenary was celebrated only in 1924. It was appropriate that Harvey and Hunter, both students of nature and experimental philosophers, should be linked together in our grateful recollection. Hunter, whose original observations ranged over the whole animal kingdom, including even fossil remains, was the first to describe the circulation in crustaceans and insects, just as Harvey discovered and demonstrated the circulation of the blood in the higher animals. Further, in his great treatise *The Blood, Inflammation and Gunshot Wounds* (1794), Hunter investigated the power of the blood to repair damaged and diseased tissues. Again like Harvey, he studied the earliest stages of life, and left behind him the dictum that "embryology indicates the steps by which higher forms in a group of animals have been evolved from a lower." The more he was known the more wonderful Hunter became, and as the years went by his intellectual standard seemed only to grow grander; anatomy, physiology, pathology, surgery, and biology in its widest sense found in him their master. The acknowledged founder of scientific surgery, and, in Timothy Holmes's words, "the greatest man indeed who ever practised surgery," his original researches and philosophical principles were on such broad lines that they provided the basis for medical science as a whole, and were in no way confined to that branch of the profession which he specially followed, though probably he did more than anyone else to elevate surgery to its proper and high position in medical science. It was therefore not unnatural that a claim was made for John Hunter as a physician; it was made by Dr. Newton Pitt in his learned oration before the Hunterian Society in 1896. But, as Sir Clifford Allbutt eloquently argued, the divisions of the healing art were artificial, and as, to quote Sir Jonathan Hutchinson, "the ideal surgeon is a physician who operates," all branches of the profession, therefore, were surely united in their debt of gratitude to Hunter for his services and example. Hunter had been described as a martyr to science, for the ill health which dogged his later years, and his death in tragic circumstances in 1793, had been ascribed to the effects of his auto-inoculation with venereal pus. This experiment on himself was the self-sacrificing practice of the advice he gave to his distinguished pupil Edward Jenner, to try rather than to speculate, thus recalling Harvey's exhortation to the Fellows and Members of the College of Physicians "to search and study out the secrets of Nature by way of experiment." In Nature's most securely guarded secret—namely, the meaning and source of life—Hunter was keenly interested, and in regard to the much-discussed problem of its mechanistic or vital origin, which the new science of biochemistry might

be hoped to bring nearer to solution, Hunter's philosophical teaching would appear to be in favour of the view that it was a supernatural endowment.

Much had recently been said elsewhere about John Hunter's world-wide pre-eminence in medical science, but in that hospital in which he worked and died, of which he was the chief glory, and where he first instituted clinical teaching in surgery, it was meet and right that the bicentenary of his birth should be specially celebrated. Sir Humphry recalled how in 1893 the centenary of his death was commemorated there by Mr. Timothy Holmes in a fine classical appreciation, and by the erection of Gilbert's masterly bronze bust, which since 1924 had adorned the entrance to the out-patient department and medical school in Knightsbridge.

Sir CHRIS ENGLISH also delivered a brief appreciation. What body of people, he asked, could make the greatest claim to John Hunter? Hunter was born in Scotland, but Scotland did not seem to have appropriated Hunter in the same way as Lister. It might be that Scotland had not taken much notice of John Hunter because, when he came to years of discretion, he left that country and started for the south. The Royal College of Surgeons of England had rather annexed Hunter, but it was worth remembering that Hunter's collection did not reach the College until seven years after his death. It was a remarkable thing that the House of Commons, which so seldom showed any practical interest in science, should have voted a large sum for Hunter's collection, and that at a time when Pitt was calling for money for munitions of war. Leicester Square might possibly put in a claim for Hunter, for there it was he started his collection. In Leicester Square, too, lived Sir Joshua Reynolds, and it had been said of Hunter and Reynolds that each helped the other to immortality, the one as subject and the other as painter. But St. George's claims stood out above all others, for Hunter was first surgeon to the hospital from 1768 until his death. He was never an assistant surgeon, and no doubt was truly grateful for that. He was probably a difficult person to get on with, continually at loggerheads with his colleagues, of whom he wrote as a "damned disagreeable lot." Reynolds's picture, on the other hand, conveyed a different impression of him, which they would like to retain, and Edward Jenner and other pupils, who probably had a better knowledge of him than anybody else, always called him the "dear man." The speaker commented on some curious things in the Reynolds portrait—the expression of power in the face, the uncomfortable position of the left hand, the fact that there were two inkpots on the table, both closed, though Hunter held a pen in his right hand, and the bigness of the right arm as compared, so it seemed to him, with the left.

Mr. R. R. JAMES, dean of the medical school, exhibited the pupils' register for 1756, in which one of the first names entered was that of "Mr. Hunter." He also showed an original letter, dated 1765, which, though written in the third person, was unquestionably, in his view, in John Hunter's hand. In that year there was a vacancy for a surgeon, and the letter was to explain to the board Hunter's position why he did not apply against his rival John Gunning, who obtained the post. Another exhibit was a house-surgeon's certificate of 1769, signed by Hunter and others. The pupils' register of subsequent years, which was also produced, showed the much greater number who entered under Hunter, and reminded one of the famous squabble which reached its climax at the special court in 1793. A poignant exhibit, not for what it showed, but for what it omitted, was the minute book of the weekly board for Wednesday, October 16th, of that year. It was a very small meeting: only four were present. After some trifling matter about coffins and shrouds, which the hospital was going to receive cheaply, it was ordered that Mr. Hunter's letter relating to pupils should be reserved for future consideration, and the meeting passed to the next business. Of the fact that Hunter's death took place in the adjoining room during that meeting there was no mention. Mr. MORTIMER WOOLF, president of the Hunterian Society of London, said that that society existed, not for any claim it could lay to John Hunter, but solely to perpetuate the memory of a great man.

# British Medical Journal.

SATURDAY, MARCH 10TH, 1928.

## MEDICINE IN THE FIELD OF LIFE ASSURANCE.

IN the course of a thoughtful address, delivered lately to the Assurance Medical Society, its president, Dr. H. G. Turney, found some interesting things to say about modern developments of life assurance and their bearing upon the world of medicine. He sketched the evolution of the medical examination for assurance from a stage when the examining doctor would submit a laconic "Good" or "Bad" to his directors on the strength of little more in the way of examination than the shrewd appraisal of a seeing eye. But he might have gone a step further back yet, to a day when (in some offices at least) the appraisal was a confessedly lay affair, carried out by the directors after a personal inspection of the candidate.

From these beginnings medical selection gradually won its way, until a day was reached some twenty-five years ago when an observer might justifiably have assigned the future to the medical profession, so far as concerns the selection of lives for assurance. But he would have judged amiss; for at about this time lay opinion in the insurance world, hitherto trending steadily towards the enlargement of medical influence in this sphere, evinced a tendency to branch. While the great majority of those concerned were content to pay increasing tribute to the claims of medical selection, there arose in this country a school of pioneers with the unexpected and reactionary watchword, "Life assurance without medical examination." It is not easy at this distance to appreciate as it deserves the hardihood involved in this daring breach of the acceptances of the day. The scheme, however, was put into effect, at first tentatively and with reservations, and later with increasing boldness; and it succeeded. Since then the system has widened its scope and influence without interruption, though without speed, and may now be said to be common form in a good many institutions.

What is the special appeal of "life assurance without medical examination"? Dr. Turney allots its appeal mainly to the large body of semi-invalid and valetudinarian people who shrink from a medical examination lest it reveal some sinister but as yet happily hidden portent of disaster. We cannot but think he is at fault in this. There are, no doubt, a good many people who approach a medical examination with apprehensions of the kind he describes, but surely it is Dr. Turney's second group—"the average lazy man in the street"—which feels the temptation of the examination-free assurance. Life assurance is a commodity for sale, and one that yields no immediate gratification to the buyer, but rather the reverse. So since a man can get on without it he is likely to be lazy about buying it, though he knows well enough in his heart that it will be good for him. Accordingly, when the agent pins him down and proves to demonstration his need to cover himself against unforeseeable contingencies, he may be in a mood to listen, but he listens under protest and without enthusiasm. And so it comes about that the way he chooses is prone to be the way which will lead him with the least expenditure

of trouble to the end which his reason—but not his indolent habit of mind—has considered and approved.

As to the future of this system, Dr. Turney thinks it has come to stay under certain restrictions, at all events for sums of moderate amount, and he deplors the injury thus inflicted upon the pockets which, in a better-ordered world, would continue to gather the honest guineas thus withheld from the medical profession. We agree that it has come to stay; indeed, we fancy the speaker underrated the firmness of its footing at this minute. Certain it is that an approved life can already obtain cover under this system, without limitation of amount and subject to no other restriction than a generous limit of age. But as regards the guineas, we are fain to believe that the new order entails less prejudice to our cloth than Dr. Turney fears; for though it dispenses with medical examination it is far from dispensing with medical selection. Nay, it leans at every doubt upon medical assistance in the shape of reports from medical attendants. So perhaps we may hope, after all, that a good proportion of the guineas which used to be ear-marked for medical examinations will find a dedication no less honourable under the new dispensation in the discharge of fees for medical attendants' reports. But if in "life assurance without medical examination" we see ourselves faced by a tendency which is, however slightly, uncomplimentary, we may seek consolation in turning to another and more flattering tendency in the opposite direction. This finds its expression in the periodic examination of assured lives at the expense of the assuring offices. The idea underlying the periodic examination is, of course, that under such a scheme a double and mutual advantage will accrue to the parties concerned: the assured will be warned in good time of the errors of addiction or regime into which he has been beguiled by the naughtiness of appetite or the "strength of nature in youth" (as Bacon aptly designates the reserve-against-stupidities by means of which a merciful heaven tides us over the follies of that epoch); while the assuring office is able to rest happy in the confidence that its clients are being maintained in a condition to go on paying their premiums punctually up to the very last unescapable moment.

Periodic examination is, it seems, an American product, though even in its homeland its vogue is strictly limited. Such success as the movement has had in the United States Dr. Turney attributes to "the very large class of people of the Babbitt type who are extremely well-to-do, who have made a fortune in a strenuous business life involving much nervous strain, and who have retired in the prime of life. They have unlimited leisure, with no outside interests to fill it, and it is not long before *tedium vitæ* begins to take its toll of their sense of spiritual and bodily well-being." We are invited, that is to say, to believe that the valetudinarian habit of mind, which drives some men to assure their lives non-medically for fear of the doctor, will equally drive others who belong to the same category into the doctor's consulting room time after time under the system of periodic examination; and it must be admitted that the reactions of the human mind are sometimes bizarre enough to bring even this paradox within the bounds of belief.

Dr. Turney's conclusion is that the periodic examination is not desirable because it will tend to create a race of cranks and hypochondriacs. We wonder whether cranks and hypochondriacs are really so easily made as this conception implies. The deplorable abundance of indifferent health which seems

to be a corollary of sedentary existence may be, as Dr. Turney holds, purely an expression of morbid states of mind reflecting themselves in misdemeanours of the body. But there is an equal likelihood—and more hope—in the view that some kind of physical or chemical misdemeanour of the body is needed to determine the valetudinarian habit, at its beginning at any rate. If this view is the more correct, we need not vex ourselves on the subject of morale; and since it is certain that a great many people are daily running risks of irreparable damage to their bodies owing to their innocent disregard of unappreciated but avoidable perils, it seems almost a pity to impede a movement which is designed to warn them before it is too late.

#### ALKALOSIS AND KETOSIS.

THE effect of the ingestion of alkali upon carbohydrate metabolism has been further discussed by Goldblatt in a recent paper,<sup>1</sup> and the subject is perhaps of sufficient clinical importance to warrant a brief summary of some of the earlier literature. Davies, Haldane, and Kennaway<sup>2</sup> showed in 1920 that alkalosis, produced experimentally by bicarbonate ingestion or overbreathing, caused acetone bodies to appear in the urine. Haldane, Wigglesworth, and Woodrow<sup>3</sup> repeated these results, using themselves as experimental subjects, and found that after overbreathing and after bicarbonate ingestion large amounts of  $\beta$ -oxybutyric acid and small amounts of acetone were excreted. The increase of ketosis after alkali administration to diabetics had often been observed, but had been put down to a "washing-out" effect on the aceto-acetic acid and  $\beta$ -oxybutyric acid already present in the body. The ketosis produced by alkali administration to normal subjects would be difficult to account for in this way, and Haldane, Wigglesworth, and Woodrow thought that it might be due to deranged carbohydrate metabolism, and sought further evidence of such a derangement. The respiratory quotient was found to fall very low about three hours after bicarbonate had been taken, and remained low for several hours. In some cases the quotient was well below 0.7, this showing that no carbohydrate at all was being oxidized during that period. At the same time the sugar tolerance was very much lowered, and the blood sugar curves after taking glucose resembled those given by diabetic subjects. The ketosis, very marked during the experimental period, was only partially suppressed by the glucose, and returned again as the blood sugar level fell. As such results (except, of course, the altered respiratory quotient, which could not be determined in overbreathing) could be obtained either by overbreathing or by bicarbonate ingestion, both of which methods produce alkalosis but otherwise have very dissimilar effects upon the blood and tissues, the authors thought it safe to assume that their results were indeed due to the state of alkalinity produced in the body. They pointed out the similarity between the conditions of alkalosis and diabetes, and suggested that the administration of large amounts of alkali to diabetics might well prove dangerous. Collip and Backus<sup>4</sup> had previously shown that severe overbreathing could produce actual hyperglycaemia. Pavy in 1861 had shown, on the other hand, that acidosis was often accompanied by glycosuria. Haldane, Wigglesworth, and Woodrow, therefore, compared the effects of acidosis produced by ammonium chloride ingestion with the effects of alkalosis previously described. They found that acidosis, like alkalosis, lowered very definitely the glucose tolerance, and that the lowering of tolerance much outlasted the acidotic state. On the other hand, they found no ketosis

and no lowering of the respiratory quotient, so that there was no sign of interference with the oxidation of carbohydrates. They therefore concluded that alkalosis checked the oxidation of carbohydrate, whereas acidosis only hindered its storage. Wigglesworth in 1924<sup>5</sup> further investigated the effect of alkali administration upon fat metabolism in rats. He showed that rats, when fed upon a diet consisting wholly of fat, developed a considerable ketosis, which, however, was transitory. By about the fifth day of feeding the rats had become acclimatized, and had no abnormal ketosis and showed no ill effects. The addition to this diet of considerable amounts of bicarbonate caused exaggerated and greatly prolonged ketosis, delaying the acclimatization almost indefinitely. It also produced ketosis in rats on a normal diet, and, as in the case of the human subjects, the "acetone body" excreted was chiefly  $\beta$ -oxybutyric acid. If large doses of bicarbonate were given to rats on a fat diet, however, greatly increased excretion of acetone and aceto-acetic acid was also demonstrated. It thus appears certain that alkali renders more difficult the oxidation of fat in the absence of sufficient carbohydrate, and a condition of alkalosis would thus aggravate one of the difficulties of the diabetic organism. Goldblatt tried the effect of administering alkali to a subject with high sugar tolerance, and found that the tolerance was lowered by the alkalosis. He found also that the ketosis and intolerance to carbohydrate produced by starvation are both definitely increased by the ingestion of alkali by the starving subject. The administration of 30 grams of bicarbonate to a case of severe glycosuria without any ketosis caused the appearance of ketone bodies in the urine. This case had been observed intermittently for twelve months previous to the experiment, and had never before shown any ketosis. Goldblatt confirmed the results of Hetenyi, which showed that the administration of alkali inhibits to a considerable extent the action of insulin. Goldblatt's work thus confirms the belief that alkalosis causes a derangement of carbohydrate metabolism. It suggests, moreover, that the storage as well as the oxidation of carbohydrate is interfered with, since he found in experiments with rats (which should perhaps be repeated on a larger number of animals) that a very considerable diminution of the amount of glycogen present in the whole carcass was produced by feeding with a diet to which alkali was added.

#### LUNACY REFORM IN FRANCE.

FRANCE bears an honoured name in lunacy reform. It was the immortal Pinel who, during the tumult of the revolution, unfettered the insane from their chains, and ushered in a new era of humanitarian progress. "Everywhere throughout Europe until 1794," said Esquirol, his pupil, "the insane were in chains. It was not thought that anything more should be done for them." Pinel's ideas, however, were inadequately realized, and although the lunacy enactments which followed his dramatic stroke were conceived with the purpose of mitigating the harshnesses and abolishing the abuses under which the insane laboured, they yet exhibited no understanding of the problem as one of medical care and treatment, but had regard only for the public safety. Such an enactment was the Act of 1838, which still regulates the procedure with regard to the certification of the insane, and is now under review by the French Government. It has frequently been assailed ever since it was placed on the Statute Book, but of recent years its critics have become more numerous and more insistent. At the request of a committee (la Commission d'Hygiène du Sénat) Dr. Toulouse, who is chief of the Henri-Rousselle Psychiatric Hospital in Paris and president of the League of Mental Hygiene, has submitted a memo-

<sup>1</sup> *Biochem. Journ.*, xxi, p. 99L.

<sup>2</sup> *Journ. Physiol.*, 54, 1920.

<sup>3</sup> *Proc. Roy. Soc.*, B, 96, 1924, p. 15.

<sup>4</sup> *Amer. Journ. Physiol.*, 61, 1920, p. 568.

<sup>5</sup> *Biochem. Journ.*, xviii, 1924, pp. 1203, 1217.



randum which, has caused widespread comment. Dr. Toulouse criticizes freely the provisions of the 1838 Act, and asserts that its spirit is inimical to the interests of the mentally affected patient. He thinks it should apply only to the relatively small number of violent and dangerous patients, and be suitably amended accordingly. For the great majority of the mentally deranged the thorough treatment required can, he maintains, be attained only by the conversion of the present asylums into hospitals. Where it is found necessary that a patient should be kept in confinement, the preliminary examination would be made elsewhere than in the infirmary, which, under the Act, is, like the asylum, a place of detention. The certificates would be signed by specially appointed alienists, who would be quite independent of the judicial authority, which would then be enabled to render the certificate operative. Dr. Toulouse advocates the provision in every region of France of centres for the prevention and early treatment of mental disorder, along the lines of the Henri-Roussello Hospital in Paris; this institution is a complete psychiatric unit with various activities. It comprises a department for the prophylaxis of mental disorder, an out-patient mental clinic where patients are examined and, if necessary, the services of other specialists utilized, a voluntary treatment centre for all kinds of mental disorder, an observation pavilion in which borderland cases are studied and where, if necessary, detention can be enforced for a week, quarters for dangerous or violent patients, laboratories, and instructional classes dealing primarily with the problems of prevention of mental disease. It will be interesting to see what action is taken in regard to these proposed amendments. It would seem that the time is ripe for a thorough revision of the lunacy laws in France, and the present attitude towards reform augurs well for the ultimate success of measures which will react beneficially on the whole life of the community.

#### SERUM TREATMENT OF POLIOMYELITIS.

THE treatment of acute anterior poliomyelitis by means of injections into the spinal canal of serum from patients who have suffered from the disease previously has not received an extended trial in this country, although the late Dr. F. E. Batten interested himself in it. Since 1910, when this procedure was suggested by A. Netter, attention was given to its possibilities by Professor G. Etienne of Naney, and on October 22nd, 1927 (p. 743), we referred at some length to the results which have been obtained. In a recent communication<sup>1</sup> to the Académie de Médecine A. Netter suggests that the reasons for the relative neglect of what is held to be a valuable therapeutic measure are an insufficient knowledge of the indications for the use of serum and an exaggeration of the difficulties of obtaining it. In consequence of the outbreaks in 1926 in Great Britain and Germany Netter has reviewed the subject, and recalls the fact that in 1910 he discovered, jointly with Levaditi, that the blood of patients who had suffered from anterior poliomyelitis contained immune bodies which rendered virulent spinal cords uninfected for monkeys. Netter places the cases for which convalescent serum is indicated in three groups—namely, those in the pre-paralytic stage, those with rapidly spreading paralysis (Landry type), and acute cases with recent paralysis which is showing no tendency to extend. In the first group, he remarks, the main difficulty lies in diagnosis, but in the presence of an epidemic this should not be impossible, and lumbar puncture gives valuable help. In one series of cases in America seven patients were treated within the first twenty-four hours of onset by intramuscular injections of serum, with rapid recovery in each instance. Of the acute spreading variety, the ascending type of Landry, Netter records his

personal experience of two cases where the prompt injection of convalescent serum not only prevented further paralysis, but brought about in one the complete disappearance of a paraplegia with retention of urine. When paralysis is already established the beneficial results of serum treatment depend largely upon how soon it is employed. Netter believes that it is of little efficacy after the fourth day, and still less at the end of a week, although reports from South America seem to indicate that small doses may still do good as late as the twelfth day after onset. The dose of serum employed by Netter varies with the age of the patient, the gravity of the symptoms, and the duration since the onset. He usually administers 10 to 30 c.cm. intrathecally, although in one case he gave as much as 66 c.cm. in ten injections. He adds that the difficulty of obtaining the serum of patients who have suffered from the disease has been largely overcome by keeping a record of old patients so as to make use of them when an epidemic commences. This was accomplished in 1925 in Melbourne, where 110 patients who had previously had the disease were quickly obtained as donors by the help of official registers, hospitals, doctors, masseurs, and even orthopaedic instrument makers. The serum so obtained can apparently be stored for short periods in ampoules. The serum of immunized horses has also been efficacious in certain cases, but its supply at the present time is limited.

#### THE PREVENTION OF INDUSTRIAL INVALIDITY.

THE Council of Industrial Medicine called a number of representatives of industry into conference in London on March 2nd, at the house of the Federation of Medical and Allied Services, with a view to discussing schemes for the prevention or amelioration of industrial invalidity. Dr. D. A. Coles, the chairman of the council, who presided, referred to the millions of weeks wasted annually by disablement or illness. A skilfully devised scheme whereby this invalidity could be prevented or more expeditiously treated would, he said, cast no additional burden upon industry, but, on the contrary, would relieve it of a part of the burden it already carried. In a plea for works clinics Professor E. L. Collis pointed out that the treatment of industrial injury included wound healing and restoration of function, and, while every surgeon was concerned with wound healing, it needed some special acquaintance with industrial medicine, and in particular with the occupation to which the injured person was returning, to bring about restoration of function in the best way. He urged that the setting up of industrial clinics would vastly reduce compensation claims. Dr. Alfred Salter, M.P., as a medical officer of three large trade unions, referred to the acute difficulty of men employed on the industrial fringe of London in obtaining suitable after-treatment in cases where traumatic arthritis had developed. They could get such treatment only by travelling to a central London hospital, which often they were not able to do. He said that if only after-treatment were available very many of these cases, which now dragged on for months, would be restored to full functional activity after a few weeks. Some account was given of an industrial clinic by Mr. Maurice Salmon, of the Lyons catering firm, who said that in trying to deal with the slighter kinds of accidents on the premises, rather than send them out to the hospitals or insurance practitioners, his firm had felt that they were saving themselves a great deal of lost working time and their employees a great deal of suffering. Dr. Howard Mummery, director of the Lyons clinic, said that during the past three months 2,909 new injuries of all kinds had been treated in his clinic, and in 2,730 of these cases the patients had remained at work; thus in only 6 per cent. was there any lost time involved. The number of redressings during that period was 5,060, of which 4,716 were

<sup>1</sup> Bull. de l'Acad. de Méd., xlix, January 31st, 1928, p. 141.

done during employment without loss of time. The treatment and dressings were given by hospital-trained nurses under close medical supervision, and the average time was ten minutes to each case. So far as first aid is concerned, the railways were highly commended. Sir Percy Wilkinson, secretary-general of the Order of St. John of Jerusalem, said that over 40,000 railway employees had been trained to deal with accidents, and Dr. W. Salisbury Sharpe, chief consulting surgeon to the Great Western Railway, spoke of the very large number of men on that railway who not only had had training in first aid, but who kept up their training by passing through a course every year. Dr. Drummond Shiels, M.P., as one who had a great deal to do with railway workers, said how much he was impressed by the skill shown by numbers of them at various points in the railway system in dealing with the accidents which occurred to their fellows in the course of their employment. Mr. Henry Lesser mentioned one interesting experiment in progress at a gas works, where, after any serious injury, a jury of workmen was called together—the members of the jury having had experience of the work on which the injured man was employed—and the official responsible at the particular depot or station where the accident had occurred presided. Witnesses were summoned, including, if possible, the injured man himself, and the jury decided whether there was any fault, and, if so, where it lay, and made suggestions as to prevention. Dr. Fortescue Fox, Dr. M. B. Ray, and other speakers mentioned the movement for the establishment of clinics dealing with rheumatism, in particular the venture in London sponsored by the British Red Cross Society. The large number of cases of so-called rheumatism which were not suitable for the hospitals, and for which there was at present no provision, accounted for a vast sum of industrial invalidity. A resolution from the chair was carried approving, in general, co-operation between industry and medicine, and pledging those present to support schemes tending in that direction. It will now be for the Council of Industrial Medicine, in the light of the expressions of opinion at the conference, to suggest some practical proposals. Employees of labour are to be asked what steps the council can take to help them.

#### PULMONARY ACTINOMYCOSIS.

INFECTION with the ray fungus, the causal organism of actinomycosis, is said to be fairly frequent in certain parts of the world, such as Germany, Russia, and Austria. In England and America, though isolated cases are reported from time to time, the disease would appear to be a comparatively rare one in man. Infection is usually found to occur in those whose occupation entails the handling of straw and grain and by those in close contact with vegetable products. It is through the alimentary or respiratory tracts that infection most commonly occurs, and statistical considerations indicate that the infection is primarily a pulmonary one in from 15 to 18 per cent. of the recorded cases. The symptoms produced in the lungs closely resemble those of tuberculosis, and this diagnosis will usually be made, provided the continued absence of tubercle bacilli in the sputum is ignored. This lesson is well brought home by a case reported by Dr. F. M. Johns.<sup>1</sup> This patient had been regarded as tuberculous for twelve years, and during that time this diagnosis was confirmed by numerous x-ray and sputum examinations, in which tubercle bacilli, however, were never found. Expectoration had always been profuse, containing numerous large granules which the patient himself, being a mechanic, had found to measure up to three-sixteenths of an inch. These granules, when compressed under a cover-glass and examined microscopically, presented the characteristic

appearance of actinomycotic granules. Cultured on glucoso agar the organism had grown into long filamentous forms, which were partially acid-fast. Both the granules in the sputum and the cultures were not pathogenic for guinea-pigs. A month's treatment with rather large doses of iodides has resulted in an encouraging reduction in the amount of the sputum.

#### THE CORONARY CIRCULATION.

THE physiology of the blood supply to the heart has hitherto been very much a matter for conjecture. That this should be so, and that experimental work on the subject has given somewhat conflicting results, is little to be wondered at if the difficulties of such investigations are appreciated. It is, however, becoming more and more obvious that better and fuller knowledge of this branch of physiology is essential in view of the rapid advances that have of recent years been made in the study of coronary disease. Few of those interested in current medical thought and work can have failed to notice frequent references to the comparatively newly recognized syndrome of coronary infarction. The pathological entity has long been appreciated, but that the condition is now clinically separable from the great group of angina pectoris is shown by several recent publications, notably that by Parkinson and Bedford,<sup>2</sup> who analyse 100 cases, most of them correlated with post-mortem findings. Clearly, in the present state of our knowledge, research into the vascular supply of the heart must be by animal experiment. This line has been followed in the past principally by Rebatel in his investigations on the horse, by Porter, and by Langendorff, but the value of their work has been called in question by succeeding investigators on account of the inadequacy of their recording systems, or the artificial conditions under which their experiments were conducted. These earlier attempts at elucidating the problem are reviewed by Anrep, Cruickshank, Downing, and Rau<sup>3</sup> in their recent work on the coronary circulation in relation to the cardiac cycle. For their experiments they employ the denervated heart-lung preparation of the dog, and the coronary inflow and outflow are recorded electrically, both separately and together, and are further correlated with the electro-cardiogram and with curves of intracardiac pressure. These observers find that the curve representing coronary outflow shows three waves, the first closely following auricular systole, the second at the beginning of ventricular systole, and the third during the ejection phase of ventricular contraction. The last wave is by far the largest, showing that the contraction of the heart is the principal factor in promoting coronary outflow. It might be argued that this increased outflow was the result of systolic increase in the aortic pressure, but this is disproved by taking a curve of coronary inflow, which is found to be restricted during the ejection phase of ventricular systole. Analysis of coronary inflow gives evidence that blood flows into these vessels during ventricular diastole. Auricular contraction does not influence inflow, but contraction of the ventricle impedes the passage of blood into the vessels, this hindrance reaching its maximum at the conclusion of ventricular systole, and presumably being due to compression of the coronary arterioles by the heart muscle. In these important results there is provided at last a clear and precise picture of the vascular supply of the heart, and it is necessary to consider how these findings widen our conception of coronary disease and whether they are of assistance in determining treatment in myocardial infarction. Coronary thrombosis is attended by two dangerous possibilities. The first is that extensive necrosis may be followed by cardiac failure; the second is that as a result of high blood pressure haemorrhage and extension of the morbid process

<sup>1</sup> *The Medical Clinics of North America* for November, 1927.

<sup>2</sup> *Cardiac Infarction and Coronary Thrombosis*, *Lancet*, 1928, i, 4.  
<sup>3</sup> *Heart*, 1927, xiv, 111.

may occur. Treatment in the first event must be directed toward the maintenance of adequate blood flow through the coronary vessels, so that nutrition may be encouraged and the damage reduced to a minimum; just as we employ stimulants with this aim in cerebral thrombosis, so we should expect them to exert a beneficial influence in obstruction of the coronary circulation. On the other hand, in order to avert the possibility of further damage, reduction of blood pressure should be the aim. Only by careful consideration of the individual case can it be decided which of these courses should be followed. Past or present evidence of high blood pressure in a patient suggests measures for the prevention of a return to the habitual pressure level following the fall in arterial tension which is nearly always a sequel of myocardial infarction. In view of the fact that systole occupies a constant time whatever the heart rate, it is clear that with increased rate of beat there is in a given period less aggregate time for coronary inflow than with slower rates; with the aim of slowing the heart and so providing better blood supply to this organ Parkinson and Bedford recommend the use of digitalis in cardiac infarction, especially where rapidity of the heart's action is the result of fibrillation or other abnormal rhythm, and where failure is present or appearing. The tendency for digitalis to raise the blood pressure should contraindicate its administration in coronary thrombosis when there is evidence of hypertension and when the normal cardiac rhythm is preserved.

SIR HUMPHRY ROLLESTON will give the William Sidney Thayer and Susan Read Thayer Lectures on Clinical Medicine on March 20th and 21st at the Johns Hopkins University, Baltimore.

Dr. T. Izod BENNETT will deliver the Goulstonian Lectures before the Royal College of Physicians of London on March 13th, 15th, and 20th, at 5 p.m., at the College, Pall Mall East, S.W.1. His subject is "Some problems of nephritis." Any member of the medical profession will be admitted on presentation of card.

As we announced last week, the Sir Charles Hastings Popular Lecture for this year will be given by Sir George Newman, Chief Medical Officer to the Ministry of Health, whose subject will be "The fundamentals of health." The lecture will be delivered in the Great Hall of the British Medical Association's House in London on the evening of Wednesday, March 21st, when the chair will be taken at 8 p.m. by Lord Cozens-Hardy. Admission is free, by tickets obtainable from the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Seats not occupied by 7.50 p.m. by ticket holders will be available for other members of the public.

Dr. E. GRAHAM LITTLE, M.P., will give an address on the future of medical practice—intended more especially for senior students and young practitioners—at a meeting arranged by the Metropolitan Counties Branch of the British Medical Association, to be held at the B.M.A. House, Tavistock Square, London, on Thursday, March 22nd, at 5.30 p.m. Tea and coffee will be served at 5 o'clock. All fourth and fifth year medical students and recently qualified practitioners are cordially invited.

We regret to announce the death on March 3rd of Dr. James Wbeatley, county medical officer of health for Shropshire, and president of the Society of Medical Officers of Health.

## Nova et Vetera.

### A MEDICAL LITERARY CLUB.

THE doctor who devotes all his time and energy to the practice of medicine, without any outside interest, may be a very successful practitioner, but he must lead a routine life. Incessant concentration of thought on one subject promotes a narrow outlook on life, limits his point of view, and hastens his degeneration into a mere machine. While some form of sport provides the youthful members of the profession with much-needed relaxation, many of middle age interest themselves in local government, and do useful work for the community as councillors, aldermen, or mayors. There have been exhibitions of the works of medical artists. A minority, perhaps, find distraction from the *sturm und drang* of medical practice in the cultivation of the literature of their own and other countries. After the daily round, the common task, these men find pleasure in some intercourse with the great minds of all ages. "Let me have books," said Horace, "and a contented mind."

Sit bona librorum et provisae frugis in annum,  
Copia, neu fluitem dubiae spe pendulus borae,  
Sed satis est orare Jovem quae donat et aufert;  
Det vitam, det opes, aequum mi animum ipse parabo.

*Epistles, I, 18.*

A few doctors, filled with these desires and the ambition to attain Horace's degree of contentment, founded a literary club in Newport (Mon.) some twenty years ago. Now since it has run its course and ceased to be, perhaps the brief account of it which follows may lay the foundation on which similar structures may be raised. Its proceedings were never chronicled in lay or medical papers, publicity was not one of its objects, and this *post-mortem* report is its only introduction to the medical world.

Now as to its pre-natal conditions and the manner of its birth. All potential medical members were approached, the scheme was explained, and, their consent obtained, a preliminary meeting was held at which a code of rules was drawn up and adopted. As the members numbered ten the club was called "The X Club."

A meeting was held once a month from October to June at each member's house in rotation; the host of the evening was chairman. Members might be fined for absence without sufficient cause and for ignorance of the subject under discussion. At each meeting the subject for the following one was chosen, and it was the duty of every member to procure and read books dealing with the matter. The chairman for the evening opened the discussion with either (a) a written paper or (b) a verbal discourse, and at its conclusion called on each member in turn to supplement this with further matter relevant to the subject. He might provide light refreshments. Minutes were kept. The club displayed great catholicity in its choice of subjects. Ruskin's "Stones of Venice," Carlyle's "French Revolution," Boswell's "Johnson," Keith's "Antiquity of Man," eugenics, Prescott's "Conquest of Peru," the dole in ancient Rome, glaciers, "Pepys's Diary," and many others appear in the minute book. Much has happened since Norman Angell's book "The Great Illusion" was written. It provided the club with a subject.

During the summer one day was devoted to a visit to some place of interest—a cathedral, an abbey, or one of the numerous Norman castles along the Welsh border. The club continued its activities during the war, as all its members were over military age and were employed at home. Its monthly meeting was a welcome diversion from the work and anxiety inseparable from the world conflict.

The club achieved its objects. Members were faithful, the club's monthly meeting was eagerly anticipated, and penalties were seldom inflicted for any breach of the rules. The reading habit was encouraged among its members, and they gained that *aequum animum* alluded to above.

The manner of its exit? No, it did not meet a violent end like that other society ever famous in the course of Bret Harte. It died of asthenia. Three of its members predeceased it, another left the district, a fifth was in feeble health and unable to attend. The time of its passing had arrived, and the survivors, with much regret, sounded a coronach and celebrated its obsequies.

A. HAMILTON, B.A., M.D.

## Ireland.

### The Samaritan Hospital, Belfast.

THE LAY MAYORESS presided at the annual meeting of the Samaritan Hospital, Belfast, in the City Hall, on February 29th. The annual report stated that the extension of the buildings was commenced in August, 1926, and that the new building would be ready for occupation on May 6th. The senate of the Queen's University had made available, meanwhile, temporary accommodation. One new ward would be named after Viscountess Craigavon, and another the Florence Henderson ward, in grateful recognition of the efforts of these two ladies to raise funds. The ceremony of laying the foundation stone had been performed by Lady Craigavon on December 5th, 1927. The new operating theatre would be named after the Northern branch of the Irish Rugby Football Union, from whom the building fund had received help amounting to £1,000 in the last few years. The medical report showed that 339 patients had been admitted to the wards during the last year, and that 331 operations had been performed, of which 128 were major ones. In the out-patient department 646 patients were treated. The Right Hon. H. M. Pollock, D.L., M.P., Minister of Finance, moving the adoption of the annual report, drew attention to the fact that this hospital received patients from all Northern Ireland, and even beyond its boundaries; no charge was made unless the patient could pay. He emphasized the consensus of opinion favouring the present voluntary system of hospitals. The Lord Bishop, the Right Rev. Dr. Grierson, proposing a vote of thanks to the surgical staff, referred to the loss the hospital had sustained by the resignation of its senior surgeon, Mr. John Campbell.

### Appointment of New Medical Officer for Belfast.

At the monthly meeting of the Belfast Corporation on March 1st it was decided to advertise for a medical superintendent officer of health at a salary of £2,000 a year, and for a city surveyor and engineer at a similar salary. These appointments are to fill the vacancies caused by the resignations of Dr. H. W. Bailie and of Mr. E. S. Pinkerton. Alderman Dr. Williamson, who moved the adoption of the minutes of the Public Health Committee, said that the committee and corporation were determined to appoint candidates of ability and public health experience so that Belfast should no longer lag behind in matters of public health. The duties had been increased; the Ministry of Home Affairs had asked them to take over all public health services. The man to be appointed must have had not less than ten years' experience in public health work. A special resolution granted a retiring allowance of £906 a year to Dr. Bailie.

### Public Health Works for Relief of Unemployment.

The committee appointed by the Free State Government to consider and report as to the steps that might be taken for the immediate relief of unemployment has included in its recommendations the undertaking of public health developments such as waterworks, sewerage schemes, improvement of burial grounds, provision of fair and market greens, and works of construction in connexion with county homes, county hospitals, mental hospitals, and sanatoriums. Housing, which is a work of public health, has already been dealt with in this connexion. The committee is satisfied that much work has yet to be done before the position of the Saorstát in the important matter of public health services is satisfactory or equivalent to that of other countries. It is common knowledge that in many parts of the country water supply and sewerage conditions are deplorable, and the committee indicates in an appendix to the report the various towns and villages in the Saorstát which are at present without modern or up-to-date waterworks or sewerage systems. At the same time, the committee feels that the Government is to be congratulated upon the steps which have been taken to secure improved conditions in this respect. Since the beginning of the great war financial advances for this purpose ceased to be obtainable, and the banks were reluctant to lend for

any extended period. The action of the Government, however, in providing, in the Local Loans Fund, since 1925 for loans to local authorities for works of this nature has proved most beneficial, and many necessary schemes have been sanctioned. The committee would, however, like to see these loans made use of by local authorities to a very much greater extent than has been the case up to the present. The committee believes that the appointment of county medical officers of health, whose duty it will be to educate public opinion in the matter of public health and to ensure that the chronically bad conditions of the various towns and villages throughout the whole country are speedily remedied, will result in a steady improvement; it is added that no time should be lost in the appointment of these officers. A difficulty which, the committee understands, is holding up many urgently needed public health schemes is that of cost. The ratepayers who are to benefit immediately are often unable to bear the whole of the increased rate represented by the loan charge, and there is disinclination on the part of ratepayers in contiguous areas to shoulder any part of the burden. While it may not be unnatural for a ratepayer or taxpayer to hold that he should not be obliged to pay for a service which he does not receive, the committee considers that this difficulty would speedily be removed if he could be made to see that he is, in fact, paying in other ways a great deal more; by reason of the absence of proper public health systems of the kind. The committee considers that this aspect of the case should be brought to the notice of the local authorities and the general public; if the problem of public health were approached in this way, and a suitably graduated system of charge could be devised, the question of the area of charge would no longer be a bar to the progress of such schemes. It will be obvious, the committee concludes, that the more of these schemes that are put in hand the greater will be the relief of unemployment, and that the removal of any difficulties in the way of carrying out such works must necessarily result in increased employment.

### Milk Contractor Heavily Fined.

At Enniscorthy District Court the contractor for the supply of milk to the County Home was prosecuted under the Food and Drugs Act in respect of milk supplied for consumption to the inmates. Having heard the evidence, the judge said the circumstances surrounding the case made it the worst of its kind he had yet met with. He was entitled, where there was a second conviction, to send the defendant to prison for three months, and but for the defendant's physical condition he would not hesitate about awarding this penalty. The maternity home for the county had at least a hundred infants in it, and had been receiving this inferior quality of milk. He inflicted a fine of £20, with the analyst's fee, 10s. 6d., and £2 2s. costs. The defendant would be allowed ten days in which to pay, or, in default, would be imprisoned for four months.

## Scotland.

### Morningside Annual Report.

THE 115th annual report of the Royal Edinburgh Hospital, Morningside, records yet a further advance in the campaign directed towards the hospitalization of the epileptic so assiduously waged by the physician-supervisors, Professor G. M. Robertson. The Royal Asylum, which has been given to an Act by which the title "The Royal Edinburgh Hospital for Mental and Nervous Disorders" has been substituted for that of "The Royal Edinburgh Asylum for the Insane." The new designation is appropriate, and justly reflects the gradual alteration in the character of this hospital and the increasingly enlightened attitude of the public towards mental disease. Professor Robertson states that twenty years ago 317 persons were admitted to this institution, of whom only 2 per cent. were voluntary patients, while last year there were 239 admissions, of which 62 per cent. were voluntary. An institution to which nearly two-thirds of those admitted come voluntarily can no longer be truly described as a

place of detention. Professor Robertson sums up his experience of the benefits of voluntary treatment as follows:

"We find that voluntary patients are admitted for treatment sooner than certified patients, that they come when their malady is more recent and less serious, that they are more contented to be treated, that their residence in the hospital is shorter, and that a larger proportion of them recover, though many leave before they are quite recovered. They leave when they feel themselves improving, and some, no doubt, complete their recoveries at home. More than one-half have been ill for less than three months before coming for treatment, and more than one-half who come suffer from melancholia. In these cases voluntary treatment leads to earlier recovery and the prevention of many suicides."

With regard to the certified patients two features in the statistics call for notice. The first is the small number of admissions compared with the large resident population—the legacy of the past. Of 812 certified patients treated during the year only one-ninth were new admissions. In the second place, the number of removals by discharge and death exceeds the number of admissions, so that the certified population in the Royal Hospital is diminishing, and in the course of a decade may shrink to a half of what it is at present. Professor Robertson suggests that the form of official statistics should be recast with a view to recognizing these changes. In addition to the two departments of the Royal Edinburgh Hospital, Craig House and The West House, there are, under the same management, six nursing homes to which patients may be admitted in exactly the same way as they would be to ordinary nursing homes; in this respect these are unique medical institutions. Most patients admitted to these nursing homes have come for the treatment of functional systems, including states of neurasthenia, depression, anxiety, sleeplessness, and nervous exhaustion. Work is proceeding in connexion with the completion of the Jordanburn Hospital, which was designed for the treatment of cases of nervous and of early mental disorder. Accommodation will be provided for the psychiatric and psycho-pathological investigations required by the public authorities of the city, its schools, and police courts, and by social agencies in and about Edinburgh, as well as for a free mental out-patient clinic. The building is to include a lecture theatre for the benefit of students attending the class of psychiatry. The weekly out-patient mental clinic is being held at present at the Royal Infirmary. Professor Robertson foresees remarkable developments in the psychiatric world, and compares the new psychiatric crusade with the successful campaign against tuberculosis started in Edinburgh under the auspices of Sir Robert Philip. "Forty years ago patients were sent to hospitals with cavities in their lungs and in the last stages of the disease. Arrangements were therefore made to discover the disease at an earlier and more hopeful stage; out-patient clinics and dispensaries were instituted; finally, the family and the home came under review for early and preventive treatment." Psychiatrists, Professor Robertson adds, must do likewise. Referring to the report of the recent Royal Commission on Lunacy, Professor Robertson expresses his fear that the new legislation in England will, in some important matters, be on lines seventy years behind Scottish procedure. In Scotland no layman ever sees a patient to decide whether he should be treated in a mental hospital or not. "The responsibility of dealing with a difficult medical problem has been wisely left in the hands of the medical profession. This trust has not been misplaced, the public has not been let down, for there is no record in our law courts during the last seventy years of anyone being improperly detained in a mental hospital."

#### Glasgow Western Infirmary.

The fifty-third annual meeting of the Western Infirmary of Glasgow was held on February 17th. Lord Provost Sir David Mason, who presided, said that an important feature of the report was that this infirmary was in a most satisfactory position from a financial point of view. The ordinary revenue was greater by nearly £3,000 than that of last year, while the ordinary expenditure had decreased by nearly £2,000. Mr. John C. Roxburgh, chairman of the board of managers, pointed out that although there was a deficit as regarded ordinary income and expenditure

of £10,042, this was the smallest during the last ten years, except for the exceptional year of 1925, when it was about £7,000. As showing the rise in cost of running the infirmary, he mentioned that in 1924 the expenditure had been £44,152, while in 1927 it had been £82,375. Workmen's contributions, which had been recently depressed, were now again on the up grade, and the speaker referred to the collections by students, which had already endowed three beds in the hospital at a cost of £1,500 each. The important feature of the year had been the opening of the David Elder Infirmary at Govan, which was to be carried on as an annex of the Western Infirmary, and was already making its influence felt on the waiting list. The annual appeal for increased funds must be renewed, but the managers were especially anxious to obtain money to erect a new x-ray and electrical department, as the present department had been built twenty years ago in the early days of x-ray development, and now proved inadequate to the amount of work which had to be done. For this purpose the managers had in hand a sum of £5,800, but at least £20,000 would be required before they could feel justified in beginning the new building.

#### Craigleith Hospital.

Some discussion has taken place in regard to the proposed closing of Craigleith poorhouse, which has been used as a Ministry of Pensions hospital since the war, and during the war was in use as a military hospital. A letter was read by Sir Samuel Chapman at the annual dinner of the Edinburgh Parish Council and District Board of Control which he had received from the Minister of Pensions. The letter made it clear that it is not the intention of the Ministry of Pensions to remove all pensioners in Scottish hospitals to England, as had been rumoured. The natural decline in the volume of medical work in respect of pensioners in Scotland had made it necessary to revise the arrangements for their treatment, and as the number of pensioner patients now under treatment is about 100, with a tendency to grow less, it appears unreasonable that a hospital accommodating 520 beds should be maintained for the small number requiring treatment. The alternative accommodation, to which it is proposed to remove the pensioner patients, is Edenhall Hospital, which was built, equipped, and placed at the disposal of the Government by the Scottish Red Cross during the war. As this affords sufficient accommodation, it is proposed by the Ministry of Pensions to utilize it for their future requirements and to hand back the building at Craigleith to the parish council.

#### Poisoning from Furs.

At a meeting of the North British Branch of the Pharmaceutical Society of Great Britain at Edinburgh on February 29th Mr. J. Wilson Dougal, B.Sc., read a communication upon dermatitis caused by wearing furs. The lecturer had found that in some cases where dermatitis had been caused an infusion made from the fur worn was poisonous to tadpoles, while antimony could be detected by careful analysis, suggesting that tartar emetic had been used as a mordant in dyeing the fur. The toxic action of tartar emetic was evident even in so dilute a solution as 1 in 50,000. Cases of such dermatitis had not been so frequent of late, since dealers in furs had, to a large extent, given up employing tartar emetic as a mordant. Dr. E. G. Bryant read a paper on recent work on the glucosides, in which he discussed the formation of glucosides in plant metabolism. He said that vitamin D, which was of great importance in animal nutrition, could be formed by the action of ultra-violet rays on the glucoside ergosterol. Mr. William H. Millar read a note on arsenious oxide in neutral and alkaline solution, dealing with the arsenical solutions used in medicine. There were objections to Fowler's solution of arsenic because it was unstable and incompatible with medicines containing alkaloids. He had found that a satisfactory 1 per cent. neutral solution of arsenious oxide could be prepared by using just sufficient potassium carbonate to dissolve it, and neutralizing the solution with sulphuric acid.



## Leith Hospital Report.

The annual meeting of contributors to Leith Hospital was held on February 24th under the chairmanship of Mr. John A. Lindsay, D.L., president of the Board of Management. It was stated that the total number of patients treated in the wards and out-patient department during the year had numbered 19,305, of whom 1,003 had been dealt with in the new children's wing. The ordinary income had amounted to £16,349 and the ordinary expenditure to £16,834. The extraordinary income had amounted to £28,067, while the extraordinary expenditure had been only £4,913. The chairman said that contributions by the employees in the various workshops had risen from £1,692 to £2,037 in the past year, which was particularly gratifying. He also intimated that the Leith Provident Co-operative Society had decided to give a sum of £1,750 to endow a bed in the hospital.

## Presentation to Dr. T. A. Sellar.

Dr. Thomas Sellar of Aberlour, Speyside, was presented on February 25th with a Morris-Oxford motor car and a portrait of himself, on the occasion of his retirement after forty-four years of medical practice in the locality. The Provost, Canon Jenks, referred to the great services rendered by Dr. Sellar to all classes throughout his wide district, and mentioned the leading part he had taken in the various social activities of the community. Dr. Sellar, replying, said that he proposed to continue to live in the neighbourhood, and gave an account of the many changes he had noted during his residence there. With very few exceptions every house and farm in the various parishes and villages had changed hands. When he began practice his visits were paid on foot, on horseback, or in a gig. After a few years the introduction of the bicycle enabled him to reach his patients much more quickly, and, when the motor car became available, it materially shortened the time taken by his long rounds. Dr. Sellar commented on the longevity of the local inhabitants, and quoted a curious case of twin birth: one twin had been born on one day and the second not only on the following day, but in the next year and the next century.

## England and Wales.

## Bridewell and Bethlem Royal Hospitals.

THE LORD MAYOR OF LONDON presided at a court of governors of the Royal Hospitals of Bridewell and Bethlem, held at Bridewell Hospital on February 27th, in support of an appeal for £120,000 required for the erection of the new Bethlem Hospital buildings at Monks Orchard, Shirley, Surrey. He announced that the president, Sir Charles Wakefield, Bt., had given £25,000 to defray the cost of the science and treatment unit and the chapel, and that Lady Cooper had presented £5,000 for the main recreation hall, in memory of her late husband. Other donations reported included an anonymous gift of £5,000, and one of 1,000 guineas from the treasurer, Sir Lionel Faudel-Phillips, Bt. The Lord Mayor commented on the scheme of building the new hospital which had been adopted by the governors, and referred to the great interest in it of the Corporation of London. Bethlem Royal Hospital, an ancient foundation of the City of London for the treatment of mental and nervous disorders, traces its origin to the year 1247, and some reference to its history since that date was made in our columns on May 7th, 1927 (p. 849). The present buildings in the Lambeth Road, Southwark, opened in 1815, are quite unsuitable now, more space for special treatment and accommodation for the medical and nursing staff being urgently required. On the new site detached buildings will permit better classification of the patients, with pathological, bacteriological, psychological, dental, electrical, and radiological departments; fuller facilities for research will also be available. The governing body of the hospitals is now appealing for a sum of about £120,000, which will enable the new buildings to be opened without debt, and permit the continuance of the present charitable basis, 75 per cent. of the total cost of treatment

and maintenance of patients being provided from the hospital funds. No previous appeal on behalf of the hospital has been made within living memory, and if this sum is obtained it is stated that no further appeal to the present generation should occur. Contributions may be sent to the Lord Mayor at the Mansion House, or to the president, or the treasurer, at Bethlem Royal Hospital Office, New Bridge Street, E.C.4.

## Report of Committee on London Floods.

The report of the Committee on Thames Floods, which may be obtained from H.M. Stationary Office, Adastral House, W.C.2, price 6d., is remarkable, not for its conclusions, but for the evident lack of scientific knowledge which the members encountered in their search for light on the problem. Measures have already been taken to ensure the establishment of a system of warnings, while the committee, in recommending that the statutory duty of supervising and inspecting floods defences should be definitely placed upon the London County Council within the county area, is, in effect, seconding a resolution of that body, whose position was explained in a report of the proceedings of the conference of local authorities which appeared on page 112 in our issue of January 21st. Having carried the investigation to this point the committee suggests that an intensive study of the whole subject of tides in the Thames should be undertaken by the Liverpool Tidal Institute in co-operation with the hydrographic department of the Admiralty and the Meteorological Office. It is further suggested that when the results of this investigation are available they should be applied to conditions in the upper part of the river, and that efforts should meantime be made to obtain more exact information of the part played by land floods in producing high waters. The committee's references to the unsatisfactory housing conditions brought to light by the disastrous events of January are of some interest. Many thousands of persons, it is stated, now live in dwellings in low-lying areas near the river, much below high-water level. It is regarded as impracticable to propose their displacement, but it is recommended that the London County Council should try to obtain power to prohibit, on land within possible flood limits, the erection of new dwellings or the re-erection of existing dwellings the floors of which are not up to a specified minimum level. A measure of this kind, the committee holds, would facilitate drainage, and appears to be commendable on grounds of health. The use of basement rooms as sleeping quarters was given special consideration, emphasis being laid upon the relation of this question to the general housing problem and upon the desirability of enforcing, wherever possible, the existing statutory provisions relating to such dwellings.

## Alcohol in Relation to Business Life.

An address on the relation of alcohol to business life was given by Sir Maurice Craig at the Mansion House, London, on March 1st; Sir Thomas Barlow, F.R.S., president of the National Temperance League, occupied the chair. Sir Maurice Craig said that medical science was tending more and more to the prevention of disease, and people were being encouraged to acquire some knowledge of their bodies and their mental reactions. After fifteen years in mental hospitals he had come to the conclusion that at least half of those who broke down need not have done so, and for over twenty years his work had been increasingly the teaching of persons to understand themselves and to get the best out of their mental activities. A person endowed with a highly sensitive nervous system must understand how to use it, and what external or internal stresses might affect or injure it. The minor mental disturbances were important, not only because of their manifestations, but because of the way they might develop if uncorrected. It was generally agreed that alcohol was a sedative in action and not a stimulant as had been supposed. Its effect on conduct led sometimes to the idea that it was stimulating, but the behaviour resulted from lessened control. Alcohol inhibited the control of the nervous system, diminished the power of thought, and affected judgement and accurate thinking; unfortunately the drinker was often quite unconscious that it was having

this effect upon him. One of the greatest dangers of alcohol was its power of bestowing a transitory feeling of well-being; yet it might be lessening the mental values and reducing the resistance to disease. Drug addiction was treated very seriously, though rare in this country, and yet little was done comparatively to control alcoholism, which was infinitely more common. The stresses of modern life, Sir Maurice continued, were many and severe, and no men had a greater share of them than those who worked amid the industrial difficulties and financial strain of our great cities. Therefore they must preserve their health in every way in their power. He advised them to watch their sleep, as this was the only thing that repaired fatigued tissue, but never to rely upon alcohol to get sleep. It was the worst form of sedative, for the dose required to be constantly increased. In the case of some persons it might overcome the early difficulties of defective sleep, but in the end not only failed to produce it, but aggravated the condition by bringing in other symptoms.

#### The Working of Tuberculosis Schemes.

It was reported to the London County Council on February 21st that the Minister of Health was unable to see his way to accede to a resolution supported by the council calling for the setting up of a departmental committee to inquire into the working of tuberculosis schemes throughout the country. The Minister stated that some of the matters in connexion with the treatment of tuberculosis which the council thought might be the subject of inquiry were scarcely appropriate for investigation by a departmental committee, and that if inquiry was needed on the point it should be undertaken by a medical committee. With regard to institutional accommodation for advanced cases and the appropriate duration of treatment for intermediate cases, the Minister stated that his views had already been given in circulars issued by his department, while as to the after-care and employment of tuberculous persons he was now in a position to encourage the provision of further workshops on an experimental basis in two or three large towns. He thought that any inquiry on the subject might be deferred until the result of these experiments was seen, and until further experience was available with regard to the village settlements and workshops already established.

## Correspondence.

### TETRA-ETHYL LEAD IN PETROL.

SIR,—Although no one here can pretend to expert knowledge of lead-petrol, yet I submit that we already know enough to condemn it provisionally on these three grounds:

- (1) That it can produce death or severe or mild poisoning.
- (2) That mild poisoning among the public will be unrecognizable by doctors.
- (3) That its motoring advantages can be attained otherwise and are incommensurate with the health risks. Aeroplanes may be in a different category; I do not know.

*Point (1).*—This is beyond dispute. Tetra-ethyl lead can be absorbed by the mouth, lungs, or skin. Although diluted 1 in 1,300 with petrol, the latter evaporates quickly, leaving a film of highly toxic tetra-ethyl lead for absorption through the skin. If this lead-petrol is let loose on the public, women will use it—innocently and dangerously—for cleaning purposes, in spite of warnings.

*Point (2).*—This is my chief point. Poisoning by tetra-ethyl lead is not branded by the old hall-marks on which a doctor relies to diagnose lead poisoning. Colic, blue line in gums, and wrist-drop do not occur. The symptoms are: "Drop of blood pressure, drop of body temperature, reduced pulse, sleeplessness, loss of weight, sometimes nausea, sometimes tremor, and, in most serious cases, delirium tremens. The first three symptoms are warnings, but are not serious."

<sup>1</sup> T. Midgley, *Industrial and Engineering Chemistry*, August, 1925, p. 827.

Now these acute symptoms may be enough to warn a vigilant works doctor in a tetra-ethyl lead factory; but I submit that mild poisoning, acute or chronic, of the ordinary citizen by tetra-ethyl lead cannot be diagnosed by a doctor. That, in my opinion, is the danger and treachery of this stuff.

The careful expert investigation and report to the American Surgeon-General (January, 1926), with faecal analyses and blood-stippling tests, discovered "no good grounds for prohibiting the use of ethyl-gasoline"; but the investigators go on to say that further experiments and larger experience may lead to recognizable lead poisoning or chronic degenerative diseases. Actually they did find slightly increased storage of lead in the employees of garages, etc., where lead-petrol was used.

Mr. Pryce-Jones kindly tested lead-petrol with sulphuretted hydrogen for mo: no black sulphide was produced. Doubtless this is why no blue line is found in the gums with this non-ionized compound.

The Government proposes to appoint a strong committee to investigate lead-petrol, and meanwhile to permit its use. Surely this is the wrong order. A poison should be investigated before being let loose on the public. And the committee will take a year at least to report adequately; the American report took seven months, and found it too short a time.

Another fallacy is that the problem can be solved by chemical and medical investigation. I feel convinced that this is impossible in regard to slight or chronic poisoning effects. No investigators can report whether slow slight deterioration of arterioles or of nervous tissues occurs in the course of years in human beings. That is the main danger to the public, and, speaking medically, I would say it is certain to occur to some unknown extent. Urbanization and civilization already have sufficient drawbacks to health—for example, the smoke pall—without stupidly allowing another unseen, unrecognizable, insidious horror in our garages and in our streets, polluted with exhaust gases containing lead.

The public expect that an alert and intelligent Government will protect them against this, until investigators can assure them positively that there is no risk to public health. It can be said in advance that no men of wisdom who have experienced even the old form of lead poisoning can make such an unscientific statement. The least that they could say is that, while finding no positive evidence of danger, there may be protracted summative ill effects on health which baffle experimental investigation. The soothing parliamentary reply "no evidence of danger" is not enough, and yet positive elimination of all possible perils by experimental investigation is unattainable. I have read all the Blue Books on lead poisoning and know the difficulty of getting evidence.

Switzerland—an intelligent, well-educated country—has made lead-petrol illegal, and we should do the same provisionally. Another point is that the stuff should be called—compulsorily—by the warning name "lead-petrol" and not by the pretty euphemism of ethyl-petrol.

*Point (3).*—Turning now to the countervailing advantages for the motorist, I have inquired of experts, and find that the chief claim is elimination of "pinking" in high compression engines. But "pinking" may also be eliminated (in some cases better) by using a benzol mixture or by cleaning out carbon or tuning the ignition or carburettor. The use of this fuel in aeroplanes may be in a different category, and the public would not mind if it were allowed under supervision. But, so far as I can gather, the motoring advantages are not indispensable, and are small compared with the risks to health. Certainly I would not use it.

The problem is a confusing one to get into proper perspective. Neither the politician, nor chemist, nor motorist, nor the public is likely to see all round it. The medical profession alone can envisage its insidious dangers. They alone are aware of their powerlessness to answer a patient who asks "Am I suffering from mild poisoning from lead-petrol?" or "Will my health suffer if I work for months or years in a garage using lead-petrol?" Until, at any rate, they can answer these questions, doctors must

condemn the domestication of a deadly, insidious, and cumulative poison, even though it is highly diluted.

We should not pandor to the erudo mechanism of the motor at the risk of damaging the exquisite bodily machinery of our citizens and workmen.—I am, etc.,

Hull, March 1st.

FRANK C. EVE, M.D., F.R.C.P.

P.S.—The Ministerial reply (March 1st) that lead-petrol is to be allowed because latterly "no cases of poisoning" have occurred may be true and yet quite misleading. Translated medically, it may mean that in tetra-ethyl lead factories any man with suspicious symptoms is promptly changed to other work, while, outside factories, severe poisoning is unlikely to occur, and mild poisoning will not be recognizable. Hence "no cases of poisoning" are reported, though lots of minor poisoning may occur. The only safe course is to banish a poison until at least doctors can recognize its minor toxic effects, as they could with the old forms of lead poisoning.

\*\* There is no doubt that pure tetra-ethyl lead very readily produces poisoning. The whole difficulty of the matter lies in the fact that at present there is not sufficient evidence that the use of lead-petrol leads to toxic effects. The forthcoming appointment by the Government (announced in our last issue at page 381) of an Interdepartmental Committee to investigate the subject is a step which will be generally welcomed.—En., B.M.J.

#### DEFECTIVE STRUCTURE OF TEETH.

SIR,—With regard to the questions asked in your annotation on defective structure of teeth in the BRITISH MEDICAL JOURNAL of February 11th (p. 229) may I first say how much I appreciate the frank and friendly criticism of points which are, as stated in the article, only side issues? In reference to these points I should like to make the following observations.

1. As to the possibility of error in my definition of hypoplasia. I think that the evidence I have adduced suggests very definitely that the normal dentine of both the dog and man does not contain "interglobular spaces." The late J. Howard Mummery, in his *Anatomy of the Teeth*, states that interglobular spaces are usually associated with very conspicuous defects in the enamel, and are probably occupied by the uncalcified ground substance of the dentine. The small spaces of the granular layer of Tomes are usually confined to the dentine beneath the cement, but may occasionally, though very rarely in man, be found under the enamel. In comparing interglobular spaces with the granular layer of Tomes, Mummery says:

"The fact that the tubes of the dentine communicate with the spaces of the granular layer, while in the larger spaces they form no such communication, would apparently point to the explanation that the spaces of the granular layer represent a normal and functional structure, while the larger spaces are due to a defect in calcification."

The spaces to which I referred resemble interglobular spaces, and not those of the granular layer of Tomes.

You cite cetacea as creatures whose teeth show large numbers of interglobular spaces. As far as my knowledge goes, these animals are degenerate land animals whose teeth, when present, are often greatly modified. Cetacea occupy such an exceptional position in nature that arguments based on the structure of their teeth can be of little significance; moreover, the "spaces" in their dentine resemble those of the granular layer of Tomes rather than interglobular spaces. In some other animals interglobular spaces are seen occasionally—for instance, in horses, rabbits, and monkeys. Certainly in rabbits and rats they are easily produced by diets similar to those used in the puppy experiments, and they are equally easily prevented by adequate diets. Interglobular spaces are, however, rare in animals living under their natural conditions; but the teeth of civilized man, who lives under artificial conditions, usually, in my experience, display such spaces.

2. You suggest that Fig. 14 indicates that environment is more important than structure in producing caries. This is not, I think, a correct interpretation of the illustration. As is usual in the teeth I have examined there

is some normal dentine near the amelo-dentinal junction; this is well shown in Fig. 14. When the dentine is decalcified by acids the "spaces" often appear to be obliterated, as might be expected. This tendency is indicated in Fig. 14. In this figure the part of the tooth chosen for photographing was that in which caries was least extensive, as the object of the section was to show the structure of the dentine, and not to indicate the presence of caries. The greater part of the tooth was, in fact, carious.

3. From the evidence I have of calcification in puppies' teeth it seems clear to me that in those regions where calcification usually takes place most quickly the dentine tends to be worst calcified.

4. Fat-soluble vitamins have been shown to play a part in the resistance of teeth to caries.<sup>1</sup> The fact that the mother sacrifices her tissues to a certain extent for the sake of the developing offspring needs no comment. Experiments mentioned in the paper show that when a bitch is fed during pregnancy and lactation on a diet deficient in fat-soluble vitamins the deciduous teeth of the offspring are not as badly calcified as the permanent teeth would be if the same diet were given to the puppies after weaning. (Puppies' deciduous teeth are all erupted before weaning.) From this it seems probable that the mother has sacrificed some at least of her store of calcifying vitamin. If, as I have indicated, fat-soluble vitamins are of importance in resistance to caries, then the teeth of the pregnant woman might be expected to be more liable to caries than those of the non-pregnant, other things being equal.—I am, etc.,

MAY MELLANDY,

Pharmacology Department, Sheffield University,  
March 3rd.

#### CHEMISTRY AND PHARMACOLOGY OF ERGOT.

SIR,—In the article on ergot poisoning among rye bread consumers (February 25th, p. 302) we noted with surprise that the authors claim that "extracts from the rye were also tested physiologically for ergot, and the results were positive."

One of us (J. G.) prepared an extract from 600 grams (roughly 20 oz.) of the suspect flour, using the approved method of the U.S.P. X for "Fluidextractum ergotae." The neutralized extract was tested by the other (A. D. M.) on the isolated virgin guinea-pig and rat uteri, the blood pressure of the spinal cat, and also by the more specific test of intramuscular injection in the white Leghorn cock. The extract contained a histamine-like substance, but there was no evidence of ergotamine. Another extract, supplied by the city analyst, was even less active, so that our observations were diametrically opposed to your authors' conclusions, quoted above.

Microscopic examination, while revealing moulds, was similarly negative as regards ergot.—We are, etc.,

A. D. MACDONALD.

JAMES GRIER.

The Victoria University of Manchester,  
March 6th.

SIR,—In the interesting article on ergot poisoning among rye bread consumers by Drs. Robertson and Ashby, published in your issue of February 25th (p. 302), the following statement occurs:

"The three chief constituents of ergot are sphacelinic acid, cornutine, and ergotine. However, ergot is not as yet definitely split up into its component parts or active constituents, and little is at present known of them specifically."

This statement does not quite accurately represent the present position of the chemistry and pharmacology of ergot. From 1906 onwards chemical and pharmacological investigations conducted in our experimental department at Dartford and at the Wellcome Physiological Research Laboratories have shown that ergot contains the active alkaloid ergotoxine and the closely related inactive alkaloid ergotinine. Associated with these are a number of "putrefactive bases" produced by the action of the fungus on the proteins of rye grain, the most important of these being histamine ("ergamine") and "tyramine." In 1922 Spiro and Stoll isolated from ergot a new alkaloid

<sup>1</sup> British Dental Journal, October 1st, 1926, and December 15th, 1927.

ergotamine, which has qualitatively and quantitatively the same pharmacological action as ergotoxine. The questions that remain to be answered are: Is ergotamine identical with ergotoxine, and, if it is not, does it partially or wholly replace the latter alkaloid in certain varieties of ergot? From a medical point of view these questions are of academic importance only.

The facts given above are generally accepted; they are quoted, for example, in English, German, and Swiss textbooks on alkaloids, and are duly recorded in modern textbooks on pharmacology. It would in fact appear that probably no other natural drug has been so thoroughly investigated, both chemically and pharmacologically, as ergot, and in no other case can the activity of the crude drug and its extracts be so exactly associated with its known active components.—We are, etc.,

BURROUGHS WELLCOME AND CO.

London, E.C.1, Feb. 29th.

#### GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—It is apparent that Professor MacLean thinks that I was guilty of some discourtesy in my previous letter, and if I really gave him cause I am extremely sorry, for it was far from my intention. Here, with the good news that his work is shortly to be published, I would gladly leave the matter; but his final paragraph shows such misunderstanding of my attitude that I must add something more. I think the truth is that Professor MacLean modestly underestimates the importance of his conclusions. To prove that normal gastric juice ever contains chlorine in any form other than that of hydrochloric acid is to disprove the united testimony of all the brilliant array of physiologists who have worked in this domain in modern times. This is no mean achievement, and it is surely not one that can suitably be dealt with by private correspondence. By the courtesy of the Biochemical Society it was my privilege to be present at their meeting to which Professor MacLean referred, and I made some observations in the discussion which followed his paper. The chairman, in his introductory remarks on that occasion, reminded us that the proceedings were private, so that Professor MacLean's communication was not even technically a publication, and all of us who heard it have had our lips sealed on the matter from that day to this. Perhaps at this date I may suggest, without any breach of confidence, that Professor MacLean's memory is playing him false when he says that the evidence I ask for was "fully communicated" at that meeting; he cannot be basing a statement of conclusive proof merely on the observations then made. This was in November, 1926. In the meantime the news of his conclusions has leaked out pretty widely, and I have been asked by members of my class how my views are tenable in view of Professor MacLean's recent work. It was February, 1928, when I wrote my letter, so that I have waited fifteen months before asking for the evidence; if this is fairly described as "rushing into print," I think I may claim pre-eminence in epistolary slow motion.—I am, etc.,

London, W.14, March 3rd.

GORDON W. GOODHART.

#### THE ACUTE ABDOMEN.

SIR,—It is quite clear that the somewhat earnest discussion which has been appearing in your columns arises from honest misunderstanding. The result, however, has been good, because once again the very difficult problem of diagnosis in acute abdominal disease has been forced to the front.

The surgeon who invariably operates early, and on slight signs, will miss nothing, but he will be faced every now and again by negative findings. He may, in most instances, succeed in thrusting these latter aside by the claim that no harm has been done, but, unfortunately, the parties interested do not always approve.

Much has yet to be done in the way of reaching agreement upon the earliest signs of surgical abdominal disease, but things are progressing rapidly. I think that too much is being said about those who wait for late symptoms. There are very few sinners in that respect now in practice.

One of the most impressive improvements in recent years is the anxiety of practitioners to refer their patients to the surgeon in the earliest hours of disease. The statistics of every hospital prove that. Neither general practitioners nor surgeons can be held responsible for delays brought about by patients or their relatives.—I am, etc.,

Glasgow, March 3rd.

CHARLES BENNETT.

#### PEPTONE TREATMENT OF ASTHMA.

SIR,—Perhaps I may be allowed to refer to a statement in the letter of Dr. James Adam in your issue of February 25th (p. 328). Referring to peptone, he says, "It may be dangerous, and many deaths have been recorded in America after its use." I have often pointed out that certain peptones are dangerous to give internally, but that I have never found the slightest danger with Armour's No. 2, after using it for many years. I have not, however, heard of deaths in America produced by any peptone. Perhaps Dr. Adam would kindly give us the references to these "many deaths."—I am, etc.,

London, W.1, Feb. 25th.

A. GUNN AULD.

#### MEDICAL EXAMINATIONS FOR LIFE ASSURANCE.

SIR,—While ready to agree with Dr. W. M. Robson that time is wasted by applicants being unprepared to micturate, I cannot by any means endorse the whole of his letter of February 20th which appears in your issue of March 3rd (p. 376).

No insurance company cares a straw for the exact ages of brothers and sisters. What is wanted is their relation to the age of the applicant; indeed, even the ages of parents are only important for the same reason. The word "about" may be appended to the figures given, and will salve the conscience of the ultra-scrupulous applicant—and there are such! But my experience is that to ask these details gives the examiner a valuable opportunity of gauging the truthfulness, or otherwise, of the applicant, and is a useful guide in assessing the value of his replies to more personal queries.

As to permitting women to bring urine in a bottle, let me recount one experience. I was once instructed to visit a lady of very exalted title at an hotel. I made the usual request for a specimen, and the lady retired to the adjoining bedroom in her suite. But I had taken the precaution of hiding a chamber vessel which I had found containing urine, and which I had reason to suspect had been passed by her ladyship's maid. As a result the urine passed at my request was found to contain sugar. I never allow urine to be brought in a bottle, and if the applicant has to be left to himself or herself I always satisfy myself that the urine is warm.

One further detail: I have in reserve a urinometer which can give the specific gravity in less than one ounce of fluid.—I am, etc.,

London, E.C.2, March 3rd.

A. OGIER WARD.

#### ULTRA-VIOLET LIGHT TREATMENT OF LUPUS ERYTHEMATOSUS.

SIR,—The remark of a speaker at the meeting of the Medical Society of London, recorded on February 18th (p. 259), to the effect that treatment of lupus erythematosus by ultra-violet light is "waste of time and effort," prompts me to record a recent experience of mine exactly to the contrary. I extract the following notes from my case-book.

March 9th, 1927.—Mrs. —, aged 47, family history unimportant, complains of an eruption on the right side of the face of twenty-six years' duration. There is typical lupus erythematosus extending over an area roughly semicircular in shape, and two inches in diameter, in front of the right ear. There is a very small thin scar in the centre of this area. The lobe of the ear, anteriorly and posteriorly, and the pinna, anteriorly to a slight extent, are involved.

A mask was made for the face to protect the unaffected area, and treatment was begun on March 6th. The patient received two local radiations per week from a mercury vapour lamp, the time of each exposure gradually

increasing from two and a half to ten minutes, and the distance diminishing from thirty to six inches. The lesion slowly but steadily improved, and on December 9th treatment was discontinued.

January 17th, 1928.—The eruption has completely disappeared, and the scar is so fine that it is hardly perceptible. Closer inspection reveals a small scale on the edge of the pinna.

I should add that no lotions, ointments, or dressings were applied to the affected area, and that only two general radiations were administered, the patient having refused any more because of the subsequent irritation of the skin. Probably the entire absence of local applications of ointments or lotions made the light therapy more effective; at any rate, one must agree with Dr. Heald that "a curious difference in clinical results" calls for more investigation.—I am, etc.,

Sunderland, Feb. 21st.

NOEL F. ROWSTON.

### INJECTION TREATMENT OF VARICOSE VEINS.

SIR,—In South Africa, where, as a nation, we are particularly free from syphilis, we have a great opportunity to observe the condition of varicosity of veins as it arises in the European and native races; some of the latter are heavily and widely infected, whereas some are not infected at all. Among the non-infected no varicose veins are found, but among infected persons—especially in hereditary cases—instances of varicosity occur.

The standard treatment, either by operation or by producing thrombosis, must in itself appear a crude temporary measure unless it cures the cause of the complaint, which, from a pathological point, is the same as aneurysm—in fact, it is inferred from the textbook statements.

I came to use "606" in the treatment of the varicose condition because I had to treat a patient who thought he had syphilis in a mild form; the Wassermann reaction of his blood was slightly positive. Knowing that he had varicose veins in both legs I injected a vein; to my astonishment, a few days later I found that the varicose condition had entirely disappeared. Since then I have always treated all varicose conditions and especially the accompanying hard ulcers so common among the poor, by arsenical compound injections, with the happiest results, as the ulcers heal up in about a fortnight without any special treatment except the concomitant mercury pills (Hutchinson's formula).

No one now suggests that arsenical compound preparations form thromboses in the veins, since the same vein can be used for months for the injection, showing that it has not become occluded in the course of treatment. The great objection, in my opinion, to the use of other drugs which do not attack the cause of the disease, but produce thrombosis, is the risk of embolism. Moreover, the principle of thrombosis is wrong, inasmuch as it throws a greater burden on the yet uncured veins. I am confident that the use of the arsenical compounds will become standard in all varicose conditions; I can especially recommend it for that intractable condition of varicose ulcer. In the case of a sleepwalker, aged 24 years, I used the same treatment after finding from the family history that his mother and two elder brothers died before the age of 38 from apoplexy. The effect of the first injection was complete cessation of the sleepwalking. He had in all three injections; incidentally, his piles were cured as well as a Circe's girdle of veins due to obstruction of the veins of the liver. I saw him in 1916 when he was suffering from chronic syphilitic rheumatism.—I am, etc.,

Uppington, South Africa.

W. M. BORCHERS.

SIR,—It may not be out of place to give some reasons why thrombosis need not be considered as a possible factor against the use of injections for varicose veins.

If 20 per cent. strontium bromide is injected into a varicose vein and a metal disc is placed over the site of the needle mark an immediate radioscopia will show that not a particle of the opaque substance goes above the metal disc, but on the contrary falls distally from it—that is to say, against what would be the normal venous flow in a healthy vein. By this same method the theory

of Trendelenburg, or the reversal of the blood stream in varicose veins, is proved to be correct. This, therefore, is one reason why a blood clot has no tendency to get into the general circulation (Yentzer). The first effect on the veins of an injection of certain substances is a chemical inflammation and destruction of the endothelial cells, with subsequent sclerosis of the vessel walls. The clot which forms after the endothelium has been destroyed is firmly adherent to the vessel wall.

The risks attending thrombosis and emboli are practically nil. There is far more danger from errors in technique. It must be borne in mind that great care and attention to asepsis are necessary when injecting the fluid into the vein. Not a drop must be allowed to get into the surrounding tissues, since great pain, and even a slough, may be caused, just as with injections of arsenic or mercury. The injections well done are painless, except for a cramp that spreads along the leg. It lasts only for a short time, and is of good omen with regard to the ultimate success of the treatment. It is only right to emphasize the fact that unless great care is taken in giving these injections complications may occur which would tend to discredit this form of treatment in the eyes of the practitioner and the public. When well done no form of treatment for this condition gives such rapid, lasting, and gratifying results. It is a boon to all classes, since they need not curtail their work nor their pleasure. The thrombus in ligatured vessels and in veins treated by injections does not become detached unless it is infected.—I am, etc.,

London, S.W.7.

T. HENRY TREVES BARBER, M.D., B.Sc.

### THE FUTURE OF OBSTETRICS.

SIR,—I was delighted to read the comments of Dr. G. W. Theobald of Bangkok (February 18th, p. 284) on my letter published in your issue of December 10th, 1927 (p. 1117), and I agree with much he has said.

The medical practitioner of to-day is far too often passed into the world of medicine with a scanty knowledge of obstetrics, and it is for the centres of teaching to supply that deficiency. I quite agree that so long as a midwifery case is progressing it should be left to Nature. I consider an enema a matter of course, but a catheter as a routine practice is an abomination; morphine, scopolamine, and tincture of opium are dangerous expedients that too often mask symptoms which are leading up to difficulties. These difficulties have to be dealt with after much unnecessary delay, indicating a want of perception of the causes of that delay.

Dr. Theobald suggests that strict asepsis is unattainable. I argue that asepsis is the chief and only point to be arrived at, and should be applied in midwifery in exactly the same way as it is in surgery. Where should we be but for the advance in this respect in surgery, and why should we fail in the attempt to bring midwifery up to the same standard? After forty years' practice, and having attended over 4,000 confinements, I claim that forceps, dilators, and turning can be aseptically applied in midwifery under reasonable conditions, and I have no regrets on the subject.

Midwifery in private practice is not the same as institutional treatment, and I consider that cases in institutions are often left far too long for the good of the patient; this would not be tolerated in private practice. It is often asserted that private practitioners have no time or patience to give a case decent opportunity to progress slowly, but it is not the truth; a general practitioner is as conscientious as anybody else, and it is high time that these offensive assertions were dropped and that fair play was allowed him. Axis-traction forceps, being scientific instruments, are invaluable in whatever position the head may be; ordinary forceps are out of date. I contend that when the head has come to the outlet of the pelvis—otherwise on the perineum—the time has come rather to take the forceps off than to put them on.

I have read and digested most of the papers Dr. Theobald mentions, and expressed my views in the *BRITISH MEDICAL JOURNAL* of January 22nd, 1927 (p. 164).—I am, etc.,

Wallington, Surrey, Feb. 21st.

A. Z. C. CRESSY.



## A SOCIOLOGICAL FORMULA.

SIR,—In view of your welcome report of Mr. C. J. Bond's Galton Lecture on eugenics (February 25th, p. 315) I beg to submit a sociological formula which would serve for all countries and for all time. The fundamental consideration in sociology is the very strong tendency of population to press upon the means of subsistence. This tendency must be completely counteracted if a satisfactory standard of living is to be maintained, and three factors are necessary to counteract it completely—namely, high production, a low birth rate, and eugenic selection. Thus I arrive at my formula: People must work their best, and also must not have more than two children unless they are above the national average in the advantages for parenthood. I assume that if the less eugenic couples do not have more than two children the others will be proud to have larger families.—I am, etc.,

London, S.W.7, Feb. 25th.

BINNIE DUNLOP, M.B., Ch.B.

## POLYDACTYLISM AND REVERSION.

SIR,—The case of supernumerary thumbs reported by Dr. R. H. Mitchell (February 25th, p. 308) raises interesting points. Darwin in his work *The Descent of Man*, chapter ii, page 55, says:

"I attributed, though with much hesitation, the frequent cases of polydactylism in men and various animals to reversion. . . . I was chiefly led to the conclusion that the presence of supernumerary digits might be due to reversion from the fact that such digits not only are strongly inherited, but, as I then believed, had the power of regrowth after amputation, like the normal digits of the lower vertebrata. . . . But at present it is the safest course to give up altogether the idea that there is any relation between the development of supernumerary digits and reversion to some lowly organized progenitor of man."

As Dr. Mitchell remarks, the lack of hereditary influence in his case makes the occurrence somewhat remarkable. Since the patient underwent an operation it would be interesting to be informed later whether there was evidence of any power of regrowth.

Haeckel asserted that the five-toed amphibian foot was formed from the many-toed fish fin (*Evolution of Man*, p. 306). It is a long way back in the animal scale for such a reversion to recur in man; even the interval between one of the apes and a fish is immense. Personally I do not think that Darwin realized the fact that polydactylism is more common than the occurrence of a tail, since otherwise he would not have made this statement about reversion. The question naturally arises, Can a human tail be looked upon as a reversion?—I am, etc.,

REGINALD COCK, M.R.C.S.Eng., L.R.C.P.

London, E., Feb. 26th.

## The Services.

## DEATHS IN THE SERVICES.

SIR ROBERT PORTER.

Major-General Sir Robert Porter, K.C.B., Army Medical Service (retired), was taken ill during the memorial service to Lord Haig in Westminster Abbey, and died of pneumonia and pleurisy a week later at his residence at Beckenham, Kent, on February 27th, aged 70. He was born in County Donegal on January 31st, 1858, the son of the late Andrew Porter, and educated at Foyle College, Londonderry, at Glasgow University, where he graduated M.B. and Ch.M. in 1879, and in Paris. He entered the R.A.M.C. as surgeon on February 5th, 1881, attained the rank of colonel on January 14th, 1910, and, after a four years' tour of office, was placed on half-pay on January 14th, 1914. Recalled to duty at the beginning of the great war on August 5th, 1914, he was appointed temporary surgeon-general on November 2nd, 1914, and confirmed in that rank—the title of which was subsequently changed to major-general—on February 18th, 1915. He retired after the war on March 3rd, 1920. He had a very fine record of war service, before as well as during the great war. His first active service was in the Ashanti campaign of 1895-96, when he was mentioned in dispatches and received the star given for that campaign.

He served throughout the whole South African war of 1899-1902, when he took part in operations in Natal, the Transvaal, the Orange River Colony, and Cape Colony, including the actions at Elandslaagte and Lombard's Nek, and the defence of Ladysmith, and received the Queen's medal with five clasps and the King's medal with two clasps. During the war of 1914-18 he was D.M.S., from 1914 to 1917, of the Second Army, the army which held Ypres throughout, and which maintained the long and bloody struggle of Passchendaele. Towards the end of this time this army had grown in strength to 800,000 men, and he had under his administration some twelve hundred medical officers, employed in twenty-eight Divisions, as well as in some thirteen casualty clearing stations, fourteen sanitary sections, three mobile laboratories, and five army schools of sanitation—a vast organization which he had himself built up. He was six times mentioned in dispatches—in the *London Gazette* of October 19th, 1914, February 17th, 1915, June 22nd, 1915, January 1st, 1916, May 29th, 1917, and December 24th, 1917. He was awarded the C.B. in 1916, and the Crown of Belgium, as commander, in the same year, the C.M.G. on June 3rd, 1919, and the K.C.B. on January 1st, 1921. He also had the Belgian Croix de Guerre. In 1903 he married Mary, daughter of the late John Johnstone of Barnard Castle, and leaves a widow and three sons.

Lieut.-Colonel Charles George Webster, Madras Medical Service (retired), died at Ryde, Isle of Wight, on January 26th, aged 56. He was born on July 5th, 1871, the son of the late John Henrie Webster, Government Telegraph Department, Chaudanagore, Bengal, and took the Scottish triple qualification in 1892, and subsequently the F.R.C.S. Ed. in 1905. Entering the I.M.S. as surgeon lieutenant on July 29th, 1895, he became lieutenant-colonel on January 29th, 1915, and retired a year later on January 29th, 1916. He served in the China war of 1900, receiving the medal. He entered civil employment in the Madras Presidency in January, 1902; in 1909-10 he held the professorship of medical jurisprudence in Madras Medical College, and in June, 1914, was appointed surgeon of the 1st District of Madras City.

## Universities and Colleges.

## UNIVERSITY OF CAMBRIDGE.

At a congregation held on March 3rd the following medical degrees were conferred:

M.B., B.Chir.—S. J. P. Gray, M. J. Harker, R. M. B. MacKenna, K. H. Uttley.  
M.B.—J. Dockray, H. K. Goadby, H. B. Stallard.  
B.Chir.—W. J. H. M. Beattie, D. R. Tweedie.

## UNIVERSITY OF LONDON.

At . . . . . examination held in January there were  
197 . . . . . in the first division and 880 in the second  
div' . . . . . took the supplementary certificate for  
Latin.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

## COUNCIL ELECTION.

THE Secretary of the Royal College of Surgeons has sent out the usual election notice, which on this occasion informs the Fellows of the College that on Thursday, July 5th, there will take place an election of four Fellows into the Council in the vacancies occasioned by the retirement in rotation of Sir Anthony Bowlby, Bt., Sir D'Arcy Power, and Mr. F. J. Steward, and by the death of Mr. W. Thelwall Thomas.

Blank forms of nomination and of the requisite notice from a candidate may be obtained on application to the Secretary, and the same must be received by him, duly filled up, not later than on Monday, March 19th. A voting paper will be sent by post on April 3rd to each Fellow whose address is . . . . .

The candidate elected by the smallest become substitute Member of Council for Thomas until 1935.

## Museum Demonstrations.

The following demonstrations of specimens in the museum will be given in the theatre of the Royal College of Surgeons of England by Professor Sir Arthur Keith.  
advanced students and medical  
the dates indicated at 5 p.m.: Ma  
of the sacro-lumbar region of the spine and their bearing on  
surgical practice; March 16th—Variations and anomalies of the  
cervical and costal series of the vertebral column and their applica-  
tion in diagnosis and treatment; March 23rd—A review of the  
present state of knowledge regarding the innervation and move-  
ments of the intestine.



MARCH 10, 1923]

[ THE BRITISH  
MEDICAL JOURNAL



*Deborah Williams*



of the standard of accuracy maintained by the *Journal* and of what is called its "news value" may be inferred from the attention they paid to our columns. Lord Northcliffe, who had a sure instinct for such things, is reported to have said that "the Editor of the *B.M.J.* must be a man who knows news when he sees it." Dawson Williams, when he heard this, remarked with a quiet chuckle that it was rather fun to note how often a good hare started in the *British Medical Journal* was hunted, first in the *Times*, and then up and down the press of the country.

In the scope of this notice it is not possible to deal with all the activities of thirty fateful years, but we cannot omit mention of Dawson Williams's action in bringing about the highly successful scientific and clinical meeting held in London by the Association soon after the war, or the work he did with the help of Dr. Johnson Horne, many years earlier—in 1904—in arranging for the reception and entertainment of 150 leading French physicians and surgeons who then paid a formal visit to London. Yet his habitual modesty was such that in the full reports of those proceedings in the *Journal* no mention of his name is to be found. During the war, when he worked for many months almost single-handed, he gave unflinching and effective support to the Naval, Army, and Indian Medical Services, and forwarded with all means at his command their best interests in war, as he had done in peace, believing that those interests were inseparable from those of the rank and file of the fighting forces. Although he had had no personal experience of general practice he had a deep understanding of the difficulties and needs of general practitioners, and championed their interests at least as much as those of any other branch of our profession.

His literary gifts may almost be left to speak for themselves in the pages of this *Journal* during the past forty years. Under his direction it was not merely a record of progress in medical science and an organ of professional opinion; it had a quality that stamped it, for those who cared for such things, as the production of a literary artist with a fine sense of values. He thought of the several parts of each issue as making up a whole, and spent infinite pains over correcting slovenly workmanship, even in the smallest paragraph. Like every true editor he took more pride in the good work of a chosen contributor than in anything from his own pen. What he himself wrote was always sound English—direct, vigorous, never commonplace; free from affectation or mannerism; a style that fitted itself naturally to the matter in hand, without waste of words. The last sentence he wrote for publication was at the end of an article on the *Oxford English Dictionary*, in the issue which appeared two days before his death: "Its motto might be 'Thorough.'" It was certainly his own motto.

In recognition of his services to the R.A.M.C. during the war he was made C.B.E. in 1919, and he received the honour of Knighthood on January 1st, 1921. Other distinctions, well deserved, fell thick upon him. In 1921 he received the Gold Medal of Merit of the British Medical Association—the highest honour which the Association has to bestow. From Durham University he received the honorary degree of D. Litt., from Glasgow the LL.D., and from Sheffield its D.Sc.

Despite the remonstrances of some of his medical friends, he would not consent to take life more easily and relax the close personal supervision which he had always given to the contents of each issue of the *Journal*. As long as he held the post of Editor he insisted on doing his share—and indeed more than his full share—of the hard routine work, except during the spells of illness when his absence was enforced. At last, in December, 1927, he handed in his resignation, which was accepted by the Council with heartfelt regret that so long and close an association should perforce have to end. He had talked of this step for some six months, but not unnaturally wished to complete his long term of thirty years of service as Editor, which he reached in January last. As recorded in our issue of January 21st, his last attendance at the editorial office was on January 19th, and on the evening of that day he was presented with his portrait by his immediate colleagues at an informal dinner party.

On the news of his retirement becoming known it was

felt very generally that, as stated in a circular signed by a group of representative members of the profession, "this occasion should not pass without some recognition from the profession as a whole of his great services to medical journalism and so to the science and practice of medicine." Steps were accordingly taken to raise a testimonial fund, and a public announcement was made on February 25th. Unfortunately for his friends and admirers, Dawson Williams is beyond the reach of such witness to the affection and esteem in which he was held, but he lived long enough to be aware of what was afoot, and to let it be known that he for his part would wish that any testimonial should take the form of an endowment for the furtherance of research by way of scholarship or prize. It will be for the Committee of the Fund, of which Sir StClair Thomson is Treasurer, to decide, in consultation with the subscribers, on the precise object to which the money that may be collected had best be devoted in association with his name. The project has by no means ended with the death of our chief, and we hope that in the form of a Dawson Williams Memorial Fund it will go forward to fruition as a worthy monument to one who did incomparable work for British medicine.

Some eighteen years ago Dawson Williams was injured in a motor car accident and severely shaken, as well as incurring a bad strain of the wrist, and during the last decade he suffered more and more often and more severely from bronchitis, attended by a disquieting inadequacy of the heart's action. After one of these attacks in 1924 he wrote: "I wish I wasn't so old; the world is very interesting." Despite increased weakness of body, his interest in all that went on did not diminish, and just after his retirement was decided upon he wrote to a friend: "How I shall like to have no definite occupation I do not know, but possibly better than I fear." And in another letter to the same correspondent he said that, as he had always had "one foot in the country," he did not dread giving up his quarters in London, seeing that he would still be within easy reach of Town. Fortunately for him his newly acquired leisure had not had time to pall; he had just finished ordering his private affairs when he was struck down while on the way to take train to visit a friend in London.

In person Dawson Williams was an impressive figure. Well above six feet in height, he was of commanding presence, until of late years sickness and over-anxiety wasted his body and he stooped somewhat. But up to the last no one could fail to notice him even in a crowd. Strongly marked eyebrows and an aquiline nose gave severity to his expression when he was displeased, or disgusted with any display of meanness or bad faith; but the frown swiftly melted into a peculiarly sweet smile when his wrath was appeased, and this characteristic smile lit up his face at the sight of an old friend. He was by nature an aristocrat, and the almost autocratic position he held suited his disposition. Democracy did not attract him, for he believed, and could bring forward instances in support of his belief, that (in his own words) the best results were achieved by the people acting under the direction and control of their natural leaders.

It is not necessary for us to dwell further on the many-sided character of our late Editor, because this is revealed in the large number of appreciations, printed below, which have been sent to us by leading members of the profession. They depict the man and his work from widely different aspects, individual or official, and their effect taken as a whole is that of a composite portrait. To attempt to fit them into a formal pattern would, we believe, be a mistake, even if exigencies of time and space had not made it impracticable to do so. These tributes, therefore, follow one another very much in the order in which they seemed to group themselves after most of them had come to hand. The same note of admiration and warm personal feeling runs through them all, and together they seem to us to bring before our readers' eyes the man as he was—a great and good man wise and far-seeing and true-hearted. Dawson Williams was loyal through and through—to his paper, to the Association and the profession, and to everyone with whom he worked or who worked under him. The *British Medical Journal*, and all that it stood for, was his life.



## PERSONAL APPRECIATIONS.

Sir ROBERT PHILIP, M.D., LL.D., President of the British Medical Association and Honorary Physician to the King in Scotland, writes:

The message that Dawson Williams had suddenly gone from us brought me a keen sense of loss and loneliness. He had remained the one close link with the moving spirits of the Association as they were when I was admitted a member more than forty years ago. It was at the Annual Meeting in Dublin in 1887 that I met him for the first time. His handsome figure, open countenance, good-humoured smile, and friendly bearing quickly won my affectionate regard. This has steadily grown as the years have passed.

In 1898, when Dawson Williams hitched on to his broad shoulders the mantle which had dropped from the slender but forceful frame of Ernest Hart, I saw a good deal of him. For it was the year of the Meeting of the Association at Edinburgh, when I happened to hold the office of Local Secretary. Previous to the meeting, and throughout the meeting, his thoughtful kindness was that of an elder brother. Along with Francis Powke, the General Secretary, he placed his experience and resources lavishly at our service with old-world delicacy. After the meeting he came for a short while to our little country house. Only the other day he recalled to me, with pictorial freshness which astonished me, incidents of that visit which had almost faded from the memory of his host and hostess: how, for example, having unwittingly hoarded an express which did not stop at the little country station, he watched his opportunity, and when the train was held up midway on the line by signal, "disboarded" it unconventionally and tramped, bag in hand, over dykes and through meadows until he struck a likely road which landed him in time for dinner; and, again, how he set himself successfully to solve the enigma of why our fruit progressively disappeared from the garden in the early hours of the morning. Throughout the intervening years since the 1898 Meeting, the early impression of his quality has increased in clearness and depth. Williams's personality was a fine blend derived from breeding and training. He was vertebrate throughout. The handsome framework, built on generous lines, enclosed a like mentality. Chief qualities in the blend were integrity and sagacity. Just and wise himself, he expected from others a high standard of conduct, and he preferred the wise man to the fool. In all his transactions he "sought to see the whole." Consideration of the interests of others made him look well round a question before speaking or doing. He was content to be slow rather than to be unfair.

He had a high conception of the doctor's calling. Physician by predilection and training, he watched the developments of medicine and surgery with discriminating eye. Ever ready, on the one hand, to appreciate sound advance, and, on the other, to be critical of that which savoured of quackery or humbug, he maintained a singularly detached attitude towards the changing movements of medical thought and practice. Those qualities found ample scope during his occupancy of the Editor's chair. His horizon was wide, and he scanned its varying aspect from week to week with clear eye, unbiased mind, kindly thought for others, and a nice sense of humour. In report he was accurate and succinct; in judgement he was considerate and just; in argument he was gallant and courageous. He would suppress no fact; he would blur no issue.

I remember, a good many years ago, sitting in the office, when an urgent letter was handed to him—as it turned out—from an influential member of the Association, highly critical of some line adopted by the *Journal*, and not without menace. Looking up from the letter he told me of the contents and the author. In reply to my "What will you do?" he remarked, with humorous glance and quaint movement of the shaggy eyebrows, that the bomb had exploded and he remained where he was.

To the end his foot trod the path where duty lay. Whenever he returns to us in memory, the portrait will be that of a cultured, considerate, courteous gentleman.

Sir DONALD MACALISTER, Bt., K.C.B., President of the General Medical Council and Principal of the University of Glasgow, writes:

My first acquaintance with Dr. Dawson Williams was made when I was appointed a member of an Editorial Committee to co-operate with Mr. Ernest Hart in the supervision of the contents of the *British Medical Journal*. The position was a delicate one, for Mr. Hart was a masterful man, and held strong views as to what the *Journal* should include. Occasionally the committee, in the presumed interests of the Association, had to question or veto some of his proposals. Dawson Williams, as Assistant Editor, attended our weekly meetings and took part in its proceedings tactfully, but always with effect. When our decisions involved disturbance of the proposed "make-up" of the *Journal*, and the Editor urged this disturbance as an argument against the committee, it was the Assistant Editor who turned the force of the objection by showing, with quiet skill, how the change could be carried out. I learned then, what I learned more fully in subsequent years, how sure and wise was the Assistant Editor's handling of men and affairs. When he became Editor of the *Journal*, his long apprenticeship to the craft fitted him uniquely for the responsibilities of office, and the Editorial Committee became a superfluity.

A good many years have elapsed since I perforce ceased to be connected with the Association or the *Journal*, but in these years I have had abundant opportunities of watching the Editor's steady advance, not only to mastery in the conduct of his paper, but to the command of sure confidence in his fairness and sagacity on the part of the profession at large. When in 1922 I was privileged, as Vice-Chancellor of the University of Glasgow, to confer on him the honorary doctorate, I shared with my academic colleagues the assurance that Sir Dawson Williams had most worthily won his spurs and earned his laurel.

Sir JONX ROSE BRADFORD, K.C.M.G., F.R.S., President of the Royal College of Physicians of London, writes:

In order to fill adequately the post of Editor it is necessary that a man should possess many qualifications; some of these may be acquired by diligent study, others are more fundamental in origin and depend really on character. Dawson Williams was thoroughly equipped in both directions, and well deserved the rather unique position that he attained. Those who, like the writer, had known him for a very long time—between forty-five and fifty years—were familiar with the wide range of his activities. As a young man, in the early eighties, whilst maintaining a very active interest in the practice of clinical medicine, more especially with reference to the diseases of children, he was one of a group of men, including Horsley, Sidney Martin, Halliburton, and others, who felt the desire to investigate some of the many problems that the awakening of physiological inquiry in this country brought to the front. It is an index of the breadth of his mind that, as long ago as 1883, he was engaged in investigations in the physiological laboratory of University College, London, allied to those of Sidney Martin, in what was then the very neglected field of so-called chemical physiology. I well remember him as a most patient, thorough, and diligent worker in the laboratory, but even in those early days he felt the call of writing, and throughout life his interest in books and of writing, old and new, was not only maintained, but was also fostered. As the years progressed this became the paramount interest, and the fields both of research and of practical clinical medicine were relinquished, and all his energies were concentrated on what was to be his main life's work. This, however, did not take place until he had achieved results of value in clinical research. He brought to the Editor's chair a first-hand knowledge, both of the scientific side of medicine and of practical clinical medicine, and this wide range of knowledge and of sympathy with the aims of both classes of workers was not only a very valuable asset in his editorial work, but formed also a rather unusual equipment in an editor. This was perhaps one of the reasons for the ready acceptance of his decisions by others. But the main reason for the respect and affection in which he was held was undoubtedly the

recognition by the profession of the sterling character of the man himself. Beneath a massive, rugged, and somewhat brusque exterior he concealed a kindly heart, and no one who had any sort of relations with him could fail to appreciate that his opinions, however bluntly given, were always determined by the sole consideration of what, in his judgement, was right, and to the honour and dignity of the profession of medicine.

The work of an editor must always be difficult, even when it is limited to the acceptance or rejection of scientific communications for publication, but when, in addition, it involves the consideration of matters that are termed "medical politics," the position is one calling for no common ability. The fact that Dawson Williams filled such a position for many years with credit to himself and with honour to our profession is perhaps the most fitting tribute to his memory.

Sir THOMAS BARLOW, Bt., K.C.V.O., F.R.S., consulting physician to University College Hospital and the Hospital for Sick Children, writes:

It is just forty-eight years since I first met Dawson Williams at University College Hospital. He was then house-physician, and I had been recently appointed junior assistant physician with regular charge of out-patients and occasional charge of in-patients. Williams was a square-set vigorous Yorkshireman, rather brusque in his manner, not aggressively argumentative; indeed a little reserved, but tenacious in his opinions, and able to give a good account of himself. He knew his medicine and was keen in every department. I remember that he took the gold medal in medicine at the London M.B. examination, and he was qualified for the gold medal at the M.D. He was an invigorating and stimulating resident. He and Horsley were close friends. I recall that at that time he showed an immensely practical outlook; he saw the wood as well as the trees. After he had completed his hospital resident posts he took some time to settle down to outside work. He did some pathological investigations for Dr. Wilson Fox, going through some of Dr. Fox's histological findings on the origin of tubercle and testing them by recent methods. For a time he was drawn towards medical hygiene; after a while he was appointed assistant physician at the East London Children's Hospital, Shadwell, and I recall a good clinical study by him on cases of glandular fever in children. In later years he wrote a small manual of children's diseases. Dawson Williams had a ready pen. He wrote good English and his views were stated in a fair and balanced way. When at length he joined the staff of the *British Medical Journal* it was soon obvious that he had found his true vocation, though I regretted that he had presently to relinquish his hospital work. He was always keenly interested in children's diseases, and he had true clinical enthusiasm. He maintained throughout his long career enthusiasm for the scientific advance of medicine, and was, to my personal knowledge, anxious to recognize, and emphasize original work and to give credit where credit was due. He was loyal to his editorial committee, but as years went on he strove to widen and deepen medical education and to maintain general medical policy on a lofty and honourable plane, in which partisanship and personal ambition had no place.

Sir HUMPHRY ROLLESTON, Bt., K.C.B., Regius Professor of Physic in the University of Cambridge, writes:

The passing of a great personality, even though his life's work has been done, cannot fail to be a sad break with old associations, and the sudden death of Dawson Williams recalls his activities thirty and more years ago as physician to the East London Hospital for Children, Shadwell, his book on *Medical Diseases of Infancy and Childhood* (1898), his early work on the "Glandular fever of childhood" (*Lancet*, 1897, i, 160), and articles on that disease, measles, and rubella in the first edition of Allbutt's *System of Medicine* (1897), before he abandoned active practice in a branch of medicine in which he ever remained keenly interested. A man of wide culture and many human interests—as shown, among other ways, by his clubs—he was exceptionally fitted by critical and other faculties

for editorial work; his success in a position rendered difficult by the changes in the constitution of the British Medical Association, and by many cross-currents of thought, is evidence, if it were needed, of the wisdom and extensive acquaintance with human nature, whereby he steadily maintained his ideals of medical journalism. Probably the influence he thus quietly exerted is most clearly shown by comparison of the *British Medical Journal* as it was when he assumed the full editorship in 1898 with its present character. The power he gradually acquired of forming and directing aright medical opinion was very real, and the affectionate regard inspired by his upright character enabled him to obtain leading articles and signed reviews from prominent and busy members of the profession. He was remarkable for absolute freedom from egotism and self-seeking, for his statesmanlike outlook, intense patriotism and devotion to British Medicine, generous help to young men trying to get their feet on the first rung of the professional ladder, and an open mind willing to give publicity to good work from unknown and unlikely quarters, even when departing from orthodox doctrines. The great position he established for medical journalism was slowly built up, and his well-deserved honours were chiefly of recent date. In one of the very few personal comments that I remember was the remark, in response to verbal congratulation on his knighthood in 1921, that it came too late to be of any use. He once admitted that he went into medicine from a desire to relieve the sufferings of others, and few men so sore let and hindered by family illness and personal disabilities have faced life more bravely and unselfishly. It is a satisfaction that before crossing the bar he must have realized the profession's appreciation, and that his labour had not been in vain.

Sir BERKELEY MOYNTHAN, Bt., K.C.M.G., President of the Royal College of Surgeons of England, writes:

The sudden death of Sir Dawson Williams will leave a gap in many lives, for few men had so great a gift of intellectual and emotional friendship for those privileged to know him well. My first contribution to the pages of the *British Medical Journal* was made at the time he became Editor. It was not long before he asked me to review works on surgery, and to write leading articles dealing with surgical problems. The help he gave me was incalculable; and I may truthfully claim that his formative influence upon my literary methods was greater than that of any other man. His comments might be ironical or provocative, but his shrewd insight made him see the full drift of an argument, and able to demonstrate how it might be carried further or presented more cogently or acceptably. A word of praise was never praise only: it was encouragement which gave a new direction to one's mind, and made one eager to do better. Discussions on phrases or on the logical and lucid presentation of a thesis soon led to references to literature in general. We quickly realized a similarity of taste. A devotion to the sonnets of Shakespeare, to Macaulay, and to Keats was acknowledged on our first encounter. It was always a joy to learn from him the books he had recently been reading, and to hear his fresh and illuminating comments or exposition. In literature, as in politics, he held tenaciously to opinions; his clarity of judgement, intellectual fairness, and wide experience made conversation with him a delight.

His help was given in far larger matters than these. When the National Health Insurance Bill was under discussion its chief protagonist was not always very friendly to the medical profession and its ideals and desires. The wounding accusation that doctors in pressing their claims were "bickering at the bedside" did not help to a better understanding or to easier discussions. It was at a time when tempers were roused and passions were ugly that I was asked to see the politician most concerned. Before luncheon with him I spent over an hour with Dawson Williams in sharp discussion on the many points then exciting controversy. The result of my very prolonged interview with the protagonist of the bill was expressed a day or two later in the *British Medical Journal* and other newspapers, which recognized in him "a changed attitude

to the medical profession"; and afterwards matters moved more smoothly. The credit for this was due entirely to the sagacity of Dawson Williams.

On other occasions, when as a member of deputations I had to see the Home Secretary, the Secretary of State for India, or other high Government officials, I never felt that I could be adequately prepared without a full discussion with Dawson Williams. I am convinced that the best friends of our profession are those members of it who hold high permanent position in Government offices; their opportunities for service to causes we uphold are innumerable and are fully enjoyed. Among others who can help, the editors of our medical journals have perhaps the greatest power. We hardly realize, I think, how fortunate we have been in recent years. The influence of Dawson Williams on that aspect of medicine which touches public questions was of the highest importance; it was exerted through many channels, on various occasions, and by diverse methods. He was a staunch, loyal, upright, and most powerful friend of medicine, with the insight and imaginative grasp of a statesman. It was his own reticence alone which prevented the world from learning this. The cause of medicine has lost in him one of the greatest advocates, and wisest and most powerful friends. To some he seemed austere and aloof; yet behind the obvious barriers there was a generous and tender heart, full of understanding and sympathy, and craving for affection.

Sir ROBERT JONES, Bt., K.B.E., Emeritus President of the British Orthopaedic Society of Great Britain, writes:

When the heart is full of sorrow it is not easy to pay tribute to the memory of the dead. Dawson Williams was an ideal friend—affectionate, loyal, and full of the rare gift of understanding. His acute critical faculty never dwelt on any defects in those he loved. He was the embodiment of chivalry and the soul of honour. Under a cloak sometimes austere and cynical he hid from the outside world a beautiful, gentle, and kindly nature, and a mind of refinement and extreme delicacy. What a wise counsellor to those in trouble and doubt! His guidance seemed invariably to lead to the light. One always felt safe to proceed with any undertaking if it passed his censorship. If his help was asked for he gave it whole-heartedly, and was prodigal of time and effort. He spoke his mind with no uncertain note on any question submitted to him. Friends expected nothing of him but the truth; he was guileless as a child. Nobody will ever know the weight of responsibility which he bore during the war. The Red Cross, the War Office, the R.A.M.C., and the civilian medical service at home and abroad all sought his help. He was a veritable city of refuge. Often very frail in body, his mind never lost its keen edge and his sympathy always flowed freely. When he fought, he always fought a straight fight; he never took an unfair advantage nor did an unkind thing. His death is a great loss to medicine, and his memory will be a great inspiration. For a long time past his friends knew the sufferings of his mind and the frailty of his body, but now that he has gone they realize that one of the sweetest chapters in their life history is closed for ever. Dawson Williams has fulfilled his mission and his death ends a glorious life.

Sir E. SHARPEY-SCHAFER, F.R.S., Professor of Physiology in the University of Edinburgh, writes:

The death of Dawson Williams ends for me an uninterrupted friendship of more than half a century. I call him clearly to mind as I first knew him in the seventies, a student at University College, where I was then assistant professor. He was one of a particularly brilliant coterie, all of whom made good—none better than Williams. Later he came back as a worker in my laboratory, and we were near neighbours at Elstree in his early married days, and were thus afforded opportunities for greater intimacy. I saw less of him after he had developed into the distinguished journalist whose capabilities are everywhere recognized. Few who knew him as a student would have been prepared to predict that his development would be on those lines. But the character of his writings, distinguished as they always were by clarity of description and

purity of English, might well have indicated such a destination. I have myself long been in the habit of submitting doubtful points of literature and etymology to his judgement, which was rarely wrong.

When I wrote to express the gratification I had experienced at seeing the appreciative leading article in the *Times* on the occasion of his retirement, I received a deprecatory reply exhibiting the modesty and self-effacement which were so habitual to him. "The article in the *Times* was a huge surprise to me. I never dreamed that they would take any notice of my disappearance, and that they should have done it in such a handsome way is astonishing." The rest of the letter is equally characteristic, but too intimate for reproduction. It will be one of my most treasured possessions.

Sir CHARLES SHERRINGTON, O.M., G.B.E., Waynflete Professor of Physiology at Oxford and Past-President of the Royal Society, writes:

In the death of Sir Dawson Williams I feel the loss of a friend. In the nineties of last century Dawson Williams was a frequent attendant at the meetings of the Physiological Society, and it was through them that I came to know him. To know him was to like and respect him; and although in later years opportunity did not throw us together often, yet when we met it was upon a footing such as if our previous meeting had been but the week before. In Canada once we were constant travelling companions for several days together. Railway journeying was irksome to him, and he did not conceal his dislike of it; but he was none the less excellent company. I saw him very occasionally in Oxford. He seemed to retain his interest in physiology despite the call of a career which had side-tracked him from it. He certainly preserved his sympathy with physiologists right up to the end.

Sir JOHN BLAND-SUTTON, Bt., Past-President of the Royal College of Surgeons of England, writes:

My friendship with Sir Dawson Williams began about forty years ago, when I was busy making almost daily visits to the prosectorium in the Zoological Gardens. At that date he was regularly reporting the meetings of the Pathological Society for the *British Medical Journal*. I found that rickets was a common disease of monkeys living in the menagerie, and as Dawson Williams was deeply interested in the diseases of children my rickety monkeys particularly appealed to him. He arranged with me, for convenience in reporting and for accuracy, that I should supply him with an abstract of my paper in advance, and give it to him at the meeting. This was an excellent arrangement, for in those days I was a novice in journalism. Under his skilful guidance I mastered the editorial "we," and acquired many other useful tricks incidental to successful reporting.

Dawson Williams was fond of children, and his interest in their welfare was broad and deep. Sick children have a peculiar humanizing influence on physicians and surgeons, big and little, who come much in contact with them, and especially in the intimate association of the wards of a children's hospital. Although Williams and myself travelled in different orbits—one in journalism and the other in surgery—we were often in conjunction. When he attained his altitude and his ambition, he remained the same loyal and genial friend, and, as in the early "reporting" days, he published my essays, addresses, or lectures, and gave them good places and good notices. He even allowed me in particular cases to interview the printer, so that every care was taken to do justice to Berjeau's fine drawing and Butterworth's exquisite engraving. We often met at lunch in the Garrick Club and discussed professional matters. I never heard him say an unkind word about any man. In committees at the House of the British Medical Association he listened to all that was said, rarely interfered, and always offered good advice when it was sought.

The task of editing the *Journal* is not a light one; the Editor must be wise and fair to junior members of the Association. Dawson Williams may not have been as quick as Ernest Hart, of whom Dawson Williams said that when he asked a question he divined what the man would

say before he had time to reply! Williams was a keen judge of the value of an article, a review, or a report. He told me that a weekly issue of the *Journal* contained sufficient "stuff" to make an octavo volume. A few days ago I was hunting for an article in one of the early volumes of the *Journal* and compared it with the last half-yearly volume: it was like a Book of Common Prayer compared to a Family Bible! It requires a god, like the Egyptian Toth, to hold the balance fairly in these days. Dawson Williams did it; and he leaves no small trust to his successor.

Sir ARTHUR KEITH, M.D., F.R.S., President of the British Association, writes:

The editor of a great medical journal has many opportunities of assisting in the advance of medicine; there can have been few, if any, that Sir Dawson Williams failed to utilize during his thirty years of office. His activities covered a period which was beset with editorial difficulties. The growth of medical knowledge was unprecedented, the profession became more and more divided by specialization, the ancillary subjects became more numerous and more clamorous to be heard, charlatanism in many guises sought for a place in legitimate practice, professional policy had to be shaped and reshaped, crises had to be surmounted. Sir Dawson Williams overcame all of these difficulties because he was at the core a scientific physician—one who believed that medicine could advance only by the accumulation of clearly ascertained fact and well-grounded inference. His sympathy was altogether with the inquirer and observer, the man of science—particularly the young man of science—who had something new to say. But he looked on medicine as a whole and realized that the backbone of medicine was the practising profession—the men and women who have the health of the nation in their keeping. He gathered the best that hospital ward and scientific laboratory could give him, and placed it at the disposal of his readers. He sought for, and obtained, the best that the general practitioner could give him. His wide interests in literature, history, science, and art were reflected in the pages of this *Journal*. The sixty volumes which appeared under his editorial guidance make an imposing array on our library shelves; in their pages is reflected the history of medicine of our time; they are an enduring record of sound judgement and untiring industry—such a monument as any man might well be proud of. No one ever succeeded better than he in masking activity by a show of leisure, but he was less successful in covering a warm heart by a pretence of austerity.

Sir STCLAIR THOMSON, M.D., Past-President of the Royal Society of Medicine and of the Medical Society of London, writes:

One of the many advantages of attending congresses, particularly for young men, is the opportunity they afford for making interesting, valuable, and enduring friendships. It was during the International Congress in Rome in 1884 that, by being of some slight help as an interpreter, I first became acquainted with Dawson Williams. I there noted his enthusiasm and flair as a journalist, and was still more impressed by his knowledge and interest in pediatrics, and, above all, by the evident appreciation and regard in which he was held by his foreign colleagues of the medical press. He had none of the embellishments of facile intercourse so strikingly possessed by the Editor-in-Chief of the *Journal* under whom he was then serving. Ernest Hart was suave and insinuating, and, in that way, knew everybody and went everywhere. But, as often happens amongst foreigners, Dawson Williams was sincerely appreciated because of those very characteristics which the well-read European has learned to consider typical of the British race—sincerity, transparent honesty, downrightness, and a certain bluntness both in accepting and in refusing. These impressions were confirmed during the thirty-four years which have elapsed. They re-presented themselves in various circumstances. He could accept a favour graciously, and could also decline to give one with firmness, but without wounding. During the war I formed the opinion that, like so many other people who had to carry on at home, he was overworked and, in American parlance,

"worn to a frazzle." On one occasion he told me that it was no longer "copy" he wanted, but that he did not know where to turn for printing paper and for compositors.

The welcome task of giving some help in the furtherance of a testimonial, which now, alas! must change to a memorial, has afforded me the opportunity for reading many appreciations of Dawson Williams. They have come from far and wide—Macphail in Montreal, from Cushing in the United States, from that hale and vigorous nonagenarian surgeon in Philadelphia W. W. Keen—and they are still arriving from further off. A few quotations will suffice.

"I am delighted to assist in any way I can in recognizing Dawson Williams's services to the medical profession and to science generally" (Sir Hugh Anderson, Master of Caius College, Cambridge). "I very gladly support an appeal for recognition of Dawson Williams's public services to our profession" (Professor J. S. Haldane, Oxford). "I am conscious not only of the great services Sir Dawson Williams rendered to the science and practice of Medicine, but also to the sympathy, help, and encouragement he has always extended to a young anatomist" (Professor J. S. Stopford, Manchester). "One feels compelled to respect one of the sanest and rarest minds in modern medicine" (Dr. J. S. Manson, Warrington). "He is eminently worthy of becoming an immortal" (Dr. Henry, Bournemouth). "I enclose a very small appreciation of my regard, and convey with it my great admiration for his splendid work, and to me his unflinching kindness and courtesy" (Dr. Louise McIlroy). "It will be a joy to further and support an appeal so happily conceived and so well merited" (Dr. R. M. Buchanan, Glasgow). "No officer of the B.M.A. is more worthy of esteem and recognition" (Sir John Moore, Dublin). "I trust the subscription list will show that the appreciation of his work is widespread" (Bilton Pollard). "I regard it as a privilege to be allowed to join in a demonstration of appreciation and affection to Sir Dawson Williams, to whose services we, as doctors, owe so much" (Sir Henry Gauvain).

Similar appreciations are repeated in hundreds of letters I have received. I will therefore finish with the exquisite sentence, so descriptive, in the letter of the Paris correspondent of the *Journal*. Dr. Gustav Monod, in sending his donation, writes:

"Quel bon souvenir je garderai de ce bon patron, toujours accueillant derrière ces lunettes rébarbatives." (What a happy remembrance I shall ever treasure of that good Editor-in-Chief, always with such a warm welcome behind his rather crabbed spectacles.)

Both our great medical weeklies have been fortunate in their early editors. The fiery Wakley and the scintillating Ernest Hart were the type of men to start a new adventure. Those who followed them have been the exactly necessary type to consolidate, elevate, and make worthy of appreciation those two great voices of our profession. Dawson Williams deserved well of his calling.

Sir GEORGE NEWMAN, K.C.B., M.D., Chief Medical Officer to the Ministry of Health and the Board of Education, writes:

What a man really is, in his own complex self; what he is in his home and to his own people; and what he appears to be to outside friends and acquaintances—these indeed may be three very different things. Some men have a personality which seems almost transparent, whilst in others it is concealed more than revealed. Dawson Williams belonged to the latter. I have known him for thirty years—at first at a respectful distance, as a kindly and encouraging editor to a junior and inexperienced contributor; then, in later years, he became a friend and counsellor, almost a colleague. I never saw him in his editorial room, or in his home, but we often met in Whitehall and other places, shared mutual friendships with other men, and carried on long and intimate correspondences. Only the other day I received a beautiful letter, which I shall always treasure, looking backwards and forwards, and ending with the words, "Few and obscure the days that remain to me." Now, in a twinkling, he has left us, and his large circle of friends all over the world, and the whole medical profession in England, are much the poorer.

The reason of our poverty is this. Here was a wise, competent, straightforward, and experienced man at the centre of things; one upon whom was bestowed, in exceptional degree, ability, foresight, and fairmindedness. He

was austere, hesitant, perhaps a little reticent and taciturn, inclined to aloofness, liable to be a dark horse; yes, but he was also genial and peculiarly attractive—his eyes,

"An outdoor sign of all the warmth within,  
Smiled with his lips—a smile beneath a cloud,  
But heaven had meant it for a sunny one."

And sometimes it became a very merry one, bubbling and dispersive, dissipating all over the place, lighting up a handsome face, and dispelling an anxious look which betokened mental and physical suffering. He knew the deep waters, and that knowledge left its trace in his humility and gentleness. He had met many men and reflected on the correct meaning of their words and signs, and this developed an inborn and delightful sense of humour. Yet it was upbringing and occasion which made him a humanist, gave him the chance of wielding a mighty influence, and left him in the end a single-minded man unusually devoted to duty. We can now see what he did with it all; he subordinated it to one task—the editorship of the *Journal*. It has been suggested that Dawson Williams was knighted because of his services to the R.A.M.C. I doubt it. Public recognition may be, indeed, mysterious and unequal, but my interpretation would be that when he and Sir Squire Sprigge together received the accolade in 1921, it was the official and royal sign of appreciation of their long and inestimable services to current medical literature. Comparisons are said to be invidious; but the history and contribution to medical science and humanity of the *Lancet* and the *British Medical Journal* are unique among medical papers all through the world, and the profession in this country owes more than it declares to the dignity, sagacity, and power with which they have been conducted. Their influence has been prodigious and immensely beneficial—an influence in the creation and maintenance of the profession comparable to the grand effect upon it of the Renaissance in the seventeenth century, to the brilliant work of the practitioners of the eighteenth, and to the Medical Acts and social evolution of the nineteenth. Dawson Williams's splendid innings of thirty years as Editor has played a significant part in a great constructive period. It is this achievement of his task which is surely the most impressive thing about him.

I think Dawson Williams was a Humanist. He believed in a synthetic philosophy of knowledge as well as its direct application to circumstance; he believed that the application of knowledge must have close regard to the human elements in every situation. This dual view he shared with the Humanists of the Renaissance, but he went further, because he lived in a time of social reform of which they had never dreamed. He had the broad common sense, the critical faculty, and the unifying vision belonging to the Humanist, which, with experience, gave him his supreme gift—judgement. Only last week there was a quotation in the *British Medical Journal* from Fitzjames Stephen's *Liberty*:

"The one talent which is most worth all other talents put together in all human affairs is the talent of judging right upon imperfect materials... to see things as they are, without exaggeration or passion.... All really important matters are decided, not by a process of argument worked out from adequate premises to a necessary conclusion, but by making a wise choice between several possible views."

That is what he had—a power of judgement between practicabilities. Though a philosopher in temperament, he did not write philosophy nor did he pursue a philosophic system. He took his problems very much as they came, but he tackled them philosophically, though not always patiently or serenely. He sought Reality. His religion was in that respect like the Persian Sufi: "Show me things as they really are, and not only as they appear to be." He was also an observer of the trend and tendency of events. He recognized what the Listerian revolution involved in practice; he held that a study of the diseases of children was basic; he foresaw the far-reaching changes which would follow the National Health Insurance Act and a development of the public medical services; he laboured for the reform of medical education, and particularly for the fulfilment of necessary post-graduate facilities; above all, his belief in medical progress in England found alike its rational basis

and its confidence in the medical practitioner. Here five visions which he saw and noted, for he was not only observer, but a recorder. Thus it would seem that place of Dawson Williams in modern English medicine that of *humanistic recorder*. The last discussion we together was upon this theme of Doers and Recorders. I described a certain medical contemporary as a Doer, who himself was only a Recorder; one, he said, makes history the other writes it. Yet for the majority of men history does not become inspiring or directive until it is recorded. Dawson Williams knew that from such record advances spring, a spell of recording being followed by a period of new doing. The doer is, of course, the creative, the explorer, the thinker, the transmuted Leonardo, Harvey, Hunter, Jenner, Pasteur, Lister—the recorder is the *transmitter*. As the art of printing was an essential implement of the Renaissance, so great journalism is the active instrument of progress to-day.

As Dawson Williams pursued this high road he found his journey dusty. But he was a good and courageous traveller, and knew the dangers of the way. Highwaymen had short shrift—doctrinaires, quacks (qualified or otherwise), humbugs, chatterboxes, pretence, advertisers, and downright robbers all "got it in the neck" sooner or later. Some he scoured with satire, the delight of passers-by; others were shot dead—to the satisfaction of all honest men. There were, again, more subtle dangers which he also knew—the sloppy work without meaning, the unsupported generalization, the sanguine hope, the fully presented but unproved case, the much announced panacea. Against these allurements all he had his own defences. When he travelled by daylight he was accompanied by a retinue of many devoted friends, by whom he was greatly beloved; when he travelled in the darkness he found his way by the light of a lamp within.

Sir SQUIRE SPRIGGE, M.D., allows us to quote the following passage from the memoir that appeared in last week's *Lancet*:

"Austerity and gentleness, ability, and fairness were expressed in his actions and words exactly as each was demanded. These qualities were reflected throughout his conduct of the *British Medical Journal* and also in his dealings with members of the medical profession, a countless number of whom must owe him a debt of gratitude for counsel and assistance. Among such is the present Editor of the *Lancet*, and he and all associated with him in the conduct of this paper feel the death of Dawson Williams a personal loss. We trust that similar feelings, widely evoked in the medical profession, will express themselves in the movement started just before his death to create a tangible memorial to him."

Sir D'ARCY POWER, K.B.E., consulting surgeon to St Bartholomew's Hospital, writes:

To lose one's early friends is the penalty of age, and the circle becomes smaller every day. On February 14th Sir Dawson Williams was taking part in the Hunterian festival at the Royal College of Surgeons. We were speaking before dinner of those early days of struggle which are so pleasant in the remembrance—days when he was an assistant physician and I an assistant surgeon attached to hospitals for sick children; both active members of the Pathological Society, to which we brought specimens and where we had those active discussions which are no longer common at medical gatherings. Both of us, too, were keeping our heads above water by devilling for Ernest Hart, a past master in the art of extracting "copy" from those he was accustomed to call his young men—"copy" in the form of articles or abstracts often demanded at a moment's notice, and criticized by a somewhat caustic tongue. At that time Dawson Williams was in the fairway of success as a consulting physician, and it was some matter of wonder to us that he gave up practice and chose journalism as a profession. But *respicere finem*, he was *primus inter pares* as a medical editor; as a consulting physician he would only have been one amongst many.



Dr. HERBERT SPENCE, Consulting Obstetric Physician to University College Hospital, writes:

The sudden death of Dawson Williams came as a severe blow to his friends, who were hoping that he would live for many years to enjoy his well-earned rest. Having had his intimate friendship for thirty years I should like to add a few words to those of others; for I think he was known intimately to but few, and his somewhat austere and troubled countenance and reserved manner hid from the multitude his real worth and affection and his sense of humour. He had the true north countryman's desire for facts—"chiefs that winn ding"—and for honest statement. He wished everything to be "jannock," though I never heard him use the word. Though fluent with his pen, he was sparing with his voice, except when indignation stung him to very effective speech.

Dawson Williams had the honour of the profession and the welfare of the Association as his constant interests, and was always alert to bring new facts before the profession. I may mention that when Wertheim in 1905 wrote his great paper on extended abdominal hysterectomy for cancer Williams undertook to have the German MS. translated and published in full in the *Journal*, and from that time the operation became widespread in Great Britain. Williams also took great interest in the development of the radiation treatment of cancer, and, indeed, in all obstetrical and gynaecological subjects. I have often been admitted to his editorial sanctum and watched the rapid and effective way in which he conducted the business of the *Journal*. He often spoke to me in terms of praise of his subordinates—behind their backs—and from their attitude I could see that they, like all who knew him intimately, understood, trusted, and admired their old chief.

Since his retirement Dawson Williams was occupying himself in preparing an account of the forthcoming Harvey tercentenary celebrations. A few weeks ago he went down to Hempstead Church, in Essex, with some friends to examine the Harvey monuments. He lunched with those friends, who arranged to meet him again at dinner on the very day of his death. His sudden death has saddened them, but they will retain a fragrant memory of him as a great journalist, a pleasant companion, and a dear friend.

Dr. ARNOLD CHAPLIN, Harveian Librarian of the Royal College of Physicians of London, writes:

The great work of Dawson Williams during the many years he occupied with such distinction the editorial chair of the *British Medical Journal* will receive adequate recognition in the biography which appears this week. His great ideal was to perform his duty no matter what the cost might be; and how much the attempt to accomplish this ideal cost him during the last five years of his life, with failing health, no one will ever know. Although his work for the *Journal* was ever his chief care, it did not prevent him from taking a deep interest in other matters. Among these was his love and veneration for the Royal College of Physicians, and he probably valued his election to the Fellowship higher than any of his other distinctions. He was a constant attendant at the meetings of the Comitia, and hardly ever missed the Comitia dinner in the evening. Here he was at his best, surrounded by his friends and enjoying himself to the full. For many years he was a member of the Library Committee at the College, and this position brought him into contact with books, for which he always had an abiding and deep love. He was a widely read and cultured man, and when "off duty" and at his ease few could be more engaging and interesting. Of his great moral qualities it is unnecessary to speak, for his honesty, his firmness, his perseverance, and his kindness of heart were well known to all with whom he came into contact.

Professor W. E. DIXON, M.D., F.R.S., writes:

With the death of Sir Dawson Williams a great man has passed away. His sentiments were mainly those of benevolence, and his aspirations for helping the helpless, and in his medical outlook his special sympathies embraced all that pertained to treatment. As an editor he was unique: his studies were wide, his acquaintance with books great, and what he did not immediately know he could at least

tell where to find. Most men readily accept the praise given them, and regard the sentence in their favour as a sign of acumen; but blandishments were entirely wasted in Dawson Williams's office and, beyond a twinkle, evoked no response. His literary judgement was severe, but, having decided to accept a paper, I have known him take infinite pains to put the writer's meaning into understandable English. As a writer Dawson Williams had the perspicacity and elegance of the historian; his precepts were judicious, often now, and always happily expressed.

Dawson Williams was really interested in science; often he would sit through a meeting of the Physiological or other scientific Society and afterwards discuss the validity of the evidence of some young man who had expressed a new idea. I knew him very early in my career; he was always open to new ideas and never received suggestions from his juniors with derision or contempt. His sympathy he extended to all, but to hold his friendship was a prize; he seemed intuitively to read thoughts and difficulties, whilst his knowledge, not only of literature, but of men and matters, was of the widest. As his years advanced he advanced in reputation, but his mind, always richly furnished and adorned, and arranged in the most regular order, seemed to become even more alert; in his latter years oftentimes he was distressed at making decisions likely to cause pain.

Socially, Dawson Williams was delightful; his active and inquiring mind showed itself in the vigour of his colloquial wit. Nothing he enjoyed more than to sit after lunch in the Garriek with two or three literary friends, with a good glass of wine and a cigarette—for Dawson Williams, like most of the great in literature, knew how to get the most and best out of life. He was a man of great liberality and dignity of sentiment, with little ambition and no vanity. He is gone—this great literary critic, this kindest and most lovable of men, whose goal in life has been to help those in pain or difficulty.

Sir C. J. MARTIN, C.M.G., F.R.S., Director of the Lister Institute of Preventive Medicine, writes:

May I add my note to the chorus of appreciation of our friend Dawson Williams? No one, unless he has served on the Council and some of its numerous committees, can appreciate what we owe to Dawson Williams for his skilful conduct of our *Journal* and the sanity of his influence upon the policy of the Association. He never failed to realize that the British Medical Association was something greater than a professional corporation to safeguard the interests of its members, and that its equally important function was to encourage medical discovery and spread knowledge amongst its members.

I have referred to his conduct of the *Journal* as skilful. That adjective is inadequate to describe his editorship. Skilful handling was essential, but Dawson Williams brought greatness of purpose to this, his life's work. He knew that if the *B.M.J.* was to maintain its reputation as a leading organ of medical thought it must be, not merely a professional newspaper, but reflect in its pages the progress of medical knowledge and scientific discovery. Dawson Williams, who was equally interested in the science of medicine and its application, and equally capable of comprehending both, was especially qualified to make the adjustment between science and practice, and eminently successful in keeping the ship on an even keel. The editorial chair of the *B.M.J.* is, in some respects, a peculiarly difficult one. All editors have their troubles with their proprietors, and in his case there were 33,000 of them! It is impossible to please everybody, and if the scientific side of medicine has been less emphasized than he and some of us desired, that must not be attributed entirely to the appetite of the members of the Association for records of cases and accounts of successful treatments. Original scientific papers are "bad copy," as they generally describe but bricks in an edifice, and only interest the builder. Many are unnecessarily tiresome. I remember on one occasion, when urging the devotion of more space to dealing with the growing edge of those sciences on which the practice of medicine is based, he replied, "If you would write intelligibly I would publish," and the remark was not intended, I believe, to apply to myself exclusively.

As its Director, I desire to add a few words of grateful recognition of Dawson Williams's service to the Lister Institute. By the constitution of the Institute, the B.M.A. has a representative on its Council, and although the Council has no longer executive responsibilities, it has some important duties. For many years the Association was represented by Ernest Hart, who was one of the founders of the Institute. Subsequently, when Dawson Williams was nominated, the staff were more than pleased, for, remembering his keen interest in the work of Pasteur and Lister, and the contribution he made to the spread of knowledge of Pasteur's work by translating his more important papers, they were sure of his understanding and sympathy. For eighteen years Dawson Williams manifested a helpful interest in the work of the Lister Institute, and was a constant attendant at its meetings. On other occasions, too, his advice was sought and ungrudgingly given. His fellow councillors will deplore the absence of a colleague on whose wisdom they relied, and the staff of the Institute, one and all, know that they have lost a very good friend.

Dr. C. O. HAWTHORNE, Chairman of the Representative Body of the British Medical Association and Acting Chairman of Council, writes:

Those of us who for a number of years have had close personal and official relations with Sir Dawson Williams have difficulty at this moment in expressing any thought other than the sense of loss which has so suddenly fallen on us. But a few weeks ago we said regretfully a formal farewell to an editor and a colleague, but we said it with the full hope that for him time had many restful hours in store, and for ourselves opportunities for renewals of friendship and of counsel. And now, as it were in a moment, all these pleasing anticipations close in darkness and, in some sense, in dismay; for, behind his apparent severity and aloofness, Dawson Williams had for those who served with him a large capacity for comradeship, and qualities which stirred and held affection; not readily known perhaps, but well worth knowing, and genuine and real and sincere. One might differ from him in opinion, but no one questioned his integrity, and these personal qualities gave him the secure position which he held in the esteem and regard of his colleagues. With his resignation of the editorial chair there was a not unnatural conclusion that his work was done, but many of us who have been close to his stores of knowledge and experience and goodwill were counting with confidence on not a few helpful associations in the future. The editorship indeed had ceased, but not, we knew well, the friendship and the readiness for service. Now fate has put its seal on both chapters, and left us but memories and regrets.

In this brief note of appreciation I must recall general impressions rather than particular incidents. These come from associations, enterprises, and responsibilities shared in a common, but not an equal, partnership; for with all his knowledge and experience Williams was always ready, and indeed anxious, prior to decision and action, to hear the other view. He was, too, a good listener, and patient of the other view—at least to a point—and he would take it from anyone so long as arguments could be quoted in its support. But beyond this moment the caller, apparently from some mysterious change in the atmosphere, became aware that the editorial time was valuable, and that the last word had been said. In his own department he refused to be hurried in judgement, but he was not afraid of decision, and he preached and practised the doctrine of editorial responsibility in no uncertain fashion. Not unnaturally he took a high view of the function of the *British Medical Journal* in the scheme of the Association and, indeed, in the work of the profession generally, and against anything which tended to lessen this claim he was prepared to offer a strenuous resistance. Here, he would urge, is post-graduation training brought to the practitioner's door. Nor were his sympathies by any means restricted to the editorial chair. On the contrary, he was alert to all the interests and enterprises of the Association, and was keen to hold these to the highest standards. In council he was helpful with information and a certain spaciousness of judgement, and though cautious, he would press the bold view where his convictions were strong. Perhaps he accepted

rather grimly an adverse decision, but he had a high sense of loyalty to the Association, and happily he cultivated a generous measure of humour which leant rather to the ironic side. To be associated with him in the work of a great organization was to learn with what abundance of knowledge and experience his mind was equipped, to grow an increasing regard for his high sense of personal and professional rectitude, and gradually to recognize that a great editor was none the less a man and a brother.

Mr. N. BISHOP HARMAN, F.R.C.S., Treasurer of the British Medical Association, writes:

To die in harness, time-worn, tired, but still striving, is given to few of us. But this has been the lot of Dawson Williams. The days since his retirement are too few to count the interval. The pages of the *Journal* that he has penned are still alive; his words spoken at the committee meeting still ring in our ears; and his last letter, written only a few days ago, still shows that his mind turned on new work even in retirement.

Dawson Williams left his impress upon everyone who came into contact with him. There is fresh in my memory the first time I met him in person. The "Editor" I had heard of: it was Dawson Williams I met, and felt. I had gone to put a piece of information before an impersonal editor: I met a person—a man tall of stature, keen-eyed, and slow of speech. He took me into an adjoining room, introduced me to his shorthand writer with the words: "This member will dictate an article to you." I felt like a small boy at school before a great, compelling, and all-pervasive headmaster. Dawson Williams was like that; he made one feel his mastery of things. He combined within himself the playful attitude of the father of the family and the shrewdness of the headmaster. All his contributors felt they were members of his family, sons who could trust his direction, no matter how much they might be inclined to rebel against his mastership. Each of us felt his breadth and weight of knowledge, sometimes with surprise that he had his eye upon our little corner of medical work. But he was kindness personified. Our glittering gems that we spread before his shrewd eyes were appraised with gentleness and fairness, and if their lustre seemed to dim somewhat in our own eyes after his hint of some needed change in the setting, at least we saw his fairness, and withal the kindness of his dealing. But Dawson Williams filled a far larger part than that of a great editor. In the last few years, when, as Treasurer of the Association, one came nearer the focus of medical affairs, especially those pertaining to the Association, the greatness of his counsellorship could be realized, and with that came a better appreciation of the greatness of the man. His single-eyed devotion to duty was manifest. No matter whether the subject for consideration was the exposition of the progress of the healing art, or whether it related to some delicate piece of negotiation, or the solution of an inevitable problem the fruit of our complex civilization—for either the one or the other his attention was unfailing and his judgement of worth. He did not fail even in the last years, when weakened physical strength would have excused some relaxation in any man. With him will-power was stronger than aches or pains.

The passing of Dawson Williams leaves a sense of great loss. Something—no, someone—has gone out of things. There is one fewer of those tried and trusted counsellors whose influence is like the great tide that floats the laden vessel along with steadiness and certainty. But the memory of the man remains, unforgettable.

Dr. J. A. MACDONALD, LL.D., who, as Chairman of the Representative Body, Chairman of Council for ten years, and Chairman of the Journal Committee since 1920, was intimately associated with the Editor, writes:

Dawson Williams died on February 27th, and so passed one of the great figures in the medical world of the past half-century. He was great in many respects. In his personality strong, logical, impartial, always willing to give full value to his opponent's position; reserved, but when his outer shell of shyness and reserve was penetrated there was found a person of essentially sound sense and a wise counsellor. He was great in his profound

knowledge of the medical literature of all nations. He was great as a medical journalist—in my opinion he was the greatest medical journalist of his time. It was in this role that he found his life work—the control and development of the *British Medical Journal*. He gave up his life to this work and reaped his reward in seeing the *Journal* attain its present proud position of the leading medical journal in the world. He was perhaps greatest in the influence he brought to bear in furthering the highest interests of the medical profession and of the British Medical Association. I think very few, even of the members of the B.M.A., are aware of the influence Dawson Williams, by his own personality and through the *Journal*, exerted in the development of the policy of the Association, particularly in keeping it on sound and dignified lines. His influence in all things relating to the profession was always on elevated lines; he had an intense sense of the dignity of medicine as a profession.

It is one of my proudest memories that for twenty-five years I was more or less closely associated with Dawson Williams in my many official positions in the British Medical Association, and, in later years particularly, as Chairman of the Journal Committee. As a personal note may I say that with the passing of Dawson Williams has passed out of my life the one among all men for whom I had the highest respect and esteem. He has deserved well of the profession he loved and adorned.

Sir ROBERT BOLAM, M.D., LL.D., Chairman of Council of the British Medical Association, 1920-27, writes:

A man must have certain qualities successfully to conduct a scientific journal, and yet others if his task be the editing of a journal of news and of policy. In rare degree Dawson Williams combined scientific insight and wide general learning with journalistic intuition and that faculty of analysing men and affairs which needs must go to the framing of sound policy. He had a wide field of interest and influence within the profession, and in many unexpected quarters outside of it. In argument and expression he was master of many styles and gave to none, whilst few men have attained more nearly "the chief of all perfections—to be plain and brief."

One has heard it said that Williams was not an easy man to know. Truly he had a mantle of reserve, yet it was but the garment of his office. This cast off, one found a quick and lively spirit, generously helpful to all seekers of counsel, specially tender to the inexperienced, impatiently scornful of the futile, the mean, the mercenary; revolting fiercely in face of things wrong or unjust. All his insurgent tendencies he ruthlessly schooled to serve his one great end, the welfare of his beloved *Journal*. And though

"When the lamp is shattered  
The light in the dust lies dead,"

there remain to us his ideals of service—to heed no faction, to fear not in right seeking, to spare not self.

Sir JAMES BARR, C.B.E., M.D., who was President when the British Medical Association met in Liverpool in 1912, writes:

The sudden death of Sir Dawson Williams must have come as a great shock to those who were not aware of the serious condition of his health; yet even to his intimate associates the suddenness of his demise must have been quite unexpected, and no one anticipated that the testimonial which was recently launched in recognition of his long and valuable services to the medical profession would have to be turned into a memorial; such are the ups and downs of life, and no one knows what a day may bring forth. It is true that his "day's work" was done; he had just retired from the arduous and onerous duties of an exacting office, with the plaudits of the Association which he had so long and faithfully served. Every member of the British Medical Association can truthfully say, "Well done, good and faithful servant; enter thou into the joy of thy Lord"; but there is no one who will not shed a tear

over his departure; everyone will miss his genial presence, and regret that he has not had an opportunity of viewing life from a disinterested standpoint. I was on the Council of the Association when he succeeded Ernest Hart, and consequently I have known him during the whole of his editorial career. His urbanity endeared him to everyone, and he always retained his popularity, even with those who did not approve of the frequent changes of the policy of the Association. Death has taken him from us, but in the memory of everyone who knew him he will long live. In life he was a burning fire which kindled many a hearth, the bright effulgence of which will not soon be allowed to die out.

Dr. ALFRED COX, O.B.E., Medical Secretary of the British Medical Association, writes:

I find it nearly as difficult to write about Dawson Williams as it was for me to get to know him. I have been in contact with him for thirty years, and for the last twenty have been his colleague; but for a long time I thought him unapproachable and *difficile*; one did not seem to get much nearer to him on the occasions on which we met, and it seemed to be necessary every time to reopen the path of approach. It is only in the last eight or ten years that I have felt we were on easy and companionable terms. At first I found him formidable and austere, and (I thought) not very sympathetic to my special anxieties and difficulties. This was particularly during the stormy times of the Insurance Act, when there was so much division of opinion inside the Association. I recognized, like everybody who came in contact with him, his sound judgement, his honesty of purpose, and his unshakable integrity as a man and a journalist; but I did not make sufficient allowance for the fact that his duty as an editor compelled him to look at things and write about things from all angles. But I learnt much from him, and always admired him immensely, and in time his devotion to the Association, his gifts of intellect, a certain mellowing of demeanour, and the knowledge one got (but never from him) of his great domestic anxieties, broke down the barriers between us, and I learnt to love as well as to admire him. He set a standard of work for all of his colleagues which we humbly, however unsuccessfully, try to attain, and I think he was pleased when, on behalf of the rest of us, I had the privilege of saying so at a little dinner we gave him when he retired. He hated anything like gush, but on that occasion I believe we did get him to feel our absolute sincerity when we told him how much we admired him and his work, and how proud we should feel if, when our turn came, the Association could as truthfully and as forcefully say, "Well done, good and faithful servant."

In the various appreciations of our old friend I have not seen any reference to his gifts as a speaker. Among the many things he disliked was having to make a speech in public, and he would do a good deal to avoid it; but I have known few men more effective when he did rise to speak. His choice of words was, of course, admirable, and before his health failed his manner was equally good.

The Association has lost a great Editor, and we of the staff a colleague of whom we were very proud. May he rest in peace.

Mr. W. E. HEMPSON, who is retiring at the end of this month from the position of Solicitor to the British Medical Association after thirty years, writes:

It was a real shock and grief to me to read of Sir Dawson Williams's death. I have before me a letter from him, on which the ink is scarcely dry, in which he writes of "our long collaboration in the work of the B.M.A. We have witnessed, and each in our way shared in, its development." My close relationship with him extended well over thirty long years without a break on either side. I can therefore speak with appreciative knowledge of his sterling qualities as a man, and also as a light in the world of literature. To have enjoyed his confidence—which he was slow to give—was a privilege of which one may well feel proud, and the lighter side of his character was only revealed to those who were thus accepted by him.

Sir ANTHONY BOWLBY, Bt., K.C.B., K.C.V.O., Past President of the Royal College of Surgeons of England, who was Advisory Consulting Surgeon to H.M. Forces in France throughout the war, writes:

May I send a very few lines to recall to mind the very great service rendered by Dawson Williams to the medical service of the Army and the Navy? Whoever might have been responsible for the mobilization of the fighting forces of the Crown, there can be no doubt that the mobilization of the medical profession was the work of Dawson Williams. To further this end he laboured without ceasing, and his thorough knowledge of the members of his profession, and his sympathy and common sense, enabled him to do work which was of the greatest service to the soldiers and sailors of Great Britain.

Lieut.-General Sir ALFRED KEOGH, G.C.B., G.C.V.O., who was Director-General, A.M.S., in 1904-10, and again in 1914-18, writes:

May I be permitted to associate myself with the many who will have heard of the death of Sir Dawson Williams with the most profound regret? I have the more reason for this regret in that I owed to him at times of great difficulty much wise counsel and an abundant sympathy. He was ever gentle in his criticisms and a trustworthy guide at all times, ever ready when I had recourse to him, which was often, to smoothe the numerous difficulties which frequently arose. I owe to his memory a profound respect, and I sorrow to think he is no longer with us.

Lieut.-Colonel D. G. CRAWFORD, I.M.S. (retired), the historian of the Indian Medical Service, writes:

The British Medical Association has always done much for the public medical services, the Navy, the R.A.M.C., and the I.M.S. As regards the last, many of those who have spent their lives in the Indian army have always realized what a debt of gratitude they owe to the Association, and in particular to the late Editor. Some of them, like Kenneth Macleod and Walter Buchanan, have preceded him across the great divide. One of those who remain may perhaps be permitted to express here that gratitude to one who has just completed a life's work—a long and full life's work, well and thoroughly done; one of whom it may truly be said *Felix opportunitate mortis*.

Dr. F. E. FREMANTLE, F.R.C.P., F.R.C.S., M.P., writes:

As Chairman of the Parliamentary Medical Committee may I add a tribute of respect for Sir Dawson Williams on the part of my colleagues and myself? During the last nine years he developed the parliamentary side of the *Journal* with great success. The "Medical Notes in Parliament"—reprints of which are sent weekly to every medical member of Parliament—have become more and more a sure and useful record of medical events and opinion at St. Stephen's. The editorial work has always expressed a wise and sober judgement, wide sympathies, and a bold imagination. It was but a short time ago that he urged me in person and by letter to explore further a certain system of preventive treatment which had been rejected by a Government department on what seemed to him insufficient grounds. On each question of medical interest, as it drifted across the public screen, he was ready to hear opinions from every quarter; but was not slow to focus them into place and to draw the proper conclusion, leading to effective action. When the interests of the medical profession might seem at first sight to clash with those of the public, Sir Dawson Williams served both with the most convinced loyalty; the loss to the profession by his death is so much the greater. We mourn the passing indeed of a great leader as well as a personal friend.

Dr. DAVID NICOLSON, C.B., LL.D., formerly Lord Chancellor's Visitor in Lunacy, writes:

I shall be glad if I am permitted to offer my testimony to the high regard in which, with many others, I hold the memory of Sir Dawson Williams with respect to his work and his personality. I always found him pleasant and agreeable and ready to oblige, and he stood the pressure of his work with wonderful equanimity.

Dr. J. S. MANSON (Warrington) writes:

As a general practitioner who has occupied from time to time some of the *Journal's* space, let me pay tribute to the patience of the late Sir Dawson Williams and to the kindly help which he gave to an inexperienced writer. I have no doubt that similar help has been given to many others, and it would be a pity if at this time no mention were made of this fine trait in his character. He also was concerned greatly with the continued education of the general practitioner, and was proud of his work in improving the Library to help forward that aim. I have a letter from him, dated December 23rd last, where he mentions his interest in the improvement of the Library of the Association, and expresses satisfaction with its present success. It is said that without vision the people perish. Sir Dawson strove to give vision to the ordinary practitioner, who in his tens of thousands forms the main body of the profession.

Our correspondent in France, GUSTAVE MONOD, M.D. Paris, M.R.C.P. Lond., writes:

Dear Sir Dawson Williams! Such a loss will be deeply felt all over the world, and first of all in France, where his influence has been far beyond what he would ever admit. It was difficult to find in the *Journal* the name of the Editor; but every page was inspired by his spirit, and his friends never hesitated to recognize "la griffe du Lion" in the editorial columns. I am told by a Paris medical librarian that the *British Medical Journal* collection is in constant demand by his readers, and no doubt the indomitable effort of Sir Dawson has gone very far to bring British Medicine to its high international acknowledgement. He leaves a last example of incessant work, and it is, in the name of French medical journalism, to him adieu, in the name of French medical journalism, to him who has always proved to be *le bon Patron*.

We are glad to print the following note from an old and valued contributor, if only because it brings out a side of Sir Dawson Williams which meant very much to his colleagues in the Editorial Department.

May a tribute ("H. C." writes) be permitted from a lay journalist whose miscellaneous "copy" came under the great Editor's pen for a space of twenty years? In the great Editor's pen for a space of twenty years? In the matter of style he was an austere man, not the easiest of editors to please. The ways of some writers annoyed him excessively. He was intolerant of "fine writing"—writing which had every merit except that it did not clearly and conscientiously convey ideas; it was part of his general impatience with everything affected and unreal. On reading over my "copy" after it had left the editorial mill, I often had occasion to deplore that many smooth sentences had now been given a jagged edge, and that some picturesque similes and allusions had vanished altogether; but I was bound to admit that the Editor's touch, if it had not adorned, had clarified the writing. On the other hand, the Editor had rather a fancy for unusual words, and liked also the terse epigrammatic title; I was rather amazed to find some bold ventures of my own in this direction accepted. And who that ever wrote for him can forget his exigencies—the grim smile with which he would hand over a mass of inchoate material with a request that "copy" be delivered at once or sooner! His criticisms could be delivered at once or sooner! If there was a weak point in an article or report, spun over by a web of words, he detected it unerringly. The sharp criticism stung, but it was salutary. He could praise on occasion, but he rather followed the plan of the late Lord Salisbury, who, it is said, always flavoured his praise with a little qualification, lest the son of the recipient should be harmed. But if the Editor himself made a misjudgement regarding a contributor no one could be more humble in apology. In many ways he was most indulgent. Frailty he could pardon, it was pretension he found it difficult to forgive. It is sometimes realized how vast a front every issue of a journal offers to microscopic criticism on the ground of accuracy; but this Editor concealed his own vexation at the necessity of this Editor concealed his own vexation at the necessity of printing errata, upheld his contributor if he thought him in the right, and did not "rub it in" if he was evidently wrong. There are not a few journalists on whose style and

method Sir Dawson Williams exercised a stimulating influence, and who will ever hold him, as a master of their craft, in grateful and admiring recollection.

#### FUNERAL AND MEMORIAL SERVICE.

The funeral was at Little Marlow Cemetery near Sir Dawson Williams's country home at Well End, Bourn End-on-Thames, on the afternoon of Friday, March 2nd. Those who stood at the graveside with relatives and family friends and neighbours included the Treasurer of the British Medical Association and Mrs. Bishop Harman, Mr. W. McAdam Eccles (Chairman of the Hospitals Committee); Sir Squire Sprigge (Editor of the *Lancet*) and Lady Sprigge, Mr. E. Muirhead Little, Dr. and Mrs. Henry Devine, Dr. Alfred Cox (Medical Secretary), Dr. N. G. Horner (Editor), and Mr. L. Ferris-Scott (Financial Secretary and Business Manager); with Mr. Stephen Morrey (Head Clerk of the Editorial Department) and Mr. Trevor Lapworth (Head Printer), who were closely associated with our late Editor in his work, one for forty-six and the other for forty-four years.

A memorial service was held on Monday afternoon, March 5th, at St. Pancras parish church, close to the headquarters of the British Medical Association. It was attended by a large gathering, which included many distinguished and representative members of the medical profession, some of whom were present in an official capacity.

The President of the British Medical Association (Sir Robert Philip), with the principal officers and officials, and many members of Council attended; other members of Council sent expressions of regret for their absence. A group of representatives, headed by Sir John Rose Bradford, came from University College, London, and University College Hospital Medical School. The Royal Society of Medicine, the Medical Society of London, and other professional bodies joined in the tribute through their presidents or other officers. From the headquarters of the Association, over which the flag flew at half-mast during the day, came practically the whole of the staff, from the heads of the departments down to the most junior employee. It was pre-eminently a gathering of the late Editor's colleagues—men and women who had served with him and under him, some of them for more than a generation, and to whom the occasion brought an added sadness because so short an interval separated it from the official parting from their chief.

The Vicar of St. Pancras (Prebendary E. L. Metcalfe) conducted the choral service, which was marked throughout by a fine simplicity such as the man it commemorated would have desired. There was no address, no laudatory oration, only the familiar phrases and the sublime music—the latter including the anthem "O rest in the Lord," to Mendelssohn's setting, and the Funeral March by Beethoven. But when the President of the Association went to the lectern and read with much feeling the well-known passage from the Book of Ecclesiasticus beginning "Let us now praise famous men," some of the sentences in that familiar eulogium seemed to have a startling significance:

"... such as did bear rule in their kingdoms and were men renowned for their power, giving counsel by their understanding, such as have brought tidings in of the people by their counsels and by their learning for the people—wise were their words."

The twenty-third Psalm was chanted, and then followed the usual litanies and petitions, one of the latter being the Thanksgiving in the present burial service, while two others—one of them for peace to the departed and the other for comfort to those who mourn—were taken from the permissive use of the Revised Prayer Book. The prayers concluded with the fervent sixteenth-century petition, "O Lord, support us all the day long of this troublous life." The hymns chosen were also those hallowed by long usage on memorial occasions—"Fight the good fight" and "O God, our help in ages past." The congregation dispersed, and work was resumed at headquarters in the spirit of the majestic words from the Apocrypha which had been read:

"Their bodies are buried in peace, but their name liveth for evermore."

The following were among those present:

Mrs. Hill (sister), Mrs. Arthur Williams (sister-in-law), Sir Robert Philip (President of the British Medical Association), Dr. O. O. Hawthorne (Chairman of Representative Body and acting Chairman of Council), Mr. Bishop Harman (Treasurer), Sir Robert Holam, Dr. Barcroft Anderson, Dr. F. W. Goodbody, Mr. W. McAdam Eccles, Dr. R. Langdon-Down, Dr. Christino Murrell, Lieut.-Colonel F. O'Keefe, Mr. H. S. Souttar, Mr. E. B. Turner, and Sir Jenner Verrall (members of Council), Mr. Walter G. Spencer (Honorary Librarian), Mr. W. E. Hempton (Solicitor to the Association), and Mr. W. E. Warne (late Financial Secretary).

Sir John Rose Bradford, President of the Royal College of Physicians, who also represented University College, London, together with Sir Gregory Foster (Provost), Professor Elliot Smith, Mr. Douie (Secretary), and Mr. Gwynno Williams, representing University College Hospital Medical School.

Sir Outhbert Wallace, member of Council, and Mr. S. Forrest Cowell, Secretary of the College of Surgeons of England; Sir Charles J. Martin, representing the Council of the Lister Institute, and Dr. H. H. Dale (Secretary of the Royal Society), representing the Medical Research Council.

Sir George Newman (Chief Medical Officer, Ministry of Health), Sir Humphry Rolleston, Sir Charles Ballance, Sir D'Arcy Power, Sir George Halkin, Dr. F. E. Fremantle, M.P., Dr. Herbert R. Spencer, Dr. William Hunter, Professor W. E. Dixon, Dr. Charles Buttar, Major-General J. B. Smith, representing the Indian Medical Service, Colonel Batyze, I.M.S., and Mr. L. Muirhead Little.

Sir Squire Sprigge, Editor of the *Lancet*; Dr. Violet Kelcnack and Mrs. Bolton, representing the Medical Women's Federation; Mr. G. S. Elliston, representing the Society of Medical Officers of Health; Dr. James Neal, representing the Medical Defence Union.

Dr. Arnold Chaplin, Dr. Canace Wilkinson, Dr. and Mrs. Bernard E. Potter, Dr. Percy Spurgeon, Dr. S. Gilbert Scott, Dr. Herbert W. Nott, Mr. H. Outhbert Dixon, Dr. and Mrs. J. W. McNeer, Mr. Bertram Sutton, representing the Medical Sciences, Anatomy, and Life Assurance Society; Major Eden Paget, representing the Home Service Ambulance Committee of the Order of St. John and the British Red Cross Society; Mr. J. W. Wharton, representing the Garriek Club; Dr. Rawlins, Dr. Viney.

Dr. H. LOVETT CUMMING, who died at Shanghai in January, was born in Glasgow in 1878. He was educated at Merchiston Castle and George Watson's College, Edinburgh, and subsequently at the Edinburgh University, where he graduated M.B., Ch.B. in 1902, proceeding to the M.D. with commendation in 1905. He obtained the D.T.M. and H.Camb. in 1916 and D.P.H. in 1917. After holding several appointments, including those of house-physician and pathologist at the Prince of Wales's Hospital, Tottenham, and house-physician to the Royal Chest Hospital, London, he practised in South-West London until his departure in 1910 for the Far East, where for five years he was medical officer to various groups of rubber estates in Johore and Malaya. In 1915 he became a temporary lieutenant in the R.A.M.C., and served at the Fulham Military Hospital. He went to Hong-Kong in 1918, and after remaining one year there proceeded to Shanghai, where he set up in general practice and became visiting physician to the Shantung Road (Chinese) Hospital. Dr. Cumming was a member of the Mid-China Branch of the British Medical Association.

By the death, on February 2nd, of Dr. JOSEPH WILLIAM GILL of Rilla Mill, that section of South-East Cornwall has lost a man of outstanding personality. Born in 1866 at Croydon he received his medical education at the Middlesex Hospital, obtaining the diplomas M.R.C.S., L.R.C.P. in 1888. In 1895 he took the diploma D.P.H.Lond., and in 1906 he graduated M.D.Durh. He went as assistant to Dr. W. Nettle of Liskeard in 1890, being also appointed medical officer to the Phoenix and other mines. In the Boer war Dr. Gill acted as medical officer at concentration camps, but contracted typhoid, and was invalided home. During the late war he held a commission as captain in the R.A.M.C., working on hospital ships travelling across the Channel until incapacitated by illness. He served under the Local Government Board on a commission to inquire into conditions of British workhouses, and was at one time district medical officer to the Liskeard Board of Guardians. Dr. Gill took a great interest in the history and antiquities of the county where he worked for so many years, and was associated with the Royal Institute of Cornwall. He had travelled in the Far East also, and had a wide outlook and understanding of questions relating to the Empire. He remained a member of the British Medical Association until the end of last year, when his final illness compelled him to give up the greater part of his professional activities. He married in 1897, and is survived by his wife, a son, and a daughter.



## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

IN the House of Lords, on March 6th, the Public Health (Destruction of Vermin) Bill was introduced by Lord Strathspey, and read the first time.

The Army Estimates were introduced and debated in the House of Commons on March 8th. On March 5th the Reorganization of Offices (Scotland) Bill was read a second time. Mr. Chamberlain presented on March 6th a bill to extend the duration of the Local Authorities (Emergency Provisions) Act, 1923, and to amend temporarily the provisions of the Metropolitan Common Poor Fund. The bill was read a first time. A bill dealing with hours of closing in shops was debated on March 9th. The other business of the week was of minor importance.

A meeting of the Parliamentary Medical Committee was arranged for March 6th.

### Tetra-ethyl Lead in Petrol.

IN the House of Lords, on February 29th, Lord BUCKMASTER opened a debate (briefly summarized in our issue last week) on the use of tetra-ethyl lead in motor spirit. Moving that it was expedient for the Government immediately to set up a committee to advise on the public danger that might arise from such use, Lord Buckmaster remarked that last summer a very eminent medical man had told him that ethyl spirit was one of the most dangerous things which men could handle. This spirit, Lord Buckmaster proceeded, had been introduced by a powerful trade organization, and, so far as he knew, neither protection nor regulation from the Home Office or the Ministry of Health had been provided with regard to its use. Tetra-ethyl lead had been discovered in 1859, and in 1879 was classed as the most dangerous poison known. During the war it was considered as a poison gas, but was rejected because detonation destroyed some of its chemical molecules and some of its effects. Recently its use in motors was discovered, and was undoubted. By allowing greater compression than ordinary petrol vapours it enabled cars to take gradients more easily and also avoided "knocking." But this spirit contained as its essence tetra-ethyl lead, and that ingredient if put upon the hand or breathed in conveyed a grave risk of lead poisoning. As it was capable of being dissolved in oil and was very volatile there was no need for any abraded surface of the skin for this poison to take effect. The action was not necessarily instantaneous, but was a form of lead poisoning more deadly than that effected through the use of lead paint or of lead glazing, and illness came on without warning. This spirit originated in the United States, the Government of which appointed, some two years ago, a commission which reported that no positive evidence could be obtained of harmful effects, but which recommended further investigation. In America the use of ethyl-petrol was only allowed subject to rules and regulations issued by an authority equivalent to the Ministry of Health. Users in America were recommended not to spill the spirit on the floor of the garage, and advised to wash their hands before conveying food or tobacco to the mouth. Such recommendations were useless over here. We must act for ourselves. We had been warned. Lord Buckmaster quoted Sir William Pope, professor of chemistry at Cambridge, who said: "A garage hand who continually wets his skin with such a liquid, splashes it on his clothes, eats his food without scrupulous attention to cleanliness, or breathes an atmosphere tainted with the vapour, must thus be liable to contract lead poisoning." Professor Baker, Governor of the Imperial College of Science and Technology, wrote: "Lead tetra-ethyl passes rapidly through the skin, is absorbed by the blood, and causes very severe nervous trouble. If sufficient is absorbed, death occurs in a few weeks. . . I wrote, as president of the Chemical Society, to the Ministry of Health more than a month ago, calling their attention to the urgency of the matter. So far as I know, nothing has been done." Lord Buckmaster asked whether such a spirit was to be used unprotected and without any warning from the Ministry of Health. If Sir William Pope and Professor Baker were doubted there ought to be a committee of inquiry. Unless the Government acted nothing would be done, for trade organizations did not care how many people suffered from the exploitation of their goods.

Lord GREENWAY, supporting Lord Buckmaster's motion, spoke as one concerned in the oil industry, and said none of the petrol-producing companies desired to produce a spirit liable to criticism on the score of danger. It was essential to the public interest that a properly constituted board, including leading chemists and toxicologists, should be appointed to settle definitely whether tetra-ethyl spirit was toxic.

The MARQUIS OF SALISBURY denied that the Government was indolent in consideration of this matter, but admitted delay by the Ministry of Health in answering Professor Baker. The Government recognized the risk attaching to this commodity, and proposed to deal with it. Tetra-ethyl lead itself was highly dangerous. We manufactured dangerous things, such as vitriol and arsenic, but the greatest care ought to be taken. Tetra-ethyl lead was not manufactured in this country, but in America. A moment of special risk occurred when, having been imported into this country, it was blended with petrol spirit. That process was receiving the attention of the Home Office. No case of lead poisoning had arisen in England in consequence of the blending. The mixture

was one of tetra-ethyl lead in about 1,300 parts of petrol, and was undoubtedly a useful source of power. The Government had to consider how far it ought to interfere with an improvement in the source of power for petrol engines, especially for aeroplanes, where this spirit was particularly useful. The Public Health Department in America had appointed an investigating body of seven distinguished scientific men. This committee reported that no positive evidence could be obtained of harmful effects, and that drivers of cars using ethyl-petrol showed no definite signs of having absorbed lead after exposures approximating two years. These findings were very significant. The same committee reported that garage employees handling and repairing automobiles, and employees of automobile service stations, might show evidence of lead absorption, and that in garages and stations where ethyl gasoline was used the amount of apparent absorption was some what greater than in those without ethyl-gasoline, but the effect was slight in comparison with that shown by workers in other industries where there was definite danger from lead, and for the periods of exposure studied was not sufficient to produce lead poisoning. Lord Salisbury did not desire the House to accept these conclusions as conclusive, but suggested they should be cautions in condemning ethyl-petrol. The British Government was about to undertake research of a careful character, and was going to appoint forthwith an interdepartmental committee, probably comprising representatives of the Ministry of Health, the Home Office, and the Medical Research Council.

Lord BUCKMASTER said an interdepartmental committee was not the investigation he desired; departments did not have eminent scientific men on their staffs. The Medical Research Council had a certain number of doctors, but what was required were men such as eminent chemists. These would satisfy Lord Salisbury—who spoke lightly of a proportion of 1 in 1,300—that watered vapour from nickel would poison with 1 in 20,000. Professor Baker had written to him that after ethyl-petrol had burned in the cylinders of the engine the lead came into the exhaust as a fine lead oxide, and that in a crowded street, such as Piccadilly, the passer-by would be exposed to the same danger of lead poisoning as painters were before they were protected by Government action. The Americans had reported that workers in garages were slightly affected. Those people would become more and more affected till illness and death overtook them. He recognized that if he went to a division and beat the Government that would have no effect, so he proposed to withdraw his motion.

Lord SALISBURY said that if Lord Buckmaster thought that scientific men should be added to the interdepartmental committee he would make representations to that effect. Lord DANESFORTH pointed out that the committee would have power to call chemists and technologists as witnesses.

Lord Buckmaster's motion was withdrawn.

IN the House of Commons, on February 29th, Sir KINGSLEY WOOD said persons making or selling preparations of petrol containing tetra-ethyl lead should take or advise precautions to avoid danger from handling or use. There was at present no definite evidence of injurious results following the use of ethyl spirit, and pending inquiry the Government did not propose to issue warnings to garages or to local authorities. Answering Dr. Vernon Davies, Sir Kingsley said he did not know that in 1925 Switzerland prohibited by ordinance the use of tetra-ethyl lead.

Answering several questions in the House of Commons on March 1st, Mr. NEVILLE CHAMBERLAIN said the committee of inquiry which he proposed to set up would include the Government chemist and some men of science unconnected with any department, as well as representatives of the Home Office, Air Ministry, Medical Research Council, and Ministry of Health. The exact composition of the committee and its terms of reference had not been decided. He was not prepared to prohibit the use of ethyl-petrol until the committee had published its findings.

Mr. CHAMBERLAIN, on March 6th, in reply to Lieutenant Commander Kenworthy, said his attention had been called to the report arising out of tests carried out with petrol containing tetra-ethyl lead made by the Research Association of British Motor and Ethyl Lead made by the Research Association of British Motor and Ethyl Lead Manufacturers, founded under the auspices of the Department of Scientific and Industrial Research, in which the poisonous effects of the discharge of vapour from this fuel were described. Immediate steps were being taken to set up the committee of inquiry, which would be asked to report with the least possible delay. The Government did not propose to anticipate the findings of the committee by issuing a preliminary warning to the public concerning the use of this fuel.

The House of Commons took the opportunity to have a discussion on ethyl-petrol when Sir V. HENDERSON, on March 6th, moved the second reading of the Petroleum (Amendment) Bill. The bill is mainly designed to clear up certain difficulties in regard to the interpretation of Acts of Parliament, particularly that passed in 1871 dealing with petroleum, in view of the intention of the Government to bring in at a later date a bill to consolidate the whole of the law relating to petroleum.

Mr. HARRIS urged that the bill should contain regulations to ensure the safety of the public in dealing with petrol, including petrol containing tetra-ethyl lead.

Lieutenant Commander KENWORTHY expressed his dissatisfaction at the absence of any regulations in regard to the use of petrol containing tetra-ethyl lead. He said that the history of this substance in this country was extraordinary. In Switzerland the use of this highly dangerous poison was forbidden altogether. According to Sir William Pope, an acknowledged authority on this matter, the first use of this doped petrol in the United States of America led to five deaths and thirty or more cases of poison before suitable regulations were drawn up and applied. Although for months it had been advertised that this petrol had been put on the British market, not one regulation or warning of any kind had been issued by the Home Office, the Ministry of Health, or the Board of Trade.

He was glad to see that in the House of Lords attention had been drawn to this matter. That was the first opportunity he (Lieutenant Commander Kenworthy) had had of calling attention to the matter, except at question time, when Ministers could always ride off. He had been told that the Government were about to set up an interdepartmental committee to inquire into the matter, but it had not yet been summoned. It was certain that an interdepartmental committee meant delay, because the committee would take very great care over their evidence, findings, and report. Then the Government would delay further before they acted on the report of the committee, and in the meantime a great deal of mischief would have been done. The danger lay in two facts, one of which was that the spirit itself was poisonous. If any of the liquid got on to the skin it would be absorbed and bring on lead poisoning. Lead poisoning was slow in its effects, and came on gradually, but it was none the less deadly when it ran its course. This substance should never have been put on the market without orders being issued through local authorities and the police to garage proprietors and all who had to do with its sale, to warn the public against handling the liquid. The question of the effect on the general public in crowded streets was also of great importance. In traffic blocks the fumes from the ordinary petrol were most objectionable. At present the cities, and especially London, with their ever-increasing motor traffic, were suffering from a very foul atmosphere due to the exhaust fumes from motor cars. Scientific tests had been made by the Research Association of British Motor and Allied Manufacturers, which was founded under the auspices of the Department of Scientific and Industrial Research. A distinguished chemist, who carried out the research, stated categorically that the exhaust vapour from the use of this petrol was poisonous. He (Lieutenant Commander Kenworthy) contended that the Home Office had been wholly negligent in regard to this petrol being placed on the market.

No reply was made for the Government, and the bill was read a second time.

#### Reorganization of Offices (Scotland) Bill.

On March 5th the debate on the motion for the second reading of the Reorganization of Offices (Scotland) Bill, which had been adjourned from February 28th, was resumed. The bill provides for the transference of the powers and duties of certain Boards in Scotland, including the Prison Commissioners and the Board of Health, to a Department of Health for Scotland and a Prisons Department for Scotland.

Mr. SKEWTON said that nobody had ever suggested that the administration of health and other things for which the Board of Health was responsible was less efficient in Scotland than in England. Neither in the Parliament of 1922 nor in this Parliament had there been a single question raised as to the administrative efficiency of the Board. If the bill passed, he did not believe they would have first-class civil servants at the head of the Departments in Scotland. He opposed the bill because he was satisfied that the Government were taking an unjustified and unwise step, which would not be of any essential use at all.

Dr. DRUMMOND SMITHS opposed the bill. It was an attempt, he said, in the name of efficiency, and with a timid suggestion of economy, to approximate the Scottish system of government to the English system. The Board system was a more democratic form of administration than the one-man system. A great part of the functions of the Scottish Boards was to deal with local authorities. Members of those Boards were not simply secretaries and bureaucrats; they were people who, in many cases, had had outside technical and other training. Some of them had been actually members of local authorities, and they had to deal with local authorities. Such negotiations with local governing bodies were a very important element in the administration in Scotland, and was a function much more suitable for a Board than for a Civil Service head of a Department. He was specially interested in the Scottish Board of Health. The Secretary for Scotland, speaking in the previous debate, put a great deal of emphasis on the report of the Royal Commission, which, he said, condemned the Board system in Scotland. But the Royal Commission was dealing with an entirely different kind of Board, and was referring almost entirely to the Local Government Board. The Board of Health met at least once a week, and sometimes oftener, and had minutes kept of its proceedings. It was under the chairmanship of the Under Secretary for Scotland, and was a very different Board from the old Local Government Board. On the present Board there was the head of the National Health Insurance of Scotland, a representative of the legal department, and of the pensions and medical departments. The position of head of the medical department was likely to be vacant in a very few weeks. Who was going to be appointed to succeed the very distinguished present head of that department? There were men junior to him in that department who were suitable to be appointed, and were familiar with Scottish local government. Was one of those to be appointed, or were they to have appointed to that important position in Scotland, requiring a very intimate knowledge of Scottish local authorities, an official from the English Ministry of Health? They must wait and see; but he was very suspicious that some change of that kind was likely to take place. The heads of the Scottish medical department and the junior medical officers had been in the past men who had been medical officers of health in important towns in Scotland. The House, he thought, would agree that a man who had had experience of the work of a medical officer of health in some of the large towns of Scotland was the proper type of man to be at the head of their national medical department. The bill took away some of the last traces of Scottish individuality and sentiment from the administration of their country. It was really a triumph for bureaucracy at the expense of their national sentiment.

Mr. JAMES STEWART, while opposing the bill, said that the proposals of the Secretary of State for having all the departments under one head would produce good results. If they took the health administration they would find that in Edinburgh it was divided into three buildings in three different parts of the city. If the Government would introduce any proposals for providing the buildings which were clamantly necessary, so that they could have the Scottish departments under one roof, there would be whole-hearted support from the Labour party for the bill. It seemed to be suggested that there was difficulty in getting advice from the heads of the departments. His experience in office was a very brief one, but it taught him that it was easy to get into touch with the head of any department. Suppose that it was a medical problem relating to the health administration in any part of the country, and he wanted advice. He applied to the head of the department for his experience and advice. That advice was freely tendered and as freely accepted, and was very generally acted upon, because one knew that there were ability and experience behind it. There was complete independence on the part of the head of the department and on the part of the person who had to supply the Minister with advice. Then again, one had the benefit, every Friday morning, of a Board of Health meeting at which the heads of the various departments were present. Either the Secretary or Under Secretary for Scotland took the chair, and deliberated on the problems for discussion. They had the benefit of all the experience of the members of the Board, and, finally, the Minister had to assume responsibility. It was he who came to a conclusion even if, as happened sometimes, the whole of the Board was against the Minister. If his experience and that of the Secretary for Scotland had been similar then the changes proposed in the bill could not be beneficial. It was beneficial also for local authorities to meet the Board of Health to discuss the health administration of the local bodies. For that very strong reason they ought not to depart from the Board of Health and create new departments. There had been for some time a movement for bringing about unity among local authorities. Economy and efficiency could be developed in a way that was not possible under the present system.

Mr. D. GRAHAM said that they had no complaints against the various boards. He had met the Board of Health and had nothing but pleasant recollections of the meeting. He regarded every member of the Board as well qualified; they were always courteous and willing to hear one, and they always produced arguments for any decision they gave.

The Lord Advocate, replying to the debate, said that at the present there was no first-class Civil Service position open to a Scotsman in Scotland, but the bill would make that possible. In reply to Dr. Shiels, there could be no doubt whatever that the men who were appointed would have the same capacity for administration as the existing individual members of the Board in their particular department. What was wanted was administrative knowledge, the power of taking a concentrated opinion, as an administrator, of all the expert knowledge available. That was the vital thing, and was one of the reasons why he said, quite frankly, that the Boards were not as efficient as a Department would be. Certainly, at the beginning, and he hoped in succession, the existing members of the Board of Health would remain in office. In form their appointment would be different, but they would be there, and their expert knowledge would be continuously available. There would be no change in that aspect of the matter, and the advisory councils would carry on just the same as at present.

The second reading was carried by 161 votes to 66, and the bill was committed to a standing committee.

#### Small-pox.

Mr. NEVILLE CHAMBERLAIN furnishes the following provisional figures for deaths in England and Wales during 1927 in respect of which small-pox appears on the medical certificates as the cause, or one of the causes, of death: Quarter ended March, 1927, 19; ended June 30th, 17; ended September 30th, 7; ended December 31st, 6.

On March 5th Sir KINGSLEY WOOD informed Mr. C. Edwards that the Minister of Health had received a letter from the Bedwellty Council asking that the law should be amended so as to provide that in the case of persons who had been in contact with, or were suffering from, small-pox or other infectious disease in casual wards of Poor Law institutions, the medical officer of health should be empowered to have them detained and isolated for such period as he might deem necessary. Sir Kingsley added that there was power under the present law to secure the removal to hospital of any person who was suffering from a dangerous infectious disease and was without proper lodging or accommodation, but, as at present advised, the Minister of Health did not think it necessary to introduce legislation conferring similar powers in regard to persons who had been in contact with cases of such diseases, though not themselves suffering.

#### Pensions and Service Hospitals.

Answering Dr. Drummond Shiels, on March 1st, Major TAYLOR said arrangements had been made, as already announced, to close Craigleith Hospital, and the patients remaining in that institution, who occupied less than one-fifth of the available accommodation, would be removed to Edinbush, which had been placed at the disposal of the Government by the Scottish Red Cross, and was being fully equipped as a modern surgical and medical hospital. The closure of Bellahouston Hospital was not at present in contemplation. He was anxious to extend the Ministry's tenure of this hospital, and was in communication with the Glasgow Corporation with that object. He hoped that a satisfactory

At the meeting of the West Kent Medico-Chirurgical Society, to be held at the Miller General Hospital, Greenwich, S.E., to-day (Friday, March 9th), at 8.45 p.m., Dr. Maud M. Chaddburn will read a paper on the radium treatment of cancer of the cervix uteri.

WE regret to learn that Dr. W. J. Howarth has been compelled by ill health to resign the appointment of medical officer of health for the City of London. Dr. W. M. Willoughby, medical officer for the Port of London, is acting temporarily in Dr. Howarth's absence until a successor is appointed.

THE annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, W.1, on Thursday, March 22nd, at 5.30 p.m., when the annual report and financial statement for the year ending December 31st, 1927, will be presented, and the officers and committee for the current year elected.

THE Physical Treatment Centre of the Kensington Division of the British Red Cross Society at The Limes, Holland Park Gardens, W.14, will be open for inspection by medical practitioners on Thursday, March 22nd, at 8.30 p.m. Dr. James Meenell will give a short lecture on foot trouble and foot gear.

A SESSIONAL meeting of the Royal Sanitary Institute will be held in the Council Chamber of the Town Hall, Scarborough, at 5 p.m. on Friday, March 16th, when a discussion on the Scarborough water supply and new scheme will be opened by Mr. Herbert Lapworth, D.Sc. The chair will be taken by Professor A. Bostock Hill.

THE next evening meeting of the Pharmaceutical Society of Great Britain will be held in the lecture theatre of the Society's House, 17, Bloomsbury Square, London, W.C.1, on Tuesday, March 13th, when an address will be given by Dr. H. H. Dale, secretary of the Royal Society, and head of the Department of Biochemistry and Pharmacology, National Institute for Medical Research, upon some reactions of pharmacology on pharmacy. The president will take the chair at 8 p.m.

A SPECIAL discussion on the pulpless tooth will be held at a combined meeting of the Sections of Odontology, Pathology, and Electro-therapeutics of the Royal Society of Medicine at the Society's House, 1, Wimpole Street, W.1, on Monday, March 26th, at 8 p.m. Mr. Frank Coleman will open for the Section of Odontology and Dr. H. M. Worth for the Section of Electro-therapeutics.

THE meeting of the Society of Medical Officers of Health for a discussion on the control of small-pox fixed for March 16th is postponed until a date to be announced after publication of the report of the Departmental Committee on Vaccination.

THE Fellowship of Medicine announces that Dr. J. L. Birley will lecture on the high-grade defective in relation to general practice on March 12th, at 5 p.m., in the lecture room of the Medical Society, 11, Chandos Street, Cavendish Square. On the following day, Dr. R. T. Parsons-Smith will give a special clinical demonstration at the National Hospital for Diseases of the Heart at 11 a.m.; and on March 15th Mr. R. H. Jocelyn Swan will give a special clinical demonstration at the Cancer Hospital at 2 p.m., replacing the one originally announced for March 16th. The lecture and demonstration are free to medical practitioners. Three special courses begin on March 19th. The first, at the Brompton Hospital, lasts a week and occupies mornings and afternoons. The two other courses continue for two weeks; one, at the Royal National Orthopaedic Hospital, occupies the whole day with operations, lecture-demonstrations, and work in the out-patients' department; the second, at the Hampstead Hospital, continues from 4.30 p.m. to 6 p.m., and comprises a lecture and a demonstration, each day in medicine, or in surgery, or in one of the allied departments. There will be no special courses from March 31st until April 16th. Comprehensive tickets are, however, issued for any period from one week to one year.

Information about the various courses at various hospitals, and specimen copies of the *Post-graduate Medical Journal* may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

Dr. O. REES, chairman of the West Dorset Division of the British Medical Association, and a member of the executive of the Panel Committee and also a member of the Dorset Insurance Committee, has been elected a member of the Dorset County Council. The total votes polled for him exceeded the combined totals of the other three candidates.

SIR FRANCIS CHAMPNEYS, Bt., M.D., president of the General Lying-in Hospital, London, S.E., presided at the annual general meeting of the governors on February 29th. It was recalled that the institution was founded by Dr. John Leake in 1765 for maternity cases. The out-patient district includes Westminster, Lambeth, Southwark, Camberwell, and Battersea. A feature of the hospital's work is the training of midwives.

IT is now announced that the fifth international congress on thalasso-therapeutics will be held at Bucarest and Constantza from May 21st to 29th.

THE annual congress known as Journées médicales de Bruxelles will be held at Brussels from April 21st to 25th, when the following papers among others will be read: Ileocaecal excision in diseases of the ascending colon, by Mario Donati of Paris; arterial oncephalography, by Egas Moniz of Lisbon; cardiac syncope and adronaline, by Emile Bardier of Toulouse; preventive inoculations, by C. Zoeller of Paris; cholangogue function of the liver, by Noel Fiessinger of Paris; carbohydrate metabolism, by Cesaro Serono of Rome; heliotherapy of surgical tuberculosis, by A. Rollier of Leysin; rheumatism in the menopause, by M. P. Weil of Lyons; neurology of the abdominal wall, by G. Södenbergh of Gothenburg; and plastic surgery of the face, by Sanvencro-Roselli of Genoa.

THE forty-first congress of the French Society of Ophthalmology will be held at the Faculty of Medicine of Paris from May 14th to 16th, when a paper will be read by Dr. Mawas on the biomicroscopy of the iris in health and disease. Further information can be obtained from the general secretary, Dr. René Onfray, 6, Avenue de la Motte-Picquet, Paris VII.

THE Standing Committee appointed by the Board of Trade to consider whether imported surgical, medical, dental, and veterinary instruments, dental supplies and dental furniture, should bear an indication of origin, announce that their inquiry has been postponed, and will be now hold on March 19th and 20th.

DURING the fourth year of the Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation fifty-five applications for grants were received by the trustees, twenty-one of which came from the United States and thirty-four from eleven different countries in Europe and Asia. Twenty-four grants were made during 1927, including one to Dr. J. B. Dawson of Edinburgh for investigating the pathology of the breast. Applications for grants for the coming year should be sent to Dr. J. C. Aub, Massachusetts General Hospital, Boston 14, before May 15th.

THE February issue of the *Deutsche Zeitschrift für Chirurgie* is dedicated to Professor Alexander Fraenkel, director of the surgical division of the General Polyclinic of Vienna, on the occasion of his 70th birthday.

MESSRS. W. HEFFER AND SONS, Ltd., announce for early publication *Practical Serology*, by Professor Luigi Vignano of Milan, translated from the latest Italian edition by Miss E. M. Heffer, and edited by Dr. C. G. L. Wolf.

WILLIAM HEINEMANN (Medical Books) Ltd. announce for early publication *Tonsils and Adenoids and Their Diseases: Including the Part They Play in Systemic Disease*, by Dr. Irwin Moore.

RESOLUTIONS emphasizing the importance, in combating malaria, of co-ordination between the public health authorities and the promoters of engineering works were passed by the Malaria Section of the Far Eastern Association of Tropical Medicine at the seventh congress, Calcutta, in December last, on the proposal of Sir Malcolm Watson, M.D., seconded by Lieut.-Colonel S. R. Christophers, I.M.S., director of Central Research Institute, Kasauli. Reference was made to the fact that many cases had occurred in which a great increase in the incidence of malaria had been caused by facilities given by engineering works, and it was resolved that such works likely to affect malaria should be submitted to the authorities before being sanctioned. The congress concluded that there was no single method of malaria control applicable to all conditions and all countries, but, whatever other measures might be adopted, control of the mosquito breeding places should be employed where there were large aggregations of people.

THE following German medical congresses will be held next month: Röntgen Society, April 11th to 14th, at Berlin; Society for Internal Medicine, April 16th to 19th, at Wiesbaden; Pathological Society, April 19th to 21st, at Wiesbaden; Society for Psychiatry, April 24th and 25th, at Kissingen.

THE following appointments have recently been made in foreign faculties of medicine: Dr. Erich Lexer of Freiburg, professor of surgery at Munich; Professor G. A. Wagner of Prague, professor of gynaecology at Berlin; Professor Marx of Münster, professor of otology at Würzburg; and Professor W. Kerl of Innsbruck, director of the dermatological clinic at Vienna in succession to Professor Finger.

PROFESSOR ARDIN-DELTHIL has been nominated dean of the medical faculty of Algiers.

PROFESSORS NICOLAS and PIERRE DUVAL of Paris have been elected foreign corresponding members of the Royal Academy of Medicine of Belgium.

A COMMITTEE has been formed at Tunis to commemorate the twenty-fifth anniversary of Dr. C. Nicolle's appointment as director of the Institut Pasteur of that city. Further information can be obtained from Dr. F. Gérard, 100, Rue de Sébile, Tunis.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The **TELEPHONE NUMBERS** of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 3861, 3862, 3863, and 3864** (internal exchange, four lines).

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**FINANCIAL SECRETARY AND BUSINESS MANAGER** (Advertisements, etc.), *Articulate Westcent, London.*

**MEDICAL SECRETARY**, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### ACUTE GOUT.

"HON. SEC." asks for information about any modern treatment likely to be useful in a case of acute gout, in which all the old remedies have been tried and failed.

#### WANTED—A HOME.

"MEMBER OF THIRTY YEARS' STANDING" would be glad to hear of a home in pleasant surroundings, where an old lady could be placed voluntarily for moderate payment, in some such place as Bournemouth.

#### CRAMP AFTER SCIATICA.

"K." asks for suggestions for the cure or mitigation of cramp in the leg following an attack of sciatica. The trouble is mainly at night, and causes loss of sleep. It appears to be increased by any exercise.

#### DURATION OF A POSITIVE VIDAL REACTION AFTER INOCULATION.

DR. M. AVENT (Basingstoke) asks how long the effect of inoculation with T.A.B. remains as regards agglutination powers of the serum of the person inoculated. One or two bacteriologists hedged, but implied only two or three years. He has recently seen a case which was diagnosed as being typhoid fever largely on the strength of a Vidal reaction, which the bacteriologist reported as "strongly positive to *B. typhosus* and negative to *B. paratyphosus* A and B." The man had been inoculated with T.A.B. over ten years previously. The diagnosis was eventually settled as splenic anaemia.

#### PRIMULA RASH.

DR. FRANCIS G. BENNETT (Bournemouth) writes: For some time I have been attending a patient for a rash on the hands due to handling the above-named plant. Applications of various kinds have answered for a time, but the rash still continues to appear at intervals. This obtained also with respect to the ultra-violet rays, which were given a good trial. I should be grateful for any suggestions as to treatment, as both the reappearance of the rash and the irritation which accompanies it are becoming distressful to the patient.

"\* \* We have referred this inquiry to Dr. H. Haldin-Davis, who writes: The first point in the treatment of this case is to ensure that the patient never, on any account, handles a *primula* at all. Unless this precaution has been taken (and Dr. Bennett does not make it quite clear that it has), no treatment is likely to be successful. If, however, the rash remains obstinate, even although care has been taken that there should be no renewal of the harmful contact, one must suppose that the patient is so sensitive that the original dermatitis has developed into a true eczema—a contingency by no means improbable; the tendency of eczema to relapse is notorious. It is difficult to give explicit directions without seeing the patient, but the keynote of the treatment should be protection, as complete as possible, from external irritants of every kind, however slight.

#### INCOME TAX.

##### Schedule B: Purchase of Practice.

"L. C." asks whether he is correctly assessed in respect of a meadow under both Schedule A and Schedule B, and also as to the position arising out of the purchase of the remaining

half share in the practice from his former partner as from December 31st, 1927. During the quarter ending April 5th, 1928, he will be paying an assistant at the rate of £400 per annum inclusive.

"\* \* The tax is payable under both Schedule A and Schedule B. Our correspondent is not entitled to deduct the expense of the employment of the assistant from the share of the 1927-28 assessment relating to the last quarter. The only relief open to him is to claim under Rule 11 to have the proportion of the assessment applicable to the final quarter reduced to the amount of the profits of the practice for that period. In computing those profits he would, of course, deduct as an expense of the practice the £100 payable to the assistant for that quarter.

#### Motor Car Obsolescence.

"C. A. R. M." bought a car for £295 in September, 1925, which he sold in September, 1927, for £150, buying another car for £255. Depreciation has been allowed, but the claim for obsolescence (presumably on £145 less £40 depreciation—that is, £105) has been refused on the ground that the 1925 car was not "obsolete."

"\* \* Apparently the inspector of taxes is relying on the case of the South Metropolitan Gas Company v. Dadd, which was decided by Mr. Justice Rowlatt last November. The decision went in favour of the Crown on the ground that the question was one of fact, and that the Court therefore could not interfere. But the judge went out of his way to say that this case was not to be taken as deciding that in order to be obsolete a thing must be "worn out," and suggested that in that particular case the Commissioners against whose decision the appeal was made had in mind the probability that the appellant company "wanted something rather better . . . because it would suit their purpose better." The case quoted dealt with the replacement of a seven-year-old ship. It is clear that the life of a medical practitioner's car is normally so much shorter than that of a ship that there is prima facie less ground for attacking a claim for a two-year-old car than for a seven-year-old ship. Further, there can be no suggestion that our correspondent was buying the new car for any other reason than that the old one had become unsuitable by age and use for the purpose for which it was required. If the inspector of taxes remains obdurate on the merits of the claim—and even if the legal merits are arguable the equitable merits are not open to dispute—we suggest that a full statement of the facts be sent to the Secretary, Inland Revenue, Somerset House, W.C.2, with a request for an official ruling. In that event we should be glad to see a copy of the reply.

### LETTERS, NOTES, ETC.

#### A MEDICAL MAN-OF-ALL-WORK.

DR. WILFR (Bridgnorth) sends us the following, copied from the *Bath Chronicle*, which may be found in the *Hereford Journal* for March 27th, 1777:

"Wanted for a family who have had health—a sober steady person in the capacity of doctor, surgeon, apothecary and manmidwife. He must occasionally act in the cap. of butler, dress hair and wigs, must occasionally read prayers occasionally and a sermon every Sunday evening. A good salary will be given. N.B.—He will have liberty to turn a penny in any branch of his profession when not wanted in the family."

Perhaps (our correspondent adds) the omission of the usual qualification before "penny" is indicative of delicate politeness.

#### A BEGGING LETTER, PEST.

IN our issue of August 13th last we warned our readers that a begging letter expert was operating from Cardiff—a woman who appealed for loans to help her father, described as a former medical student. This woman is still sending out her appeals on much the same lines, and we hear from the Chief Constable of Cardiff that she has already been by three pretences. It seems to be chosen as a specially favourable prey, and we on guard.

#### THE WHITE LINE.

THE police authorities have determined to prosecute to keep to the white lines on cuts in cases where every motorist when approaching roads. It therefore behooves every motorist when approaching corners and round junctions to look out for the white lines and keep well within them.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 46, 47, 50, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 48 and 49. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 83.



# An Address ON GENITAL DISPLACEMENTS.\*

BY  
VICTOR BONNEY, M.S., B.Sc., F.R.C.S.,  
ASSISTANT GYNAECOLOGICAL SURGEON TO MIDDLESEX HOSPITAL; SURGEON  
TO CHelsea HOSPITAL FOR WOMEN.

## THE PELVIC FLOOR AND THE PELVIC SHELF.

SINCE the cure of all deformities and displacements must be founded on a correct understanding of the anatomy of the parts concerned, I will begin by reminding you of the structures that keep the female genital canal in position. They may be divided into three groups as follows: (1) The broad ligaments with all the structures contained within them that are attached to the body of the uterus. (2) The cardinal ligaments and pubo-cervical musculo-fascia, which collectively I call the "pelvic shelf." (3) The levatores ani and other muscles that close the outlet of the pelvis, together with the fascial layers in relation to them; the whole being named the pelvic floor.

The first of these three groups is the least important, for the broad ligaments have no great fixing power on the uterus, but merely, so to speak, steady it like the guy-ropes steady a tent pole, though its main support is the ground into which it is driven.

The second group is of far greater importance, for the cardinal ligaments not only keep the vagina in its normal position, but also hold the cervix. They spring from the sides of the vagina, from its vault down to the upper surface of the levatores ani, and it is this arrangement that makes the lateral walls so fixed. They spread out fan-shaped, to become attached to the lateral pelvic wall on each side along the so-called "white line," like the wings of a butterfly whose body is formed by the vagina and the musculo-fascias which ensheath it, the whole forming a shelf of considerable rigidity, projecting out into the pelvic cavity. On the upper and anterior surface of this shelf the bladder and ureters lie, and its posterior surface is separated in the mid-line from the rectum by a thin layer of loose cellular tissue, whilst on the sides it is separated from the lateral rectal ligaments and upper surface of the levatores ani by wads of fibro-fatty tissue. The reality of this structure which I have ventured to call the "pelvic shelf" can only be appreciated by deep dissection such as has to be undertaken in Wertheim's operation. It is of great importance, for on it the position and stability of the cervix and vagina and bladder depend. The plane in which it normally lies is roughly parallel to, though considerably below, that of the pelvic brim.

The pelvic floor, on the other hand, lies in a plane which, in the standing posture, is practically horizontal, and therefore at an angle of about 45 degrees to that of the pelvic shelf. Its function is to support and fix the lower ends of the rectum and vagina respectively, and that part which supports and fixes the vagina is not only the weaker portion, but it is much more liable to be injured in the process of childbirth. Weakness leading to yielding, either of the pelvic shelf or pelvic floor, or of both together, is the fundamental cause of uterine and vaginal displacement, and therefore, in determining the measures to be employed for their cure, it behooves us to find out in each individual case which of the two structures I have described is primarily at fault.

## THE MECHANISM OF RETROVERSION.

Retroversion may come about in one of three ways. In the first the fault lies solely with the broad ligaments, which, being weak, allow the body of the uterus to be

unduly mobile. In the second there is weakness of those upper fibres of the cardinal ligaments which fix the cervix at its juncture with the vagina. The result is that the uterus is loosely set into the vagina, and in recumbency it tends to drop back towards the hollow of the sacrum. This tendency is no doubt resisted by the broad ligaments if they themselves are normal; but just as the guy-ropes would not long hold a tent pole once it had come out of the ground, so soon or later the uterus falls back. In this class of case the uterus is not merely retroverted, but is lower in the pelvis than normal. The third way in which retroversion of the uterus can come about is by the whole pelvic shelf retroverting. This displacement of the uterus is sometimes called "retroposition," but the term seems to have been coined without understanding the processes at work, and without noticing that in these cases the vagina is retroverted as well. Cases of this deformity are constantly mistaken for cystocele because, on looking through the vaginal entrance, the anterior vaginal wall is seen immediately behind it, and much lower than normal. On straining it may even partially protrude, but this is not because it is bulging abnormally, but because the axis of the canal is tilted back so far that the anterior wall only requires a normal degree of bulging to reach the orifice.

## THE MECHANISM OF PROLAPSE.

Prolapse in its essence is the vagina beginning to turn, or actually completely turning inside out. The uterus not only plays no active part in this performance, but actually passively resists it. In other words, the vagina can turn inside out more easily if the uterus is not there, and this is the reason why the greater degrees of prolapse are mostly seen after the climacteric, when the uterus has atrophied. For a hollow viscus to turn inside out an initial bulge inwards of some area of its wall is necessary, and in the case of the vagina this bulge practically always starts either on its anterior or its posterior wall, or its vault, for the lateral walls, by reason of the cardinal ligaments attached to them, are too rigid to bulge. The exact position of this initial bulge or "dropping" depends on which part of the supporting apparatus is yielding under the intra-abdominal pressure.

In normal circumstances the axis of direction of the intra-abdominal pressure during straining is downwards and backwards behind the uterus into Douglas's pouch, into which coils of small intestine may be forced, just as they are forced into a hernia sac when the patient coughs. This happening not only compresses the rectum against the sacrum and forms an important factor in the act of defaecation, but the pressure being applied behind the uterus and the pelvic shelf, the uterus, the vagina, and the whole shelf tend to be pushed forwards and slightly upwards, so that so long as the posterior vaginal wall is equal to the strain, no abnormal bulge into the vagina occurs. When, however, the uterus is retroverted, and more especially when the vagina is retroverted as well, the axis of direction of the intra-abdominal pressure is forwards of the uterus, and the pressure is chiefly exercised in crowding down coils of intestine on to the back wall of the bladder, and on to the pubo-cervical musculo-fascia and vaginal wall which lie immediately beneath it. The result is a tendency for the anterior vaginal wall to bulge abnormally, and this is rendered the more easy if the pelvic floor has been so weakened in its anterior part that the vagina gapes. The point at which the primary bulge occurs differs in different cases. Thus it may be situated at its upper part only, the anterior vaginal vault—that is, that portion of the wall which is above the trigone of the bladder—in which case the protrusion contains no bladder; or it may be situated at that portion against which the trigone lies, in which case a true cystocele is formed; or it may be situated at its lower end, in which case the

\* Introducing a discussion of the subject at the New Zealand Medical Association Meeting at Hamilton, N.Z., February, 1928.

urethra is displaced, with the result that the patient wets herself when she strains.

Prolapse of the anterior vaginal wall is not invariably accompanied by retroversion of the pelvic shelf, or even by simple retroversion of the uterus, but it is so in the majority of cases. Moreover, a something additional to retroversion is required—namely, that stretching and weakening of the pelvic shelf, either in whole or in part, which labour alone can bring about. Thus prolapse of the anterior vaginal wall is very rare in nulliparae.

Prolapse of the posterior vaginal wall, on the other hand, is not primarily dependent on the yielding of the pelvic shelf, but is chiefly brought about by post-parturient weakness of that part of the pelvic floor which supports its lower end. As a result, every time the woman strains this lower attachment is pulled down by the bulging floor, and the posterior vaginal wall becomes elongated so that it droops forwards into the vaginal lumen. At this stage the protrusion is not accompanied by a protrusion of the rectum, the vagina merely slipping down on the front of the rectum. Presently, however, the rectum, deprived of its support in front, commences to slip down the face of the sacrum and buckle forwards, so that the protrusion becomes a true rectocele. This buckling forwards of the rectum depends on the posterior part of the pelvic floor maintaining its stability, for if it bulged too, a rectal prolapse, and not a rectocele, would result. The protrusion is rendered the more easy because of the gaping vaginal orifice which the absence of the perineal body and laxity of the levatores have brought about.

There is a rare form of prolapse of the posterior vaginal wall which does not primarily depend on weakness of the pelvic floor, but is due to a bulge inwards of that upper inch which is in relation to Douglas's pouch. This form of prolapse is a true hernia of the pouch. Speaking generally, prolapse of the posterior vaginal wall, when occurring by itself, is commoner with the uterus in anteversion; and this is what would be expected, for then the axis of direction of the intra-abdominal pressure lies posterior to the uterus, and exercises an effect chiefly on the posterior wall and rectum.

Though prolapse, to begin with, is initiated by a bulge inwards of some particular area of the vaginal wall or vault, it is comparatively rare for the clinician to see the case until several areas of the whole of one or both walls are bulging, for weakness of one part of the supporting apparatus is soon followed by weakness of other parts, owing to the increased strain put on them by the failure of the primary defaulter, until in the end, all of them having failed, the vagina turns inside out.

#### OPERATIVE TREATMENT.

In these days, when the operative treatment of displacement has reached so high a pitch of satisfactoriness and reliability, no other treatment needs to be considered in the vast majority of cases. The exceptions to the rule are: First, cases of retroversion or prolapse discovered so soon after labour that further involution of the stretched supporting apparatus may be hoped for, if the strain on the parts be temporarily removed or lessened by the wearing of a pessary; a pessary worn this way, as a splint, pending nature's reparative processes, is without objection, but it is objectionable when employed as a permanent orthopaedic apparatus. Secondly, there are those cases of prolapse in aged persons whose physical condition is too feeble for an operation. Age by itself is no contraindication; I have operated several times on women over 80 years of age, with prolapse quite incapacitating them, when pessaries could not be worn.

From a consideration of the mechanism and varieties of genital displacement that I have put before you, one fact is immediately apparent—namely, that no one operation will suffice to cure the many varieties of deformity which come under this head. As in orthopaedic surgery in general, so in that part of it which is concerned with displacements of the genital canal—in particular, the operations may be divided into two categories: those which have as their object the repair of the faulty supporting

apparatus, and those which discard it in favour of making a substitute. Thus perineorrhaphy with suture of the levatores and the fascia superficialis to them is a repair operation, because it directly mends the parts at fault; whilst ventrofixation is a substitution operation, because it discards the natural supports of the vaginal vault and replaces them with a new ligament made out of the uterus. Both repair operations and substitution operations are legitimate, and both have their own sphere of propriety and usefulness, and it is the task of the surgeon to decide which amongst them is the most applicable to the deformity present in the individual case. In the abstract repair is superior to substitution, but in practice we often have to deal, not with normal tissue, but with tissues that have permanently lost much of their original strength and resiliency, and in such cases repair may be impossible altogether, and compel absolute substitution—or, being possible, be insufficient without a degree of substitution.

#### Retroversion.

When operating for retroversion of the uterus we have to distinguish between the three classes of case: in the first of these the fault lies solely with the lax broad ligaments; in the second it centres round the point of insertion of the uterus into the vaginal vault, the extreme upper fibres of the cardinal ligaments being deficient; whilst in the third the defect is a weakness of the whole shelf. The first two varieties are often met with in young unmarried girls, and bear no necessary relation to child-bearing. A congenital defect is often alleged to be the cause in these nulliparous cases, but the term "growth defect" is better, for probably the fibres which should hold the cervix in its normal position fail to keep pace with the enlargement of the uterus that occurs after puberty. The third variety is, I think, always the result of child-bearing, and in these cases the vagina is retroverted as well as the uterus. For the first variety the sling operation is eminently suitable, but for the second it is not ideal, because it does not raise the uterus sufficiently, and the operation of shortening the round ligaments by retroperitoneal plication is to be preferred. In the third variety both of these operations are insufficient because they do not lift the retroverted pelvic shelf, so that though the uterus is brought forwards the entire deformity is not corrected, and later on the patient is liable to return on account of retroversion or prolapse of the anterior vaginal wall. For such cases an operation which pulls up the uterus much higher and much more strongly is needed. Ventrofixation effects this object, and to a lesser extent so does the modification of round ligament shortening that I have employed for some years, which in effect secures strong ventrosuspension from each cornu. Which of the two should be chosen in any particular case has to be decided by consideration of the exact degree of the deformity, the character of the patient's physique in general, and the texture of the pelvic tissues in particular.

#### Prolapse.

In the treatment of prolapse a number of operations are at our service, all of which have their spheres of applicability and inapplicability. In deciding which of them is suitable to the individual case, the surgeon has to make up his mind: (a) which part of the vagina prolapses, and therefore which part of the supporting apparatus is at fault; (b) whether there is redundancy of the tissues or not; (c) the position of the uterus and pelvic shelf.

In regard to the site of the bulge in vault prolapse and its underlying cause it is the upper fibres of the cardinal ligaments that are relaxed, and these, to an extent, can be tightened from the vagina by exposing them through the lateral fornices after having amputated the vaginal cervix and suturing them together, either in front or behind the cervical stump. The alternative is to discard them altogether and make a new vault ligament out of the uterus by ventrofixing it.

In cystocele it is the pubo-cervical musculo-fascia which is lax and needs repairing, and this can be accomplished

by anterior colporrhaphy, providing that the musculo-fascia is tautened by suture as well as the vaginal wall. When vault prolapse and cystocele are both present Pothorgill's operation is suitable, for it tautens both the pubo-cervical fascia and the upper fibres of the cardinal ligaments. An alternative is to combine anterior colporrhaphy with ventrofixation. Which of the two is the better depends on the individual case, but both, when properly applied, give happy results. Another alternative is the interposition operation, which effects some tautening of the fibres of the cardinal ligaments and markedly strengthens the middle section of the pelvic shelf. When the whole shelf has retroverted ventrofixation is indicated, for it cannot be lifted except from above. Laxity of the pelvic floor is perfectly corrected by perineorrhaphy properly performed—that is to say, with suture both of the levatores and the fascia superficial to them. I emphasize this because the latter are sometimes missed.

For rectocele posterior colpoperineorrhaphy meets the case, but in that rare form of prolapse which is a true hernia of Douglas's pouch colporrhaphy by itself is rarely efficient, because the upper part of the posterior vaginal wall is defective, so that the vaginal operation had better be supplemented by obliterating Douglas's pouch from above by suturing the rectum to the back of the uterus.

The question of redundancy of tissue is important because, if it exists, the reparative operation must include the reducing of it by amputation of the cervix or excising large areas of vaginal wall. On the other hand, it is quite common to meet with cases of prolapse in elderly women in which there is not only no redundancy of the cervix and vagina, but actually a diminution of tissue, and in such, if the surgeon unthinkingly excises more, he will have difficulty in bringing together the cut edges of the frail vaginal wall—a most disconcerting experience. Since the ease with which the vagina can turn inside out depends in part on the relation between the thickness of its wall and the size of its lumen, any variety of prolapse can be prevented by sufficiently narrowing the canal. This is the effect of Le Fort's operation, which leaves the patient with a double vagina, each half of which is so narrow that in-falling of its wall is impossible. Great narrowing of the canal is, however, only allowable when the patient no longer has relations with her husband on account of age.

The position of the uterus is important, because if it is retroverted the reparative operation must include the rectification of that part of the displacement, for if it be left backwards the abnormality of the axis of direction of the intra-abdominal pressure remains as before, and menaces a further displacement. The size, or rather length, of the uterus should always be measured with a sound if one wishes to escape the error of opening the abdomen to ventrofix a uterus which is too small to be brought up to the abdominal wall—a state of affairs quite common in aged fat women. Finally, the position of the pelvic shelf must be ascertained by noting the direction of the axis of the vagina, and if it is retroverted steps must be taken to bring it up.

#### Conclusion.

The exact methods by which these various aims can be achieved I do not intend to discuss, because the object of this introductory paper is to summarize the basic facts of genital displacement, a full appreciation of which is a necessity if the operations for its relief are to constitute a science as well as an art. A surgeon who proclaims that the operation he employs for prolapse is Jones's or Smith's or Robinson's also proclaims himself as belonging to that considerable section of mankind who prefer to get someone else to think for them. Fancy a tailor who advertised that he corrected the bad fit of a pair of trousers by Jones's method! Gentlemen, in the matter in hand we are all tailors, and our aim should be not to carry out any particular preconceived set operation, but, in the words of Gilbert's immortal Lord High Executioner, "to make the punishment fit the crime" by employing just those dissections, excisions, readjustments, and suturings which will, if possible, leave the parts concerned "as good as new."

## A Clinical Lecture ON GASTRO-JEJUNAL ULCER.\*

BY  
R. P. ROWLANDS, M.S., F.R.C.S.,  
SURGEON TO OUR'S HOSPITAL.

I AGREE with Balfour<sup>1</sup> that "recurrence of ulceration may follow any operation for peptic ulcer, including partial gastrectomy." Gastro-jejunal ulcer, of which two grave examples are recorded below, is the commonest secondary ulcer and the most serious complication of gastro-jejunosomy. It may appear at any time from a few days to twenty or more years after the primary operation. It is generally taught that a new ulcer appears sooner or later at, or near, the stoma after about 2 per cent. of gastro-jejunosomies performed for non-malignant disease. Balfour found the percentage to be 1.6 after 8,600 gastro-enterostomies at the Mayo Clinic; but many patients suffer from this complication who do not seek another operation, but do everything possible to avoid one, and I have reasons for thinking that it is far commoner than is generally believed. After seeing and treating many of these difficult cases, I have come to the conclusion that gastro-jejunosomy should never be performed either without grave consideration beforehand or without the greatest care to make the anastomosis a perfect one.

#### CASE I.—Recurrent Gastro-jejunal Ulcer: Gastro-colic Fistula: Operations: Recovery.

In 1915 I performed posterior gastro-jejunosomy for this patient (a man) at Guy's Hospital for duodenal ulcer with stenosis. In March, 1921, I excised a small anterior gastro-jejunal ulcer which had nearly pierced the colon, and at the same time I enlarged the stoma, which had contracted. He remained well until July, 1927, when he suddenly developed a gastro-colic fistula with faecal vomiting. Some of a barium enema obviously passed into the stomach, but none of another barium enema, given a few days later. However, the diarrhoea and the other symptoms continued, therefore the diagnosis of gastro-colic fistula was made with confidence, and an operation was advised. X-ray examination showed that nearly all the food leaving the stomach passed out through the pylorus and duodenum; there was no delay in the stomach.

At the operation I found two gastro-colic fistulae; one of them admitted the index finger, the other one was smaller; both opened from the front wall of the stomach, which was of good size and position. As the duodenum was now patent and apparently healthy I excised the gastro-colic fistulae and the gastro-jejunosomy, together with the engaged loop of jejunum. This proved to be extremely difficult. The gastric wound and the distal cut end of the jejunum were closed, the end of the duodenum being implanted into the jejunum, thus restoring the normal anatomy and physiology as far as possible.

About a month later the patient was readmitted for severe hæmatemesis and melæna. The source of the bleeding was uncertain, but it was later proved to be a posterior duodenal ulcer. Careful medical treatment, with the patient in bed at the hospital, was tried in vain for three months. Duodenal stenosis gradually developed and increased so that visible peristalsis became evident in the epigastrium, and vomiting of large quantities occurred about once every forty-eight hours. Gastric lavage only afforded partial relief.

On December 8th, 1927, another operation was performed. The stomach was very dilated, hypertrophied, and inflamed, owing to a large, deep, posterior duodenal ulcer penetrating into the pancreas and stenosing the duodenum. No other ulcer could be found. A lateral gastro-duodenostomy was performed well below the duodenal ulcer. The patient made a rapid and excellent recovery from the operation, but he is to continue his extremely careful after-treatment for at least six months, and to observe all the known precautions against recurrence.

#### CASE II.—Recurrent Gastro-jejunal Ulcer: Partial Gastrectomy.

This man was referred to me for the first time early in December, 1927, with the following history. In 1908 he was explored for gall-stones; none were found, but instead a duodenal ulcer with localized peritonitis, indicating an old perforation. The appendix was removed about a year later. In 1910, the duodenal ulcer persisting in spite of medical treatment, it became necessary to perform gastro-jejunosomy. The anterior operation was performed, and the patient remained fairly well for nearly four years.

In 1914 another operation became necessary, when a large gastro-jejunal ulcer was found on the front and right side of the stomach. There was also obvious obstruction of the proximal loop of the jejunum. For these conditions entero-anastomosis was performed; this relieved the patient almost completely for nearly eleven years, then symptoms of obstruction of the stomach recurred, and a severe hæmatemesis with melæna developed.

\* Delivered at Guy's Hospital on December 15th, 1927.

Another operation was performed; the gastro-jejunostomy had contracted so much that it was necessary to detach it and make a new anterior one somewhat to the left of the old one. After this operation the patient was never well, and a month later suffered pain, and two swellings developed above and to the left of the umbilicus. These were at first thought to be ventral herniae, but later proved to be abscesses, which subsequently discharged intermittently into the gastro-jejunostomy. In June, 1927, several sinuses were excised, and they were found to lead down to the anastomosis. Two openings, one at each end of the stoma, were closed. There was also an obstruction of a loop of jejunum about a foot below the anastomosis. For this an entero-anastomosis was performed, and gave great relief, but the pain and indigestion persisted, and abscesses recurred above and to the left of the umbilicus. The pain became almost continuous, the patient thin, anaemic, and very miserable, praying for a "kill or cure" in the way of an operation.

On December 8th, 1927, the operation was performed. A large elliptical piece of the abdominal wall, containing several abscesses, was excised, together with a little more than half the stomach, the gastro-jejunostomy, the loop of jejunum engaged in the anastomosis, and a small piece of the transverse colon around a gastro-colic fistula. The operation was extremely difficult owing to numerous adhesions and the complicated anatomical conditions. As the duodenum was hopelessly stenosed and very adherent, partial gastrectomy was the only possible radical operation. The anastomosis was made after the Polya-Balfour method. The patient was so thin, and so much of the abdominal wall had been sacrificed, that it was difficult to close the parietal wound, but by beginning at each end and gradually proceeding towards the centre, and by mobilizing the parietal peritoneum, the closure was at last successfully accomplished, and the wound healed perfectly. Three pints of normal saline were run into the axillae during the operation. The next day the patient became very restless in spite of axillary infusion, and was transfused (three-quarters of a pint); this caused no reaction, but improved the patient's condition to a remarkable extent. He is now making a slow but satisfactory recovery, although an abscess developed three weeks after the operation in the right hypochondrium near a stab wound that had been used for drainage. He is now much better than he has been for several years.

#### PATHOLOGY.

A gastro-jejunal ulcer is one that forms upon the margin of the gastro-jejunostomy and involves both the stomach and the jejunum at the line of union; it may encircle the stoma, and by fibrosis it tends to narrow the opening, which may finally become completely closed, as not infrequently happened after the use of the "Murphy button." Jejunal ulcers are less common; they develop in the jejunum near the anastomosis, usually just below the stoma, or in the first four inches of the efferent limb of the jejunum, very rarely in the afferent limb. The ulcer is generally small, but it may be deep and invade the pancreas, the transverse colon, or a neighbouring coil of small intestine, into any of which it may ultimately perforate. It may also perforate into the peritoneum, causing a grave form of peritonitis, or even into the abdominal wall, causing a parietal abscess or cutaneous fistula. It may ulcerate into a large artery, such as the middle colic, and cause severe, or even fatal, haemorrhage.

#### ETIOLOGY AND PROPHYLAXIS.

The causation and prevention of gastro-jejunal ulcer are very important; certain facts bearing on these may now be considered.

Out of 270 cases at the Mayo Clinic 248 were males and only 22 were females, a ratio of eleven to one, whereas gastro-jejunostomy was performed only three times as often in men as in women. Secondary ulceration is far more likely to follow when the primary peptic ulcer is duodenal rather than gastric. Balfour<sup>2</sup> found that

"of those cases in which gastro-enterostomy was performed at the clinic, gastro-jejunal ulcer followed an operation for duodenal ulcer in 130, and followed operation for gastric ulcer in only nine. While this ratio is 15:1, the ratio between the number of cases in which gastro-enterostomy was performed for duodenal ulcer and those in which it was performed for gastric ulcer is 7:1."

These facts are significant, and tend to show that men's habits and occupations have some relation to secondary ulceration. Men are more prone to excessive smoking and drinking, and have more laborious mental and physical occupations, and generally have less leisure, with less frequent and less regular meals.

Excess of free hydrochloric acid in the stomach and in the bowel at or near the stoma has always been considered an important cause, supported by the absence of secondary ulceration (other than rare septic instances) after gastro-jejunostomy for cancer of the stomach, and the undue frequency after an operation for duodenal ulcer in which

excess of free hydrochloric acid is constant before operation, and usually after it, as shown by A. F. Hurst<sup>3</sup> at New Lodge Clinic; whereas hyperchlorhydria is rarely associated with gastric ulcer. Balfour<sup>4</sup> found that in 40 per cent. of his series of cases of gastro-jejunal ulcer

"the free hydrochloric acid was either increased or very slightly reduced by the gastro-enterostomy; but in 40 per cent. there was a marked reduction, and in 20 per cent. the free hydrochloric acid was reduced to zero. The fact that there was no free hydrochloric acid in one-fifth of the cases of gastro-jejunal ulcer, in which repeated and fractional examinations of the gastric contents were made, disproves the assumption that achlorhydria following the primary operation affords protection against later ulceration."

The hypertonic type of stomach commonly seen in the subjects of duodenal ulcer is particularly subject to recurrent ulceration, but any of the errors of habit or of sepsis which may have contributed to the causation of the original peptic ulcer, unless they are eliminated, may cause the appearance of a secondary ulcer. Notable among these causes are imperfect mastication, irregular meals, septic teeth, tonsils, sinuses, appendix, or gall-bladder. Infection from an open duodenal or gastric ulcer left behind may be grafted upon the stoma.

Anatomical and physiological errors at the stoma are important causes of recurrent ulceration. Among these may be mentioned a wrongly placed stoma, which does not drain the stomach well or obstructs the jejunum by kinking or torsion at or near the stoma; bruising or laceration of the viscera engaged in the anastomosis is to be scrupulously avoided, as also are all unabsorbable sutures. Drugs, especially tobacco and alcohol, have much to answer for in the pathogenesis of gastro-jejunal ulcer.

Errors in the after-treatment undoubtedly contribute towards the formation of gastro-jejunal ulcer. It is important for the patient to be dieted with the greatest care, and allowed only soft and non-irritating food at regular and short intervals, and to have a long restful holiday before he returns to work and worry. The slightest return of symptoms demands rest and a return to medical treatment by dieting and administration of alkalis.

#### DIAGNOSIS.

As already said, I believe that gastro-jejunal ulceration is much commoner than is generally supposed, and that it should be suspected whenever abdominal pain or "indigestion" follows gastro-jejunostomy. The diagnosis is not easy, particularly as radiography rarely gives any direct evidence of this form of peptic ulceration—that is to say, it rarely displays a shadow of the ulcer. I have only once seen such a shadow confirmed by operation. But radiography gives valuable hints—generally delay in emptying through a narrow stoma and uneasy peristalsis in the upper part of the jejunum. The symptoms are more reliable. They are similar to those of duodenal ulcer, especially hunger pain perhaps relieved by food and alkalis, but coming on much earlier than the pain of duodenal ulcer, generally within an hour after food; later it becomes more severe and almost continuous; moreover, it is above and to the left of the navel instead of in the right epigastric angle. Tenderness and perhaps a tumour are noticed in the same situation. Melæna or occult blood in the stools is very significant if the patient is on a meat-free diet. Wasting and anaemia are usually very marked. Gastro-colic fistula when present is clearly indicated by diarrhoea, foul eructations, and faecal vomiting. The early passage per anum of undigested food and the x-ray shadows after a barium enema are generally conclusive.

Occasionally a new or old duodenal ulcer, or especially a gastric ulcer, or a carcinoma supervening thereon, may be mistaken for a gastro-jejunal ulcer. In one case I mistook a gastric ulcer upon the lesser curvature, which developed some fifteen years after a gastro-jejunostomy had been performed for duodenal ulcer with stenosis and had afforded complete relief for many years. Here the pain and tenderness were naturally above and to the left of the navel, as with gastro-jejunal ulcer. The ulcer was successfully excised.

Chronic cholecystitis, pancreatitis, or appendicitis may be mistaken for gastro-jejunal ulcer, but in these conditions there is no occult blood in the faeces on a meat-free diet.

## MEDICAL TREATMENT.

The medical treatment of gastro-jejunal ulceration is far more difficult and less successful than that of any other form of peptic ulceration, but it is always worth trying a thorough course of dieting and alkalis, with complete rest in bed. Every possible source of sepsis must be carefully sought and removed. Sometimes medical treatment meets with success, but, even if it does not, it makes an excellent preparation for the surgical treatment that often affords the only hope of success. Sometimes blood transfusion on one or more occasions is necessary before an operation can be hopelessly undertaken.

## SURGICAL TREATMENT.

## 1. For Perforative Peritonitis.

As a rule the patient is so ill when he comes for treatment that all that can be done is to close the perforation and drain above the pubis. Medical treatment is then well tried, and if that fails a radical operation can be carried out later. Grant Massie<sup>2</sup> studied thirty-six recorded cases in addition to his own. The large majority (75 per cent.) of the perforating ulcers were jejunal, these being less protected than those at the anastomosis. Twenty-two of the thirty-seven patients died, so that the mortality is very high, nearly 60 per cent.

## 2. Radical Operation.\*

This may tax the skill, ingenuity, and resource of the best surgeon, owing to extensive adhesions, the obscure relations of the affected parts, and the poor condition of the patient. It is wise to insist on complete rest in bed and careful medical treatment for at least a week before the operation, which may be a difficult and prolonged one. The ideals are to excise the ulcer, provide free drainage of the stomach, and to restore as far as possible the normal anatomical and physiological conditions. The preliminary radiographic examination may have shown that nearly all the food leaves the stomach through the pylorus, and at the operation the pylorus and duodenum may be found to be patent, any previously existing ulceration having healed without causing obstruction. In these circumstances the gastro-jejunostomy should be abolished, the ulcer excised, and the opening in the jejunum closed without narrowing its channel. This should also be done when the primary operation was improperly performed for gastric symptoms without structural alteration of the stomach or duodenum. Any operation that adds further anatomical or physiological complications is to be avoided. The addition, for instance, of another gastro-jejunostomy in the hope that free drainage of the stomach may induce the ulcer to heal is doomed to failure. It is far better to excise the ulcer, although this may appear more difficult and dangerous, especially when the gastro-jejunostomy is of the posterior type. A long vertical left paramedian incision is made in the epigastrium extending below the umbilicus. The operation should commence with a rapid exploration of the abdomen, and any primary source of infection which may be discovered, such as a diseased appendix or gall-bladder, should be removed. The stomach, the duodenum, and the stoma should be carefully examined for signs of ulceration and obstruction. Dense adhesions may make this preliminary step difficult, and it is easy to overlook a small ulcer, especially on the posterior surface of the stoma.

The stoma is often narrow, and sometimes very small. Occasionally it is normal in size, but the jejunum is kinked or twisted by adhesions, so that the food, which has been shown by the x-rays to leave the stomach in a normal manner, does not pass freely along the jejunum. When the ulcer has been found the adhesions should be separated or divided, and the parts carefully freed, defined, and brought forward into the wound. This important step is often tedious and difficult, especially when the ulcer is posterior and invading the pancreas. Opening the lesser peritoneal sac and division of the posterior parietal peritoneum greatly facilitate the mobilization, but some of the invaded pancreas may have to be removed with the ulcer. A rubber cushion behind the back helps to bring forward the lumbar spine and makes the dissection easier.

Having separated, brought forward, and clamped the parts concerned in the anastomosis the most suitable treatment is more easily determined.

## (a) Simple Excision of the Ulcer.

If the ulcer is small and not encircling the stoma it is often possible to excise it and to sew up the resulting wound in such a way as to enlarge the stoma or jejunal channel. But in some cases the ulceration may recur, as in Case 1, unless all the causes of recurrence can be eliminated.

## (b) Excision of the Ulcer and Abolition of the Stoma.

If the ulcer is large or encircles the stoma, which is often contracted, it is necessary to excise the ulcerated area, thus detaching the jejunum from the stomach, and occasionally to make a new and better stoma, but if the pylorus and duodenum are healthy and patent, as often happens, it is not necessary to remake the gastro-jejunostomy; it is far better to close the openings in the stomach and jejunum, thus re-establishing the normal anatomy and physiology of the parts.

## (c) Abolition of the Stoma plus Gastro-duodenostomy.

If the original gastro-jejunostomy was anterior, it is sometimes possible to perform gastro-duodenostomy, making use of the opening left in the anterior wall of the stomach after the excision of the ulcer. The opening in the jejunum is then closed without narrowing the lumen. The result in one of my cases has remained very satisfactory for ten years. After this operation recurrence of ulceration at the stoma is very unlikely, owing to the free admixture of the alkaline duodenal secretions with the gastric juice. Similarly, when the duodenum is stenosed, after diseasing a posterior gastro-jejunostomy and closing the openings in the stomach and jejunum, a low lateral gastro-duodenostomy is made well away from the scarred or possibly ulcerated part of the duodenum. I have found this method extremely satisfactory. It is easier and better than "Finney's operation" for these cases, and it saves the patient from the more formidable operation of partial gastrectomy.

## (d) Partial Gastrectomy.

In bad cases, especially when the gastro-jejunal ulcer is recurrent and complicated, and when the duodenum is ulcerated, stenosed, or embedded in dense adhesions, it is usually wise to perform partial gastrectomy, which may be no more formidable than a less ambitious operation. It has the considerable merit of reducing the amount of the free and corroding hydrochloric acid. In order to avoid adhesions and other difficulties the stomach is divided to the left of the pylorus and its distal end is closed, a large cylindrical part of the stomach and the gastro-jejunostomy are isolated, clamped, and excised without sacrificing more of the jejunum than is absolutely necessary, so that the opening can be closed transversely without narrowing the lumen. The jejunum is then joined to the end of the cardiac remainder of the stomach after the Polya-Balfour-Moynihan method.

## (e) Closure of Gastro-colic Fistula.

When there is a gastro-colic fistula the colon is clamped, detached, and closed in two layers without narrowing its lumen; it is then covered with omentum and the removal of the gastro-jejunal ulcer is proceeded with. In one of my cases there was an additional fistula between the stomach and the ileum; this can be treated in a similar way.

## RESULTS OF OPERATIVE TREATMENT.

The formidable nature of the radical operations that are necessary for gastro-jejunal ulcer, and the thin, anæmic, and exhausted condition of many of these patients requiring it, would point to the probability of a high mortality, but as a matter of fact in good hands the mortality is not unduly high. At the Mayo Clinic<sup>3</sup> the mortality was only 3.37 per cent. in eighty-nine partial gastrectomies for this condition. The ultimate results are good and more than justify the risk of this radical operation, for "complete relief of symptoms follows the operation in more than 85 per cent. of the cases." From my



own experience I can bear out these hopeful conclusions, and I firmly believe that either restoration of the normal physiology or partial gastrectomy is necessary in most cases; the former approaches the ideal, but the latter is sometimes the only practical radical method available.

## REFERENCES.

<sup>1</sup> *Annals of Surgery*, 1926, lxxxiv, 271-283. <sup>2</sup> *Loc. cit.* <sup>3</sup> *Guy's Hospital Reports*, 1921, lxxi, 319. <sup>4</sup> *Loc. cit.* <sup>5</sup> *Guy's Hospital Reports*, 1924, lxxiv, 70. <sup>6</sup> *Ibid.*, 1922, lxxi, 331; see also *Operations of Surgery*, vol. i, p. 175. <sup>7</sup> *Loc. cit.*

## PROGNOSIS IN PULMONARY TUBERCULOSIS.\*

BY

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EVEN in the same community there are enormous differences in the resisting power of individuals attacked by the tubercle bacillus. At the one extreme are those who overcome the bacillus so easily that its presence in them is never suspected during life; at the other are the victims of "galloping consumption," who are very ill when first seen by the doctor, and grow progressively worse until death supervenes. Between these extremes are the majority of consumptives, whose resisting power can be fostered by appropriate treatment.

## PATIENTS WITH SMALL RESISTING POWER.

The proportion of cases in county Down in which resistance was very small (1913 to 1924) is shown roughly by the percentage of cases in which death occurred within six months of the date on which each patient was first seen by one of the tuberculosis medical officers.

TABLE I.—Percentage Dead within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	35.0	—	25.7	—
Maximum ...	43.2	1923	40.5	1918
Minimum ...	27.0	1913	12.5	1917

If we separate these cases into febrile and afebrile, including among the latter all cases in which the temperature ceased to exceed 99° F. after a week's rest in bed, we get Tables II and III in place of Table I.

TABLE II.—Febrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	49.3	—	43.3	—
Maximum ...	61.5	1922	59.1	1922
Minimum ...	41.2	1914	25.0	1917

TABLE III.—Afebrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	12.8	—	8.1	—
Maximum ...	22.0	1915	37.0	1918
Minimum ...	0	1917	0	1915 1917 1922

Since the percentage of rapidly fatal cases found in different years varies so much, we should be chary about

\* An abridgement of a paper read before the Belfast Division of the British Medical Association.

coming to a conclusion as to the efficacy of any remedy intended to reduce this percentage, until it has been tried in a large number of cases spread over a considerable number of years.

Almost without exception the patients who died within six months were considered too ill either to be sent to a sanatorium or to be treated at a tuberculosis dispensary. Arrangements were therefore made for domiciliary treatment, the patient being instructed to stay in bed as long as the temperature exceeded 99° F. at any time in the day; to have a room to himself; to admit as much fresh air and sunlight as possible into his room; and to take as much plain nourishing food of various kinds as his stomach would allow.

Where satisfactory home conditions were not available the patient was advised to go into the union infirmary. No special treatment, such as artificial pneumothorax, was tried in any of them. As there is no county sanatorium in county Down, and the sanatoriums to which we sent patients were unwilling to take bad cases, this was the best we could do.

## Recent and Non-recent Cases.

In 52 per cent. of our cases (1913 to 1924) the patients had been ill for more than six months before the tuberculosis medical officer was called in, and in 48 per cent. for less. Counting the latter as recent cases, and the former as non-recent, we get the following four tables.

TABLE IV.—Recent Febrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	49.8	—	43.4	—
Maximum ...	63.2	1919	67.2	1922
Minimum ...	32.2	1916	22.2	1917

TABLE V.—Non-recent Febrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	48.6	—	43.0	—
Maximum ...	64.3	1922	68.8	1923
Minimum ...	31.2	1913	12.4	1913

TABLE VI.—Recent Afebrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	8.8	—	5.0	—
Maximum ...	27.4	1920	19.8	1918
Minimum ...	0	1915 1916 1917 1919 1924	0	1915 1917 1919 1922

TABLE VII.—Non-recent Afebrile Cases. Died within Six Months.

	T.B. +		T.B. -	
	Percentage.	Years of Extremes.	Percentage.	Years of Extremes.
Average ...	15.8	—	10.2	—
Maximum ...	53.4	1915	50.0	1918
Minimum ...	0	1917	0	1915 1917 1922 1924

Taking the average figures from Tables IV, V, VI, and VII as a basis, we can now classify the cases in the order of good prognosis as regards immediate danger as follows:

TABLE VIII.—Percentage of Patients who Died within Six Months.

	T.B. —	T.B. +
I. Recent afebrile patients ... ..	5.0	8.8
II. Non-recent afebrile .. .. .	10.2	15.8
III. Non-recent febrile .. .. .	43.0	48.6
IV. Recent febrile .. .. .	43.4	49.8

From this table may be seen the wisdom of Professor Moellgaard and Dr. Faber in asking that sanocrysin be used only in afebrile exudative cases. By exudative cases they mean cases in which there has been proliferation of cells rather than formation of fibrous tissue in the affected parts of the lungs. This is the condition to be expected in recent cases. Hence afebrile exudative cases are very much the same as recent afebrile cases. These are the cases in which the best results are to be expected, whatever form of treatment be used.

#### Extent of Disease as Revealed by Physical Signs.

Up to this point no account has been taken of the extent of the disease in the lungs, as revealed by physical signs. This is an important consideration. At the first examination of each of the patients the case was classified according to the Turbau-Gerhardt rules, the symbols T.G. 1, T.G. 2, and T.G. 3 being employed to indicate the extent and severity of physical signs. The effect of a further subdivision of the cases according to this consideration is shown in Table IX.

TABLE IX.—Percentage of Patients who Died within Six Months; Average of Twelve Years.

	T.G. 1 and 2.		T.G. 3.	
	T.B. —	T.B. +	T.B. —	T.B. +
Afebrile: Recent ... ..	3.2	5.4	8.2	14.5
" Non-recent ... ..	5.3	5.3	13.4	20.0
Febrile: Non-recent ... ..	23.2	26.7	54.0	55.1
" Recent ... ..	33.9	38.0	47.7	54.7

From this table we may calculate the probability that in any particular case of pulmonary tuberculosis death will or will not occur within six months.

#### Pulse Rate.

The pulse rate is a very important item not yet taken into account. I have not been able to work it in numerically. Most febrile cases can be rendered afebrile by rest in bed if the pulse rate be normal, or not much above normal. If the case be febrile, and the pulse rate 120 or more, the outlook is very grave. The pulse rate, however, may be considerably higher in the presence of the doctor than in his absence. This applies particularly to the first visit. The temperature, too, is similarly affected in some cases.

#### PATIENTS WITH MODERATE RESISTING POWER.

Let us now consider the after-history of the patients who survived more than six months after they were first seen by one of the tuberculosis medical officers. The number of these was 1,266, of whom 743 had tubercle bacilli in their sputum and 523 had not. There was a very great difference between these two groups, both as regards restoration of working power and mortality. There was also a distinct difference in these two respects in each of these T.B. + and T.B. — groups, according to the method of treatment.

Three methods of treatment were available: (1) dispensary, where tuberculin was used in all cases, according to what I have called in a previous paper "a rational

method"; (2) sanatorium, where tuberculin was used in very few cases, and then only by a rule-of-thumb method; and (3) domiciliary.

No case was classed as treated at dispensary or sanatorium unless at least three months' treatment had been received at one or the other. Patients who received tuberculin treatment from their own doctors under the direction of the tuberculosis medical officer are classed with those treated at the dispensary. To avoid confusion, cases in which three or more months of dispensary treatment was received as well as three or more months of sanatorium treatment are not included in Table X, which illustrates what has just been said.

TABLE X.—After Ten Years.

Mode of Treatment.	Percentage at Work after Ten Years.		Percentage Dead after Ten Years.	
	T.B. +	T.B. —	T.B. +	T.B. —
Dispensary ... ..	19.2	70.0	72.0	21.0
Sanatorium ... ..	11.8	67.0	88.2	33.0
Domiciliary ... ..	2.4	44.4	94.1	53.3

No attempt was made to select better cases for dispensary treatment than for sanatorium, nor vice versa. Those who were fit for the one were generally fit for the other, and the choice was left with the patients.

The exclusion of the cases in which death occurred within six months of the time when each patient was first examined by a tuberculosis medical officer left the third group not very different, to begin with, from the other two.

It is noteworthy that even among patients who had tubercle bacilli in their sputum, and who did not receive either dispensary or sanatorium treatment, 2.4 per cent. of those who survived the first six months were at work after ten years. If, therefore, we are shown one or more patients who have done well under some form of treatment, and are asked to believe in consequence that this form of treatment is efficacious, we should hesitate to come to a conclusion until we know what proportion of the patients so treated have done well, and how long they have continued well, separating T.B. + from T.B. — cases. Among the latter 44.4 per cent. of those who survived the first six months were at work after ten years without any special treatment.

Table XI illustrates the effect on recovery and maintenance of working power of (1) the presence or absence of tubercle bacilli in the sputum; (2) the extent of the disease in the lungs as revealed by physical signs; and (3) the mode of treatment. In this are included all the cases diagnosed as pulmonary tuberculosis in the thirteen years 1913-25, except (1) a few that could not be traced, (2) cases where death occurred within six months from the time when the patient was first examined by a tuberculosis medical officer, and (3) cases in which both dispensary and sanatorium treatment were received for three or more months each.

The figures in the table represent the percentage in each section who were at work in March, 1927. The average time that had elapsed since the patients were first seen was thus eight years.

TABLE XI.—Patients first seen in years 1913-25. Percentage at Work in March, 1927.

Mode of Treatment.	T.B. —		T.B. +	
	T.G. 1 and 2.	T.G. 3.	T.G. 1 and 2.	T.G. 3.
Dispensary ... ..	82.6	68.9	37.1	9.6
Sanatorium ... ..	50.0	41.7	15.5	6.6
Domiciliary ... ..	55.0	40.1	11.3	4.4

These figures, as well as those in Table X, confirm me in the opinion that tuberculin, when rightly used, is of distinct service in the treatment of pulmonary tuberculosis.

CHRONIC HEADACHE AND PAIN IN THE EYES  
RELIEVED BY A NASAL OPERATION.

BY

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ALTHOUGH there is nothing new in the relief of pain by a nasal operation, the three following cases are reported because the indications for the operation were so indefinite, and the diagnosis so obscure, that the three patients had sought medical relief, many times, in vain.

## CASE I.

An unmarried woman, a teacher, aged 32, had suffered from frontal headache for ten years, and from pain behind the left eye and along the nose to the tip for one year. In addition, she had often been off work for general debility. On several occasions a "tired heart" had been diagnosed, and she was particularly troubled by the alteration in her mental condition. She sometimes, for example, felt unable to reply to a tradesman calling at the door, could not concentrate, or had a "sense of fear." She left town for the country, and finally for New Zealand, on account of the "troublesome pressure" in her head, and had returned on holiday when I saw her. There was nothing in the eyes to account for the pain. Glasses had failed on three occasions to relieve her, and there was no muscular imbalance. There were, however, two clues—the patient's past history and the fields of vision.

1. *The Past History.*—She had had post-nasal catarrh, certainly since the age of 14, and probably four years earlier, when she had measles. As a child she always had colds in the head, had suffered from frontal headaches and "muddled head," and was seldom clear-headed. At 19 she was using fifty handkerchiefs a week. At 22 part of the left middle turbinate was removed, and this reduced the catarrh, so that she afterwards only soaked two handkerchiefs before breakfast, the discharge coming mostly from the left side of the nose. But the operation was followed by the frontal headache, from which she continued to suffer for ten years.

2. *The Fields.*—Both blind spots were slightly enlarged, and the left had a large relative extension outwards. The fields were contracted, especially the left.

These two clues led to a diagnosis of sinusitis as the cause of the pain in the head and eyes, the post-nasal catarrh, and the field changes. To confirm this diagnosis the sinuses were x-rayed, but with a negative result. An aural examination showed left ethmoiditis, but operation was not advised. Local treatment was ordered and followed for some weeks, but, as the pain continued, the patient pressed for further advice, and a second aural surgeon found septal tonsils and a high septal deviation to the right. There was no pus. A second x-ray examination was also negative, though the aural surgeon thought there was a slight dullness of the left ethmoid.

The tonsils were enucleated and a partial submucous resection was performed. Before leaving the nursing home the patient wrote: "That miserable pressure has been entirely removed, and my head is as clear as day and my eyes are splendid." A month later she was still free from pain; she said that her mental condition had been entirely normal since the operation, and that the catarrh had practically ceased. Her blind spots were normal, the relative scotoma about the left blind spot had disappeared, and the fields were almost full. Eleven months later she wrote from New Zealand that she was "much better in every way and improving all the time."

## CASE II.

An unmarried woman, a nurse, aged 52, had suffered for eleven years from left frontal headache, with vomiting, and from pain at the back of the left eye for four years. During the last two years the left eye had ached almost incessantly. In addition, she was constantly tired, and felt her mental powers so diminished that she finally decided to give up her post.

There was nothing in the eyes to explain the pain. Glasses had failed several times to relieve her, and there was no muscular imbalance. The clues were extremely few and vague. No symptoms at all of nasal disease could be elicited.

1. *The Past History.*—At the age of 13 there had been a seven months' illness, commencing with measles and pneumonia and ending with "typhoid," in which the eyes and nose had been "very bad." Since then her life had been a long succession of septic infections—continual dental abscesses from the age of 14 to 26, carbuncles at 27, colitis, and a "murmur removed from the left breast at 39, central choroido-retinitis first removed at 45, carbuncles again at 50. This history suggested the possibility of sinusitis, commencing at 13 and continuing as a septic focus, giving no evidence of its existence except in the secondary infections which arose from it.

2. *The Fields.*—Both fields were contracted bitemporally. The left blind spot was enlarged, with considerable relative extension. The right blind spot was normal, with slight relative extension.

On these grounds a tentative diagnosis of sinusitis was made. A first aural and x-ray examination proved negative. Later on, a second x-ray examination was also negative, but Mr. Gill-Carey, who kindly examined her for me, found high septal deviation to the left and tenderness of the floor of the left frontal sinus. There was no evidence of pus, and an operation was not advised.

On x-ray evidence all the teeth were then extracted, and two months' rest taken afterwards in the country. At the end of this time the pain was worse, and the aural surgeon agreed that operation was advisable. A portion of the anterior end of the middle turbinate was removed. Nine days later the pain had entirely gone from the left eye and she was practically free from headache. Two months later there had been two headaches, but no eye pain, and the head had been "marvellously better." Vision was misty at times, and this, with the incomplete freedom from headaches, led Mr. Gill-Carey to suggest the removal of a further piece of turbinate. This was done, and at the same time, in view of the long septic history, the tonsils were enucleated. Two months later there had been only one headache, after a cold. The fields had widened to some extent, especially the right.

Obviously the cause of the headache had been reached, though the result seemed less complete than in the other two cases, in which a resection of the septum was performed.

The sinuses in this case were punctured, washed out, and the washings cultured. The right sphenoid was sterile, but from both ethmoids were recovered *Streptococcus longus* and *Staphylococcus albus*, and the left sphenoid gave a growth of *Staphylococcus albus*. Culture from the tonsils produced a bacillus of the Friedländer type and *Streptococcus longus*.

## CASE III.

An unmarried woman, a nurse, aged 44, had suffered from vertical headache and aching of the eyes for three years. The headache had begun quite suddenly, without apparent cause. She had consulted two other oculists, each on two occasions, without relief. In addition, she was "frightfully tired," "hopelessly depressed," and could not rely on her mental powers—for example, when playing bridge there would be intervals when her mind was a blank, so that she could not continue the game.

There was no cause in the eyes for the pain. Glasses had failed many times to relieve her, and there was no muscular imbalance. Again there were two clues—one in the past history and the other in the fields of vision.

1. *The Past History.*—(a) She had suffered from post-nasal catarrh all her life. In infancy there had been two severe illnesses, of which no details were available. Possibly the catarrh originated in one of these. (b) Eleven years previously she had had a septic throat, for which she had been off duty for six weeks. Before this she had considered herself a healthy woman, after this she was never really well, and at the age of 41, eight years after the throat infection, her health was so impaired that she was obliged to give up work.

2. *The Fields.*—Both were markedly contracted for small objects, and the right blind spot was decidedly enlarged.

These clues led to the following interpretation of the case. In infancy some illness had started a sinusitis, of which at first the only evidence was post-nasal catarrh, although the rheumatism and bad teeth, from which she had suffered from her earliest recollections, were probably secondary infections from the focus in the sinus. The general health was not further affected, because drainage was free. At the age of 33 the septic throat caused an exacerbation of the sinusitis and increased the block to drainage, so that septic absorption increased, with consequent ill health. At 41 a further inflammatory increase of the block to drainage closed the sinuses still more, leading to tension within them, and thus to headache and pain round the eyes.

Radiological examination proved negative, but a high septal deviation to the right was found, with compensatory left middle turbinate enlargement, and chronic inflammatory changes in the left nasopharynx. There was no evidence of pus. Mr. Gill-Carey resected the septum on December 1st, 1927. Some nasal discharge receded, but by December 26th this had ceased. There has been: no pain in the head or eyes now for three months. The fields taken on January 24th, 1928, show a practically full field, even for small objects (1/2000 white). The right blind spot (20/2000) is about the same, but the increase for a 1/2000 white object is only slight.

The patient's mental condition is normal. She can play bridge with zest, is only occasionally depressed, and is able to take a keen interest in life generally.

## Comment.

The following comments mainly refer to rhinological matters, but in the study of these cases on the border-line between two specialties it has been necessary often to step over the border. However, Mr. Gill-Carey has discussed and agrees with the conclusions reached.

*Diagnosis.*—In cases such as these, which are by no means uncommon, the indications of the actual lesion are often extremely indefinite. The best clue is generally to be found in the past history. The fields may be of increasing help when further experience has been gained in this type of case. Culture of sinus washings may also give considerable assistance with further experience of this method. Radiological examination is sometimes of value, but a negative x-ray report does not exclude sinusitis. The absence of pus in the nose (as in all three cases), and even the entire absence of nasal symptoms (as in one case), must not exclude a diagnosis of sinusitis.

*Etiology.*—In the three cases the sinusitis probably started in early childhood with some illness—for example, measles—and had continued more or less latent, causing profound debility and various septic conditions, which

increased as life went on, during 22, 39, and 42 years, inducing a stage of acute misery.

All the patients had a high septal deviation, which was probably the reason why the sinusitis originally failed to resolve.

**Cure.**—The removal of a piece of bone from the nose, followed in a few days by complete relief of symptoms, is a dramatic ending to these long-drawn-out histories of pain and disease, accompanied by so much disability and acute mental anxiety. The possibility of so simple a cure makes it very desirable to devise means whereby an earlier diagnosis may prevent rather than cure such misery.

**Prevention.**—Childhood's diseases—for example, measles, scarlet fever, diphtheria, and whooping-cough—in which there is commonly acute nasal inflammation, are apt to leave behind them a chronic infection of the sinuses, of which there may be local evidence in "constant colds" and post-nasal catarrh, or the child may show only a general debility, with few or no symptoms of nasal infection. There may, however, be evidence of septal absorption or retention—for example, constant sties, spots on the skin, headaches, rheumatism, and bad teeth; this latent sinusitis may continue to be pathological throughout the rest of life. The main method of prevention, therefore, will be the adequate treatment of these childish diseases and their after-effects.

Since it is probable that, had there been no septal deviation, the sinusitis would have healed in the ordinary course, the persistence of symptoms of sinusitis in a child, in spite of the removal of soft tissues—for example, tonsils and adenoids—suggests a bony obstruction to drainage, the removal of which, unless contraindicated, would save much present and future suffering.

Post-nasal catarrh, even when it has continued so long that the patient has become resigned to it and considers it of no significance, remains nevertheless a constant potential danger.

These cases are not primarily ophthalmic, yet patients and their doctors naturally seek first the help of ophthalmic surgeons, as all of these did, and must rely on them to distinguish these cases from those due to refractive or muscular error.

With such indefinite radiological and clinical signs the rhinologist hesitates to operate, and looks to the ophthalmologist to strengthen his hands. It may be that, with further experience, the fields will enable us, in certain cases, to give a decided opinion.

## AN UNUSUAL CASE OF FOOD POISONING.

BY

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THE causation of attacks of food poisoning has for many years been a thing of mystery to the average practitioner, and even for the expert there are many points in the epidemiology and bacteriology of the condition which are still far from clear.

The proof that the infective organism in the case here recorded was *B. aertrycke* was entirely due to the pathological findings, for the clinical aspect was distinctly equivocal. In view of this and the sporadic nature of the case, we felt justified in recording it. The history of the illness is as follows:

A married woman, aged 24, was first seen on September 19th, 1927, and gave a history of having had a rise of temperature ( $99^{\circ}$  to  $101^{\circ}$  F.) at night for the previous three nights, with a subnormal temperature each morning. She had been going out each day, but complained of epigastric pain and occasional vomiting. There was a history of a fall on the back of the head four days previously, but without loss of consciousness or immediate subsequent vomiting.

When first seen her chief complaint was of severe occipital headache and of "rheumatic" pains in various parts of the body, especially in the back of the neck on the left side. There was creaking in the left temporo-mandibular joint and she

complained of fleeting pains in the hips on movement. There was no diarrhoea and the bowels were acting normally; the appearance of the motions was normal. There was marked hyperaesthesia over the epigastrium, and also, to a less extent, over each renal region. Even the slightest pressure over the epigastrium caused a feeling of nausea; the tongue was clean.

She was given salicylates and aspirin without marked improvement, the temperature still rising at night ( $101^{\circ}$  to  $102^{\circ}$  F.) and being subnormal in the morning. The possibility of pyelitis was considered, but the urine was acid, contained no albumin, and microscopic examination showed nothing abnormal.

On September 22nd she complained of nausea and occasional vomiting, which latter rapidly became more persistent and uncontrollable, with increasing epigastric pain, especially after swallowing. There was marked tenderness on palpation over the spleen, but at this stage the spleen itself could not be felt.

On September 28th she was seen in consultation with Dr. T. L. Hardy of Birmingham, and the case was regarded as clinically suggesting paratyphoid fever. The long axis of splenic dullness was slightly increased and the spleen was just palpable. The white blood corpuscles were 5,800 in number, and a differential count showed polymorphs 29.5 per cent., lymphocytes 59.5 per cent., mononuclears 10 per cent., eosinophils 1 per cent. A serological investigation at the county laboratory on this date revealed the presence of 1 in 25 agglutinability to *B. aertrycke* Mutton, and complete absence of agglutinins to *B. typhosus*, to *B. paratyphosus* A, B, and C, to *B. enteritidis* Gaertner, *B. aertrycke* Newport, and to the dysentery group.

On September 29th, as a result of the blood examination, the patient was closely questioned as to any article of food she had had which might have caused food poisoning, although previously no suspicion of this had been entertained. The fact was elicited that four days before the onset of the illness she had partaken of some pork pie, and that three other members of the household who had also partaken had suffered from slight malaise, nausea, and vomiting from one to three days after this meal.

The patient's vomiting gradually became less distressing and was eventually controlled by minute doses of tincture of iodine and by glucose by the mouth. Two days later she developed a follicular tonsillitis, but this quickly cleared up with ordinary remedies.

A further sample of blood was taken on October 3rd and gave a similar result to the previous one; a blood culture proved negative. By this time an organism had been isolated from the faeces which gave the cultural reactions of a member of the Salmonella group. It displayed marked flocculation in a dilution of 1 in 25 with *aertrycke* serum (Mutton type) in less than two hours' incubation in the water bath at  $56^{\circ}$  C., but showed no agglutination with paratyphoid serum after four hours' incubation and standing all night at room temperature. The specific serums for Gaertner's bacillus and for *B. aertrycke* (Newport type) failed to cause any agglutination. When tested against the patient's serum marked flocculation was produced in a dilution of 1 in 25, and granulation was evident in 1 in 50. Highly specific standardized cultures and serums were used throughout, and the diagnosis was fortunately simplified by the absence of confusing conglutinins, both in the investigations on the patient's serum and in those necessary to establish the identity of the micro-organism.

The interesting and unusual points of this case appear to be: (1) A food poisoning which spent itself upon the upper intestinal tract without giving rise to any diarrhoea or signs of enteritis. (2) The slightly enlarged spleen, which, together with the pyrexia and the blood picture, gave rise to a suspicion of paratyphoid infection. (3) The nocturnal rise of temperature—on one occasion it was as high as  $103^{\circ}$  F.—which is a very unusual feature of food poisoning cases.

So far as could be ascertained there are a few cases on record which bear much resemblance to the case described. In the majority of recorded cases the onset has been acute, with diarrhoea and vomiting, and has therefore at once led to the suspicion of food poisoning. A search of the literature, however, brings several interesting points to light.

Drs. Perry and Tidy's report on an epidemic caused by the Newport strain of *B. aertrycke* occurring in a depot in France. These authors describe two clinical types: Type A, characterized by high temperature, general malaise, various pains, but no diarrhoea; Type B, characterized by diarrhoea and vomiting and a normal or slightly subnormal temperature.

It is interesting to note that in Type A the stools from nearly a hundred cases were examined, but in one case only was a bacillus found resembling *B. aertrycke*. The authors therefore concluded that this group was not connected with an infection due to *B. aertrycke*, and was, in fact, an entirely separate epidemic. Nevertheless, it is tempting to suggest that the case above described might quite easily have been classed in Type A, but in no circumstances could it have been classed in Type B.

In Type B the onset was sudden, with abdominal pain

and diarrhoea. Vomiting was common, and chills, sweats, and headaches frequent. In most cases the initial symptoms were the severest, and the patient rapidly improved. The duration of the diarrhoea varied from a few hours in the milder cases to four to seven days in the severest ones. Headache was rare after the first day. In the majority of this group vomiting occurred at the outset, and continuation of the vomiting was the most serious symptom encountered. Pyrexia was unusual, even in the severest cases, and the temperature was often subnormal. There was no splenic enlargement or rash.

These authors conclude, therefore, that the disease varies from an acute gastro-enteritis to a mild diarrhoea. The onset is sudden and pyrexia is exceptional. The course has no resemblance to enteric fever, and the character of the stools is unlike dysentery. They also consider that the infection in this epidemic was by carriers, either acute or chronic.

Dr. Pleasance<sup>2</sup> describes a sporadic case of *B. acertrycke* infection occurring in a boy aged 3. The onset was very acute, with severe diarrhoea and vomiting; death occurred on the seventh day. *Post mortem* a large splenic abscess was found. Subsequently a Gram-negative, actively motile bacillus was isolated in pure culture from the gall-bladder and splenic pulp, but when first isolated the organism was not agglutinated by the specific serums for *B. paratyphosus* B or *B. acertrycke*. Repeated subcultures were made, and twelve months after isolation the organisms agglutinated with *B. paratyphosus* B and *B. acertrycke* antiserums. Absorption tests were then performed and the organism identified as *B. acertrycke*. This illustrates the fact that *B. acertrycke* can at times assume invasive powers, and it is possible that in the case here recorded this occurred to some extent, since from the signs and symptoms it is evident that the organism was not confined to the alimentary tract.

An epidemic is described by Dr. Burgess<sup>3</sup> comprising 703 known cases. The incubation period was two and a half to twenty-four hours, and the onset was very sudden, with pain, vomiting, and diarrhoea. There were also pyrexia, headaches, chills, and sweats. The diarrhoea was very severe. The acute stage is stated to have lasted two to ten days, but the average was four to five days, and convalescence was rapid. The outbreak was traced to cream used in the manufacture of cream cakes, and the organism isolated was *B. acertrycke*.

It will therefore be seen that, with the exception of Perry and Tidy's Type A, all the cases described by these authors had an acute onset with diarrhoea and vomiting, and as a rule pyrexia was not a marked feature of the condition.

Dr. Savage and Mr. Bruce White<sup>4</sup> consider that *Salmonella* food poisoning is due, in the majority of instances, to *B. acertrycke*, and they assert that, in this country at least, this organism is responsible for three-quarters of the outbreaks. These authorities point out that they have failed to find any evidence of the ability of *B. paratyphosus* B to produce an ordinary attack of food poisoning, though they admit that paratyphoid fever may at times have a sudden onset which may temporarily simulate it. The converse is, however, illustrated by this case, in which at the onset the irritation symptoms so characteristic of *B. acertrycke* infection were so slight as to lead for a short time to a tentative diagnosis of paratyphoid fever.

Not infrequently the serums of patients suffering from *B. acertrycke* infection show coagglutinins for *B. paratyphosus* B. If such serums are sent for diagnosis for typhoid or paratyphoid fever, and if the investigations are restricted to the diagnosis of these infections, it may happen that such coagglutination may lead to a wrong diagnosis of paratyphoid fever; or if, as in the present case, coagglutinins are absent, a negative result for the typhoid-paratyphoid group is worthless. We therefore strongly urge that when sending blood samples to a laboratory for examination when typhoid or paratyphoid fever is suspected, and more especially when the clinical signs and symptoms are not typical, a full investigation as regards the *Salmonella* group and the associated organisms should be required; when multiple agglutinins occur their relative

importance must be established by absorption tests. We have reason to suggest that, should such comprehensive agglutination tests be more generally adopted, sporadic cases of *B. acertrycke* infection will be found to be more frequent.

We should like also to emphasize the importance of the bacteriological examination of the faeces in every case, as the isolation of the organism definitely clinches the diagnosis. This, however, takes some time and, provided that proper cultures and technique are utilized, examination of the patient's serum in the first instance is a valuable aid to rapid diagnosis; it may help in tracing the source of the infection, which may not be available by the time the organism has been recovered and proved.

To a few workers these statements may appear commonplace, but we know from our own experience and that of others that in routine work, both clinical and bacteriological, the *Salmonella* food-poisoning organisms are seldom considered, except when a typical and serious outbreak forces them on our attention.

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## A COMPARISON OF THE WASSERMANN, KAHN, AND SIGMA TESTS.

BY

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For this purpose 2,019 serums were taken and submitted to all three tests. The greater number were from cases of treated syphilis. The remainder included cases in which the diagnosis was clinically doubtful and cases in which the first test carried out gave a doubtful result or one contrary to the clinical findings.

## Technique.

The Wassermann test was No. 1 method, as described in the Medical Research Council, Special Report Series No. 14. Results were recorded as ++; +; ±; -; and negative. For diagnostic purposes + was considered positive and ± doubtful (in treated cases ± = positive).

The Kahn test was carried out as laid down by the author,<sup>1</sup> but after the first few tests the first tube of each was omitted and only two tubes used—that is, those containing 6 and 12 parts of serum respectively to 1 of antigen. Results were read by artificial light with a ×6 hand lens, and were recorded as positive (P), negative (N), or doubtful (D), one letter being employed for each tube.

Positivo is indicated by P P, but a D P result was considered positive in cases under treatment. D D = doubtful and N N or N D = negative.

The Sigma test was carried out as described in the Medical Research Council, Special Report Series No. 78; only five tubes were used, and the reading was taken at from twenty to twenty-two hours. A reading of 1.5 units and upwards was taken as positive, 1 to 1.5 as doubtful (positive in treated cases), and below 1 as negative.

Of the 2,019 serums examined 1,401 showed absolute, and 403 relative, agreement with all three tests, which is almost 90 per cent. Of the 215 serums which showed disagreement 205 were from cases of syphilis, either treated or untreated. Of these 205:

The Kahn test appeared to be most correct in	72
Wassermann	32
"	5
" Sigma	57
" Kahn and Sigma	31
" Kahn and Wassermann	8
" Sigma and Wassermann	

Thus it would appear that the Kahn was most correct 160 times, the Wassermann reaction 71 times, and the Sigma test 70 times.

Of the remaining 10 there were 6 apparently false Kahn tests. In 2 there was agreement with the Wassermann



reaction, in 1 agreement with the Sigma, in 1 partial agreement with the Sigma, and in 2 partial agreement with the Wassermann reaction. False positives may therefore be reduced to 3 (in 2 of which the readings were N P, P, and D P P respectively). There were 6 apparently false positive Wassermann reactions. In 2 the Kahn agreed; in 2 the Kahn partially agreed; in 1 the Sigma partially agreed, and one case was probably syphilis. There were thus 3 "false positives," which gave the following readings:  $\pm$  (test repeated with the same result),  $+$  (test repeated with the same result), and  $+$ . There was 1 apparently false positive Sigma test with which the Kahn agreed.

#### Conclusions.

From the above it would appear that whilst there was a high percentage of agreement between the three tests the results were slightly, but definitely, in favour of the Kahn. It is not suggested that this test could or should replace the Wassermann, but it is a very useful additional test, especially in cases where the diagnosis is in doubt

or where the Wassermann reaction gives a  $\pm$  result. The Kahn test appears to give a definitely greater proportion of positives in cases of treated syphilis; in other words, it remains positive longer than the Wassermann during treatment. It is probable that had the Sigma tests been carried to the full incubation period of forty to forty-four hours a greater number of positives would have been obtained, but this was not done on account of the extra time involved and consequent delay.

The chief advantage of the Kahn test is its simplicity. It does not require as many ingredients as the Wassermann nor the complicated titrations; it is much more rapidly carried out than the Sigma with its somewhat elaborate apparatus. A reliable result of a Kahn test can be given within an hour of receiving the serum.

I have to thank Colonel L. W. Harrison, D.S.O., F.R.C.P.Ed., Director of the Veneral Department, St. Thomas's Hospital, for permission to publish these figures.

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## A COMPARISON OF THE EFFICIENCY OF SOME METHODS OF OXYGEN ADMINISTRATION.

BY

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ANOXAEMIA has been classified by Barcroft<sup>1</sup> as follows: (1) Anoxic, when the blood has failed to pick up its proper load of oxygen in the lungs, so that its oxygen pressure is too low; (2) anemic, when the blood has picked up all it can carry, so that its oxygen pressure is normal, but owing to deficiency of haemoglobin its load is not sufficiently great; (3) stagnant, when the oxygen in the arterial blood is normal, but the flow through the capillaries is too slow.

It is in the anoxic type that oxygen administration is especially indicated, as occurs, for example, in lobar pneumonia.

#### Methods.

Accounts of the different methods which are in use have been given by numerous authors.<sup>2,3</sup> The methods studied in this paper are (a) the tube and funnel held closely over the mouth and nose, and

(b) at a measured distance; (c) a nasal catheter inserted in one nostril, with its end in the nasopharynx; (d) the Haldane mask; (e) a new mask over the mouth only.

The basis of comparison chosen is the pressure of oxygen in the alveolar air of a normal subject breathing at known rate and depth. Only respiratory methods of administration are mentioned here, because intravascular ways are considered dangerous and subcutaneous injections useless in view of the small amount that can be absorbed in comparison with the bodily needs.<sup>10</sup>

#### Findings.

Chart 1 shows that up to 4 litres a minute, given by a funnel held 10 cm. from the mouth, has no effect on the alveolar oxygen pressure. If, however, the funnel is pressed closely over the nose and under the chin the effect obtained is about the same as with a nasal catheter at the same rate of flow of oxygen. For example, oxygen given at 1½ litres a minute will raise the alveolar oxygen pressure half as much again as when breathing air, whereas 3 litres will double it.

Chart 2, which is on a smaller scale, shows in addition

the alveolar oxygen when the Haldane mask is used. The figures here shown for the catheter and mask do not differ materially from those already published.<sup>6</sup> Mention will be made later of the results obtained with the mouth-mask.

#### Comment.

It is incontestable that the face-mask method is a very efficient means of raising the alveolar oxygen; but every physician knows the clinical objections to the prolonged use of a mask which covers the mouth and nose. The reasons for a patient's intolerance may be physiological, such as slight obstruction to breathing, or an increase of the dead space with consequent rebreathing of a fraction of the expired air; it would seem that the reasons are also psycho-

logical, for even a normal person without dyspnoea feels hot and uncomfortable after wearing a mask for a few minutes. The nasal catheter is therefore used as a compromise. Against its manifest inferiority in raising the alveolar oxygen pressure must be set the fact of its simplicity and convenience both to patient and doctor. "It can even be used in children."<sup>11</sup> By its use oxygen administration can be continued for days on end, uninterrupted by the necessity of feeding, by coughing, or by sleeping. We have shown its effect on the alveolar oxygen. That this effect may be great enough to improve the oxygenation of the blood in lobar pneumonia is seen from the following cases.

Case 1.—Male, aged 44; respirations 42, pulse 125. The oxygen saturation of the arterial blood before giving oxygen was 85 per cent. Rate of flow of oxygen was 0.75 litre a minute by nasal catheter for fifteen minutes. The oxygen saturation was raised to 89 per cent.

Case 2.—Male, aged 50; respirations 35, pulse 112. The oxygen saturation of the arterial blood after having 0.5 litre of oxygen a minute by catheter for two hours was 80 per cent. The rate of flow was then increased to 1 litre a minute. Fifteen minutes later the oxygen saturation had risen to 88 per cent.

The rates of flow used in these two cases were, for experimental reasons, much below what should be employed. In pneumonia the flow should be slowly increased to at least 3 litres a minute. The catheter generally used in adults is a No. 9 oesophageal. The lateral hole should be near the tip; the terminal four inches are smeared with cocaine ointment, and the catheter is inserted into one nostril until a resistance is felt, when it is withdrawn slightly. If there is no obstruction in the nose the end should now be in the nasopharynx. The patient is more

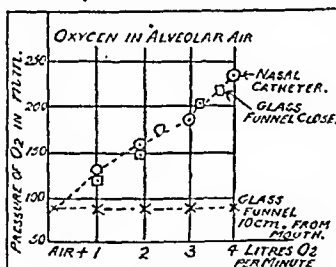


CHART 1.

CHART 1.—Shows that oxygen given by a funnel held 10 cm. from the mouth does not enrich the alveolar air. Subject breathing 350 c.c.m. per breath; respirations 15 a minute. (240 mm. is about equal to 33 per cent. oxygen in alveolar air.)

CHART 2.—(a) and (b) show pressures obtained with the new mouth-mask. (a) With the nostrils closed by cotton-wool. (b) Breathing air by the nose, oxygen by the mouth. (500 mm. is about equal to 70 per cent. oxygen in alveolar air.)

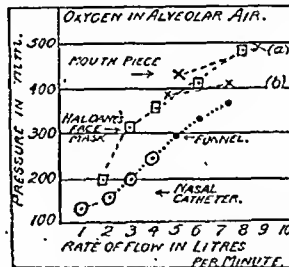


CHART 2.

\* Receiving a grant from the Medical Research Council.

comfortable if the hole points downwards. The distance from the exterior to the nasopharynx is about three inches. The catheter can be conveniently fixed to the cheek by a piece of sticking-plaster. Prolonged personal use shows that passing the gas through warmed water lessens the discomfort; it also has the advantage of making the flow of gas visible. A flow meter is convenient, but not essential. The flow should be as fast as the patient will readily tolerate. A reducing valve or some sort of fine adjustment is most desirable, but in any case the catheter should be disconnected during any manipulation of the taps. Care should be taken to keep the tube leading to the patient free from water.

#### A New Modification.

As might be expected from the superiority of the face-mask over the catheter in raising the alveolar oxygen, it has also been observed clinically that the former method may remove entirely a cyanosis which the latter had only been able to lessen. Consideration of this, and of the drawbacks of the face-mask mentioned above, has led to the trial of a mouth-mask which allows the patient to breathe oxygen by the mouth while leaving the nose free to breathe air. It appears to be more comfortable and more willingly borne by the patient. The front is covered by a large flap of thin rubber, which gives a minimal resistance to expiration. The tube connecting the oxygen bag comes in underneath. The mouthpiece is provided with an inflated rubber cushion to make it fit comfortably; it is held in place by a piece of elastic which passes behind the head. Oxygen is breathed from a bag in which the gas collects during expiration, as described by Haldane. Gilchrist and Davies<sup>1</sup> have described a 'modification of this principle, which is simple to make and highly efficient in use.\* Chart 2 shows the effect on the alveolar oxygen; the highest figures are obtained if the nostrils are lightly plugged with cotton-wool. By this means in another subject the average alveolar oxygen was 650 mm.; but it is not considered advisable to maintain such high pressures indefinitely, since there is experimental evidence that pure oxygen for three days causes pulmonary oedema in certain animals.<sup>12 13</sup> Further work is in progress on the clinical use of this apparatus and the effect it has on the oxygen in the arterial blood.

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## INTUSSUSCEPTION IN AN ADULT DUE TO A POLYP OF MECKEL'S DIVERTICULUM.

BY

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A CRITICAL study<sup>1</sup> of intussusception in the adult shows that in 36 per cent. of the cases an intestinal tumour is the predisposing cause. The tumours in order of frequency are: simple polyps, lipomata, fibromyomata, and adenomata; malignant growths rarely occur in this type of intestinal obstruction. In the following case the intussusception was caused by a pediculated polyp which arose from a Meckel's diverticulum.

A man, aged 40, who had previously enjoyed excellent health, complained of slight discomfort round the navel and in the right iliac fossa. He, however, continued to eat, work, and live his ordinary daily life, and his bowels at this time acted normally.

\* Both this and the mouth-mask are obtainable from Siebe Gorman, Westminster Bridge Road.

Four days later, after his evening meal, he was attacked by severe abdominal pain, accompanied by vomiting, which had continued, in spite of all treatment, for ten days, when he was admitted to hospital. The vomited matter had been first food, then bile, and latterly it had developed a faecal odour. During these ten days the bowels, in spite of purges and enemata, were absolutely constipated. On admission the vomiting had ceased for twelve hours, but the pain continued, the pulse was 80, and the abdomen was distended, but not tense. Peristaltic waves were clearly visible, running transversely in the "ladder pattern." The hernial sites and the rectum were negative and no tumour could be felt in the abdomen.

About six hours after admission the abdomen was opened incisionally below the navel, under morphine, intravenous sodium, and intermittent ether anaesthesia. Coils of very dilated small bowel bulged into the wound, while the caecum was brought out with a little difficulty. To its inner side twisted coils of small intestine could only be partly unraveled, and further examination revealed a hard mass in the interior of the caecum. It now became obvious that an ileo-caecal intussusception had occurred, so the intracaeal mass was gently pushed out through the ileo-caecal valve and the intussusception rapidly reduced. On continuing to push the tumour further along towards more healthy bowel it was suddenly arrested about two feet from the caecum, its pedicle of attachment arising from the inner aspect of a broadish Meckel's diverticulum about the size of the last joint of the thumb. The diverticulum was of a blackish-purple hue; the proximal ileum was intensely congested and much distended, while the distal portion was narrowed.

Resection of the parts was decided on, so the bowel was divided fully six inches proximal, and about three inches distal, to the pedicle of the tumour. After careful haemostasis of the sordid mesentery the intestinal ends were rapidly closed by a purse-string suture over a Parker-Moynihan clamp, and lateral anastomosis was performed. Finally an enterostomy was performed about eight inches proximal to the anastomosis on the dilated loop, a small tube being rapidly fixed in the bowel by a couple of purse-string sutures. The intestine was then fixed by a single catgut stitch to the peritoneum of the wound; the abdomen was closed and the patient put back to bed in good condition. He slept tranquilly all night; the pulse never exceeded 100, and there was no vomiting. The ileostomy tube drained very freely for forty-eight hours; and the bowels moved naturally on the third day; the tube became loose on the fifth day, and the patient left the clinic a month after his operation, with the wound soundly healed.



In this case, since the intussusception was reducible, the question arises whether excision of the diverticulum, extraction of the polyp, and transverse suture of the bowel might not have sufficed. A table of statistics, however, in Guoulette's thesis<sup>2</sup> shows that in 104 cases resection was performed 60 times with 41 recoveries. In intestinal obstruction after the obstacle is removed experience leads to the belief that enterostomy on the distended proximal loop is an important factor in the successful issue.

The specimen, placed by Professor D. P. D. Wilkie in the museum of the surgical department, Edinburgh University, is a thick polyp about three inches long, springing from the inner surface of a flattish Meckel's diverticulum. Histological examination showed that the intestinal polyp consisted of fibrous tissue into which haemorrhage had taken place. There was no evidence of malignancy.

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- <sup>1</sup> Brocq and Guoulette: *Journ. de Chir.*, T. xxviii, No. 4, October, 1926.
- <sup>2</sup> Guoulette: *Thèse de Paris*, 1925.

## BLASTOMYCOSIS OF EYE AND FACE SECONDARY TO LUNG INFECTION.

BY

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FUNGUS involvement of the lungs, according to the statistics of Colonel Marett, medical officer of health and States bacteriologist, is of frequent occurrence in Jersey. The following case is of great interest, as the eye and face conditions are definitely secondary to the lung infection.

A man, aged 58, was sent to me by Dr. Sydney Whitaker. The patient was very evidently ill and emaciated. There was slight sclero-keratitis with accompanying ciliary injection of the left eye. Within a week the limbal conjunctiva and episcleral tissue showed

a raised violaceous thickening, and a ring of large granulomata formed a corona around the cornea. At the same time a large beefy-looking growth appeared on the right cheek. This was excised by a consulting surgeon, but by the time the stitches were ready for removal there was a recurrence spreading up to the right lower lid, and another growth appeared on the nose, over the left ala and tip.

I made a tentative diagnosis of tubercle, in spite of the rapidity of invasion, and the report of a well-known pathologist to whom a section of the growth had been sent seemed to confirm this.



FIG. 1.—Case of blastomycosis. Nose infection.



FIG. 2.—Blastomycosis. Right cheek infection.

The eye condition began to look desperate, and I saw the patient with Colonel Marett, who suggested examination of the sputum: he reported blastomycosis, and recommended a method of treatment which was carried out by Dr. Whitaker with the most happy result. The granulomata and ugly violaceous thickening have disappeared from the eye, the growths on cheek and nose have also vanished, and the patient has increased 9 lb. in weight in five weeks.

In view of the interest of this case, seeing that, apart from his grave general appearance, treatment of his eye for tubercle would have been hopeless, and that the other eye was being menaced by the rapidly advancing growth on his right cheek, I have appended Colonel Marett's notes.

#### NOTES BY COLONEL MARETT.

The patient was brought to see me by Mr. Ferguson. The condition as seen then (April 19th) showed infection of left eye, nose, and right cheek. On inquiry he was found to be suffering from cough, with sputum, and loss of weight. A section of the growth from the cheek had been examined by a pathologist. There was rapid recurrence after removal. Examination of the sputum showed the infection to be monilia, and the method of infection of the skin was undoubtedly due to the use of handkerchiefs infected from sputum.

The treatment recommended was increasing doses of potassium iodide up to 30 grains three daily, and weekly increasing doses of monilin vaccine, the parts to be painted with a solution of 0.5 per cent. each of brilliant green and crystal violet to combat sepsis, and the patient advised to use paper handkerchiefs. It is interesting to note that the report of a section stated that the condition was due to tubercle. Skin infection with monilia is known, and is less frequent than moniliasis of lungs, no case of double infection of lung and skin having been recorded according to the literature available, but owing to the fact that monilia skin infections are usually on the face, it is quite possible that these infections may be secondary to a lung infection. In Jersey the frequency of monilia of the lung is as common as tuberculosis of the lungs, and most of these latter suffer from the double infection. *In vitro* it has been found that there is a symbiotic action between tubercle and monilia. Tubercle grows readily in an alkaline medium, whilst monilia require an acid medium. All cases of true double infection do best by having monilia treated first, and then proceeding with tubercle vaccine. It must be understood that it was solely a monilia infection in this case, and at the time of making the diagnosis a good prognosis was given.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### TWO CASES OF MULTIPLE URETHRAL CALCULI.

##### I.

The following case, in which retention of urine was caused by the presence of a very large number of urethral calculi, seems to be worthy of record.

A Chinese coolie, aged 45, was admitted to the Ipoh District Hospital, Federated Malay States, suffering from retention of urine. He had previously had no trouble in passing urine, and there was no history of venereal disease. On physical examination a large hard smooth mass was easily palpable in the penile urethra anterior to the scrotum. Further back a large sac was found, which proved to be the enormously dilated urethra; when handled it rattled, and a very great number of stones could be felt.

An incision was made over the most anterior and largest stone, and the urethra was opened. No fewer than 120 phosphatic calculi were then extracted with a slender curved forceps. A sound was passed into the bladder, but no further stones were found. The urethral incision was closed and the patient made an uneventful recovery. Cystoscopic examination at the end of convalescence demonstrated a perfectly normal bladder free from stones.

Perak, Federated Malay States.

C. B. PASLEY, F.R.C.S.I.

##### II.

The case recorded below, in which close on a hundred stones were removed from the urethra of the patient, presents several interesting features.

A Chinese boy, aged 9, was brought to the hospital of the Shantung Christian University with a history of painful and difficult micturition for three years. The child looked ill, and was badly nourished.

A large stony-hard lump was felt in the posterior part of the penile urethra. On making a rectal examination what appeared to be another hard, rounded mass could be felt in the position of the bladder. It was not possible to pass a catheter, since on entering the urethra it almost immediately impinged on the mass mentioned, and it was quite evident that this was a stone impacted in the posterior urethra. A diagnosis of stone in the bladder with another in the urethra was made. The bladder was distended up to the umbilicus, and the kidney function was very poor, as shown by the urea concentration test.

In order to improve the child's condition with a view to operation he was given syrup freely by the mouth and 20 grains of sodium bicarbonate in water every two hours for one day. In the

evening he was given 33 oz. (1,000 c.cm.) of a 5 per cent. glucose solution per rectum and a similar dose the following morning. The operation was performed at 2 p.m.

As it was thought that a suprapubic as well as a perineal incision would have to be made, and as the condition of the patient did not admit of a prolonged operation or anaesthesia, arrangements were made for one of us to operate on the perineum while the other did what was necessary in the suprapubic region. Open ether was administered, and an incision was made in the perineum over the mass, with the result that a number of faceted stones at once came into view and were taken out. In front of these was a larger stone, about the size of a bantam's egg ( $1\frac{1}{2}$  by  $1\frac{1}{4}$  in.), which was firmly impacted in the urethra, its narrow end being directed forwards. When this was removed it was found that there were many more of the smaller faceted variety packed closely together and forming the mass which had been felt per rectum. It soon became clear that a suprapubic incision would not be needed. When all the stones were removed by means of forceps and a scoop it was found there were 93 in all, including the large one; the 92 small ones ranged in size from  $1\frac{1}{2}$  by  $7\frac{1}{16}$  in. to  $1\frac{1}{4}$  by  $3\frac{1}{16}$  in. in size, and were all faceted.

After they were removed the cavity in which they were embedded was explored with the finger and found to be the posterior urethra much dilated. In its roof the internal opening of the urethra could be quite easily detected; through this opening a catheter was passed, and some ten or twelve ounces of urine were drawn off. Though this opening was quite patent and easily admitted the tip of the index finger there was not a single stone in the bladder, the whole of the 93 being jammed closely together into one mass in the prostatic urethra. The bladder was drained for a few days through the perineal wound and the patient made a good recovery, leaving the hospital two weeks after the operation.

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#### APPENDICECTOMY DURING HERNIOTOMY UNDER LOCAL ANAESTHESIA.

The following case presented some interesting features, and seems worthy of record.

A male child, aged 4 years, was transferred to the surgical side on October 4th, 1927, with the following history. He had a right-sided inguinal hernia which on successive occasions had been presenting more difficulty in reduction. He had a status lymphaticus, with a chronic obstinate cough associated with dyspnoea, and a definite record of dangerous idiosyncrasy to general anaesthesia. He had been circumcised two years or so previously under a local anaesthetic. He was of a peevish, apathetic temperament.

On this occasion (October 4th) he exhibited tenderness over the hernia. The hernia also presented a peculiarly solid consistence.



co.) and brandy or champagne, except in the presence of flatulence. Stimulants should be given whether food was being taken or not. Ammonium carbonate should be reserved for patients who had both pneumonia and bronchitis. Camphor in oil was useful, and suprarenal extract was a good vasomotor stimulant, but its administration required careful watching in cases of elderly people with arterio-sclerosis. Pituitrin was beneficial in the presence of abdominal distension. Venesection should only be performed in special cases when there was evidence of right-sided cardiac failure.

With reference to specific medication, Sir Thomas Horder discussed the various methods which had been strongly advocated from time to time, including the mixture of iodides and creosote, nucleic acid, and sodium uncininate; he did not favour these methods, but approved the administration of large doses of sodium bicarbonate to combat the acidosis due to protein destruction. Though there was as yet no potent antiserum an antipneumococcal serum might be recommended, since at any rate it did no harm; it should be given early, and in large doses. It was suggested that the ordinary pneumococcal vaccine might be employed in small doses, or a sensitized vaccine with an antiserum given in larger doses. Sir Thomas Horder mentioned immunogen, which was made from the washings of the cultivated organisms; he said that this substance was almost entirely free from protein, and its administration had produced remarkable results. Half a cubic centimetre should be given twice in the first twenty-four hours, and 1 c.cm. twice in the second.

A good discussion followed the lecture, questions being asked by several members. In reply to one with reference to sleep, Sir Thomas Horder said he had found medinal in  $7\frac{1}{2}$ -grain doses useful as a hypnotic. When acute restlessness and delirium were present he employed a mixture of  $1\frac{1}{2}$  drachm of ammonium bromide, with 1 to  $1\frac{1}{2}$  drachms of syrup of chloral, which was given two-hourly so long as required.

On the proposal of Dr. MANKELL, seconded by Mr. COLIN MACKENZIE, a very hearty vote of thanks was accorded to Sir Thomas Horder for a most interesting and instructive lecture.

## Reports of Societies.

### THE CARRIER PROBLEM.

At a meeting of the Medical Society of London, held on March 12th, with the president, Mr. H. W. Canson, in the chair, a discussion took place on the carrier problem.

Dr. J. E. MCCARTNEY, in opening, said that the carrier problem was becoming of increasing importance to the epidemiologist, to the bacteriologist, and to the physician. Its economic importance also could not be ignored, for it was estimated that each carrier in a Metropolitan Asylums Board institution cost £4 per week to maintain, and there were often as many as forty to fifty carriers in any one hospital, so that the cost in London alone was considerable. The subject of the carrier was so vast, he said, that he proposed to deal with it from the point of view of the physician, and also only with the human carrier of infection. There were many diseases which were thought to be distributed by carriers, and he would define a carrier as an individual who harboured and transmitted a pathogenic micro-organism without showing the usual evidences of infection. Carriers were of two main types. There was, first, the well-known convalescent carrier, of especial importance in diphtheria and typhoid fever. All patients suffering from these diseases were in a sense carriers, but they showed evidence of the disease. As this evidence disappeared during convalescence they became temporary carriers, and after an arbitrary period—twelve weeks in the case of diphtheria—if such convalescent patients still harboured pathogenic organisms they became classed as chronic convalescent carriers. The second group consisted of contact carriers, of great importance in certain respiratory tract infections. A contact carrier acquired the micro-organism from some sufferer from the disease, but showed no sign of the disease himself. Sometimes his resistance was

eventually broken down, and he succumbed; such cases were known as "incubation carriers." The contact carrier usually harboured the organism only for a short time, but occasionally the chronic contact carrier developed as a result of the organism settling down in the nose and throat. Dealing next in more detail with certain specific diseases, the speaker mentioned diphtheria, in which the chronic convalescent carrier was of great importance, being the commonest type of carrier in the general community. The important point about such carriers was that the organisms they harboured were virulent. For testing such virulence intracutaneous tests on guinea-pigs were used, and the speaker emphasized that a person carrying a non-virulent type of diphtheria bacillus could not give rise to a fresh case of diphtheria. All attempts to alter such organisms into virulent forms failed, and no return cases ever occurred from non-virulent carriers. More than half the cases investigated with morphological diphtheria bacilli were proved to be non-virulent, and this was especially marked in ear cases. Such important results led to the release of many people from an irksome quarantine, but it was essential that the virulence tests should be carried out with great care, and difficulty was sometimes experienced because the same carrier might harbour both virulent and non-virulent organisms at the same time.

Following the intensive study of a large number of diphtheria carriers, Dr. McCartney said he had established that the growth of organisms from such cases was often slow at first, and after this "lag period" the diphtheria bacillus grew more rapidly, although such cultures should be left for forty-eight hours instead of the usual twelve hours adopted in isolating the bacilli from active cases. This led to another important consideration, for despite the carriers of virulent bacilli comparatively few people were infected in this way, and it was suggested that because of this lag period there was time for those attacked by the bacillus from a carrier to eliminate the organism from the system before it did any harm. The intermittent nature of the carrier was also important, and at the North-Eastern Hospital it was now the rule that a patient must have six consecutive negative cultures during a period of six weeks before being discharged as cured. On the whole, it was the milder cases which were more likely to become carriers, and it was commonest in small children. The Schick test was negative in all carriers. The organism in the case of carriers had an "extra-corporeal" existence in the products of inflammation caused by other organisms, and if such inflammation was dealt with the carrier state disappeared. In 95 per cent. of diphtheria carriers some pathological defect was found, such as diseased tonsils, chronic rhinitis, deflected septum, etc. When infection was present in the tonsils, usually of the buried septic variety with deep crypts, tonsillectomy would effect a cure in nearly all cases. Nasal carriers were more difficult to deal with owing to the anatomical peculiarities of the very young subjects. In treatment each case had to be considered on its merits; when it was established that the organism present was virulent, then the nose and throat must be dealt with. In the nasal carriers vaccines made from the predominating organism causing the rhinitis might help in about 30 per cent. of cases, and it might be necessary to persist until a particular organism was found which was causing the actual condition favourable to the presence of diphtheria bacilli. In other cases the use of a warm alkaline nasal douche was most effective as long as it was continued. In some cases exploration of the antrum had shown the deep-seated nature of the infection. Dealing next with the enteric group of infections, Dr. McCartney said that the chronic convalescent carrier was of most importance, and probably about 5 per cent. of sufferers from typhoid became carriers, the rate being higher in rural than in urban districts. The faecal carrier accounted for 93 per cent. of cases, and there was usually a chronic cholecystitis present. It was important in examining such cases to secure the contents of the small intestine by means of a colonel purge, since in formed stools the typhoid bacillus might have been destroyed by putrefactive organisms in the large intestine. Urinary carriers were rarer, but more dangerous to the community, especially the male urinary carrier who micturated several times a day in



odd places, particularly in rural areas. The purulent type of typhoid carrier was rare. Females accounted for 80 per cent. of all typhoid carriers, and the state was rare in children. Dealing with the detection of typhoid carriers, the speaker mentioned an outbreak of the disease at a mental hospital with 2,000 patients and 800 staff. Despite the immense difficulties involved, a complete investigation was carried out and ten carriers were isolated. The remaining patients were treated with T.A.B. vaccine, with the result that the hospital had been kept free for two years, except for one sporadic case. The Widal reaction was of little use in detecting carriers, and Dr. McCartney stated that his experience with other special tests was disappointing. Treatment of such carriers was unsatisfactory, since removal of the gall-bladder was not always successful and perhaps not justifiable. It seemed to be better to enlist the co-operation of the patient by laying down rules of personal hygiene. Public health regulations were unsatisfactory, since the State had no power to insist on the treatment of carriers.

Dr. McCartney then mentioned carriers of amoebic dysentery who might harbour the cysts for years with vague symptoms, but who responded to correct treatment. In cerebro-spinal fever it was the contact carrier who caused spread directly from person to person, and the organism might go through several individuals without causing the disease. In the epidemic season, and especially in camps and barracks, the carrier rate became very high. The site of infection was usually the upper respiratory tract, and isolation of the organism consisted largely in distinguishing it from other Gram-negative cocci. Dealing lastly with scarlet fever, Dr. McCartney mentioned that it was becoming a serious problem as to whether this disease was spread by carriers. Of a group of 300 patients, more than half still had the haemolytic streptococci in the throat at the end of seven weeks, although the rate was much lower when the wards were less busy. The question of whether scarlet fever patients should all be examined and detained until free from such infection seemed to open up too big a proposition.

Dr. J. FREEMAN pleaded for an extension of the original idea of the carrier. The old conception of the convalescent carrier, as in the case of typhoid, had already been extended to cover the incubation and the contact carrier. He believed that many cases of para-enteric infections were spread by carriers: patients often suffered from these diseases for years without coming for treatment, and he believed that such cases were the cause of just as much misery in the community as typhoid and dysentery. Just as in tuberculosis the person with tubercle bacilli in the sputum, but no clinical signs of phthisis, was regarded as a carrier, so the woman with chronic gonorrhoea, without any obvious sign of disease, was a carrier, and the main function of venereal disease clinics was to protect the community from such carriers. A man with septic gums was also capable of transferring such infection to his neighbours, and by spraying out streptococci such a person might cause a whole variety of diseases in other individuals. It was also possible for a person to carry an infection which caused trouble elsewhere in his own body; such a person could be called an "auto-carrier," and in attempting prophylactic antiscarlatinal vaccination a lighting up of some septic focus, where the offending organisms were being carried, was not uncommon. In conclusion Dr. Freeman stated that he held that every individual was a carrier and that the bulk of infection was due to carriers.

Sir JOHN BROADBENT mentioned some of the difficulties in relation to carriers of the acute infectious fevers. He agreed that tonsillectomy would cure the throat carrier of diphtheria, and he thought that carriers were more frequent in the time of epidemics. In regard to scarlet fever there were many difficulties. About 80 per cent. of all cases of scarlet fever failed to give any evidence of contact with another case. In one case of a small girl he had evidence that she had carried scarlet fever infection for ten weeks after discharge from hospital as cured.

Mr. ZACHARY COPE thought it was justifiable to remove the gall-bladder in chronic typhoid carriers since gall-stones might form. He also mentioned the use of the

duodenal tube to drain the gall-bladder, quoting a case of Lyons's which had been rendered free from infection by this method after having been a carrier for twenty years. He asked whether whooping-cough was transmitted by carriers.

Dr. A. FEILINO described a case of enteric infection in a young man, aged 23, who developed an attack of acute cholecystitis six weeks after paratyphoid fever. An attempt to deal with this case by removal of the gall-bladder had failed, and it had not been possible to get a tube to pass into the duodenum. He asked for advice as to what could be done. Mr. ZACHARY COPE suggested that the mucous membrane of the gall-bladder should be destroyed at a new operation. Dr. McCARTNEY, in reply, stressed the importance of remembering both the parasite and the host in all carrier conditions.

## NARCOLEPSY.

At a meeting of the Section of Neurology of the Royal Society of Medicine, held on March 8th, with the president, Dr. EDWIN BRAMWELL, in the chair, a discussion took place on narcolepsy.

Dr. S. A. KINNIER WILSON, in opening, referred to the fact that, although this condition had been well described many years ago, there was no reference to it in the indexes of *Brain* since 1899 until Dr. W. J. Adie's thesis of eighteen months previously. Dr. Wilson said that his interest in the subject began when he was house-physician to Sir William Gowers in 1907, and he had been on the look out for the disorder for twenty years, although it was only within recent times that he had met it. He had seen several cases in the last year, and it had been suggested that this apparent increase in the occurrence of the condition had something to do with the times through which we were passing. He did not consider, however, that the increase in narcolepsy had anything to do with the outbreak of encephalitis lethargica, since some of his own cases dated their first attacks long before 1918. He argued that narcolepsy cannot be regarded as a disease, but it was rather a symptom—a disordered function of sleep—and he preferred to speak of the narcolepsies. He thought narcolepsy was not an ideal word, and he suggested "hypnolepsy"—a falling into sleep—or Sir William Gowers's suggestion of twenty years ago, "somnolysis." Dealing next with his recent cases Dr. Wilson first mentioned a youth who for two and a half years had had irresistible attacks of sleep, and also the peculiar but well-known phenomenon of falling to the ground powerless under the influence of emotion—the condition of cataplexy. A second patient developed cataplectic attacks, and, later, began to have irresistible impulses to sleep. This case had been examined in the cataplectic state, when the knee-jerks were found to be absent and the plantar response extensor. Two minutes after this, when the man had recovered, the reflexes were found to be normal, while the patient had been conscious the whole time. A third patient presented irresistible impulses to sleep and of cataplexy, both these features of attacks of sleep and of cataplexy, but, in addition, also sometimes suffered from cataplexy or trance, in which he was unable to move a muscle. Dealing with the classification of the narcolepsies Dr. Wilson divided them into those cases with attacks of sleep and of cataplexy and those with prolonged sleep only. Of the first group he had collected forty-five cases from the literature of the last forty years, and it certainly appeared to be more common at the present day. Most of the cases of prolonged sleep approached the region of the symptomatic narcolepsies, and it had been known for years that lesions of the brain in the region of the third ventricle were often associated with pathological sleep. Dr. Wilson believed that all the primary narcoleptic cases had a similar mechanism to that of the symptomatic cases, and he was unwilling to separate them. Clinically, he said, it was important to consider the actual condition of sleep which occurred. It was not true sleep, since patients were aware of what went on around them. There were transitional states between sleep and narcolepsy, and in certain cases emotion seemed to promote sleep; while cataplectic attacks might come on apart from emotional disturbances. He thought

that by broadening the conception of sleep in its relation to narcolepsy more light was thrown on the condition. Dr. Wilson then dealt with the relationship between narcolepsy and epilepsy. He remarked that the resemblances were much greater than the differences. The state of the patient in the fully established epileptic fit, with loss of consciousness and limbs in motion, was almost the "corresponding opposite" of the cataplectic, with consciousness retained and complete atonia in all muscles. There were a fair number of cases with narcolepsy and epilepsy in association, and while the symptoms were in striking contrast it might be that there was a similar physiological mechanism behind the two conditions. Dealing lastly with the possible pathogenesis of narcolepsy Dr. Wilson pointed out that the phenomena were largely inhibitory, and as in epilepsy many of the processes were inhibitory, so in narcolepsy these inhibitory effects were pushed a stage further. Pavlov's views on sleep showed that it consisted in cortical inhibition descending to the mid-brain, and it was possible to suppose that if the inhibition did not descend to the mid-brain the state of cataplexy might develop. He thought that light would be thrown on the problems of narcolepsy by consideration of the phenomena of cataplexy and atonia.

Dr. C. WOLSTEN-DROUGHT described the prominent features of four cases of narcolepsy which he had had under his care. He said that it was unusual for the cataplectic attacks to precede the attacks of sleep, and he emphasized the extreme atonicity which occurred during the attacks of cataplexy. He thought that narcolepsy was a symptom-complex comparable to, say, Parkinsonism, and we had yet to discover the nature of the lesion in the nervous system in cases of idiopathic narcolepsy.

Sir JAMES PURVES-STEWART said that in cataplexy, in narcolepsy, and in normal sleep there was this striking atonia. He referred to the state of hypersomnia which developed in patients with lesions round about the third ventricle, and he mentioned the fact that if the third ventricle was inflated with air then a period of peaceful sleep often developed. He said that the paroxysmal nature of the narcoleptic attacks had not yet been explained.

Dr. H. COHEN described some cases of narcolepsy he had seen during the last three years. One patient suffered from cataplexy on hearing a sudden noise; another boy with spastic diplegia fell to the ground on hearing a noise and then developed myoclonic movements, but was conscious the whole time. A third case, of a woman with cerebro-spinal syphilis, used to have epileptic attacks on hearing a noise. He had seen a similar gradation of symptoms in cases with attacks following uproarious laughter.

Dr. GORDON HOLMES mentioned two cases of narcolepsy. One showed an interesting feature in that nose bleeding, to which the patient was subject, stopped during the narcoleptic attack. Another case of cataplexy developed attacks when annoyed. A case of symptomatic narcolepsy, possibly due to some lesion in the region of the optic tract, had benefited from the administration of thyroid gland. He referred to a case in which cataplexy was brought on by sudden noise which had subsequently developed very marked epilepsy. Sleep had never been a prominent feature of this case. He disputed one of Dr. Wilson's statements with regard to sleep, stating that during the early stages he was convinced from personal experience that we were not fully unconscious. Dr. R. D. GILLESPIE related a case in which slight emotions, rather than severe ones, brought on cataplectic attacks. This patient had appeared to benefit from the administration of hyoscine.

#### HEALTH LESSONS FROM BERMUDA.

At a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine, held at the Society's house on March 1st, Dr. J. GORDON THOMSON, vice-president, in the chair, Dr. ANDREW BALFOUR, director of the London School of Hygiene and Tropical Medicine, read a paper on health lessons from Bermuda.

Dr. Balfour pointed out that Bermuda was a small group of islands in the North Atlantic, with no geographical connexion with the West Indies. Its climate was sub-tropical, but owing to a large coloured population many

features and characteristics of tropical hygiene and sanitation were reproduced. Its isolated position had also perpetuated certain traits apparent among other communities, forced by similar circumstances to work out their own salvation. The islands consisted of acolian limestone, superimposed on a submarine mountain, and covered with a scanty red soil, free from clay. The limestone varied in consistency, but everywhere water readily percolated through it. There was no surface running water. The main island had an area of 9,000 acres, and its highest point was only 250 feet above sea level. The scenery was diverse—low hills and valleys with marine swamps and fresh-water marshes. The islands were well wooded with cedar or juniper, which influenced rainfall and protected against salt-spray from gales. The climate was mild and monotonous, but heavy rains and gales were common in early spring, and summer was hot and oppressive, the mild weather returning in September. Only a few of the 150 islands were inhabited. The population was over 20,000, of whom 9,000 were whites, the remainder coloured. The enervating climate had left traces on the white population, which was easy-going, with a tendency to procrastinate. The whites showed a mild "tropical anaemia," which was really a cutaneous ischaemia. Hookworm was absent, probably on account of the unfavourable soil; the inhabitants, however, were usually shod, which helped to account for the absence. Fifty years ago the chigger flea was common, but it had now disappeared; this had not been satisfactorily explained. Malaria also was absent, and anophelines had never gained a footing on the islands, although opportunities must have been frequent in the past for its introduction. The alkalinity of the waters might account for this, but the pH of Bermuda marshes had not yet been studied. Small fish (mullet), *Fundulus bermudae*, were common, and these kept down the species of mosquitos which were present (*Culex fatigans* and *Aedes* spp.). A balance had been struck between the fish and these mosquitos, but the fish and carnivorous arthropod larvae might have been more successful in exterminating anophelines. The recent introduction of malaria into Barbados indicated that Bermuda's "immunity" must not be viewed with complacency. Among the mosquitos present was the yellow fever vector *A. aegypti*. Numerous outbreaks of yellow fever (some of which, however, were probably really typhus) had been recorded in the past, although the disease was now absent. This might be due in part to the substitution of iron steamers for wooden sailing ships; but the fact that the disease never gained a permanent hold on the colony was probably more important. This might possibly be attributable to the unfavourable winter; moreover, the disease had also been stamped out in many old-time foci in America. It was likely that the long immunity from the disease depended chiefly on "chance." In Bermuda water was mostly stored in stone tanks, in which *Aedes* bred, and the introduction of fish was practised. The fish might introduce *B. coli* into the water, however, and, although harmless, this might falsify water examination results. Recent work indicated that the spirochaete of yellow fever might be identical with that of Weil's disease, and investigations in rats in Bermuda were suggested. The Bermudian was more or less immune to the bites of the salt marsh mosquitos, and this suggested another line of investigation. Dysentery was rare in Bermuda, probably because there was no running surface water, although flies were very common owing to the large number of horses kept on account of the tourist traffic. The flies, however, could transmit enteric fever, the second commonest disease there. It was uncommon among the troops, who had a piped water supply, a water-carried sewage system, and anti-fly measures, in addition to the usual triple vaccination. To rely on the vaccine alone for the protection of civilians was an unsound system which should not be the first line of defence; a satisfactory water supply was much more important. Tuberculosis was the commonest disease present. Bermuda was very thickly populated, but overcrowding was not common and slums were rare. The disease was rife among the coloured people because of closed windows, indiscriminate expectoration, and a bad milk supply. Inspection of school children was recommended as a preventive

measure for this and other diseases. The infant mortality rate was very high—about 160 per 1,000. The influx of tourists in recent years had caused people to flock to the towns; to neglect agriculture, and to rely on "canned goods" for food. This dietary apparently had had no ill effects on the inhabitants, but the empty tins provided breeding places for mosquitos and flies. Bermuda was full of lessons which, if learned and acted upon, would make it one of the most healthy places in the world.

Dr. G. C. Low compared the Bermuda of to-day with the West Indies of twenty years ago, and said that they were similar in many respects. Anopheles was absent from the water in Barbados (although he had shown that it could breed in that water). Other mosquitos were very common in water barrels, particularly *Culex*, the vector of *Filaria bancrofti*, and *Aedes*, the vector of yellow fever. There was a piped water supply, and although he had strongly advised precautionary measures at the time, nothing was done. Filariasis was rife, and in 1907 yellow fever broke out. Later, Dr. Balfour had suggested the provision of traps near the harbour to prevent the introduction of anophelines. Still nothing was done, and now malaria had arrived, and its extermination would be expensive. To prevent the possible introduction of malaria into Bermuda would be simple, but ignorance was still colossal. He had noted that in the West Indies yellow fever epidemics came in waves at intervals; Weil's disease, if present in rats, would appear sporadically.

Dr. FLETCHER emphasized the necessity for investigations into disease in countries where the disease did not exist, and cited the recent work on scarlet fever in the Dutch East Indies. The disease was absent there, and in children of 2 years the Dick test was positive. Yet as the age increased so did the immunity, and in adults the test was usually negative.

Dr. J. F. C. HASLAM considered that proper hygiene only followed a popular demand, and that the education of laymen was essential before this could be brought about. Each country, moreover, must specially design its own sanitary administration, not blindly copy that of the mother country.

Dr. H. H. SCOTT thought that anophelines must have been introduced, while malarial cases certainly had been imported in small numbers on occasion. Why had malaria not survived? He pointed out that yellow fever elsewhere, as, for example, in Jamaica, died out from time to time, although the vector remained present.

Dr. MANSION-BARR recalled a suggestion by Sir Patrick Manson that medical governorships would help to solve many of the important problems of the tropics. He emphasized the value of negative evidence throwing light on disease, citing the absence of yellow fever and typhus from many of the Pacific islands.

Dr. BALFOUR, in replying, showed that many difficulties had to be tackled before local prejudices and ignorance could be overcome. Compulsion from this country was difficult because many of the islands were self-governing. He thought that an appeal to the pride of the Empire which was so strongly developed in these people would help, together with adequate museum and similar education both at home and abroad.

### NEUROSES IN THE TROPICS.

THE Sections of Tropical Medicine, Psychiatry, Neurology, and Balneology of the Royal Society of Medicine combined on March 13th for a discussion on neuroses in the tropics. Dr. R. LANGDON-DOWNS presided.

Dr. H. B. DAY, opening, said that the subject was so wide that it might be considered under two headings: neuroses or psychoneuroses as seen (1) in native inhabitants, and (2) in European residents in tropical countries. The study of primitive races was a vast psychological subject. In the unsophisticated native hysteria was very prevalent, and emotionalism was exploited in tribal songs and war dances. That hysterical manifestations were amenable to suggestion was recognized by the peasantry in Egypt; whereas medical treatment was employed in ordinary illness, special religious ceremonies were prescribed for the hysterical patient. Turning to the European in a tropical

environment, Dr. Day instanced the strain to which he was subject owing to climatic conditions—the tension of an electrically charged atmosphere, the monotony of a tropical downpour. In this case of men taking appointments abroad the risk of breakdown was reduced by careful selection and apprenticeship, but these precautions were generally lacking in the case of the women who went with them, and for whom outside distractions were few and the scope of domestic interest restricted. The development of psychoneuroses was due to the failure of the individual to make mental adjustment to his environment. Persons whose moral control and education were not of a high order might sink to a low level, satisfying their desires at the expenso of their civilization. In others an unresolved mental conflict existed which might lead to a psychoneurosis. Of tropical diseases he mentioned two—malaria and pellagra—which produced not only psychoneuroses, but actual insanity. Pellagra, though more restricted in its geographical distribution, was the more important cause of nervous disorder; and it was estimated that 40 per cent. of the adults affected showed mental deterioration, with symptoms ranging from simple depression to confusional insanity terminating in dementia.

Lieut.-Colonel O. A. R. BERKELEY-HILL, I.M.S., sent a paper, which was read in his absence. He referred to the correspondence which appeared in the *British Medical Journal* in 1926 following a letter from the Bishop of Singapore on mental irritability and breakdown in the tropics. Eight replies were published, but no two correspondents agreed on the cause, and the diversity of explanations suggested indicated the hopeless ignorance which existed about a subject the importance of which could not be denied. Recognition by the laity that Europeans were liable to mental disorder in the tropics was shown by such terms as "Punjab head," "West Coast head," and the German "Tropenkoller." The Duke of Wellington deplored the irritability of many of his officers in India. Novels dealing with life in the tropics abounded in references to mental disorder among Europeans—those by Kipling, Conrad, Seton Merriman, for example. Europeans living in the tropics appeared to be prone to a neurotic syndrome, the central symptom of which was a state of hypertension manifested in general irritability or morbid anxiety. He thought there was some justification for the assumption that the mental disorder of Europeans in the tropics was an anxiety neurosis. Among causes he mentioned sexual abstinence, frequently inevitable, even among married men, and followed sometimes by resort to alcohol as an indirect result; another cause was coitus interruptus, lamentably common among Europeans living in tropical countries, and leading to many nervous and other ill results in both men and women. Little was known about temperature, perhaps the most formidable of tropical conditions; but many facts went to suggest that an average temperature between 60° and 70° F. was better than one which averaged over 70° F. It was evident, therefore, that Europeans in tropical countries, unless they lived at high altitudes, were under a perpetual disability. Climate played an important, though unassigned, part in mental well-being.

Dr. HUGH STANNUS said that the correspondence in the *British Medical Journal* had laid the blame for disturbance of mental health in the tropics upon every conceivable component of the tropical environment. He himself believed that the condition commonly seen in the tropics was a neurasthenia—a neurosis consisting in faulty response by over-action to the difficulties which life offered, the symptoms being abnormal liability to fatigue and irritability. This faulty response was due essentially to the introduction of fear into the mind—whether fear of physical hurt, or fear as a component of worry, anxiety, apprehension, and disappointment. In the neurasthenic in the tropics harmful emotional and physical stimuli might be seen severally at work. Cases of neurasthenia might be observed which did not differ in their causation from cases in this country. There was also, however, the man exiled from home, separated from his family, perhaps in financial straits, lonely or lacking congenial society, disappointed in promotion, unable to escape from monotony, living amidst a native population who caused him annoyance

because he had never troubled to understand their language or their psychology, beset all day by sodden heat and the incessant attention of insects, and driven to bed only to be kept awake by the reiterated cry of the brain-fever bird or a chorus of frogs. Such a man was always suffering from a summation of multiple, minor, defence-inducing noxious stimuli. Here, in this emotional and physical unrest, lay the cause of tropical neurasthenia.

Mr. A. F. MacCALLAN said that he was one of the first to write to the *British Medical Journal* after the Bishop of Singapore's letter to point out the extraordinary strain on persons in the tropics as a consequence of suffering from slight errors of refraction which elsewhere would be almost negligible. With regard to neurasthenia, there was often a physical basis for this in some septic focus in the oral cavity or alimentary canal, and its existence could nearly always be detected by an ophthalmic surgeon on an examination of the eyes.

Dr. J. F. C. HASLAM suggested that not only the diversity in the *British Medical Journal* correspondence but also the present discussion went to endorse the contention of Dr. Stannus—that underlying the whole of this condition of tropical neurasthenia were very many noxious stimuli. The speaker, however, was inclined to place rather more weight on pure climatic conditions than Dr. Stannus had done. In industries involving exposure to high temperature and humidity some recent observations by the Industrial Fatigue Research Board went to show that as soon as a temperature of over 75° F. was reached there was a falling off both in efficiency and output. Temperature and humidity were undoubted factors, when they passed beyond the points customarily experienced in temperate climates, in exercising a harmful effect. In Australia they were accustomed to speak of a "kitchen neurosis," a condition affecting women who spent a great deal of time in the kitchen, which was, of course, the hottest part of the house.

Dr. HALLIDAY SUTHERLAND said that it was well for practitioners in this country to study this subject in view of the large number of men who during the war went into the tropics and acquired tropical diseases for which they still needed occasional treatment. He mentioned the case of a man suffering from extraordinary delusions who, during a stay in Persia, had had malaria, paratyphoid, typhoid, dengue, and sandfly fevers. His mental trouble had begun eighteen months ago. Dr. Sutherland had concluded that this patient was the victim of chronic malarial poisoning; quinine treatment had begun and the man was now resolving his own delusions.

Dr. MILAIS CULPIN spoke of the conditions in tropical or subtropical Queensland; of which he had experience, and contrasted them to their great advantage with the conditions in Shanghai, which was notoriously a "nervy" place. This "nerviness" might be due to the tropical disorders which were rife in Shanghai, and from which Australia was free, but he thought it much more likely to be caused by the air of unsettlement about the whole place. Nobody went to Shanghai with the idea of making it his permanent home. Neuroses were extremely common there, and were not confined to Europeans.

Sir ROBERT ARMSTRONG-JONES said that he had had some experience of mental cases in Tunis and at St. Peter's Asylum, Marseilles, where confirmed psychiatric cases were received from equatorial Africa. His own view was that when dealing with an unsophisticated and incomplete civilization the psychasthenic or neurasthenic was not found. He was struck by the fact that among many African mental cases he had not seen the highly evolutionized forms of disorder; the conditions found were simply due to failure in development.

### THE VALUE OF MARINE HEALTH RESORTS.

A discussion on the value of marine health resorts, with special reference to children, was held at a meeting of the Section of Balneology and Climatology of the Royal Society of Medicine on March 8th, with Dr. L. C. E. CALTHROP in the chair.

Dr. PORTERUE FOX recalled a remark by Sir Hermann Weber that no country could compete with Great Britain

in the variety and value of its marine health resorts. Weber had also expressed surprise that although England was the first country to establish seaside hospitals and sanatoriums, it had done comparatively little to develop facilities for treatment on the coast. The foundation of the Royal Sea-bathing Infirmary at Margate in 1791 marked the opening of a new epoch in physical medicine, but it was not until the latter half of the nineteenth century that the remarkable popular movement seawards began. A philosophical explanation of the benefit of the sea, to which the speaker was attracted, was given by the Frenchman Quinton, who said that the sea was the original medium of life, and that from the sea came the first living soul. The marine climates of these islands presented an interesting study. It was commonly said of France that there were three seas, and this was true for the coast of the British Islands. The western sea, with its soft Atlantic airs, was to be recommended for the winter and spring; the strong eastern seas were for summer and autumn, and the south coast was for all seasons. A useful generalization, subject to many exceptions, was that the east was for the young and the west for the old, but the western climate was not always relaxing and sedative. Along the indented coast there were health resorts covering every conceivable variety of aspect, shelter, and soil, and a number of purely local climates apart from the three-fold division indicated; these secondary characteristics of climates determined very often their value for invalids. Only at the seaside could so many forms of energy play upon the skin and respiratory membrane. Passing to the dangers of sea bathing, Dr. Fox said that the duration of the bathe, even as measured in seconds, might easily turn a benefit into a peril. A bathe at 65° was the coolest that should be recommended for medical purposes, and the temperature of our seas in summer was, on the eastern coast, 61° to 68°, and on the western from 5° to 10° higher. Apart from the danger that arose from chill, there was a danger of exciting or aggravating acute or febrile disease; probably the explanation was that where the bathe was badly borne there was some congestive process already at work which was aggravated thus. Another drawback was what used to be called "marine fever"—a transient disturbance marked by sleeplessness and slight pyrexia after bathing. In conclusion Dr. Fox indicated certain tasks which might properly be undertaken by the Section in obtaining information and comparing records in connexion with marine therapeutics.

Dr. FRANK LEWIS (Folkestone) dealt with some special considerations of marine climates, such as moisture-laden winds, pointing out that although the circulation of fresh air was an advantage, the force of wind was coincident with a high death rate from phthisis wherever a community more or less tainted with tuberculosis of the lungs was exposed to it. The most important factor was sunlight. As for the effect of seaside resorts on children, the consensus of opinion from heads of schools was that the resistance to infectious disease was increased. Epidemics of zymotic disease had few terrors for those who lived at the seaside. The most bracing district in Britain was the Isle of Thanet, where the sea winds were drier than elsewhere. Sea bathing was an excellent pastime for the healthy, but was not to be recommended for the ill; as a factor in marine resort treatment it was of minor importance.

Dr. W. G. WILLOUGHBY (Eastbourne) said that he was sometimes asked by inland medical practitioners for the mean annual temperature of Eastbourne; such a figure would be practically worthless. What was required was the mean of the daily maximum and of the daily minimum. Another question frequently asked was the amount of the total rainfall; this was important in some degree, but not nearly so important as the number of rainy days. He had found one place mentioned in the Meteorological Office reports where the annual rainfall in any one year was 80 per cent. above the average rainfall of the country, but the number of rainy days was only 15 per cent. higher. He had seen much damage done by sea bathing; its value depended very much on the individual. To those who indulged in it regularly there came a day, probably in the late autumn, when slight malaise followed the usual bathe;



that was the time to stop. A medical officer in charge of the examination of school children at Eastbourne, who had had previous experience in rural and urban districts, had stated that children in rural districts were the least healthy, while those of Birmingham and Eastbourne who lived in comparable homes were about equally so. This suggested that the factors of good food, clothing, and housing were more important than climate, but the seaside had a special value in respect of change of air.

Dr. COLLIS HALLOWES (Torquay) said that there was probably more iodine in sea air, and he had been struck by the number of children suffering from defective thyroid function who did extremely well at Torquay. With regard to elderly invalids, this town was recognized as being good for cases of high blood pressure. After surgical operations, also, convalescents benefited from its equable climate, warm sunshine, and freedom from extremes. Dr. Hallowes also spoke of the value of Devonshire resorts in the rheumatic group of diseases.

Dr. G. R. BRUCE (Hastings) said that there were two fairly distinct climates at Hastings; one on the seashore, where there was protection from the east by cliffs, was definitely mild, and the other to the north, where there was a hinterland of rising ground to 300 or 400 feet, was definitely tonic, and much cooler than nearer the sea. His experience was that children suffering from catarrhal conditions, and debilitated children generally, did well at Hastings. He thought there was a field for the development of marine resorts by the provision of regulated sun treatment in solariums for people, especially sedentary business people, who were "run down" and out of sorts, and who at present indulged in haphazard sunshine treatment.

Dr. A. F. STREET (Westgate-on-Sea) could not ascribe the immunity of seaside resorts from zymotic diseases to any particular factor, but its existence was undoubted. Referring to a remark by Dr. Fox that some children were apt to be upset by residence at the sea, he said that this was only in cases which had been badly mismanaged. After forty years at a seaside resort he had yet to find any rheumatic affection result from a visit.

Dr. W. S. CAMPBELL (Sidmouth) said that he had practised on the coast of Northumberland and at Sidmouth; in spite of the climates, winds, temperatures, and country being so diverse, the effect upon children in the two places was identical, except that in winter children were not benefited by the Northumbrian coast. He thought that heliotherapy was the principal factor in the value of seaside resorts.

Dr. W. G. SUTCLIFFE (Margate) mentioned the dry and bracing winter of Margate and the excellence of its climate for the treatment of surgical tuberculosis. The increase in metabolic activity, judiciously controlled, was undoubtedly the prime factor in promoting the tissue healing which was observed in these cases. Dr. Sutcliffe's photographs of children reinforced this testimony to the value of Thanet.

Dr. OCTAVIA WILBERFORCE (Brighton) said that children with ordinary childish complaints recovered wonderfully at Brighton, but with heart trouble they did not prosper so well. She found that convalescent child visitors to Brighton showed a weekly gain of 8 oz., whereas resident children who had been ill gained anything from 9 to 16 oz. a week. She emphasized a point which applied to all other resorts also—namely, that those who lived permanently at Brighton needed a change as much as those who lived inland.

## SURGICAL TREATMENT OF CHRONIC GASTRIC ULCER.

At a meeting of the Devon and Exeter Medico-Chirurgical Society on February 23rd, the president, Mr. A. L. CANDLER, in the chair, Dr. S. C. SHAW (Barnstaple) opened a discussion on the surgical treatment of chronic gastric ulcer associated with severe haemorrhage.

Dr. Shaw suggested the following classification as convenient in view of the discussion he wished to promote:

*Type 1.*—Cases with small and repeated haemorrhages at short intervals.

*Type 2.*—Cases with isolated haemorrhages small in amount and with a long period between them.

*Type 3.*—Sudden haemorrhages so profuse as to be frequently heralded by fainting.

Dr. Shaw said that in the first type the patient did not appear to be in any immediate danger, and if left untreated surgically would probably survive for many years, with alternating periods of quiescence and active haemorrhage. There was, however, risk in delaying surgical measures to a period when debility with profound anaemia was established, and in illustration the case was recounted of a man, aged 54, who had been thus reduced by chronic haemorrhage. Although gastro-jejunostomy offered no difficulties at the time, convalescence was delayed by the abdominal wound failing to close. This necessitated re-suturing, which again gave way partially, so that perfect healing was not established until nine weeks from the primary operation. The ultimate effect of the anastomosis proved to be good. Dr. Shaw mentioned two similar cases where the abdominal wound made very slow repair without any trace of sepsis. As a further instance of Type 1 and the danger of delay he described the case of a middle-aged man in whom a diagnosis of gastric ulcer had been established for some considerable time, and who had been admitted to hospital with a view to operation on three occasions and refused at the last minute. On the third admission his condition was so grave that a preliminary transfusion was considered necessary. The 1½ pints of blood transfused had an immediate improving effect, but unfortunately he regained a false sense of security, and, as a result, died four weeks later from heart failure consequent upon his exhausted and anaemic condition. Dr. Shaw reported the case of a woman, aged 53, where there was delay in operating, and where the ulcer was eventually found to show characteristics suggestive of carcinoma. Partial gastrectomy was performed, and ten months later the woman was apparently well and had gained considerably in weight. Dr. Shaw said that four conclusions could be drawn from the treatment of Type 1 cases: (1) that gastro-enterostomy gave cessation of haemorrhage; (2) that delay was dangerous in that the patient became too weak to withstand the actual operation; (3) that delay endangered the recuperative power necessary for the healing of the wound; (4) that the danger of overlooking a carcinoma until such time as it became inoperable must also be borne in mind. To illustrate Type 2—"the small infrequent haemorrhages"—Dr. Shaw instanced the case of a man, aged 35, first seen five years ago with slight haematemesis. There was a vague history of epigastric pain and discomfort after food. The subsequent history showed recurrence of the pain, but there was no evidence of vomited blood or melaena until six weeks ago. The barium meal showed a hypertonic stomach, very active peristalsis, rapid emptying, but no definite sign of ulcer. The symptoms responded to medical treatment, and the man had returned to work. Dr. Shaw considered that this type of case occurred more frequently in younger subjects aged 25 to 35, and, even granted that the diagnosis of ulcer was established, he did not advocate the ready adoption of surgical measures in these patients in the absence of evidence suggesting pyloric obstruction. Untoward sequelae, such as jejunal ulceration, were likely to occur among these cases. Dr. Shaw then spoke of the sudden large haemorrhage of Type 3, of the urgent problem, and of the heavy mortality presented by this class of case, often duodenal in origin. Ulceration might occur into some large vessel such as the splenic artery, the coronary arteries, or the gastro-duodenal. Dr. Shaw advocated operation without delay in these cases, having regard to the danger of recurrence of haemorrhage. The ideal operation was that which removed the ulcer or controlled the source of haemorrhage by ligation, and was followed by gastro-enterostomy. The extent of this procedure could only be determined in the individual case at the time of operation, and gastro-enterostomy might alone be possible.

Dr. C. H. MILLER said that divergence of opinion between the physician and surgeon was more apparent than real on the treatment of gastric haemorrhage; many physicians welcomed an operation in that it shortened the period of treatment. A difficult problem often arose in



one of these severe cases of haemorrhage, owing to the patient being too ill for routine examination, and then it was necessary to resort to the history for a decision. Dr. Miller agreed in counselling operation in cases of chronic ulcer; the gravest haemorrhages were to be feared in the region of the lesser curvature. He showed a drawing illustrating a chronic ulcer which had eroded the splenic vessels and established a dissecting aneurysm. In Dr. Miller's experience the acute cases of ulcer were more liable to bleed than were the chronic, but at the same time he advocated medicinal treatment for acute cases where the indications were moderately safe, and advised as a broad rule that the chronic cases should be treated surgically. Fainting and sudden collapse were important signs, pointing to erosion of some large vessel. Dr. Miller finally drew attention to cases of haematemesis in young girls where fainting occurred before the haematemesis. He said that these patients recovered under the care of the physician, but died if surgically treated.

Mr. NORMAN LOCK mentioned eight cases of severe haemorrhage observed in recent years; all but one had ended fatally. Four had been treated medically, and an equal number had come to operation. He agreed with Dr. Miller as to the infrequency of haemorrhage in the chronic ulcer. He had formed a favourable opinion of gastro-jejunostomy alone from his own experience in operating on these cases. He welcomed transfusion as a present help in these sudden severe haemorrhages.

Dr. COREY reported a favourable experience of the intensive alkali treatment in gastric ulcer, the results of which now made him very unwilling to advise a gastro-enterostomy. Dr. R. V. SOLLY discussed the question of transfusion and the advisability of introducing a small quantity at a time; large amounts might actually increase the liability to haemorrhage. Dr. Solly also suggested the intravenous injection of calcium chloride when a doctor was not at hand.

Dr. W. GORDON spoke of the trying situation which had to be immediately faced in the case of a patient suffering from sudden gushes of blood from the stomach: where was the haemorrhage, should a surgeon be called in, or should the treatment be medical? The surgeon might say that an operation offered more risk than leaving the patient alone. In this case Dr. Gordon said that the immediate indication was morphine followed by haemoplastin, calcium chloride or lactate, or adrenalin chloride. In acute cases he agreed that it was best, as a rule, not to operate, but in the chronic cases—especially chronic ulcer occurring in older folk—more especially duodenal, he advised operation. The intensive alkaline treatment was a modification rather than a new form; a man at present under his care appeared to be doing well on alkalis.

Dr. F. A. ROPER was also favourably impressed with the modified treatment with alkalis. As regards the cases of severe haemorrhage, his experience in the medical wards was that the majority of those considered inoperable on account of their general condition recovered under medical treatment. Dr. Roper also gave his personal experience of transfusion, and mentioned three recent cases. On one, a big robust man, transfusion had no effect, death occurring in thirty-six hours, while in the two others the immediate effect was striking.

Dr. J. A. W. PEREIRA GRAY recalled five cases of severe haemorrhage occurring in his practice during the past twenty-five years; all the patients had refused to have an operation performed, were treated at home, and made a good recovery. He had found cocaine and adrenaline valuable when given by the mouth during the stage of haemorrhage, and magnesium sulphate in small doses subsequently.

The PRESIDENT considered that the most important advance in the treatment of these cases was blood transfusion. He had been associated with Dr. Roper in the case of the patient with the low haemoglobin count. This man had refused operation, but had been able to eat ordinary food when he left hospital. Mr. Candler agreed that excision should be performed wherever possible, but up to the present the results were not good for the excision of the acute bleeding ulcer.

## RADIUM IN CANCER OF THE BREAST AND TONGUE.

At a meeting of the Brighton and Sussex Medico-Chirurgical Society on March 1st, the president, Dr. DONALD HALL, in the chair, Mr. DUNCAN C. L. FITZWILLIAMS gave a lecture entitled "The role of radium in treatment of cancer of the breast and tongue."

Mr. Fitzwilliams began by recalling the birth of modern surgery, its extensive growth at first and its slower progress subsequently as fewer fields were left for exploration. He thought that the time would come when the whole of the body would have been explored by surgical means; technique would have reached its highest, and surgery, as known now, would be on the wane. Its nature would alter, and perhaps a hundred years hence there would be contempt of the doings of to-day. One of the present changes was the replacement of surgery by radium in areas where it could be applied. In the tongue radium had largely replaced the knife among surgeons who understood its use.

Mr. Fitzwilliams mentioned the several methods of applying radium, and particularly the insertion of seeds of glass containing radium emanations. These seeds were planted in the tissues and left there; the radium emanations diminished gradually and the glass capsules remained. One drawback of this method was that if used in a septic cavity such as the mouth sepsis might supervene, and the capsule could not be found in the oedematous tissue. He had seen an instance of this in the case of a tonsillar growth. A better method was the insertion of metal capsules containing emanations with a fine piece of silk attached, so that they could be withdrawn after a certain time. He described an instrument after the manner of a trocar and cannula for the introduction of these seeds. This method of applying radium was rather new, and it was too soon to say whether it would hold its own, but, he added, superficial growths disappeared as if by magic when treated in this way. He described the use of needles containing radium; these needles, of varying lengths, were composed of platinum 0.5 mm. thick, so as to screen off injurious rays from the tissues. They should contain 0.2 to 0.5 mg. of radium, and the most useful length, he thought, was about one to two inches. He described their employment fully, and said that they should be left in place for a week or ten days. He then discussed tubes containing about 50 mg. of the metal heavily screened; these were good in such cases as carcinoma of the cervix. An efficient method of treating cancer was to place large doses in the centre of the growth where the cells were degenerating and harmless. It was much better to surround the growth with radium needles so as to deal with the actively growing edge. The last method described of using radium was by tubes or plaques, either of the metal itself or radiations, which were placed upon the skin. He said he had never obtained good results from this method in large growths, but it was a very good way of dealing with small superficial growths, such as rodent ulcers and epitheliomas of the lips. In dealing with the breast it was pointed out that extrathoracic carcinoma alone could be dealt with; if the cancer cells had already gained the interior of the chest, the patient would probably die owing to internal metastases, however widely the original growth might be removed. In the early stages of primary carcinoma of the breast the knife was far superior to radium; only in atrophic cases, cases unsuitable for operation, or in encephaloid cases was radium recommended. The great function of radium lay in dealing with the external metastases; and these could be treated with the certainty of cure. Illustrative cases were given. In the tongue the disease superficially was local, but penetrated very deeply. It was the failure to realize this depth of penetration which was the cause of local recurrence after operation. Seeds or needles would cause the growth in the tongue to disappear, but left a very suspicious hardness behind. Different methods of treatment were illustrated. In the glands in the neck block dissection combined with the use of radium was recommended as the best treatment. Mr. Fitzwilliams strongly recommended the use of lead in combination with radium.

## MEDICO-LEGAL ASPECTS OF CRIMINAL ABORTION.

THE position of the medical practitioner in cases of criminal abortion was considered by Dr. G. ROCHE LYNCH, senior official analyst to the Home Office, in the course of a lecture delivered on March 7th at the Royal Institute of Public Health, with Mr. Justice HUMPHREYS in the chair. It was probable, Dr. Roche Lynch said, that at the present time criminal abortion was being practised to a greater extent than ever before in Great Britain, on the Continent, and in America, and the subject was therefore one of the most pressing problems with which forensic medicine had to deal. Criminal abortion was a felony in this country, and it was the duty of the Crown to prosecute persons suspected of this crime and persons who were accessory to the fact. It was the intention that constituted the crime, and it was not necessary that abortion should take place. To the medical man abortion and criminal abortion were two entirely different things. The former was only practised by reputable obstetricians where it was necessary to save the life of the mother. The decision to terminate pregnancy was a question of medical opinion, and a golden rule among doctors was never to empty the uterus until a second opinion in agreement with the first had been obtained—a rule to the interest of patient and doctor alike.

Certain obstetricians during recent years appeared to have practised abortion in cases where the mother's convenience only, and not her life, was at stake. Sir Archibald Bodkin had said that whereas abortion had been practised in former years on unmarried women, since the war the vast majority of cases had been among married women of the poorer classes living with their husbands in towns. Dr. Roche Lynch said that what usually happened was that the unfortunate woman, having missed one or two periods, took drugs. She often gave up the treatment either because it failed or because it made her feel ill. By this time the foetus was nearing the third month of gestation, and usually some mechanical interference was attempted. As a result of this interference the woman often became ill, and it was then that the doctor was called in.

What were the doctor's duties to the State in regard to giving information? Professional secrecy was a jealously guarded privilege, but it had been subjected to criticism by judges at times. Partly as a result of an utterance of Mr. Justice AVORY, the Royal College of Physicians, in 1916, considered the question with great care, and had taken the opinion of learned counsel. [The subsequent findings of the College, together with a full account of the circumstances in which the question arose, were published in these columns on February 5th, 1916, at p. 206.] Continuing, Dr. Roche Lynch said that the opinion had been expressed by Sir William WILCOX that where there was conclusive objective evidence of criminal interference—for example, wounds on the cervix—the medical practitioner who took no steps at all was unwisely inflicting upon himself a grave responsibility which might lead to serious trouble; where there was conclusive objective evidence of criminal interference, quite irrespective of any statement made by the patient, there was no doubt that the duty rested on the medical practitioner of informing the legal authority. Dr. Roche Lynch added that he had heard judges say that should an action be brought against a doctor for betrayal of such confidence no jury would convict. Nevertheless, to obtain a verdict in his favour the doctor would be put to considerable expense.

Mr. Justice HUMPHREYS said that there could be no question that criminal abortion was very rife in this country, even more so than it was many years ago. There was one point in regard to the matter in which a mistake was being made by some medical men and some lawyers. Anyone who wished to abolish criminal abortion should remember that abortion and birth control were two totally different things. The first was highly criminal, while the practice of birth control might be desirable or undesirable, but at least it was not criminal.

## ADDISON'S DISEASE.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on February 24th, the president, Dr. G. E. NESMITH, in the chair, Dr. L. ABRAHAMSON read a paper based on three cases of Addison's disease.

Dr. Abrahamson gave the following clinical details.

The first patient was a lad, aged 18, who developed slaty pigmentation of the skin, which became darker and more widespread, but was unaccompanied, for sixteen months, by any other symptoms. During this time the patient played games and was of normal physical strength. The systolic blood pressure was 140 mm. The mucous membranes were clear. Vomiting then set in, the mouth and tongue became diffusely pigmented, weakness developed and progressed to prostration, the systolic pressure sank to 40 mm., and death ensued one month later.

The second case was that of a woman, aged 27, who complained of weakness, anorexia, and loss of weight. She had brownish-black pigmentation on the backs of the hands and on the neck and face, with a streak on each lip; the systolic blood pressure was 70 mm. Her symptoms had followed the birth of a child. After a time the pressure sank to 60 mm., faintness and vomiting set in, and weakness became marked. Spots of pigmentation appeared on the mucous membrane of the mouth and tongue. The pressure dropped to 40 mm. systolic, and death followed.

The third case was that of a woman, aged 32, who developed, shortly after the birth of a child, weakness, faintness, and giddiness. With these symptoms there had appeared pigmentation of the skin, and attacks of vomiting, breathlessness, and palpitation. She was admitted to Mercer's Hospital in a grave condition, and eight days later she died. Her systolic pressure on admission was 60 mm., and before death it registered 40 mm. Pigmentation was practically universal, and there were streaks in the mouth. Vomiting, faintness, and prostration were marked. A necropsy showed advanced tuberculosis of the suprarenal glands, with a tuberculous nodule in one lung, and brown atrophy of the heart.

Dr. Abrahamson discussed the immunity of the first patient for sixteen months from the symptoms typical of Addison's disease. He suggested that this and the raised blood pressure were explicable on the assumption that the condition was for a time, wholly or mainly unilateral, and that the supervention of typical symptoms was due to the appearance of acute miliary tuberculosis in the healthier suprarenal. The interest of the second case lay in the fact that the only definite improvement during the course of the illness followed the application of radium, which was applied over the front and back of the trunk (suprarenal areas) and over the spleen.

Dr. T. G. MOORHEAD said that at first he had doubted whether the lad had Addison's disease, owing to the fact that the pigmentation looked more like diffuse sunburn than like the characteristic bronzing. Furthermore, it was not more marked on the nipples and axillae than elsewhere, and there was no involvement of the mucous membranes. The patient had, moreover, a blood pressure unusually high for his age. Dr. Moorhead now thought that this high blood pressure was perhaps due to stimulation of the adrenals in the early stages of the disease. He referred also to the frequency of severe and persistent lumbar pain as an early symptom of Addison's disease, since it occurred before the development of pigmentation and other symptoms.

Dr. A. R. PARSONS, referring also to the case of this lad, said that he would have been disposed to suspect a tuberculous lesion in some part of the body. He mentioned the case of a woman, aged 20, who had been admitted to hospital complaining of uncontrollable vomiting, and who had died; tuberculous disease of both suprarenal capsules had died; until then he had never seen a case of Addison's disease without pigmentation of the skin. Cases in which there was no pigmentation usually ran a rapid course, the patients dying within twelve months.

Dr. M. J. NOLAN asked if Dr. Abrahamson had found any alteration in the urine in his cases, and said that in one of his own cases there had been haematoporphyria. He mentioned a case of asthma in which asthmolysin had been used, and large patches of Addisonian colour appeared; on stopping the remedy the discoloration disappeared. Dr. ABRAHAMSON, in reply, said that the uric acid in all his cases had been normal to ordinary tests, and referred to two cases of cure of Addison's disease, quoted by Pybus, by grafting of the suprarenal.

## Rebichus.

### SURGICAL TREATMENT OF MALIGNANT DISEASE.

THERE is something almost overwhelming in the idea that a man should be found in these days brave enough to take the whole field of cancer surgery for his task. It is only one who, like Sir HOLBURN WARING, can command immense clinical resources such as those of St. Bartholomew's Hospital who could properly set out to teach the professional world what his experience has taught him. What these resources are can be clearly indicated by the mention of 748 cases of gastric, 500 cases of lingual, 1,523 of mammary, and 51 of uterine cancer in the twenty-year period quoted.

At first sight it is not quite obvious exactly to what audience this work, *The Surgical Treatment of Malignant Disease*,<sup>1</sup> is addressed. The specialists will perhaps think it best suited to the general surgeon. The general surgeon, on the other hand, may conclude that the specialist will find in it just the amount of information about the wider field that may suffice him; for the pages containing the letterpress number no more than 667, and a very considerable portion of these is devoted to illustrations, some of them inserted twice and one three times. No trouble, in fact, has been spared to make the book easy to read, though the regional arrangement of the chapters has the disadvantage, which extends to the index, of not bringing before the reader at once all the information available about such a subject, say, as "sarcoma of bone."

To review a book like this helpfully or constructively would require knowledge and courage like the author's. It must suffice to speak of the contents in general terms, and to record a few comments that are suggested by reading the sections. In the first place, almost every section ends with a statement of the author's experience of radium and irradiation in treatment, supplemented by a summary of that published by others. It seems that on the whole his impression of results is but little more favourable than that of the generality of surgeons a few years ago. This is rather unexpected in view of the results obtained at the Radium Institutes of Paris and elsewhere, not least at Sir Holburn Waring's own hospital. It is but right to say that the quotations from other writers offer a very useful and valuable summary of irradiation results.

The chapter dealing with cancer of the tongue may be taken as representative of the remaining forty-seven. Although the intention to deal with pathology is disavowed, this cannot, of course, be excluded. Clinical aspects, incidence, and diagnosis are taken in turn; there is then a brief statement of the principles of operative treatment, followed by a discussion of the considerations proper to feasibility and extent of operation. After a page about anaesthesia, the actual operations are described much in the form made familiar by the author's *Manual of Operative Surgery*, but expanded and with some additional figures to elucidate the probable lymphatic involvement. The pictures to illustrate "block dissection," unless studied in conjunction with a short paragraph ten pages back, hardly display to the full what is now meant by that term. This section, like the rest, concludes with a list of references to recent literature, a feature that will prove a most useful part of the book, especially as in many cases a digest of the matter is incorporated in the text. In regard to cancer of the oesophagus no way of escape from the prevailing gloom is indicated. Under "Stomach" it is interesting to find that the author has operated on several cases of perforation of a malignant ulcer; the published cases, as he mentions, are few. The figure on page 78 is a good one of gastrectomy for ulcer, but not adequate, perhaps, for cancer. The sections on malignant disease of the small intestine are interesting, of course, because of the rarity of the occurrence of cancer in this site; and they should prove useful, in estimating prognosis, to the average surgeon meeting his solitary case.

<sup>1</sup> *The Surgical Treatment of Malignant Disease*. By Sir Holburn Waring, M.S., M.B., B.Sc. (Lond.), F.R.C.S. Oxford Medical Publications. London: Milford, Oxford University Press. 1928. (Cr. 4to, pp. xx + 667; 277 figures, 18 plates. 50s. net.)

The discussion of cancer of the rectum reflects current opinions. The difficulties, such as avoidance of tear or wound of the bowel during the perineal operation, are hardly given enough prominence. Here it may be mentioned that the book does not embody the author's experience and advice as to the management of difficulties in after-treatment, which is a pity, since it is in the cases that, unaccountably or explicable, do not "go right" that guidance is sought by the less experienced. It is to be noted that in treating malignant disease of the testicle, operation extending no further than the internal ring is recommended; the theoretically complete operation is described, but "sufficient cases, however, are not yet on record to justify the general recommendation of this method." The suprapubic route is advised for removal of carcinoma of the prostate, but an abdominal incision "two to three inches" in length would not suffice for surgeons less skilled. In speaking of cancer of the cervix uteri the author says that a biopsy ought not to be necessary, and is to be deprecated as likely "to expedite the occurrence of metastases." It is to be noted that he apparently considers Broder's classification of malignancy of value, and in this context relies upon it for an estimate of the likelihood of glandular infection: must not the value be mainly associated with a biopsy? Cholecysto-gastrostomy (p. 451) is recommended, or as an alternative cholecysto-jejunostomy, though on page 460 we are left uncertain whether cholecysto-duodenostomy is not, in the author's opinion, the operation of choice. It is encouraging to learn that he has not had an operative death from removal of the spleen for malignant disease. For those cases of tumour of the hypophysis in which the main mass is above the fossa he has found the antero-lateral cranial route the best, but he mentions Sargent as preferring the frontal. On page 521 it is stated that a malignant growth commencing in the ganglion cells of the medulla of the suprarenal has the usual characteristics of a melano-carcinoma, and the reader is referred to Chapter 16 (hypernephromata); but the subject does not seem to be further elucidated. In dealing with sarcomata of the bones of the upper extremity Sir Holburn Waring does not give any decided personal advice as to the propriety of amputation, local removal, or reliance on non-operative methods. In the discussion of operations on tumours of the lungs the value of preliminary artificial pneumothorax is not made quite apparent, as the anaesthetist is told to increase the intrathoracic pneumatic pressure before the surgeon incises the pleura.

In reading this, or any, book on malignant disease, as in reflecting on cases, it is hard to relinquish the hope that some practical means may be found of reaching cancer cells wherever they may exist throughout the body—either to kill them by extraneous means or to awaken protective forces surely capable of evolution by the tissues. It is with regret, therefore, that we learn that the experience of St. Bartholomew's Hospital with Blair Bell's method has not confirmed the results he himself has demonstrated.

Sir Holburn Waring is to be congratulated on the energy and industry which, amid so much exacting public work, has enabled him to add this remarkable book to his achievements.

### PEDIATRICS.

THE basic idea of prevention, as has often been said, is gradually creeping its way into many branches of medicine, and while its presence had been obvious for some time in many small monographs on various aspects of diseases of children, no author had so far attempted a large textbook based fundamentally on this idea until *The Modern Practice of Pediatrics*<sup>2</sup> by Dr. WILLIAM PALMER LUCAS made its recent appearance. This volume is not by any means a "popular" exposition of elementary child welfare principles, but covers the orthodox field of pediatrics in a thorough manner; and the author has succeeded in demonstrating how even the most technical and intricate problems of the research laboratory and the most complicated clinical aspects of the subject are related to the

<sup>2</sup> *The Modern Practice of Pediatrics*. By William Palmer Lucas, M.D., LL.D. London: J. and A. Churchill. 1927. (Roy. 8vo, pp. x + 563; 125 figures. 30s. net.)

prevention of disease. The book is divided into two parts, the one dealing with infancy and the other with childhood. In the former the preventive idea is well developed in the care bestowed on the pre-natal period and the physiology and pathology of the infant. The latest work on nutrition is then taken up and discussed at some length, so that after chapters dealing with metabolism, vitamins, integumentary requirements, the problems of the child are approached on thoroughly modern lines. Disorders are considered in the modern spirit, and even if the terminology (as always in this department of diseases of infancy) is unsatisfactory, the author makes it quite clear what he means by the terms he employs. With chapters on certain special disorders such as congenital pyloric stenosis, rickets, tetany, and scurvy, for example, the first part of the book ends. The disorders of childhood are again dealt with from the preventive standpoint. From a discussion of normal growth and nutrition, the subjects of malnutrition and digestive disturbances follow naturally, and the various systems are then taken up in turn. A chapter on mental problems is especially good, and a short section on accidents is an unusual but welcome addition in works of this character. A final chapter on therapeutic and diagnostic procedures contains a very large amount of practical advice. At the end of each chapter a very full bibliography is given under the modest heading of "reference readings," and the list of authors shows Dr. Palmer to be well acquainted with the latest developments of his subject. Well indexed and illustrated, this volume represents with much success an increasingly important new outlook on disease, and at the same time it forms a serviceable textbook on the subject.

Pediatrics is dealt with in the well-known English "Aids" series by a volume of over 300 pages of small print with the awkward title of *Aids to the Diagnosis and Treatment of Diseases of Children*.<sup>3</sup> Dr. F. M. B. ALLEN has revised the late Dr. John McCaw's work for a sixth edition, and an amazing amount of information is contained in a very small space. The section on artificial feeding has been modified, and is certainly simple, but much too brief. References to recent work on rickets have been incorporated, and a different classification of nephritis is now adopted, while other parts of the book have been brought up to date, so that the popularity of this introduction to pediatrics is likely to be maintained.

## DIATHERMY.

THE second edition of Dr. E. P. CUMNERNATCH's book on *Diathermy, its Production and Uses in Medicine and Surgery*,<sup>4</sup> has been overdue for some time, the first edition having been published as long ago as 1921. Knowledge of this method of treatment has grown, and its scope has widened accordingly in the interval, and this means that the greater part of the second edition has undergone extensive review, and a considerable amount of new matter has been added. The result is that the volume has increased in size by more than a hundred pages, and the number of illustrations has been doubled.

The chief additions are those referring to the uses of diathermy in many of the diseases peculiar to women, and in diseases due to the gonococcus. The surgical part has been entirely rewritten and now includes a fresh section on the new "cutting currents." The author lays stress upon the important point that treatment by this method of the cause of an arthritis, such as by applications to the diseased cervix uteri, yields results which are far better than those brought about by treatment of the joints alone.

In our review of this book in 1921 we called attention to its value, especially as it was almost wholly based upon the author's own experiences. We would again emphasize this point. Dr. Cumberbatch's book is the standard work on the subject in the English language.

<sup>3</sup> *Aids to the Diagnosis and Treatment of Diseases of Children*. By John McCaw, M.D. Revised by Frederick M. B. Allen, M.D., M.R.C.P. Sixth edition. Students' Aids Series. London: Baillière, Tindall and Cox, 1907. Pp. 370. 4s. 6d. net.

1927. (Fcap. 8vo, pp. viii + 330. 4s. 6d. net.)  
 \* *Diathermy, its Production and Uses in Medicine and Surgery.* By  
 ELIN P. CUMBERBATCH, B.M.Oxon., D.M.R.E.Camb., M.R.C.P. Second  
 edition. London: W. Heinemann (Medical Books), Ltd. 1927. (Demy 8vo,  
 pp. xiii + 332: 87 figures. 21s. net.)

## FERMENTS

FERMENTATION.

THE book on ferments and their action by C. OPPENHEIMER has long been known as one of the standard works on ferments. The first two volumes of the fifth edition of this work have recently been completed, and the third volume, which deals with methods of ferment investigation (*Die Methodik der Fermente*; OPPENHEIMER and PINCUSSEN<sup>2</sup>), is now appearing in parts. The editors explain that in previous editions the descriptions of methods were mingled with the general text, but this method was unsatisfactory, and in the present edition all descriptions of methods have been collected into one volume, which completes the general work and also forms a practical textbook which can be used independently of the previous volumes. The aim of the editors has been to provide in a single book all the information needed in the laboratory by those investigating ferment action.

We have received the first two parts of this volume, which will be completed in five parts. Each contains about 300 pages. It is indeed a striking tribute to the rapidity of growth of the science of biochemistry that a work of this size should be devoted to the description of the technique of one branch of the science. The first part is devoted chiefly to general matters, and contains articles on important physical methods such as polarimetry, refractometry, nephelometry, spectral photometry, and colorimetry. These are followed by articles on physico-chemical methods—namely, the determination of viscosity, of surface tension, of hydrogen ions, of electrical conductivity, and of osmotic pressure. Another article describes Pregl's technique for micro-analysis. Next the preparation of biochemical products is discussed, and two articles by Levene on the nucleo-proteins and phosphatides are specially noteworthy. The larger portion of the second part is devoted to the description of methods for isolating ferments from vegetable and animal tissues. An article by K. Herter on the isolation of important organs in animals is of particular interest; it contains thirty-four illustrations and consists practically of a treatise on the comparative physiology of the digestive organs. In another article Bickel gives a full description of the operative procedure for making fistulae of various kinds.

Judging from the parts which we have received it would appear that the completed volume will fulfil its purpose admirably. It will provide an exhaustive laboratory manual of the greatest value to all workers who are specially interested in ferments, and it will cover also a large proportion of general biochemical technique. The publishers are offering each volume for M.28 to those who subscribe before completion of the work, which is expected by April; after that the price will be increased.

PHYSIOLOGICAL STANDARDIZATION OF DRUGS.

*Methods of Biological Assay*,<sup>6</sup> by Dr. J. H. BURR, is a book which caters for an urgent need, for it will be indispensable to all who are interested in the physiological standardization of drugs. Dr. H. H. DALE summarizes thus the merits of the work in the closing words of an introduction that he has written:

"Dr. Burn's book comes at a time when the need for it is certain to be felt. In this year the application of certain biological standards has become in this country for the first time a legal obligation, and there will be many needing guidance in the methods of their use. Here they will find no undiscriminating record. Dr. Burn has made no attempt to prepare an historical catalogue of superseded methods and conflicting evidence. He has aimed rather at a description, in practical detail, of the methods which he knows and trusts himself, I believe that many will find in him a safe and helpful guide."

Dr. Burn has an exceptionally full first-hand knowledge of his subject; he gives an exact detailed description of the

2. *Die Fermente und ihre Wirkungen.* Von Prof. Carl Oppenheimer. Chemie und Kinetik. Von Prof. Dr. Richard Kuhn. Fünfte, sorgfältig bearbeitete Auflage. Band III: *Die Methodik der Fermentforschung.* Unter Mitarbeit von Fachgelehrten herausgegeben von Carl Oppenheimer und Ludwig Pincusson. Lieferung I, und II: Leipzig: G. Thieme. 1927 und 1928. (74 × 104, 16 Seiten). Lieferung I, pp. vi + 320, 181 figures; Lieferung II, pp. vi + 303, 116 figures. Each part, M. 3.80. R. U. Burr. M.A., M.D. Camb. With

pp. x + 320, 181 figures; Lillierudg II, pp. 11-12.





# British Medical Journal.

SATURDAY, MARCH 17TH, 1928.

## ACUTE OSTEOMYELITIS.

THE pathology and treatment of acute haematogenous osteomyelitis was discussed last week at a well-attended meeting of the Orthopaedic Section of the Royal Society of Medicine. The opener, Mr. Harry Platt of Manchester, reminded his hearers of the change which has come over the practice of surgery during the last generation, since the days when the master surgeons took a keen interest in the treatment of diseases of bone, which the work of Brodie had done so much to illuminate. For the problem of acute osteomyelitis is no new one, but the lure of the abdomen has led the surgeons of to-day to neglect it, so that its treatment is in too many cases left to the resident surgical staffs of hospitals. Its importance has no doubt also been diminished by the fact that the disease has become much less common, so that it seems likely to be included before long in the list of disappearing maladies. Mr. Platt quoted the Registrar-General's report for 1926, which shows that in England and Wales in that year no more than 417 deaths were attributed to this cause, whereas there were in the same period 2,710 deaths from acute appendicitis. Moreover, the average number of deaths from acute osteomyelitis during the six years 1921-26 was only 435. In the great general hospitals of London few surgeons have the opportunity of treating more than two or three cases a year, although an exception must be made in the case of the London Hospital, where, as Mr. Alan Perry told the Section, thirty-five cases were treated in one children's ward in 1925, all under the surgical control of one surgeon. At Ancoats Hospital, Manchester, all the cases admitted come into Mr. Platt's care, and the forty-one cases there treated in the last five years formed the subject of his paper, together with the large experience of Dr. Clarence Starr of Toronto, who has treated 207 cases in twelve years—an average of over seventeen yearly.

According to Mr. Platt, Starr's work, which was first introduced to the surgical public by an article in the *Archives of Surgery* in 1922, must change some of our views of the morbid anatomy, and consequently of the treatment, of the disease. It is generally admitted that in a long bone the most common seat of the primary infective embolus is in the metaphysis—that region of cancellous bone which lies between the medullary cavity and the epiphyseal line—and it is commonly held that from this situation infection and pus formation spread, not only outwards to the subperiosteal space, but deeply into the medullary cavity, and thence rapidly affect the whole shaft of the bone. This last statement Mr. Platt rejects, holding that the facts brought forward by Starr emphatically contradict the direct spread into the medulla through the cancellous bone. More often the medulla is secondarily infected from the subperiosteal space through the Haversian canals. If Starr is right the "gutter" operation, which is based on the old pathology, should be abandoned. It may be necessary to explain that this term is used to mean a proceeding by which the medullary cavity is laid open

throughout its length by the removal of the anterior two-thirds of the circumference of the shaft of the bone. The object of this, as of all other operations in the earlier stages of the disease, is the establishment of free drainage and relief of tension thereby. The less common cases in which infection is conveyed to the shaft in the first place by the nutrient artery, as happens more often in the bones of the upper extremity, are in a different category, and obviously require different treatment. Treatment by early extensive removal of bone is attended by the difficulty of deciding how much bone is devascularized beyond hope, for not all devascularized bone is finally extruded in the form of a sequestrum. Portions which may seem dead may be in the end revitalized somewhat after the manner in which a bone-graft becomes part of its bony surroundings.

In the most frequent case of metaphyseal invasion Mr. Platt advocates searching for the infective focus by drilling into the metaphysis and removing a small piece of bone by means of a trephine as soon as the focus is found, so as to allow of free drainage. These measures have given gratifying results when not postponed too long. The essence of successful treatment is early diagnosis and immediate exploration and drainage. Mr. Alexander Mitchell of Aberdeen advocates the removal of a piece of cortical bone for drainage, but when the disease has extensively invaded the shaft of a long bone he has had good results from subperiosteal resection of the diaphysis. He has no fear of failure of regeneration as long as the limb is not unduly constricted and the muscles are allowed some play. These conditions he secures by the use of Thomas's splints and gentle extension. The twenty-nine cases in the Hospital for Sick Children which formed the basis of Mr. Eric Lloyd's contribution to the discussion led him to recommend a kind of compromise between the gutter operation and periosteal incision; obviously the first involves the second. Mr. W. H. Ogilvie's statistics were based on fifty-one cases treated in Guy's Hospital in the five years 1922-26. Like other observers, he found the disease to be diminishing in frequency. He condemned diaphysectomy. Mr. Alan Perry, speaking from his experience at the London Hospital, regarded the usual acute cases as pyaemic from the beginning, and this fact was, in his view, of more importance than the localized foci in the bone.

Acute osteomyelitis is a dangerous and crippling disease chiefly affecting children. Those who suffer from it, if they survive, too often do so only after long suffering and prolonged suppuration, with its attendant risks. It is most often caused by transmission through the circulation of the *Staphylococcus aureus* from a superficial lesion, such as a sore on the skin, to the focus in the bone; and, bearing in mind this fact, some surgeons maintain that in all cases, by the time that bone symptoms are detected, we have to deal, not with a local bone disease, but with an acute general toxæmia. This may be true, but local treatment is none the less sound, more especially seeing that most of the speakers in this discussion declared themselves pessimistic about the value of blood transfusion, or intravenous medication, or other methods of attempted attack on the general condition. It is generally agreed that early drainage is most desirable; but early drainage depends upon early diagnosis, and this again depends on recognition of the prodromal stage, which, although in a fulminating case it may only be of two or three days' duration, yet in most severe cases lasts at least seven days, and may, be prolonged to four weeks.

The teaching of Sir James Mackenzie on the importance of recognizing the beginnings of disease, and of the role of the general practitioner in their detection, is generally accepted. In the case of acute osteomyelitis we must look to the general practitioner to be on the alert to notice the occurrence of fixed pain and tenderness at the end of a long bone, especially when accompanied by intermittent limping and culminating in swelling at the site of pain and tenderness. It is common knowledge that in the past the early stage of acute osteomyelitis was too often mistaken for acute rheumatism; but acute monarticular rheumatism in a child is not very common, and, remembering the paramount importance of early diagnosis and treatment in this disease, it would be well if osteomyelitis were given the benefit of the doubt, and if every practitioner confronted with the above-mentioned signs and symptoms had osteomyelitis in his mind instead of acute rheumatism. The postponement of surgical intervention in a case of arthritis is of little moment, whereas it may be of the gravest import if the case prove to be one of osteomyelitis. In this connexion it would be advantageous to ascertain the relative frequency of monarticular acute rheumatic arthritis in children between the ages of 7 and 15 years.

### "THE REALITY OF DELUSIONS."

THE realm of mental pathology affords few problems at once so obscure and so fascinating as those which concern the origin and manifestation of hallucinations and delusions. The relationship of these two phenomena is close, as every medical practitioner who has had to fill up a lunacy certificate is only too well aware. An hallucination is a percept without sensory foundation in the environment. It is not a true percept, because something is perceived where nothing is; but it partakes of the qualities of a percept inasmuch as the victim of an hallucination has an immediate belief in its outward reality. A delusion is less easily defined, if, indeed, it be at all definable. A delusion has been described as a false conception and persistent belief, impregnable to reason, of what has no existence in fact; but such a definition is inadequate from the point of view of psychiatry, for the delusions of the insane are based upon realities of a kind, realities whose nature it should be the duty of the psychiatrist to discover. It is to this task that Dr. Henry Devine addressed himself in the Long Fox Memorial Lecture delivered recently before the University of Bristol, and its title, "The reality of delusions," indicates the paradox.

Dr. Devine has chosen a topic upon which his wide psychiatric experience entitles him to speak with authority, and all the more because that experience has been deeply tinged with rare philosophical insight and enriched with wide scientific knowledge. In a singularly lucid exposition of an intricate subject he accepts a wider formulation for the interpretation of these psychotic manifestations than any purely psychogenetic or biogenetic hypothesis. Many years' clinical experience of all types of mental disorder has led him to the view that, in their ultimate analysis, the psychoses are no more than obscure forms of organic disease. Such a view is not necessarily antagonistic to a psychological theory of causation. The two—as it seems to him, and to us—are complementary rather than contradictory. They envisage different aspects of the same reality. "The total reality," says Dr. Devine, "is not revealed by exclusive reference

to either the unconscious biological or the conscious psychological process. The total reality is a biopsychic process. We are dealing with the organism as a unity, one and indivisible." He quotes in support of this view the case of a patient who believed that he had the gift of flight. The delusion bore no relation to pre-existing beliefs, to personal interests, or to problems upon which the patient might have pondered. "He will not so much as lift his head to observe an aeroplane. It is evident that no connexion exists in his mind between *that* flying and *his* flying. The delusion is inspired from within, and not suggested from without; and it clearly belongs to an altogether different category of belief than one derived from the social milieu. . . . it is the outward and visible sign of an inward reality—the symbolic expression of endogenous or organic disturbances. It is invested with the same 'reality-feeling' as perceptions stimulated from without, because it is itself an intuitive perception of organic stimulations from within."

In illustration of his thesis Dr. Devine draws a contrast between the attitude of a patient towards physical and mental illness respectively. "Both types of malady are the expression of disturbances of the organism; but in the one case the patient realizes he is ill, and can more or less localize and describe his sufferings; while in the other, in most instances, the patient has no sense of illness, and he is unable to furnish any information as to the nature or locality of the stimuli responsible for the morbid psychic products which surge into his conscious life. Thus the morbid state of the organism is not represented in the mind of the patient as physical suffering, but as depression, unappeasable anxiety, a feeling of guilt, delusions of omnipotence or persecution, or in the form of visual, auditory, or conaesthetic hallucinations." We cannot be reminded too often that psychiatry is part and parcel of general medicine, although it has a terminology (and, indeed, in some hands, a jargon) of its own. Dr. Devine is well aware that the living organism "is not quite the same thing to the psychiatrist as it is to the general physician," and that psychological medicine, groping too often at present in the dark, has to find its way by means that are not always too intelligible to the busy family doctor. But his philosophical outlook, and the freshness and clarity of his writing, lead one to hope that the gap between this special branch of practice and medicine at large is narrowing rather than widening. Every step towards integration, whether taken by way of contrast or of comparison, is a move in the right direction.

Dr. Devine compares the evolution of a delusion to the unfolding of an instinct. At first a sense of anxiety, discomfort, and tension—the consciousness of changes in the organic life for which the patient is unable to account; then the crystallizing-out of the delusion, and a new sense of power and purpose. "Just as hunger"—to quote once more from this stimulating essay—"is the echo of normal physiological distress, so a delusion is the echo of morbid physiological distress—the symbol of diffuse and unlocalizable changes occurring in the depths of organic life. Hunger does not originate in the brain, but in the depleted cells of the whole organism. It is thus also with a delusion; it is the conscious symbol of a morbid state of functioning of the whole organism." The delusion is real, for it is the symbol of organic actuality. Once again, then, mental disorder is not a thing apart; its investigation and alleviation are intimately bound up with the science and practice of medicine as a whole.

## ASTHMA RESEARCH.

SYSTEMATIC investigation of a morbid process, when well planned, wisely directed, and adequately financed, offers the best hope of advance in treatment. We are glad, therefore, to publish the appeal by the Asthma Research Council at page 468 for the sum of £50,000 to enable this distressing condition to be the subject of co-ordinated research. Breadth of vision has not always been manifest in the study of problems of disease and its treatment, the main clinical objectives being sometimes forgotten in the study of interesting scientific details; from such a danger the present proposal is obviously safeguarded. It may be recalled that towards the end of last year a group of persons suffering from asthma was formed to organize such a research, and we pointed out at the time that such an undertaking required the collection and collation of information already available, team work, and the establishment of out-patient departments where specialists of different kinds could co-operate. One illustration of the importance of such specialist study was immediately forthcoming, for Sir James Dundas-Grant, in our next issue, emphasized the significance of the rhinological element in asthma, and Mr. W. S. Syme later insisted that antral disease could not be overlooked in this connexion. The formation of an advisory medical committee to the council was welcomed in our columns on November 26th, 1927 (p. 997); it was at once apparent that the extent of the field to be cultivated had been fully realized in a practical way by the early appointment of a physician, a laryngologist, a physiologist, a radiologist, a dermatologist, a psychologist, and a biochemist, with the subsequent co-operation of a bacteriologist. Surgeon Rear-Admiral Jeaus, who undertook to act as honorary secretary of this medical committee, has since been engaged in laying the foundation of the whole scheme, and the time has now come when it is possible to appeal widely for financial support of a well conceived and skilfully devised plan of research. It is obvious that very much will depend on the response of the lay public, and we therefore commend to medical practitioners the suggestion at the end of the committee's letter that the work of the Asthma Research Council should be brought to the notice of their patients, particularly those afflicted with asthma.

## THE PHARMACEUTICAL SOCIETY'S LABORATORIES.

The second report of the pharmacological laboratories opened by the Pharmaceutical Society about two years ago deals with the events of 1927. In the course of the year the new vitamin department came into operation, and it has been experiencing an increased demand for its services, while since the beginning of August, when the Therapeutic Substances Act came into force and the laboratory began to take its predestined place in the administration of that measure, much larger numbers of samples of pituitary extract have been received for examination. The main body of the work has consisted, as before, in the prosecution of pharmacological research, with special regard to the investigation of methods of assay, and the examination of manufacturers' products by biological tests. The number of samples received for testing during the year, excluding those received by the vitamin department, was 126, the most numerous being pituitary extract, digitalis, tincture of squill, and liquid extract of ergot, others including strophanthus, cannabis indica, and the oestrus-producing hormone. In testing digitalis the recommendation of the Geneva Conference—that only those samples should be considered satisfactory which did not differ in potency from the international standard by more than 25 per cent.—is no longer followed; owing to the fact that a considerable number of samples submitted

exceeded the upper limit of strength recommended, a form of certificate specifying the degree of strength has been adopted to cover tinctures of this character. The vitamin department has completed examinations on behalf of manufacturers of three samples of cod-liver oil for vitamins A and D, and of a number of other preparations for vitamins A, B, C, and D. The results of a series of research operations carried out at the laboratories have already been made generally available through one medium or another, among them being one dealing with the standard adopted for the biological assay of squill, mentioned in a review of the first annual report of the laboratories on May 14th, 1927 (p. 889). A mixture in equal parts of nine tinctures of squill has been taken as standard, and tinctures tested are considered satisfactory which do not differ in potency from this standard by more than 25 per cent. In connexion with clinical investigations into the action of drugs on the uterus—work done in conjunction with Mr. Aleck Bourne of Queen Charlotte's Hospital—an interesting point is raised. Examination of the active principles in ergot has shown that, while the specific alkaloid (ergotamine or ergotoxine) and histamine exert a considerable effect, tyramine is inert. The action of histamine, though powerful, is relatively evanescent, and the evidence, the report states, makes it clear that the traditional value of ergot for promoting prolonged uterine contractions post partum is due to the specific alkaloid alone. It is stated that the amount of histamine in the liquid extract of ergot of the *British Pharmacopoeia* is much too small to have even a temporary effect in the dose employed, and contains none of the specific alkaloid; so that the extract of ergot prepared according to that formula since then can have had no medicinal value. The report argues that since this position arose through the Pharmacopoeial Committee rejecting scientific evidence and basing its action on the general approval of many medical bodies, the demonstration given of the uselessness of the watery extract should be taken to show that in many cases the clinician cannot form any opinion of the value of his remedies, and that the only trustworthy evidence he can offer is represented by a slow formation of opinion which takes many decades to complete.

## HEATING OF LARGE HOUSES.

A REPORT has been issued dealing with an investigation into the merits of that system of warming large buildings known as the "panel system." This name refers to the fact that steel pipes, through which hot water is made to flow, are concealed in the walls or ceilings of rooms behind panels. These panels are surfaces of plaster three-quarters of an inch thick, painted over in cream colour. The internal diameter of the pipes is half an inch. Through the pipes which are in groups of parallel tubes, the hot water at 135° to 140° F. is pumped, the temperature of the return water being about 120° F. This system of heating is essentially one in which radiant heat is supplied at a low temperature—low as compared with, for instance, a gas fire where the temperature may be as high as 2,000° F. The actual temperature of a panel may be 99° F. when the temperature of the air nine inches from the edge of the panel is 64° F. Putting on one side coal fires and gas fires as sources of heat quite unsuitable for heating large buildings, Dr. Vernon and his co-workers have studied all of the following methods: (1) The panel system of hot water tubes concealed in the walls and (or) in the ceiling; (2) under-floor heating by hot-water pipes, after the design of G. H. Widdows of the Derbyshire County Council; (3) a system of heating by means of electric current sent

<sup>1</sup> A Physiological Investigation of the Radiant Heating in Various Buildings. By H. M. Vernon, M.D., and M. D. Vernon, M.A., assisted by Isabel Lorrain-Smith, M.A. Industrial Fatigue Research Board. Medical Research Council Report No. 46. London: H.M. Stationery Office. 1923. 2s. net.

through tubes (1½ inches internal diameter), some of which were above the floor of a room and near to benches which ran across the room, while the others were placed under a skylight that occupied two-thirds of the roof area; (4) warm air from stoves, which was circulated under the floor, as in the new Cathedral at Liverpool. This last method of heating the floor by hot air is practically the old Roman method of heating by the hypocaust, remains of which may be seen in a number of ruined villas belonging to the time of the Roman occupation of Britain. As installed at Liverpool Cathedral, Dr. Vernon found that with air delivered into the ducts at 150° F., and with a floor temperature of about 70° F., the air temperature could be maintained at from 60° to 74° F., according to the spot where the observation was taken. Apparently, for very large stone floors, this system has much to recommend it. In Widdows's system, with a floor temperature of between 71° and 80° F., the air could be maintained at about 57° F. Turning now to the panel system, it is evident that Dr. Vernon finds much that is good in that method of heating. He studied panels placed in the walls of large offices, and also in the ceilings of offices, workshops, hospitals, and schools. By ceiling heating alone the temperature of the air of a schoolroom could be kept at 60° F. in cold weather, when the temperature of the water was 135° F. and that of the ceiling panel 100° F. In the summary we are told that "in offices and other buildings heated by concealed panels in the ceilings or walls there is a remarkable uniformity in the distribution of the heat, and the air temperature may be steady to within 1° F. all over the room and at all levels, except that a few inches below the ceiling (in a ceiling-panel room) there may be a rise of about 2°." "The radiation from gas fires and coal fires differs from that from panels, since it may be a thousand times more intense. . . . With such high temperature radiation rooms felt comfortably warm when 7° cooler than convection-heated rooms. In panel-heated rooms, however, the permissible reduction of air temperature was less than 2° . . . Under-floor heating, though it produces a very even distribution of heat, is apt to be unpleasant to the feet"; and finally, "Hot-water radiators of the ordinary type cause an uneven distribution of heat and a considerable temperature gradient; but they are valuable for checking the down draughts from large windows, which arise even in panel-heated rooms." The report is illustrated by twenty-six figures, ten tables, and four photographs. These last include one of the thermopile and the standard surfaces used in its calibration, the uncovered pipes of a wall panel, and those of a ceiling panel in the course of construction.

#### THE LEAGUE OF NATIONS AND THE OPIUM TRAFFIC.

At the recent meeting of the Council of the League of Nations at Geneva, attention was directed to the numerous international conventions which, though numerously signed had nevertheless not been ratified or put into operation. A crucial case was that of the International Opium Convention signed at Geneva in February, 1925, but still inoperative because three out of the necessary seven ratifications by members of the Council of the League are still lacking. When the unsatisfactory position of this inoperative convention, signed two years ago but still unratified, was reported to the House of Commons on February 15th, it is not surprising that the question was asked whether the recalcitrant signatories had any intention to ratify. Meanwhile the Hague Opium Convention of 1912 remains in operation. It will be recalled that the Geneva Convention of 1925, while formulating elaborate machinery for supervising the international commerce in manufactured narcotic drugs, did not include the American principles of limitation of production of opium and coca and the suppression of opium smoking. These principles,

which the American delegates urged as being implicit in the Hague Convention, were not adopted by the prolonged conferences held at Geneva in the autumn of 1924, and their omission led to the withdrawal of the American delegation, followed by that of the Chinese. At recent meetings of the Council and of the Advisory Committee on the traffic in opium, the Italian delegate has taken an independent line in regard to the relationship which should exist between the proposed Board of Control for the traffic in drugs and the secretariat of the League of Nations; he appeared to hold that with the Hague Convention, and the machinery, now available, of the Council, Assembly, and Advisory Committee of the League, all that was desired and all that was contemplated by the Geneva Convention might be accomplished. As regards India, it is to be noted that the acreage under poppy cultivation is in course of reduction, but the export trade of Indian opium is still very large; in 1926 this amounted to 1,224,140 lb. Much of this is consigned to the Far East, and is used for smoking, but 88,000 lb. was sent to this country as "medical opium." The net revenue of the Government of India from opium amounted in 1925-26, according to a recent statement by Lord Winterton in the Commons, to Rs.2,03,52,437.

#### A STUDY OF RHEUMATISM IN CHILDREN.

In the February issue of the *Archives of Disease in Childhood* Dr. A. P. Thomson describes a study of the distribution of rheumatic infection in some 800 Birmingham children. A rheumatic bureau has been established at the children's hospital of that city, and cases notified by the school medical service and from the children's hospital are included in his statistics. From a consideration of the influence of density of population on rheumatism Dr. Thomson's conclusion is that, broadly speaking, the more dense the population the greater the incidence of the disease. Nevertheless, there is a high incidence in many districts which are sparsely populated. There seems no clear association between poverty, scarlet fever, measles, or diphtheria and the incidence of rheumatism. A map of Birmingham and its suburbs in relation to water supply is given, and on the whole this appears to be the most significant factor elicited by Dr. Thomson's study. Dr. Robert Marshall of Belfast in the same issue, reviews 180 children suffering from rheumatism, chorea, and carditis. He arranges them into five groups, according to the symptoms and the severity of the lesions. The condition of the heart was studied by means of the electro-cardiogram, and in 33 of the 72 cases examined there was a normal record. Of the 119 children observed only two had sinus arrhythmia, and the author thinks this bears out Sir James Mackenzie's dictum that sinus arrhythmia is a sign of a healthy heart muscle. As treatment he gives salicylates for many months. He pleads for further work on the prevention of rheumatic heart disease, and for the supervision and care of the rheumatic child.

#### SEGMENTAL RESECTION OF THE COLON.

At a meeting of the Surgical Section of the Royal Society of Medicine, held on March 7th under the chairmanship of Mr. Warren Low, Dr. de Martel of Paris read an interesting paper in which he described the general principles governing the treatment of cancer of the large bowel. He emphasized the difficulties occasioned by the infected condition of the intestinal wall above the obstructive lesion, and put forward a strong plea for the performance of a preliminary caecostomy prior to the carrying out of any operation of a radical character. In the course of his remarks, which were illustrated by admirable coloured

diagrams, Dr. de Martel paid a high tribute to the operative methods he had had the opportunity of witnessing in London, and in particular referred to the value of Mummery's suggestion for the oblique division of the bowel when effecting an end-to-end anastomosis. During the subsequent discussion it became clear that French practice and British practice in relation to segmental resection for cancer and other conditions of the colon are almost identical. Mr. Mummery made the encouraging statement that cases of cancer of the colon appear to be coming to the surgeon for treatment at an earlier stage of the disease than heretofore, and in the course of his remarks he referred to the value of a transverse incision in dealing with growths at the splenic angle. Mr. Rowntree also referred to the help he had derived from this type of incision, and in connexion with the question of diagnosis he entered a plea for the more routine use of the barium enema, which he had found to be of infinitely greater use than the more tedious process of tracing a bismuth meal in its course through the large bowel. Sir Charles Gordon-Watson referred to the interest and value of these international discussions, and expressed his complete agreement with the general principles outlined by Dr. de Martel.

#### TYPOGRAPHICAL USAGE.

It is not yet three years since the twenty-seventh edition of *Rules for Compositors and Readers at the Oxford University Press* was reviewed in our columns, and already another edition has been called for.<sup>1</sup> It is quite obvious, therefore, that this little work appeals to a much larger circle than that implied in the title, which, by the way, might be altered in future editions, for it is only necessary to glance at its contents page to realize how useful it must be to all who are engaged in work of a literary character. In our notice of the last edition we gave an account of how the book came to be offered to the general public; those curious to know are referred to the *JOURNAL* of June 6th, 1925 (p. 1041). The present edition contains a few—very few—additions, otherwise it seems to be identical with its immediate predecessor. It is not necessary to repeat all that has been said in praise of the work or otherwise, but we would like to return to the subject of hyphenated and non-hyphenated words. Mr. H. W. Fowler, in his *Dictionary of Modern English Usage*, says: "The chaos prevailing among writers or printers or both regarding the use of hyphens is discreditable to English education." This, alas! is but too true, and it is a moot point whether the lists of hyphenated and non-hyphenated words published in the *Rules* are likely to assist in bringing order out of the chaos to which Mr. Fowler refers. In our last notice we gave a few instances in which the use or non-use of the hyphen seemed anomalous; it would be easy to make considerable additions to those instances. In the list of medical terms (p. 30) "foodstuffs" is printed as one word; in the general list of hyphenated words it appears with a hyphen. Quite a number of terms which are generally printed as one word are given a hyphen; on the other hand, some of the hyphenated words now commonly appear as two words. Two very accomplished journalists, who might well have claimed to be termed stylists, had a dislike for the too frequent use of the hyphen, and on more than one occasion requested that where possible it should be omitted. After all, its use or non-use is perhaps largely a matter of taste or temperament, and if the lists in the *Rules* were compiled for the first edition, which was published in 1893, it is easy to imagine that present-day taste may differ from that of the compiler. The pity (in this respect only) is that the *Rules*, which were intended especially for compositors and

proof readers at the Clarendon Press, should have been adopted by the editors of the *Oxford English Dictionary*, which is likely to be the standard work of reference for generations—and deservedly so. We still think the word printed as "sensorimeter" (p. 32) should be "sensormeter," and we are quite sure that "manio-depressive" (p. 27) should be "manic-depressive." The list of medical terms may be of use to general printers, who perhaps come across one only now and again; it is, however, not nearly comprehensive enough for those engaged entirely in the production of medical work. Some sections of the book should prove most useful. We have space to refer to one only, and that a short one entitled "Abbreviations used in the metric system of weights and measures" at page 83. This section is chosen because, in dealing with the "copy" sent in by various contributors, it is a comparatively rare event to meet with the abbreviations given here. The following may be quoted as instances: e.c. or cc. is frequently written for cubic centimetre instead of c.cm.; egm. for centigram, instead of eg.; mgm. or mgr. for milligram, instead of mg.; we sometimes get c.m., and it is only by the context that it is possible to say whether centimetre or cubic millimetre is intended. Then, too, the letter s is added for the plural form, and sometimes insisted on by the author. Various abbreviations for gram are given by different writers; we have seen "gr." (generally used for grain), "g," which is rather common, and "gm," which is adopted by the *Rules*. It is perhaps best that both "gram" and "grain" should be spelled out; it is so easy to mistake one for the other, particularly if the dot over the i in "grain" is omitted. We remember an instance where "gram" had been set up by the compositor for "grain," and the error was only detected in the final proof. The word was used in connexion with the dosage of a highly poisonous drug, and the consequences might have been disastrous had the mistake gone through. Enough has been said to show the importance of this section; in it we notice that "dekametre," "dekagram," and "dekalitre" are printed as here, with a k instead of the more usual c; this seems rather pedantic, and Fowler, in his *Modern English Usage*, favours the c. In conclusion we should like to say that we have found the book of great service; it has been our companion for years, and comparatively few days pass in which it is not consulted in this office—generally with success. Our experience must be that of others, or the editions would not continue to be issued at such frequent intervals—this is the twenty-eighth, and the fourteenth for publication.

#### OXFORD OPHTHALMOLOGICAL CONGRESS.

THE eighteenth annual meeting of the Oxford Ophthalmological Congress will be held on July 5th, 6th, and 7th, under the presidency of Mr. Philip H. Adams. The members will assemble at Keble College (where accommodation has again been offered) on the evening of Wednesday, July 4th, and on the following morning a symposium will take place on "The ultra-violet ray," introduced by Professor Leonard Hill and Mr. W. S. Duke-Elder. The Doxey Memorial Lecture will be delivered on the morning of July 6th by Professor Arthur Thomson, his subject being "Observations on the eyes of birds." One afternoon will be devoted to demonstrations in the Scientific and Commercial Museums. The annual dinner of the Congress will be held on July 5th in the Hall of Keble College. The full programme will be issued in June. Mr. Bernard Gridland (Salisbury House, Wolverhampton) is again acting as honorary secretary.

THE KING has appointed Sir Hugh M. Rigby, K.C.V.O., to be Serjeant-Surgeon to His Majesty in succession to Sir R. Havlock Charles, Bt., G.C.V.O., K.C.S.I., who has been appointed Honorary Serjeant-Surgeon.

<sup>1</sup> *Rules for Compositors and Readers at the University Press, Oxford*. By Horace Hart, M.A. The English spellings revised by Sir James A. H. Murray, M.A., LL.D., D.Litt., and Henry Bradley, M.A., Ph.D. Twenty-eighth edition (the fourteenth for publication). London: Humphrey Milford, 1928. (54 x 34, pp. 135. 2s. net.)



# Dawson Williams Memorial Fund.

## FIRST LIST OF SUBSCRIBERS.

SIR DAWSON WILLIAMS retired from the Editorship of the *British Medical Journal* on January 19th last after thirty years in that position and nearly fifty years' close connexion with the Editorial Department. In a valedictory leading article on January 21st we anticipated that his resignation would be followed by some public recognition of the long and splendid services he had rendered to the British Medical Association and the profession, to medical science, and medical literature. A provisional Executive Committee was formed almost immediately, and on February 25th we announced the steps that were being taken to promote a testimonial which should give the profession as a whole an opportunity of acknowledging our late Editor's devoted work for the science and practice of medicine. Two days later Sir Dawson Williams died suddenly, and the plans for a testimonial during his lifetime had, alas! to become plans for a memorial.

Sir StClair Thomson, who is acting as Treasurer, told our readers last week of the many messages that had already reached him from far and wide in support of the project. We feel confident that the Fund will now go forward and produce a worthy monument to a great benefactor of British medicine. Its precise form will be for the Executive Committee to decide upon in consultation with the subscribers, but they will no doubt be guided by the knowledge that Sir Dawson Williams, shortly before his death, expressed a wish that the money raised should be used as an endowment for the furtherance of medical research by way of scholarship or prize; in this way his name would be linked with work that was always very near his heart.

We print below the first list of supporters—those whose names were received up to March 10th. Further contributions will be welcomed, and will be acknowledged in these columns in due course. Though the Executive Committee does not wish to limit the amount of individual donations, it hopes that the sum eventually received will include a large number of contributions of two guineas or less, and so represent the profession generally. Cheques should be made payable to Sir StClair Thomson, and sent to 64, Wimpole Street, London, W.1, and the envelopes marked "Dawson Williams Memorial." The amount so far received is £733.

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| Acland, Dr. T. Dyke  | Chaplin, Dr. Arnold  | Graham-Smith, Dr. G. S. (Cambridge)                   |
| Addison, Rt. Hon. Christopher, M.D.<br>(Bishop's Teignton) | Cheate, Sir Lenthal, F.R.C.S.                                    | Gray, Sir Henry (Montreal)                            |
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| Allan, Dr. G. A. (Glasgow)                                 | Clark, Professor A. J. (Edinburgh)                               | Griffin, Dr. F. W. W.                                 |
| Anderson, Dr. J. Ford                                      | Clarke, Ernest, F.R.C.S.   |   |
| Anderson, Sir Hugh, M.D. (Cambridge)                       | Coates, W., F.R.C.S. (Manchester)                                | Haldane, Dr. J. S. (Oxford)                           |
| Andrews, Dr. H. Russell (Lewes)                            | Cock, Dr. F. W. (Ashford)  | Hale-White, Sir William, M.D.                         |
| Arkwright, Dr. J. A.                                       | Colley, Dr. Denis J., President of University<br>College, Dublin | Hall, Professor Arthur (Sheffield)                    |
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| Baldon, Dr. F. J. (Southport)                              | Collier, Dr. W. T. (Oxford)                                      | Hall, Dr. Donald (Brighton)                           |
| Balfour, Dr. Andrew  | Comrie, Dr. John D. (Edinburgh)                                  | Handley, W. Sampson, F.R.C.S.                         |
| Ballance, Sir C. A.  | Coombe, Russell, F.R.C.S. (Exeter)                               | Harman, N. Bishop, F.R.C.S.                           |
| Ballance, Sir H. A. (Norwich)                              | Core, Dr. Donald (Manchester)                                    | Harrison, Colonel L. W.                               |
| Barling, Sir Gilbert, Bt., F.R.C.S. (Birm-<br>ingham)      | Cox, Dr. Alfred  | Haslam, W. F., F.R.C.S. (Birmingham)                  |
| Barlow, Sir Thomas, Bt., M.D.                              | Craig, Sir James, M.D. (Dublin)                                  | Hawthorne, Dr. C. O.                                  |
| Barnett, H. Norman, F.R.C.S. (Bath)                        | Craig, Sir Maurice, M.D.   | Hay, Dr. Kenneth                                      |
| Barr, Sir James  | Cullis, Professor Winifred                                       | Henry, Dr. R. Wallace (Leicester)                     |
| Barnett, Lady, M.D.  | Cushing, Professor Harvey (Massachusetts)                        | Hill, Professor A. V.                                 |
| Beale, Dr. E. Clifford (Rotherfield)                       |  | Hillman, Dr. G. B. (Wakefield)                        |
| Beatson, Sir George, M.D. (Glasgow)                        | Dain, Dr. H. Guy (Birmingham)                                    | Hogarth, R. G., F.R.C.S. (Nottingham)                 |
| Bell, Professor W. Blair (Liverpool)                       | Dale, Dr. H. H.  | Holland, C. Thurstan, Ch.M. (Liverpool)               |
| Bennett, Dr. T. Izod                                       | Dawson, Rt. Hon. Lord, M.D.                                      | Holland, Eardley, F.R.C.S.                            |
| Bennett, Sir Wm., F.R.C.S.                                 | D'Ewart, Dr. J. (Manchester)                                     | Holmes, Dr. Gordon                                    |
| Berkeley, Dr. Comyns                                       | Dixon, Dr. W. E. (Manchester)                                    | Horner, Dr. N. G.                                     |
| Berry, Sir James, F.R.C.S.                                 | Donald, Dr. A. (Manchester)                                      | Houston, Sir Alexander, M.B.                          |
| Birkett, Dr. H. S. (Montreal)                              | Donaldson, Malcolm, F.R.C.S.                                     | Hudson, Dr. J. (Newcastle-on-Tyne)                    |
| Blackader, Dr. A. D. (Montreal)                            | Donovan, Professor D. D. (Cork)                                  | Humphris, Dr. F. H.                                   |
| Bland-Sutton, Sir John, Bt., F.R.C.S.                      | Drever, Dr. J. R. (Edinburgh)                                    | Hurry, Dr. J. R. (Bournemouth)                        |
| Blom, Sir Robert, M.D. (Newcastle)                         | Dundas-Grant, Sir James, F.R.C.S.                                | Hurst, Dr. A. F. (Windsor)                            |
| Bone, Dr. J. W. (Luton)                                    | Dunhill, Dr. T. P.   | Hutchison, Dr. Robert                                 |
| Bonney, Victor, F.R.C.S.                                   |  |   |
| Brackenbury, Dr. H. B.                                     | Eastes, Dr. G. Leslie  | James, R. R., F.R.C.S.                                |
| Bradbury, Professor J. B. (Cambridge)                      | Eccles, W. McAdam, F.R.C.S.                                      | Jean, F. A., F.R.C.S. (Liverpool)                     |
| Bradford, Sir John Rose, M.D., P.R.C.P.                    | Elliott, Professor T. R.   | Jefferson, Geoffrey, F.R.C.S. (Manchester)            |
| Bramwell, Sir Byrom (Edinburgh)                            | Eyre, Dr. John   | Jones, Sir Robert, Bt. (Liverpool)                    |
| Bramwell, Dr. Edwin (Edinburgh)                            |  |   |
| Bristowe, Dr. H. C. (Wrington)                             | Fairbairn, Dr. J. S.   | Keen, Professor W. W. (Philadelphia)                  |
| Bristowe, W. Rowley, F.R.C.S.                              | Fairbank, H. A. T., F.R.C.S.                                     | Keith, Sir Arthur, M.D.                               |
| Broadbent, Sir John, Bt., M.D.                             | Fawcett, Dr. John  | Keith, Dr. J. R. (Driffield)                          |
| Buchanan, Sir George, M.D.                                 | Feiling, Dr. Anthony   | Kelly, Dr. Brown (Glasgow)                            |
| Buchanan, Dr. R. M. (Glasgow)                              | Fell, Lieut-General Sir Matthew                                  | Kelly, Dr. Richard                                    |
| Buist, Dr. R. C. (Dundee)                                  | Fergus, Dr. Freeland (Glasgow)                                   | Keogh, Sir Alfred, F.R.C.S.                           |
| Burgess, A. H., F.R.C.S. (Manchester)                      | Finch, E. F., F.R.C.S. (Sheffield)                               |   |
| Bury, Dr. Judson S. (Manchester)                           | Findlay, Professor Leonard (Glasgow)                             | Lane, Sir W. Arbuthnot, F.R.C.S.                      |
| Butler, H. B., F.R.C.S. (Guildford)                        | Fletcher, Dr. H. Morley  | Langdon-Brown, Dr. W.                                 |
| Butler, Dr. Charles  | Fletcher, Dr. William  | Langdon-Down, Dr. R. (Teddington)                     |
| Buzzard, Sir E. Farquhar, M.D.                             | Fothergill, Dr. E. Rowland (Hove)                                | Le Fleming, Dr. E. Kaye (Wimborne)                    |
|  | Fraser, Professor John (Edinburgh)                               | Lett, Hugh, F.R.C.S.                                  |
|  | Fraser, Dr. T. (Aberdeen)  | Lewis, Sir Thomas, M.D.                               |
| Caiger, Dr. F. Foord                                       |  | Little, E. Muirhead, F.R.C.S.                         |
| Cameron, Sir Hector, M.D. (Glasgow)                        | Gask, Professor G. E., F.R.C.S.                                  | Low, Dr. G. Carmichael                                |
| Carling, E. Rock, F.R.C.S.                                 | Gaskell, Dr. J. F. (Great Shelford)                              | Low, V. Warren, F.R.C.S.                              |
| Carter, G. A., F.R.C.S. (Stoke-on-Trent)                   | Gauvain, Sir Henry, M.Ch.  | Luce, Sir Richard, M.P.                               |
| Cathcart, Professor E. P. (Glasgow)                        | Gillies, H. D., F.R.C.S.   | Lyndon, Dr. Arnold (Hindhead)                         |
| Cathcart, Dr. George                                       | Glaister, Professor John (Glasgow)                               |   |
| Cave, Dr. E. J. (Bath)                                     | Godall, Dr. E. W. (St. Ives)                                     | MacAlister, Dr. Tarbett, Sir Donald, Bt.<br>(Glasgow) |
| Chalmers, Dr. (Glasgow)                                    | Goodhart, Dr. Gordon W.  | Macdonald, Dr. J. A. (Taunton)                        |
| Champneys, Sir Francis, Bt., M.D.<br>(Uckfield)            | Gordon, Dr. Mervyn   | McGowan, Dr. R. G. (Manchester)                       |
|  | Gordon, Dr. W. (Exeter)  |   |

Mellroy, Professor Louise  
Macintyre, Dr. John (Glasgow)  
Mackenzie, Sir Leslie, M.D. (Edinburgh)  
Mackey, Dr. L. G. (Birmingham)  
Mackintosh, Colonel D. J. (Glasgow)  
Mackintosh, Professor A. (Aberdeen)  
Maclean, Sir Ewen, M.D. (Cardiff)  
McNamara, Dr. J.  
McNec, Dr. J. W.  
Macphail, Sir Andrew, M.D. (Montreal)  
Macpherson, Dr. A. D.  
Makins, Sir G. H., F.R.C.S.  
Manknell, Dr. A. (Bradford)  
Manson, Dr. J. S. (Warrington)  
Manson-Bahr, Dr. P.  
Mellanby, Professor E. (Sheffield)  
Melville, Dr. Stanley  
Miller, Dr. G. W. (Dundee)  
Miller, Dr. R. M.  
Milligan, Sir William, M.D. (Manchester)  
Milroy, Professor T. H., M.D. (Belfast)  
Monod, Dr. Gustave (Paris)  
Monro, Professor T. K. (Glasgow)  
Monsarrat, K. W., F.R.C.S. (Liverpool)  
Moore, Sir John W., M.D. (Dublin)  
Moorhead, Professor T. G. (Dublin)  
Morison, J. Rutherford, F.R.C.S. (St. Boswells-on-Tweed)  
Morley, John, F.R.C.S. (Manchester)  
Morris, Dr. R. J. (Harrogate)  
Moynihan, Sir Berkeley, Bt., P.R.C.S.  
Munro, Air Vice-Marshal David, F.R.C.S.  
Murray, Professor G. R. (Manchester)  
Murrell, Dr. Christine

Nash, W. Gifford, F.R.C.S. (Bedford)  
Newman, Sir George, M.D.  
Nitch, Cyril, F.R.C.S.  
Norbury, L. E. C., F.R.C.S.  
Nuttall, Professor G. H. F. (Cambridge)

Oliver, Sir Thomas, M.D. (Newcastle)  
Openshaw, T. H., F.R.C.S.

Page, C. Max, F.R.C.S.  
Parker, Professor Rushton (Liverpool)  
Paterson, Dr. Donald  
Paterson, Dr. William  
Patrick, Dr. John (Glasgow)  
Penrose, Dr. F. G. (Bournemouth)  
Phear, Dr. A. G.  
Philip, Sir Robert, M.D. (Edinburgh)  
Platt, Harry, F.R.C.S. (Manchester)

Pollard, Bilton, F.R.C.S. (Bournemouth)  
Poulton, Dr. E. P.  
Power, Sir D'Arcy, F.R.C.S.  
Poynton, Dr. F. J.  
Purves-Stewart, Sir James, M.D.

Radcliffe, Dr. F. (Oldham)  
Redmayne, T., F.R.C.S. (St. Leonards-on-Sea)  
Riddell, Rt. Hon. Lord  
Riviere, Dr. Clive  
Roaf, Professor H. E.  
Robertson, Professor G. M. (Edinburgh)  
Robinson, Dr. Leonard (Paris)  
Rodger, T. Ritchie, F.R.C.S. (Hull)  
Rogers, Sir Leonard, F.R.C.S.  
Rolleston, Sir Humphry, Bt., M.D. (Cambridge)  
Rorie, Dr. D. (Aberdeenshire)  
Rowlands, Dr. R. A.  
Rowlands, R. P., F.R.C.S.  
Roxburgh, Dr. A. O.  
Russell, Dr. Risien  
Russell, Emeritus Professor W. (Edinburgh)

Sargent, Sir Percy, F.R.C.S.  
Saunders, Dr. E. A.  
Sharkey, Sir Seymour, M.D.  
Sharp, Alex., F.R.C.S. (Leeds)  
Sharpey-Schafer, Sir E., M.D. (Edinburgh)  
Shaw, Dr. H. Batty  
Shaw, Surg.-Capt. T.B. (Greenwich)  
Sherrington, Sir Charles, M.D. (Oxford)  
Simson, Sir Henry, F.R.C.S.  
Siesinger, E. G., F.R.C.S.  
Smith, Professor G. Elliot  
Smith, S. Maynard, F.R.C.S.  
Snell, Dr. H. C. (Sheffield)  
Souttar, H. S., F.R.C.S.  
Spencer, Dr. Herbert R.  
Spencer, Walter G., F.R.C.S.  
Spokes, Dr. P. S. (Leves)  
Sprigge, Sir Squire, M.D.  
Spriggs, Dr. E. I. (Rutbin Castle)  
Stanton, Dr. A. T.  
Starling, Dr. E. A. (Tunbridge Wells)  
Starr, Dr. F. N. G. (Toronto)  
Stephens, Dr. Lockhart (Emsworth)  
Stevens, Dr. John (Edinburgh)  
Stevens, T. G., F.R.C.S.  
Stevenson, Dr. R. Scott  
Stiles, Sir Harold, F.R.C.S. (Gullane)  
Still, Dr. G. F.

Stockman, Professor R. (Glasgow)  
Stopford, Professor J. S. (Manchester)  
Thomas, Dr. W. E. (Ystrad-Rhondda)  
Thompson, Dr. Theodore  
Thomson, Dr. A. P. (Birmingham)  
Thomson, Dr. F. G. (Bath)  
Thomson, Sir St. Clair, F.R.C.S.  
Thomson-Walker, Sir John, F.R.C.S.  
Tidy, Dr. H. Lethaby  
Tilley, Herbert, F.R.C.S.  
Tirard, Sir Nestor, M.D.  
Trotter, Dr. G. Clark  
Trotter, Wilfred, F.R.C.S.  
Tubby, A. H., F.R.C.S.  
Turner, A. Logan, F.R.C.S. (Edinburgh)  
Turner, E. B., F.R.C.S.  
Turner, G. Grey, F.R.C.S. (Newcastle)  
Turner, J. G., F.R.C.S.  
Turney, Dr. H. G.

Verrall, Sir T. Jenner (Leatherhead)  
Voelcker, Dr. A. F. (Bude)

Waggett, E. B., M.B.  
Walker, Dr. E. W. Ainley (Oxford)  
Walker, Dr. J. F. (Southend)  
Wall, Dr. R. C.  
Wallace, Sir Guthbert, F.R.C.S.  
Walton, A. J., F.R.C.S.  
Watson, Dr. G. W. (Leeds)  
Watson, Dr. W. F. F.R.C.S. (I. stol)  
Webb, J. G., F.R.C.S.  
Webb-Johnson, A. E., F.R.C.S.  
Weber, Dr. F. Parkes  
Wheeler, Sir William, F.R.C.S.I. (Dublin)  
Whitla, Sir William, M.D. (Belfast)  
Wilkie, Professor D. P. D., F.R.C.S. (Edinburgh)  
Wilkinson, G., F.R.C.S. (Sheffield)  
Wilkinson, Dr. W. Camac  
Willan, R. J., F.R.C.S. (Newcastle)  
Williams, Dr. Leonard  
Wilson, Dr. Claude (Tunbridge Wells)  
Wood, Dr. Cartwright  
Woodman, Musgrave, F.R.C.S. (Birmingham)  
Woods, Sir Robert, F.R.C.S.I. (Dublin)  
Woodward, Dr. A. S.  
Wright, Sir Almoth, M.D.  
Wynter, Dr. A. Ellis (Clifton)

Yealand, Dr. L. R.  
Young, Professor A. (Glasgow)

## THE PROTECTION OF MATERNITY.

YET another conference on the role of the midwife in relation to maternal health was held, under the auspices of the Midwives' Institute, on March 7th, with Sir FRANCIS CHAMPNEYS, Bt., in the chair. After some brief opening remarks by the MARCHIONESS OF SALISBURY and Lady BERTHA DAWKINS on the place of the practising midwife in rural and in town areas respectively, a discussion was started by Dr. J. S. FAIRBAIRN on the general question of the midwife in relation to normal labour.

Dr. Fairbairn said that the ideal was to have the midwife in charge of normal labour, with the doctor available for emergencies. If a doctor was retained by a patient for her confinement it was for the outstanding reason that something more than normal labour was expected—the patient wished for anaesthesia and for as speedy a termination of her trials as nature would allow. It followed that there was more intervention in labour than there should be. Some doctors had stated that forceps were used in half the deliveries they attended, whereas in institutions the forceps cases did not represent more than perhaps 3 per cent. With all intervention there was a slight rise in morbidity, which accounted for an appreciable addition to the mortality when multiplied by so many cases. He quoted figures from the Lying-in Hospital which showed that there had been 1,200 deliveries in the district served by that institution without a single death, and more than 1,000 deliveries in the hospital itself—these being, of course, the more difficult cases—with only four deaths. These figures suggested that a service conducted by well-trained and experienced midwives would give the best results possible.

Dr. J. A. WILLET, speaking of the place of the midwife in connexion with the consultant, said that the first function of the ante-natal centre was to manage normal pregnancy and

to treat such minor illnesses as might occur; its second function was to decide on the prognosis of labour. Either the ante-natal centre should be staffed by people who had had actual experience in maternity hospitals, or else the consultant should be more widely used. In the urban district the main difficulty was sepsis, and this was largely due to intervention during labour under unsuitable conditions. In rural districts the problem was rather that of accidents, and for this it was difficult to suggest a remedy, though it was to be hoped that by really good ante-natal work cases likely to give rise to any difficulty might be selected beforehand.

Dr. W. H. F. OXLEY, who spoke, from thirty years' experience of East End practice, on the place of the midwife in relation to the general practitioner, said that thirty years ago the position of the midwife was nothing like what it was to-day. The medical practitioner formerly was dependent almost entirely for the nursing of his case upon women wholly untrained. Since then not only had the Midwives Act altered the position, but the National Health Insurance Act had made a great difference. Following upon this latter, doctors had to a large extent given up midwifery, and now, in the working-class districts of London, the majority of women were attended by the trained midwife, who was the right person to attend normal labour. Conditions being what they were, normal confinements were better treated by midwives. The doctor had not the time to give to the case. Remembering that he had perhaps fifty patients waiting for him at his surgery, the doctor was tempted to hasten delivery by means of forceps. The fault was not his; it was the system under which the doctor formerly had to work. The well-trained midwife called in the doctor when anything became abnormal; it was the badly trained midwife who failed to do so. He added that the East End Lying-in Hospital was the first in London to start definite ante-natal work. Last year only required instrumental delivery, attended, of which seven only required instrumental delivery, and there was only one case of pyrexia due to a septic condition, though there were a few others which had temperatures due to prevailing influenza. He thought that the rule that a midwife should not call in the doctor unless the temperature reached

100.4° F. was too rigid. He added that the life of a practising midwife was not a happy one. Some means of obtaining a better livelihood for the midwife in a working-class district should be sought. Here was a direction in which the approved societies might help by a subsidy. Maternity benefit, it was true, was already available, but this was primarily for the provision of necessities and comforts for the mother. He thought it undesirable that when the midwife had called in the doctor the doctor's fee should be recovered from poor persons by the local authority which had paid it in the first instance, because this action made the position of the midwife an unpleasant one, and the reflection that it would be taken might deter her from calling the doctor in. The economic position of the midwife deserved much consideration. It was told of the Hebrew midwives Shiprah and Punh, who did not obey the edict of Pharaoh, that "God made them houses." The reminder was a suggestive one for public authorities or approved societies.

Sir FRANCIS CHAMBERNEYS said that a temperature of 100.4° F. was by no means the only thing for which, according to the rules of the Central Midwives Board, the doctor might be summoned. The words of the rule were of the widest possible description—"in case of any abnormality."

Mrs. BRUCE RICHMOND spoke of the inspection of midwives. No inspector now, she thought, was a person who had received no midwifery training, but comparatively few inspectors had themselves been district midwives, and sometimes the emphasis was laid on the penal rather than on the educational aspects of inspection. Finally, dealing with the economic position of the midwife, Miss LAXTON said that 110 to 130 cases a year represented the maximum that a midwife could be expected competently to handle, and she thought the wholly inadequate sum of £150 a year would be found to be about her average remuneration.

### LIVER EXTRACT FOR THE TREATMENT OF PERNICIOUS ANAEMIA.

The following further statement has been received from the Medical Research Council for publication:

Following the appearance last week (*BRITISH MEDICAL JOURNAL*, March 10th, p. 398) of the preliminary report by the Medical Research Council upon the use of liver extract in the treatment of pernicious anaemia, numerous requests have been received by the Council for particulars of the method of preparing the extract. It is accordingly thought desirable to publish the details of the process by which the material was prepared for the trial organized by the Council.

It is to be noted that the method described below is based upon the American process, of which an account had been published by Cohn and his co-workers. As was stated in the Council's report, this particular modification has not necessarily any peculiar value as compared either with the original process or with possible alternatives, but the experiments made for the Council have shown that it is one which is capable of ready application on a large scale, and which, according to the clinical indications, yields a satisfactory product.

The method is as follows:

To 100 kg. minced fresh ox liver add 132 litres of 80 per cent. alcohol and 109 c.cm. of 50 per cent. (vol.)  $H_2SO_4$ . Stir frequently and filter after twelve to eighteen hours. Suspend the tissue again in 250 litres of 50 per cent. alcohol, stir frequently, and filter after twelve to eighteen hours. Evaporate the combined filtrates *in vacuo* to a volume of about 10 litres. Add 10 litres of absolute alcohol. A flocculent precipitate is formed, which settles. The supernatant fluid is removed and the residue is centrifuged and washed with 50 per cent. alcohol. The alcoholic liquid and washings are combined, evaporated *in vacuo* to as small a volume as possible, and then poured, with constant stirring, into ten volumes of absolute alcohol. The syrupy liquid is slowly dehydrated by the alcohol and assumes a toffee-like consistency. This material is pulled into long shreds to expose fresh surfaces to the dehydrating action of the alcohol. When the dehydrating action of the alcohol is exhausted it is replaced by fresh alcohol, and the material is broken up and eventually becomes brittle. It is then filtered off and dried (*in vacuo* over  $H_2SO_4$  or by other suitable means). It is then powdered rapidly and again dried as before. The material must be exposed to the air during these operations as little as possible, as it is very hygroscopic. The dry powder is transferred to tubes, each of which should contain an amount equivalent to 250 grams of the original fresh liver.

## Scotland.

### Progress in Public Health in Scotland.

Sir W. LESLIE MACKENZIE of the Scottish Board of Health, replying to a toast at the annual luncheon of the Glasgow-Aberdeen University Association in Glasgow on March 3rd, described the changes that had taken place in public health in Scotland during the last forty years, saying that in this period two or three great developments stood out. The first had been the study of the Poor Law, a social service which was still a trouble to every Government that came into power. Much of the change in society which was going on before their eyes owed a great deal to the quiet, clear, and philanthropic working of the Scottish Poor Law. Another important matter had been that of tuberculosis. In 1906 there was no special institution for the care of the tuberculous, although this disease was at that time responsible for nearly 10,000 deaths each year in Scotland. To-day there were 5,000 beds in hospitals and sanatoriums available for tuberculosis cases, and they therefore now stood well in regard to provision for treating this disease. In 1903 investigations were undertaken on behalf of the Royal Commission on Physical Training. At that date no school board in Scotland had any medical officer, while to-day there were no fewer than 130, and, what was more important, in the 3,000 schools receiving State aid and teaching about 840,000 children, some 240,000 of the latter were being examined, prescribed for, and treated. The subject of infant mortality was one of the study of which had developed rapidly during the war. In 1915 a statute was passed allowing any local authority in Scotland to provide for the care of the health of expectant mothers, nursing mothers, and children up to the age of 5 years. As a result over 90 per cent. of the population was now in varying degrees provided with full maternity and child welfare services. National Health Insurance was another important matter which had come in during the period under review, and with some twenty statutes bearing upon the subject there were at present approximately 1,750,000 insured persons in Scotland. Whatever criticism was directed at this matter it must be admitted that medical services of an admirable sort had been provided for the Scottish people by the 1,600 doctors who were involved. The greatest enterprise, however, in the opinion of the speaker, was that of the Royal Commission on Housing in Scotland. Something like 400 expert witnesses were examined and all parts of Scotland were visited during the four years in which the Royal Commission sat. The housing department was now one of the largest departments of the Scottish Board of Health. Last year 20,000 new houses were completed in Scotland, making a total since 1919, when the movement began, of approximately 100,000 houses built to accommodate the overcrowded population of Scotland. They could therefore say that Scotland was beginning to overtake the centuries of arrears of housing. The newest problem was that of the proper use of hospitals. In September last Sir John Gilmour had announced a policy intended to secure that all forms of hospital service should be established in a unified, co-operative system. He thought that the Scottish Board of Health, which was in future to be the Scottish Health Department, had played its part in preparing the hospitals to deal with the new preventive medicine which would add increasingly to the personal fitness of the individual.

### Aberdeen Joint Hospital Scheme.

A conference was held on March 6th between representatives of the boards of Aberdeen Royal Infirmary, the Royal Hospital for Sick Children, the Maternity Hospital, and the University Court for the purpose of appointing an advisory committee from each of the bodies interested in the Aberdeen joint hospital scheme. Lord Provost Lewis, who presided, said that the fund had now reached a sum of £300,000, so that he thought they might, with every confidence, proceed with the plans for the erection of the new buildings required. He paid a tribute to the directors of the Royal Hospital for Sick Children for abandoning the site in Ashley Road and agreeing to build on the joint

had been treated in the wards, and there had been 645 operations. It was pointed out by Dr. George Mackay that although the ordinary income had been £1,082 and the expenditure only £905, the public should not think that this infirmary was not still in need of active support. There was a great demand for suitable accommodation for sufferers from eye diseases, particularly for children, in Edinburgh, so that it would be highly desirable if this useful institution were able to extend to meet this want.

### Medical Inspection of School Children.

### Census Report for Belfast.

The eighty-eighth annual report of the Crichton Royal Institution, Dumfries, for the year 1927 has just been issued. Dr. C. C. Easterbrook, the physician superintendent, in his report, states that the number of patients on the register at the end of the year was 990, an increase of 21 over the number present on the last day of 1926. During the year there had been 299 admissions, 20 discharges, and 78 deaths. The total number of cases treated had been 1,268, including 592 male and 676 female cases. Of the total number, those who had been admitted on certificate had been 735, while the voluntary patients numbered 255. The total number of private patients under treatment during the year had been 865, of whom 230 had been admitted during the year, including 167 by voluntary admission, or 73 per cent. The rate-aided patients, who were all certificated, numbered 336 on December 31st. Attention is drawn to the increasing tendency to voluntary entrance into this mental hospital. While some of the voluntary patients could have been certified, they had had sufficient insight into their condition to recognize the need for treatment in a mental hospital and to sign the required application. With regard to the causes of insanity among the patients admitted, impairment of bodily health had appeared in nearly all cases. This stress manifested itself most often in such forms as general debility, malnutrition, anaemia, heart disease, and arteriosclerosis, bronchitis, dyspepsia, and nephritis. Organic brain disease had been a cause in 8 per cent., influenza in 5 per cent., while insanity connected with the critical epochs had manifested itself in 29 per cent. at the change of life, 25 per cent. in youth, and 11 per cent. in old age. The strain of childbirth had been a cause in 6 per cent., and mental perturbation, such as worry, anxiety, and grief, had been present in 29 per cent. Alcoholic excess was a factor in 8 per cent. of men and 3 per cent. of women, and head injury in 2 per cent. With regard to forms of mental disorder, among the 299 cases admitted melancholia had affected 21 cases, delusional insanity 20 cases, mania 18 cases, confusion and stupor 18 cases, dementia praecox 8 cases, epileptic insanity 5 cases, dipsomania 3 cases, while there were 6 cases of congenital amnesia. There had been 7 cases of organic psychoses, including 3 cases of general paralysis, 2 of insanity after apoplexy, 1 of bulbar paralysis, and 1 of encephalitis lethargica. With regard to the deaths, 78 patients had died during the year, including 49 certificated and 29 voluntary cases. The general death rate was 7.9 per cent. of the average daily number. The direct causes of death were senility, pneumonia, and pulmonary tuberculosis, each 20 per cent., heart disease 12 per cent., exhaustion 8 per cent., and general paralysis 4 per cent. The average age at death was 56 years.

The annual meeting of the Eye, Ear, and Throat Infirmary of Edinburgh was held at 6, Cambridge Street, on February 27th; Mr. William C. Johnston presided. The report showed that the number of individuals who had attended the eye department during the past year had been 3,477, while the ear, nose, and throat patients had numbered 1,524. With regard to in-patients, 322 patients

of city workers, with the improvement in transport facilities, to make their homes in contiguous country or seaside areas. From the same cause may arise the fact that the proportion of the population which is normally occupied has risen from 45.3 per cent. in 1911 to 48.9 per cent. in 1926. The average age has increased by nearly 2 years since 1911, and is now 28.5 years. The report contains much information regarding housing, employment, valuation, and statistics relating to education, religious, and birthplaces, in addition to the usual analyses of age composition and condition in relation to marriage.

#### Irish Free State Dentists Bill.

The Irish Free State Dentists Bill, being in its origin and principles on the same basis as the Medical Practitioners Act, was recently passed through the Dail, and it is believed will be passed through the Senate without material change. The bill, apart from a section which restricted unquestionably the extent and nature of the practice of medical practitioners qualified after its passage, had the full support of the nine medical men in the Dail. The Minister, Mr. McGilligan, refused to withdraw this section, but left its fate to a free vote. The medical members strongly urged its rejection, and succeeded in defeating it by a very decisive majority, although the Minister was supported not only by his Ministerial colleagues, but also by the front Opposition Bench. The bill provides a close connexion between the medical and dental professions. Three of the nine members of the Dental Board are to be nominated by the Medical Council in the Free State, and the Medical Council, when it deals with matters affecting dentists, will include three members of the Dental Board.

## England and Wales.

#### Cancer Campaign in the North-West of England.

PRINCE HENRY, as president of the Lancashire, Cheshire, and North Wales Council of the British Empire Cancer Campaign, supported by the civic and university authorities, inaugurated the movement there by addressing meetings in Liverpool and Manchester on March 6th. It was announced that funds amounting to £66,000 had been received or promised. At the Liverpool meeting Prince Henry referred to the association of the city with the study of tropical diseases, and said it was proposed to establish a number of cancer research institutes, the work of which would be carefully co-ordinated. Professor Blair Bell, director of the Liverpool Medical Research Organization, appealed for co-operation between the laity and the medical profession, and emphasized the value of publicity. He outlined the methods adopted by the Research Organization. Such an investigation was, he said, special only in being concerned with a specific growth process in the tissues, which was probably not due to any one specific cause. There were many predisposing factors which induced in a cell a common precancerous condition, and the problem turned on the history of the cell's change from a normal to an abnormal state. In their work so far they had received nothing but confirmatory evidence of their original hypothesis. Prince Henry, in his Manchester speech, recalled the work undertaken in that city in connexion with cancer, reference to which was made on February 18th (p. 282). The task of the citizens, he said, was to equip their scientific leaders with adequate means; plans were being made to unite the scientific facilities of the University and the city in a common fight. Sir William Milligan, who is chairman of the Manchester centre of the campaign, emphasized the importance of teaching the public that cancer was a local disease primarily, the only safeguard being immediate treatment. The Vice-Chancellor of the University said there was no more practically important research than the investigation of cancer. Mr. T. Stott, honorary treasurer of the Christie Cancer Hospital, stated that it had been intended to appeal for funds to build a new hospital. To avoid having two appeals it had been decided that half the sum collected

in the area and allotted to Manchester should be apportioned for the prosecuting of research, and the other half should go to the support of the hospital. Search was proceeding for a new site on which to erect a well-equipped building with at least twice the present bed accommodation.

#### British Spas Federation.

The British Spas Federation held its annual meeting at Bath on March 8th and 9th, when Councillor C. H. Hacker, chairman of the Baths Committee, Bath, presided, and representatives were present from all the British spas. A presentation was made to Mr. John Hutton on his retirement from the honorary secretaryship of the federation. The necessity for strong combined propaganda on behalf of the British resorts, especially in America and the Overseas Dominions, not only by the spas, but by all interests affected, was one of the chief points discussed. Plans were made which will, as they can be developed, bring the attractions of Britain to the notice of travellers from these countries who have hitherto had their minds filled only with the propaganda of the Continent. It was stated that under the federation's scheme for bringing spa treatment within the reach of insured persons, so far as the spas are concerned, it will be possible very shortly for any approved society to avail itself of the facilities of spas and send its members for treatment. This proposal for relieving the suffering and economic loss resulting from industrial rheumatism can be adopted without any capital expenditure. The report of the scientific subcommittee was adopted, standardizing for the British spas the method of expressing analyses of the waters; the saline constituents will in future be shown as ions and in parts per 100,000. It was also decided to adopt the millimicrocurie as the unit for the radon (radium emanation) estimate. The standardizing of the analyses and the use of modern scientific methods will assist the medical profession in estimating the suitability of the various ratios for any particular case. The federation renewed the grant to the Committee for the Study of Medical Hydrology for a further series of lectures on medical hydrology at the medical schools. A collection of lantern slides has been formed showing the various forms of treatment by baths and douches and other methods at the spas, which is available for lectures at medical societies and elsewhere.

#### Health and Cleanliness Council.

The second annual general meeting of the Health and Cleanliness Council was held at the Hotel Cecil on March 9th, under the presidency of Dr. G. F. Buchanan. This organization exists to spread information about the advantages of public and private cleanliness, and includes in its membership representatives of some 150 public bodies, mostly the public health departments of local authorities. Dr. Andrew Balfour, in a speech at a luncheon preceding the meeting, reminded his audience that there was a Scottish saying that "the cloutier (the patcher) the cosier," but the motto of the council was "the dirtier the deadlier." Nowadays it was mostly in tropical countries that this axiom came home, but it was not well to think that all was right in our own towns and villages. To the discerning eye the need for a health and cleanliness council existed in many directions; one had only to notice the conditions in the back streets of cities and the very general fouling of the pavements in all streets. Another thing which had lately come under his notice was the lack of adequate sanitary provision for the workmen engaged in the great building constructions continually rising in London. Again, food was exposed in a way which was unsatisfactory. Dirt led, if not always to danger, at least to a slackening of moral tone. Much credit was due to the public health services, but a great deal more education was needed on simple matters of cleanliness, and while the various other multiplying phases of social work were to be welcomed, the good old doctrine of cleanliness must not be allowed to retreat into the background. Dr. G. F. Buchanan said that the principles of cleanliness had already accomplished much in this country. The reason for the disappearance of typhoid fever was sanitary cleanliness, including the better disposal of refuse and the purity of



the water supply. Summer diarrhoea, again, had been practically stamped out, thanks largely to the greater cleanliness with which milk was produced and distributed. All recent public health legislation was in the same direction. The medical inspection of school children had done much to promote this object. During the year the council had distributed no less than three million copies of various publications, including posters, leaflets, and showcards. At the annual meeting which followed the luncheon methods of extending the council's work by means of cinematograph displays and lectures were discussed.

#### Maternity and Child Welfare: Revision Course in Yorkshire.

A revision course for health visitors, school nurses, and others interested in public health and social service will be held at Bingley Training College, Yorkshire, from April 19th to 26th. The course has been organized by the Public Health Committee of the West Riding County Council, and has been approved by the Ministry of Health and the Board of Education. Sir W. Arbuthnot Lane will give the opening address, and the following subjects will be included in the course. A lecture demonstration on ultra-violet rays in the treatment of rickets, anaemia, and marasmus will be given by Dr. Ethel Cassie, chief medical officer of child welfare, Birmingham, and Dr. Naughton Dunn will lecture on the prevention and treatment of common deformities. The physiology of sex will be discussed by Professor B. A. McSwiney, natal care and modern midwifery by Professor Carlton Oldfield, and cardiac problems in connexion with rheumatic infection by Dr. A. Dingwall Fordyce. Dr. R. Veitch Clark, medical officer of health, Manchester, will deal with isolation, immunization, and infection, and Dr. W. A. Potts with the psychology and mental development of children. Dr. Eric Pritchard will lecture on the diet of children under 5 years of age. Other topics will be the problem of poverty, post-natal treatment by exercises, and mothercraft. Further information, including a complete syllabus, may be obtained from Dr. J. R. Kaye, county medical officer, County Hall, Wakefield, Yorkshire, to whom applications for admission to the course should be sent before March 24th.

#### Artificial Light Treatment in London.

The London County Council a year ago approved a grant of £300 towards the cost of providing artificial light treatment in connexion with the tuberculosis dispensary schemes of the Metropolitan borough councils. The scheme was to be experimental for one year. It is now realized that the period was too short on which to have a final decision on the value of light treatment, and the experiment is to be continued for another year, the London County Council providing a further £200, which is estimated to be 25 per cent. of the expenditure to be incurred by the borough councils. The Public Health Committee reported that the general conclusion arrived at from the results so far obtained, and from information as to outside experience, was that no evidence had been given to show that any form of light was a specific treatment for tuberculous disease, but that much evidence was available to indicate that, under certain conditions and in certain cases, light treatment accelerated the cure of non-pulmonary tuberculosis; the best results were obtained when it was given as an addition to residential treatment.

#### Central Midwives Board.

The Central Midwives Board for England and Wales met on March 1st, when a letter was read from the Tyne-mouth Joint Hospital Board, stating that the conference of training schools affected by the Board's policy had been fixed for February 27th. The Board agreed to extend the approval of Dr. Williamson as lecturer to September 30th next, in order that ample time might be given for the conference to put its views before the Board. With reference to a letter from Dr. Lyster inviting a discussion of a midwife's liability under Rule E.20, the Board decided:

(a) That if a midwife had summoned medical aid in respect of some emergency, and another emergency occurred in the subsequent progress of the case, it was her duty to draw the prac-

titioner's attention to this; it was also desirable for her to transmit to him the form of sending for medical help, properly filled up and signed by her. The local supervising authority should, of course, be notified of each emergency in respect of which the doctor's advice was sought, as required by Rule E.22 (1) (a).

(b) That a note to the foregoing effect be added to the rules.

Further suggested alterations in the rules were considered, and it was agreed (1) that the alterations submitted should be approved and be forwarded to the Minister of Health for his approval; (2) that, subject to such alterations, the Minister of Health should be asked to approve the existing rules as from July 1st next for a period of five years. Observations to be made on the resolutions passed at the recent conference between members of the Board and representatives of local supervising authorities were considered, and with certain amendments were approved; it was resolved to send these to the local supervising authorities and the delegates appointed to attend the conference.

## Correspondence.

### MIDWIVES AND ANTE-NATAL WORK.

SIR,—The issue of the new ante-natal regulations and record by the Central Midwives Board raises questions of serious importance.

Ante-natal work to be effective involves a knowledge of medicine which can be acquired only by a training such as that laid down for medical practitioners. The card or case record now being supplied to midwives embraces a very comprehensive and full report on the general health and obstetric condition of the expectant mother.

While in no way wishing to limit the functions of the nursing profession, I would emphasize the danger of entrusting medical examinations of a complex nature to persons not trained in medicine. The cause of maternal mortality and morbidity is to be found, not only in obstetric complications, but in diseases such as toxæmia, or in those which affect the cardiac and respiratory organs.

One fails to see how a course of midwifery training, however good in its way, can fit a nurse to examine the heart with a stethoscope or to estimate with accuracy the relationship between the pelvis and the foetal head. Measurements at the pelvic brim do not always indicate the size of the outlet, or the difficulties that may be encountered at labour.

Doubtless regulations are issued as to calling in the aid of a medical practitioner in doubtful cases, but an observer whose knowledge and mode of examination are inadequate will still be faced with the difficulty of deciding upon the presence of abnormal conditions.

I have the utmost admiration for the splendid work being done by the midwives, and for their infinite patience during attendance at labour. I realize also that the aim of the Central Midwives Board is to obtain the greatest possible efficiency in the service. My only object is to point out that ante-natal work, one of the most difficult branches of medicine, involves considerations both in regard to diagnosis and treatment altogether different from those which apply to childbirth. At least two examinations of every maternity patient should be made by a qualified medical practitioner—one ante-natal and one post-natal. The midwife's case record would then be properly checked.

It behoves the teaching schools and other similar institutions to give facilities for intensive post-graduate courses in ante-natal diagnosis and treatment so that practitioners may have an opportunity of keeping themselves up to date in this new branch of medicine.

One aspect of the agitation regarding maternal mortality intimately touches the medical profession. There is a strong disposition on the part of some members of the public to criticize the medical practitioner's obstetric methods. For instance, your issue of March 3rd contains the report of a conference on maternal mortality which illustrates the prevalence of this spirit of adverse criticism, the main idea being crystallized in the expression "there is danger in the doctor." This is a strange tribute to a

profession which has taken the leading part in making British midwifery the admiration of the world. When all is said and done the question remains to be answered, Who trains the midwives? And was not ante-natal work originated by a medical practitioner—Dr. Ballantyne?—I am, etc.,

London, March 5th.

A. LOUISE McILROY.

#### DYSPHAGIA ASSOCIATED WITH ANAEMIA.

Sir,—In a letter in your issue of March 3rd (p. 375) Dr. Arthur F. Hurst refers to a paper on the above subject by A. Mason Jones and Robert W. Owen which appeared in the JOURNAL a fortnight earlier, and which emphasized the association of anaemia with dysphagia due to spasm at the entrance to the gullet. With regard to this affection Dr. Hurst informs us that he is "now inclined to think that any spasm which is present is secondary, the primary cause being achalasia of the pharyngo-oesophageal sphincter."

For the benefit of those readers who may be unacquainted with the term "achalasia," I should state that Dr. Hurst had it specially coined for himself to describe a state of non-relaxation. He first applied it, I believe, to the "cardiac sphincter" in cases of cardiospasm, and has since employed it in connexion with other sphincters in the alimentary tract. I am not qualified to express an opinion as to achalasia of the pelvi-rectal and anal sphincters (vide Price's *Practice of Medicine*, p. 580), but I venture to state that all my experience in oesophageal work leads me to regard with extreme scepticism the reported occurrence of achalasia at either the upper or the lower end of the gullet in man; in such cases the affection is essentially spasmodic, as has been taught for long, and is still maintained by almost all writers on oesophageal diseases.

To return to Dr. Hurst's letter. In support of the suggested change in terminology and pathology he states that the condition is "exactly analogous with achalasia of the cardiac sphincter, which was formerly erroneously described as cardiospasm." He further states that "achalasia of the cardia has now been proved, by the pathological investigations of Stokes and Rake, to be due to inflammatory and degenerative changes in Auerbach's plexus [I should mention that changes of a similar nature were found independently by Munro Cameron in Glasgow], which prevent the normal relaxation of the sphincter when it is reached by peristaltic waves carrying food down the oesophagus. If similar changes were present in Auerbach's plexus at the upper sphincter, relaxation at the beginning of the act of deglutination [sic] would be prevented."

This explanation is unfortunate, for Auerbach's plexus is not found in the highest few centimetres of the oesophagus, and consequently cannot influence the action of the sphincter at the entrance. Further, while the onset of spasm at the upper end of the gullet in some cases is gradual, in others it is sudden, and the obstruction appears to reach its maximum at once, thus excluding the possibility of an early period of achalasia. Lastly, anyone who has manoeuvred an oesophagoscope to enter the gullet of a patient suffering from the affection under consideration will have no doubt that he has been dealing with spasm.

I shall not lengthen this letter by discussing the reasons adduced by Dr. Hurst for the desire he cherishes that the term "cardiospasm" be abandoned for "achalasia of the cardia," but shall merely repeat what I have said on several occasions—namely, that in cardiospasm the closure of the lower end of the gullet is always firmer than normal, usually it is pronounced, and sometimes it is so great that it yields only to prolonged steady pressure; and that the endoscopic appearances of the affected region are distinctly those of spasm.—I am, etc.,

Glasgow, March 7th.

A. BROWN KELLY.

Sir,—Although during the last twenty years I have had referred to me a large number of cases of dysphagia due either to pharyngeal or oesophageal disease, or both, yet in only one case was I able to convince myself that I was confronted with an unequivocal instance of primary spasm. The case referred to was demonstrated at the Medical

Society of London, and showed obvious spasmodic contractions in the neck muscles as well as of the fauces and pharynx on attempted swallowing. I have, of course, seen a few instances of dysphagia high up in edentulous anaemic women in which a gross anatomic stricture was proved to be absent by endoscopic inspection, though in some other cases sent as probably functional a definite benign anatomical narrowing of the lumen of the deep pharynx and of the cervical gullet was evident endoscopically. Whether any of these latter cases are included in those recorded by Brown Kelly, Paterson, Plummer, Hurst, and others is a matter of conjecture.

Mason Jones and Owen (JOURNAL, February 18th, p. 256) accept the usual teaching that the dysphagia in the class of case under discussion is definitely due to an abnormal spasmodic contraction of a "pharyngo-oesophageal sphincter." Killian, usually so accurate a writer, wrongly described the lower of the two portions of the inferior constrictor of the pharynx as the sphincter of the mouth of the oesophagus, whereas it is obviously the sphincter of the lower end of the pharynx, and not an oesophageal muscle at all. The circular fibres of the upper end of the gullet are not aggregated so as to form a definite sphincter, and are distinct from the constrictor fibres above. This obvious nomenclatorial mistake of Killian has led to a large amount of inaccurate thinking and writing, so that the lesions and the errors of co-ordination of the lower end of the pharynx have not been accurately differentiated from those of the gullet.

Dr. Hurst (March 3rd, p. 375) now has doubts as to these presumed functional strictures at the laryngeal level being really of the purely primary spasmodic nature, thinking it more likely that there is neuro-muscular inco-ordination of the nature of want of relaxation (achalasia) of the lower portion of the inferior constrictor—that is, crico-pharyngeus muscle—which he assumes (and possibly rightly) is normally in a state of sphincteric contraction when at rest—that is, when there is no attempt at deglutition. A normal sphincteric contraction which does not give way to relaxation on attempted deglutition is, it seems to me, for all practical purposes, rather of the nature of a spasm, even though falling short of a cramp, and probably that is not far removed from the idea that Paterson and Brown Kelly and others have in mind. What I find in these cases is not active contraction, obstructive or otherwise, but a passive or feebly active condition of the musculature concerned in the pharyngeal part of the act of deglutition. In other words, the interference with the normal act of swallowing is of the nature of muscular paresis together with reduced sensibility of the mucosa rather than hyperaesthesia and increased reflex contraction. The opening up of the lumen of the pharyngo-oesophageal junction preparatory to the bolus entering the gullet is effected in normal conditions by certain lingual and hyoid muscles actively pulling the larynx upwards and forwards away from the spine. The atrophic changes in the tongue, fauces, and pharynx are slight organic changes and associated, I suggest, with a feeble reflex and a feeble muscular response during the co-ordinated pharyngeal act of deglutition. If these views are correct the dysphagia is pharyngeal, not oesophageal in location, and not entirely functional, and certainly not spasmodic, but organic. The lesions are, in my view, comparable to those found in the paretic palate of chronic nasal catarrh, where the palate is thinned, shrunken, and almost immobile, and shows atrophy of the mucosa, including the glands, and wasting of the musculature; moreover, the reflex is diminished and sluggish, and the contractile power feeble. A similar condition, I believe, obtains in many of these pharyngeal dysphagias, where swallowing is impeded owing to feeble effort and the fact that the pharyngo-oesophageal junction is not well opened up on account of impaired reflex stimulus.

I had not noted the enlarged spleen in any of the few cases I have seen of this form of dysphagia in feeble, edentulous anaemic women, for the reason that it was not looked for, unfortunately.

Although I recognize the syndrome alluded to by Mason Jones and Owen in their paper, I must add that I have met with a few cases of dysphagia in women with none

of the signs of the syndrome present, which I have had to regard as purely functional cases of inco-ordination of the deglutitory act at the lower pharyngeal level, but with no obvious hypertonic spasm, and merely suggesting an inhibition of the active opening up of the lumen of the pharyngo-oesophageal junction. Such cases correspond to some described by the older writers, who failed to distinguish between these and those which exhibit the syndrome. The latter usually show atrophic lesions in the deep pharynx, whereas the former do not.—I am, etc.,

London, W.1, March 5th.

WILLIAM HILL.

### ASTHMA RESEARCH COUNCIL.

#### *An Appeal for Financial Support.*

SIR,—The Asthma Research Council is preparing a public appeal for funds to carry out its object of increasing our knowledge of asthma and allied conditions.

On the initiative of the Council a Medical Advisory Committee has been formed whose functions are to suggest what research work at present being pursued or projected should be supported by the Council, to indicate future lines of investigations, and to supervise such work. The following preliminary suggestions have been made:

1. The formation of an asthma clinic at one or more hospitals for the investigation of the "asthma-lay-fever-urticaria syndrome."
2. An investigation into the phenomena of sensitization in relation to asthma.
3. An investigation into the nature of the asthmatic attack from the physiological standpoint.
4. An investigation into the relationship of asthma to general respiratory diseases.
5. An investigation into the family histories of asthmatic and allied conditions.
6. An investigation into the nature of alleged "cures." This would include the continuation of the work of the British and American Medical Associations in investigating secret remedies.
7. The provision of whole- or part-time research scholarships and grants-in-aid for such investigations and for others being carried out or projected by general practitioners, medical centres, or research institutions throughout the empire, which are approved by the Medical Advisory Committee.
8. The appointment, from time to time, of travelling investigators to visit foreign clinics where investigations into asthma or allied conditions are being undertaken.
9. The publication of any useful results obtained.

In order to carry out these schemes the Asthma Research Council hopes to raise a fund of £50,000, and the Medical Advisory Committee trusts that members of the medical profession will assist by bringing to the notice of their patients—especially of their asthmatic patients—the aims of the Council and its need of support. Subscriptions should be forwarded to the Westminster Bank, Ltd., Covent Garden, W.C.2.—We are, etc.,

ARTHUR F. HURST, Guy's Hospital,

*Chairman.*

R. J. S. McDOWALL, King's College,

*Vice-Chairman.*

H. W. BARBER, Guy's Hospital.

L. S. T. BURRELL, Brompton Hospital.

E. C. DODDS, Middlesex Hospital.

J. FREEMAN, St. Mary's Hospital.

R. D. GILLESPIE, Guy's Hospital.

V. E. NEGUS, King's College Hospital.

S. GILBERT SCOTT, London Hospital.

T. T. JEANS, Surgeon Rear-Admiral (ret.),  
*Honorary Secretary.*

March 12th.

### PEPTONE TREATMENT OF ASTHMA.

SIR,—I have given hundreds of injections of peptone, and ordered hundreds more, and, with one single exception, I have never had any alarming results.

Two varieties of shock may possibly follow an injection: the anaphylactic and the ordinary protein shock. In its slighter forms one often finds that at the end of a course of injections of peptone a certain large dose is reached, after which the patient becomes at once flushed, asthmatic, nauseated, and frequently sick. It is then inadvisable to give any further injections, because the same thing will

occur next time, although the whole distress is over in a few moments. This is a mild form of anaphylactic shock.

The severe case which occurred is interesting. The patient had already had a previous course of peptone given into the muscle, which had probably sensitized her. She was a sufferer from very severe asthma. I gave her the usual initial dose of three minims very slowly into the vein. In a few minutes she began to feel ill, and the respiration tightened up with increasing asthma. There was an instant demand for micturition. The asthmatical spasm developed so severely that the respiration practically stopped and the girl became insensible; the heart continued to beat slowly and strongly. By this time I had given her an injection of adrenaline into the muscle. She gradually began to come round, and at the end of perhaps three or four minutes after receiving the injection she was breathing sufficiently. She spent the night in a nursing home, and went home by herself next day. To her surprise she was free from asthma for some five weeks afterwards, presumably in an anti-anaphylactic phase, but naturally no further attempt was made to give her peptone.

Much more rarely after a small treatment dose the patient will complain a few hours later of protein shock—that is, shivering, headaches, sickness, and a high temperature.

Peptone is a recognized method of inducing protein shock when it is given in much larger doses. Perhaps a skin test is advisable before commencing a course of treatment, especially if a previous course has been given, but the possibility of an anaphylactic seizure is, I think, usually considered negligible.

The peptones I use are made up in accordance with Dr. Auld's prescriptions.

Anaphylactic deaths from horse serum are well known, and many have been quoted, especially in American literature.—I am, etc.,

London, W.1, March 8th.

FRANK COKE, F.R.C.S.

### X-RAY DIAGNOSIS OF CHRONIC APPENDICITIS.

SIR,—Recent correspondence seems to have left the question of the value of bismuth meal examination in the diagnosis of chronic inflammation of the appendix in an unsettled and uncertain position, and I offer the following observations in the hope of stimulating further investigation and discussion of the subject. These opinions have been arrived at from a considerable experience of x-ray examination with barium meals, and from operating on many of the cases afterwards, when I have been able to check the x-ray diagnosis.

In the first place one has to consider what are the pathological changes produced in the appendix by one or more logical changes produced in the appendix by one or more attacks of subacute inflammation in that structure. The microscopic changes, broadly speaking, are a round-cell infiltration and hyperplasia of connective tissue in all of the coats, but especially in the muscular coat. The result of this inflammatory change is to diminish the contractile power of the appendix, to convert it from a normally contracting part of the intestine into a more or less rigid tube.

The badly diseased appendix might almost be likened to an inert test tube opening off the base of the caecum coli, without power of contraction and depending on its being emptied of its contents by the siphon effects of the movements in the caecum. I have not found that it is possible to diagnose a chronic inflammation of the appendix from its manner of filling with barium or bismuth. The number of cases in which I have seen an appendix after operation with such a tight constriction that barium would not pass through it is very small, and so I place no reliance on filling defects in accurate diagnosis. Emptying faults, not filling defects, are to my mind the diagnostic features of an inflamed appendix as judged by x-ray examination.

The cases in which I think one is justified in giving an undoubted diagnosis of chronic appendicitis are those in which one can see the appendix filled at an earlier examination; and later examinations, which should be frequent, must show that the appendix has not emptied itself when the ileum and caecum have emptied, and the meal is in the region of the hepatic flexure, if not in the transverse

or descending colon. Further, tenderness on palpation of such a filled appendix is necessary to convict it. The rough digging in of inquisitive fingers, as referred to at the British Medical Association Meeting in Edinburgh, is of no value, but with the appendix visible under the screen very careful and gentle palpation over the inflamed organ should satisfy one that some inflammatory process has left its tell-tale tenderness behind, and that tenderness must be definitely located in the visible appendix itself.

Holding up of the opaque meal at the ileo-caecal valve is suggestive of, amongst other pathological conditions, some inflammatory trouble in the right iliac fossa, but it is not diagnostic of appendicitis. In the same way holding up of the meal in the caecum may be the result of inflammatory trouble in the appendix, but it may be due to other conditions, ranging from functional derangement to malignant growths in the bowel itself.

X-ray examination as regards the diagnosis of chronic appendicitis has its limitations, but if an appendix has been seen filled with barium, if it is tender on palpation and does not empty when the caecum has emptied, then to my mind it is proved guilty of being the seat of some pathological condition which is probably of an inflammatory nature.—I am, etc.,

York, March 5th.

J. G. CRAIG, M.B., F.R.C.S. Ed.

#### GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—As Dr. Goodhart has raised this interesting question it might be worth while pointing out to your readers that there are at present two independent pieces of published evidence which show that regurgitation from the duodenum is not sufficient to account for the total chloride curve of the fractional test meal.

(1) Baird, Campbell, and Hern (*Guy's Hospital Reports*, vol. 74, p. 23, January, 1924) found that the removal of the duodenal contents by continuous suction did not cause any alteration in the free HCl or total chloride curve from the stomach.

(2) Hausman, Day, and Clifton (*Med. Journ. Austral.*, vol. 2, p. 6, July, 1927) have calculated that, supposing the stomach contents consisted of pure gastric juice of maximum concentration mixed with secretions from beyond the pylorus which also contain some chloride, the stomach would still contain less chloride than was actually found at the end of one of their test meals.

The doctrine of the gastric secretion of neutral chloride has evidently come to stay.—I am, etc.,

London, W.1, March 13th.

E. P. POULTON.

#### IMPORTANCE OF SPUTUM EXAMINATION IN PULMONARY DIAGNOSIS.

SIR,—In a note on pulmonary actinomycosis in the *JOURNAL* of March 10th (p. 404) there occurs this surprising sentence: "This patient had been regarded as tuberculous for twelve years, and during that time this diagnosis was confirmed by numerous x-ray and sputum examinations, in which tubercle bacilli, however, were never found." One would assume it to be a clerical error were it not for the fact that an alarmingly widespread distrust or contempt of the bacteriological test in the diagnosis of pulmonary tuberculosis appears to exist.

This leads to two grave errors. Firstly, the sputum is not examined for tubercle bacilli sufficiently often, and as a result a great number of cases of phthisis pass unrecognized in the early curable stage. There can be little doubt that, in the majority of cases, pulmonary tuberculosis can be diagnosed most early and most certainly by the examination of the sputum. This, with a careful survey of the symptoms, the late afternoon temperature record, and the weight record, forms by far the most important clue to the diagnosis. Yet in spite of this doctrine, which would be upheld, I think, by most experts, there are to be found those—and some even recognized teachers of medicine—who assert that it is by physical signs that the disease may be earliest detected; and the pathetic constancy of the radiologists' diagnosis of tuberculosis is well known.

The second grave error in ignoring the bacteriological test is that the observer fails to recognize those chronic

diseases that are not tuberculosis. Absence of tubercle bacilli after many repeated examinations, where there is sputum to be examined, practically excludes tuberculosis. This is not always believed, and thus we find bronchiectasis, fibrosis, syphilis, actinomycosis, spirillosis, tumour, all masquerading as tuberculosis. Moreover, when the eyes are opened and conditions other than tuberculosis are looked for, behold they are found, and we are told that they are becoming much more common than they used to be.—I am, etc.,

F. G. CHANDLER, M.D., F.R.C.P.

London, N.W.1, March 12th.

#### COLLECTIVE INVESTIGATION AND TUBERCULIN.

SIR,—I was much interested in Dr. Robert Carswell's letter in your issue of March 3rd (p. 375). I gather from his remarks that he does not consider general practitioners have the time to spend on investigating cases which might receive benefit from injections of T.R. or B.E. I presume, therefore, that his idea is to have these investigations carried out at a sanatorium or tuberculosis dispensary. If my deductions are right I should like to make a few remarks with regard to the subject.

First, has Dr. Carswell ever seen a case of pulmonary tuberculosis flare up whilst under treatment with injections of T.R.? Unfortunately it has been my lot to see two such cases, which makes one exceedingly diffident in using T.R. in cases of pulmonary tuberculosis, even if under sanatorium conditions.

Secondly, Dr. Carswell suggests trying the effect of rapidly increasing doses of T.R. or B.E. in "simple, early, uncomplicated cases of tuberculosis." I am presuming he still refers to pulmonary tuberculosis; if so, I may be unfortunate, but I see very few cases of this nature, and personally should certainly advise them to try sanatorium treatment in the first place.

Thirdly, I am quite aware that a large number of medical men consider that injections of T.R. can be given to out-patients, but as I am still dealing only with cases of pulmonary tuberculosis, I fear I must disagree with their opinions. In a sanatorium, where a strict watch can be kept on the patient's temperature, pulse, etc., and the amount of exercise taken is carefully graduated, is quite a different proposition to giving T.R. to a patient who is living at home.

In the latter case one has to trust so much to the patient himself as regards reaction—that is, rise of temperature, slight increase of symptoms, etc.—and if one also realizes that T.R. can be dangerous, I do not think that the contemplated gain is worth the undoubted risk.

Fourthly, Dr. Carswell unfortunately did not actually mention surgical tuberculosis, which in my humble opinion derives a very considerable amount of benefit from injections of T.R. In this sanatorium all cases of surgical tuberculosis have as a complication a greater or lesser degree of pulmonary tuberculosis, and very few are, therefore, suitable for injectational treatment.

Lastly, all patients suffering from pulmonary tuberculosis vary as regards their individual resistance to the disease and, therefore, a dosage which might be suitable to one case would not necessarily mean that all cases could be treated by the same increase of dose or reach the same maximum. Moreover, by means of auscultation alone a patient's resistance to disease cannot be determined, and if signs in the chest increase, then it is fairly safe to say that a good deal of damage has been done.—I am, etc.,

H. SHARPE,

Medical Superintendent, Hertford County Sanatorium, Ware.

March 8th.

SIR,—Dr. Carswell suggests the need for collective research into the treatment of tuberculosis by tuberculin so as to gain some real opinion as to their proper values. I strongly endorse this suggestion, but I should like to go further. Opinions about treatment are hopelessly at variance; some practitioners favour fresh air and sunshine, some think that artificial sunlight will cure early cases, and some believe that artificial sunlight

only acts by tending to destroy tissue, and so is not good. As regards tuberculin, most men seem afraid to use it, and from inquiries at sanatoriums I find it is rarely employed in any of them now. I am hoping his letter will help to create a fresh medical interest in the whole subject, especially the need for the following:

1. Research for a vaccine or serum or other practical means of really stamping out tuberculosis in cattle, so as to prevent bovine infection of our milk and food.
2. Overhaul of our present public health regulations so as to make it impossible for any infected food to be on sale.
3. Research into some means of earlier diagnosis in the human body than afforded by x rays or the finding of tubercle bacilli in the sputum, so as to get cases for treatment at the earliest stage.
4. Investigation of tuberculin and all the other lines of treatment which are reputed to do good in certain cases.
5. Further research so as to prepare, if possible, some kind of antitoxin for tubercle bacilli, and some official examination of the preparation of the various tuberculins, of which there are so many on the market.
6. Finally, the leading article in this week's *BRITISH MEDICAL JOURNAL* emphasizes the need for study of the question of immunity, both natural and acquired.

—I am, etc.,

London, S.E., March 3rd.

GORDON TIPPETT, M.B.Lond.

SIR,—Dr. Robert Carswell, writing in your issue of March 3rd (p. 375) to urge the need for such an investigation, quotes the question asked by the *BRITISH MEDICAL JOURNAL* so recently as July, 1927, "To what extent is tuberculin of value in the diagnosis and treatment of tuberculosis?" He quotes also the remark: "Practitioners feel that they are without guidance as to the cases in which, and the conditions under which, tuberculin is of value; guidance to which they are entitled the more, since systematic treatment by tuberculin is advocated by medical men with experience of its value." It appears to Dr. Carswell that the guidance asked for demands a thorough re-examination into the course and results of cases treated in accordance with Koch's own final conclusions and directions, and he goes on to say that, extraordinary as it may appear, adequate clinical examination of Koch's important work on this subject has not yet been accomplished to such a purpose as to carry conviction to medical opinion in general; though he notes your opinion, stated in 1911, that "already results were accumulating which should convince everyone but the incurable sceptic."

Personally I hail with delight Dr. Carswell's suggestion that the British Medical Association should undertake the direction of collective research by the various Divisions into the usefulness of Koch's tuberculin, for the reason that I should welcome any means whatever of bringing the inestimable value of tuberculins into prominence. But I would point out that we have here in London all the data and results of years and years of continuous use of Koch's tuberculins only awaiting examination and report. I refer to the classical methods now practised by Dr. W. Camac Wilkinson for the last thirty-five years. In his hands Koch's tuberculins give unparalleled results in pulmonary tuberculosis as well as in tuberculous affections of bones, glands, genito-urinary tract, skin, and even eyes. Every Tuesday and Friday afternoon (2 to 4 o'clock) he treats cases by injection of Koch's tuberculins at the Tuberculin Dispensary, 32, Fitzroy Street, W.1, where seekers after knowledge of tuberculin are welcome to see cases in all stages of diagnosis and treatment, and to examine records of cases without end, as also to see cured cases.

During the past two years, from results observed on my own cases (exceeding twenty) treated on these lines, I am left in no doubt as to the value of tuberculin when administered according to the rules laid down by Dr. Camac Wilkinson, himself a pupil of the great Koch. The words in italics are important, for I am well aware that tuberculin used otherwise has resulted in absolute failure. We come thus to the crux of all the differences of opinion on the value of tuberculin. The time must soon come when a commission will be appointed to examine and report on the usefulness of Dr. Camac Wilkinson's work; it is an

interpretation of, and the practical supplement to, Koch's own work, which has been sadly neglected for so long.

I have avoided reference to details of treatment in this letter as Dr. Camac Wilkinson himself, on July 10th, will be addressing the St. Pancras Division in the British Medical Association House on the treatment of tuberculosis in the home, when I trust that all interested in this matter will be present to hear what can be done by his method of using tuberculin.—I am, etc.,

London, W.1, March 7th.

J. GORDON HUME.

#### WET WINDS AND EARLY PHTHISIS.

SIR,—The interesting paper by Drs. Gordon and Ash in your issue of March 3rd (p. 337) merits the attention of all tuberculosis workers, though to me the figures are unconvincing.

(1) The number of cases is far too small. Expressed as percentages—worked out to two places of decimals—they appear impressive, but the individual numbers used for the calculation are mostly under ten, whereas to carry conviction they should be in the tens of thousands. Especially is this true with reference to such uncertain topics as the influence of subsoil on disease. No doubt the authors would not claim any finality, only that the figures are suggestive; but they call them "striking." It is, of course, impossible to procure a large number of patients from such a small area, but in that case some other method of testing the influence of climate on tuberculosis should be attempted.

(2) It is not clear what is meant by shelter or exposure. In Devonshire, I remember, Dr. Gordon's results, working from the map, differed in 58 per cent. of cases from the decision of other observers who actually visited the houses. And one wonders if the world generally accepts Dr. Gordon's conclusion that an elevation of 100 feet shelters an area for half a mile behind it (presumably, therefore, a mound 10 feet high would shelter an area of 88 yards). Until "exposure" is more strictly defined there is a very wide scope for difference of opinion.

(3) Devon is cited by the authors as supporting their claims, but many years' work in South Devon has led me to the contrary belief. Generally speaking, South Devon is exposed to south-westerly winds, yet tuberculous patients do as well as elsewhere, and 40 per cent. of my notifications are importations from other places, who for the most part consider that they do better here. Our tuberculosis hospital in Torquay is open only to the south-west, yet 90 per cent. of the patients admitted there improve.

The science of climatology was once described as "opinionology," and it is not yet much more exact; but medical men are expected to, and often do, give very decided opinions about the climate necessary in the treatment of various diseases. I suggest again that as a beginning the Meteorological Office might tell us the ten localities in Great Britain most exposed to west winds and the ten most protected. Independent observers could then investigate the incidence of and mortality from tuberculosis in those areas, and we should be venturing on surer ground.—I am, etc.,

Paignton, Devon, March 5th.

E. WARD.

#### THE ACUTE ABDOMEN.

SIR,—My whole intention in starting this correspondence was to rivet the attention of the profession on the appalling fact that only three out of five cases of acute intestinal obstruction survive operation. Who can be content with a 40 per cent. mortality when the cause of the trouble could often be so easily relieved if the case were submitted to operation early enough?

The danger of delay in suspected cases of all types of the acute abdomen cannot be over-emphasized. I do not advocate "look-and-see surgery" based on inexperience, but I utterly condemn, after nearly twenty-five years' experience of this class of work, a "wait-and-see" policy, which can only have one result if one is going to be sure from symptoms and not afraid from suspicions that an abdomen is "acute."

What I say has increasing value in reference to the now frequently occurring cases of abdominal injury in motor accidents. Where the history indicates that a visceral



lesion may possibly be present, beware of delay in doing an exploratory laparotomy.

I saw a case four days ago in which the only objective symptom was a small tender bruise over the left iliac fossa. The story was that the wheel of a motor had passed over the boy's abdomen. His colour was good. His abdomen was perfectly flaccid. He had no sickness. His bladder was distended and he could not pass his urine. A half-hourly observation over a few hours of an increasing pulse rate, a flicker of uneasy movement of a coil of bowel seen beneath the flaccid parietes, gave me all the indications I required that the case was one for exploration. I found the mesentery of the small intestine entirely abrupted from two inches of the ileum, and this portion of intestine, congested and paralysed, but as yet unruptured, was adherent to the back of the bladder. My suspicions were amply justified, I think, though none of the symptoms of the acute abdomen were present on which I could base a diagnosis.

Most of my friends in general practice candidly admit that they cannot make regular hourly observations in cases under suspicion of being "acute abdomens," and they are only too thankful to be able to send them to hospital "for further observation and operation if thought necessary." On my part I welcome cases at that stage from every point of view—except accommodation. This winter I could at one time have shown Mr. Billing six cases of "acute abdomens" lying side by side—all atypical pneumonias—so that I appreciate the value of his hint, and hope he knows that in such cases there may occasionally be a concurrent acute abdominal lesion.

I believe that 75 per cent. of the patients with acute abdomens who die ought to be saved, and such cases will in the future be saved by early operation when the factors controlling the situation have been properly adjusted. What a need there is for proper education and organization of the profession in regard to this type of case.

Only the last paragraph of Mr. Billing's letter has any interest. In cases of menstrual trouble, hysteria, commencing specific fevers, and poisoning I have seen associated vomiting and abdominal pain which (the physician in me, considering all the facts of the case, was able to persuade the operating surgeon in me) did not require operative treatment, but I confess I am unacquainted with that large variety of cases he writes of, where persistent vomiting associated with abdominal pain need cause no concern lest they should suddenly become "acute abdomens." I feel certain the profession will be under a debt of gratitude to Mr. Billing if he will give detailed notes of, say, six typical cases of the sort he has in mind.—I am, etc.,

Glasgow, March 4th.

WILLIAM RANKIN.

### ERGOT POISONING AMONG RYE BREAD CONSUMERS.

SM.—A good deal of interest has been aroused amongst the Jewish community by the article published under the above heading in the *BRITISH MEDICAL JOURNAL* of February 25th (p. 302).

Having been associated with a number of Jewish institutions for a considerable period, and practising as I am in a thickly populated Jewish neighbourhood, it seems strange that neither my colleagues (with whom I have consulted on the subject) nor myself have ever come across cases such as those described.

It is quite true that brown, or rye, bread is an important factor in some Jewish diets; still the figures given as to the amount of ergot it contains appear very much exaggerated, and do not approach the 22.85 grains stated to be consumed by the individual in one day.

Rye bread, according to a very reliable baker (who bakes a large quantity of this bread), only contains at the maximum 15 per cent. of rye meal. There is a coarser rye bread, called "sweet and sour," which contains about 10 per cent. more—that is, under 25 per cent. of rye flour. This is the maximum of rye meal or flour that could possibly be put into any brown bread, as bread containing a larger percentage is neither edible nor presentable. The "sweet and sour" bread is not much used, and it is principally the 15 per cent. bread that is consumed.

Assuming, as in the article referred to above, that half a pound of rye bread is consumed daily, this only represents 5 oz. of flour, of which 15

flour. Of this 15 per cent. 1 per cent. is ergotized, and it therefore follows that the amount of ergot consumed is only 3.45, and not 22.85, grains per day as calculated.

I append the following report of rye bread submitted for analysis:

"I beg to report I have examined the loaf of 'rye' bread received from you yesterday for the possible presence of ergot. I have submitted the bread to a careful chemical and microscopical analysis, and I find it is perfectly free from this poison. I have also examined the rye and wheat flours from which this bread is made, and I find they contain no trace of ergot or any other poisonous ingredient.—Dr. E. A. Wagstaff, M.Sc., F.I.C., Analytical and Consulting Chemist, Victoria University, Manchester."

This applies to the bulk of rye bread, and the examples given by your correspondents must have been taken from a very unusual batch of bread.—I am, etc.,

BERNARD HIRSON, L.R.C.P. and S.I.,  
Hon. Physician, Home for Aged and Needy Jews,  
Jewish Home for Incurables.

Manchester, March 4th.

### SHOCK AND ABORTION.

SIR.—While "anticipation," "fright," and "shame" are probably contributory causes of the sudden and often fatal shock in cases of criminal abortion, one can hardly feel satisfied that this forms a complete explanation of the condition. Especially does this seem to be likely when it is remembered that only in a very trifling percentage of instances of criminal abortion does a fatal result follow. In the case which gave rise to this discussion, and in the one mentioned by Dr. E. E. Nicholl (*BRITISH MEDICAL JOURNAL*, February 25th, p. 328), a fluid injection was used, and it seems probable that in both of these the fluid—soap and water in the one case and a disinfectant in the other—on reaching the uterine cavity, was forced through the Fallopian tubes into the peritoneal cavity, thereby causing the profound and fatal shock.

This seems to be borne out by a case which came under my notice in hospital some years ago. A woman, a gynaecological case, in the course of treatment was given an intrauterine injection; immediately after this she became profoundly shocked and collapsed. The only feasible explanation seemed to be that the fluid had reached the peritoneal cavity through the tubes, thereby causing the shock. This explanation was confirmed by her abdominal condition when the shock passed off.—I am, etc.,

T. J. HOLLINS, M.D., M.A.O.

Sandwich, Kent, March 6th.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

A MEETING of the Senate was held on February 22nd.

A resolution was adopted authorizing a variation of the trust deed establishing the Geoffrey E. Duveen lectureship in otology to allow of the establishment of a travelling post-graduate studentship in oto-rhino-laryngology, and of a fund for the promotion of research in those subjects.

The regulations for the first examination for medical degrees (Red Book, 1927-28, p. 245, second paragraph, and Blue Book, September, 1927, p. 212, fifth paragraph) were amended to read as follows:

Candidates who have been permitted to offer themselves for re-examination in any subject at the first examination for medical degrees may offer themselves . . .

Dr. J. B. Christopherson has been appointed to succeed the late Sir Percy Bassett-Smith as examiner in tropical medicine for the year 1928.

It was reported that the Registrar of the Royal College of Physicians had notified that Sir Wilnot Herringham has resigned, as from March 31st, his membership of the Senate as one of the representatives of the College, and that, in view of the reconstitution of the University, the College did not propose to fill the vacancy.

The ceremony of Presentation Day will be held in the Albert Hall on Wednesday, May 9th, at 3 p.m., and the graduation dinner will take place the same evening at 8 p.m. in the Grocers' Hall, Prince's Street, E.C.

The election of three Beit Fellowships for Scientific Research, of the value of £250, will be awarded on or about July 16th. Forms of application and all information can be obtained by letter only of application.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council meeting was held on March 8th, when the President, Sir Berkeley Moynihan, was in the chair.

*Diplomas and Licences.*

The diploma of Fellowship was granted to J. S. Fathi, who has attained the prescribed age. Licences in Dental Surgery were granted to 20 candidates. Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Physicians to 44 candidates.

*Court of Examiners.*

Mr. H. S. Clogg was re-elected a member of the Court of Examiners at the expiration of his period of office.

*Central Midwives Board.*

Mr. Victor Bonney was re-elected a representative of the College on the Central Midwives Board for one year from March 31st next.

**Medical Notes in Parliament.**

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week considered the Air Estimates and Navy Estimates, and had second reading debates on the Local Authorities (Emergency Provisions) Bill and a bill to authorize the totalisator on race-courses. The Representation of the People (Equal Franchise) Bill was introduced by the Home Secretary. It proposes to make electoral qualifications, both parliamentary and municipal, the same for men and women, and it will enfranchise 5,250,000 additional women over 21 years of age. Of these nearly 2,000,000 will be over 30. It does not propose to alter the University franchise. The new register containing the names of the enlarged electorate will come into force on May 1st, 1929, and a general election is to be expected soon afterwards.

At its meeting on March 9th the Parliamentary Medical Committee elected Dr. Drummond Shiels its honorary secretary for the session. The Committee, of which the attendance was small, discussed the Edinburgh Corporation Bill, whose object, as previously explained in these columns, is to authorize compulsory treatment for persons suffering from venereal disease and liable to infect others, and who break off or refuse voluntary treatment. As to the wisdom of the Corporation submitting such proposals to the House of Commons members of the Parliamentary Medical Committee expressed widely divergent opinions, but they agreed on the need to emphasize the essential gravity of the disease and the need to strive for its eradication. The meeting also discussed the Dogs' Protection Bill and the Dogs Bill. The Research Defence Society was reported to be considering possible amendments, but the Committee doubted whether much could be achieved thereby.

**Invaliding from the Navy.***Suggested Re-examination of Rules.*

In the House of Commons, on March 7th, Sir BEATRICE FALLEN proposed a motion declaring it imperative that the Board of Admiralty should re-examine the rules by which the question is determined whether disability is attributable to or aggravated by service in the Royal Navy, and the manner in which these rules are attributed. He pointed out that whether a recruit entered from Greenwich School, or as a boy at 15, or as a man at 18, practically speaking, made every man and boy in the navy a "first-class life." Nine out of ten men who went up for examination were not accepted. Once in the navy the youth was well fed and well clothed, but his sleeping accommodation was, for the most part, a metal tank, with no port-holes, and only artificial light. Very often the only ventilation was that forced through by a fan. The fan caused a draught, which men did not like, and it was possible for the fan to be blocked or covered. Hammocks were slung not more than 2½ feet apart, or still closer when a ship was carrying a draft to a foreign station. These were the conditions of a world-wide service. What were the chances of a healthy man avoiding tuberculosis in them? If a man was suffering from incipient tuberculosis he dare not complain, because he knew that if he had that disease he would be discharged, and, if his service were not long, without a pension. If a man had entered since 1921 he must have fourteen years' service, in the event of invaliding, before he got a pension, unless the disease for which he was invalided was admitted by the Survey Board to be attributable to or aggravated by his service, when he got a small pension. In 1920, when there were 124,000 men in the navy, 265 were discharged for tuberculosis, and in only 3 per cent. was it allowed that their cases were attributable to or aggravated by service. Between January and September, 1926, of 151 men dismissed from the navy for tuberculosis alone, service conditions were held responsible in less than 4 per cent. The last return showed 180 cases of tuberculosis, of which 18 were certified to be attributable to or aggravated by service. Before 1914 the President of the Board of Survey was the man's own captain. That gave the rating an advantage he had not got now he was brought before a board of medical officers, however learned. Sir BEATRICE added that he did not understand the

self-sacrifice of the medical profession. There was not a naval doctor in the world who would not admit that any doctor might be wrong, particularly a civilian doctor. The sailor had the command and was sent to some part of the world which was not so pleasant, mistaken and ridiculous. There must be some kind of appeal for every rating. At present there was one to the Board of Admiralty, but that was too remote, though he instanced cases where appeals should like to see a board with a captain (R.N.) executive as a civilian of common sense and experience. The board should appoint a civilian doctor of eminence as a referee.

Rear-Admiral BEAMISH seconded the motion. He said that in 1925 2.19 per 1,000 of the men in the navy were invalided for pulmonary tuberculosis, and the death rate was 0.34. In the army in 1926, the nearest year for which he could get figures, the case rate was 0.91 per 1,000 and the death rate 0.12. Among civilians in 1926 the case rate was 1.52 per 1,000 and the death rate 0.17. Two-thirds of the men invalided from the navy for tuberculosis had over five years' service, and more than half of them were over 25 years of age. Men in the navy got tuberculosis at a higher rate than did the officers. Conditions of life in a man-of-war were very bad, so far as tuberculosis was concerned. Men often slept head to toe, with their hammocks touching, in ill-ventilated spaces. Small ships were battered down at sea in bad weather, and even in good weather ventilation was poor. He doubted whether there was anywhere such a wastage of first-class life from disease as in the navy. Until the State understood its responsibility in regard to the health of the people it employed and set up some fund, if necessary on a contributory basis, or some form of insurance, they would continue to inflict hardship on men and officers.

Mr. AMMON, in associating himself with the motion, said that not many years since tuberculosis was almost endemic in the post office, which had the highest rate for death and sickness of any calling in the country. Now it had almost been stamped out by attention to the working conditions. Investigation was needed to see whether that could be done in the navy.

Dr. VERNON DAVIES said members constantly had cases brought to their notice which appeared to deserve consideration from the Admiralty, but which were held to be non-attributable to service conditions. He had received a letter from the First Lord in 1926, in which Mr. Bridgeman said: "Where there is evidence that a man invalided for a particular disease has been exposed to exceptional conditions of the service involving the risk of contracting that disease, this evidence would be accepted as proof of attributability." Dr. Davies remarked that to prove a man had been exposed to exceptional conditions was an exceedingly hard condition to fulfil. It could be decided for accidents and certain tropical diseases. On the other hand, the Admiralty had a good case in refusing to accept as attributable to service some instances of bronchitis or rheumatism followed by heart disease. Tuberculosis was in a different category. In only two instances would the Admiralty acknowledge without hesitation that tuberculosis of the lungs was attributable to service. One was when a man had been nursing tuberculous patients; the other when he had served in a submarine in which a consumptive man had been among the crew. In every other case the Admiralty Board had proved extremely difficult to convince. To say that the case had arisen as the result of exceptional circumstances during a man's service was a matter of opinion. In 1923, 1924, and 1925 not quite 3 per cent. of cases invalided out of the navy were held attributable; that was an exceedingly small percentage. He believed that as the result of questions in that House a committee had been set up to inquire into tuberculosis. It had been sitting for some time, and he thought that as a result the Board of Admiralty was beginning to take not quite so strict a view as it did before. Two years ago he had suggested a scheme of compulsory insurance against tuberculosis. The First Lord of the Admiralty had considered it sympathetically, but the Board of Admiralty had turned it down. When these men were invalided out of the service all that remained for them was the national health insurance, amounting to about 15s. a week for a short time. Then they were sent to a sanatorium, and when they came out they were left to starve and die. If, under a compulsory insurance scheme, one penny a week were deducted from pay, every man, if Dr. Davies's scheme was actuarially sound, would have a pension of £2 a week as long as he lived.

Mr. HORE BELSHAM said that each month 5,000 men tried to get into the navy and only 500 succeeded. The principal diseases for which men were invalided out of the navy were those one would expect from the conditions of bad ventilation, bad light, noise, and confinement. They were deafness, weakened eyesight, and chest trouble. A civilian who claimed to have contracted tuberculosis out of his duty could go to a county court. A doctor who was an Admiralty servant, honest though he was, was not the proper tribunal. The place of the doctor was in the witness-box.

Viscountess ASTOR did not believe it possible to prevent a high rate of tuberculosis on a modern man-of-war. In the American navy the rate was also high.

Mr. GROVES cited cases, one of which had been reconsidered after the man's death, on the weight of medical opinion at the London Hospital. He remarked that if British ex-soldiers had a medical grievance they could go before an independent doctor.

Sir GERALD HOLLER said doctors often followed one another like sheep when they gave an opinion. An independent board was required which could decide cases in an atmosphere outside the service and on the best skilled opinion.

Mr. KELLY remarked that the Admiralty must not assume the House was satisfied with the tribunals provided in respect of the

At this point attention was drawn to the fact that forty members were not present, and that number not assembling the Speaker adjourned the House without any member of the Government replying on the debate.

### The Army Estimates.

#### Medical Services of the Army.

On March 8th Sir LAMING WORTHINGTON-EVANS gave the House of Commons his annual survey of the Army Estimates. He said he asked for a vote of £41,050,000 and for 153,500 men, 13,000 fewer than last year. Economies had been made in the R.A.M.C. Mr. LAWSON, following for the Labour party, pointed out that last year, of 84,000 recruits who offered themselves, about 28,000 were accepted as meeting the army standard of physical fitness. This was 33 in every 100, against 35 per cent. in the previous year. Sir WILFRED SUGDEN raised the question of the recognition and employment of pharmacists in the army. He said that the Army Council and the Secretary for War had never accepted the principles which had been accepted by a conference which discussed this matter in 1920. The War Office was buying its drugs and ingredients ready compounded. If these could be prepared under the control of skilled pharmacists in military hospitals there would, on market prices, be a saving of 50 to 70 per cent. in the cost. Sir RICHARD LUCE said the establishment of the R.A.M.C. was being reduced by 22 officers and 284 men out of an establishment of 4,163—a reduction of 6.8 per cent. The reduction in the rest of the army was only 0.7 per cent. He had no objection to the reduction or co-ordination of hospitals, to which this reduction of strength was officially attributed, but the hospitals must not be the criterion of the strength of the R.A.M.C. Why should they have men of the R.A.M.C. doing duty in military hospitals at all? To train the male personnel for duty in war the establishment of the R.A.M.C. must not be allowed to be based on the actual beds required in hospitals in peace time. The proportion of men in the R.A.M.C. as compared with other branches of the service was based on the experience of many years. In the late war there had been practically no breakdown of the R.A.M.C., although there was a partial breakdown in Mesopotamia, where the work fell on the Ladian Medical Service, which had been started in peace time. Since the war there had been a constant whittling down of the R.A.M.C., a considerably greater proportionate reduction than in the rest of the army. It was not a fact that medical service could be improvised in war time out of civilian medical men. For instance, it was impossible to improvise a military sanitation service in war. Sir Richard noted that Vote 10 of the Army Estimates contained £69,000 for new buildings at military hospitals throughout the Empire, but said it was impossible to tell from the Estimates how much of the £1,314,000 allocated for upkeep of military buildings was to be devoted to hospitals. Last year he had visited Netley, and found an atmosphere of gloom, a lack of paint and care, and the grounds allowed to go to rack and ruin. He appealed to the Secretary for War to look into this matter of the upkeep of hospitals. Let him visit them and compare them with a great voluntary hospital. Sir Richard Luce passed to the failure to keep up the establishment of medical officers in the service. It was difficult to say why the service did not attract fully qualified men at present. He could not say the pay of the R.A.M.C. was insufficient, but enough candidates were not coming forward. He thought a chief cause was the feeling that the service was one which was being reduced. The medical officers and their heads in the army had no direct representative on the Army Council. This constant reduction of strength caused unrest among those already serving, and made them unwilling to get other men to join. If another war came the chances were that the scapegoat would not be the Minister for War of that time or any other Minister, but the heads of the medical departments who would have to bear the blame of the piecemeal reduction which was being done now. Dr. FREEMANTLE supported Sir Richard Luce's remarks on the medical services. Medical members of Parliament felt that they were entitled to urge an extension of these services in some directions, as they had pointed out the futility of keeping up general hospitals for both the army and the navy in the same place in peace. The medical members of Parliament urged the Government to see whether they could economize further in that direction. The medical services consisted of two parts. The tactical part, consisting of physicians and surgeons, could to some extent, especially in connexion with the Territorial Army, be improvised in time of war, but the administrative part, the nucleus of every unit, could not be inserted unless it had been trained. Yet in the Territorial Army, for instance, despite representations from medical members of Parliament, the number of field ambulances in a Territorial division had been cut down from three to one. In the East Anglian Territorial Division that field ambulance unit had subsequently been cut down from three sections to two, and it would be necessary to form three field ambulances in case of mobilization to serve three brigades. There would be great difficulty in expansion, and he maintained that the reduction was excessive. The personnel of the Territorial Army medical services was down by one-third of its full strength. In the Regular Army they had still the difficulty of recruiting. They had managed at last to get fifteen medical officers compared with the sixty required. They could not support an army in the field unless they had an adequate supply of medical officers trained for the work. The Secretary of State had the matter fully in hand, and perceived the difficulty in getting these men recruited. The real difficulty was not simply the question of pay, but the fact that the men now in the service were overworked abroad, and, instead of getting leave, were constantly kept abroad beyond their time, the senior men being relied on to do comparatively junior work, because there were no junior officers in the service. They were

practically deprived of a great deal of their family life when they were getting towards the end of their service. These men did not give a good name to the service at home, and that made it all the more difficult to get the junior men. He hoped the Secretary for War would get the advantages of the service home to the junior men he wished to attract. Mr. MITCHELL BANKS spoke of the value of good dentistry in maintaining the health of the soldier. In cantonments in India, even in peace time, if teeth went wrong there was nothing to do but to have them out, and in no skilful manner. Dr. VERNON DAVIES associated himself with Sir Wilfred Sugden's remarks concerning pharmacists in the army. The navy thought it necessary to have trained pharmacists who had gone through a professional training and examination. So did the Ministry of Health under the national health insurance scheme, and the Home Office for the prisons. If the War Office was right they should scrap the pharmacists in the navy, prison service, and national health insurance organization, and get the work done by cheap dispensers. He commented on the failure of the Secretary for War to speak about the medical service when introducing the Estimates. Yet an army without doctors was of no use. There was something wrong with the service. Instead of having competitive examinations they now had to go to the medical schools to persuade men to go into the army. Had the Secretary of State inquired what the trouble was? Had he done anything to see if the service could be made more attractive to medical men? The present salary was extremely good. There was too much moving about from place to place, and when officers retired after seven years or so the gratuity was not high enough. The War Office must remember that it was competing with panel practice and with all the public medical appointments in this country. When a young medical man, soon after he had qualified, could go into public medical service and work five days a week for £700 or £750 a year as a doctor, he had no definite inducement to go into the army. A short service in the army with either an increased gratuity at the end of the seven years, or, preferably, with retired pay, giving the War Office a call upon the doctor at any time, would increase the popularity of the service. If it could be arranged that any medical man who had served in the army should have preferential treatment in any State or municipal appointments of medical men, that would further make the service popular.

Replying to the debate, Sir LAMING WORTHINGTON-EVANS said the War Office had been able to accept some of the recommendations made by a committee of pharmacists. To accept others would have involved a good deal of extra expense. The R.A.M.C. dispensers received adequate training for their duties, enabling them to dispense the prescriptions of the medical officers. The adoption of the policy that the hospitals of the three services should be at the disposal of patients of any one of them entirely accounted for the reduction in R.A.M.C. personnel. Some of the personnel which appeared to have been reduced had gone to China, and were carried on a Supplementary Estimate. Nevertheless, the reduction was inevitable. Sir Richard Luce had complained of the atmosphere of military hospitals. Sir Laming said he had visited most of them. Absence of paint was not the test of a hospital. The test was the medical service and the social service which patients in these hospitals received. His experience was that real human attention was given to the men in the hospitals, who seemed to be happy and content with the treatment they received. Sir Richard Luce had suggested that the medical service was treated as a Cinderella service, that cuts were made upon it out of proportion to the cuts made on the rest of the army. That was not so. In these Estimates, out of a total of £41,000,000, £2,400,000 was devoted to the medical service. They had not the number of doctors required for establishment. They had done their best to make the service attractive. He had conferred with his medical advisers and with the medical societies, and thought now, at any rate, the terms and conditions of service were agreeable to the medical profession. He had the endorsement of the medical profession. Men could now join for seven years, and if they then wished to retire they had a gratuity of £1,000—a very useful addition to the capital of a young medical man about to set up in practice. A pension of £1 a day had been given to majors retiring from the R.A.M.C. Sir Richard Luce had complained that R.A.M.C. officers were not directly represented on the Army Council. Every branch of the army could not be represented on the Council, but the Director-General of Medical Services had direct access to the Secretary of State.

A motion to reduce the strength of the army by 50,000 men was defeated, and the Estimates passed through Committee.

### Pensions.

Answering Mr. Scrymgeour, on March 8th, Major TRYON said that at Dundee for more than a year past the medical facilities at the disposal of pensioners had not involved attendance by a medical officer otherwise than on a part-time basis. The medical service was working well and no complaints had reached him. In case of emergency the services of an examining medical officer residing in Dundee were available.

In a reply to Mr. Robinson, on March 7th, Sir KINGSLEY WOOD said a man disabled in the great war who was insured under the National Health Insurance Act was entitled to the ordinary course of his insurance to medical benefit, including treatment for his war disability, so far as it did not involve special skill and experience which general practitioners as a class could not be expected to possess. An uninsured man was entitled to similar treatment if in receipt of a disability pension and not in receipt of a total income over £160 a year.

On March 13th Sir L. WORTHINGTON-EVANS told Mr. Barnes that the fact that an ex-service man was in receipt of a disability award was not in itself a disqualification for appointment to a

temporary commission in the Royal Army Medical Corps. Such cases, however, had naturally to be considered very carefully in view both of the possibility of aggravating the disability and of the danger of the officer's breakdown in the performance of his duties.

In reply to Dr. Shields, on March 13th, Lieut.-Colonel G. F. STANLEY stated that the total number of disabled officers, nurses, and men in receipt of pension or other grant from the Ministry of Pensions in Scotland was approximately 43,000. In 1925 the average number of patients attending at Ministry clinics in Scotland, and in receipt of in-patient treatment, was 960 in the clinics and 600 in the Ministry hospitals; in 1926 the average was 610 in the clinics and 495 in the hospitals; and in 1927 425 in the clinics and 365 in the hospitals. The number of disabled men who, in 1927, received treatment at home together with allowances was 1,484. The Ministry had in view hospital accommodation in Scotland for current needs of about 400 beds, which would provide a substantial reserve. In view of the decline in the requirements of hospital treatment he was unable to estimate what accommodation might ultimately be found to be necessary. There were 105 Scottish disabled men under treatment in Ministry hospitals in England. Of these 99 were in four hospitals—namely, Harrowby, Orpington, Cosham, and Maghull—which had been established for the treatment of special forms and degrees of nervous disease, including epilepsy. Six were medical and surgical cases, receiving special treatment in Mossley Hill (1), Sidcup (2), and Rochampton (3) hospitals.

#### *Dr. Voronoff's Experiments on the Improvement of Livestock.*

On March 13th Mr. GUINNESS told Mr. Bromley that Dr. Serge Voronoff had not been invited to visit this country in connexion with the improvement of livestock, but a scientific mission was recently sent to Algiers by the Ministry of Agriculture and the Scottish Board of Agriculture to inquire into the results of Dr. Voronoff's experiments. The report of the mission had just been published. Arrangements were being made for carefully controlled experiments to test the claims made on behalf of Dr. Voronoff's work. These experiments would not be carried out by the Ministry, but by university workers, whose work was aided by Government grants. All experiments on living animals calculated to give pain were subject to licence and inspection by the Home Office, under the Cruelty to Animals Act, 1876.

*Small-pox.*—Mr. CHAMBERLAIN told Lord Henry Cavendish-Bentinck, on March 8th, that he had evidence of small-pox having been spread during the recent epidemic by persons admitted to the casual wards of Poor Law institutions. He had given instructions that, for detection of small-pox, all persons admitted to casual wards should be medically examined.

*Preservatives for Cream.*—Sir J. GILMOUR, on March 13th, in reply to Mr. N. Maclean, stated that he had been unable to assist milk-sellers in Scotland to find an alternative preservative for cream in place of those prohibited by the Order, which was now coming into force. Sir KINGSLEY WOOD also informed Mr. Lamb that the Minister of Health's attention had been drawn to the increasing use of emulsifiers for the reconstitution of cream, but it did not seem likely that the Preservatives Regulations were responsible for the increase. The prohibition of preservatives applied equally to natural and to reconstituted cream. A more probable explanation could be found in the fact that the latter article was said to be prepared at a cost much lower than that of the former. He was unable to state how many prosecutions had been instituted by the local authorities in respect of the sale of the synthetic article as cream. The constituents of cream could be emulsified so as to produce an article very similar to natural cream. Investigations were, however, being made as to the possibility of distinguishing between the two articles by scientific methods. Pending the completion of these investigations, he was not in a position to indicate what further steps could be taken by the Ministry of Health.

*R.A.F. Hospitals.*—In a statement furnished to Dr. Vernon Davies on March 9th, Sir SAMUEL HOARE shows that the Royal Air Force maintains six hospitals—Haltom, with 309 beds and 9 hospital officers; Cranwell, with 100 beds and 6 officers; and Uxbridge, with 10 officers, and Basra, with 35 beds and 5 officers, in Iraq; and 31 beds and 4 officers—all at home; Hinaidi, with 200 beds and Sarafand, with 77 beds and 5 officers, in Palestine. These establishments were under review. He added that the hospitals in Iraq and Palestine provide for British army officers and certain British civil officials in addition to the R.A.F. The personnel attached to most of the hospitals performed duties apart from those directly connected with the hospitals. For instance, the officers at Cranwell Hospital were also medical officers for the Cranwell Command.

*Inspection of Factories.*—The HOME SECRETARY announced, on March 8th, that he proposed to proceed in the autumn with the appointment on a committee to report on the strength of the factory inspectorate. This will probably be a departmental committee. In announcing this decision the Home Secretary remarked that he had admitted the number of factory inspectors was inadequate.

*Experiments on Animals.*—Sir W. JOYNSON-HICKS, replying, on March 12th, to Mr. N. Maclean, who asked if he had caused any inquiry to be made as to the large increase in the number of experiments performed on living animals, and, if so, whether any reason had been given for such an increase, said that the increase was mainly in inoculations, feeding experiments, and

similar procedures. He understood that it was due principally to the development of medical science in regard to the standardizing of drugs and the investigation of vitamins, and to the steps taken to safeguard the purity of the milk supply. He saw no ground for special inquiry.

*Anthrax.*—In a reply to Dr. Vernon Davies, on March 8th, the HOME SECRETARY said that in the years 1925 to 1927 the cases of anthrax reported as occurring in factories and other premises under the Factory and Workshop Acts numbered 125, of which 17 were fatal. Wool and hair other than horsehair caused 60 cases with 8 deaths (18 and 1 in 1927), horsehair or bristles caused 14 cases with 4 deaths (3 and 1 in 1927), hides and skins caused 46 cases with 5 deaths (13 and 1 in 1927); feathers, bones, felt, tanned leather, and refuse were responsible for 5 cases (1 in 1927) with no deaths.

#### *Notes in Brief.*

An interdepartmental committee has been examining the law relating to poisons, and the Home Secretary will bring to its notice the remarks of the coroner at a Kensington inquest in favour of action to restrict the import of the French hypnotic drug known as dial.

In the West of Scotland 157 factories employing young girls were not visited by factory inspectors last year, but 86 had been visited within fifteen months, and all but 6 within two years.

In only three unions in England and Wales are no beds, bunks, or hammocks provided for casuals. In these unions improvements are under consideration.

Special arrangements have been made by the Metropolitan Hospitals Board, with the approval of the Ministry of Health, for provision of treatment for young persons suffering from the after-effects of encephalitis lethargica with a view to research into appropriate methods of treatment.

The Ministry of Health has been in communication with the French Ministry of Agriculture concerning an alleged discovery of a remedy for foot-and-mouth disease.

Colonel HEARNLAW, on March 7th, stated that no naval hospitals at home or abroad had been closed during the past three years on account of co-operation with other service hospitals.

## The Services.

### DEATHS IN THE SERVICES.

SIR ROBERT NEIL CAMPBELL.

Colonel Sir Robert Neil Campbell, K.C.M.G., C.B., C.I.E., Bengal Medical Service (retired), died at Lahore, when on a visit to India, on February 18th, at the age of 73. He was born on September 28th, 1854, the son of Robert Campbell, of the British Linen Company's Bank, Trinity, Edinburgh, and educated at the Edinburgh Institution and at Edinburgh University, where he graduated as M.B. and C.M. in 1876. Entering the I.M.S. as surgeon on October 1st, 1877, he attained the rank of colonel on April 2nd, 1909, and retired on April 2nd, 1914. After a few years' military service, during which he served in the Naga Hills campaign of 1879-80 on the North-East Frontier, was mentioned in dispatches on C.G.O. No. 123 of 1880, and received the Frontier medal with a clasp, he entered civil employ in Assam, where he was for several years civil surgeon of Shillong, the capital of the province. In 1900 he was transferred to Bengal, and till his promotion to the administrative grade filled the post of civil surgeon of Dakka, one of the most important medical appointments in Bengal. On promotion he became inspector-general of civil hospitals in the short-lived province of Eastern Bengal and Assam, created by Lord Curzon in 1905. After the Royal Durbar of 1911 the arrangements made by Lord Curzon were cancelled, Eastern Bengal was reunited to Western Bengal, while Bihar and Orissa were cut off from Bengal to form a new separate province, and Assam again became a small province by itself. When these changes were made Campbell became I.G.C.H. of Assam. After his retirement in April, 1914, he had barely settled down at Lochmaben, in Dumfriesshire, when the great war began, and he rejoined for service. He was then appointed to the command of the Pavilion and York Place Hospitals at Brighton for Indian soldiers. For his services in that capacity he received the K.C.M.G. on June 4th, 1917. He previously held the gold medal of the Kaisar-i-Hind Order, first class, from May 23rd, 1900, when that decoration was first given; the C.I.E. from June 25th, 1909; and the C.B. from June 4th, 1912. In 1881 he married Ethel Bensley, and had two sons and two daughters. His elder son, who was in business, took a commission in the King's Own Scottish Borderers at the beginning of the war, was severely wounded in Flanders early in 1915, and died of wounds in hospital in England soon after; his younger son, who was in the Indian Army, was killed in Gallipoli in the summer of 1915.



## Obituary.

### JAMES WHEATLEY, M.D.LOND.,

President of the Society of Medical Officers of Health.

We announced, with much regret, in our last issue, the death of Dr. James Wheatley, president of the Society of Medical Officers of Health, and for twenty-seven years medical officer of health for the county of Shropshire.

James Wheatley was a student of King's College, London, and obtained the diplomas of M.R.C.S.Eng. and L.S.A. in 1886, graduating M.B., B.S.Lond. in the year following, and proceeding to the degree of M.D. in 1890. He obtained the D.P.H.Ed. in 1891. After holding the post of house-physician at King's College Hospital he was for some years medical officer of health for Blackburn, and in 1901 he succeeded Dr. Charles Porter, who was appointed medical officer of health at Johannesburg, in the county appointment in Shropshire. In this position he distinguished himself by his honest enthusiasm for progress in public health matters. His schemes for the improvement of the people's health were always notable for their careful thoughtfulness and soundness of judgement. His report on tuberculosis culminated in the opening of the King Edward Memorial Sanatorium at Shiretton in 1912, while the co-ordinating of the work for crippled children resulted in an organization probably more complete than in any county in the country. He was a practical believer in the benefit to be derived from propaganda work, and in this he did not spare either his time or his energy.

Wheatley was slow in coming to conclusions, carefully balancing the pros and cons of every question, and often reserving judgement. But having formed his opinion on the course of action to be advised, he was a consistent advocate, and had no reluctance to be in a minority. He held confirmed views on the relation of diet to the incidence of dental caries, and these he earnestly advanced when occasion arose.

Dr. Wheatley was a member of the British Medical Association, and served on the Public Health Committee in 1922-23. In 1925 he was elected a member of the Council of the Shropshire and Mid-Wales Branch, was president of the Branch from May, 1925, to October, 1926, and vice-president in 1927.

A colleague writes: Wheatley's extremely thoughtful and original habit of mind was never better exemplified than in the presidential address which he delivered in October last, on his installation to the chair of the Society of Medical Officers of Health. That society mourns not only the loss of its president, but also the loss of one of its most conscientious, reliable, and lovable members. As late as last summer Wheatley was questioning his own wisdom in allowing himself to be elected president. He was not in the best of health, and in November he had to forgo the privilege of presiding at the society's annual dinner. Instead, on advice, he took a long rest in a nursing home, and characteristically he urged that his illness should only be spoken of as a temporary indisposition. He had previously had occasional heart attacks, and apparently these became more severe. About a month

ago Wheatley had an influenzal illness from which he was recovering, when, on the evening of March 3rd, having been left reading in bed, he was found to have died. It is not conceivable that Wheatley had any enemies. The universal respect with which he was regarded was well illustrated by the large and representative attendance when he was laid to rest in the little parish churchyard of Bieton, near Shrewsbury, on March 7th. Dr. Wheatley was in his sixty-fifth year; he leaves a widow and one daughter.

### HENRY WILLIAM LANGLEY BROWNE, O.B.E.,

LL.D., M.D., F.R.C.S.ED.,

Chairman of Council, British Medical Association, 1905-07.

We have to announce, with deep regret, the death of Dr. H. W. Langley Browne, which took place at his residence near Edgbaston, Birmingham, on March 7th. Dr. Langley Browne, who was in his eightieth year, died of acute bronchitis after an illness lasting only three days, but for the past seven years he had been an invalid as the result of an accident which caused the loss of his sight.

Henry William Langley Browne was the eldest son of a medical practitioner, the late Dr. Benjamin S. Browne, and was born at Bishop Auckland in the county of Durham in 1848, and was educated at Sydenham College and Birmingham General Hospital. He obtained the diplomas of M.R.C.S.Eng. in 1870, L.R.C.P.Ed. a year later, and F.R.C.S.ED. in 1882. He graduated M.B., B.Ch. Birm. in 1901, and proceeded to the degree of M.D. in the following year.

Dr. Langley Browne spent the greater part of his life in the town of West Bromwich, where he practised for fifty years—from 1870 to 1920. He was honorary surgeon to the West Bromwich Hospital from 1871 to 1904, and later became consulting surgeon. In the affairs of his profession he played a considerable part throughout his life, being prominent also in civic affairs. He held many offices in the British Medical Association.

In 1889 he served as chairman of the Section of Pathology organized by the Birmingham Branch; in 1891 he was elected to the Branch Council, and in 1894 became president of the Branch. Ten years later he was elected chairman of the West Bromwich Division, and in 1907 was appointed by that constituency to membership of the Representative Body. He was Chairman of the Council of the Association in the period 1905-07, after serving as a member of the central Council from 1899. At the Leicester Meeting in 1905 he was president of the Section of Industrial Hygiene and Diseases of Occupation. In the following year, when the Annual Meeting of the Association took place in Toronto, the University of that city conferred upon Dr. Langley Browne the honorary degree of LL.D.

Some indication of the place which he held in the estimation of his fellow practitioners throughout the country may be gained from the fact that when, in 1906, he became a candidate for the General Medical Council as a direct representative for England and Wales, he was returned at the head of the poll, and in 1911, when he sought re-election, this experience was repeated. He retired from the General Medical Council at the end of 1919, when



Photo]

H. W. LANGLEY BROWNE, M.D.

[Elliott and Fry.



the officership of the Order of the British Empire was conferred upon him in recognition of his services within and without that body.

Dr. Langley Browne was a life member of the court of governors of the University of Birmingham. The members of the Midland Medical Society elected him as their president in 1902, and he was chosen to fill a similar office by the Association of Factory Surgeons in 1905. During the late war he was a member of the Central Medical War Committee, and also served on the staff of the West Bromwich Red Cross Hospital. His contributions to medical journals bore witness to a wide range of interest in his profession.

Municipal affairs attracted his attention, and as a member of West Bromwich Town Council for many years he was chairman, successively, of the sanitary and public libraries committee. He was also a justice of the peace for the county of Stafford, and a member of the County Territorial Association at one time. Among his recreations golf took a foremost place, and he was one of the founders and the first secretary of Sandwell Park Golf Club.

It is of especial interest to those at headquarters to recall that in 1906, when Dr. Langley Browne was Chairman of Council of the British Medical Association, he took a leading part in the establishment of the staff superannuation fund, and entertained the members of the permanent staff, administrative and executive, to dinner in the Hotel Cecil.

#### CHARLES HAROLD BLOXSOME, L.R.C.P. AND S.Ed., Fairford, Glos.

THE death occurred at Fairford, Gloucestershire, on February 17th, of Dr. Charles Harold Bloxsome, aged 70. He received his medical education at Manchester, and after taking the diplomas of L.R.C.P., L.R.C.S., and L.M.Ed. in 1880, held the post of house-surgeon at the Manchester Royal Infirmary. A year or two later he settled in practice at Fairford and became one of the surgeons at the cottage hospital. An enthusiastic bacteriologist, and devoted disciple of Lister, he carried out the Listerian technique with scrupulous care, and in the course of a few years built up a considerable surgical practice. His case-books show that many of his operations would come under the category of major operations.

One operation, though not of this character, is worth recording. On June 25th, 1887, he admitted into the cottage hospital a journeyman butcher, aged 67, with an enormously swollen left arm; on the anterior surface of the forearm were four hard, purplish-black eschars. Having examined some of the fluid from these and identified what he believed to be anthrax bacilli, and further hearing that the man had recently skinned and cut up a bull that had died in suspicious circumstances, Dr. Bloxsome excised and cauterized the lesions. The man stood the operation well, but died the following day. Dr. Bloxsome reported this to the authorities as a death from anthrax, and the case became at once notorious in the district. The editor of the local paper published an article with a view to proving that a young and inexperienced doctor had made the foolish mistake of labelling an ordinary case of blood poisoning as one of anthrax. The owner of the dead bull wrote in the same strain, and attacked the doctor for not publicly writing to the paper to explain how he had come to make so extraordinary an error. Dr. John Hitchman, a distinguished pathologist, took up the cudgels in Dr. Bloxsome's favour, having had an opportunity of examining the fluid which Dr. Bloxsome had removed and having seen the bacillus in the fluid. A fierce controversy ensued, but in the meantime Dr. Bloxsome had sent all his preparations and preserved tissue, with a full history of the case, to Mr. Wntson Cheyne, who reported that there could be no doubt that the patient died of anthrax. This appears to have terminated what was certainly an awkward episode in the life of a young medical man who had but recently settled in the district. In a very short time his worth was recognized, and he soon had as much work as he wanted. As a surgeon with a limited field at his disposal, he con-

until within a few weeks of his death. His love for bacteriology never waned; he used, apparently with great success, auto-vaccines prepared by himself in appropriate cases. Apart from his work he had many other interests. As a young man he was a great lover of horses and hunting, he was an expert on throwing a fly, he derived intense pleasure from music, but perhaps he enjoyed most of all a heated discussion on some debatable point with two or three chosen friends. His only son is carrying on the practice at Fairford. His second wife, with her daughter, survives him. The very large number of friends, both rich and poor, who attended a memorial service on February 21st at Fairford Church amply testified to the esteem in which he was held.

#### THE LATE SIR ROBERT PORTER, K.C.B.

WE are indebted to Sir ANTHONY A. BOWLEY, Bt., K.C.B., K.C.M.G., K.C.V.O., for the following appreciation of the late Major-General Sir Robert Porter, K.C.B., A.M.S. (retired).

I should like to add a few words to the obituary notice of Sir Robert Porter in your last issue, for he was always very keen to co-operate with the civilian surgeons in his command, and to avail himself in every way of their services. It was in the early days of the first battle of Ypres, on October 15th, 1914, that I first met Porter at a casualty clearing station established in Bethune in a large girls' school. He had just been promoted a surgeon general for services in the field, and was D.M.S. of the second corps, and he now was very anxious about his wounded, who came in increasing numbers, and were far too numerous in proportion to surgical equipment or personnel; whilst to add to our difficulties an enemy shell had just set alight a house opposite to the small civil hospital in which were some of our most severely wounded men. From that day until he left France at the end of 1917 I was constantly associated with Porter, for until May, 1915, I was the only consulting surgeon at the front, and it was with Porter's active co-operation and support that the first steps were taken to expand and convert the casualty clearing stations so as to make them efficient front-line hospitals. From that time onward he took the deepest interest in the surgery of the front, and did everything in his power to promote the improvement in the surgical staffs. It is indeed impossible to over-estimate the value of his constant support in our efforts to help the civilian surgeons in their work, and it is interesting to recall that No. 10 Casualty Clearing Station at Rémy siding, so well known to many of us, was the first casualty clearing station to be established in tents in the open country, instead of in various buildings, as was the custom in the earlier days of the war. Early in 1915 the British Expeditionary Force became divided into two "armies," and from that time Porter was continuously associated with General Plumer's Second Army, an army which was always a favourite with British officers and men alike. To the efficiency of this army Porter contributed very largely, for he was tireless in visiting every unit at the front, and was always accessible to his officers and ready to discuss any proposals for improvement in the conditions of the troops. The fact is that Porter took the greatest possible interest in the British soldier, and was out to help him in his difficulties and to ease his heavy burden in the horrible conditions of the Ypres salient. Few people knew how deeply they were indebted to him, for he was a silent and very modest man, whose motto might well have been "Deeds, not words." He was a true friend to the British soldier and a staunch supporter of every surgical improvement which might help his wounded men.

We regret to announce the death of Dr. J. W. KEIOHLEY of Blackburn, aged 61 years. He was a native of Blackburn and studied medicine at the University of Edinburgh and the London Hospital. He graduated M.B., C.M.Ed. in 1894, and proceeded M.D. in 1918. He took great interest in the work of the British Medical Association, was a member of the Executive Committee of the Blackburn Division for 1917-18, vice-chairman of the Division in 1919, and chairman in 1920. He represented the Blackburn Division in the Representative Body for

1925-27, and was a member of the Lancashire and Cheshire Branch Council for 1926-27. He was president of the Blackburn and District Medical Society in 1919, and was honorary secretary of the Local Medical and Panel Committee from its inception until three years ago. He had been a member of the Blackburn Town Council since 1907, was appointed vice-chairman of the town hall and public baths committee in 1920, and two years later became chairman of the committee. In February, 1923, he was elected an alderman. He was placed on the Commission of the Peace for the borough in 1920. He served on most of the corporation committees, and was the representative of the town council on the Lancashire Asylums Board for nine years. During the war Dr. Keighley did a large amount of voluntary work for his fellow practitioners on war service, and was an active member of the Belgian refugees subcommittee. Dr. Keighley had presided over a meeting of the town hall committee on the afternoon of February 13th, and owing to indisposition he was prevented from attending a meeting of the Central Conservative Club in the evening; he died on February 15th. He is survived by his widow, three sons, and a daughter; one of the sons is a member of the medical profession in Blackburn, where his son-in-law is also in practice. A colleague writes: Dr. Keighley was ever a loyal colleague and friend, and, in his quiet and unassuming way, was always ready to do a good turn for any deserving person or cause. His sudden death caused deep sorrow to his medical brethren and his colleagues on the town council. He was a man of the highest principle, modest, unassuming, and quietly genial in all his relations with his colleagues and his fellow workers on the public bodies on which he served. His life was a full one, and he could always be relied on for punctual attendance. At a solemn requiem mass, prior to the interment on February 20th, the Rev. Father Singleton, rector, concluded a moving address by saying that Dr. Keighley never became a cynic; he mixed in public life, yet he was not soiled. An uncharitable word never came from his lips. He made no distinction between rich and poor, giving to both the same wonderful and undivided attention. His name was held in high esteem and regard among the poor, and, after all, that was one of the true tests of greatness and goodness.

Dr. ARTHUR STOPFORD UNDERHILL died peacefully in his sleep on February 20th, at his residence in Barnes, in his seventy-ninth year. He belonged to a medical family, well known and honoured for over a century at Great Bridge, Tipton, and West Bromwich. He was a native of Tipton, and received his medical education at Trinity College, Dublin, where he graduated B.A., M.B., M.Ch. in 1870, at the age of 21. Dr. Underhill obtained the diploma M.R.C.S.Eng. in 1872, the D.P.H. Camb. in 1875, and proceeded M.D. in 1877. After holding the appointments of resident physician and medical tutor at Queen's Hospital, Birmingham, and resident medical officer at Birmingham Children's Hospital, he succeeded quite early to his father's large general and consulting practice, and was medical officer of health for Tipton for fifty-two years, retiring from that office only two years ago. He served as medical superintendent, West Bromwich Union Infirmary, and held office for a term as president of the Birmingham and Midland Counties Branch of the Society of Medical Officers of Health. He was a lifelong member of the British Medical Association. "J. A. S." writes: Dr. Underhill's chief interest lay undoubtedly in consultative surgical and medical practice. Gifted with a commanding presence and ability to lead, he was bound to succeed. He was a man of the highest integrity and of unbounded generosity. For over fifty years he was first surgeon and then consulting surgeon to the Gnest Hospital, Dudley. As an illustration of his careful nature it may be mentioned that he made a practice of reading up, whenever possible, all the steps of any major operation he contemplated doing on the morrow. He reasoned carefully with patients respecting an operation without any attempt to force surgical procedure on them. I have so often known him to discuss it with me as the only fair and equitable thing to do, and he emphasized the necessity for

putting himself in the patient's place. His opinion was largely sought by his colleagues. On Sunday he practically kept open house, and at any meal after breakfast it was quite problematical whether we sat down ten, or even twenty. Dr. Underhill was twice married, first to Mary Symons, daughter of Major-General C. B. Symons, by whom he had four daughters and three sons, and secondly, to Lucy Cory, sister of the vicar of Tipton. He was buried at Tipton on February 24th, in the presence of a large number of friends.

Mr. GERALD SICHEL, who died at Sevenoaks on February 29th, received his medical education at Guy's Hospital. He obtained the diplomas M.R.C.S., L.R.C.P. in 1892, and the F.R.C.S.Eng. two years later. He held various resident posts, and after serving for some years as surgeon in the Royal Navy was for a time in charge of the light department at Guy's Hospital. He entered the navy as surgeon in November, 1894. He served in H.M.S. *Gibraltar* at the Cape from 1896 to 1899, when he was appointed an instructor at the Naval Medical School at Haslar. He resigned from the navy in 1903. He was the author of a small work, *Ambulance Notes*, which was adopted by the Admiralty. During the great war he held a commission as major in the R.A.M.C., when he acted as chief surgeon to the Lord Derby War Hospital, Warrington; he was also surgical specialist both at home and with the British Expeditionary Force, being mentioned in dispatches. In civil life he held the post of surgeon to the Sevenoaks and Holmesdale Hospital, and the Sevenoaks Hospital for Children with Hip Disease; he was also consulting surgeon to Sevenoaks Grammar School. Mr. Sichel was an active member of the Sevenoaks Division of the British Medical Association, and had acted as representative of the Guildford Division at the Annual Representative Meeting in London in 1906. "C. A. H. P." writes: It was only on August 24th that I went down to Sevenoaks to give an anaesthetic for him, and within half an hour of my leaving his house he was called out to help at the scene of the terrible accident on the railway at Riverhead. Here he directed operations and toiled ceaselessly for many hours; he shouldered great cares and anxieties for several days, looking after a number of patients in the Sevenoaks and Holmesdale Cottage Hospital. I saw him several times after that occasion in August, as he always kept open house at his charming residence. He had not been so well the last year or so, but there appeared to be no reason why he should not carry on. He had personal anxieties for some years which had aged him prematurely, but it was not until just lately that he was considered in any danger. His death creates a gap that it will be impossible to fill. As a colleague he was delightful to work with; as a surgeon he was most careful and painstaking, able and efficient, shrewd and careful in judgment. He never operated for the sake of operating; he always chose the safest and wisest course for the patient, and avoided experimenting. Much sympathy is felt for his younger daughter, who had been his constant companion and right-hand "man" in recent years, and for his other relatives.

Dr. WILLIAM HERBERT LISTER MARRINER, who died at Bournemouth on February 27th, at the age of 69, received his medical education at St. Thomas's Hospital, London. He graduated M.B.Lond. in 1884, obtaining the diplomas M.R.C.S.Eng. and L.S.A. in the same year. After a period as clinical assistant in St. Thomas's Hospital he commenced practice in Bournemouth, subsequently becoming attached to the staff of the Royal Victoria and West Hants Hospital there. In this institution he held, at the time of his death, the appointment of consulting surgeon for diseases of the nose, throat, and ear. Dr. Marriner took an active part in local professional affairs. He was one of the earliest members of the Bournemouth Medical Society, and served for a term as president. He was a member of the Executive Committee of the Bournemouth Division of the British Medical Association in 1906-07 and 1909-10, vice-chairman in 1912-13, and chairman in 1914. He was vice-president of the Dorset and West Hants Branch in 1908,

and a member of the Branch Council 1911-15. He is survived by his widow, one daughter, and two sons, the younger of whom is in the medical profession. A colleague writes: I remember Marrinor on his first coming to Bournemouth. For some time he was in general practice, but afterwards he devoted himself to the Victoria Hospital. He was a keen Volunteer officer for many years. He took an interest in public affairs and in politics, but was not an active participant. His chief characteristic perhaps was his great loyalty to his friends, his hospital, and his regiment.

Dr. WALTER RIGDEN, who died on February 28th at Bournemouth, in his 80th year, was the last survivor of the five sons of the late Dr. George Rigden of Canterbury, of whom four were in the medical profession. After studying medicine at University College Hospital he became M.R.C.S. and L.S.A. in 1870, and graduated M.D.St. Andrews in 1892. Dr. Rigden had been for over fifty years a well-known figure in South Kensington. He practised, until his retirement a few years ago, nearly opposite Brompton Oratory, and had witnessed much of the transformation of South-west London since the sixties. Among his recollections of olden days were those of disorderly scenes at the long extinct Cremorne Gardens (where the big generating station for the electric railways now stands), much frequented by rowdy elements sixty or seventy years since. Dr. Rigden was local honorary secretary for Epsom College for a great number of years, and, in fact, resigned this position only two years ago. He was a loyal and valued member of the council of the Medical Defence Union almost from the foundation of that body. He had also been a member for close on half a century of the Brompton Medical Book Club, and was an old member of the British Medical Association. Dr. Rigden was very highly esteemed by a wide circle, both of professional colleagues and of patients. He was a man whose complete uprightness was transparent to all, and he was always more than ready to do a kind act or help with wise counsel the younger men in his profession. He was twice married, but leaves no family.

Dr. WILLIAM JOHN CUTHBERT WARD, who died at Harrogate at the age of 83 on February 16th, received his medical education at Edinburgh; he obtained the diplomas: L.R.C.P., L.R.C.S.Ed. in 1868, and the M.R.C.S.Eng. in the same year. After practising for some time in London, he went to Harrogate in 1877, and for thirty years held the post of medical officer of health, retiring when a whole-time appointment was created. For forty years he was surgeon to the Harrogate section of the London and North-Eastern Railway, and medical officer to the Ancient Order of Foresters. His wife predeceased him in 1924; he leaves five sons and four daughters, two sons being in the medical profession.

Dr. THOMAS FAIR HETHERINGTON SPENCE, who died at Peebles on February 20th, was the eldest surviving son of the late Dr. James Spence, professor of surgery in the University of Edinburgh. Dr. Thomas Spence received his early education at Edinburgh Academy, graduated M.B., C.M. at Edinburgh University in 1875, and afterwards acted as house-surgeon to his father. After a period of post-graduate study spent in Vienna he became for a time assistant to his father in the department of surgery, and then settled in general practice in Edinburgh, where he was much beloved by his patients for his kindness of heart. He retired from practice nearly twenty years ago, and went to reside at Innerleithen. Both on Tweedside and at Loch Leven he was a noted angler, and his little book entitled *How to Catch Trout* went through many editions. Dr. Spence is survived by his widow.

Dr. DAVID ROBERTSON DORIE died at Digby, Lincolnshire, on February 22nd, a fortnight after retiring from practice in Crieff. He was born at Ladykirk and was educated at George Watson's College and the University of Edinburgh,

where he graduated M.B., C.M. in 1882, proceeding M.D. three years later. He obtained the diplomas F.R.C.S.Ed. in 1902 and the D.P.H. in 1906. After graduation he spent periods of medical service in Greenock, Cromarty, and Coldstream, and for the past twenty-seven years he had carried on a large practice in Crieff, where he was held in great respect by a wide circle of patients and friends. We mentioned on February 18th (p. 291) a presentation made to him in connexion with his retirement from practice. He had been medical officer of health for Coldstream, and afterwards, while residing in Crieff, he acted in a similar capacity for the burgh of Auchterarder, and took an active part in the establishment of Crieff and District Cottage Hospital. He had had twenty-five years' service in the R.A.M.C. He published articles on typhoid fever carriers and on acute yellow atrophy of the liver. He is survived by a widow, one son, and two married daughters.

Dr. ALEXANDER STUART of Crieff, who recently died, studied medicine at the University of Edinburgh, where he graduated M.B., C.M. in 1892, and obtained the diploma of L.R.C.S.; he proceeded M.D. in 1913. Dr. Stuart was a district parochial medical officer and public vaccinator, honorary medical officer of Crieff and District Cottage Hospital, and medical officer of the post office. His constant unselfishness and devotion to his patients rendered him widely popular in the district. He was a member of the British Medical Association.

## Medical News.

THE Robert Jones Medal and Association Prize for 1927 has been awarded by the British Orthopaedic Association to Mr. J. F. Brailford for an essay on deformities of the lumbo-sacral region of the spine.

Dr. E. GRAHAM LITTLE, M.P., will give an address on the future of medical practice—intended more especially for senior students and young practitioners—at a meeting arranged by the Metropolitan Counties Branch of the British Medical Association, to be held at the B.M.A. House, Tavistock Square, London, on Thursday, March 22nd, at 5.30 p.m. Tea and coffee will be served at 5 o'clock. All fourth and fifth year medical students and recently qualified practitioners are cordially invited.

At the meeting of the Royal Anthropological Institute to be held at 52, Upper Bedford Place, W.C.1, on Tuesday, March 27th, at 8.30 p.m., Sir Arthur Keith, M.D., F.R.S., will give a lecture, illustrated by lantern slides, on the human remains discovered by Sir Aurel Stein in ancient cemeteries of the Taklamakan Desert.

A PROVINCIAL meeting of the Tuberculosis Society and the Society of Superintendents of Tuberculosis Institutions is to be held in the Dunn Laboratory, Oxford, on Thursday, Friday, and Saturday, March 29th, 30th, and 31st. At 2 p.m. on the first day there will be a discussion on lupus and its treatment, under the chairmanship of Sir Farquhar Buzzard. Two discussions will be held on March 30th: on the potentially tuberculous child, at 10 a.m., with Sir St. Clair Thomson in the chair, and on the treatment of haemoptysis in pulmonary tuberculosis, at 2 p.m., with Professor Lyle Cummins in the chair. The concluding session, on Saturday morning, will be devoted to intestinal tuberculosis, under the chairmanship of Dr. F. R. Walters. The two participating societies will hold their annual meetings at the Clarendon Hotel on the evening of March 29th, and a dinner will be held on the following evening. Non-members who are interested in the subjects of the programme will be welcomed as visitors. The joint honorary secretaries are Dr. J. R. Dingley (Darvill Hall Sanatorium, Robertsbridge, Sussex) and Dr. G. T. Herbert (Tuberculosis Department, St. Thomas's Hospital, S.E.1).

THE Fellowship of Medicine announces that Professor Frederick Lanjeard will lecture at the Medical Society of London, 11, Chandos Street, on dull and backward children, on March 19th, at 5 p.m. On March 22nd Professor Louise McIlroy will give a lecture-demonstration at the Royal Free Hospital at 5 p.m., and on the same date, but at 6.30 p.m., Mr. Theodore Just will give a demonstration at the Golden Square Throat Hospital. The lectures and the demonstrations are the last of the series arranged by the Fellowship of Medicine for this session, and are free to medical practitioners. A week's course at the Brompton Hospital for Consumption

and Diseases of the Chest begins on March 19th. At the Royal National Orthopaedic Hospital there will be an all-day course from March 15th to 31st, and from March 19th until the 30th the Hampstead General Hospital will provide a late afternoon course, including demonstrations or short lectures in medicine, surgery, and the specialties. There will be no special courses between March 31st and April 16th, but the Fellowship provides a general course of instruction at its affiliated hospitals throughout the year, comprehensive tickets being issued for any period from one week to one year, and special arrangements being made for those limited to part-time work. Full particulars of this course, syllabuses, and specimen copies of the *Post-Graduate Medical Journal* may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE London School of Hygiene and Tropical Medicine is arranging courses in tropical hygiene for laymen as well as for medical practitioners. Inquiries should be addressed to the secretary of the School, Malet Street, W.C.1.

THE congress of the Royal Sanitary Institute at Plymouth, from July 16th to the 21st next, will comprise seven sections—namely, sanitary science and preventive medicine, engineering and architecture, maternity and child welfare, including school hygiene, personal and domestic hygiene, hygiene of food, hygiene in industry, and veterinary hygiene. In connexion with the congress there will be conferences of representatives of sanitary authorities, port sanitary authorities, national health insurance services, medical officers of health, engineers and surveyors, sanitary inspectors, and health visitors. Further information may be obtained from the secretary, the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1.

THE 155th anniversary dinner of the Medical Society of London was held at the Grosvenor on March 8th, with the president, Mr. Herbert W. Carson, in the chair. The toast of the society was proposed in a genial speech by Lord Carson, who declared that no one owed more than he did to the medical profession, but, gratefully as he admired doctors, he had seldom seen them at their best as witnesses in courts of law. A difficult problem before both professions was to find a satisfactory definition of lunacy which went further than merely saying that a lunatic was a person of unsound mind. The president, in his reply, spoke of some of his great predecessors in office, and congratulated Dr. Poynton on this year's Lettsomian Lectures. The society, he said, was in a most flourishing condition, 101 new Fellows having joined it in the past year, and the average attendance at the meetings held this session was nearly seventy. The health of the visitors was proposed by Sir John Ross Bradford, who said that the well-merited success of the society depended on its activity in promoting clinical medicine and surgery, and in providing opportunities for medical men to meet one another, sometimes as hosts and sometimes as guests. Surgeon Vice-Admiral Gaskell, in his reply, spoke of the enormous help given by the heads of the civil profession to the Royal Naval Medical Service, and Dr. F. G. Crookshank also responded to the toast in a very entertaining speech.

THE Lord Mayor of London presided over the annual general meeting of St. Mark's Hospital, City Road, at the Mansion House on March 8th. It was stated that since the middle of the last century every Lord Mayor in turn—except one—had been president of the hospital. Sir Charles Batho said that last year was eventful in the hospital's history in consequence of the completion and opening of the new wing. With this enlargement the number of beds had been increased to seventy-two, and an up-to-date cancer research laboratory had been provided. Last year 583 in-patients had been admitted, and the attendance of out-patients (6,440) had been the largest in the hospital's history. He added that St. Mark's was the only entirely free hospital of its type in the world; surgeons came from every part of the world to study its methods of treating diseases of the rectum. Unfortunately there was a balance on the wrong side this year, with an excess of expenditure over income of nearly £700, and a debt of £3,500 on the new wing. The Lord Mayor spoke very highly of the work of the hospital, and said he proposed to pay a visit to it in the course of his year of office, and to bring the sheriffs with him. The Corporation of the City of London had been glad to assist this deserving charity, and would no doubt help it again.

THE March issue of the *Edinburgh Medical Journal* is devoted to tuberculosis, and contains several interesting clinical and pathological articles. Professor Murray Lyon contributes a careful critical account of the use of sacrocrystin, summing up on the whole in favour of this form of treatment. Dr. Donald Stewart deals with the examination of the cerebro-spinal fluid in tuberculous meningitis for diagnostic purposes. A report is given of the discussion on ultra-violet therapy arranged by the Medico-Chirurgical Society of Edinburgh last December.

DR. BRIAN B. METCALFE has been returned unopposed to the Cornwall County Council as the member for the Liskeard Division. Dr. Metcalfe is also a member of the Cornwall County Council Committee and chairman of the South-East Cornwall Division of the British Medical Association.

AT the invitation of the Board of Management of the London Lock Hospital the Minister of Health has appointed a committee to inquire into the administration of the hospital, consisting of the Rt. Hon. Sir John Eldon Bankes (chairman), Dr. John Fawcett, and Mrs. H. J. Tennant. The terms of reference are: To inquire into the management, administration, and staffing of the London Lock Hospital, with special reference to the arrangements for the medical treatment of the patients and to the provision made for the moral, social, and material welfare of the inmates. The proceedings of the committee will be held in private.

WE are asked to state that hospitals situated within eleven miles of St. Paul's desiring to participate in the grants made by King Edward's Hospital Fund for London for the year 1928 must make application before March 31st to the honorary secretaries of the Fund at 7, Walbrook, E.C.4. Applications will also be considered from convalescent homes which are situated within the above area, or which, being situated outside, take a large proportion of patients from London.

THE National Union of Students of the Universities and University Colleges of England and Wales is seeking to secure hospitality in Great Britain for foreign students who are anxious to improve their knowledge of English and who are prepared, in exchange, to give their services as teachers of their own languages. Applications for hospitality for varying periods from Easter onwards have been received from a number of French and German students, all possessing satisfactory credentials, and those interested are asked to communicate with the secretary for Exchange and Tuition Visits, National Union of Students, 3, Euston Square, London, W.C.1.

LADY HUDSON has given a donation of £3,000 to the Westminster Hospital for the perpetual endowment of a ward in memory of the late Sir Robert Hudson, who was treasurer of the institution from 1921 till 1927.

ON behalf of *The British Journal of Cambridge University Press* will shortly on *The Development of the Human Eye* by with a preface by Sir John Herbert Parsons and reproductions of 250 original drawings by the author.

WE have received the first issue, dated January, 1928, of *Levante Medico*, a monthly journal published at Murcia in Spain under the editorship of Dr. Juan Antonio Martínez Ladrón de Guevara, assisted by Drs. Fidel Fernández Martínez and Ramón Sánchez Parra. The issue contains original articles on idiopathic cutaneous atrophy by Drs. Barrio de Medina and Nicolás Calvin, a study of rabies by Dr. Ladrón de Guevara, the prophylaxis of trachoma in Murcia by Dr. Eduardo Poveda Pagan, society intelligence, and medical news.

ACCORDING to the returns received from thirty-seven States scarlet fever in the United States of America was more prevalent in 1927 (158,978 cases) than in 1926 (143,159 cases) or in 1925 (135,937 cases).

PROFESSOR JOLLY, who holds the chair of histophysiology at the Collège de France, and is the author of a well-known textbook on haematological technique, has been elected a member of the Académie de Médecine.

DR. ALFONS JACOB, lecturer in psychiatry at Hamburg, has been invited by the Brazilian Government to undertake the establishment of an institute for the study of the anatomy of the brain at Rio de Janeiro, and to deliver a course of lectures on nervous and mental diseases from May to July.

THE second congress of the French societies of oto-neuro-ophthalmology will be held at Marseilles from May 25th to 27th. Papers will be read on vascular spasm by Drs. Breiner of Brussels, Aubaret and Sedan of Marseilles, and Portmann of Bordeaux. Further information can be obtained from the general secretary, Dr. Velter, 38 Avenue du Président Wilson, Paris XVI.

THE eighth congress of the Italian society of medical radiology will be held at Florence from May 14th to 16th. Further information can be obtained from Dr. Manlio Gambillo, Istituto di radiologia della R. Università, Via degli Affari 33, Florence.

THE following appointments have recently been made in foreign medical facilities: Dr. Georges Fontès, professor of biological chemistry at Strasbourg; Dr. Hans Reinhard Schmidt of Bonn, professor of obstetrics and gynaecology at Düsseldorf; Dr. Rudolf Klapp of Berlin, professor of surgery at Marburg; Dr. Arnt Kohlrausch of Greifswald, professor of pathology at Tübingen.







## An Address

ON

## SOME ASPECTS OF GALL-BLADDER DISEASE.

DELIVERED TO THE Ayrshire Division of the BRITISH MEDICAL ASSOCIATION, NOVEMBER, 1927,\*

BY

D. P. D. WILKIE, M.Ch., F.R.C.S.,  
PROFESSOR OF SURGERY, UNIVERSITY OF EDINBURGH.

(With Special Plate.)

DURING the past few years the importance of gall-bladder disease has become more and more fully recognized. There is still, however, a widespread belief that gall-stones constitute the important, if not the essential, element in such disease, and a clinical diagnosis of cholecystitis is confined by many to those acute attacks of obstructive cholecystitis which are apt to supervene when a gall-stone becomes impacted in the cystic duct or the neck of the gall-bladder. Many years ago Moynihan drew attention to a group of symptoms which he termed the inaugural symptoms of gall-stones. These symptoms—flatulence, nausea, epigastric discomfort, etc.—he showed were frequently present for a long period before attacks of colic proclaimed in classical terms the presence of one or more calculi. We now know that these inaugural symptoms are those of chronic cholecystitis, which may or may not go on to stone formation.

Gall-stones are so common, so many people harbour them for years and die with them, without apparently suffering any very serious trouble, that many medical men are inclined to regard lightly such evidence of biliary disease, and to encourage an expectant attitude unless intolerable attacks of colic render a patient's life a burden.

The more I see of biliary disease, the more convinced I become that it is practically never harmless, and that, after years of bearable discomfort, many patients eventually succumb from disease which is either directly or indirectly due to long-standing biliary infection. This is particularly true of patients in comfortable financial circumstances, for they tend to spend years in trying "cures" which those of the hospital class, fortunately for themselves, cannot afford. It is only right to state that the responsibility for the failure to deal in a timely or an adequate manner with this common disease rests mainly with those whose duty it is to teach the medical undergraduate. Such conflicting views have been expressed, not only in regard to the frequency and importance of the condition, but also in regard to the nature of the infection, that no clear picture of the disease is held, and uncertainty here, as elsewhere, leads to capriciousness, and thus to indefinite delay.

## NATURE OF GALL-BLADDER INFECTIONS.

Certain organisms can grow in bile, notably the *Bacillus coli* and the typhoid bacillus. These two organisms have, on many occasions, been recovered from inflamed gall-bladders, particularly during acute attacks, and there is still a widely prevalent belief that one or other of them plays the leading part in the etiology of cholecystitis. This view, which I hope to show is entirely erroneous, has encouraged the belief that agents which stimulate a flow of bile to wash out the gall-bladder, or are excreted in the bile and may possibly disinfect it, are of value in the treatment of cholecystitis.

It is now some years since Rosenow reported his remarkable series of observations and experiments on cholecystitis. From the walls of a large number of diseased gall-bladders he was able to cultivate a streptococcus which, on injection into animals, appeared to have a selective affinity for the gall-bladder. Rosenow's results were received with scepticism, and many authorities, failing to find in the bile or in portions of the walls of obviously diseased gall-bladders the streptococcus which he described, disregarded his work, and have based their opinions and their teaching

on the types of organism which they have, in their own experience, been able to cultivate in cholecystitis cases. It is a significant fact, however, that so many observers have failed to grow any bacteria from either the bile or the gall-bladder wall in a large proportion of their cases of cholecystitis.

In my own experience I was impressed by the fact that, whilst the bile and gall-bladder wall proved so often to be sterile on culture, yet stained sections of the wall revealed the presence of streptococci in the submucous coat. There evidently was present an intramural infection by a streptococcus which did not grow readily on most media.

Illingworth, working in my clinic, was able to show that, using Rosenow's special medium, streptococci could be grown from the wall of the gall-bladder in quite a large percentage of cases in which the bile was sterile. He further showed that organisms of the *coli* group are relatively infrequent except in acute suppurative cases.

This work has been carried a step further by Dr. A. L. Wilkie, who has shown that cholecystitis is almost invariably an intramural streptococcal infection, and that Rosenow's contention of a selective affinity of this organism for the gall-bladder in experimental animals is strikingly true. Wilkie has shown that in over 85 per cent. of cases of chronic cholecystitis, usually associated with gall-stones, the streptococcus can be recovered in pure culture from the cystic lymph gland through which the lymph from the gall-bladder drains. In a smaller percentage of cases he has grown the same organism from the submucous coats\* of the gall-bladder if no bile has been allowed to come in contact with the tissue taken for culture. He has brought to light the illuminating and remarkable fact that bile inhibits the growth of this streptococcus. Hence, when a clipping of the whole thickness of the gall-bladder wall is taken for culture, the bile adhering to the mucous coat prevents the growth of the streptococcus present in the submucosa. This fact accounts for the widespread failure to confirm Rosenow's findings.

Even Judd, working under the most favourable conditions, got a positive result in cultures of the gall-bladder wall in only 29 out of 100 cases, and in only 5 out of 22 specimens of strawberry gall-bladder. In only 7 per cent. of his cases of cholecystitis was a positive culture obtained from the bile (3 streptococci, 3 spore-bearing bacilli). In no case were typhoid bacilli found, although in 21 cases there was an antecedent history of typhoid fever. *B. coli* was conspicuous by its absence in the whole series. In only 2 cases out of 52 did Wilkie find the *B. coli*, and in both an acute obstructive cholecystitis was present. It was, therefore, probably a secondary infection.

Following the injection of a suspension of streptococci, obtained from a human gall-bladder, into the ear vein of a rabbit, Wilkie found that the animal developed a chronic progressive cholecystitis, whether the cystic duct was patent or was ligated. The organism evidently reaches the gall-bladder by the blood stream, causes an intramural infection, the bile remaining sterile, and from the gall-bladder wall the organisms are absorbed by the lymphatics. Hence the importance of the gall-bladder as a nidus of focal infection.

Medical treatment of cholecystitis, to be rational, therefore, must be aimed at this intramural streptococcus, attacking it through the blood stream—for example, by vaccine or by some agent which is absorbed by the gall-bladder and passes through its wall; but so far we know of no such agent. Drugs which merely disinfect the bile cannot be expected to have any real value, as the bile, in the vast majority of chronic cases, is sterile.

The necessity for surgical treatment in chronic cases becomes obvious, and this treatment should consist in removing the diseased wall where the infection is located, not merely in draining the lumen of the gall-bladder.

## RELATIONSHIP OF CHOLECYSTITIS TO GALL-STONES.

Whilst infection of the gall-bladder and gall-stones are usually found together, and whilst most evidence points to the infection as the primary factor, yet we have always

\* As Halpert has shown, the gall-bladder has no true submucous coat such as is found in the stomach and intestine. The term is used for convenience to indicate the coats outside the lining mucous membrane.

\* The address was illustrated with lantern slides

believed that there are two types of gall-stone which are metabolic in origin—namely, the single pure cholesterol stone and the multiple pure pigment calculi. The former, found often in an apparently normal gall-bladder, is apt to be associated clinically with intermittent afebrile attacks of biliary colic in an otherwise healthy individual; the latter, also found in a gall-bladder showing no patent signs of inflammatory disease, and due to excess of pigment in the bile, are also liable to cause colic, but no ill health.

In the light, however, of the work on the bacteriology of the gall-bladder quoted above we may have to revise our ideas as to the aseptic origin of both these types of stone. This much is certain, that in several cases with a single cholesterol stone and a very slightly thickened gall-bladder a streptococcus has been grown from the wall of the latter. Also, in one case of single cholesterol stone, Illingworth isolated a streptococcus from the centre of the calculus.

The origin of the multiple faceted calculi, of mixed cholesterol and bilirubin composition, probably dates from an acute attack of obstructive cholecystitis, when the cystic duct was occluded, either by a single cholesterol stone or merely by inflammatory oedema. The inflammatory exudate within the gall-bladder in such cases provides abundant material for the nuclei of stones, which, in their subsequent growth, reproduce in their strata the history of the successive steps in the gall-bladder pathology.

#### CHOLESTEROSIS AND THE MULTIPLE MULBERRY STONE.

Many surgeons, among whom Moynihan and W. J. Mayo were the first, have drawn attention to a curious condition of the mucous membrane of the gall-bladder in cases in which no gross disease was evident from without, where small white specks project from the villi, giving an appearance somewhat resembling the surface of a strawberry. This condition, which is not uncommon, has been found where no stones were present, but also in association with several, usually mulberry-shaped, calculi. Boyd has described, and has illustrated very beautifully, the nature of this lipid deposit in the cells of the mucosa of the gall-bladder and in the subepithelial layer, and has shown how small lipid-laden papillomata may form and possibly become shed off into the lumen of the organ. Mentzer has reported similar observations. Boyd believes that cholesterol is absorbed from the bile by the mucous membrane of the gall-bladder, and, when there is disease in the wall, the paths of absorption are partially obstructed and cholesterol esters accumulate in the cells of the mucous membrane and in those of the underlying stroma.

Our observations, in the many cases of cholesterosis of the gall-bladder which we have encountered, entirely confirm those of Boyd, and in several the various stages between punctiform lipid deposits, lipid-laden papillomata, and mulberry cholesterol calculi have been present in the same specimen. Illingworth has repeated Boyd's histological investigations (Figs. 1 to 6). Further, Wilkie has shown that in the submucosa and in the cystic gland in every case examined a streptococcus was present.

The multiple mulberry cholesterol stone is thus of septic origin, and the phases of its development are as follows:

1. Intramural streptococcal infection of the gall-bladder.
2. Lipoid accumulation in the mucosa and subepithelial layer.
3. Formation of lipid papillomata.
4. Shedding off of these to form the nuclei round which cholesterol is deposited.

#### THE CALCIUM STONE OF THE CLOSED GALL-BLADDER.

Occasionally we meet with cases where gall-stones composed mainly of calcium, in the form of carbonate, are shown up readily by x rays as dense shadows. In such cases it is found that the gall-bladder wall shows signs of chronic inflammation and that the cystic duct is obstructed (Figs. 7 and 8). In this connexion the experimental work of A. L. Wilkie is of interest. He found that in the cholecystitis produced in rabbits by intravenous injections of streptococci calculi were common. In cases where the

cystic duct was patent cholesterol was the main, if not the only, constituent; in those in which the cystic duct had been ligated calcium was the main constituent.

#### SYMPTOMATOLOGY OF CHOLECYSTITIS.

The onset of symptoms is so gradual that it is often very difficult for the patient to give a precise date to the beginning of the trouble. A tendency to flatulence coming on immediately after eating, often indeed during a meal, a feeling of constriction and oppression, causing a desire to loosen the clothing, a sense that the patient has eaten too much, even after a small meal—these symptoms, so common among the middle-aged female population, are, in the majority of instances, due to cholecystitis. A sense of nausea and desire to be sick, coming on at irregular times, sometimes accompanied by an aching under the right costal margin and in the right scapular region, an aggravation of these symptoms by any exposure to cold or chill, with, in many cases, the appearance of a faint tinge of yellow in the skin or a noticeable muddiness of the complexion, are symptoms often attributed to "liver," but due usually to a slight exacerbation of a chronic inflammatory process in the gall-bladder. Actual vomiting is not infrequent at such times, and articles of diet, such as potatoes and all fatty foods, are avoided as they are found to aggravate the discomforts from which the patient suffers. Sometimes the patient complains of flatulence, the onset of which is delayed for an hour after food, is accompanied by "acidity" with heartburn and waterbrash, and a gnawing epigastric pain, almost suggestive of duodenal ulcer, but differing in two respects—namely, in the comparative failure to get relief by eating more, and the absence of the periodicity so characteristic of ulcer.

It is, however, by no means easy in some cases in stout females to diagnose, from a clinical history and physical examination alone, duodenal ulcer from cholecystitis. Under the term "cholecysto-duodenal syndrome" I have described a clinical picture, almost indistinguishable from that of cholecystitis, which is presented by quite a large group of female patients suffering from duodenal ulcer. By special investigation, however, the two conditions can be readily and surely distinguished, even when both are present, which is by no means rare.

When definite attacks of colic have occurred, if they have been of the real agonizing type, one may be sure that one or more gall-stones are present. Attacks of colic simulating somewhat closely the true variety due to stone are, however, sometimes apparently caused by interference with the emptying of the gall-bladder, due to kinking at the neck. The removal of such a gall-bladder, which is always thickened but contains no stone, has, in numerous instances, led to a cessation of the colic-like attacks.

I need only mention the attacks of acute obstructive cholecystitis when, with acute pain accompanied by vomiting, a coated tongue, often some shivering and rise of temperature, with marked tenderness in the right hypochondrium and a catch in the breath, the picture of a stone impacted in the neck of the gall-bladder, which is inflamed and tensely distended, is clear and unmistakable. It is in these attacks that we get the secondary pulmonary signs of dullness with crepitations and even friction at the base of the right lung, due to the rigid right half of the diaphragm. These signs must be regarded as an integral part of the clinical picture of acute cholecystitis, and must not be allowed to divert attention from the true seat of infection. Examination of patients with the x-ray screen during such an acute attack has shown quite clearly an immobile right cupola of the diaphragm, with consequent impaired expansion at the lower lobe of the right lung.

The association of cholecystitis with appendicitis must ever be kept in mind. The two conditions in a chronic phase are frequently encountered together. I have on two occasions, however, had to deal with acute suppurative lesions of both appendix and gall-bladder, occurring simultaneously in the same patient. There is much to be said for the view that inflammatory disease of the appendix and gall-bladder represent not consecutive but simultaneous blood-borne infections, usually of streptococcal type.

## SPECIAL METHODS OF DIAGNOSIS.

*Use of the Duodenal Tube.*

Much was hoped from what is commonly known as the Meltzer-Lyon test, whereby bile is withdrawn from the duodenum by means of the duodenal tube after the introduction of magnesium sulphate. There can be no question that in cases of cholangitis and in advanced cholecystitis, particularly if the large septic type of stone be present, very definite and valuable information may thus be obtained. In quite a large proportion of cases of cholecystitis, however, we find at operation that the bile in the gall-bladder is normal in appearance and is sterile on culture, and, withdrawn by the duodenal tube, could not possibly have indicated the intramural infection present in the submucous layer of the gall-bladder. The results, reported by certain observers, of bile infected by *B. coli* being recovered by the duodenal tube in a large proportion of cases of cholecystitis, are quite out of keeping with our operative experience.

*Cholecystography.*

Since the introduction of pyelography in the diagnosis of renal disease there has been no advance so striking or so helpful in visceral diagnosis as the method devised and elaborated by Graham and Cole of obtaining shadow-graphs of the gall-bladder by the use of an opaque dye. Whether the dye be given intravenously or by the mouth the results, if interpreted intelligently, are of the greatest help in diagnosis. If a dose of not more than 3 grams intravenously, or 4.5 grams by the mouth, be used, no untoward effects are produced, and the functional capacity of the gall-bladder can be gauged with a fair degree of accuracy.

From an experience of more than 200 cases I can state without hesitation that it transcends all other methods of diagnosis, and gives reliable data in over 90 per cent. of cases. It is of especial value if used in conjunction with a barium meal, as recommended by Dr. Woodburn Morison, for then it may, as it has done in five of my cases, reveal a normal gall-bladder and a deformed duodenal cap in a patient presenting the cholecysto-duodenal syndrome.

The dye test is seen to greatest advantage in cases where cholesterol calculi are present in a gall-bladder with patent cystic duct. Then the negative shadows cast by the calculi enable not only a positive diagnosis of gall-stones to be made, but give accurate information as to the type and number of calculi present. Defective concentration of the dye and poor definition of the outline of the gall-bladder indicate cholecystitis. We have found, however, in a few cases in which the clinical history has pointed to cholecystitis, that the gall-bladder shadow appeared to be practically normal, yet at operation a gall-bladder with opacity of its wall and with an enlarged cystic gland was found, and from both gall-bladder wall and from the gland we were able to cultivate a streptococcus. This simply means that, in the early stages of a chronic cholecystitis, the gall-bladder function is maintained at a sufficiently high level to allow of an almost normal concentration of the dye. Whilst the test is, therefore, of the utmost value, it is not infallible and must be used, as must all such tests, as one of many means of clinical investigation.

## TREATMENT OF GALL-BLADDER INFECTIONS.

In this, as in all other diseases, we must, before considering the question of surgical intervention, assess as accurately as may be the chances of a natural cure and those offered by more conservative forms of treatment. In regard to spontaneous recovery from cholecystitis it is impossible to obtain accurate data. We are here dealing with a very chronic low-grade infection, the tendency of which is undoubtedly to persist and occasionally to flare up. The very long histories given by so many patients coming to operation indicate that, once established, the disease tends to be slowly progressive, and that in the diseased organ, crippled by fibrosis, gall-stone formation is more than likely. We know, further, that once stones have formed the chance of spontaneous cure has gone. Only the smallest gall-stones can pass down the ducts. Biliary colic, formerly thought to be due to the passage of a

stone, we now know to be due, in the vast majority of cases, to the temporary impaction of a stone in the neck of the gall-bladder. The almost total lack of a muscular coat in the bile ducts is sufficient evidence that colic is not due to spasm of the ducts.

Can we, then, by treatment influence the gall-bladder infection or prevent the formation of stones? A primary source of infection in the teeth or tonsils should be searched for, and, if found, dealt with. There is now a certain amount of reliable evidence that where there is infection of the bile passages by *B. coli* the administration of very large doses of hexamine will influence the course of the infection in a favourable manner. In several cases of chronic cholangitis I have seen undoubtedly, if temporary, benefit follow the administration of this drug. In the majority of cases of cholecystitis, however, we are not concerned with a catarrhal *B. coli* infection of the passages, but with an intramural streptococcal infection of the gall-bladder, and I know of no drug which will influence this. The use of suitable stock streptococcal vaccines may prove to be of value, and this would certainly appear to be the most rational line of medical treatment.

To prevent the formation of gall-stones any measure which favours emptying of the gall-bladder and diminishes stasis should be of help. Regular muscular exercise, which has been neglected by so many of the patients suffering from this disease, must be insisted on. Fat must not be excluded from the diet, as we now know that it is the one substance which without doubt causes the gall-bladder to contract; hence the discomfort following its ingestion in patients who already have gall-stones. Large quantities of bland fluid should be taken, finishing at night with a tumbler of hot water with some baking soda. Every morning a small dose of magnesium sulphate or sodium phosphate is taken to promote a flow of bile.

It is doubtful, as McNec has shown, whether we can influence the cholesterol content of the blood or bile by avoidance of articles of diet rich in this substance—such as egg-yolk, sweetbread, etc. We err, however, on the right side in excluding them. Ox-bile, sodium oleate, and sodium salicylate, given separately or together, as in the popular preparation felamine, may, by promoting a flow of bile, help to diminish stasis.

We are, however, faced with the problem that, when once firmly established, infection of the gall-bladder is highly resistant to cure by other than surgical means. If, therefore, symptoms persist or recur in spite of the measures recommended above, operation should be undertaken before secondary changes in other organs or acute complications supervene.

*Operative Treatment.*

I do not propose to discuss any technical points in regard to operation, but merely to review the principles which should guide such treatment and the results which may be expected. In the first place, it is obvious that, as the disease is almost invariably intramural, removal of the gall-bladder rather than drainage is the rational treatment. Only where the general condition of the patient or local technical difficulties make the operation of cholecystectomy one fraught with a sensibly greater risk should cholecystostomy be performed. In my experience the removal of a diseased gall-bladder is not followed by any untoward symptoms. On the other hand, simple drainage of the gall-bladder, whilst giving temporary relief, is very frequently followed by recurrence of symptoms, and sometimes by recurrence of gall-stones; hence the impression in some minds that gall-bladder operations are not followed by permanent relief. Free exposure that will allow of adequate investigation of the ducts is a *sine qua non*, as the failure to recognize a floating stone in the common bile duct is one of the most fertile causes of recurrence of symptoms after operation. The stomach and duodenum must be examined to exclude coincident ulcer, as, if present, this can usually be dealt with at the same time.

## SOME LESSONS FROM 452 BILIARY OPERATIONS.

During the past seven years I have operated on 452 cases of disease of the biliary passages. On reviewing these cases certain significant and interesting points are brought out. First in importance, perhaps, is the fact

that in 15 cases malignant disease of the gall-bladder was found. The average age of the patients in this group was 64, and in all a long-standing history of gall-bladder disease was given. In every case gall-stones were present and there was evidence of old-standing cholecystitis. In only one of these cases was the disease removable, and in that one fatal recurrence took place two years later. The risk of malignant disease is therefore no small one, and is a strong point in favour of timely operation.

In 6 cases the operation was carried out for acute haemorrhagic or gangrenous pancreatitis. In 5 of these cases, which were all fatal, a long-standing history of cholecystitis and gall-stones was given. The average age of the patients in this group was 60 years. In 3 cases (jaundiced patients) an irremovable carcinoma of the common bile duct was found, and in 7 a carcinoma of the head of the pancreas. In all of these 10 cases a palliative cholecyst-enterostomy was performed. Excluding these 31 cases (25 malignant and 6 acute pancreatitis) there remain 421 cases, of which 357 were cases of cholecystitis, with or without cholelithiasis. The sex ratio was 91 males and 306 females, and the average age at operation was 50 years. The disease was found with equal frequency in hospital and private practice (213 hospital, 184 private cases).

Several striking differences were noted in the two social classes, however. In the first place, there was a much larger percentage of male cases in private practice—30 per cent. to 17.3 in hospital practice—due, no doubt, to the sedentary occupation in the former. Secondly, the average age at operation in private cases was 54, in hospital cases 46.5, and the length of history corresponded to this age difference—that is, expectant and medical treatment was persisted with much longer in those in better financial circumstances. The most notable difference, however, was in the operative mortality, which in private cases was 6 per cent. and in hospital cases 1.4 per cent. This pronounced difference was attributable to the secondary changes and complications which had developed in many of the former; thus in the fatal group there were examples of subacute pancreatitis, 2 cases; cholecystitis with cirrhosis of liver, 2 cases; bleeding duodenal or gastric ulcer, 2 cases. Furthermore, the incidence of carcinoma of the gall-bladder in private was exactly double that in hospital practice, and as in many of these cases the patient survived the operation for only a few weeks or months the penalty of delay becomes the more evident.

It must be clearly understood that it is the age and severity of the disease, and not the age of the patient, which is the important factor in prognosis as regards operation. In my experience elderly patients stand operation on the biliary passages very well, provided none of the more dangerous complications have arisen. Thus among the 74 patients in this series who were over 60 years of age at operation only 5 died (6.7 per cent.), and among the 15 patients over 70 years of age there was but one death.

In dealing with elderly or bronchitic patients the advantages of local anaesthesia, aided by twilight sleep, cannot be too strongly emphasized. On numerous occasions I have removed the gall-bladder and stones from the common duct under such anaesthesia without the patient being conscious of the operation.

A large proportion of patients suffering from gall-bladder disease are grossly obese, and their muscles, including heart muscle, are flabby and in poor condition. It is a wise plan, and one which we practise regularly, to put these patients on a preliminary course of exercises for three months, that they may get into training for the operative ordeal. The remarkable improvement in general tone with loss of weight which results makes the operation both easier and safer.

Cholecystectomy was performed in 253 cases, cholecystostomy in 144. In the earlier years of the period under review cholecystostomy was the commoner operation, but in the past three years it has been almost entirely replaced by cholecystectomy, with no increase in operative mortality and a vast improvement as regards the diminution of post-operative morbidity.

In 257 cases calculi were present in the gall-bladder, in 140 cases cholecystitis without stone. The improvement in health following cholecystectomy in the 76 cases of the

latter group in which this operation was performed was, almost without exception, gratifying; in the 64 cases in which drainage of the gall-bladder was practised the improvement following the operation was, in many cases, only temporary.

#### Common Duct Stones.

In 47 cases—that is, 18 per cent. of the cases of cholelithiasis—one or more stones were found and were removed from the common duct. In the majority of patients in this group the history of recurring jaundice with colic, rigors, and loss of weight left no doubt as to the presence of a stone in the duct. In a third of the patients in this group, however, the history did not present anything approaching the typical Charcot syndrome, the stones being of the silent, floating type. Without adequate exposure and careful exploration they might readily have been missed, and indeed in 9 cases a previous operation for gall-stones had been performed.

When the patient, at the time of operation, was not deeply jaundiced the gall-bladder was removed. When the patient was jaundiced, or otherwise very ill, it was drained. There were three deaths in this group—a mortality of just over 6 per cent. The improvement in health, and rapid gain in weight, following a successful operation for stone in the common duct are remarkable.

#### CONCLUSIONS.

Infection of the gall-bladder is probably the commonest of all abdominal maladies, particularly among persons of sedentary habits.

It is usually an intramural blood-borne streptococcal infection, and is frequently associated with the formation of gall-stones.

If neglected serious, and often fatal, complications may ensue.

When firmly established the disease can only be cured by radical surgery.

In the absence of secondary changes and complications, such as malignant disease, pancreatitis, hepatic cirrhosis, and insufficiency or toxic myocarditis, operation has a low mortality and the results, as regards subsequent health, are very good.

Elderly patients may be safely operated on under twilight sleep and local anaesthesia.

I wish to express my thanks to Mr. J. J. M. Shaw for the specimen depicted in Fig. 5; to Mr. C. F. W. Illingworth for his help in the investigation of the cases of cholesterosis, and to Dr. A. L. Wilkie, whose remarkable work forms the basis of our present attitude towards cholecystitis.

## THE X-RAY DIAGNOSIS OF PATHOLOGICAL CONDITIONS OF THE GALL-BLADDER.

BY

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(With Special Plate.)

FIVE years ago the generally accepted opinion of physicians and surgeons was that a report on the x-ray examination of the gall-bladder was of no value. This was due to the fact that though Beck (1899) had demonstrated the shadows of gall-stones on radiographs, most radiologists were of the opinion that it was a rare and chance finding.

Thurstan Holland and Robert Knox in this country, Pfahler, Case, Cole, George, and Leonard in America, and Haenisch in Germany, who carefully studied the problem, came to the conclusion that gall-stones could be demonstrated in a fairly large percentage of cases, and that the percentage of correct x-ray diagnoses of gall-stones grows in proportion to the intensity of the interest, the more careful attention, the refinement of the technique, the study of the establishment of a diagnosis, the training of the eyes, and the improvement which comes of constant use and experience. (An account of the earlier work on gall-bladder radiography was given in a previous paper.)

The number of radiologists who hold this opinion is steadily growing. My own experience is that about 30 per



FIG. 1.—Gall-bladder showing generalized cholesterosis.

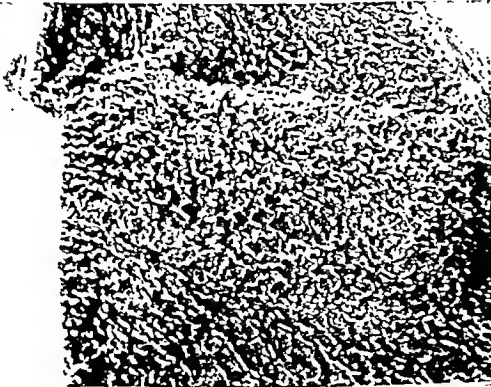


FIG. 2.—Naked-eye appearance of villi laden with lipid.



FIG. 3.—Section of gall-bladder stained with haematoxylin and eosin; pale areas of lipid under epithelial coat.



FIG. 4.—Section stained with schiarlach red, showing accumulation of lipid.

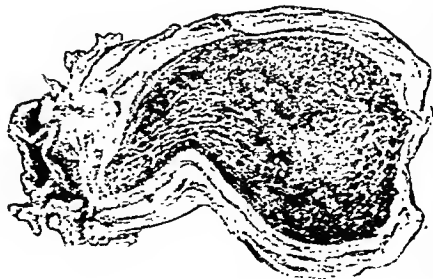


FIG. 5.—Gall-bladder the seat of chronic cholecystitis and cholesterosis, several lipoid papillomata, and two cholesterol stones.

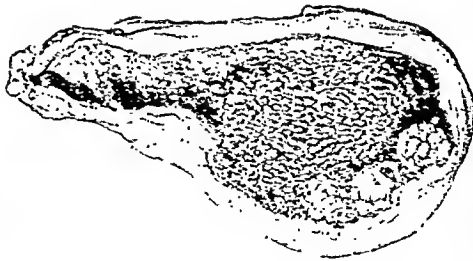


FIG. 6.—Pronounced cholesterosis with multiple mulberry cholesterol stones.



FIG. 7.—Radiogram showing shadows of calcium stones in gall-bladder.

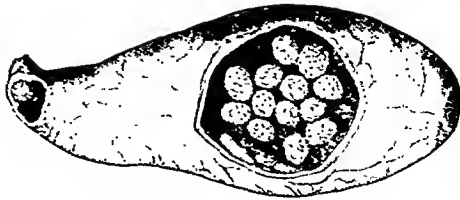


FIG. 8.—Gall-bladder after removal, showing stone occluding cystic duct and multiple calcium stones.



JAMES F. BRAILSFORD: THE X RAY DIAGNOSIS OF PATHOLOGICAL CONDITIONS OF THE GALL-BLADDER.

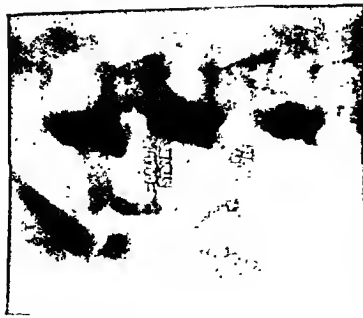


FIG. 1.—Radiograph showing a collection of faceted stones in the gall-bladder with a large branching stone in the pelvis of the right kidney.

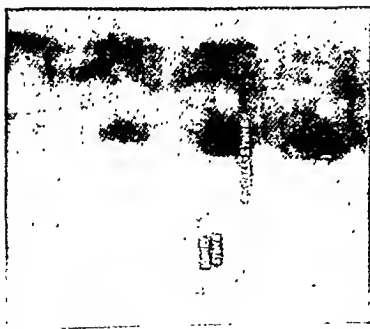


FIG. 2.—Radiograph of same patient as Fig. 1, showing that all but one gall-stone has been passed.



FIG. 3.—Radiograph showing a collection of rounded stones in the gall-bladder and a deformity of the descending colon due to carcinoma.

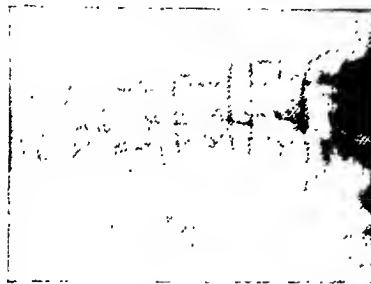


FIG. 4.—Radiograph showing a collection of gall-stones in the gall-bladder and isolated stones in the cystic duct.



FIG. 5.—Radiograph showing a normal gall-bladder and a deformity of the duodenal cap due to an ulcer.

J. F. DOBSON: LATE RESULTS OF OPERATION FOR RENAL CALCULUS.



FIG. 1.—Shadow of calcareous giant simulating calculus.



FIG. 2.—The same with pyelogram.



FIG. 3.—Left renal calculus; right ureteric calculus.



FIG. 4.—The same case, the right calculus now in the kidney.

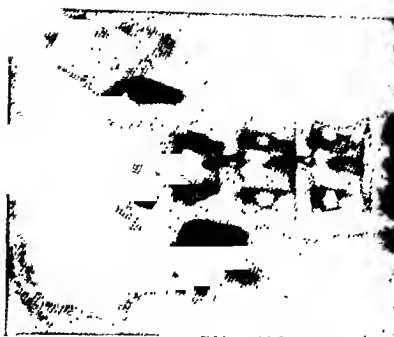


FIG. 5.—Pyelogram of the right side, showing hydronephrosis.

cent. of gall-stones contain sufficient calcium to cast a shadow which can be recognized on a good average radiograph. A small proportion of these are very opaque, and cast shadows as dense and as typical as the densest renal stone. These are usually ring-shaped or typical faceted gall-stones, the aggregation of which gives the outline of the gall-bladder (see Fig. 1). The majority, however, are ill-defined flaky shadows which can only be seen on good quality radiographs taken so rapidly that peristaltic and body movements are eliminated, as the slightest movement completely obliterates the shadows.

With the added development and improvement of Graham's cholecystography the x-ray diagnosis of pathological conditions of the gall-bladder ranks as high for a diagnostic procedure as the barium meal does for the examination of the stomach and duodenum. I have carried out nearly 500 x-ray investigations on the gall-bladder, and the high percentage of accurate results, as proved by operation, in my opinion fully justifies the procedure. Most of the patients were sent because of obscure symptoms in the upper abdomen, which were not sufficiently characteristic or acute to warrant the surgeon doing a laparotomy. Some were sent to confirm the clinical diagnosis of gall-stones. The value of the test for such conditions will be seen from the short histories which are given at the end of this paper.

I have continued to use the intravenous method of administration of the dye—except in a few instances where I have not thought it advisable, or where difficulty has been met with in injecting the vein—because I regard it as the most accurate. This method has been used to confirm the diagnosis of cholecystitis—indicated by non-filling of the gall-bladder when the dye has been given by the mouth—in five cases, and in each case a normal shadow of the gall-bladder was obtained.

It is essential that the technique of the intravenous injection be carefully carried out, and for this purpose it may be necessary to ask a surgeon to give the injection. This was my early practice, but for the last year or so I have been asked to carry out the injection myself, and from the occasional difficulties met with, and the fact that the test is in a sense quantitative, I am confident that the knowledge of these conditions enables the radiologist to give a more accurate report.

In a previous paper I have given the details of the technique, the errors which may be made owing to faults in the technique, the causes of failure, the nature of the reactions to the dye, the other methods of administration, and an estimate of the value of the test. In this paper I also pointed out the importance of (a) a preliminary x-ray examination, and (b) a subsequent barium meal while the gall-bladder is still visible. The preliminary radiography will often throw much light on the diagnosis, and may give indications which render the dye injection unnecessary.

Among the lesions previously unsuspected which have been revealed by the preliminary investigation are:

- (a) In the thorax: (1) Early phthisis with gastric symptoms. (2) Pulmonary tumour; primary or multiple secondaries from abdominal organs; hydatid cysts. (3) Aneurysm.
- (b) In the abdomen: (1) Stone in the kidney or ureter. (2) Calcified tumour in the kidney. (3) Gall-stones. (4) Lesions of the spine causing abdominal pain (tubercle, gumma, neoplasm, Paget's disease). (5) Abdominal aneurysm.

An example of the value of the preliminary examination was recently met with. A patient who had pain in the upper abdomen was cholecystographed by the oral method and the gall-bladder had failed to fill. Several months later he was brought for a confirmatory x-ray examination. The preliminary radiograph showed carcinomatous destruction of the body of the second lumbar vertebra.

The preliminary radiograph may show the gall-bladder full of opaque sand, which produces a shadow not unlike a normal gall-bladder filled with dye.

The details of the following case indicate that where the preliminary radiograph shows gall-stones it is advisable, particularly in these cases where the symptoms are atypical

of gall-bladder pathology, to carry out a barium meal investigation of the alimentary tract.

A married woman, aged 60, complained of indefinite pain in the upper abdomen. She gave a history of having had indigestion and a similar pain for several years, but during the last few months the symptoms had been more marked. The surgeon who was called in expressed the opinion that the symptoms were due to gall-stones, and arrangements were made for the removal of the gall-bladder. It had previously been decided to have an x-ray investigation, and this was proceeded with the day before operation.

The preliminary radiograph showed a collection of large gall-stones in the gall-bladder. A barium meal was given, and at the eighth hour an irregularity of the first part of the descending colon was seen (see Fig. 3). This irregularity was still present at the twelfth hour. Its appearance was so suggestive of a small carcinoma that I asked the surgeon if he would examine the area after he had removed the gall-bladder. This he did, and he found a carcinoma, which he resected. The patient made a good recovery.

Similarly it is advisable to follow up the cholecystography with a barium meal even in those cases where the symptoms strongly suggest a pathological condition of the gall-bladder and the radiographs show a normal gall-bladder filling (see Fig. 5), for in one case in my series in which the gall-bladder filled normally it was decided that operative measures were not indicated. No barium meal investigation was made. The patient went home and returned a fortnight later with a perforated duodenal ulcer from which she died. The *post-mortem* examination revealed the ulcer with massive adhesions and a normal gall-bladder.

On the other hand, two women patients, aged respectively 32 and 38, had complained of symptoms in the upper abdomen for several years, during which time they had been seen by several consultants, who had advised barium meal examinations; these failed to demonstrate any lesion. Their symptoms were attributed to neurasthenia until a cholecystographic examination showed that neither gall-bladder filled. In both cases at operation gall-stones were found in the gall-bladder and cystic duct.

All gall-stones shown on preliminary radiographs contain calcium, and it is considered that these are usually associated with inflammation; their demonstration is therefore of great diagnostic value. In no case where gall-stones were shown has the patient been entirely free from abdominal pain or discomfort.

One patient sent to me for an x-ray examination of the urinary tract, the left kidney being large and tender, gave no definite history of gall-stone colic, though the radiographs showed the gall-bladder to be full of stones containing calcium. She was not operated upon because a large calculus occupied the pelvis and calyces of the right kidney, in addition to a stone in the pelvis of the enlarged and inflamed left kidney (Fig. 1). A few weeks afterwards she had an acute attack of gall-stone colic, and these attacks were repeated so frequently during the next nine months that the patient was kept in bed. When they had ceased her condition improved. By the end of the year she was able to do her housework. A further x-ray examination (Fig. 2) at this time showed that though the kidney stones appeared identical with the previous radiographs only one small stone remained in the gall-bladder. A radiograph twelve months after this showed no gall-stones. She had put on 3 or 4 st. in weight, had no pain, and felt well.

In another case in which calcium gall-stones were shown on preliminary radiography, a radiograph taken some months afterwards showed no gall-stones; the gall-bladder failed to fill with the dye, and at operation only a little grit was found in the chronically inflamed gall-bladder, the gall-stones having been passed.

The details of the following case also demonstrate that the signs and symptoms may be atypical.

The patient, who had had her right breast removed for carcinoma a few years previously, had an attack of agonizing pain in the left hypochondrium. The pain radiated through the left side of the thorax and down the left arm, and lasted with great severity for twenty-four hours. The surgeon who had removed the breast was called in, but he could find no evidence of secondary growth, and suggested that the pain was due to hæmorrhage into a deep-seated secondary growth pressing upon nerves supplying the area. A radiograph was taken to demonstrate if possible the position and extent of the secondary deposits. The lung fields were seen to be clear, and the heart and aorta were normal in size, shape, and position. The diaphragm moved normally on both sides. I suggested that the pain might be due to gall-stones, as I had recently seen several such cases of gall-stone colic in which all the symptoms had been on the left side. A radiograph showed the gall-bladder to be full of gall-stones containing calcium, and isolated stones were shown in a line, suggesting that they were in the cystic duct (see Fig. 4).

Cholecystography had a setback in its early days owing to a proportion of the patients showing a reaction to the injected dye. This was chiefly due to the use of sodium tetrabromphenolphthalein, many preparations of which were impure and very toxic, while a solution of some preparations gave no denser shadow than water. Since Whitacre and Milliken showed that sodium tetraiodophenolphthalein could be used in smaller quantities, that it cast a better shadow, and the chemists have manufactured purer preparations of the dye, few toxic effects have been seen. They have not been entirely eradicated. Using this dye I have only seen five severe reactions—two in private practice and three in hospital. For nearly two years I saw no reaction, but recently a patient within fifteen minutes of the injection showed all the signs of severe shock.

This patient, a woman of about 30 years of age, gave a history of eight former operations, after several of which thrombosis had occurred in her legs. She now complained of pain in the gall-bladder area; she had been seen by several surgeons, who had diagnosed gall-stones, and advised that the gall-bladder should be removed. Owing to her previous experiences she did not wish to have an operation until more definite proof of the lesion had been obtained. She was acquainted with the details of a cholecystographic examination, but had been advised not to have it done. She, however, insisted on the test being done. The dye was injected at 11 p.m., and after fifteen minutes the patient developed all the signs of severe shock, which gradually passed off during the next hour. The next morning radiographs

were taken; they showed a gall-bladder shadow normal in size, shape, and density, and after taking food it gradually diminished in size. The patient said that she felt no effects whatever of the shock, and that the experience was not to be compared with the feeling after an anaesthetic.

It may be urged that it is preferable to do a laparotomy than risk a chance of a reaction, but the x-ray investigation in many cases proved that the laparotomy would have been useless. Further, the x-ray examination enables us to give a fairly accurate opinion of the function of the gall-bladder, and a laparotomy may fail to do this. It is also probable that the patient who reacts to the dye would be a very unfavourable subject for a general anaesthetic and a laparotomy, and so far it has been my experience that those patients who react have a gall-bladder which fills in a normal manner.

It will be seen, therefore, that while there are many patients with symptoms so severe and urgent that a laparotomy is essential, there are patients with symptoms so indefinite and atypical that no surgeon would care to do a laparotomy. In this latter type of case an x-ray investigation of the gall-bladder will often prove of much value.

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## THE LATE RESULTS OF OPERATION FOR RENAL CALCULUS.

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(With Special Plate.)

An attempt has been made during the last two years to trace the late history of all the cases of renal and ureteral calculus upon which I have operated since the war. The cases investigated number about a hundred, and a very large proportion have replied to inquiries. It would perhaps be useful first to give the results and then to discuss certain points of interest which arise.

*Pyelo-lithotomy (28 Cases).*

Untraced	...	...	...	...	1
Perfectly satisfactory	...	...	...	...	24
Complaint of backache (x ray negative)	...	...	...	...	1
" " haematuria (investigation refused)	...	...	...	...	1
Late fistula and nephrectomy (perfectly well since)	...	...	...	...	1

One of the satisfactory cases died three years after operation from cancer of the larynx.

*Nephro-lithotomy (18 Cases).*

Not traced	...	...	...	...	2
Perfectly satisfactory	...	...	...	...	13
Unsatisfactory	...	...	...	...	3

*Uretero-lithotomy (14 Cases).*

Perfectly satisfactory	...	...	...	...	11
Well, but deposit in urine (not investigated)	...	...	...	...	1
Backache and shortness of breath (not investigated)	...	...	...	...	1
Late fistula and nephrectomy (since perfectly well)	...	...	...	...	1

*Nephrectomy (29 Cases).*

Perfectly satisfactory	...	...	...	...	23
Well, but has developed disseminated sclerosis	...	...	...	...	1
Well, but suffers from asthma	...	...	...	...	1
Physically well, but melancholic	...	...	...	...	1
Not able to work (not investigated)	...	...	...	...	1
Well, but slight backache (not investigated)	...	...	...	...	2

*Nephrostomy (7 Cases).*

Well and healed (6 years and 3 years)	...	...	...	...	2
Well and healed (lived 9 years)	...	...	...	...	1
Well, but slight watery discharge (1 year)	...	...	...	...	1
Fairly well, but still discharging and has backache (4 years)	...	...	...	...	1
Fairly well, but some discharge	...	...	...	...	1
Perinephric abscess and death two years later	...	...	...	...	1

*For Bilateral Renal Calculus (5 Cases).*

Perfectly well	...	...	...	...	2
Well, but cloudy urine	...	...	...	...	1
Well, but operation on second kidney refused	...	...	...	...	1
Recurrence and fatal anuria four years later	...	...	...	...	1

In one of the cases of pyelo-lithotomy there was a considerable degree of hydronephrosis, yet four years afterwards the patient is perfectly well.

The three unsatisfactory cases after nephro-lithotomy are the following.

*Case 1.*—In June, 1920, right nephro-lithotomy was performed on a man for a single calculus in the kidney. There was a small stone in the corresponding ureter, which, however, was passed just before the operation. He recovered satisfactorily and remained free from symptoms for a time. Some two years later a recurrence of calculus was found in both kidneys, and the patient died from acute haemorrhagic pancreatitis five years after the original operation.

*Case 2.*—In 1920 nephro-lithotomy was performed on a woman aged 48; one stone was removed from the right kidney. Six years later she reported that she had had one or two attacks of haematuria since her operation, and x-ray examination revealed a single calculus in the pelvis of the left kidney and two or three calculi in the right kidney. Owing to the unsatisfactory condition of the patient further operative treatment was not thought advisable.

*Case 3.*—A woman, aged 28, was operated upon in 1925. Three stones were removed from the right kidney, one by an incision into the pelvis and two through an incision through the lower calyx, which contained purulent urine. She was readmitted a year later with a discharging sinus. X-ray examination was negative. The kidney was explored and found to be so densely adherent to the surrounding structures that nephrostomy only was done. The patient's general condition improved very much, and a subcapsular nephrectomy has now been successfully performed. In this case primary nephrectomy would have been preferable to a conservative operation.

The following three cases are remarkable.

*Case 4.*—In a woman who was operated upon in 1921 the left kidney contained multiple calculi; its function was very deficient. The kidney was explored and found to be hydronephrotic. There was a large quantity of putty-like material in the pelvis in addition to several calculi. It was thought desirable to perform nephrectomy, but the patient's husband, a doctor, demurred. The patient made a good recovery; she had some pain and frequency for a time, but this disappeared after a course of vaccine treatment. Five years later she was perfectly well. There is, however, no information as to the functional capacity of the kidney that was operated on.

*Case 5.*—A man, admitted in 1919, had suffered for some months from attacks of typical renal colic on the left side. The pain commenced in the loin and radiated downwards into the testicle and the thigh. Slight haematuria always accompanied the attacks of colic. X-ray examination showed the renal areas to be free from calculus and demonstrated a shadow in the pelvis on the left side, but not in the normal course of the ureter. An opaque ureteral catheter was passed up the left ureter and was arrested; an x-ray photograph showed the catheter in contact with the shadow, which was therefore thought to be a calculus impacted in an abnormally placed ureter. Unfortunately a pyelogram was not taken. Extra-peritoneal exploration of the ureter was performed, and the left kidney was found just below the pelvic brim with a calculus in the pelvis. Nephro-lithotomy was performed. Seven years later the patient was perfectly well.

*Case 6.*—A man, aged 33, was admitted in 1924 with the usual symptoms of a calculus in the left kidney. A skiagram showed the shadow of a calculus, and no suspicion was entertained that it was in any way unusual. Cystoscopy showed adequate function of both kidneys. Exposure was difficult, and the organ was found to be a

horseshoe kidney with the ureter in front and running downwards over the isthmus. The stone was in the pelvis and was extracted by an incision on the anterior surface. Two years later the patient was perfectly well and had gained 23 lb.

*Case 7.*—In one instance a stout woman developed a fistula after uretero-lithotomy; a small stone was impacted in the ureter just above its entrance into the bladder wall. The kidney was not functioning, and a catheter was arrested by this stone. The ureter was exposed and found to be very little dilated. An incision was made at the level of the pelvic brim and efforts were made to extract the calculus, without avail. The bladder was displaced, the uterine artery tied, and the stone extracted through a direct incision; it was tightly gripped by the ureter. The wound healed, but three weeks later a fistula formed. A dilated and infected kidney was removed. The patient is now well.

#### Recurrence.

The after-history of seven cases was investigated where the clinical symptoms were very suggestive of calculus, but in which x-ray examination was negative. Six of these cases have had no further trouble, one has had one attack of colic since.

In the series of cases investigated a certain number are known definitely to have had recurrence of calculus.

	Recurrences.
After pyelo-lithotomy ... ..	0
" nephro-lithotomy ... ..	2
" uretero-lithotomy ... ..	0
" nephrectomy ... ..	0
For bilateral calculus ... ..	1
After nephrostomy ... ..	0
	3

Other cases presented symptoms which might possibly be due to recurrence of calculus.

	Possible Recurrences.
After pyelo-lithotomy ... ..	2
" nephro-lithotomy ... ..	0
" uretero-lithotomy ... ..	2
" nephrectomy ... ..	3
For bilateral calculus ... ..	1
After nephrostomy ... ..	3
	11

Two of these cases have been x-rayed with negative results.

We have here definite and certain evidence that recurrence occurred in 3 cases, and we have in other 11 cases symptoms developing later on which might possibly be due to recurrence. Unfortunately it has not been possible to investigate all these cases, but I have recently seen a woman of 56, upon whom I operated fourteen years ago for bilateral renal calculus; she has been well until recently, but now has recurrence in both kidneys. Further, in some of the cases operations had been performed previously for calculi. In two of the nephrectomy cases stones had been removed from the kidney by other surgeons many years previously. In one of the cases of nephro-lithotomy a stone had been removed ten years previously by another surgeon. One case of renal calculus occurred in a patient for whom suprapubic lithotomy was done ten years previously.

According to Braasch and Foulds evidence of recurrence of calculus is found in 10 per cent. of cases after operation, the incidence of recurrence being higher after nephro-lithotomy than after pyelo-lithotomy. Undoubtedly some "recurrences" are due to small stones remaining undetected at the first operation.

According to Rovsing recurrence is due to infection with urea-decomposing organisms. Urinary fistula following operation even of short duration is the common cause of this infection. He states that pyelo-lithotomy, since it frequently causes a fistula, is contraindicated, and nephro-lithotomy without drainage should be performed instead. It is evident that recurrence of calculus is a very serious danger, and stones left behind at operation are no doubt in part responsible. This risk will be largely eliminated by radiography of the kidney during operation.

Rovsing's views on the risk of a staphylococcal infection from a temporary urinary fistula are no doubt correct, though I imagine few surgeons would agree that even a temporary leak is at all common after pyelo-lithotomy. Rather is it thought that recurrence is more likely after nephro-lithotomy than after pyelo-lithotomy. The latter operation is usually done for single, comparatively small stones, with a kidney little damaged and not seriously

infected. The former operation is performed in cases of multiple or large calculi, with some or even a considerable hydronephrosis, or with an infection of more or less severity. The risk of recurrence being less after pyelo-lithotomy than after nephro-lithotomy indicates clearly the advantage of removing a calculus before it has had time to produce those changes in the kidney which favour recurrence.

In addition to the risk of recurrence of calculus in the kidney there are other changes which sometimes occur at a late stage after conservative operations for calculus. In this series of cases nephrectomy for pyonephrosis (with no recurrence of calculus) was performed in two cases—in one four years after removal of a stone from the ureter, and in the other eighteen years after a nephro-lithotomy; in another case nephrostomy was performed for a pyonephrosis one year after nephro-lithotomy.

The figures above quoted show clearly that although the results of operations for renal calculi are on the whole exceedingly good, the risk of recurrence is such that every effort ought to be made when the opportunity is present to adopt such measures as may be possible to avoid this unsatisfactory sequel. In this connexion we must consider first the diagnosis of calculi, and secondly, the methods practised for their removal.

#### DIAGNOSIS OF RENAL CALCULUS.

The diagnosis of renal calculus rests very largely on the results of the x-ray examination.

#### Cases with Typical History, Colic, Haematuria, etc.

In the majority of cases the results of x-ray examination are conclusive as to the presence or absence of calculus, though sometimes a negative finding is inaccurate. It has happened to me on one or two occasions to see a calculus in the bladder which had not been recognized by the radiologist; it is reasonable to assume that a similar stone in the kidney might escape detection. It has also happened that when an x-ray examination has been negative patients have subsequently passed a calculus. On a few occasions when the symptoms were very suggestive and the x-ray examination negative I have taken a pyelogram and have repeated the x-ray examination on the following day, hoping that some of the sodium bromide would have been absorbed by a calculus, which would then throw a shadow. I have not as yet had such a case. In such cases resort should be had to pyelography; a lighter area may indicate the presence of a stone, and in any case it will probably demonstrate the cause of the patient's pain—such as a small hydronephrosis or a kinked ureter, etc.

#### Cases with Atypical Symptoms.

There are a number of patients with renal calculus who suffer very little pain, merely a vague aching in the back, without such obvious changes in the urine as to drive them to seek advice. An x-ray examination of the urinary tract should not be omitted as part of the routine investigation of cases of indefinite backache, particularly if there are any changes in the urine. In some cases the calculi are absolutely latent, and may only be detected accidentally. There are cases of haematuria where pain is negligible. A complete x-ray investigation of the whole urinary tract is an essential step in the examination of a case of haematuria. Similarly I have seen cases of calculous pyonephrosis with large quantities of pus in the urine where the history of pain is of the vaguest.

#### The Interpretation of the X-ray Photograph.

In this matter the practice of different surgeons varies; some prefer their own interpretation, some attach more importance to the opinion of the radiologist. My own practice is to accept the view of the radiologist, though I see all films myself and form my own opinion, usually before seeing his report. Consultation between the two persons concerned is necessary in any case of doubt. As to pyelograms I prefer my own interpretation. It is necessary to remember that the x-ray examination is only a part, though a most important part, of the complete investigation of a case of suspected renal calculus.

Occasionally mistakes may be made as to the number of stones in the kidney. Sometimes two overlapping stones are regarded as one, or two partially overlapping stones as one large stone. On one occasion the x-ray film indicated the presence of two calculi in the pelvis of the kidney, and at the operation only one calculus was found; only after considerable search was it discovered that the second shadow was due to a deposit in the twelfth rib, which had been removed to facilitate the exposure of the kidney. The shadow was demonstrated by x-raying the portion of rib removed.

There can be no doubt of the value of profile radiography in the diagnosis of renal calculus, and it should be done as a routine.

#### *X-ray Photography during Operations on the Kidney.*

This method of ensuring the removal of all fragments of calculi in the kidney I have used only in two cases, but they were both very instructive, and with a better apparatus (the one used was a makeshift) and more experience of the method it will undoubtedly be of great value. We did not attempt to screen the exposed kidney, but took two or three films as soon as the kidney was exposed. In an ordinary light operating theatre it must be a matter of extreme difficulty to accommodate the eyesight sufficiently to obtain a satisfactory view with the screen. The main difficulty was in withdrawing the kidney sufficiently to obtain a film which did not show the edges of the wound. However, as this merely interferes with the shadow of the kidney pelvis, it is not so very important. The calculi which are most likely to be overlooked are small bodies in the calyces and the substance of the kidney. A valuable feature of this method is that it will enable us to say that indefinite shadows in the kidney area, associated with a definite calculus and themselves simulating calculi, are extra-renal.

In the first case x-ray examination previous to operation showed a calculus in the pelvis of the right kidney and a small shadow in the kidney area. The right kidney was exposed and an x-ray photograph was taken; this showed the stone present in the pelvis, with some other small shadows also in the pelvis, but none in the substance of the kidney. The pelvis was incised, and a large stone and two or three small gritty fragments were removed.

In the second case x-ray examination showed a calculus in the right kidney with some small additional shadows in the kidney area. The kidney was exposed and a stone felt in the pelvis, the skiagram of the exposed kidney showing no calculus in the kidney substance. Pyelolithotomy was performed.

There may on occasions be considerable difficulty in distinguishing between the shadow of an enlarged gland and that of a renal or ureteral stone. The following case is an example.

**Case 8.**—A woman was admitted to hospital in 1925 complaining of renal pain. The urine contained a little albumin and a few pus cells. The x-ray photograph showed a shadow which was thought to be a calculus impacted in the upper part of the ureter (Fig. 1). A pyelogram (Fig. 2) was taken; this showed a little hydronephrosis with some dilatation of the ureter down to the level of the shadow, which was clear of the ureter. Exploration revealed a calcareous gland with adhesions and fibrous thickening obstructing the ureter. The patient was completely relieved of her symptoms by freeing the ureter.

In cases such as this profile radiography with the opaque catheter in position, and perhaps a pyelogram, will be a great help in diagnosis.

#### DIAGNOSIS OF CHANGES IN KIDNEY AND URETER CAUSED BY THE PRESENCE OF CALCULUS.

It is not sufficient merely to recognize the presence and the number of calculi; the extent to which the function of the kidney has been disturbed and the presence of secondary destructive changes must also be ascertained.

It may be obvious that a pyonephrosis has developed; the presence of a tumour, a large quantity of pus in the urine, the absence of indigo-carmin from the affected kidney on cystoscopy, together with general symptoms, make the diagnosis sufficiently obvious. It then only remains to ascertain the presence of the second kidney, to prove its functional capacity, and, considering all the

clinical features of the case, to determine whether nephrectomy, a nephrostomy, or nephrostomy with secondary nephrectomy is indicated.

Advanced renal changes may, however, be present in the absence of a palpable kidney. In many cases where a calculus in the pelvis or ureter has been in position for some time some degree of hydronephrosis is present. It is important not only to ascertain the extent to which the kidney tissue has atrophied, but also to form some estimation of the degree of infection present.

Confining ourselves for the present to the consideration of cases of unilateral calculus, and to cases where radiography shows a shadow in the kidney area and no suggestion of a calculus in the ureter, we wish to determine by cystoscopic methods the presence or absence of a hydronephrosis, and to ascertain as far as possible the extent of the infection which has occurred.

Hydronephrosis can be recognized by pyelography. Is it desirable to take a pyelogram in every case of renal calculus? In practice it is not possible, but in a tolerant patient it should be done. The advantage of a preliminary pyelography is that it may enable the surgeon to determine before operating whether a nephrectomy is likely to be necessary. The alternative is to decide this point when the kidney is exposed, it having been previously ascertained that the second kidney is efficient.

#### *Determination of the Functional Capacity of the Affected Kidney.*

This may be done by relying on the evidence obtained after an injection of indigo-carmin. In some cases this may be sufficient. A more scientifically satisfactory method is to catheterize the ureter, take the phenolsulphonephthalein proof, and collect a specimen of urine from the affected side for chemical and bacteriological examination.

The presence and capacity of the second kidney can be ascertained by cystoscopy after an injection of indigo-carmin. With an adequate excretion of the dye, and in normal time, the presence of the second kidney may be accepted. The more completely satisfactory proceeding is to catheterize the ureter, take the phenolsulphonephthalein proof, have a chemical and bacteriological examination of the urine, and perhaps take a pyelogram.

I would not urge that these investigations should be a routine proceeding. There is no doubt that some patients become very restive under repeated and uncomfortable investigations, and sometimes a necessary operation is declined. The surgeon should not allow his urological curiosity to outweigh the dictates of common sense. On the other hand, the man who would explore a kidney for calculus without previously ascertaining, not merely the presence, but something of the functional capacity of the second kidney, is exposing his patient to very unnecessary risks.

Let us assume that we have determined the presence of a calculus in the pelvis of the kidney, with some degree of hydronephrosis and some impairment of kidney function. We ought to ascertain, if possible, the presence and degree of infection of that kidney. It is very desirable to do this, as with a considerable degree of hydronephrosis and a definite infection recurrence of calculus formation is rather probable, and a primary nephrectomy may be preferable to a conservative operation. It is not easy to determine this; the amount of pus, the profusion of growth of organisms, and the extent of impairment of renal function are to be taken into account. In some cases the desirability or otherwise of nephrectomy can only be determined on the operating table. It must be remembered that a kidney which is functioning badly may recover considerably after the stone is removed.

#### URETERAL CALCULUS.

Not infrequently radiography shows a doubtful shadow. An opaque catheter passed up the ureter will almost always clear up the difficulty.

The presence of a calculus in the ureter having been recognized it remains to ascertain, if possible, the extent of the changes in the kidney. The ureter may be completely blocked; there may be no secretion on that side, and



the ureteral catheter is arrested by the stone. In such case one can carry investigation no further than to ascertain the facts about the second kidney. It is very desirable, however, to ascertain the presence or absence of dilatation of the ureter above the calculus, and in all cases an attempt should be made to take a uretero-pyelogram.

It is possible that with a calculus in the ureter there may also be an obvious pyonephrosis. This presents no difficulties in diagnosis. The problem is to ascertain in the less advanced case to what extent the kidney tissue has been distended or destroyed, and what are the prospects of recovery of the kidney after the ureteral obstruction is removed, or what are the chances of recurrence of calculus. The surgeon will not here have the advantage of exposing the kidney at the operation, at any rate in cases where the stone is in the pelvic ureter. In the absence of proof it is generally wise to extract the stone and await events. If recurrence takes place or pyuria is persistent a secondary nephrectomy may be done.

#### CHOICE OF OPERATION.

Whether surgeons are too ready to practise conservative operations and too unwilling to remove a doubtful kidney is arguable. The risk of recurrence being bilateral must always be borne in mind, and if there is a recurrence of calculi the patient is better off with two damaged kidneys containing stones than with a single such kidney. On the other hand, is an infected and somewhat dilated kidney, one likely to be the seat of a recurrence, a factor in inducing calculus formation in the second kidney?

#### Exposure of the Kidney.

The retroperitoneal route is the usual, and the choice of incision is immaterial. The surgeon need not fear to divide muscles, as hernia is extremely rare, and he should never hesitate to remove the last rib. The kidney should be drawn out and handled as gently as possible.

#### Pelvic-lithotomy.

A sufficiently large incision should be made in the pelvis, not encroaching on the ureter. The stone should be extracted with the utmost gentleness; large forceps should never be passed into the pelvis and the stone forcibly removed. By the use of small forceps and little levers even a considerable stone can be extracted without bruising the edges of the wound. The wound in the pelvis is sutured whenever possible, and that is practically always, and in addition the thickened fatty tissue is sutured in place as a reinforcement.

I have little experience of extended pelvic-lithotomy, where the incision in the pelvis is carried on into the substance of the kidney. It may involve ligation of a retroperitoneal artery, which might devitalize a considerable area of kidney tissue.

#### Nephro-lithotomy.

This is necessary usually in cases of large calculus or of multiple calculi. The incision in the kidney should be as small as possible, having due regard to the fact that the calculus or calculi must be removed intact and not in fragments, and the kidney tissue must not be lacerated. At one stage in his career my late chief, Mr. Harry Littlewood, was in the habit of splitting the kidney from end to end for the proper exposure and extraction of calculi, and he had surprisingly few after-haemorrhages; but the functional capacity of a kidney so treated must have been very seriously diminished.

The discovery and removal of small calculi in one of the calyces may be extremely difficult. In one case, where there was a calculus in the pelvis and another small shadow in the kidney area, after the first stone was removed by pyelotomy the second supposed calculus could not be detected even by incision of the kidney. A stream of fluid from the nozzle of a syringe passed through the kidney incision washed a small calculus into the pelvis, whence it was easily removed. Possibly it would be well in all cases to wash out the pelvis and calyces with a stream of sterile water under pressure to remove any tiny calculi which might be left behind.

During the course of a nephro-lithotomy one is occasionally called upon to decide whether it is really wise to attempt to preserve the kidney.

#### Nephrectomy.

Simple as it is in many cases, nephrectomy may be impossible with an adherent pyonephrosis. A sufficient exposure of the kidney, deliberation, and the greatest care in recognizing and separating the various important structures which are adherent—the inferior vena cava, the duodenum, the colon—are essential. I prefer to separate the pelvis and ureter from the vessels, to tie veins and arteries separately, and to divide the ureter at a low level as the last step. It is important not to tear the pelvis, and I never use a large clamp on the pedicle if it can possibly be avoided. One cause of a persistent sinus after nephrectomy is the inclusion of a portion of the pelvis in the pedicle, and this is favoured by the use of a clamp. An extracapsular nephrectomy is far preferable to a subcapsular, as in the latter case it is not easy to separate the vessels from the pelvis. In some cases, however, the subcapsular operation is the only possible method.

Nephrectomy is possible in the majority of cases of calculous pyonephrosis. There are, however, definite contraindications. Where pyuria has been present for years, and the patient is anaemic, feeble, and emaciated, a prolonged and difficult operation is attended with considerable risk.

In one case a large adherent pyonephrosis was removed intact with great difficulty; the patient made a very slow recovery, remaining feeble and anaemic for some months, ultimately, however, regaining her health. The tumour was not examined for some time after the operation, and it was then found that the suprarenal capsule, firmly adherent to and indistinguishable on the surface of the kidney, had also been removed.

I have not wounded the inferior vena cava in performing nephrectomy for a calculous pyonephrosis, but have done so twice in doing nephrectomy for other conditions. In both cases the vessel was controlled by forceps left in place, and recovery occurred without incident and without any subsequent ill effects.

#### Nephrostomy with Secondary Nephrectomy.

This is sometimes satisfactory, though in the majority of cases probably a primary nephrectomy would be preferable. Nephrostomy alone has its dangers, and a secondary nephrectomy, usually a subcapsular operation, may be extremely difficult.

#### Nephrostomy Alone.

On occasions this is the only proceeding which is permissible, usually because of the general condition of the patient. The kidney is explored and incised with as little disturbance of the perirenal fatty tissue as possible; the calculus or calculi are extracted, any septa which prevent drainage are broken down (it is not advisable to do this with the knife owing to the risk of haemorrhage), and provision is made for drainage and antiseptic instillation. I think the late results of these cases are better than is commonly thought.

The following are illustrations.

*Case 9.*—A lady, aged 67, had suffered for years from backache and pyuria; a large pyonephrosis had developed, with rapid deterioration of health. She was too ill to be removed even for an x-ray examination. The kidney was exposed, a large calculus measuring 3 in. by 4 in. was extracted, and the kidney drained. The wound healed completely in a very short time, and the patient lived for nine years in reasonable health and comfort.

*Case 10.*—Another case in which even less was done. A lady of 76, who suffered from rheumatism and had just undergone two operations for glaucoma, developed a large pyonephrosis. Under a local anaesthetic the kidney was incised and drained, no attempt being made to find a stone. She is now, a year later, in reasonably good health, with a slight pyo-urinary discharge which gives little trouble.

*Case 11.*—A woman, aged 53, was admitted with a pyonephrosis, which was drained. No calculus was detected at the time, but subsequent x-ray examination showed a small calculus in the lower part of the pelvis of the kidney. Nephrectomy was declined. The wound closed, but re-discharged two months later. She had no further trouble for eighteen months, when it discharged again for a period of sixteen months. Since then it has not

discharged, and so far as her kidney is concerned the patient is quite well (six years afterwards). She is, however, troubled with gall-stones.

*Case 12.*—A woman, aged 60, suffered from a calculus pyonephrosis with multiple calculi. Nephrostomy was performed and the calculi removed, practically no kidney tissue remaining. The wound healed very quickly, and the patient is now, three years later, in good health.

*Case 13.*—A woman, aged 34, had many calculi in a large pyonephrotic kidney. She was too ill for nephrectomy. The calculi were removed and nephrostomy done. A year later the patient was in good health and doing all her own housework. There was a slight watery discharge from the wound.

*Case 14.*—A woman, aged 58, with pyonephrosis and a large branching calculus, underwent nephrostomy with removal of the calculus. Four years later she was in moderate health and able to do some housework, but the wound was discharging.

*Case 15.*—A woman, aged 63, with large calculus pyonephrosis. The calculi were removed and nephrostomy performed. Nephrectomy was advised and refused. The patient improved and the wound healed. She was admitted two years later with a perinephric abscess which proved fatal.

It is evident that some patients may recover perfectly after a simple nephrostomy or may be left with a sinus which causes little trouble; but in all reasonably promising cases a secondary nephrectomy should be done.

#### *Extraction of Calculi in the Ureter by Cystoscopic Procedures.*

These methods have been practised extensively in America of late years, and varying reports are given. According to Peacock, ureteral dilatation was successful in inducing the passage of the calculus in 50 per cent. of cases so treated. Various procedures have been recommended—for example, passage of a ureteral catheter alone; dilatation of ureter by passing catheters of varying size or by dilating forceps; dilatation and injection of olive oil and other substances; enlargement of ureteral orifice (1) by diathermy, (2) by operating cystoscopic scissors, subsequent passage of catheter, and injection of oil.

My personal experience of these methods is comparatively limited. In one case in a woman a stone presenting at the orifice of the ureter was persuaded into the bladder by passing a Luys's cystoscope and by incising the lower end of the ureter on to the stone. In another the ureteral catheter withdrew the calculus. In another case the ureteral orifice was enlarged with the diathermy terminal and oil injected; this was followed by the passage of the calculus. In still another case mere dilatation and injection of oil sufficed.

There can be no doubt that these cystoscopic methods are of great value. Probably some of the stones which pass after such instrumentation would have passed in any case; but some would remain impacted, would increase in size, and induce destructive changes in the corresponding kidney.

I have no experience of division of the lower end of the ureter with the cystoscopic scissors. The objection to this would appear to be that haemorrhage would occur and obscure the field. Enlargement of the orifice by the diathermy terminal has not this disadvantage, but is not without its dangers. Marion<sup>1</sup> reports a case in which stenosis of the orifice occurred, the calculus was not passed, and the kidney, becoming pyonephrotic, had to be removed.

Recently I have had a case in which a small triangular calculus was impacted at the lower end of the left ureter, the pointed tip being visible through the cystoscope. Enlargement of the orifice by the diathermy terminal, dilatation, and injection of oil were unsuccessful, and transvesical uretero-lithotomy had to be performed.

On the whole, probably dilatation of the orifice with injection of oil will be as efficacious as any other procedure. In the case of small calculi this ought to be done before uretero-lithotomy is considered.

#### *Uretero-lithotomy.*

Various methods of approaching the pelvic portion of the ureter are practised. I prefer the extraperitoneal, outer border of the rectus incision (Battle). I have not usually found it necessary to tie the deep epigastric vessels. When the ureter is dilated it may be incised at any convenient point and a pair of forceps passed down; the stone is usually extracted without difficulty. But in cases where the ureter is not appreciably dilated removal is not so easy.

In some cases an attempt to extract a stone by forceps passed down the ureter from an incision at the level of the pelvic brim has failed, the ureter has had to be exposed at a lower level, perhaps after tying the uterine artery, and the stone extracted by a direct incision at the seat of impaction. In most instances this has been quite satisfactory, but in one case a fistula formed and a secondary nephrectomy became necessary.

By these methods it is almost always possible to extract a calculus from the ureter; but there are cases, where the stone is impacted close to the wall of the bladder, which are exceedingly difficult, and in some a combined ureterotomy and cystotomy has been done. In one such case after the bladder was opened a No. 1 urethral bougie was passed down through the preliminary incision in the ureter past the stone into the bladder. The tip was then seized and pulled downwards, the conical upper end of the bougie drawing down the stone to the orifice, when it was easily extracted by an incision in the bladder wall.

#### *Operation for Bilateral Renal Calculus.*

A number of cases of bilateral renal calculus have been seen and some have been operated upon. The most satisfactory cases are those in which there is a single calculus in the pelvis of each kidney, with little dilatation of the kidney and only a mild degree of infection. When the calculi are multiple it is always a question whether an operation is worth while. I have at the present moment four such cases under observation; two (both recurrences after previous operation, one of my own, one of another surgeon) could not possibly survive any further interference, and in the other two the symptoms are very slight and I am disinclined to interfere. The operations should be done at two sittings, and it is a question which kidney should be attacked first. I prefer to do the better-kidney first.

The two following cases are of interest, the first possessing a wandering calculus and the second being an example of recurrence.

*Case 16: Wandering Calculus.*—A woman, aged 33, was admitted with a history of right renal colic; no pain in left side. The first x-ray photograph taken (Fig. 3) showed a calculus in the pelvis of the left kidney and a shadow on the right side in the course of the ureter, the significance of which, however, was not realized at the time. The second radiograph (Fig. 4), however, showed a calculus in the pelvis of the right kidney in addition to the one on the left side. Further x-ray examination showed that the calculus was sometimes in the ureter and sometimes in the kidney. A pyelogram (Fig. 5) taken of the right side showed a considerable degree of dilatation both of the ureter and of the pelvis. Left pyelo-lithotomy was performed, and three weeks later the right kidney was exposed: the kidney was enlarged, the pelvis and ureter dilated. The calculus, found in the ureter, was pushed up into the pelvis and removed. A year later the patient was very well, but had slight pain and occasionally the urine was rather cloudy, with a sediment.

*Case 17: Recurrence.*—A woman of 50 with several calculi in both kidneys. Left nephro-lithotomy was performed, four stones being removed from the lower pole of the left kidney. Three months later right nephrectomy was done for a pyonephrosis containing five calculi. A year later the patient was readmitted with calculus anuria, and a small stone was removed from the ureter. The patient recovered, but died a year later at home from anuria. In this case perhaps palliative treatment would have been preferable.

#### *The Treatment of Renal or Ureteral Calculus Complicated by Other Lesions of the Urinary Tract Demanding Operation.*

Marion<sup>2</sup> is of the opinion that in such cases the renal calculus should be removed first, in view of the risk of an infection developing in the damaged kidney during convalescence from the operation on the other lesion. In cases of renal calculus complicated by the presence of a stone in the bladder I have removed the vesical calculus first and the renal stone at a later date.

There have been a few examples of the association of renal calculus and ureteral calculus on the same side. It is sometimes difficult to decide exactly what to do. In cases where the kidney is badly infected and dilated a nephrectomy is indicated. According to Marion it is not necessary in such cases to remove the ureteral stone, as this will remain latent. I have had one such case in which the ureteral stone was passed some time after the nephrectomy. In another case the patient passed the

ureteral calculus a few hours before the time fixed for his operation. In another case the renal stone was removed from the pelvis and olive oil injected down the ureter by a glass syringe, the nozzle of which was passed through the pyelotomy incision and fitted snugly into the upper part of the ureter. The ureter became distended and this subsided suddenly. The cystoscope was passed at the end of the operation and a small calculus was seen in the bladder lying in a pool of oil. This was passed a few days later.

I have endeavoured to give, as accurately as possible, the late results of these operations for renal calculus. It is very difficult indeed to obtain absolute accuracy of statement on such a subject unless one has the advantage of a large staff to carry out the necessary inquiries and to make the necessary investigations. There is, however, sufficient evidence to show that the frequency of recurrence after operations for renal calculus is such that it demands very serious investigation.

## REFERENCES.

<sup>1</sup> Levy: *Journal d'Urologie*, xxi, No. 1, p. 1. <sup>2</sup> Marion: *Ibid.*, xxi, No. 1, p. 61.

## PERNICIOUS ANAEMIA AND THE LIVER DIET.

BY

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THE following is an account of the history of three patients treated by the liver diet introduced by Minot and Murphy<sup>1</sup> in 1926. Recent accounts from all sides are showing the good results obtained in promoting remissions in cases suffering from severe relapses. These three patients have been under treatment for a year or more. The cases are recorded in order to show what may happen afterwards.

## CASE I.

A man, aged 45, had an attack of gastro-enteritis in November, 1925, which lasted several weeks. Six months later his tongue became sore, and during the summer his throat and tongue were very sore from time to time. Early in the autumn the nausea and vomiting returned, and when admitted to hospital in October, 1926, he presented the typical picture of pernicious anaemia. His mother had had anaemia for a long time, and eventually died from it; her sister was definitely known to have died of pernicious anaemia.

Investigation showed a characteristic blood count. The blood bilirubin was high. There was complete achlorhydria. A haemolytic streptococcus was isolated from the duodenal contents, but it could not be found in the faeces. From the first he was given arsenic, and hydrochloric acid in large doses, as recommended by Hurst.

After a month in hospital he was given liver; owing to his gastric symptoms he had great difficulty in taking it, and the ingenuity of the nursing staff was fully exercised in making it palatable. In one form or another he managed to take about 5 ounces a day. An autogenous vaccine from the haemolytic streptococcus was also administered.

The improvement in the blood picture began at once, before the liver was given; this continued afterwards, especially as regards the haemoglobin. Shortly after this improvement began the haemolytic process abated and the blood bilirubin content fell, but did not reach normal limits. After leaving hospital he kept fairly well, and for a time was on his diet, and took arsenic and hydrochloric acid. After March he was able to return to work until August, when a relapse began, and the soreness of the tongue and vomiting returned. As soon as the nausea was less liver was again given, together with acid and arsenic. There was soon considerable improvement, again notably in the haemoglobin. The blood bilirubin, estimated by the van den Bergh test, fell to a low level, but the red cells improved less satisfactorily. He then left hospital by his own wish, and at home continued to take a proprietary preparation of liver similar to that which he had had in hospital.

An unfortunate relapse has again occurred, and the outlook seems far from favourable. The red cells and haemoglobin have fallen, and the blood bilirubin has again become high.

## CASE II.

A woman, aged 54, had had bouts of diarrhoea for three years, and some anaemia was noticed a year before admission. For the last four months she had had a good deal of vomiting, and had been laid up in bed. On admission to hospital she was very ill. Petechial haemorrhages were present everywhere; the heart was large and feeble, and the spleen was increased in size. There was complete achlorhydria. The teeth were septic. Five blood transfusions were given during the first six weeks, and arsenic and hydrochloric acid were also prescribed. After a little time a steady improvement set in. Before leaving hospital she began the liver diet, and since then she has taken it regularly at least

three times a week. The red cells have never returned to a higher level than  $3\frac{1}{2}$  million, but the haemoglobin has kept up to about 80 per cent. There has been a normal level of bilirubin in the blood for nearly a year. Before she went out the heart returned to normal size, and the spleen could no longer be felt. She has now felt very well for fifteen months, and has been able to do her housework.

## CASE III.

A woman, aged 33, became ill three years prior to admission, the symptoms being mainly dyspeptic. After a year she began to have attacks of diarrhoea, and vomiting became frequent; at times her tongue was sore. A year later her appendix was removed, but without benefit. The anaemia gradually started about this time; for four months she had noticed jaundice. Lately her ankles had become swollen, and she had suffered much from shortness of breath. Her mother had died of pernicious anaemia.

On admission to hospital she was seriously ill; the tongue was sore, and she was markedly yellow. The heart was very feeble and much enlarged, a gallop rhythm being audible over the mitral area. The electro-cardiogram showed heart-block, with a P-R interval of 0.32 second. There was a good deal of numbness and tingling of the hands and feet. Complete achlorhydria was present, and from the duodenum a haemolytic streptococcus was grown; this was not present in the faeces. A vaccine prepared from this organism was given.

At first a blood transfusion was given and she was put on arsenic and hydrochloric acid. Improvement in the anaemia began at once, and was most noticeable in the haemoglobin. At the same time there was a fall in the blood bilirubin, so that, on leaving hospital, it was well below the normal. Liver was not given at first as she could not take it; later, when her stomach was less troublesome, she started the diet, and has kept rigidly to it ever since—a period of ten months. She takes at least 4 ounces of liver three times a week, but lately has been using an equivalent amount of a proprietary preparation. As soon as the anaemia improved her heart returned to normal, and the heart-block disappeared. She left hospital last March, and has since kept very well. The red cells keep about  $3\frac{1}{2}$  million per c.mm., but the haemoglobin is maintained at a high level. Haemolysis has not risen above the normal limit.

During the last ten months she has had hydrochloric acid with her meals, and courses of arsenic from time to time. There has been no increase in the sensory symptoms.

## COMMENTS.

*The Administration of Liver.*

Various methods must be tried if the patient cannot take the liver easily. A paste in a sandwich of dry bread is often satisfactory. Sometimes the taste can be covered by the use of one of the strongly flavoured sauces; it goes fairly well with marmite. Small lightly boiled lumps are taken fairly easily, or it may be eaten with lemon juice or lettuce.

*The After-Treatment.*

These three cases are not of much value in illustrating the effects of the liver diet in the acute stages. It is unfortunate that there is such difficulty in getting patients to take liver when the gastric symptoms are severe.

As to the value of liver in the after-treatment, when once a remission has been secured, Cases II and III bear out the claims of Minot and Murphy,<sup>2</sup> who have had patients on liver for much longer periods than eighteen months without relapse. The first patient seems to have relapsed because for some months he neglected to take any precautions. The rather poor success subsequently seems to show that in the later relapses the treatment may be less effective. The after-treatment is unquestionably extremely important: "once pernicious anaemia, always pernicious anaemia," potentially at any rate. If, as Hurst has so often suggested, the achlorhydria is the weak point in the patient's defences, it is most important for the patient to continue taking acid. It is true that difficulties with this arise in the acute stages, when the gastric symptoms are severe and the mouth and pharynx sore; but apart from these it is usually well borne. Dilute phosphoric acid may be less effective, but is often much easier to take. It is, perhaps, too much to suppose that the artificial acid barrier can entirely replace the natural in warding off further intestinal infection. Hence it is further of the greatest importance to keep watch against sepsis arising again in the mouth and nasopharynx. The continuance of the liver diet, whatever its mode of action may be, should help in preventing any tendency to relapse.

*Prevention.*

The history of the prodromal stages in these cases has been given at some length. It is worth while to emphasize this pre-anaemic phase, during which the patient may

suffer from the symptoms of a gastro-intestinal infection from time to time, over a period of several years. If it were possible to foresee the ultimate development of the anaemic phase much might be done to prevent the later stages of the disease from occurring. The family history may give a clue. In two of these cases other members of the family had had pernicious anaemia. In the case of a fourth patient (put on liver diet too late in the last stages), who died, her mother had also died of the disease, after a remission lasting nine years.

Attacks of gastro-intestinal symptoms, with perhaps glossitis, in anyone whose family history shows pernicious anaemia, are a portent of the gravest significance. Without the family history the triad "glossitis," "gastritis," "enteritis" should warrant the examination of the gastric juice for achlorhydria. If this be found the case should be looked upon as one of potential pernicious anaemia. Liver treatment seems to be proving of real value in the acute phases, and may be of assistance in preventing relapse. But many cases might be recognized in the pre-anaemic phase, and a long and dangerous illness be perhaps prevented.

## REFERENCES.

<sup>1</sup> Minot, G. R., and Murphy, W. P.: *Journ. Amer. Med. Assoc.*, 1926, lxxvii, 470. <sup>2</sup> Idem: *British Medical Journal*, 1927, ii, 674.

## A FORM OF SENILE SEIZURE.

BY

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WITHOUT any warning, an apparently healthy elderly person falls down unconscious. There may be some degree of clonic spasm of the face or limbs, perhaps more pronounced on one side. In a few minutes there follow loud shouting and violent behaviour, necessitating restraint, but possibly aggravated by it. After a variable time the patient regains consciousness and reason, although perhaps a little dazed and inconsequent. On full recovery of his faculties he will say that the whole incident is a blank. The whole duration of the attack is perhaps about three-quarters of an hour, but may be considerably longer. This type of emergency is seen after the event usually in hospital practice, or only in the casualty department. It does not appear to be described in medical textbooks. Of six attacks that I have witnessed the notes of the following case describe a typical example.

A railway storekeeper, aged 66, was found unconscious at 8.30 a.m. on January 24th, 1928. He was put into an ambulance, in which he became very violent, with struggling and shouting, sweating profusely. At 9 o'clock in the casualty department of the Derbyshire Royal Infirmary he was very violent, and continued so until 9.45, when he vomited twice and became conscious, but was somewhat dazed. He was taken to the ward, where he went to bed quietly, saying everything was a blank since his last duty performed that morning. Examination showed him to be a very stout plethoric man; his tongue was furred, his teeth were decayed, and pyorrhoea was present. The lungs were emphysematous; the heart was normal, but sounds distant. Temperature normal, pulse 92; artery thick; blood pressure 130 mm. systolic and 90 mm. diastolic (two days later it was 170 and 110). There were no abnormal signs in the nervous system. The urine contained a trace of albumin occasionally; but the blood urea was only 48 mg. per cent., and the urea test gave a reading of 2.4 per cent. His mind was quite clear, but the head felt heavy. The day after admission lumbar puncture revealed normal cerebrospinal fluid. Five days later he could walk about quite well.

Of six cases (five men and one woman) all were between 60 and 75 years of age. There was some evidence of cardio-vascular degeneration; but they were robust, stout, somewhat full-blooded people, engaged in their duties. There had been some degree of hyperpiesis, but no serious renal disease. In one case the disposing cause of anger precipitated the attack, but otherwise there had been no history of effort, nor were their duties arduous. In five instances the patient had come to himself in about an hour; the sixth patient, after the violence had passed off, I saw walking up and down his room with the doctor and butler in attendance. He came round about three hours

after the seizure, without any knowledge of what had been taking place. The attacks have not recurred nor have vertigo or other symptoms developed. The expectation of life has been what one would deduce from the age and cardio-vascular condition, but does not appear to have been changed by the accidental occurrence of the seizure; nor have the activities been restricted.

It would seem that the attack is due to slight haemorrhage on the surface of the brain, perhaps below the pia mater, producing coma and cerebral irritation, analogous to what may be seen occasionally after concussion. The bleeding must be quite distinct from a free subarachnoid haemorrhage: the one lumbar puncture observation revealed normal fluid. That it is a vascular lesion seems probable, because of the sudden onset, and there is the analogy of epistaxis and retinal haemorrhage occurring in this type of patient. Uræmia does not seem probable; the recovery is too complete, and the urea in the blood was not unduly high in the one case tested. The type of patient is not suggestive of epilepsy, although the analogy of a convulsion from loss of cerebral function probably holds good. A temporary oedema may be the cause, although a local aura might be expected. A localized haemorrhage, either venous or arterial, seems the most probable explanation. Embolism or thrombosis is possible, but the situation of the lesion is probably in a region where anastomosis is very free.

A SIMPLIFIED METHOD OF ARM-TO-ARM  
BLOOD TRANSFUSION.

BY

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THERE are so many methods of carrying out the transfusion of blood, each worker having developed his own technique, that it is almost futile to suggest a new method. However, as one who has done a large number of transfusions of all kinds and by all methods, I feel justified in making a short practical note on the subject.

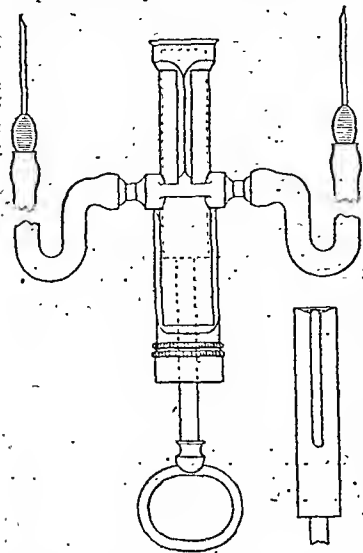
There can be no question nowadays of the efficacy of transfusion as a therapeutic measure for a variety of conditions, and each clinical condition has its supporters for one or other method of carrying out the operation; but also there can be equally no question that, granted facilities, the transfusion of whole blood direct from donor to recipient is the best procedure. This was the original method, but, owing to various technical difficulties, it has long been discarded in favour of the "citrate" or "defibrinated" method.

The transfusion of whole blood is hindered by the readiness to clot exhibited by blood immediately it leaves the endothelial surroundings of blood vessels, and, of course, if blood is to remain whole—that is, to retain all its physiological and physical qualities—this tendency to coagulation must be retained. It forms one of the most important properties of blood, and in cases of haemorrhage is the one quality most desirable in the blood to be introduced. To render the blood uncoagulable by citrate appears to me a distinct disadvantage when dealing with cases of severe bleeding, and it is in such cases, particularly in obstetrical emergencies, that transfusion offers its greatest and most obvious use.

I make a plea, therefore, for the development of whole-blood transfusion, and venture to assert that with the extremely simple apparatus described below anyone who is accustomed to venipuncture can carry out a whole-blood transfusion with ease and certainty.

The apparatus consists of a syringe of 5 c.cm. capacity, with a piston of special pattern having a groove along one side. The barrel of the syringe is closed at the bottom, but has two openings in the middle opposite to each other. When in action the syringe is so arranged that by a simple turn of the wrist the groove in the piston can be put into apposition with either of the two side openings in the syringe, and either draw in or expel its contents.

The only other apparatus necessary is two pieces of rubber tubing of stout make about 8 inches long, and two needles such as are used for venipuncture, and which can be put directly into the tubing. The drawing will make



the above description clearer.

In carrying out the operation the donor and recipient are placed parallel and side by side, or head to head with feet in opposite directions, whichever is found most convenient. I usually find the two right arms best, in which case the second position is adopted.

A small table of suitable height is placed between the two couches, and on this the arms are brought close together, and the usual preparations carried out for sterilizing the skin and

making the veins prominent. Before inserting the needles I find it an advantage to fill the syringe with medicinal paraffin first, then empty it and refill it with a solution of sodium citrate, subsequently half emptying it and then leaving the piston with the groove midway between the side openings.

A needle already attached to the syringe is then inserted into the recipient's vein (this is usually done first, as it is the more difficult) and the piston turned round till the groove is opposite the recipient's opening, and if the needle is in the vein a little blood appears in the syringe immediately the piston is slightly pulled up. The piston is then turned to "midway" again and the donor's needle inserted into his vein, the same manoeuvre being carried out to ascertain whether the needle is satisfactorily in the vein.

If the venipunctures have been carried out satisfactorily, a little vaseline is smeared over the skin round the entry of the needle and the tourniquet removed from the recipient's arm. Blood is now drawn from the donor, the piston turned and pushed down, delivering the full amount to the recipient; another turn, and the blood is drawn from the donor as the piston slides up the syringe barrel; turn again and depress the piston, and the charge is delivered to the recipient, and so on.

The operation is so simple that if venipuncture has been successful 500 c.cm. of blood can be transfused in a very short time (ten minutes), and there is certainly much less reaction after this procedure than after any other.

Where conditions allow there can be no doubt that arm-to-arm transfusions should be done, and this simple type of apparatus is capable of doing the operation efficiently. It is made by Duffaud et Cie, Paris, and is the invention of a Frenchman (Dr. Joubert). It is certainly one of the most beautiful pieces of apparatus I have ever used, but as sent out by the makers it is accompanied by two or three pieces of tubing and two kinds of needles and cannulae—one for the donor and one for the recipient; to my mind these are totally unnecessary, and only tend to complicate what can be a very simple technique.

The syringes are made in two sizes—5 c.cm. and 10 c.cm.; personally I consider the 5 c.cm. the better; there is no point in using the 10 c.cm. syringe when 500 c.cm. of blood can be comfortably delivered in a few minutes with the smaller apparatus.

The syringe is not on the English market, but can be obtained from the makers direct or from Messrs. Bell and Croyden, who have promised to hold a stock of them, since when bought direct it requires about two months before they are delivered through the custom-house.

## MINIMAL RISES OF TEMPERATURE IN RHEUMATOID ARTHRITIS.

BY

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THERE is one type which stands out from the large group of rheumatoid arthritis cases; it is distinguished by constant though often minimal rises of temperature, and is associated with a very slow course, which is unrelenting in its progress and often defies all forms of treatment. Outwardly these cases are hardly distinguishable from those of other types.

In a discussion some years ago of pyrexia in rheumatoid arthritis I stated that "the febrile types of rheumatoid arthritis are certainly commoner than we generally assume." I presumed then that the rise of temperature in such chronic articular cases might be due to the action of toxins, and further observations have served to confirm this view to a large extent, so that I have found this a useful basis for rational therapy. Though at that time I only considered temperatures well above 98.6° F. of importance, I have gradually become convinced that minimal rises of temperature, even of only a few tenths of a degree, if continuous and not due to any other cause, are of decided importance from a prognostic as well as from a therapeutic point of view. Morning temperatures of 97.9° to 98.2° F.; which are often regarded as normal by medical practitioners and the general public, should receive serious attention in these cases, since they indicate the need for a systematic recording of the afternoon temperature. It will almost invariably be found that the afternoon temperature is above 98.6° F., and that almost without exception the accompanying signs are of serious prognostic significance.

A survey of these cases is not very cheering. The patients mostly state that they have been ill for years or at least for many months. In spite of various therapeutic measures, the pain, swelling, deformity, and atrophy of muscles and skin slowly increase. Psychological disturbances become superimposed on the organic troubles and find expression in the facies. The emaciation and obvious anaemia, which are almost constantly associated with this disability, emphasize the tragedy of the aspect.

I regard these cases of articular rheumatism with a continuous though minimal pyrexia, when there is no demonstrable focus of infection in other organs and no evidence of tuberculous rheumatism (Poncet's disease), as being due to cryptogenic bacterial lesions of polymorphic otology. The question of the primary seat of the lesion, and whether in certain cases it is the bacteria or only the bacterial toxins which invade the joints and there produce the various changes, must be left open. The important point is the entry of substances foreign to the body, or at least to the joints, into the joints and the surrounding tissues in such amounts that the irritation set up leads to various degrees of inflammation and their sequelae. The joint tissues and the surrounding fluids are thus toxic whether they take the form of macroscopic or merely of microscopic exudates and chemotactic combinations. Absorption of such substances has, according to this view, the same significance as an auto-inoculation.

It seemed that the first step towards a cure of these arthritic patients must take the form of general treatment as in the case of tuberculosis, and here a so-called "maskur" (fattening régime), carried out with great care and precision, plays an important part. Objectively improvement becomes manifest in two directions: the body weight increases, and the small rises of temperature tend to disappear, though in some cases only after a considerable time. Both these reactions are very delicate and of great prognostic significance; they usually run parallel.

Pursuing the reasoning outlined above the following conclusion was reached: When such an arthritic patient is in a negative phase and the organism is incapable of reacting it is not only useless but foolish to begin by increasing the supply of toxic molecules from the joints which the



organism is incapable of antagonizing; this is a well-known principle of all inoculation therapy. In articular rheumatism, however, just those organs are infected which, with the muscular action accompanying each movement of the body, act as a kind of peripheral pumping station, mixing the various body fluids in all directions. In these cases, more than in any others with localized lesions, movement of the joints means an increase in the inoculation of the body with toxins from the foci where they have been deposited. If, therefore, we wish to keep the body of the patient as free as possible from toxins from the joints and afebrile the further passage of toxins into the circulation must, as far as possible, be prevented by securing absolute rest for the joints—that is, by confining the patient to bed. The second essential in treatment is therefore recumbency, which, according to the individual case, is leniently or very strictly enforced.

When all that is possible has been done to facilitate the cure by a fattening regime and recumbency, the patient must be guarded from the various harmful forms of treatment which are sometimes warmly recommended. I refer particularly to the routine ordering of massage for such cases. I regard daily massage in these subfebrile cases as a grave error, analogous to repeated injections of tuberculin in febrile cases of tuberculosis. The same applies to the often indiscriminate use of diathermy and radiant heat. In balneological treatment mistakes are also too often made in these cases, when, regardless of the thermo-sensitive nature of the case, and irrespective of general or local reactions, the patient is allowed to continue his baths without rest or intermission, and is not granted time or opportunity to pass from the negative phase to the positive phase of improvement. The result is fatigue and exhaustion of the organism instead of beneficial stimulation; the condition remains stationary or becomes worse, whereas a rational plan of treatment adequately pursued might achieve improvement or even complete cure.

The line of thought which I have indicated in this paper has proved a sound working hypothesis in practice.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### A CASE OF VOLVULUS NEONATORUM.

THE following case seems of sufficient interest to be placed on record.

A male child, aged 4 days, was admitted to the South Eastern Hospital for Children, Lower Sydenham, with a history of vomiting green fluid since birth and of passing dark motions which, the evening before admission, had turned to fluid blood; this being passed continuously and in some quantity. He was a full-time child, large and well developed, and weighed 8 lb. 8 oz. He was not greatly distressed, the fontanelles were not depressed, but pallor was marked. Pulse 148, respirations 46, temperature 98.2° F.

On examination the abdomen was soft and the stomach slightly distended; nothing was found on palpation. Blood leaked almost continuously from the rectum, but on rectal examination nothing abnormal was discovered.

The following day the condition remained much the same, but the temperature rose to 100.6° F. in the afternoon; the flow of blood from the rectum was much less. No food was retained owing to persistent vomiting, and there was no obvious distension of the abdomen. The child died the following morning.

**Post-mortem Examination.**—The abdomen showed a slight distension. On opening, a small quantity of dark blood was found, and presenting in the incision was a mass of coagulated blood. On further examination it was found that the stomach and duodenum were normal, that just beyond the duodeno-jejunal junction there had been an anti-clockwise rotation of the small bowel, so that this upper portion was tightly wrapped round the last portion of the ileum just above the ileo-caecal valve. The mesentery was, practically speaking, absent, being represented by a fibrous cord containing the superior mesenteric artery, over the front of which passed the duodenum, and which was (that is, the artery) constricted by the volvulus. There was therefore a complete strangulation of the whole of the jejunum and ileum, leaving the stomach, duodenum, and the whole of the large bowel looking quite normal. The rest of the organs did not show any abnormality.

Mr. Norman M. Dott has written at length on the subject of anomalies of intestinal rotation in the *British Journal of Surgery* (1923, vol. xi), and in the *British*

*Medical Journal* of February 5th, 1927 (p. 230); he has described a case of volvulus neonatorum which was successfully diagnosed and treated by operation, a result of the application of theory and study to practice which must have afforded him considerable satisfaction. The case he describes, however, differs from the above in several details; the absence of mesentery and the anti-clockwise rotation of the bowel are similar, but he describes the stomach and duodenum as being greatly distended, and the small bowel collapsed and cyanosed. This case, then, must be regarded as unique in the acuteness of the symptoms and the degree of vascular obstruction.

Our thanks are due to Mr. Dott for his interest and help in this case.

GILBERT W. CHARSLEY, M.B., Ch.B.,

Honorary Physician,

GEORGE RICHARDSON, M.D., F.R.C.S. Ed.,

Honorary Pathologist,

South Eastern Hospital for Children.

#### EMBOLISM OF APEX OF LUNG.

EMBOLISM of the lung is fairly common, but if the apex of the upper lobe of the lung is involved, difficulty in diagnosis may arise. These notes on a case recently attended by me may therefore be of interest.

An unmarried woman, aged 40, had suffered from exophthalmic goitre for many years, but had managed to do her work as a bookish clerk at a hotel, and had received no medical attention for two years. On December 25th, 1927, she was suddenly seized with shortness of breath and severe incessant coughing; she vomited her last meal and coughed up some bright red blood. She was first seen by me half an hour after the onset of these symptoms. Her pulse was about 140, she looked very ill, and the cough was incessant. She was given a small dose of morphine hypodermically, and a sedative for the cough. Restlessness was a marked symptom.

The next day many coarse râles were audible over the apex of the right lung, with bronchial breath sounds and markedly impaired resonance. She was still coughing up a little bright red blood; the temperature was 101° F. The heart's apex beat was two inches outside the nipple line. Her chief complaint was of the troublesome cough. The sputum was examined for tubercle bacilli with negative result. The systolic blood pressure was 160 mm. Hg, with negative result. The pulse rate 120 a minute, but with a few drops of Lugol's and the pulse dropped to 80 and the blood pressure to 145 mm., the apex beat of the heart coming to lie in the nipple line. She could only take 1½ minims of Lugol's solution three times a day; larger doses caused coughing attacks. With rest in bed for a fortnight she lost her cough completely and the physical signs at the right apex of the lung cleared up entirely. She still had a systolic murmur at the apex of the heart continued into the axilla.

Swanage.

W. A. REES, M.D. Lond., F.R.C.S.

#### DYSPHAGIA ASSOCIATED WITH ANAEMIA.

THE following case is similar in many points to the clinical type described in the article by Drs. Jones and Owen in the *Journal* of February 18th (p. 256), but the anaemia has been megalocytic ever since the patient came under my care in January, 1926.

A married woman, aged 50, complained of weakness, shortness of breath, and inability to swallow, unless the food was finely minced, and of soreness of the tongue and lips, for "years." She said she had been anaemic from girlhood, and at the time of the menopause she suffered from melancholia and was in an asylum. The difficulty in swallowing was worse sometimes than at others. At times she could only manage fluids—solid food seemed to stick, and she almost choked till she got it up again.

She was of a lemon yellow pallor with slight malar flush, the lips pale, with sore areas at both corners of the mouth; the artificial teeth for many years. The spleen was palpable, the liver also was slightly enlarged. The blood count was as follows: liver cells 1,410,000 per c.mm., haemoglobin 44 per cent., colour index 1.5, white cells 4,800 per c.mm. The films showed no nucleated red cells, marked poikilocytosis and anisocytosis, with many megalocytes. The coagulation time of the blood was prolonged: the blood of a normal control took 2 minutes 15 seconds to clot in Gibb's coagulometer, while the patient's blood took 2 minutes 45 seconds.

The patient improved a little on arsenic and hydrochloric acid after meals, but she would not persist with the acid as it increased the soreness of her mouth, even when well diluted. Latterly she has improved very much on liver, which she takes minced three times a week. She is now able to do most of her housework and goes out for short walks. Her red cells are now 2,630,000 per c.mm., but the colour index is still above unity.

SIDNEY ELISABETH CROSKERY, B.Sc., M.D. Ed.

Tunbridge Wells.

## British Medical Association.

## CLINICAL AND SCIENTIFIC PROCEEDINGS.

## MONMOUTHSHIRE DIVISION.

*Recent Changes in Obstetrical Practice.*

At a meeting of the Monmouthshire Division held at the Royal Gwent Hospital, Newport, on March 9th, with the chairman, Dr. W. D. STREE, presiding, a lecture on some recent changes in obstetrical treatment was given by Dr. LESLIE WILLIAMS, Queen Charlotte's Hospital, London.

Dr. Leslie Williams dealt first with the 2-unit dose of pituitary extract, which he regarded as one of the greatest recent advances in obstetrics, and as calculated to reduce the incidence of puerperal sepsis, and to limit the use and abuse of forceps. The introduction of this new treatment was due to one of his colleagues at Queen Charlotte's Hospital, and according to his observations, both experimental and clinical, the drug in 2-unit—for example, 0.2 c.cm.—doses, might safely be given at any period in labour. The speaker believed the ideal use was in a normal labour when the first stage had been allowed to progress under some sedative drugs such as morphine and scopolamine, and when the pain of the second stage had been controlled by chloroform. In these circumstances the expulsion of the child was apt to be tedious, and an intramuscular injection of 0.2 c.cm. pituitrin would result in a great increase in the power of the uterine contractions and the spontaneous delivery of the child. If necessary, the injection could be repeated. The patient should be well under chloroform before the injection was given, as otherwise intense and sometimes almost continuous pain was caused by the powerful uterine contractions. In his experience the child was not harmed in any way, though the foetal heart rate was unquestionably affected. The small dose of pituitrin was even more valuable for cases of secondary inertia with the head well down. The presence of even minor degrees of disproportion between the foetus and the pelvis contraindicated the administration of pituitrin. Its use, however, during the second stage in suitable cases did not appear to predispose to hour-glass contraction, with retention of the placenta.

With the use of this drug during the first stage, as a rule, the uterine contractions were increased in power and duration, and furthermore were regularized. In cases of a slowly dilating cervix with painful colicky uterine contractions, his personal preference was to give morphine and scopolamine and allow the dilatation to proceed spontaneously, giving further doses of 1/400 gr. of scopolamine at intervals of a half to one hour if required. Should the dilatation still be proceeding poorly he would have no hesitation in giving a 2-unit dose of pituitrin as well, and repeating if necessary.

*Treatment of Puerperal Sepsis.*

Proceeding to discuss puerperal sepsis, Dr. Williams said that in the light of present knowledge the treatment of puerperal sepsis must be preventive—by careful preparation of the perineum and vagina, by efforts on the part of the accoucheur to be surgically as clean as if he were performing an abdominal section; by the avoidance of "meddlesome midwifery," and particularly the avoidance of manual removal of the placenta. He felt confident that a great improvement in obstetric technique in the country generally would result from the present tendency to raise the status of obstetrics in the student's curriculum. As things were they all had certain cases of puerperal infection. In his experience no improvement could be expected from the prophylactic use of vaccines, or serums, or the two combined. In dealing with a case of puerperal infection the first duty was to decide whether the case was one of uterine (or cervical or perineal) infection which had not been kept within bounds by the local defensive mechanism, but had invaded the blood stream—"septicaemia"; or was one in which the infection had been localized and there was merely the absorption of toxic products of the local suppuration—"toxaemia." The former was treated by methods designed to raise the patient's bactericidal power, while the treatment of the

latter was local. To distinguish between the two conditions was not easy in all cases. On clinical grounds a blood infection was to be suspected if the disease was early in onset, marked by repeated rigors, a high degree of fever, and a rapid pulse; they should not be deceived by the patient's subjective sensation of being in good health. The final proof of a blood infection was obtainable only by a positive blood culture, and they were fortunate in the improved bacteriological technique of to-day, in that a positive result was obtainable in most cases. The treatment of such a proved case was briefly this: Absolute rest in bed in the open air; plenty of good food, as solid and substantial as the patient felt she could deal with; the avoidance of drastic purgatives, but gentle daily enemata if required; plenty of fluids; and, lastly, those special steps designed to increase the bactericidal power of the blood. Here weekly intravenous injection of some of the "606" preparations, in doses of 0.4 to 0.6 gram, were valuable. Of equal importance was the transfusion of whole blood—small amounts, say 10 to 12 oz., repeated once or twice a week. The value of these injections might further be increased by artificially producing a leucocytosis in the donor by a morning injection of 2 c.cm. of sodium nucleinate, and making the transfusion from him in the afternoon during the period of the increased leucocyte content of his blood. The variety of treatment suggested for puerperal septicaemia clearly indicated the inefficiency of these measures. His personal experience, however, led him to believe that there was some value in these treatments by blood transfusion and the salvarsan preparations.

In localized infection it was, of course, obvious that the site might be uterine, cervical, vaginal, perineal, etc. The principles of treatment were, first, hygienic—fresh air, sunlight, and good nourishing food—and secondly, cleansing and drainage of the infected area. In the second matter they owed much to Dr. Remington Hobbs. The speaker was a very firm believer in the efficacy of the intrauterine glycerin treatment which Dr. Hobbs employed to promote "tissue drainage." For uterine and cervical lesions the hygroscopic action of the glycerin, together with the free drainage secured by the diminution of the oedema of the mucosa of the uterine and cervical canals, had proved of the greatest value. For the more superficial lesions, such as an infected perineal tear with septic absorption, the removal of stiches and local cleansing would suffice. He wished to lay it down as an axiom that the infected puerperal uterus must in no circumstances be touched with the eurette, and might be cleared out by a gloved finger only if haemorrhage, as well as the probability of retained products, rendered this a necessity. In the absence of haemorrhage he had no hesitation in advising Fowler's position, pituitrin, and ergot, in preference to any operative procedure.

*Concealed Accidental Haemorrhage.*

In cases of concealed accidental haemorrhage it appeared that obstetricians might, in the past, have been the direct cause of death by the violence of their treatment. They had tried to "hog" the practically paralysed uterus into contractions by means of vaginal plugging, tight binders, pituitrin, etc. It was now realized that the essential factor in the case was not the amount of the haemorrhage, but the degree of the shock. *Post-mortem* examination of a fatal case of this disease disclosed a bruised "coppery" uterus with the muscular fibres separated by interstitial haemorrhages, a retroplacental haematoma, haemorrhages in the broad ligament and in the retroperitoneal tissues. But the total amount of blood lost was only between, say, 1/2 and 1 pint. Incidentally, she was also suffering from one of the pregnancy toxaeemias, but the condition demanding treatment was the shock. She should be kept still in bed, kept warm, and given enough morphine to produce obvious effects. If she improved it was because the shock passed off. Simultaneously the uterus would begin to recover its tone and she would start bleeding externally, the concealed blood being expelled by the uterus regaining activity. This was the time further to urge the uterus to effort, and when the shock had passed off and was not likely to be renewed by obstetric efforts, to plug the cervix and vagina, to put on a tight binder, and to give small repeated doses of pituitrin. As soon as the contractions

became at all good and regular: the first plug was removed, the membranes ruptured, and a fresh plug introduced if this was still necessary. If, however, the patient's condition showed no sign of improvement, but became worse, then Caesarean section should be performed without further loss of time. After the child had been extracted—stillborn, of course—the uterus might contract or it might remain absolutely inert. In the former case the placenta and membranes were removed and conservatio Caesarean section was completed in the usual manner; but if the uterus remained limp and flaccid every effort must be made to make it contract. It should be wrapped and massaged in hot towels, and injections of pituitary extract should be made into its musculature. If these efforts were successful then again conservatio Caesarean section was completed. But if the uterus persisted in remaining a bleeding mass of bruised and completely relaxed muscle, then hysterectomy must be performed immediately. If was, of course, a rather desperate business to have to perform a formidable operation on a woman who was already in a very dangerous condition. But his own limited experience led Dr. Leslie Williams to take a more hopeful view of such a case than was indicated by the percentage mortality rate usually quoted.

## Reports of Societies.

### PRESENT POSITION OF RADIUM THERAPY.

At a meeting of the Section of Electrotherapeutics of the Royal Society of Medicine on March 16th, Sir HENRY GAUVAIN presiding, a discussion took place on the present position of radium therapy.

Mr. HARWARD PINCH, director of the Radium Institute, in an opening address, reminded the Section that it was now thirty-two years since Henri Becquerel read his paper on an invisible radiation emitted by salts of uranium, and thirty years since the investigations by the Curies began. Radium at first had purely non-medical applications, but after a time it began to be used by French medical men in the treatment of superficial lesions, a surface reaction being obtained which varied in degree from a mild erythema to a definite ulceration. The next stage was the use of radium salts enclosed in tubes and inserted into easily accessible tumours; the results were encouraging, and presently the help of the surgeon was solicited and an elaborate system of surgery of access was practised. The latest development of all, and an extremely important one, was the use of "seeds" of screened radium emanation or "radon." Several years ago the use of unscreened emanation seeds was tried, but they were found to have an intense necrotic action and to cause pain, and therefore were given up. Screening did away with these disadvantages, and the results were really surprising. The proportions of alpha, beta, and gamma rays in a specimen of radium might be set out as 10,000, 1,000, and 100 respectively, and the alpha rays could be disregarded therapeutically. Of the beta radiation, 94 per cent. was absorbed by 1 cm. of body tissue, so that these rays were most effective when applied in superficial therapy. Complete absorption of the gamma rays by the body never occurred. Of the patients with superficial lesions who came to the Institute, fully 98 per cent. were treated either with unscreened rays or with one of four screens—namely, 0.01 mm. of aluminium—an extremely thin filter—0.01 mm. of lead, which let through 28 per cent. of the beta radiation, and 0.5 and 1 mm. of silver, when it was desired to act on the deeper layers of corium and subcutaneous tissue. Mr. Pinch then showed a number of photographs of cases illustrating the improvement which had resulted in conditions such as psoriasis, lupus, and keloid after radium applications. One case was of mycosis fungoides of the abdominal wall which showed what might be called a specific reaction to radium. He did not claim that the method of application employed at the Institute was the only one which could be used with good effect, but it had certainly passed the test of a long clinical experience.

Deep radium therapy he defined as the treatment of disease by prolonged exposures with radium or "radon" apparatus so screened as to emit a preponderant hard beta and gamma or gamma radiation only. The best standard screen for getting the gamma radiation only was 1 mm. of platinum, which cut out all beta radiation, and transmitted 90 per cent. of gamma. But platinum was an expensive metal, especially when used for large surface applicators, and an equivalent filtration was provided by 2 mm. of lead, lead being of approximately half the density of platinum. Deep radium therapy might be carried out by three methods: (1) externally, by tubes or other applicators, either in contact or at a distance; (2) by employing surgery of access so as to apply the radium to the growth from a more advantageous position; (3) by embedding screened emanation seeds, using a technique which he described and illustrated. At the Radium Institute contact radiation was chiefly used—in the treatment of breast cases, for example, 3 mg. of radium element, with a filter of 2 mm. of lead, in actual contact was a medium dose. The disadvantage of the inverse square law, whereby the radiation diminished with depth, was countered as far as possible by the crossfire method. Very little distance radiation was carried out at the Radium Institute, though it was largely used on the Continent. The speaker illustrated the enormous difference which a separation of 10 cm. between the skin and the applicator made in the radiation reaching the tumour. There was, however, one form of distance radiation which had been very useful—that was the placing of radium tubes containing 50 to 75 mg. in a mould of wax compound for the treatment of glands of the neck.

There were extreme schools among radiologists, some of whom believed in the use of large doses for a short time, and others the use of small doses for a long time. The pendulum had swung over from the former to the latter, and there were many who advocated small doses given for a great length of time, as though that were the only method of any value. Mr. Pinch denied this, believing that there were many cases in which excellent results could be obtained with a large quantity of radium used for a short time. Lymphosarcoma and other conditions responded best to this method, while, on the other hand, slow-growing squamous-celled epitheliomas responded best to small quantities applied for a long time. Between these extremes there must be many conditions where the optimum would be some more equal distribution of the two factors, quantity and time.

Treatment by burying screened emanation seeds had several distinct advantages. It involved very little traumatism, and usually necessitated only local anaesthesia; as the seeds were charged only with emanation it was no great matter if they were lost; and the container, being made of platinum, did not corrode. Mr. Pinch showed photographs of a number of cases of improvement resulting from radium in deep-seated conditions. One case was in an octogenarian who had an epithelioma of the ear, the size of a lemon. Thirteen seeds were buried, and within four weeks the whole growth had disappeared. Another case was that of a woman who came in the most miserable condition with an epithelioma affecting the faucial pillars and the epiglottis, and running a little way out of the pharyngeal wall. Here tubes were buried, and the effect after six weeks could only be described as miraculous. In a rapidly growing epithelioma of the anal canal, so painful that examination without an anaesthetic was impossible, thirteen seeds were inserted, and six weeks later the rectum could be examined with perfect ease, and there was not a sign of growth remaining.

Mr. Pinch concluded with a word of protest and of prophecy. He said that there was a certain section of medical men who were rather inclined to depreciate the work accomplished by British radiologists. They talked in rather superior manner of what some professor or other was doing in Paris or Vienna. He took exception to that. While yielding to no one in his admiration for what was done on the Continent, he submitted that there had been extremely good, even epoch-making, work done in this country, and that British surgeons and radiologists

deserved credit. His prophecy, which he made deliberately, after the fullest consideration, was that in the very near future radium would form as necessary a part of the up-to-date surgeon's armamentarium as the scalpel, and it would be possible by this means to handle with confidence and success many cases of malignant disease which at present were regarded as inoperable and hopeless.

The discussion which followed was somewhat curtailed owing to the length of the opening address; Mr. Hayward Pinch had intended only to speak for half an hour, but his remarks were of such interest to the very large audience that they repeatedly bade him "Go on," so that his address was extended to an hour and a quarter. A few speakers, however, contributed their experiences.

Dr. EDGAR HAYDON (Newton Abbot) spoke of favourable results which he had seen in oesophageal carcinoma from placing tubes containing 4 mg. of radium around the growth, and burying seeds within it.

Dr. WILLIAM HILL was strongly against burying radium seeds in oesophageal growths, which he thought a dangerous practice on account of the possibility of perforation. He had, however, exposed over a hundred such cases to radium. One case had lived for seven years, and at least one-third had been distinctly relieved and their lives prolonged.

Dr. DOUGLAS WEBSTER endorsed Mr. Pinch's disapproval of those who wished to lay it down as a law that small doses must be given over a long period. Very successful results had followed from the application of large doses for a short time. Kelly of Baltimore had even applied a gram of radium on superficial growths for a matter of a minute or two. French workers, on the other hand, insisted that cases must be treated with very small doses for days or for a week or more. The speaker believed that treatment from a distance was useful in certain cases. Middlesex Hospital was fortunate enough just after the war to have a loan of 5 grams of radium, though it was very quickly broken up and sent to other centres, and he, for a time, was able to have the use of 0.5 gram of radium element. Using this at a distance of 6 cm., the dose being twenty-five hours, divided up on different days, he found the results very good in breast cancer and supra-clavicular recurrences.

Dr. F. HERMAN-JOHNSON believed the burying of radium seeds to be an important method of the future, but he hoped that enthusiasm for radium would not blind radiologists to other factors. In the country as a whole there was not nearly enough radium for the treatment of cases, and, however striking the results with radium, many of those shown by Mr. Pinch could be paralleled by those obtained with x-ray treatment, both superficial and deep. A judicious combination of x-ray treatment, diathermy, and other measures would enable a great many conditions to be dealt with for which radium supplies were inadequate, although radium, could it be obtained, might give a more speedy and cosmetic result. Moreover, in all this local treatment by radium the general condition of the patient should not be lost sight of. He had found many patients come to the x-ray department for treatment for recurrences, and, after doing well for a time, appear to come to the end of their response. Formerly these people were dismissed with an intimation to their doctor that nothing more could be done, but now he adopted different tactics, and sent some of them for light treatment, whereby they regained their response in a remarkable manner. It appeared to him that light treatment, properly applied, provided a means of picking up the patient's response and giving him a new lease of life.

Dr. G. VILVANDRE contested some of the statements of the last speaker, and said that in the treatment of epithelioma he had found radium much more valuable than x-rays. In his hands the latter had been a failure in that condition.

Sir CHARLES GORDON-WATSON had hoped to hear more about the surgery of access. For the last three years he had been dealing with carcinoma of the rectum by the so-called surgery of access—that was to say, he had been taking growths which were too advanced for excision, and trying to get them thoroughly exposed as far as possible by surgery; then he measured up the growth in cubic milli-

metres, and for every cubic millimetre of growth applied 2 mg. of radium. The whole problem was that of the optimum dose in the particular case. One woman with a very advanced growth, and who was extremely cachectic and ill, had 50 mg. inserted for seven days; she underwent a very severe reaction, but when she improved she did so with great rapidity. What was wanted was a mode of radium application giving parallel rays to every part of the growth.

Mr. M. H. OLDERSHAW suggested that the difference in behaviour to radium as between rapidly growing and slow-growing tumours—the former doing better with a large dose applied for a short time, and the latter with a smaller dose for a longer time—might be due to the special susceptibility of the cancer cell to the action of radium during the process of division. The aim should be to obtain as uniform a radiation as possible through the tumour at a time which would catch every cell when dividing.

Dr. J. E. A. LYNHAM urged that in hospital radium equipment, in addition to needles and tubes, there should be flat applicators, which were extremely useful. He also reported good results from a combination of x-rays and radium. Sir HENRY GAUVAIN raised the question as to the possible dangers of radium treatment. In the early days of x-ray treatment the rays were used very largely for such conditions as lupus vulgaris, with results which were now known to be deplorable. Were such results to be anticipated with radium, or were there any dangers with radium of which users should be aware?

Mr. HAYWARD PINCH, in a brief reply, said that he had not attempted to insert seeds in the oesophagus. With regard to the different response of different tumours, the supposition was correct that all cells were more vulnerable to radiation during the process of division.

## SARCOMATOUS METAPLASIA OF A UTERINE FIBROMA.

At a meeting of the North of England Obstetrical and Gynaecological Society at Sheffield on February 24th, the president, Dr. LETHA MURRAY, described a case of sarcomatous metaplasia of a fibroid tumour.

Dr. Murray said that the subject of malignant metaplasia in fibroid tumours had interested him for many years. In the literature its incidence was given as between 1 and 2 per cent., while Eden and Lockyer thought that it should be slightly under 1 per cent. Dr. Murray believed that he had cut representative sections from every fibroid that he had ever removed, but the present case was the first definite malignant metaplasia occurring within a fibroid that had ever come his way. This struck him as a remarkable contrast, and suggested that there must often have been an element of doubt in the diagnosis. In all likelihood the chance of error in diagnosis had been increased by including fibroid polypi. On four occasions in his experience an oedematous fibroid polypus had shown a microscopical appearance rather suggestive of malignancy; cytological examination, however, coupled with complete absence of recurrence in any one of these cases, made it quite certain that the oedema was the cause of the doubtful appearance. The society had taken its part in reporting specimens; it had to be noted, however, that two of the three were queried when they were shown. Most of the cases recorded by members and others had been associated with rapid growth and blood-stained discharge from the uterus. This latter sign suggested that the tumour, if it really began in a fibroma, had partially escaped therefrom; there was a loophole for error, inasmuch as a uterine sarcoma, arising, for example, in the endometrium, might penetrate an adjacent fibroid growth. The case he recorded showed a sarcoma arising in the centre of a fibroid tumour which had been removed by myomectomy. The malignancy was not suspected until the specimen was incised after operation. A further point of interest lay in the youth of the patient.

A woman, aged 29, who had been married for seven years, had one child six years old. She had had aching pain in the right side off and on for twelve months; menstruation (5/28) had been regular and moderate until one month before she came under notice, when, four days after an ordinary period, a further and



similar period occurred. Examination showed a rounded and enlarged uterus, the fundus being palpable two inches above the symphysis pubis. A diagnosis of fibroid uterus was made and a solitary fibroid, weighing 12 oz., was enucleated from the right wall of the uterus at the fundus through an anterior incision. There was at first slight difficulty in defining the capsule anteriorly, but not more so than occasionally happened with myomectomy operations. The uterine cavity was accidentally opened during the enucleation and was sutured. The specimen had the external appearance of an ordinary fibromyoma. A preliminary incision of the specimen showed in the centre a soft red and pulpy area, completely surrounded by fibromyomatous tissue; a hemisection was postponed until the specimen had been hardened. There was a complete layer of pale fibroid tissue beyond the central growth, which at no point had reached nearer the capsule than a quarter of an inch. Microscopical examination showed a core of haemorrhage and necrosed tissue, with malignant areas at the periphery. These areas were definitely cellular and appeared to have vascular relations.

Dr. Murray thought the growth might well be called an endo- or peri-thelioma. It resembled very much a specimen described and figured by Leith;<sup>1</sup> the growth, in that case, occurred in a woman aged 44, and two years after the menopause. Presuming that there would be agreement that this was in fact a case of sarcomatous metaplasia, he asked whether he should now remove the uterus. The patient, so far, remained fit and well.

Dr. A. A. GEMMELL (Liverpool) recorded a case of sarcomatous metaplasia of a fibroid growth which illustrated some of the difficulties in forming an opinion on the origin of the sarcoma.

The patient was 54 years of age and had not reached the menopause. She had had four children. Menstruation had been excessive for the last twelve years, and she had been losing continuously for four months when she came for consultation.

The specimen consisted of the uterus and both appendages, removed by total hysterectomy. It weighed 2½ lb. and measured on removal 5½ by 4 by 4 inches. It was regular in outline, with adhesions of omentum to its anterior surface. The uterus had been opened anteriorly and showed a growth projecting from the posterior surface into the cavity and filling it; the lower pole was necrotic and had burst. On section the tumour was mainly whitish and soft in appearance, with areas of yellow coloration and some haemorrhages. Sections showed the growth to be almost entirely a sarcoma of mixed cell type, composed of fairly large spindle cells with numerous larger "giant cells" of varying size, many ovoid or polygonal, and containing one, two, or three nuclei. Remnants of the fibroid structure were visible in places both at the periphery and among the sarcomatous cells. Sections of the uterine muscle at the base of the tumour failed to show any sarcoma, as did sections of the endometrium close up to the point where the tumour had ruptured.

Dr. Gemmell said that Whitridge Williams's article of 1894 still remained amongst the best of those on the histogenesis of sarcoma of the uterus. Judged by his standards, the present case was not likely to have originated in the endometrium, since that membrane was normal right up to the place where the necrotic portion of the tumour had ruptured, and also because the muscular uterine wall maintained its normal thickness. It might have arisen from the uterine wall, but the presence of myoma-like tissue amidst the sarcoma cells and at the periphery of the tumour opposed this view. That the tumour was apparently circumscribed did not exclude the uterine wall as a possible origin. On the other hand, this myoma-like tissue might be merely remnants of the connective tissue of the uterine wall. The history of excessive menstrual loss for twelve years was, however, suggestive of a pre-existing non-malignant condition.

#### Uterine Carcinoma Following Operation.

Mr. W. GOUCH (Leeds) described a case of carcinoma of the body of the uterus after interposition operation for genital prolapse.

The patient, aged 70, complained chiefly of urinary symptoms, dysuria, and pain, and there had been haemorrhage in the urine for the previous month. There was also complaint of bearing-down pain in the lower abdomen and back. Amputation of the cervix, colporrhaphy, and vesico-vaginal interposition had been performed fifteen years previously. Since that time she had been under the care of another surgeon, suffering from obscure urinary symptoms. There was marked atrophy of the vagina, and no symptoms. There was a hard mass lying posterior to cervix could be felt. There was a hard mass lying posterior to the urethra and extending to the base of the bladder. It was the fact that he knew that the surgeon who had operated on her for the genital prolapse was in the habit of performing the interposition operation that made him suspect this mass to be the body of the uterus. Investigating the condition under anaesthesia he found the anterior vaginal wall invaded by growth which had ulcerated through about half an inch above the urethral meatus. The bladder was enlarged and extended well

above the pubes; the urethra was not affected. Microscopical examination of the growth showed it to be a papillary adenocarcinoma of the corporeal type on the whole.

#### Full-term Ectopic Gestation.

Professor W. FLETCHER SHAW described a full-term ectopic pregnancy in a primipara; labour pains were said to have begun five weeks after the expected date of the confinement. After twenty-four hours the pains ceased, and did not recur, and from that time she felt no foetal movements. He saw her four months later and made a diagnosis of ectopic pregnancy. At the laparotomy he opened a large sac containing a full-term foetus, nacerated and foul-smelling. He removed most of the placenta, but left behind those parts which were firmly adherent. The abdomen was closed with a large packing of gauze in the cavity. The patient had a raised temperature for three weeks, but was fit to go home at the end of six weeks. She was now quite well, but a small sinus remained.

Mr. ST. GEORGE WILSON (Liverpool) recorded a case of full-term ectopic gestation treated by Caesarean section, with delivery of a living child. He had seen the patient first when she was seven months pregnant, and a diagnosis of ovarian cyst complicating pregnancy was made. An x-ray examination at term showed the foetus lying above the pelvic brim, and in an unusual attitude. Ten calendar months after the last menstrual period she reported at hospital, complaining of labour pains and a "show." Abdominal section showed that the condition was an extra-uterine pregnancy, apparently situated in the right broad ligament. The placenta was left *in situ*, the cord was cut short, and the incision in the sac wall was closed. The abdominal wall was sutured without drainage. The tumour in the abdomen was then about the size of a uterus of twenty-two weeks' gestation. The temperature remained raised for three weeks, but the patient was discharged at the end of the fourth week. By this time there had been little diminution in the size of the abdominal tumour. The child weighed 5½ lb., and had numerous deformities; it lived for five months. Recent examination of the mother showed a swelling about the size of a hen's egg to the right of a normally situated uterus.

#### Combined Concealed Accidental and Unavoidable Haemorrhage.

Dr. F. H. LACEY (Manchester) described a case of combined concealed accidental and unavoidable haemorrhage.

A 4-paræ, aged 33, was seen when thirty-seven weeks pregnant, with a history of vaginal haemorrhage. Although this had been slight, yet her general condition suggested that it had been severe. She was pale and faint, and the pulse was 120 and weak; she was somewhat restless and complained of no definite pain, but she was somewhat aching in her abdomen, and of dizziness which had of a continual ache in her abdomen, and of dizziness which had been present for about seven hours. There was marked albuminuria. The abdomen was very large, tense, and tender, particularly to the right of the fundus; foetal parts were felt indefinitely, but foetal heart sounds could not be heard. On vaginal examination the os admitted one finger and the placenta was felt to be covering it, but Dr. Lacey was confident from her condition that she had a concealed accidental haemorrhage, and decided to perform Caesarean section.

On opening the abdomen the uterus was found to be very distended, but there was no evidence of haemorrhage into the wall. Incision of the uterus released a large quantity of amniotic fluid, and the cavity was seen to be occupied by twins; one placenta and the lower uterine segment, while the other one was on the posterior wall of the uterus, under which, and close to the edge, was about a quart of clots. The uterus was removed. The twins weighed 6 lb. and 5½ lb.; the former was attached to the placenta prævia, and lived for forty minutes, whereas the other child was stillborn. The mother made an uneventful recovery. On account of the concealed haemorrhage the blood was examined and the Wassermann reaction was found to be strongly positive. The patient therefore had marked albuminuria, hydræmniot, twins, concealed accidental haemorrhage, placenta prævia, and syphilis.

#### An Occasional Symptom of Uterine Cancer.

Professor MILES PHILLIPS (Sheffield) read a note on intermittent periodic pain as an occasional symptom of carcinoma corporis uteri. He said that Sir James Simpson, the discoverer of chloroform, first drew attention to this symptom at a meeting of the Edinburgh Obstetrical Society in 1863. After demonstrating a specimen of carcinoma of the body of the uterus Professor Simpson had referred to the daily recurrence—usually at a regular hour—of intense paroxysms of pain, perhaps slight at first and intermittent, but soon reaching a high pitch of intensity, continued for an hour or two, and then gradually sub-



siding. He also said that this symptom had been very marked in most of the cases of cancer of the uterine body which had come under his observation. He specified one instance in which severe hypogastric pain began at 12, 1, or 2 o'clock in the day, culminated between 3 and 5 in the afternoon, and ceased at 6 or 7. On some days it returned again from 10 p.m. to midnight. In this case, after dilating the cervix with spongio tents, Professor Simpson had scraped away a friable growth, but the periodic pain still continued in the afternoons, and his final note stated that the patient was "dismissed to-day as her cries were injurious to the other patients and as there was no prospect of giving her relief." He had seen similar intermittent periodic pains in a case of calcified submucons fibroid, and somewhat similar paroxysms of pain in a few instances of retention of fluid in the cavity of the uterus from occlusion of the os. Finally, he stated that, except in those rare cases, the symptom he had tried to describe was only to be met with, so far as his observation went, in patients who were suffering from carcinoma of the body and fundus of the uterus. Professor Miles Phillips said that this symptom was not often mentioned by English writers, for the reason, he believed, that it was not often observed. Eden and Lockyer (*Gynaecology*, 1928), in describing the symptoms of corporeal cancer, did not refer to pain of any description. This appeared to Professor Phillips to be very remarkable, as in his own series of eighty-two cases, which he had recently analysed, pain was definitely present in sixty (73 per cent.). However, Thomas Wilson in the *New System of Gynaecology* said "Simpson described as an early symptom in these cases regularly recurring attacks of severe colicky pain in the lower abdomen. This would appear to be rare, and I have only seen one such case. The pain is described as a severe bearing down, and appears to be due to efforts of the uterus to expel the cancerous tumour from the cavity." Winter and Ruge in *Gynaecological Diagnosis* stated that another very suspicious and almost pathognomonic symptom was found in Simpson's pains—namely, regularly labour-like pains, lasting several hours and recurring at a definite time of the day. Pozzi, in his treatise on gynaecology, also recalled that Simpson first drew attention to the remarkable paroxysmal pains which occurred at regular intervals. But Pozzi disagreed with some writers, including Schroder, who had stated that these pains were due to spasmodic expulsive efforts, because he had noticed that they still continued after he had scraped away the friable growth. He believed that the pain was a true neuritis resulting from involvement of the nerves supplying the uterus. A recent case in which this symptom was well marked had led Professor Miles Phillips to hunt through his records of cases of corporeal cancer. He had a clear recollection of two instances of Simpson's pain, but his notes revealed two others, so he could record five in all out of a series of eighty-two of this form of cancer. He gave an account of these five cases, a study of which led him to agree with Pozzi that the symptom was rare, and probably neuralgic in character.

The PRESIDENT said that he was surprised to note Professor Miles Phillips's high percentage of pain. He had referred to his private cases, totalling thirty-four, and found that in twenty-four there was no complaint of pain at all. Two of these patients had dilation of the cervix with growth palpable at the external os, but without invasion of the cervix by malignancy. It would appear unlikely, therefore, that pain was associated with attempts at extrusion. Five of his patients had complained of gnawing or cramp-like pains without periodicity; four of these cases were operable. Five patients complained of pain arising apparently outside the uterus and referable to intestinal colic from adherent intestine, suppurative appendage disease, and prolapse.

A CLINICAL MEETING of the Harveian Society was held at the Royal Waterloo Hospital on February 16th at 5 p.m. The president, Dr. HERBERT FRANCH, took the chair. Seven cases were shown by members of the staff of the Royal Waterloo Hospital: and two cases by Dr. TURTLE and Dr. COVE-SMITH. The cases were fully discussed by the members and visitors, and at the conclusion of the meeting a cordial vote of thanks was passed to the staff of the Royal Waterloo Hospital.

## Rebicus.

### SOLLMANN'S PHARMACOLOGY.

SOLLMANN'S *Manual of Pharmacology*,<sup>1</sup> the third edition of which we have received, is well known as the largest textbook of pharmacology in the English language. The volume contains nearly 1,200 pages, and it is of particular value to advanced students because a full account is given of the chief recent research work in the subjects dealt with, and moreover an excellent selected bibliography of a hundred pages is included. This textbook is therefore one that has established a high reputation as a convenient and well-balanced work of reference. We are glad to say that the author has shown great industry in bringing the work up to date, and has included all the numerous new drugs of importance that have been introduced into medicine in the five years that have passed since the last edition appeared. He mentions in his preface that the recent advances made in pharmacology have necessitated the rewriting of many sections of the book, and that the bibliography has been extended by 1,200 new references.

The scope of the book may be indicated by a few examples. The pharmacology of lead occupies seventeen pages and contains references to the treatment of cancer by injection of colloidal lead, and also a page and a half on the toxic properties of tetra-ethyl lead. His conclusion on this last subject is, that although tetra-ethyl lead is a highly toxic substance, yet the danger to the public from its use in petrol appears to be slight, although decisive data are still scanty. Among the new substances mentioned for the first time are insulin, parathyroid extract, and the new chemo-therapeutic agents such as Bayer 205, and the various organic arsenicals. The author takes a wide view of his subject, and has included an account of vitamins and radiations and some discussion of other problems which lie on the borderline of pure pharmacology.

Dr. Sollmann's general outlook indicates a rational scepticism. This is illustrated in his summary of the results of glandular therapy. He points out the knowledge that it is essential to possess before any glandular preparation can be used with any certain success in therapeutics, and then concludes:

"Gland therapy can be established on a sound basis only in the direction that has been indicated, however difficult and laborious and tedious this may appear. Its development is rather hindered by premature enthusiasm which is inclined to dispense with definite criteria of action, with adequate controls, with effective preparations or efficient channels of administration, and often with critical diagnosis; which interprets psychic manifestations as scientific observations, and which depends on 'autistic judgement,' that is, judgement or rather credulity based on desires instead of facts."

This volume, as we have indicated, is, without doubt, the most extensive work of reference in pharmacology in our language. In former editions there was a tendency for the accounts of the details of conflicting evidence to obscure the main conclusions, but the new edition shows much improvement in this respect. The author states that the dominant object of the manual was to serve as a textbook for medical students, but it is scarcely suited for the routine use of undergraduate students in this country, because the time they devote to pharmacology is insufficient to allow them to master a work of this size.

### MIND GUIDANCE.

THE title of Dr. AVELING's book, *Directing Mental Energy*,<sup>2</sup> is sufficiently arresting to cause the student to stop and inquire whether here at last will be found a real attempt to explain the secrets of self-direction and of those phenomena which underlie the conversion of psychical "potential" into kinetic "drive" and accomplishment. The problem is a fascinating one, and should this work lead to the discovery of some tangible clue to the secrets

<sup>1</sup> *A Manual of Pharmacology*. By Torald Sollmann, M.D. Third edition, entirely reset. Philadelphia and London: W. B. Saunders Company. 1927. (Roy. 8vo, pp. 1184 35s. net.)

<sup>2</sup> *Directing Mental Energy*. By Francis Aveling, M.C., Ph.D., D.Sc. London: University of London Press, Ltd. 1927. (Demy 8vo, pp. x + 276; illustrated. 8s. 6d. net.)

of mental energy and its direction, we would indeed be under a heavy debt to the author.

We know, at any rate, that Dr. Aveling possesses the necessary qualifications for his task as guide. He is University Reader in Psychology at King's College, London, and president of the British Psychological Society, so it will not be due to any lack of scholarship if he fails us. Unhappily, he does fail us. We say this in spite of his caveat that the title of his book must not be misapprehended. We feel that Dr. Aveling has set out to write just such a work as many have searched for, a work in which all his erudition and experience would be focused upon the task of penetrating into the psychological foundations of mental energy, inquiring into its manifestations, and showing how it may be maintained and directed. "This book may be regarded," he says in his introduction, "as an attempt to present and solve in part a problem of great importance—the problem which in its widest aspect might be stated in the terms 'How much can be made out of life?'" Thus far, satisfactory. The reader's hopes are raised, and he pleasantly anticipates the answer to this all-important question. But no sooner does Dr. Aveling propound this question to himself and to his readers than he begins to whittle it down, and we are informed a little later that the problem thus stated offers apparently insuperable difficulties. And so he alters his plan. A few lines farther on he says: "We shall not be concerned here with making economies instead—little economies that living at all entails—economies in our physical and mental energy."

With this revised and somewhat attenuated thesis Dr. Aveling seeks to show the wastage that takes place in mental energy—wastage of human energy, bodily energy, and mental energy, will wastage and emotional wastage. When it comes to showing how and where to wield the economic axe in the interests of mental capital Dr. Aveling is thoroughly at home, and his suggestions are many and valuable. He gives a number of devices for economizing energy in remembering which should prove of real service to the student. The first of these principles of economical learning is that an attempt at actual recall after a little learning is far more serviceable than the mere continuance of repetition in learning itself. The second shows the advantage of learning by "spaced repetitions" rather than by continuous repetitions. The third concerns and advocates the learning of a passage as a whole rather than in parts.

The chapter on emotional wastage is of interest. Dr. Aveling's sovereign remedy here lies in the practice of relaxation; by bodily relaxation mental strain and tension are relieved. The question of will wastage presents more difficulty. There is no test of will as there is of intelligence; but Dr. Aveling has also suggestive things to say with regard to the problem of the education of the will, and several economies to propose. There are chapters on mental tests and on vocational guidance, and considerable space is allocated to the discussion of the problems regarding successful "sublimation."

This is a book which cannot be read without profit.

#### GASTRO-DUODENAL RADIOLOGY.

THESE large and important volumes, one on the radiology of the stomach, the other on the duodenum, the work of PIERRE DUVAL, J.-C. ROUX, and HENRI BÉCLÈRE, are two of a series of books which, when completed, will form "The Archives of Clinical Radiology." After describing and illustrating the normal, each pathological condition is taken up separately, and a short note suffices to introduce a series of radiograms showing the x-ray appearances which accompany the disease under discussion. These illustrations are in reality the great feature of both volumes, and are very numerous, some 400 altogether. The size of the pages is such that four radiograms—4½ inches by 3½ inches—can be put on one page. The arrangement is that when the book is opened these will

<sup>1</sup> *Radiologie Clinique du Tube Digestif: I. Estomac et Duodenum.* Par Pierre Duval, Jean-Charles Roux, Henri Béclère. Clinique Thérapeutique Chirurgicale de la Faculté de Médecine de Paris. Paris: Masson et Cie. 1927. (Double Roy. 8vo, pp. 333; 400 radiograms, 432 figures. 265 fr. the two volumes.)

appear on the right-hand side, and facing them on the other side are outline drawings of the same radiograms with short explanatory notes, and in some cases additional drawings are added to make the condition clearer. The authors state that they have been collecting the radiograms for a considerable number of years, and that, working with the collaboration of their medical and surgical colleagues, it may be assumed that all the cases are authentic, the diagnosis not having been made on the x-ray examination only.

Many so-called atlases of radiography have appeared in recent years consisting of a more or less heterogeneous collection of x-ray pictures, with a short description of each attached. These form excellent "picture books," but in no other respects do they fulfil any particularly valuable purpose. Whilst retaining some of the features of such an atlas—inasmuch as radiograms, and explanatory drawings and notes accompanying them, constitute the backbone of these French books—each of the volumes under review goes very much further. In the first place, the considerable letterpress which precedes each division of the subject describes very fully and in detail the various points in the pathology which cause the x-ray deviation from the normal, and discusses both the clinical and the radiological features. A further point is that each disease is represented not by just one radiogram, but by a series of reproductions showing the different appearances which can be caused by the same disease, varying very considerably in different cases according to the manner and position of attack, and the future development of any disease.

While saying so much in praise of these works we are bound to add that in one important respect they are open to severe criticism. Nearly all the radiographs are of poor technical quality, practically none comes up to that standard of excellence which modern apparatus and modern technique make possible, and not a few would be quite unintelligible except for the line drawings accompanying them. That it is the radiograms themselves that are at fault and not the method of reproduction is evidenced by the fact that the paper on which they are reproduced is of excellent quality and one side of it only is used. There is no doubt that this is a serious drawback to both volumes, and one which detracts considerably from their value. The best diagnostic work must always be backed up by the best technique, without which it of necessity fails to carry full conviction.

#### PRISON-BREAKERS.

THE increased and apparently still increasing popularity of what are known as detective stories is not the only sign at the present time of a love of tales of crime. It seems that fiction alone cannot satisfy the appetite of the public, for the number of publications dealing with actual crimes and criminal trials has also increased. Of necessity these latter are all at least twice told tales, and some of them have formed the subjects of popular novels such as Ainsworth's *Jack Sheppard* and *Rookwood*, which with other works of fiction called forth Thackeray's indignant counterblast of *Catherine*. In that book he strove to sweep away the false glamour with which his predecessors had invested vulgar ruffians, and in it he announced his intention "to take a few more pages from the 'Old Bailey Calendar,' to bless the public with one more draught from the Stone Jug:—yet awhile to listen, hurdle-mounted and riding down the Oxford Road, to the bland conversation of Jack Ketch, and to hang with him round the neck of his patient at the end of our and his history." Mr. PHILLIP, in his book *The Prison Breakers*,<sup>4</sup> makes no pretence to do more than amuse his readers by relating with gusto the stories of the escapes and attempts to escape of John Nevinson, Jack Sheppard, David Haggart, Louis Cartouche, Louis Napoleon, George Kelly, and Frederick Trenck.

The *Dictionary of National Biography* may tell us that the real Turpin was a mean and repulsive ruffian, who never rode to York on Black Bess or any other mount, but that disclosure only affords an opportunity of describ-

<sup>4</sup> *The Prison-Breakers.* By Alban M. Phillip. London: P. Allan and Co., Ltd. 1927. (Cled. 8vo, pp. x + 262; 8 plates. 10s. 6d. net.)

ing the feats of John Nevinnson, who, it seems, really did establish an alibi by riding from Gadshill, near Strood, in Kent, to York in fifteen hours. In spite of its title Mr. Phillip's book includes in most cases a description of the offences that preceded and generally followed the escapes of his heroes. There are exceptions to this statement. Baron Trenck and Louis Napoleon were not criminals in the ordinary sense of the word: the former was not condemned by any process of law, and the latter was sentenced for a political offence and treated with a leniency which was to have tragic results for France and for Europe twenty-four years later. George Kelly, also was a political prisoner, whose walking out of the Tower of London by the public gateway can no more be described as prison-breaking than the escape of Louis Napoleon, although a nice sense of honour might stigmatize Kelly's action as parole-breaking.

Uniform with *The Prison-Breakers* is the volume by Mr. PHILIP MURRAY, wherein are described *The Strange Adventures of Frederick Baron Trenck*.<sup>5</sup> It appears that we have only his own word for the greater part of the truly surprising story of this Prussian Baron Trenck (he had a cousin in the Austrian service), and since some of his statements are incredible, we are inclined to agree with Carlyle, who denounced him as a liar and a ruffian, or at least to accept none of his more startling stories without independent corroboration. Again and again in reading this book we have been irresistibly reminded of two frankly fictitious autobiographies—those of Mr. Barry Lyndon and Major Gahagan. Surely Thackeray was well acquainted with Trenck's book! If Trenck's achievements are not quite as startling as those of his countryman and contemporary Baron Münchhausen, they are surprising enough. No prison walls, iron fetters, nor high-born ladies' hearts could withstand his attack, and he boasts with an almost brutal frankness alike of the favours as of the hard cash which he received from his noble or princely mistresses.

### THE FUTURE OF MARRIAGE.

THE pamphlets of the "To-day and To-morrow" Series follow each other so rapidly that "To-day" may soon be passed, and we shall be educated up to the standard of "To-morrow." Although differing widely in their subject matter all the books that have appeared have two attributes in common—they are readable and they make the reader think. *Hymen: or the Future of Marriage*,<sup>6</sup> by Dr. NORMAN HAIRE, is no exception. The author frankly anticipates that some of his opinions will appear startling to readers unacquainted with sociology. They will only startle those who have unquestioningly accepted conventional standards and have never tried to examine the problems of life with complete scientific objectivity. As regards sexual functions the author prophesies increased freedom for the individual, in certain directions, so long as his activity does not harm the community; in others he thinks there will be more safeguarding of communal interests. He gives many examples to show how the meaning of morality differs in different countries. In answer to those who have so little faith in human nature as to imagine that if legal and religious prohibitions were withdrawn almost all men and women would at once fly to excess, the author declares that among the married and the unmarried sexual excess is far less common than sexual starvation. In his view excess is more often than not the direct reaction to and result of an antecedent starvation.

Many subjects usually regarded as controversial are touched upon, and the author suggests some of the lines upon which the thought of the future may proceed. On such matters as sex education of children, prostitution, contraception, marriage, divorce, venereal disease, and sterilization of the unfit his remarks are carefully rea-

soned. The objective attitude is maintained throughout. He believes that "life-long monogamous marriage is the ideal to aim at," and also "in the age to which I look forward the parent will be ambitious to leave his child not a large store of worldly wealth, but a good heredity, physical and mental." In conclusion Dr. Haire says, "I aim only to stimulate people to think for themselves, and to endeavour to arrive at rational standards of their own, based, not on superstition, but on the fullest knowledge that they can obtain."

### NOTES ON BOOKS.

THE output of books on child psychology is prodigious. Some of them are undoubtedly useful, and in this group we would place *Everyday Problems of the Everyday Child*,<sup>7</sup> by Dr. DOUGLAS A. THOM, director of the Habit Clinics of Boston, Massachusetts. It is an eminently readable book, designed for parents, teachers, and nurses; plainly and simply written, without technical and sometimes incomprehensible terminology; clean and wholesome, without mawkishness. The problem of the child—at least of the child who is not the perfectly happy, careless, and delightful child—is by no means easy, not nearly so easy as writing about it would make it seem to be. "This kind goeth not out without much prayer and fasting" on the part of parent or teacher. Yet it is good to hear of what successes others have had with difficult children.

How far does the catchword "a human document," printed on the jacket of a new book, encourage its perusal? To the reviewer it is suggestive of boredom and egotism. *The Locomotive-God*,<sup>8</sup> by Mr. LEONARD, does not belie the suggestion. The author is an American, described as a poet and a scholar. He has known many eminent persons, and he tells us that Arthur Symonds and Edward Dowden welcomed him as an authentic new poet in their common tongue. Unfortunately he has suffered all his life from "terrific psychological abnormalities," and his chief phobia is a constant dread of noise and turmoil. With wearisome industry he has searched his mind for memories of his child life, and has succeeded in getting back to the early age of 2 years 4 months and 10 days, when he stood for the first time on a railway platform. A train approached, and in the black circle of the front of the locomotive he saw the face of God. As he turned to fly, steam from the piston-box added to the child's terror by penetrating his anus. On the basis of this recollection, told in great detail, the author explains his unhappy life, and he finds in the locomotive god, which gives its name to his 420 pages, an explanation of his phobias. He is at pains to explain, perhaps not very convincingly, that his family was entirely free from neurosis; but even if the engine provided the exciting cause, or at all events the colouring material, of his psychological abnormality, the predisposing condition for so unusual an occurrence must have existed in his own mind. Failing a locomotive god an aeroplane, or perhaps a jazz band, might have had the same effect. Mr. Leonard has investigated himself by self-analysis, and by means of hallucinations in what he calls "twilight sleep," and in crystal gazing. It is possible that connoisseurs of the commonplace may be able to extract some crumb of interest from this lengthy record, but it may be doubted whether the investigation has been good for Mr. Leonard, or is of any particular value to the general reader, medical or otherwise.

Since 1924 there has been a steady fall in the number of names added annually to the *Medical Register*,<sup>9</sup> and the issue for 1928 contains 1,941 new registrations compared with 2,120 for the previous year. The membership of the medical profession continues to grow, and for 1927 the total is 53,769, an increase of 1,155 on the figure for 1926. The effects of the exceptional circumstances created by the war are reflected in the fact that the average number of new entries for the past five years has been 2,377, while the average for the last twenty years was 1,577. New registrations in England during 1927 numbered 971, in Scotland 462, in Ireland 274, in the colonies and abroad 234. Registrations in Scotland show a remarkable decline from the peak of the post-war summit in 1924, when the number was 935, or more than double last year's total. In other areas the change has been less pronounced. The number of names removed from the *Register* in 1927 was 1,035, as compared with 1,159 in 1926. Last year 840 names were removed on evidence of death, 2 on ceasing to practise, 191 because of failure to reply to the inquiries of the Registrar

<sup>5</sup> *The Strange Adventures of Frederick Baron Trenck*. Edited by Philip Murray. London: P. Allen and Co., Ltd. 1927. (Demy 8vo, pp. vii + 279; 6 illustrations. 10s. 6d. net.)

<sup>6</sup> *Hymen: or the Future of Marriage*. By Norman Haire. To-day and To-morrow Series. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1927. (Fcap. 8vo, pp. 96. 2s. 6d. net.)

<sup>7</sup> *Everyday Problems of the Everyday Child*. By Douglas A. Thom, M.D. With an introduction by Grace Abbott. New York and London: D. Appleton and Co. 1927. (Cr. 8vo, pp. iv + 350. 10s. 6d. net.)

<sup>8</sup> *The Locomotive-God*. By William Ellery Leonard. London: Chapman and Hall, Ltd. 1927. (6 x 9, pp. 424. 18s. net.)

<sup>9</sup> *The Medical Register*. London: Published for the General Medical Council by Constable and Co., Ltd. 1928. (21s.)

<sup>10</sup> *The Dentists Register, 1928.* London: Published for the Dental Board of the United Kingdom by Constable and Co., Ltd. 1928. (12s.)

The makers explain that their vitamin D preparation (radiostol) has given very favourable results in the treatment of rickets, and that they have prepared this new preparation because there is considerable evidence in favour of the view that vitamin A is an important factor in the maintenance of resistance to infections. They have been able to prepare a vitamin A concentrate from a newly discovered source of this vitamin, and are putting forward the combination of the two vitamins for clinical trial.

In the small hours of Sunday morning the prince was seen by Gibbons. The same day the Princess Anne was persuaded to summon the famous John Radcliffe to a consultation. Although Radcliffe was credited with having saved the life of the prince when 3 years old, he had since forfeited Anne's good favour, "by his too great Addition to the Bottle," says Pittis. According to this writer and others, a violent altercation broke out between Radcliffe and his brother practitioners; from our knowledge of

Radcliffe this seems likely enough, but the story that he refused to prescribe for the patient, and declared he would die the following day, is clearly unfounded.

Gibbons records that when he first saw the prince on Sunday

"betwixt Three and Four in the Morning." "He swallowed with ease, and when I looked into his Throat I found nothing amiss there. About Eight the same Morning . . . Eruptions began to appear in his skin, which towards the Afternoon increas'd, and at Night appear'd like a Rash." He confirms the diarrhoeal symptoms, and mentions vomiting of "Vesci'd Phlegm." "He continued in a breathing Sweat and the Rash out, till about Eleven of the Clock last Night [that is, Monday] when on a sudden He was seiz'd with a difficult Breathing, and could swallow nothing down, and dy'd before Midnight."

Radcliffe made his examination of the prince at six on Sunday evening, when

"I found his Highness in bed with a very high Fever upon him, his Flesh extream hot, and a high colour in his Cheeks, with several Eruptions upon his Skin and Face, attended with a Rash; which gave some Suspicion that it might prove the Small-Pox: His Pulse was very quick and Feverish; His Tongue White, and his swallowing without pain or difficulty; his Breathing by fits short and attended with great sighing."

He too mentions the diarrhoea, and gives details of his treatment, thus disposing of the story that he refused to prescribe.

On Monday morning, "He was less Light-headed, and the Rash came out more, so that towards Noon his Head was considerably better, and his breathing freer, which gave us some Encouragement at that time to hope his Recovery." But, "He was on a sudden, after a little dosing, taken with a sort of Convulsive Breathing with a defect in Swallowing, and a total Deprivation of all Sense, which lasted about an hour, and so between Twelve and One at Night he departed this Life."

Seemingly there were two elements in the exanthem—one more diffuse, the "rash" which appeared on Saturday (third day), and a more discrete "eruption" which showed itself on the morning of Sunday (fourth day). If the latter was a true small-pox rash it would not have assumed a definitely diagnostic appearance at the time of death. Clearly Radcliffe thought that the eruption had not sufficiently matured to warrant a definite opinion, and except for his suggestion of small-pox, contents himself with calling the malady "A Malignant Fever with a Rash attending it." Bishop Burnet borrows Radcliffe's term "malignant fever"; while Evelyn makes the unqualified assertion that the prince "died of the small-pox."

The foregoing clinical reports of Hannes, Gibbons, and Radcliffe I have extracted from their letters, dated July 30th, given in a most interesting but little-known tract in the British Museum, and I am convinced of their authenticity. There is no reference to this tract or its contents in any account of the prince's illness which I have seen. It is clear that Hannes's letter is the unacknowledged source of Bishop Kennett's description in his *History*, where it appears, in great part word for word. Sandford reproduces it with equal faithfulness in his narrative of the prince's death and burial. James Johnstone, writing in 1779, quotes a condensed version of Bishop Kennett. Miss Strickland's account is too fanciful and inaccurate to repay inquiry into its origins.

The further evidence, which I have mentioned, appears to have escaped the notice of medical commentators; certainly, like the tract just cited, it was unknown to that tireless scholar the late Dr. Creighton, and this alone would be sufficient justification for calling attention to it here. I refer to the report on the *post-mortem* examination, which is entitled:

*An Account of the Dissection of his Highness William Duke of Gloucester. Drawn up by Doctor H. and Sign'd by Him, and by the Surgeons. From the Original Letter that was sent over to his Majesty in Holland.*

The preamble states that the examination was made, in the presence of witnesses, by order of the Earl of Marlborough, one of the Lords Justices, "and Governour to His late Highness." Unfortunately nothing is said of the rashes, presumably because their presence and characters had not been in dispute during life. Except for the signi-

ficant extract which follows in full, the report merely records changes indicative of some acute toxic state.

"4. The Neck was Swoll'n: And upon Dissection the inclosed Parts appear'd such, as they are observed in Bodies strangled.

"At the place where the Jugulars arise above the Claviculae, the Inflammation approach'd very near to a Mortification.

"The Glandulae Thyreoidae were almost black with the contain'd Blood: and being put into Scales were found above Five Drachms in weight.

"The Gullet was much Inflamed; the Windpipe also was affected in the same kind, especially the upper part of it call'd the Larynx. In the Larynx the Membranes that join the Cartilages Cricoides and Thyreoides were very dark with the Inflammation.

"The Membrane that lines the Epiglottis (at the root of the Tongue) was also Inflamed: insomuch that the Glandulae Miliares of it, which are scarce visible at other times, were here much distended and very conspicuous.

"5. In the Mouth, we found the Palate inflamed; as also the Uvula, the Membrane of which was swell'd.

"The Almonds of the Ear (in the Throat) [Tonsils] were swell'd; and had in them Purulent matter: there being press'd out of one of 'em as much Corruption, as fill'd a Tea-spoon."

The report, dated July 31st, is signed by Hannes and three surgeons.

The immediate cause of death was an acute phlegmon of the throat, but whether primary, which the rather gradual onset suggests, or secondary to one of the acute fevers, is difficult to decide if we keep strictly to the facts as we have them. The absence of difficulty in swallowing is striking. The report gives no hint of any membrane, and this, if present, could scarcely have escaped notice; nor does the condition described suggest a complication of small-pox at the fifth day. In some ways the attack resembles scarlet fever, but the late appearance of the rash is out of keeping. Measles, too, is a possibility, but there is no mention of any catarrhal symptoms, the importance of which was recognized in that age. If the symptoms had suggested either of these eruptive fevers, presumably it would have been diagnosed, but the only diseases considered in the reports are small-pox and the vague "malignant fever," a term which even then had no specific meaning. In my opinion the malady may well have been small-pox complicated by acute laryngitis, the tonsillar condition possibly being pre-existent.

Later, the three surgeons who had performed the autopsy issued the following signed "Certificate":

"Whereas 'tis reported that we the Surgeons, who Dissected the Body of his Highness the Duke of Gloucester have given it as our Opinions, that He dy'd of a Quinsy, or sore Throat: We do now (as we did upon Dissection declare our Opinions) that the sole Occasion of His Highness's Death was a very high Malignant Fever."

The physicians were much abused for their supposed mismanagement of the case, but it does not appear that any treatment then possible could have averted the fatal issue. Queen Anne gave no evidence of subsequent mistrust in Hannes, for he was appointed her own physician two years later, and knighted by her in 1705. A satirical poem entitled "Doctor Hannes Dissected" ridicules him for his failure to arrive at a final diagnosis either during the prince's life or after his death:

"But how so great a man of Art,  
Should let a Royal Hair Depart,  
And never tell the reason why,  
He shou'd not Live, or he shou'd Dye!"

W. P. MACARTHUR.

#### LITERATURE.

Anon: *Doctor Hannes Dissected in a Familiar Epistle by way of Notice* Teisum.

Barnet: *History of His Own Times*.

Evelyn: *Diary*.

Johnstone: *Treatise on the Malignant Angina*.

Kennett: *Lives and Reigns of King William and Queen Mary*.

Luttrell: *Relation of State Affairs*.

"P.B.": *A Letter to a Friend concerning the Sickness and Death Of His Highness the Duke of Gloucester. With the True Copies of Three Letters wrote by Dr. Hannes, Dr. Gibbons, and Dr. Radcliffe to the King. . . . the Many Mistaken*

*Rumours Spread o*

Pittis: *Life and Lett*

Sandford in *Introduc*

*William, Duke of*

Strickland: *Lives of the Queens of England*.

*'s Memoirs of Prince*



## TOXICOLOGY IN RELATION TO MEDICAL PRACTICE.

HARVEIAN LECTURE BY SIR WILLIAM WILCOX.

At a meeting of the Harveian Society of London, held at Paddington Town Hall on March 15th, under the presidency of Dr. HERBERT FRENCH, the fifty-fourth Harveian Lecture was delivered by Sir WILLIAM WILCOX, whose subject was toxicology in its application to medical practice.

Sir William Wilcox remarked that in modern times toxicology had risen to a position of the utmost importance in the profession; indeed, it now formed an integral and inseparable part of medicine. In recent years the theory of focal infection as an important factor in the causation of many pathological conditions—such as chronic rheumatism, gastric and duodenal ulcers, and diabetes, and as exemplified in the contribution of tooth sepsis to bodily disease—gave an extended field to this department. Little was known as yet of the nature of the poisons which caused such conditions as uraemia and eclampsia. The blood-urea test was of great value, but it was not the urea in the blood which caused the toxæmia; it was something the composition of which had not yet been determined. Toxicological researches on these lines would do much to advance knowledge regarding the causation, and therefore the prevention and cure, of disease.

Pharmacology was closely related to toxicology; the therapeutic action of a drug easily merged into a toxic action. Idiosyncrasy and variations in the degree of tolerance to a drug were constantly being encountered, these being probably often due to defective function of the liver or other organs. With regard to the rashes following on the administration of bromides and iodides, he spoke of a case in which a large lump developed on the face, and the diagnoses advanced included sarcoma. Then it became known that the patient had been taking iodide, and this knowledge saved an operation, for on stopping the iodide the lesion subsided. An eruption might follow quite small doses of this drug in some people, even as little as 3 grains three times a day for bronchitis. Accompanying the iodide there was often a salty taste in the mouth, and an irritating catarrh of the nasopharynx.

### *Toxic Effects of Therapeutic Doses.*

Even in therapeutic doses belladonna preparations might cause dryness of the mouth, impairment of vision due to paralysis of the pupil, as well as difficulty in passing urine, perhaps because of the action of the drug on the nervous system. A dose of 1/100 grain of atropine would cause retention of urine. Salicylates and salicylic acid preparations might cause deafness or vertigo, and, in those susceptible to salicylates, cardiac disturbance such as faintness and tachycardia. Large doses of the drug might give rise to the symptoms of acidosis, and then acetone and diacetic acid would be found in the urine. The doctor should be on the watch for this when employing salicylates; it was well to give in addition bicarbonate or citrate of sodium.

Mercurial preparations when used extensively, as in the treatment of syphilis, might cause offensive breath, furred tongue, salivation, stomatitis, looseness of teeth, diarrhoea, even ulcerative colitis. These symptoms were rarely seen nowadays, however, owing to the use of alternative preparations for this disease. When epidemic jaundice was so common during the war there were many cases of mercurial stomatitis. The administration of opium preparations required much care, especially in the young, and in adults with renal and hepatic disease. He had seen a small dose of heroin, given to procure sleep, cause suppression of urine. Quinine might cause headache, deafness, noises in the ear, and vertigo, but these could be controlled by giving bromides. In persons having a special idiosyn-

crasy towards quinine the drug seemed to have a selective action on the retina, and partial blindness might follow a quite small dose; even optic atrophy had been known to follow. With the use of quinine for malaria in the Salonica campaign there were many cases of optic atrophy. With regard to modern pharmacology, large doses of powerful drugs were at the present day advocated for treating a number of diseases. Atoxyl had been used some time before its affinity for the optic nerve was generally recognized; this danger had not been pointed out by the vendors of the drug. After salvarsan nausea, slight albuminuria, and a small rise of temperature lasting twenty-four hours generally occurred. Therefore, there must be no happy-go-lucky way of administering these remedies. Arsenobenzol might have a bad effect on the liver, and jaundice might result from the hepatitis following its use, this manifestation sometimes being deferred for a few weeks. Ehrlich took extraordinary precautions regarding salvarsan before he issued it for general employment, and, what was very important, each packet set out the dangers and the contraindications. Preparations of bismuth for intramuscular use in syphilis were not free from toxic effects either; he had seen cases in which convulsions and coma followed their use. Trypanosomiasis and kala-azar called for powerful remedies, and care was required in their administration to avoid toxic effects.

The treatment of cancer by lead, recently introduced by Dr. Blair Bell, was an example of the careful use of a poisonous metal to produce the best effect without causing

The treatment consisted of intravenous lead 5 per cent. until, over a period of 10 days, the patient had received a total of 0.5 of a gram. This had thrown a good deal of light on the toxicology of this metal; lead introduced intravenously did not produce the symptoms from which the plumber suffered. In the case of most poisons the great burden was borne by the liver, though other organs shared too, and jaundice was not always present.

### *Dangers of New Remedies.*

The quinolin group had been found to act as liver poisons, and in some cases caused fatal toxic jaundice. From such drugs as these there might occur mental irritability, vomiting, twitchings, stupor, coma, convulsions, and death, the temperature becoming very high just before the end. The cumulative effect of such drugs must always be remembered. He had known acute yellow atrophy, with a fatal termination, occur ten years after employment in a munitions factory in association with tetranitrotoluene.

An interesting and important point was that of adopting measures to prevent or minimize liver poisoning. It was found that if the liver cells were stored with glycogen they were able to stand more damage than otherwise; it was well known that alcohol had much less effect when taken on a full stomach than when fasting. Therefore, three hours before the injection of any drug, 40 grams of glucose in coffee should be given.

Recently many new drugs, a large proportion of them of foreign manufacture, had been placed on the market, and their virtues were highly extolled by the manufacturers and the vendors. Attention was rarely called, however, to the toxic and other harmful effects which were liable to follow their use. He thought it most unfortunate that the makers of drugs did not more fully take the medical profession into their confidence. Certainly the medical practitioner would feel more confidence in a new drug brought to his notice if all the possible sources of danger were carefully indicated. No fewer than 257 cases of fatal poisoning with the barbituric group had occurred in the last twenty years.

Pharmacology was changing; the bottle of medicine was giving place to the animal extracts. Insulin was a very toxic drug, and great care was needed in its use; pituitary extract might cause rupture of the uterus if incorrectly used, and might also exert a powerful influence on the heart; adrenaline might cause cardiac collapse if the myocardium was weak. Care must also be exercised in the use of vaccines or antigens; the danger of anaphylaxis must be kept in mind.

*The Law and Poisoning.*

There was no legal definition of poison, but sections relating to criminal poisoning referred to a poison or other destructive or noxious thing. In abortion cases "noxious thing" was used to mean something which might reasonably cause abortion. For example, 2 grains of aloes three times a day, or 10-grain doses of quinine, were regarded as noxious things. If a medical practitioner suspected that poison was being unlawfully administered to his patient he must make sure of his ground by having an analysis made by an experienced man, and meanwhile move the patient to a nursing home and place him in charge of a responsible nurse. He should also call in, at the earliest opportunity, another doctor in whom he had confidence. The poison laws were a wonderful protection to the public, and valuable information was obtained from the poison registers. A committee was now sitting to frame laws to include all the recently discovered poisons. Drug addiction had become a matter of international importance.

Sir William Willcox then made brief reference to commercial poisoning. The present great use of petrol had led to a number of cases of carbon monoxide poisoning; policemen on traffic duty had collapsed through inhaling petrol fumes. Tetra-ethyl lead was a very toxic substance, and showed a strong affinity for the nervous system. The full symptoms did not appear for months, and when in full measure they were probably incurable. A special committee had been appointed to investigate this question too, but it would probably have been better if this step had been taken before allowing the substance to be used. With regard to the treatment of poisoning in general, the first step was to remove the poison without delay—the stomach must be washed out. Then stimulant treatment should be adopted. Recovery might be a slow process.

On the motion of Dr. WILLIAM HILL, supported by the PRESIDENT, Sir William Willcox was cordially thanked for his lecture.

## VORONOFF'S EXPERIMENTS ON THE IMPROVEMENT OF LIVESTOCK.

LAST November a delegation representing the Ministry of Agriculture, and consisting of a physiologist, a geneticist, a dietician, and a veterinary surgeon, visited Algiers, where, in company with similar delegations from other countries, Dr. Serge Voronoff demonstrated testis grafting in relation to agriculture. The delegation had three main aims: to study the technique, to examine animals subjected to this technique, and to investigate the economic results.

The technique, which is described in full detail in an appendix to the report of the British delegation,<sup>1</sup> consists essentially in the implantation of pieces of testicular tissue from one male on the surface of the testes of another. For the human subject monkeys and apes act as the donors, but in animals it is possible to use a male of the same species. The scrotum is opened, the surface of the testes is scarified to provoke a mild aseptic inflammation, and on this scarified area pieces of freshly excised testis are implanted and stitched in position. If the operation is performed properly untoward sequels are rare.

It is claimed that the new testicular material replaces or reinforces the physiological action of the animal's own testis, and so restores or increases the degree of manifestation of those characters which depend for their expression and full maintenance on the proper functioning of the gland. It is claimed by Dr. Voronoff that these glands also play an important part in the maintenance of general vigour. He has employed this operation on animals for two distinct purposes: to rejuvenate and restore the reproductive powers of decrepit and infecund males, and to stimulate the growth and general vigour of sexually immature males, whose testes have not yet profoundly affected the developing characterization of the individual.

The delegation examined a bull (Jacky) discarded as useless in 1922, when 17 years of age, and operated on in 1924 by Dr. Voronoff. During the next two years Jacky sired nine calves, after which his reproductive powers seemed to wane, and the operation was repeated, apparently with some success.

The delegation points out, however, that it is difficult to accept this case as a complete and unqualified substantiation of Dr. Voronoff's claims concerning rejuvenation. Stud bulls are usually discarded in Algeria when about 12 years old, and the fact that Jacky was retained in use so long suggests that he was an exceptional animal and that he may have reacted more strongly in consequence. He cannot be compared with bulls in Britain, which are generally discarded when 4 to 5 years old, and exact data as to the age to which a bull may prolong his sexual vigour are not available. Jacky, moreover, may have been in ill health prior to the operation. In any case his subsequent fertility ratio was exceptionally low, and there is a vague suggestion of doubt as to the paternity of some of his calves. The delegation believes that, although this example may support Dr. Voronoff's first claim, it cannot be accepted as conclusive proof. In any case the use of this procedure in British stock breeding would be slight and confined only to very special sires; alternative methods, such as improved management, are available for extending or increasing the usefulness of such animals. It is recommended, however, in the report that further experiments in this direction should be encouraged owing to the possible value of the method in sire-importing countries.

In connexion with the second purpose of the delegation a number of flocks were inspected in which the operation was claimed to increase the production of both mutton and wool. Here, however, the evidence was less satisfactory, the exhibit being rather in the nature of a sample of an established fact. Definite and detailed information concerning the numbers involved, or of the pedigree and relationship of the individuals exhibited, was not forthcoming. Moreover, the sheep were not confined under proper experimental conditions, nutritional factors were disregarded, and control was unsatisfactory. In the matter of weight of progeny, among the samples submitted grafted rams were superior to the non-grafted. Whether this was due to the direct action of the sexual hormone or to an increased rate of growth which might have been conducive to an improvement of type could not be determined. The fleeces varied very much in weight, and although it was claimed that there was an increase in weight of wool, samples showed no improvement in quality.

The delegation considers that the increment of both weight and fleece attained by the grafted sires can have no value in comparison with the cost of the operation, ram flesh being inferior in quality; it is only in the transmission of desirable characteristics to the progeny that its value might lie.

The economic advantages of this procedure in Britain are thought to be doubtful; it is desirable here to increase the quality rather than the quantity of wool. There is no demand for larger carcasses, but the more rapid attainment of weight for age might be an economic advantage, provided this is considered in relation to cost of upkeep.

The British delegation concludes that the claim to effect rejuvenation of the aged and decrepit male may be justified, although the evidence is not based on critical experimentation. In any case its value in a sire-raising country like this is doubtful, its usefulness being limited to sire-importing countries. The second claim of increase in body weight and wool clip is supported by the figures submitted and the sheep exhibited, but the conditions under which the experiments were conducted, the inadequacy of the data, and the methods of presenting them prevent the formation of a critical opinion. Its direct economic advantages appear to be negligible. Dr. Voronoff's further claim that these "improved" characteristics are inherited involves the acceptance of the hypothesis of the inheritance of acquired characteristics, which has never been substantiated. It is suggested, however, that both claims might be tested further and more critically in this country, where conditions are more favourable to scientific control than in Algeria.

<sup>1</sup> Report on Dr. Serge Voronoff's Experiments on the Improvement of Livestock. By T. H. A. Marshall, Sc.D., F.R.S., F. A. E. Crew, M.D., D.Sc., Ph.D., A. Walton, Ph.D., and Wm. C. Miller, M.R.C.V.S., Ministry of Agriculture and Fisheries, Board of Agriculture for Scotland. London: H. M. Stationery Office. 1928. 9d. net.

## THE HASTINGS POPULAR LECTURE.

## THE FOUNDATIONS OF HEALTH.

LECTURE BY SIR GEORGE NEWMAN.

THE second popular lecture instituted by the British Medical Association, and associated with the name of its founder, was delivered in the Great Hall of the Association's House in London on Wednesday evening, March 21st. The lecturer was Sir GEORGE NEWMAN, K.C.B., Chief Medical Officer to the Ministry of Health and the Board of Education, and the chair was taken by Lord COZENS-HARDY. Among those on the platform were Sir Ewen Maclean (President-Elect of the Association), Dr. C. O. Hawthorne (Chairman of the Representative Body), Mr. Bishop Harman (Treasurer) and Mrs. Harman, Dr. Arnold Lyndon, and Dr. E. Lewys-Lloyd, Dr. Christine Murrell, and Mr. E. B. Turner (members of Council), Dr. E. Graham Little, M.P., and Mr. C. G. Ammon, M.P. A wet evening militated against as large an attendance as that at the first lecture by Sir Berkeley Moynihan a year ago, but the body of the hall was well filled.

Lord COZENS-HARDY, in opening the proceedings, said: I can imagine no subject of greater importance to the nation than that which has been chosen for the lecture of to-night, and no man more fitted to deal with it than Sir George Newman. He is in a unique position for studying the problems of national health as a whole, and we have learned to expect from him definite guidance along a path mapped out by his knowledge and his vision. Progress along that path is slow, and yet how much ground has been covered since Sir Charles Hastings founded the British Medical Association! And the further we proceed along that path the quicker the pace tends to become. The comparatively recent formation of the Ministry of Health was a very great step in advance, and with a consistent policy at headquarters many obstacles to progress have disappeared. In local administration, however, we are still left with much overlapping and waste of effort. That is a state of affairs which will not be tackled by any Government until the nation at large has come to realize how uneconomic and unsatisfactory it is, and has become better educated as to health requirements and the best way of securing them. Sir George Newman has told us elsewhere that it is still too long before a fully substantiated medical truth percolates through the whole community, and I do not think he lays upon the public the whole of the responsibility for that delay. In these days, when increased interest in health matters causes every claim for advance in medical knowledge to be regarded by the press as good "copy," and by the advertising expert as a peg on which to hang a slogan, it is becoming increasingly difficult for the layman to determine when the point has arrived at which a reputed discovery has really become a substantiated medical truth, and authoritative guidance on these matters was never more needed than now. No one has done more to educate the public in this respect than Sir George Newman. In those able memorandums which issue from the Ministry of Health he has shown a great gift for putting his views on subjects which might be regarded as dry and uninteresting into a form calculated not only to interest but to inspire the layman and the medical man alike.

Sir GEORGE NEWMAN, before proceeding with his lecture, said: I appreciate very much the honour which the British Medical Association has done me in inviting me to deliver this lecture, but it is an honour which carries with it some embarrassment to myself, for I am called upon to follow in the footsteps of the first lecturer, my distinguished friend, Sir Berkeley Moynihan. Though my scope of subject is much wider than that taken last year by Sir Berkeley Moynihan, I have to confess to you that I am much less the master of my craft than he of his. Moreover, Sir Berkeley Moynihan is perhaps the greatest medical orator that we have now in England, and to attempt to follow him brings its own embarrassment. Lord Cozens-Hardy has hinted at another difficulty which I have. I am invited to address you for half an hour or so upon a subject on which you are addressed

every day of the week. No one of us ever takes up a newspaper without being advised as to the conduct in health matters of our personal lives. On Monday we are told that we must eat only brown bread; on Tuesday we are assured that white bread is equally good; on Wednesday that neither brown nor white bread is essential to life or health; on Thursday we are encouraged to believe that we must give up our ham and egg for breakfast and take only four tablespoonfuls of orange juice; on Friday we are told that we must wear warm clothing; and on the sixth day that the less we wear the better. There is rest on the seventh day, during which we are able to observe that the young women of the new generation are disposed to disregard all these recommendations except the last! In a predicament of this kind, what is a civil servant to do? He is accustomed to complete obscurity. His business is to pursue a hidden path and live a concealed life. But he is brought out of his obscurity into this rather uncomfortable prominence to offer his opinion upon this much discussed and thorny subject. I propose not only to be brief but to be plain.

Sir George Newman then proceeded with the lecture, which is printed in this week's *Supplement*. For lack of time he omitted certain portions, saying that those interested would be able to read the published version. The lecture was delivered with great vigour, and was loudly applauded at the close.

Sir EWEN MACLEAN moved a vote of thanks to the lecturer. Sir George Newman, he said, had claimed to be something in the nature of a concealed personality. That was not the way he impressed his fellow-students in the old days when the speaker was a student with him in Edinburgh, and he did not think it was true of his after-career. If the great progenitor of the Association could have cast his vision forward nearly a century to the setting of that occasion, and have heard the lecture by the man of the occasion, he would have seen of the travail of his soul and have been satisfied. The setting reminded them of the extraordinary developments of the British Medical Association. Some people who did not know what the Association was and did were apt to be surprised that it took an interest in the prevention of disease, because that course, pursued to the full, might be expected to have a detrimental effect upon the doctor's living, though, to be sure, whatever was done in the way of prevention, there would still be enough diseases to live upon, and to die from. But the Association was deeply interested, not only in the conditions of service and emoluments of the medical profession, but in research in all branches of medical art and craft with a view to the discovery of new truth and the elimination of old disease. The Ministry of Health itself represented a great achievement in preventive medicine, and the medical profession was fortunate that at the head of the medical staff of the Ministry there should be a man who interpreted his duties in no narrow or merely official spirit, but maintained the friendliest contacts with members of the profession and all concerned with communal health.

Mr. C. G. AMMON, M.P., in seconding, said that he noticed that Sir George Newman began his historical review at a time when this country was feeling the effects of the industrial revolution. He believed that at this moment the country was passing through another industrial revolution, based this time not on steam, but on electricity and chemistry, and that if the social chaos which followed the earlier revolution was not to be repeated the guidance and advice of people like Sir George Newman would be very necessary. Sir George had spoken of himself as a concealed personality, but in fact he had a flair for publicity which would make a politician green with envy, and he had, as no other man, made people appreciate the relation of personal conduct to personal health.

Sir GEORGE NEWMAN, after the vote had been passed with hearty applause, said he was very much comforted with the thought that on the morrow he would return to his life of obscurity, where, however, he would still remain their most obedient and grateful servant.

The proceedings closed with a vote of thanks to the Chairman, which the Rev. R. R. HYDE (director, Industrial Welfare Society) proposed, and Dr. E. LEWYS-LOYD seconded.

# British Medical Journal.

SATURDAY, MARCH 24TH, 1928.

## THE PILLARS OF HEALTH.

HEALTH has in all ages been more or less a matter of public concern. We know that with the ancient Greeks physical efficiency was a cult. In modern times, as the functions of government grew in scope and diversity, and protection from external or internal foes became subsidiary to the pursuit of the happiness and well-being of the governed, health as a means of happiness has come to be recognized as of paramount importance. The mediaeval ascetic ideal, which found extreme and grotesque expression in solitary posturing on a pillar in a state of semi-starvation, has now been replaced by a hygienic ideal embracing both the individual and the community. It is appropriate, therefore, that Sir George Newman, as Chief Medical Officer to the Ministry of Health and to the Board of Education, should choose "The foundations of national health" as the title of the second Hastings Popular Lecture, which he delivered in the Great Hall of the British Medical Association's House on March 21st. The full text of his address will be found in the *Supplement* this week.

There appears to be something rather significant about the number six in this connexion. Not only does Sir George Newman find that since the eighteenth century there have been six epoch-making advances in medical science; he finds also that the principles or elements of nutritional health for the body are six in number: food, fresh air and sunlight, exercise, warmth, cleanliness, and rest. The fundamental problem of health, he insists, is the wise and scientific nurture of the body, and therefore the construction of these six pillars of health must be based on knowledge. Organization of this knowledge, so as to provide opportunity for all men to ensure for themselves and their families the essential conditions of nurture, is for him a function of the State. "In a civilized State," he affirms, "it is the nature and nurture of the individual and the communal organization of opportunity which are the foundations of national health." Developing this idea to its logical conclusion, Sir George Newman summarizes the elements of the modern programme of hygiene under the headings of sanitary environment, systematic nurture beginning before birth, preventive organization, and public medical services. So closely are they interlocked that no local authority can afford to neglect any one of them.

A perusal of the Government activities included under each of these articles or elements of Preventive Medicine cannot but impress the reader with the enormous extent of the field of State health services to-day; and when it is remembered that the medical profession has been largely responsible for the origin and organization of all these services, it must surely be realized how near the doctor has come to supplanting the priest as the power behind the throne. But Sir George Newman wisely reminded his audience that, while sanitary and medical experts have their place, health is every man's duty, and that "progress

depends more upon social and moral evolution than the advance of sanitary science, more upon wisdom than knowledge." Therefore, while attributing in large measure the vastly improved health of the people of our generation to the fuller application of medicine and sanitation to everyday life, he generously acknowledges the even greater influence of the forces of education, sociology, and biology.

The pillar of health into the construction of which the Hastings Lecturer goes most fully is food. Here he treads, as he is well aware, on difficult and debatable ground, since the medical profession is by no means in a position to lay down dietetic rules that are applicable to all persons. The question constantly recurs to the mind: What is it that makes one man able to thrive, say, on a diet of nuts; and why should another object to drawing his vitamins from oranges and tomatoes, and yet continue healthy? It is even a matter for speculation how far any of Sir George Newman's well-thought-out food rules are universally valid, and to what extent their terms are definable. "Strict and persistent moderation" is a very variable quantity. Large numbers of people appear healthy, feel well, and do good work on what to others would be imperfectly masticated food, or food greatly in excess of physiological needs. Individual idiosyncrasy must have some bearing on the number of meals taken, on how much is consumed at each, and also on what is eaten and drunk. If we are perhaps less alarmed than we ought to be by the Lecturer's caustic commentary on the British workman's daily fare—"a tale of ham and beef, of beer and bread, of tea and pickles, of tinned meat and proprietary foods, or a weary round of bacon, herring, and cheese"—we can at least agree with him that the customary diet of the great mass of our people is far from perfect, and that, whatever else is left undone, something could and should be done to make their food more appetizing, and therefore more nutritious. Perhaps Sir George Newman, in his capacity of Chief Medical Officer to the Board of Education, may be able some day to induce local authorities to pay more attention to cookery in the curriculum of primary education: In dietetics balance is all-important. Every factor has to be taken into consideration—calories, a due proportion between carbohydrates and fat, enough protein and essential amino-acids, inorganic salts, vitamins, roughage, and, last but by no means least, variety and palatability. These things appertain to the food; there is also the human factor to be reckoned with: "Healthy and complete nutrition is infinitely more comprehensive than mere feeding, mere filling of the stomach. It connotes a healthy body in all respects."

Of the value of the modern propaganda for the promotion of health there can be no doubt; and in that propaganda the delivery of the Hastings Popular Lectures must play an important part. The British Medical Association has been fortunate in persuading such distinguished and eloquent members of our profession as Sir Berkeley Moynihan and Sir George Newman to give the first two of the series. Probably, however, even more could be done by the general practitioners of the country, whose sympathy and co-operation Sir George Newman is ever ready to enlist. From the point of view of hygiene the population may be divided roughly into two parts: those who, believing themselves healthy, do not bother their heads with any propaganda; and those who, having in their consciousness some small symptom of disability, are prone to let their imagination run riot on

any suggestions that seem applicable to their condition. Short of some system of compulsory and periodic medical examination for the whole community—a pitch of State control to which we have not yet risen—the general practitioner of medicine is really the only person who can guide the individual of either class in the preservation or restoration of health. His are the opportunities for impressing on the carelessly healthy the need for caution; and he alone is in a position to counteract the neurasthenia-producing effects of injudicious propaganda in those who are needlessly alarmed. With the help of the general practitioner it may be possible also to obtain an answer to some at least of the pertinent questions asked by this year's Hastings Lecturer in his discussion of the six pillars of healthy human nurture.

### GALL-BLADDER DISEASE.

It has been said that disease of the gall-bladder now bids fair to succeed appendicitis as the most popular subject in the literature of abdominal medicine and surgery. This view certainly gains support from the recent address by Professor D. P. D. Wilkie to the Ayrshire Division of the British Medical Association, which is published in our present issue at page 481, for the first of his general conclusions is that gall-bladder infection is probably the commonest of all abdominal maladies, particularly among persons of sedentary habits. It is interesting to note also that in his experience the results of gall-bladder infection are particularly serious in well-to-do patients, who are prone to spend years in trying "cures" which hospital patients are—as he remarks, fortunately for themselves—unable to afford. Thus in his large series of 452 operations performed on the biliary tract the average age and operative mortality among the 184 private patients were 54 years and 6 per cent., as compared with 46.5 years and 1.4 per cent. among 213 hospital patients. Here, then, as elsewhere, affluence is not always an unmixed blessing.

Like Sir Berkeley Moynihan, whose recent Mitchell Banks Memorial Lecture was published in the *British Medical Journal* of January 7th, 1928, Professor Wilkie brings forward new evidence that infection of the gall-bladder does not take place from the bile, and that treatment by antiseptics to disinfect the bile, and by washing out the gall-bladder contents, as by Lyon's method, is largely founded on erroneous premisses. But whereas the President of the Royal College of Surgeons of England laid stress on the lymphatics as the route by which infection reaches the gall-bladder, Professor Wilkie's contention, based on the work of Dr. A. L. Wilkie, is that there is an intramural infection of the gall-bladder derived from the blood stream, and that the lymphatics then pick up the infecting organism. Further, the responsible bacterium is, as Rosenow insisted some years ago, usually a streptococcus, and not, as has commonly been stated, *Bacillus coli* or the *B. typhosus*. The presence of the former is probably a secondary infection. The growth of the streptococcus is inhibited by the bile, and hence the failure to confirm Rosenow's results may be explained, for not only may the bile be sterile, but cultures of portions of the gall-bladder wall may remain negative from the action of bile adherent to the mucosa. Professor Wilkie, with due caution, indicates his suspicions about the aseptic production of a single pure cholesterol calculus, as described by Asehoff and Bacmeister, and, without

discussing the relation in point of time, states that in isolated examples of this condition a streptococcus has been found in the wall of the gall-bladder and in the centre of the calculus.

The diagnosis between gall-bladder disease and duodenal ulcer, especially in women, may clinically be so difficult that the term "cholecysto-duodenal syndrome" is appropriate. It is here that radiography gives most useful aid in coming to a right decision. Sercen examination during an acute attack may show immobility of the right half of the diaphragm, and Professor Wilkie's experience in more than 200 cases examined by Evarts Graham and Cole's method of cholecystography has convinced him that this is by far the most efficient means of diagnosis, since it gives the correct answer in over 90 per cent. of the cases. In the early stages, however, of chronic cholecystitis the functions of the gall-bladder may be so well carried out that cholecystography does not show any abnormality. We publish also in this issue a paper by Dr. J. F. Brailsford on the x-ray diagnosis of pathological conditions of the gall-bladder. Dr. Brailsford, who writes from an experience of nearly 500 cases, agrees with Professor Wilkie in advising a combination of cholecystography with a barium meal, and prefers the intravenous to the oral administration of tetraiodophenolphthalein, as more accurate in diagnosis, and safer, for he has had no more than five severe reactions. The superiority of cholecystography over an ordinary radiogram is shown by his estimate that only about 30 per cent. of gall-stones contain sufficient calcium to cast a shadow by the older method.

While admitting that *B. coli* infections of the gall-bladder may be favourably influenced by very large doses of hexamine, Professor Wilkie makes the point that in the majority of cases there is an intramural streptococcal infection for which no drug is effective, though a streptococcal vaccine would appear to be the most rational form of medical treatment. Well-established infection of the gall-bladder is, however, highly resistant to any but surgical measures, and he therefore advocates cholecystectomy, which, in his experience and that of many others, is not followed by any untoward results. He regards this operation as much more satisfactory than drainage on account of the liability to recurrences, after temporary benefit, experienced by patients who have undergone cholecystotomy. Here he is in evident agreement with Sir Berkeley Moynihan, who said in the Mitchell Banks Lecture: "I have no doubt that, until we are able clearly to understand and to control the earlier symptoms of cholecystitis and its foregoing conditions, removal of the gall-bladder should be performed more frequently than is now the custom."

For the time being, then, cholecystectomy appears to hold the field in the treatment of established biliary infection. In the United States it has become almost the routine procedure. Stanley Mentzer, in a recent survey of gall-bladder surgery based on a study of 14,000 specimens,<sup>1</sup> says that, whereas cholecystostomy formerly comprised more than half the operations upon the gall-bladder, to-day it comprises less than 5 per cent. in most of the clinics in America, cholecystectomy accounting for about 90 per cent. He regards the surgical treatment of biliary disease as fairly well stabilized at present. In his view, it should be based rather on the clinical symptoms than on the local pathological changes, and cholecystectomy is the operation of choice.

<sup>1</sup> *Journ. Amer. Med. Assoc.*, February 25th, 1928, p. 607.



## HARVEY TERCENTENARY, 1628-1928.

THE tercentenary of the publication of William Harvey's epoch-making *De Motu Cordis* will be celebrated here from Monday, May 14th, to Friday, May 18th. The arrangements are in the hands of the Royal College of Physicians of London, and a programme giving an outline of the several functions and entertainments has now been issued in advance for the convenience of official delegates and others. The proceedings will open on the morning of May 14th with a reception of delegates by the King at Buckingham Palace. At 3 p.m. there will be a reception by the President of the Royal College of Physicians at the College (academic dress), when addresses will be presented by delegates, Honorary Fellows will be admitted, and eulogies of Harvey will be delivered. In the evening the Grocers Company will give a dinner to delegates and guests at their Hall in the City. On the mornings of May 15th and 16th demonstrations by the Royal College of Physicians will be given at University College, London, as follows: (1) a reproduction of Harvey's original experiments displayed cinematographically; (2) illustrations of some recent additions to our knowledge of the circulation. The principal functions on May 15th will be a luncheon party at St. Bartholomew's Hospital (of which Harvey was physician), given by the governors of the hospital; tea at the College of Physicians, with an exhibition of books, manuscripts, pictures, silver, and other objects of interest; and a conversazione in the Hall of the Merchant Taylors Company, at which H.R.H. the Prince of Wales has consented to be present. On the evening of May 16th there will be a dinner to delegates and guests given by the President and Fellows of the College of Physicians in the Guildhall of the City of London. May 17th and 18th will be devoted respectively to visits to Oxford, by invitation of the Warden and Fellows of Merton College, of which Harvey was Warden; and to Cambridge, by invitation of the Master and Fellows of Gonville and Caius College, whence Harvey graduated. Other entertainments for ladies accompanying delegates and guests are being arranged. Throughout the week preceding the celebration, including Sunday, May 13th, the secretary's office at the Royal College of Physicians, Pall Mall East, S.W.1, will be open daily from 2 to 5 p.m. for the issue of programmes, tickets, and other information. A full and detailed programme will be published in May, and may be obtained then on application to the College. The tercentenary is being celebrated this week in America by the College of Physicians of Philadelphia. Included in the programme are two commemorative addresses on Thursday, March 22nd—the Mary Scott Newbold Lecture by Sir Humphry Rolleston, Bt., on "Harvey's predecessors and contemporaries," and the Nathan Lewis Hatfield Lecture by Professor J. J. R. Macleod of the University of Toronto on "Harvey's experiments on the circulation."

## HISTORICAL EXHIBITION AT CARDIFF.

WE publish elsewhere in this issue a letter relating to the proposed historical exhibition at the Cardiff meeting of the British Medical Association in July next, which it is intended to make specially illustrative of Welsh folk-medicine. It is a matter for satisfaction that the History of Medicine Section of the Association is being continued this year under the presidency of Mr. W. G. Spencer; this section was formed for the first time last year in Edinburgh, and was very well attended. Edinburgh, we may recall, was the first University in this country to establish a lectureship on the history of medicine, and last year's president of the section was Dr. John D. Comrie, the lecturer on that subject. The museum organized at Edinburgh attracted an attendance of several thousand persons, and included an exhibit by the Wellcome Historical

Medical Museum of illustrations from ancient surgical manuscripts, a series of engravings of famous physicians lent by the Royal College of Physicians of London, many portraits of local lecturers and professors, as well as a collection of Lister relics organized in Edinburgh. The Cardiff exhibition in July will deal especially with Welsh folk-medicine, which should prove of great interest. Tradition says that Welsh medicine was practised by the ancient Cymry before they became possessed of cities and sovereignties in the time of Prydain ab Aedd Mawr. During his reign the learned men were divided into the three orders of Druids, Bards, and Ovates, of whom the Druids practised medicine and magic. In those early times wells, exercise, herbs, and magical incantations were the principal means of healing. At a later date Taliesin speaks of the liver, kidney, and the heart as being three intractable organs, and mentions disease of the knee-joints; disease of a rib, and phthisis as tedious complaints. Howel Dha, who lived about the time of King Alfred, drew up a code of laws, in which several references are made to the medical practitioners of the period, and in which the fees are fixed for such procedures as applying a tent, administering herbs to a swelling, and letting blood. Rhiwallon, one of the earliest authentic physicians of Wales, who lived in the thirteenth century, made a collection of medical recipes applicable to various diseases, and a manuscript of these has come down to us. Members of his family appear to have practised medicine in Wales down to the middle of the eighteenth century, and several of their medical manuscripts have been preserved, so that Welsh medicine has a character of its own. A manuscript of the fifteenth century mentions some eight hundred medicinal substances, including plants, flowers, and roots, of which many are still in use, although it includes also much animal pharmacy. This manuscript gives a list of the essentials for a physician, which are a lancet for bleeding and a larger knife; a steel or silver spatula; a bladder with pipe attached for injections; a collection of plasters, ointments, and pills; and a sheltered garden of trees and herbs where medicines may be grown. Much lore of a medical nature centres round the wild goat, and from the ancient beliefs about its remedial virtues has probably originated the practice, common in various parts of England till recent times, of keeping a goat among other farm stock because its presence was supposed to be healthy for cattle and to keep away disease. Mistletoe and selago were remedies which came down from Druidic times, much used in ancient Welsh medicine, and treated with great veneration. It is hoped that the influence of these and many other native Welsh remedies on medicine may be traced at the forthcoming museum, where doubtless many of the interesting Welsh manuscripts preserved in the National Library of Wales will also be exhibited.

## HOURS OF WORK IN FACTORIES.

THE most recent publication<sup>1</sup> of the Industrial Research Board is concerned with two separate problems in connexion with the hours of work in factories as they affect women. The first considers the advisability of breaking up the five-hour spell, where such is in vogue, by instituting a compulsory rest pause, and the second has reference to the effects on output, lost time, and labour turnover of the eight-hour double-shift system. Under the present factory law work may not be carried on for more than five hours without a meal interval, and, with the reduced hours now commonly worked, many firms have found it convenient to run the full time in the morning period. It is significant

<sup>1</sup> *Two Studies on Hours of Work: (I) Five-hour Spells for Women with Reference to Rest Pauses.* By H. M. Vernon, M.D., and M. D. Vernon, M.A., assisted by I. Lorrain-Smith, M.A. (II) *The Two-shift System in Certain Factories.* By May Smith, M.A., and M. D. Vernon, M.A. Medical Research Council. Industrial Fatigue Research Board Report No. 47. London: H.M. Stationery Office. 1928. 1s. 3d. net.

that the Factory Bills drafted by the present Government and its predecessor both proposed a limitation of four and a half hours for any spell, but with the proviso that if a stoppage of not less than fifteen minutes were introduced the period could be lengthened, under one bill, by the extension of the time of the stoppage by an equivalent period, and, under the other, to five hours. The need for authoritative information on the subject is therefore evident. The first investigation was made by Dr. H. M. Vernon and Miss M. D. Vernon, and covered a considerable number of factories and variety of trade processes. The advantages of a break during a five-hour spell are discussed from various aspects. Physiologically, nutrition is considered the most important factor, and evidence is produced to show that a five-hour morning spell means five and a half to six hours, or even more, without food; while, apart from allowing for the relief of hunger, it is held that the rest pause affords relief from physical fatigue. It is assumed that the psychological advantages may be even greater than the physiological advantages in the case of monotonous repetition work, and in support of this it is mentioned that three large establishments showed respectively an average of 25 per cent. "labour turnover" per annum where there was a fifteen minutes' break, 42 per cent. where there was a three minutes' break, and 94 per cent. where there was no break. Output is shown to be increased where the operations are wholly or mainly manual, but owing to the variability of sickness-producing factors it is admitted that the effect on health cannot be satisfactorily demonstrated. That there are valid objections to the break in certain processes is acknowledged, but it is thought difficulties could be overcome. It is finally suggested that ten minutes for a break would be preferable to fifteen minutes. The employment of women, and of young persons over 16 years, in two eight-hour shifts between 6 a.m. and 10 p.m. (6 a.m. to 2 p.m. on Saturdays) is permitted by the Employment of Women, etc., Act (1920), provided a joint application be made by employer and employed. Special conditions, chiefly relating to welfare, are attached to the permit by the Factory Office. The system originated during the war, when it was found to be preferable from the point of view of health to the working of overtime by women and young persons, and a departmental committee recommended its continuance. There is not much demand for these permits, and very few of those granted apply to a whole factory. Most are required for departments which cannot keep pace with others in production and as a substitute for overtime during periods of pressure, but a number are in force permanently at certain manufactories of hosiery and artificial silk. This part of the report was compiled by Miss May Smith and Miss M. D. Vernon; the investigations appear to have been carefully carried out, and the result shows that the system *per se* has very little adverse influence, if any, on workers or trade processes. Objections to it are mainly of a social nature.

#### GLAND GRAFTING.

THE subject of gland grafting has excited a considerable amount of interest within the last few years—not only in its application to man, but also to animals—and the claims made by Dr. Serge Voronoff have had a wide, and often uncritical, publicity in the popular and agricultural press. In the case of human beings critical experimentation is difficult, if not impossible, and variables which may enter into this investigation (other than those incident upon the actual operative intervention) cannot be measured or assessed—as, for example, the psychological effects on the subject. In animals, however, careful and exact scientific control is more easily possible, and the visit of a delegation of British scientists to Algiers to investigate Dr. Voronoff's

work on testis grafting on bulls and rams is of considerable interest; a report of this visit appears at page 505. In animals two sets of results are said to follow this operation. Old animals are rejuvenated and their reproductive powers restored; sexually immature animals have their growth and general vigour stimulated. Moreover, it is claimed that these characters are, in part at least, transmitted to the offspring. This last statement involves the acceptance of the hypothesis of inheritance of acquired characteristics; generations of scientists have as yet found no definite evidence in support of this hypothesis. From the medical point of view the rejuvenation of the senile male is of more importance than the acceleration of the growth and general vigour of the sexually immature. The delegation examined the available evidence, with every assistance from Dr. Voronoff himself, and, while it considered that the claim was possibly justifiable, it found that the evidence was not based on critical experimentation. It is very doubtful if either of the sets of experiments would be of any economic value to British stock breeders, but it is recommended that controlled experiments should be undertaken in this country in consequence of the scientific interest and the wide publicity which has been given to the subject. In view, therefore, of the unsatisfactory state of the evidence in animals, it would probably be unwise to conclude that grafting of testicular material in man—the delegation has not investigated the grafting of thyroid gland—is definitely advantageous; rather should it still be regarded as *sub judice*.

#### CONFERENCE ON RHEUMATIC DISEASES.

THE conference on rheumatic diseases, to be held at Bath on May 10th and 11th, of which we have already published preliminary announcements, bids fair to be an occasion of much importance, both by reason of the thoroughness of its programme and the authority of those taking part in the discussions. It will have something of an international character also, for among the expected speakers are medical men from France, Belgium, Holland, Sweden, and the United States. Sir George Newnan, Chief Medical Officer to the Ministry of Health, is to preside over the conference, and the vice-presidents include the Presidents of the Royal Colleges of Physicians of London, of Edinburgh, and of Ireland, and the Presidents of the British Medical Association and the Royal Society of Medicine. The conference is to meet in three sessions, to be held consecutively, the first dealing with social aspects, the second with causation, and the third with treatment. These sessions will be presided over respectively by Lord Dawson of Penn, Sir Humphry Rolleston, and Sir Farquhar Buzzard. The announced speakers are already so numerous—at one of the sessions a dozen—as apparently to leave little room for the open discussion with which, it is hoped, each session will conclude, but many voices can be heard in a three-hour sitting. Among the speakers dealing with social aspects are Dr. H. B. Braeklenbury, on the organization of medical treatment of industrial rheumatism, Dr. Alison Glover, on the general incidence of rheumatic diseases, and Dr. Reginald Miller, on the influence of environment upon infection. Two lay contributions will be made in this session—one by Sir Walter Kinneir, on the cost to the country of industrial rheumatism, and the other by Mr. W. A. Appleton, speaking from the standpoint of the approved societies. The speakers who will deal with causation include Dr. W. Langdon-Brown, on the endocrine factor, Dr. Carey Coombs, on rheumatic infection in children, Dr. Dingwall Fordyce, on predisposing factors, Dr. Geoffrey Hadfield, on the pathology of tissue reaction, Dr. C. W. Vining, on the pre-rheumatic child, and Professor Stockman; several visitors from abroad will also contribute to this

part of the subject, including Dr. Homer Swift, and Dr. Weif of Paris. The physical treatment of rheumatic diseases is to be dealt with by Dr. Gunzburg of Antwerp and Dr. Campbell McClure, surgical treatment in degenerative arthritis by Mr. Max Page, and acute rheumatic infection in childhood by Dr. F. J. Poynton. Sir William Willcox will speak on the treatment of underlying infection, and Dr. A. P. Thomson and Dr. R. L. J. Llewellyn will also take part. It is expected that many of those attending the conference will be delegates from local authorities, and with that in view the Ministry of Health, the Scottish Board of Health, and the corresponding departments in Northern Ireland and the Irish Free State have intimated that they will consider favourably applications for payment of expenses from local authorities who desire to be represented by their medical officers. The railway companies are issuing return tickets at a cost of a single fare and a third. No more appropriate centre could have been chosen than Bath, and the authorities of the spa, with their traditional hospitality, always very evident in the case of medical visitors, are giving a civic welcome at the opening of the conference and an evening reception. It need scarcely be said that the bathing establishment will be open for inspection, with demonstrations of the treatments. The honorary organizing secretary is Mr. John Hatton, director of the baths, and the honorary medical secretary is Dr. Vincent Coates, at 10, The Circus. Everything points to a notable assembly, one which should mark the pre-eminence of British medicine in grappling with this group of diseases, and we may look for contributions to the literature of lasting value.

#### SUPERANNUATION OF LOCAL GOVERNMENT EMPLOYEES.

THE Departmental Committee appointed in 1925 "to inquire and report whether any amendments are required in the Local Government and other Officers' Superannuation Act, 1922," has reported in favour of the compulsory establishment of schemes of superannuation by all local authorities, whether separately or in combination, on the lines laid down in the permissive Act of 1922.<sup>1</sup> It is recommended that participation in the schemes should be compulsory for all officers and non-manual employees, and optional for servants and manual employees at a lower rate of contribution than officers, the option in the latter case to be exercised through a ballot of the established servants of each authority. The committee recommends that the Poor Law Officers' Superannuation Act, 1896, should be repealed, and Poor Law authorities in general brought under the Act of 1922, as amended by the proposed legislation, existing Poor Law employees being allowed benefit of special rates of contribution related to the length of their Poor Law service. It is not, however, thought practicable to bring asylum officers within the terms of the Act of 1922, and in their case it is suggested that the Asylum Officers' Superannuation Act of 1909 should be so amended as to bring it into line with the Act of 1922 without abrogating the special benefits it confers on a special class of public servant. The committee rejects the proposal put forward by several witnesses, and pressed in particular by the British Medical Association in the interests of medical officers, that provision should be made for the addition of a period not exceeding ten years to the actual time served for the purpose of computing the amount of pension due to professional officers, who are placed at a relative disadvantage under the Act by their necessarily late entry into the local government service. Such a concession is permissible under several of the local Acts now in operation. The committee contends that compensation for the disadvantages of late entry should be rather by way of immediate higher remuneration than through conces-

sions in regard to superannuation, but realizes that the proposal for conceding additional years in the calculation of the minimum period of service entitling to pension is on a different footing. This is fortunate, since it will be sufficiently clear that the medical officer who enters the public health service with a D.P.H. and the three years' experience in medical practice considered desirable by the British Medical Association will not find it easy to complete the full period of forty years' service before the retiring age of 65. A modification in this age is suggested for nurses and health visitors, for whom compulsory retirement at 60 and optional retirement between 55 and 60 after a period of thirty years' service is recommended. Optional retirement between 60 and 65 after a similar period is proposed in the case of male nurses. The committee recommends that in the event of early legislation making the establishment of schemes obligatory, it should be open to any local authority by resolution to defer the day appointed for the coming into force of the Act for a period of five years. There is clearly no likelihood of securing the necessary legislation during the present session, and it is to be hoped that the period of grace accorded to local authorities will be modified in proportion to the delay in bringing in the measure.

#### A CENTENARY IN MEDICAL JOURNALISM.

THE completion of a century's continuous publication week by week is still an achievement rare enough in journalism to call for comment, and it is with pardonable pride that the editorial staff of the *New England Journal of Medicine*, formerly known as the *Boston Medical and Surgical Journal*, celebrates, in the issue of February 23rd, the attainment of its one hundredth anniversary. Actually this well-known American periodical can claim an older ancestry, for of the two publications which were merged into the *Boston Medical and Surgical Journal* when it first appeared in 1828, one—the *New England Journal of Medicine and Surgery and the Collateral Branches of Science*—was founded in 1812. Its title alone suggests an age when time and space—in the journalist sense—were things of less consequence than to-day. The other parent was the *Boston Medical Intelligencer*, which came into being in 1823, the year in which our British contemporary the *Lancet* was founded. Since those far-off days the *New England Journal of Medicine* has passed through the hands of many editors and proprietors, and it is now owned and published by the Massachusetts Medical Society, with Dr. Walter P. Bowers as managing editor. In the centenary number there are numerous articles dealing with the history of the journal and of medical science in America. Several reproductions of pages of the very early numbers serve to illustrate the advances which have been made in a hundred years in typographical method. There is a certain rich floweriness of expression in some of the articles reprinted which is seldom found anywhere to-day. We have read with particular interest the article on the history of medical journalism by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association*, who recalls how his distinguished predecessor, Dr. G. H. Simmons, established a corps of manuscript editors, and laid down a typographical style for the publications of the American Medical Association, and in many other ways proved a stimulus to medical periodical literature in the United States. Dr. Fishbein ends with some maxims for the guidance of medical editors and their contributors. He exhorts the latter to be brief and interesting, and to publish only when they have something new to say or something old to say in a new way; to be as careful in literary publication as in surgical operation; to eliminate unnecessary charts, tables, and illustrations; to provide an adequate summary and conclusions; and to quote only from literature that they themselves have consulted.

<sup>1</sup> Report of the Departmental Committee on the Superannuation of Local Government Employees. London: H.M. Stationery Office. 1928. 2s. net.

## COLLECTIVE RESEARCH IN THE WEST COUNTRY.

## CONDITIONS PREDISPOSING TO RHEUMATIC INFECTION OF THE HEART.

In a recent review of some of the collective research carried out by the British Medical Association during the last sixty-five years we pointed out that there were other forms of collective investigation besides those described.<sup>1</sup> We are now able, through the courtesy of those responsible for its inception, to give some account of an inquiry into rheumatic infection of the heart, which is being carried out in the West Country under the most favourable auspices.

*Scope of the Inquiry.*

The scheme was outlined on page 701 of the *British Medical Journal* for October 15th last, and has now been working for four months with the enthusiastic co-operation of all concerned. The district covered, which includes the counties of Gloucestershire, Somerset, and Wiltshire, has for some time been regarded as a rheumatic area, and a good deal of work on rheumatism had been done in Bristol, Bath, and elsewhere before the inception of the present scheme. For several years also the area has been happy in the existence of a large measure of the co-operation between public and voluntary medical services essential to the development of any such scheme. Hospital physicians and school medical officers have been in cordial co-operation for several years in both Bristol and Bath, where physicians have been working with school medical officers in the selection of children with cardiac diseases for special treatment; in Gloucestershire the well-known plan of Dr. Middleton Martin has been in operation, while both in Somerset and Wiltshire orthopaedic and other organizations furnished a useful precedent. The area is, moreover, peculiarly suitable for the investigation because it offers a wide range of conditions, economic as well as geographical. It includes sea-board, fenland, high moor, chalk downs, limestone ranges, and coal measures, with large industrial cities and rural communities of every size.

The actual scheme had been under consideration for several years when, after some unsuccessful attempts at enlisting the support of powerful organizations, an appeal was made in 1926 to the Cardiac Subcommittee of the Science Committee of the British Medical Association, which approved the project and recommended it to the Medical Research Council, by whom the clerical expenses of the work are now covered. The plan also interested Sir George Newman, who, as Chief Medical Officer to the Board of Education, was glad of the support offered in dealing with the cardio-rheumatic children attending the elementary schools. The county and borough medical officers for the area having been consulted, on his advice the support of the local authorities was secured and the work definitely set on foot on October 1st last.

*Basis for Notification and Registration.*

At the outset those responsible for the inauguration of the scheme had to decide upon the basis for notification and registration for the purposes of the investigation. In the various inquiries already made into the geographical and seasonal incidence of rheumatic fever, valuable results have been furnished so far as the seasonal incidence is concerned. Inquiry into the geographical distribution, however, has shown the difficulty of securing general agreement, over an area wide enough to be useful, upon a definition of the disease that is to be studied. The position is illustrated by the parallel case of pneumonia, in which notification has proved useless as a basis for scientific observation of a group of diseases simply because what one man includes under the term "pneumonia" another would exclude. And yet it is impossible to make headway with the prevention of infectious disease without knowledge of the conditions under which it comes into being. Nor can this be secured without the general co-operation of medical practitioners over a large area. After considerable discussion of the problem it was decided that if really valid data were to be secured under the present scheme it

must be through voluntary as opposed to compulsory registration. On this basis all the practitioners in the area covered were asked to co-operate in the registration of cases falling within the following definitions:

- (1) Heart disease arising in connexion with rheumatism, chorea, or scarlet fever in children between the ages of 5 and 14 inclusive.
- (2) Heart disease which, though not arising in connexion with rheumatism or chorea, is nevertheless rheumatic in type—that is, ventricular enlargement with mitral incompetence, with or without aortic incompetence, or acute pericarditis arising in children between the ages of 5 and 14 inclusive.

Various bodies of medical men were consulted as to the development of the scheme, and on the advice of the Medical Advisory Committee to one of the county councils it was decided not to offer practitioners any fee or honorarium for their reports. The local Branches and Divisions of the British Medical Association approved the proposals, as did a meeting of the South-Western Division of the Society of Medical Officers of Health. Through the medium of the medical officers of health of the counties and boroughs arrangements were made whereby the registration of cases by private practitioners would be supplemented by selection of cases from among the children attending the public elementary schools.

In order to standardize as far as possible the type of case accepted it was fortunately possible to offer to the school medical service the assistance of hospital physicians with special experience of the disease, to decide whether to accept or reject doubtful cases. The various local authorities agreed to recommend the necessary expenditure on condition that the physicians concerned also offered their opinions as to the treatment of the children examined. This it has been possible to arrange for a survey by physicians of experience of elementary school children under suspicion of heart disease. The local authority is advised by these physicians whether a child is or is not fit for school, whether games or drill should be allowed, whether institutional treatment is desirable, and so on. As a general principle it is understood that the closest possible touch is maintained with private practitioners in charge of such children, and they are offered the consultative services of the physicians at their respective clinics in cases of suitable social status. Arrangements are being made for groups of children to be assembled not only at the physicians' own hospitals, but also at suitable centres in outlying districts. In Gloucestershire Dr. J. R. Collins and Dr. D. E. Finlay are undertaking this work, in Somerset Dr. C. E. K. Herapath, and in Wiltshire Dr. Vincent Coates. Similar work is being carried on in the city areas concerned, by Dr. Vincent Coates in Bath, by Dr. D. E. Finlay in Gloucester, by Dr. R. C. Monnington in Salisbury, and by Dr. Carey F. Coombs (who was a member of the Association's Cardiac Subcommittee referred to above) in Bristol.

At first the intention was to limit the inquiry to cases in which the infection of the heart might be presumed to have arisen on or after October 1st, 1927. Experience of the work has, however, shown that it will be more profitable to collect all available cases of rheumatic heart disease arising between the prescribed ages, and make inquiry into the home conditions whenever this is possible in order to be sure where the disease began. This must in some instances be impossible, but many of the children have lived in one house only, and in many the beginning of ill-health can be dated with accuracy, so that in one way or the other a majority of those registered should be available for environmental inquiries. The next step after registration of the case, whether it comes from the private practitioner or through the school medical service, is to make these inquiries. Till now the medical man in charge of the case has been asked to do this; but experience suggests that this is a good deal to ask of a man who has already taken the trouble to fill up and post the form on which the case is reported. It is probable, therefore, that in future he will not be troubled with the questionnaire as to environmental conditions unless he expresses a wish to fill it up. The details asked for on this questionnaire are entrusted to the staffs of the county health departments and assembled at their several offices.

The co-ordinating point between every agency concerned is at the Bristol General Hospital, where the University

<sup>1</sup> *British Medical Journal Supplement*, December 31st, 1927, p. 246; January 7th, 1928, p. 2.

has been instrumental in forming a centre for cardiac research with the aid of grants from the R. L. St. J. Harmsworth Memorial Fund and the Colston Research Society and other bodies.

#### *An Encouraging Response.*

The scheme has now been in action for four months, and the response secured has been most encouraging. The practitioners of the area have sent in a good many reports, and it is not likely that many cases arising during the period of the inquiry have missed registration. The medical officers of health and the school medical officers, together with their auxiliary staffs, have taken the matter up with great keenness. Finally, the physicians concerned are much to be congratulated on the public spirit with which they have undertaken a task which brings them in little except hard work and a certain artistic satisfaction. It is believed that work undertaken voluntarily after this fashion will furnish more reliable results than any amount of records obtained under a compulsory system, and will, moreover, afford an excellent opportunity of testing the potentialities, alike for treatment and for prevention, of that co-operation between the three sections of the profession—general practitioner, administrative officer, and consultant—which seems to flourish best in an atmosphere of complete freedom.

### SOME PROBLEMS OF NEPHRITIS.

GOULSTONIAN LECTURES BY DR. T. IZOD BENNETT.

THE Goulstonian Lectures for 1928, on "Some problems of nephritis," were delivered at the Royal College of Physicians of London by Dr. T. IZOD BENNETT on March 13th, 15th, and 20th.

#### *The Problem of Uraemia.*

Dr. Izod Bennett mentioned first the great variety of symptoms included by different writers under the heading of uraemia. He distinguished between cases in which the two ureters became simultaneously blocked, with resulting gradually deepening coma, and the train of symptoms which marked the termination of cases of nephritis with gastro-intestinal manifestations, muscular twitchings, convulsions, and hyperpnoea. Dr. Bennett described in detail a case of the latter type which resulted from bilateral cystic disease of the kidneys. This patient first came under his care in 1923, and was the willing subject of many observations until she died after the acute onset of uraemia in 1927. This case was an example of uraemia without nephritis, and was therefore of especial interest. The patient's main symptoms until the final phase were progressive weakness, anorexia, and a foul, sour taste in her mouth, possibly due to the increased ammonia and urea content of her saliva. She never exhibited hypertension or oedema, and had no nervous symptoms until the last five days of her life, when coma and convulsions supervened. Discussing the causation of uraemia as exhibited by this case, Dr. Bennett first reviewed the theory of nitrogen retention which had attracted so many observers since the days of Bright, and summarized the chief evidence against such retention being the cause of uraemia—namely, the fact that the administration of urea and kindred substances to animals did not produce uraemia; the occurrence of conditions such as cystic disease of the kidney or prostatic obstruction, often persisting for many years with marked nitrogen retention, but no evidence of uraemia; and the occasional discovery of cases of uraemia without nitrogen retention. Passing to the question of non-nitrogenous substances the lecturer drew attention to the retention of phosphates and even of sodium chloride in uraemic patients, which had occurred in the case of his own patient. Despite this and other evidence he did not think that at present any direct relation had been established between the accumulation of any of these chemical substances and the nervous phenomena of uraemia.

Dr. Bennett next quoted work which indicated that acidosis, in the sense of a lowering of the alkali reserve of the blood, could be demonstrated in all cases of uraemia, and especially in those with marked nervous and respira-

tory symptoms. In his own patient this decrease in the alkali reserve of the blood was a marked feature in the final phases, although the administration of large doses of sodium bicarbonate caused temporary increase without, however, complete disappearance of the muscular twitchings, and without preventing the onset of coma and convulsions. This suggested that acidosis was not by itself a cause of uraemia, and in considering other aspects of blood chemistry the question of the blood calcium content became of importance, although there were many difficulties, particularly with regard to the actual physical state of calcium in the blood. The increase in the phosphate content of the blood in uraemia was found to be associated with a diminution in the amount of calcium, and the low figure of 6 mg. per 100 c.cm. had been obtained during the final stages of the illness in the case described.

Dr. Bennett then went on to deal with other clinical states in which the blood calcium was diminished and in which the symptoms of tetany appeared; he cited non-malignant pyloric stenosis, parathyroid deficiency, chronic diarrhoeal states, rickets, and poisoning by overdoses of alkalis. In this group of cases alkalosis first developed, and the other conditions of tetany and diminished blood calcium were also present. It appeared also from therapeutic considerations that calcium shortage was the common factor in all cases of tetany, and it was suggested that there was a true relation between the twitchings and convulsions of uraemia which was associated with a low blood calcium and the nervous phenomena known as tetany. There appeared to be a disordered metabolism of calcium in both conditions, and it was interesting to observe that in some cases of non-malignant pyloric stenosis degenerative changes occurred in the renal tubules, showing that chemical changes in the blood might themselves exert a destructive effect upon the kidney substance. Turning next to certain experimental work Dr. Bennett described the effects of forced rapid ingestion of large quantities of water in animals, which resulted in twitchings and convulsions leading to coma and death. In such cases water was absorbed too rapidly to be dealt with by the kidneys, and the final symptoms were very similar to those of the late stages of renal disease. Other experiments had shown that a syndrome indistinguishable from uraemia was produced in animals by the injection of sodium chloride solution in the presence of acidosis, without any renal lesion being present before or after. It was suggested that in these experiments the convulsions were due to a disturbance of calcium metabolism. In conclusion Dr. Bennett referred to the difficulties of exact work without repeated lumbar punctures, although analysis of the cerebro-spinal fluid in the case of his patient had given figures similar to those of the blood, but usually less marked in degree. He quoted Bright's observations on the importance of the chemical aspects of the subject, and expressed his own indebtedness to his laboratory colleagues.

#### *The Problem of Oedema.*

In his second lecture Dr. Bennett considered the problem of oedema; he admitted at the outset that the complexity of the subject made it impossible to form a judgement from personal observation alone, but careful study led to the conclusion that when oedema occurred in a case of nephritis it was evidence of the existence of an extrarenal factor which might explain the nephritis, but was never the consequence of nephritis. The balance of the evidence to-day was against oedema ever being the direct consequence of disease of the kidney, though it was possible that the cause of the oedema might also provoke disease of the kidney. Bright had called attention to the association of albuminuria, oedema, and disease of the kidney, but he had been more cautious than many of his followers in dogmatizing about the exact relation between these conditions.

Dr. Bennett then contrasted the two main varieties of nephritis under the names of hydropigenous and azotaemic types, and commented on the difficulty of explaining how disease of the kidney produced such divergent results. The type referred to in this country as "chronic parenchymatous nephritis" was supposed to be an example of a derangement of the capacity of the kidney to excrete sodium chloride; in support of this it was said that



administration of salt to patients with so-called renal oedema increased the oedema, while a salt-free diet often reduced it. It was certain, however, that the blood chlorides were not increased in renal oedema, and the diminished excretion was even more marked in cases of cardiac failure or pneumonia, where the renal function was not interfered with. It appeared more likely that there was in renal oedema a "prerenal deviation" of both water and chloride, that there was an extrarenal cause, and that the salt-retaining kidney must be dismissed as a myth. In the final stages of renal disease an increase in the chlorides often became apparent, and marked examples of such retention were also found in mechanical obstruction of the ureters, but oedema was usually absent in these cases, despite the high blood chloride.

An illustrative case was then demonstrated—a man, aged 22, who first came under observation for generalized oedema in August, 1926. The urine of this patient contained large quantities of albumin, but the figures on blood analysis showed a normal content of nitrogenous bodies and of the chlorides. A high protein diet and the administration of urica had resulted in a marked improvement, and the man was back at work with only slight oedema now, but his urine still contained large quantities of albumin. This case, Dr. Bennett said, was an example of the class of kidney disease now called "nephrosis"; it exhibited the characteristic features of a urine containing certain lipid substances which were doubly refractive, and also the excessive amount of cholesterol in the blood. This constant relation between oedema in renal disease and a high plasma cholesterol had been well established, but probably these were not related as cause and effect, some toxic disease acting on the reticulo-endothelial system being a possible underlying cause of both conditions. The kidneys in such cases of nephrosis contained very large quantities of cholesterol in the tubules, and, histologically, there were degenerative changes in the tubules, with little, if any, in the glomeruli. It was difficult to believe that such cases were examples of any primary disease of the kidney, although secondary changes in a kidney clogged with cholesterol esters might be expected, and did occur. The evidence was also against the hypercholesterolaemia being an effect of renal damage. Returning to the subject of oedema Dr. Bennett then dealt with the relation between the albuminuria and the oedema of kidney disorders. Epstein's view was that the loss of albumin from the blood plasma lowered the osmotic pressure in the blood, and water passed to the tissues. The high protein diets in such cases certainly often succeeded in reducing the oedema, but the theory did not explain the oedema occurring in other conditions, and there were cases of nephritis in pregnancy and acute cases of glomerulo-nephritis where the oedema was out of all proportion to the daily amount of albumin lost. Further, in the case demonstrated, loss of albumin continued although the oedema had largely disappeared. Albuminuria did not, therefore, explain the oedema of such cases.

Dr. Bennett then considered certain diuretics for the indirect light they might throw on the subject of oedema. He said that there was a school of thought which held that acidosis was an important feature of oedema; the treatment of such cases by alkaline diuretics had received much attention for many years. Very large doses might have to be given, but the results were often remarkable. In contrast with this line of treatment diuresis had also been achieved in desperate cases by the use of calcium chloride, although the acidity of the urine was actually increased. Thus both acids and alkalis could produce the same effects, and this paradoxical result might be explained by work which showed that any measure which tended to alter the titre of the renal blood acted as a stimulus to the renal cells. The work of the kidney in cases of oedema was possibly, therefore, directed to compensating an existing derangement of the normal blood chemistry, and though the strain of such compensation might damage the kidney the primary pathological process was an extrarenal one.

Dealing with experimental oedema, Dr. Bennett stressed the artificial nature of many such experiments and the dissimilarity between such oedema and that seen in pure lipid nephrosis. He thought that the work as a whole

tended to support rather than challenge the belief that "renal" oedema was of extrarenal origin. With regard to oedema in general there appeared to be no theory before the medical world to-day which explained all the known facts, but the theories which depended on the hypothesis that the oedema was a direct consequence of renal injury broke down almost from the outset. Elwyn had suggested that "renal" oedema was the result of an attempt to keep the blood volume constant, and this again would necessitate an extrarenal cause for the primary conditions. In all such cases it was necessary to search for some pathological change of a wide nature in tissues other than the kidney. Such a change was not the result of nephritis, although it was probable that the renal and the extrarenal damage had a common cause.

#### *The Problem of Hyperpiesia in Nephritis.*

In his third lecture Dr. Bennett pointed out that in the case of high blood pressure in its relation to nephritis there was an absence of essential data, and he emphasized that the patient discussed in his first lecture and the one shown in his second lecture had exhibited no hyperpiesia in the course of their renal disease. He classified the cases in which hyperpiesia was most marked into three groups, and dealt first with "chronic interstitial nephritis." Two cases described by Bright in his Goulstonian Lectures were first quoted to show that Bright had been puzzled by the frequent association of sclerotic kidneys and cardiac hypertrophy, and by the irregularity of albuminuria in such cases. Such subjects were examples of the classical arterio-capillary fibrosis described by Gull and Sutton, and it had been shown convincingly that in an enormous number of cases of contracted kidney there was evidence of high blood pressure for many years before any renal lesion became manifest. The etiology of this condition of "hyperpiesia" or "essential hypertension" was still obscure, but the present evidence and the anatomical changes in the kidney were against the theory that hypertension was primarily due to a disorder of kidney function. There appeared to be three stages in the development of the disease. There was at first a stage with the systolic blood pressure in the neighbourhood of 200 mm. of mercury and left-sided ventricular hypertrophy, but with no other signs or symptoms for many years. Next, the progressive disease of the arterioles in the renal tissues led to a "compensated renal failure," with polyuria and a urine of low specific gravity and a low concentration of urea, but without changes in the blood chemistry. In the final stage the retention of waste products of protein metabolism began to be in evidence until the patient died of uraemia, red sclerotic kidneys being found at the necropsy. In summing up this group of cases Dr. Bennett emphasized that the disease of the arteries had produced secondary changes in the kidneys because hyperpiesia invariably preceded all signs of renal disease, and because many patients died from other consequences of high blood pressure without having exhibited albuminuria or any other evidence of renal involvement.

The second group of cases comprised the renal complications of pregnancy. Dr. Bennett described eclampsia as merely a syndrome in a group of cases with certain manifestations due to renal disorder, and with severe generalized convulsions which made their appearance at some time close to the moment of parturition. It had been established that an elevation of blood pressure was almost invariably present in such cases. This rise in blood pressure was not usually excessive, and in the majority of cases it fell to normal after parturition, although occasionally the elevation might persist or increase. Another group of patients exhibited albuminuria and oedema without convulsions, and despite some difficulties associated with the method of classification of such cases it was possible to assert that in the majority elevation of the blood pressure was present. The important problem whether the hypertension or whether the result of the renal complications of pregnancy or whether it was present prior to any symptoms could not be settled owing to lack of information. Dr. Bennett thought that the term "toxæmia of pregnancy" was a good one, since it tended to keep to the front the general nature of the disorder in which the renal manifestations were part of the whole, and he mentioned work which suggested that an

arterio-spastic condition was the possible cause of the high blood pressure in these pregnancy cases.

In the third group of cases Dr. Bennett dealt with acute glomerulo-nephritis, in which elevation of blood pressure was present, though not in the focal type. The incidence of hyperpiesia in this condition was, however, not certain owing to a lamentable lack of evidence. It appeared that oedema was an accompaniment of all such cases in which it occurred, and in the majority the blood pressure returned to normal after the acute attack. While of a moderate degree in most cases of diffuse nephritis, the elevation of blood pressure was marked in some, and in these it was probable that the blood pressure was already high prior to the acute attack, and would usually persist. In cases with chronic diffuse nephritis, resulting from repeated acute attacks in many instances, a progressive elevation of blood pressure usually occurred, but it was seldom as marked as in cases of "essential hypertension," and occasionally it was completely absent. Dr. Bennett then went on to deal with the important question of whether a renal lesion could by itself produce an elevation of blood pressure. On physiological grounds the answer might be expected to be "Yes," but it had to be remembered that the kidney possessed considerable powers of reserve. The balance of evidence, however, based upon extensions of Rose Bradford's classical experiments, was that destruction of sufficient renal tissue was followed by a rise in blood pressure; even so, the mechanism by which such a rise was produced had not been established. None of the nitrogenous constituents of the urine had been shown to increase the blood pressure when present in excess in the blood. It was possible to have such an excess of cholesterol in the blood with a normal blood pressure, and the search for a pressor substance in the kidney itself had been unsuccessful. The evidence showed that hypertension due to renal disease was slight in degree, and when patients exhibited extreme degrees of high systolic blood pressure—200 mm. or higher—there was strong evidence for an extrarenal factor.

In conclusion, Dr. Izod Bennett pleaded for a wider outlook in the consideration of kidney disease. The renal function could be readily influenced by slight changes in the blood, and even by heat and cold directed to the surface of the body. He pointed out that at the time when Bright made his observations alcoholism was prevalent to an extreme degree in this country; this might explain to some extent the differences between the picture of nephritis drawn at that time and the form it exhibited to-day. He emphasized that the whole body and its metabolism should be studied in renal disease.

### ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the committee fifty-four cases were considered and £957 voted to forty-nine applicants. The following is a summary of some of the cases relieved.

Daughter, aged 44, of M.D. who died in 1908. Her father lost all his money, and the applicant, though delicate, trained as a nurse, which profession she followed until she had a serious breakdown through war work. She has tried several times to resume work, but is now suffering from tuberculosis. Only income £40. Lives chiefly with friends. Voted £26.

Widow, aged 65, of M.R.C.S. who died in 1903. Applicant and her daughter lived together until the daughter, aged 37, was removed to a mental hospital, and her income of £70 per annum has now to be used for her maintenance in the hospital. This leaves the applicant with only £26 per annum allowance from her sister-in-law, who also pays the rent. Voted £26.

L.R.C.P. and S. 1893, aged 73; wife aged 74. One son, who is married with one child, has started a small preparatory school. Applicant had to give up his practice two years ago on account of deafness, and has exhausted his savings. Only income the old age pension. Voted £40.

L.R.C.P. and S. aged 92, widower, as a result of losing all his money had to restart practice, though too old now to work, and last year made £173. He received gifts to the amount of £25. Voted £40 in quarterly instalments and a special grant of £15.

Daughter, aged 45, of L.R.C.P. who died in 1886. Both she and her sister have supported themselves by teaching in schools; the applicant is now bedridden owing to rheumatoid arthritis, and is entirely dependent on her sister. Voted £26.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

## CONTROL OF CONCEPTION.

### INTERNATIONAL MEDICAL GROUP'S FIRST REPORT.

Those who attended the World Population Conference at Geneva in September last included representatives of medical science from a large number of countries in Europe and elsewhere, and among the offspring of the conference was the International Medical Group for the Investigation of Birth Control. This organization was the result of an informal meeting of medical representatives of different countries; it consists exclusively of medical practitioners, and aims at co-ordinating biochemical, physiological, and statistical research bearing upon contraception, and disseminating this knowledge so as to make it available to all countries.

The qualifications required of persons collaborating in the work, apart from adequate professional status in their respective countries, are defined as including "a detached and critical attitude to the methods now practised." They should be "people free equally from prejudices against birth control springing from religious or political beliefs and from prejudices in favour of it arising from excess of propagandist zeal." The headquarters of the committee are in England, and its efforts are to be restricted to collecting and circulating the communications received. The organization undertakes to act, not as a propagandist body, but essentially as a medical information committee, and in this capacity it will, no doubt, be welcomed by all who are interested in this debatable subject. That there is need for co-ordinated scientific study is demonstrated in the first result of its labours—a circular obtainable from the Hon. Mrs. Marjorie Farrer, secretary of the committee, 41b, Clanciarde Gardens, London, W.2.

This document contains the replies received from Dr. Alma Sundqvist (Stockholm), Dr. J. H. Leunbach (Copenhagen), and Dr. H. Riese (Frankfurt), representing Sweden, Denmark, and Germany respectively, to a questionnaire issued by the committee. Dr. C. P. Blacker (Dorking) deals with the position in Great Britain, and contributes an editorial note stating that it has been considered expedient to publish this, the first, report without waiting for a reply from the United States. It is intended to widen the circle of correspondents by degrees, and to publish the collected communications quarterly. Each communication is expected to include reports on (a) statistical investigations regarding the reliability, harmlessness, simplicity, or otherwise of different contraceptives; (b) research work of an immunological, biochemical, or physiological nature bearing upon the problems of contraception and sterility; and (c) information touching the general attitude of a country towards birth control, changes in this attitude, and in that of the medical profession.

The scope of the inquiry proposed is therefore comprehensive, but the first results are somewhat disappointing. No doubt as the movement gains headway and the various correspondents, as the result of experience, are able to devise a uniform method there will be a marked improvement, but in these first communications there is a divergence in style and treatment which makes comparison difficult. To some extent, of course, this is due to the inadequacy of the material available. The Swedish communication, for example, consists of rather less than two hundred words. Dr. Sundqvist cannot give any statistical information or any news of recent research. He states that the public attitude is enlightened and tolerant, that the law against giving public information about contraceptives is a dead letter, and that the members of the medical profession are, as a rule, rather indifferent. "Birth control," it would appear, is not a live subject in Sweden.

The writers of the Danish and German reports devote themselves largely to contraceptive methods. Dr. Lennbach states that more than three years ago he opened a contraception clinic in Copenhagen. His experience in dealing with about 2,000 cases has led him to conclude that cervical pessaries are suitable only for from 5 to 10 per cent. of all women, and he has therefore abandoned the "pro-race" and "Ramses" types of pessary in favour of the Dutch type. He states that in 800 cases fitted in the year ended October, 1927, he has so far had only three failures, but points out that as the period is short it is difficult to draw any certain conclusion from the figures.

The German report is less detailed, for the author, Dr. Riese, does not restrict the scope of his birth control clinic

to contraceptive methods. The technique which he recommends, after having tried and abandoned many methods on account of their unreliability and possible harmfulness, is the employment of a suppository in a gelatin base and the fitting of a pessary, generally a "Ramses." His practice, therefore, differs from that of Dr. Leunbach in two important points, for the Danish authority has come to the conclusion, after an examination of the effect of various spermaticides and suppositories on living spermatozoa, that all contraceptive suppositories are practically worthless, and he has also rejected the "Ramses" type pessary as generally unsuitable. Dr. Blacker's summary of the available British evidence on this point does not appear to clarify the position. He states that at the nine centres of the Society for the Provision of Birth Control Clinics, and at that of Dr. Norman Haire, the Dutch type of pessary is used, while at the Marie Stopes clinic the "pro-race" cervical type is employed with, it is claimed, a minimum of 1 per cent. of failures. Dr. Haire, however, is quoted as stating that the "pro-race" pessary failed in 88 per cent. of the cases he had seen.

Statistics regarding the relative efficiency of various types of pessary and of various spermaticides have not, Dr. Blacker points out, been yet impartially assembled and compared in Great Britain. The same may be said with even greater truth

of these offered in other countries. He adds that the Birth Control Investigation Committee, which is associated with the International Committee, is beginning to conduct researches which will yield more complete and detailed data than any that have yet appeared in England. The report for Great Britain seems to cover the ground more thoroughly than any of the others.

The publication of this first report of the International Committee should do something to stimulate a wider application of scientific study to this subject and the collection of trustworthy data on a broader basis. The lack of definition in statement is a weakness which can only be overcome as the material available is increased. In conclusion, it may be remarked that the members of the committee seem by implication to have restricted their studies to the use of contraceptive appliances and substances. Dr. H. Riese, their German correspondent, has, however, opened up a wider field which may be of even greater interest to the medical profession in Great Britain. In introducing his memorandum he states that, in his experience, contraception in extremely poor families, with many children and little sense of social responsibility, is generally performed by tube resection; and later, after describing the method of "birth control" attributed to him above, he suggests that temporary sterilization by injection of a contraceptive hormone would be preferable.

## Canada.

[FROM OUR SPECIAL CORRESPONDENT.]

### Professor A. B. Macallum.

THE retirement of Professor A. B. Macallum this year from the chair of biochemistry at McGill University marks the close of a brilliant teaching career extending over half a century. On the occasion of his last lecture to his students this month, with which he concluded his academic career, he received many marks of respect and esteem from the faculty and students. He had always devoted himself to physiology, but came to take more and more interest in the chemical aspect. He was the first to occupy the chair of biochemistry at the University of Toronto, holding this appointment from 1906 to 1917. He then served as chairman of the Advisory Council of Scientific and Industrial Research until his appointment in 1920 to the chair of biochemistry at McGill University. His many degrees and publications are evidence of his varied activities and achievements, and among them all he retained a love for the classics which contributed in no small degree to his influence in teaching. It was characteristic that in his final lecture (on vitamins) he should conclude by urging his students to acquire the habit of hard work and the spirit of inquiry, leading to them the passage from Tennyson's *Ulysses*:

"I am a part of all that I have met;  
Yet all experience is an arch wherethro'  
Gleams that untravelled world, whose margin fades  
For ever and for ever when I move."

He would have them

"Follow knowledge like a sinking star  
Beyond the utmost bound of human thought."

### Government Travelling Clinics in Alberta.

A great deal of work was done in 1927 by the travelling clinics organized by the Provincial Government of Alberta, and the country members are agitating to have the plan extended to cover the whole province instead of the northern part only. Whether or not this is the beginning of what may develop into a form of State medicine there is no doubt that the demand for such clinics has been created, and their activities will probably be widened. Each clinic includes three nurses, two doctors, and a dentist. One of the nurses travels ahead, examining the school children. Then the clinic comes in, but only on invitation from local committees interested in the schools of the district. The work undertaken is the removing of tonsils and adenoids, and the filling and extracting of teeth, and one of the doctors stays behind for a day for the after-treatment. The prices charged are 15 dollars for the removal of the tonsils and adenoids, 50 cents for

extraction of a tooth, and 1 dollar for an ordinary filling. The Minister of Health for the province sees no great difficulty in reconciling the work of the clinic with that of the local practitioners, as he showed that the clinic would probably only visit one place in a year. There is, however, still some dissatisfaction in the minds of local medical practitioners, both as to the actual working of the clinic and the possibilities implied in its growth.

### Chiropractors in Quebec.

There has been an attempt to introduce legislation by which chiropractors would be incorporated as a body possessing a definite status in the province of Quebec. The Provincial College of Physicians and Surgeons was fully advised of the matter, and steps were taken for concerted action on the part of the College and the medical schools of the province to place their views before the legislature. Accordingly, representatives of these medical bodies were sent to Quebec, and it was made clear to the Legislative Council that they were strongly opposed to any such incorporation being permitted. As a result of these representations the Council definitely refused the request of the chiropractors. In this respect the province of Quebec has taken a different stand from that taken by the province of Ontario, which has passed a bill by which all cults of this nature are placed on a footing defined and controlled by the Provincial Legislature.

## Union of South Africa.

[FROM OUR CORRESPONDENT IN CAPE TOWN.]

### Medical, Dental, and Pharmacy Bill.

DURING the last session of Parliament the Medical, Dental, and Pharmacy Bill passed its second reading and reached the committee stage. In committee seventy-five of its ninety-six clauses were disposed of when Parliament adjourned, and the Minister of Public Health agreed to the postponement of the bill only on the understanding that it should be proceeded with in the present session at the stage where it was interrupted in committee, instead of being introduced *de novo*. When recently consideration of the bill was resumed, Clause 76, promising to be somewhat contentious, was passed over for the time being, and the remaining clauses were adopted with little or no discussion. During the debate on the first day chief interest centred in a new clause introduced by the Minister to follow Clause 79, as follows:

"(1) No person registered under this Act shall himself make or attempt to make or to recover, or shall enter into any agreement or associate himself in any way with any other person for

the purpose of making or fixing, excessive or extortionate charges for any service rendered or to be rendered or for any article supplied by him by virtue of being so registered.

"(2) Unless the circumstances are such as to render it impossible so to do, every person registered under this Act shall, before rendering any service by virtue of being so registered, inform the person to whom the service is to be rendered, or the person in charge of such a person, of the fee which he intends to charge therefor: (a) when so requested by any person concerned; or (b) when such fee exceeds that usually charged for the service.

"(3) Any registered person who contravenes or fails to comply with any provision of this section shall be guilty of improper or disgraceful conduct within the meaning of Chapter IV of this Act, and it shall be the duty of the Council or the Board to take cognizance of and deal with such conduct under that chapter."

The clause was regarded by certain members with suspicion, but the general feeling seemed to be that it had been drawn up by the Minister to placate certain of the keenest opponents of the bill, who had endeavoured to establish a fixed scale of fees for medical practitioners. Replying to a somewhat long-drawn-out debate the Minister stated that far from the new clause being a slur on the medical profession it had proved acceptable to the Medical Association of South Africa, to which body it had been submitted. Legislation, he maintained, was necessary, not for the ordinary medical men, who stood very high in South Africa, but for the few exceptions. On a division the clause was adopted by 58 votes to 31.

Another new clause, introduced by Mr. J. D. Heyns, member for Middelburg, was to the effect that if a patient died during the administration by a medical practitioner of chloroform, or anything of a similar nature, an inquiry should be held by a magistrate. Although it was made clear that under the proposed clause there would have to be a *post-mortem* examination in every case of death under an anaesthetic, even though it was self-evident that no necessity for such existed, the mover of the amendment insisted that he wished to see an investigation made by a person not belonging to the medical profession in order to protect the public. The clause, after being redrafted by the Minister, was adopted.

Clause 76, dealing with the conditions under which corporate bodies could carry on the business of chemists and druggists, which had been left over to the last, occupied the final afternoon of the committee stage. An amendment was tabled proposing that the managing director of such companies should be a qualified chemist. This amendment, it was stated, had the support of the associated pharmaceutical societies in the Union. The Minister refused to accept this amendment, but on a non-party division it was carried by 60 votes to 44. The bill was reported with amendments and the report stage set down for an early date. Except for an amendment making it clear that the bill does not render unlawful any calling hitherto carried on lawfully in the Union, which may bring into the arena once again the supporters of the chiropractors, faith healers, and others of that ilk, which amendment will be dealt with at the report stage, it seems practically certain that the bill will at last find a place in the Statute Book this session.

#### Campaign Against Venereal Disease.

Under the auspices of the Women's Municipal Association a lecture on the prevention and treatment of venereal diseases was given to a large audience of women on January 17th. Councillor Mrs. Miriam Walsh, who presided, introducing the lecturer, Dr. Gavin O'Mally, venereologist to the City of Capetown, explained that the association, which was responsible for organizing the lecture, consisted of women who had combined to make Capetown a better and cleaner place. One of their objects was to make a special study of health problems in the city, and to this end they had decided to organize this meeting to rouse the public to the necessity of creating further facilities for the control of the disease, which was growing and spreading. There was need for more clinics, especially now that the previously separate municipality of Wynberg, a suburb of Capetown, had become a ward in the greater municipality. Wynberg was a large area and contained some of the very poorest parts of the peninsula. It was necessary to provide facilities in these poorer areas as in the other wards, and their object could be gained only if

the public would accord sympathy and support. Dr. O'Mally in his address described the nature of the two main types of venereal disease and the results they brought in their train. He emphasized the fact that the diseases were curable, and urged the necessity of immediate treatment. He summed up the weapons of attack under three heads: first, education, tending to a higher standard of knowledge, which would foster higher ideals in a community; secondly, better living conditions whereby the environment of the poorer classes might be improved; and thirdly, the establishment of free treatment centres. At the conclusion of Dr. O'Mally's lecture a film showing the effects of syphilis as an agent of family disruption was shown. Figures exhibited on the screen showed that during the period 1926-27, 1,942 patients had commenced treatment at the various clinics in the peninsula, and that 21,032 consultations had been given.

## Scotland.

### Vital Statistics, 1927.

THE REGISTRAR-GENERAL FOR SCOTLAND has issued a preliminary note on the vital statistics for 1927, which will be followed in due course by a full account in his seventy-third annual report. The most outstanding fact is a further fall in the birth rate, which has now reached 19.8 per 1,000, the lowest Scottish birth rate yet recorded. The birth rate was highest in 1876, when it was 35.6 per 1,000; that for 1927 is less by 44 per cent. The death rate of the year was 13.5 per 1,000, and the marriage rate 6.7, both below recent averages. The infantile mortality rate was 89 per 1,000 registered births, which was less than the mean of the preceding ten years. The death rate from all tuberculous diseases was 99 per 100,000, equal to the lowest yet recorded, and that from respiratory tuberculosis was 71 per 100,000, the lowest on record with one exception. Deaths from cancer (6,918) show a further increase. The Scottish birth rate for the fourth quarter of 1927 was 18.9 per 1,000; in the larger burghs the highest rates were in Coatbridge with 25.4, Glasgow with 21.5, and Hamilton with 21.3. Of the 23,282 children born 21,601, or 92.8 per cent., were legitimate. The deaths numbered 16,939, giving a quarterly death rate of 13.7 per 1,000; in the larger burghs the highest rates were 16.8 in Glasgow, 16.4 in Coatbridge, and 16.3 in Dundee. The Edinburgh rate was 15.5, and that of Aberdeen 13.0. In England and Wales the corresponding quarterly death rate was 11.7 per 1,000, which was 2.0 less than the Scottish figure. In Northern Ireland it was 13.7, as in Scotland. The infantile mortality rate was 100 per 1,000 registered births; the highest figures for the larger burghs were 167 per 1,000 in Coatbridge, 150 in Falkirk, and 147 in Paisley. The corresponding rates in England and Wales and Northern Ireland were 68 per 1,000 registered births, lower by 32 than the Scottish figure.

### Anderson College of Medicine, Glasgow.

The closing meeting of the Anderson College of Medicine at Glasgow for the session 1927-28 was held on March 15th. Emeritus Professor John Macintyre presided, and the prizes and medals were presented to the successful candidates by Dr. John D. Comrie, physician to the Royal Infirmary of Edinburgh, who subsequently gave a closing address upon the debt of modern medicine to the seventeenth and eighteenth centuries. The lecturer referred to the publication, three centuries ago, in 1628, of William Harvey's *Exercitatio Anatomica*, in which the circulation of the blood was demonstrated; it had come to be regarded as the most important single contribution which had ever been made to medical science. The Civil War in England had produced not only Harvey, but other great doctors, including Sydenham, who had the merit of introducing simple and rational methods of treating patients, and whose pre-eminence had been at the bedside, as Harvey's was in the laboratory. It had also produced Richard Wiseman, the "father of English surgery," who had spent some time in Scotland and contributed to the advance of

surgery there. The lecturer referred at some length to Peter Lowe, who had been trained in the wars in France, and who had settled in practice at Glasgow at the end of the sixteenth century; his *Discourse on the Whole Art of Chyrurgerie* was the first surgical book to be written by a Scotsman, and he had been responsible for the founding of the Faculty of Physicians and Surgeons of Glasgow. One of the latest surgical workers connected with the old College and the old Royal Infirmary in Glasgow two centuries after Wiseman's time had been Joseph Lister, who had there commenced in 1865 the experiments with carbolic acid which had contributed greatly to his fame. The lecturer believed that future generations would accord a still higher place for benefits conferred on surgery to Sir William Macewen, who had also worked in the Royal Infirmary and had been one of the earliest pioneers in aseptic surgery, which was now the routine of modern hospitals. Reference was also made to John Hunter, who had come from Long Calderwood, some eight miles south of the Clyde, and to William Cullen, who was born at Hamilton and who had been one of the most important early figures in the medical schools both of Glasgow and Edinburgh. The contributions of Glasgow to chemistry—notably that of Dr. Joseph Black, who had been the first to discover a gas, carbon dioxide—were also mentioned.

#### Larbert Colony Scheme for Mental Defectives.

Sir Alexander Graie presided over the sixty-seventh annual general meeting of the Royal Scottish National Institution at Larbert for Mental Defectives, in Edinburgh, on March 12th. The report showed that there were in the institution more than 500 mentally defective children, who were being trained for some useful work, so far as their capacities admitted. The directors were at present engaged in attempting to establish an industrial colony for 300 mental defectives, but had so far been able only to raise half of the £70,000 which was required. In the meantime, it was proposed to provide for 50 adult defectives by the erection of two villas, while Larbert House, the mansion on the estate which had been purchased for the establishment of the colony, had been converted into a home for the all-life care of 36 mental defectives, for whom fees could be charged. The latter home had been opened last July, and the proof that there was need for such accommodation was forthcoming in the fact that more than half of the places had been immediately applied for. In the medical superintendent's report it was stated that of the children admitted 9 were classed as feeble-minded, 34 as imbecile, and 9 as idiotic. It is pointed out in the report that no sharp line of demarcation between the definitely feeble-minded and the dull normal elements of the population can be drawn, nor between those who are regarded as merely feeble-minded and those who are definitely imbecile. It had been thought that the intelligence tests would enable definite distinctions to be made, but in practice this had proved impossible. Dr. R. D. Clarkson, medical superintendent, in submitting the report, said that it had formerly been imagined that feeble-minded children merely required a longer and slightly different education from others, but this idea had proved to be false; mental deficiency was an incurable condition, hence the decision of the directors to purchase an estate for the formation of an industrial colony. Many mental defectives could only be safe in such a colony. The chairman pointed out that satisfactory progress had been made with the colony scheme; a good lead had been given by the Council of the Women Citizens' Association, which had contributed more than £12,000. The directors felt that it was not only the duty of everyone to help in the matter, but that as individuals they should protect themselves from the menace which was constituted by the want of proper control of mental defectives. Lord Sands, in speaking of the increasing public interest in the whole-life care for the feeble-minded, said that in the old days when the greater part of the population was scattered over rural districts, the feeble-minded people contrived to live fairly happy lives, but these conditions had now almost entirely disappeared, and it was hardly possible for weak-minded and imbecile children to grow up in densely populated centres. Three great benefits were conferred by such

an institution: the removal of feeble-minded children from their homes and the streets, their training, and the ensuring of their happiness.

#### Debate on Animal Experiments.

A debate on the question whether vivisection was necessary or justifiable in the interests of mankind was held in the Y.M.C.A. Hall, Edinburgh, on March 16th. Mr. F. J. Robertson presided, and Dr. F. A. E. Crew of the animal research department in the University of Edinburgh supported vivisection, while the negative was maintained by Mr. Herbert Brown of Glasgow. Dr. Crew pointed out that experiments on animals were conducted for the definite purpose of seeking information which should give to mankind the power to control his physical environment as well as the life processes of animals and plants. He believed that the general public should know what scientists, who were paid by the State, were doing and how they did it. Stories of cats, agonized and suffering from artificially produced disease, had been spread abroad and embellished beyond all reason. He considered that anti-vivisection was largely taken up by elderly women through fanaticism, as it was rarely supported by men. He did not consider that these were the people who were best constituted to judge what was necessary or justifiable in the interests of mankind. No country could prevent the importation of the fruits of scientific investigation, although it might banish the investigator. He believed that animal experimentation was the only means available for securing certain knowledge, although it was only one of the many tools used by the scientist. After considerable discussion the motion that animal experimentation was necessary and justifiable in the interests of mankind was supported by a large majority.

## England and Wales.

#### Opening of the New Leeds Dental School and Hospital.

An event which has for long been eagerly awaited by all interested in the study of dentistry took place in Leeds when the new dental school and hospital was opened by the Speaker of the House of Commons, the Right Hon. J. H. Whitley. The Chancellor of the University, the Duke of Devonshire, who presided, was accompanied by the Vice-Chancellor and other representatives of the University, including Professor T. Wardrop Griffith, and by members of the staff of the Dental Hospital and of the General Infirmary. In his opening remarks the Chancellor emphasized the great importance of the connexion of the School of Dentistry with the University and with the General Infirmary at Leeds. Mr. Alexander Campbell, explaining how the cost had been met, said the Infirmary had given a site, which represented a contribution of £8,000; the Dental Board gave £5,000 towards the buildings and £1,500 towards equipment, and the members of the dental staff had shown the sincerity of their desire to have a properly equipped school and hospital by contributing over £2,000. The cost of the building and its equipment, apart from the value of the site, was just over £42,000. Sir Francis Dyke Acland also referred to the value of the close union which existed between the University, the General Infirmary, and the School of Dentistry, and pointed out that it was a good thing for the patients of a dental school, as it was for the patients of any teaching hospital, that there should be present a number of young men and women desirous of learning all that they could from the precept and example of their teachers. He added that the work of Mr. Whitley and that of a dentist had many things in common. In the hands of each there lay the full power to prevent the other man from talking; each had to listen entirely unmoved to protests against the use of the gag; each had to view with unruffled calm the expulsion of a stubborn member; and each had to be ready at the shortest notice to deal with any emergency with patience, coolness, and dexterity. The Speaker, in declaring the buildings open, described the event as another—and a very important—step in the development of the University of



Leeds, marking as it did the beginning of a great scheme for the provision of adequate accommodation for all its departments. He was confident that the disruption of the federal university, of which Manchester, Liverpool, and Leeds were the three constituent colleges, and the fact that Leeds had to stand by itself, would act as a spur to the people of Yorkshire. A description of the new buildings was given on January 14th (p. 72). Locally it is felt with pride that Leeds has now one of the best, if not actually the best, constructed and equipped dental hospitals in the country. Immediately after the opening ceremony a congregation of the University was held in the library of the Medical School. Honorary degrees were conferred by the Chancellor on the Speaker of the House of Commons, Mr. Charles Rippon, president-elect of the British Dental Association, Mr. W. Sinton Thorburn, warden of the school, and Mr. Walter Marston, chairman of the Clinical Dental Committee.

#### Research at Buxton.

The first research report of the Devonshire Hospital, Buxton, has lately been issued<sup>1</sup> under the joint editorship of Dr. C. W. Buckley, chairman of the Research Committee, and Mr. Joseph Race, biochemist to the hospital. The research laboratories of the hospital were established in 1912 to investigate the bacteriology of arthritis. In 1923 a research chemist was added to the staff and a laboratory equipped. At first the object was to study the chemistry of the Buxton mineral water and its action in the diseases for which it has had a reputation based upon empiricism since Roman times. The scope of the work has steadily widened to include the biochemistry of gout, acute rheumatism, fibrositis, and arthritis. The present report deals mainly with some of these problems. A paper by Dr. D. Macmillan, based on an Edinburgh M.D. thesis, presents the results of work on the calcium and carbonic acid content of the serum in chronic rheumatoid arthritis and other conditions. He shows that the calcium content of the serum presents no marked deviation from the normal in the rheumatoid group of diseases, and that, apart from infective arthritis, the carbon dioxide content of the serum also lies between normal limits. In the infective cases there is a slight but definite decrease. This worker has also shown that variations in the level of the calcium content of the serum may occur in an individual at different times, although the influence of the menstrual cycle on this calcium figure is negligible. A paper on acidophilous milk in infective arthritis by Dr. E. Biddle indicates that in a small group of patients such milk is a valuable agent in the treatment of chronic constipation and the conditions arising therefrom, but is of little value as a specific agent in the treatment of infective arthritis.

#### Antivenereal Measures in London.

In 1927, under the London County Council's scheme for dealing with venereal diseases, the number of days of treatment of in-patients was 112,413, as compared with 101,735 in 1926. The new patients who came to the aided hospitals under the scheme in 1927 numbered 28,965, of whom 18,801 were found to be venereal and 10,164 non-venereal. The figure of venereal cases is the highest since 1923, when it was 19,006. Of the total number of new cases, those of syphilis numbered 6,095; of gonorrhoea 12,496, and of soft chancre 210. The attendances numbered 767,278, as compared with 687,075 in 1926. The number of bacteriological specimens examined at the request of, and free of cost to, practitioners was 27,046, and 446 practitioners were on the approved list for the free supply of salvarsan or its substitutes. The arrangements are to be continued for another year, and grants amounting to £93,060 for treatment and pathological work and £5,350 for hostels are to be made, together with a further £8,025 in the event of certain additional facilities being provided. Certain neighbouring local authorities participate with London in the scheme, and, on the basis of user, 17 per cent. of the expenditure is met by them. The Government defrays 75 per cent. of the council's expenditure in carrying out approved arrangements.

<sup>1</sup> Bristol: John Wright and Sons, Ltd, 1928, pp. 96.

## Ireland.

#### Ministry of Health for Northern Ireland.

SOME important correspondence has appeared recently in the local press on the subject of establishing a Ministry of Health for Northern Ireland. In the issue of March 16th of the *Belfast News-Letter* Dr. Kidd of Enniskillen detailed the arguments in its favour, and emphasized the point that the duty of the Minister was to prevent disease; such a function was too often overlooked, although it was of much greater value than that of attending to the treatment of illness when it developed. Though the question is complex it may be asserted with confidence that the general tenets of Dr. Kidd's letter will receive the cordial approval of the medical profession in Northern Ireland.

#### Public Health Organization in the Free State.

Dr. E. F. Stevenson, chief medical officer of the Department of Local Government and Public Health, in the course of a recent statement said that while efforts had been made to provide a water supply in urban districts in the Free State, the drainage was defective in many towns, and in some there was no sewerage system. Dr. Stevenson stated that the importance of good drainage in towns could not be overrated, and mentioned that in Dublin in 1904, when the main drainage scheme came into operation, the typhoid rate at once fell sharply. Defective drainage was the cause of diphtheria in parts of the counties of Cork and Limerick. The absence of a pure water supply and a proper sewerage system imposed heavy expensio on the community through preventable illness, and it was a short-sighted policy to try to save money on such essential requirements; this was especially true of tourist and holiday resorts, where the normal winter population was considerably increased during the holiday season, and sanitary arrangements should be based on the needs of the larger population. Progress in public health reforms was hampered by the neglect of local authorities to fix a suitable area of charge; to restrict the area to a few townlands was unwise. His department favoured the entire rural board of health area being made the area of charge for water supplies and sewerage. Dr. Stevenson said the main essentials in public health administration were sanitary areas of adequate extent and trained whole-time health officers to control sanitary inspection and administration. It was difficult to understand the hesitancy of local authorities to appoint whole-time officers of health when the cost in most country areas was but a fraction of 1d. in the £. Speaking of the progress made in this direction in the counties, Dr. Stevenson said it was slow but steady. The Rockefeller Foundation had promised generous financial assistance over a term of years towards the development of public health services in counties where county medical officers of health were appointed. Such public health services would come into operation during the present year in at least two counties, and schemes were being formulated for other counties which it was hoped to initiate at the beginning of next year.

#### Ulster Hospital for Women and Children, Belfast.

Professor Sinclair presided over the annual meeting of the Ulster Hospital for Women and Children on March 15th. The annual report showed that the average daily number of beds occupied was fifty-five, and the average annual cost per head was £78 19s.; 1,808 operations had been performed. The chairman, moving the adoption of the report, said that having been an active surgeon in the hospital at an early period of his career he had watched the development of the institution with particular interest and sympathy. The work of the hospital was extending and its efficiency was in no way impaired. He drew attention to the ante-natal clinic, and he hoped the subscribers would pay special attention to that department. On the motion of the Rt. Hon. Lord Justice Andrews a hearty vote of thanks was accorded to the medical and surgical staff and to the nursing staff for their services during the year.

## Correspondence.

### HISTORICAL EXHIBITION AT CARDIFF.

SIR,—The History of Medicine Section of the British Medical Association, with the assistance of the authorities of the National Museum of Wales, propose at the Annual Meeting of the Association this year at Cardiff to stage a series of exhibits illustrating the theory and practice of folk-medicine, human or animal, in the National Museum of Wales at Cardiff. To this exhibition the Librarian of the National Library of Wales has very kindly promised to send a series of books and manuscripts.

The council of the museum has placed the library room at the museum at the disposal of the Association for the purpose, and it is proposed that the exhibition should be open daily from July 20th to July 28th inclusive.

The object of this communication is to invite members of the Association, particularly those resident in Wales, who may either possess themselves, or be able to procure for the purpose of the exhibition, any objects relating to the theory and practice of folk-medicine, in connexion both with man and animals, to send them to Cardiff. It is thought that many practitioners in the country districts of Wales will, in the course of their professional work, have become acquainted with practices of this sort and be able to supply objects illustrative of such.

It is hardly necessary to stress the fact that practices of the character referred to have a very important ethnological and cultural bearing in addition to their purely medical aspects. Identical practices are widespread over Europe, and it is hoped, if an adequate response to our appeal be received, to institute during the week July 21st to 28th a series of lectures and demonstrations bearing on the exhibits which will greatly add to their interest.

Any communication should, in the first instance, be addressed to Dr. Strachan, 20, Windsor Place, Cardiff. Objects for exhibition may be sent in June or early in July, marked "B.M.A. Exhibits," to the Director, the National Museum, Cardiff. The name of the owner will be attached to each exhibit. All exhibits will be returned to the lenders in August.

Many objects of the character in question will be, of course, not in the possession of practitioners, but known by them to be in the houses of patients or others, and any assistance which can be given either by Sir Ewen Maclean or by Dr. Cyril Fox, the Director of the National Museum of Wales, in order to induce owners to lend such objects will gladly be given on request.—We are, etc.,

EWEN J. MACLEAN,  
President-Elect.  
GILBERT I. STRACHAN,  
Honorary General Secretary.  
H. R. FREDERICK,  
Honorary Secretary, Section of  
History of Medicine.

Cardiff, March 15th.

### PREVENTIVE VACCINATION OF THE NEW-BORN AGAINST TUBERCULOSIS.

SIR,—In your issue of March 3rd (p. 364) the results claimed by Professor Calmette for the B.C.G. vaccine are sorely criticized on the ground of statistics. Perhaps Wallgren may have changed his mind now that the latest figures are available for investigation.<sup>1</sup>

The argument that children supposed to have died of various maladies may in fact have died of tuberculosis does not stand before the following fact: The general death rate of children vaccinated with B.C.G., though exposed to contagion, is far lower than the death rate of non-vaccinated children, exposed or not to contamination.

This is not a question of academical interest, nor is it a tribute of admiration for Calmette's splendid work. The lives of many children are at stake. Can they be saved? These lines are meant to urge your readers to approach the question at its very source.—I am, etc.,

GUSTAVE MONOD, M.R.C.P.Lond.,  
M.D.Paris.

Vichy, March 10th.

<sup>1</sup> Premunition or Preventive Vaccination of the New-born against Tuberculosis, with the B.C.G. Statistics and Results from the 1st of July, 1924, unto the 1st of December, 1927. By A. Calmette. *Annales de l'Institut Pasteur*, January, 1928, vol. xlii, p. 1.

### MIDWIVES AND ANTE-NATAL WORK.

SIR,—The majority of obstetricians will agree with Professor McJhoy in her letter (March 17th, p. 466) with reference to ante-natal care. It is true that at a meeting recently I heard one man say that at the institution with which he was connected the ante-natal work was done, and well done, by midwives. It must be remembered, however, that the midwives attached to such an institution are the absolute pick of the nurses, and in no way represent the standard of efficiency among midwives as a whole.

It is very essential that the ante-natal care should be in the hands of qualified medical men, and the advice that I have given for some years past to students who are on the verge of qualifying and going into general practice is that they should put aside a certain hour every week for ante-natal examinations; further, that they should get in touch with the best midwives of the district, and persuade them to bring their own cases for examination on this particular day, and that they themselves should employ these midwives to conduct the actual labour in all the normal cases; moreover, that they should themselves see the patient again at the end of the puerperium. In this way they would know all about the patient in the event of any unforeseen emergency occurring during the labour, and they would know the final state of that patient.—I am, etc.,

London, W., March 19th.

MALCOLM DONALDSON.

### MINERS' NYSTAGMUS.

SIR,—In no one of the many letters and papers that have been written on this subject have I seen a satisfactory answer to the question: How does miners' nystagmus render a man incapable of hewing coal? We all know men with uncontrollable nystagmus (subjectively with a perpetual dancing of the objects viewed) who are hewing and have hewed coal for years as efficiently as their more fortunate companions who have not acquired the disease. I have seen many patients at the Eye Hospital who, although they had an uncontrollable nystagmus when standing erect in daylight, were still hewing without complaint; these were never giddy on stooping. Other patients become very giddy on stooping: they may reel after tying up their bootlaces, although no nystagmus can be seen in daylight and when erect; but it may be revealed at once if the room be darkened except for one point of light which they observe in a stooping position.

I am convinced that the incapacity for work in the pit varies directly as the giddiness on stooping. Of course, the giddiness may be due to other causes, such as arteriosclerosis, but if the patient shows nystagmus in a dark room and the other signs, such as the characteristic tremors, rapidity of pulse, etc., giddiness, sufficient to render him incapable of pit work, may be reasonably attributed to miners' nystagmus.

It would appear that this giddiness is a far more prevalent symptom than it was thirty years ago; I attribute this to the prolonged in-breeding of those predisposed to the disease in pit villages. As I have previously maintained, pit villages are hotbeds for the propagation of the disorder, or rather of the predisposition to the disorder, while coal hewing is the most exciting cause, as among 34,000 underground workers I found that the percentage of those who acquired the disease in one year was four times greater among the coal hewers than that among the other underground workers.

As the health of the patient is the main concern of our profession, it is our duty to urge every man who has miners' nystagmus to change his occupation if possible; but we, as referees, are asked whether the applicant through the disease is rendered incapable of earning full wages. The answer to this question rests entirely upon the signs, not the symptoms, of giddiness. As I have said before, it is quite impossible to assert that the applicant has not the disease after a single examination; the evidence of the disease varies so from day to day that an opinion based on one examination, in which the signs were not manifest, is unreliable.—I am, etc.,

Newcastle-upon-Tyne, March 17th.

A. S. PERCIVAL.

## DYSPHAGIA ASSOCIATED WITH ANAEMIA.

SIR,—I am glad to see from his letter in your issue of March 17th that such an experienced observer as Dr. William Hill agrees with me that the form of dysphagia described in the recent paper by Mr. A. Mason Jones and Mr. Robert W. Owen is not due to spasm. Dr. Brown Kelly's evidence in favour of spasm is very unconvincing; the sudden onset, for example, is just as easily explained by achalasia as by spasm.

I cannot agree with Dr. Brown Kelly that the closure of the lower end of the gullet is always firmer than normal in so-called cardiospasm, and that "sometimes it is so great that it yields only to prolonged steady pressure"; for anybody who has passed a mercury tube in such a case must have been struck by the remarkable absence of resistance offered by the sphincter, and by the absence of any grip upon it when it is withdrawn from the stomach. In exceptional cases temporary spasm may be present at first, but this is a result of the oesophagitis caused by irritation by retained food, and quickly disappears under treatment.

Though the old theory of cardiospasm is doubtless adopted in most books on oesophageal diseases, as Dr. Brown Kelly states, this is simply because they were written before Sir Humphry Rolleston's theory of inefficient relaxation was revived in 1915 by our clinical and radiological investigations, and subsequently confirmed by the pathological work of Stokes and Rake. Every physician and surgeon interested in disorders of the oesophagus with whom I have discussed the subject now accepts the theory of achalasia. Apart from the evidence afforded by the mercury tube and by the x-rays, the complete absence of hypertrophy of the cardiac sphincter—in striking contrast with the hypertrophy of the muscular coat of the rest of the oesophagus—is conclusive evidence that no long-continued spasm can have been present, as this would certainly give rise to hypertrophy.—I am, etc.,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, March 19th.

SIR,—In reference to the correspondence in the *Journal* under the above heading, it appears to me that the obviously easy passage of Dr. Hurst's large mercury-filled rubber tube not only knocks the bottom out of the cardiospasm theory of Mikulicz, adopted by Dr. Brown Kelly and others, but also excludes Dr. Hurst's own theory of achalasia in that portion of the gullet which lies between the level of the diaphragm and the cardiac orifice, as there is no evident abnormal resistance to the passage of the tube. Degenerative changes in Auerbach's plexus constitute an organic lesion, and this is more compatible with the view that there is feeble muscular activity and possibly a reduced reflex—that is, paresis—than with the theory of active contraction.

It seems to me that the dysphagias unassociated with a narrowing of the lumen at the lower end of the pharynx, which are under discussion, though not, of course, really analogous to those near the cardia, an area with unstriated muscle, have some points in common, more especially diminished contractile power and reduced reflex; moreover, in the pharyngeal case, the mercury tube passes without abnormal resistance, thus excluding spasm.

Dr. Hill's suggestion that the atrophic lesion in the lower pharynx in these feeble anaemic cases is in many respects similar to that observed in the paretic palate of chronic nasal catarrh would appear to be at least plausible, and not at variance with the clinical findings as far as I can see.

Although most of these atrophic pharyngeal cases improve under the stimulating massage effect of the passage of bougies, I have recently had a striking exception in my own practice, and am contemplating resort to electrical treatment on the assumption that the condition may be really paretic as suggested.—I am, etc.,

London, W., March 16th.

KENNETH A. LEES.

SIR,—It may be of interest, and perhaps of value, to summarize the findings in this laboratory in twelve cases of "pharyngo-oesophageal spasm."

Most of the patients came from Dr. Brown Kelly, and all were women of middle age. In one only was there

secondary anaemia; in none was there splenomegaly; in all there was a definite reduction in haemoglobin, a figure round 60 per cent. being commonly found. With the one exception the red cells were between 4 and 5 million, of normal size, shape, and staining (allowing for the deficiency in Hb), the leucocytes from 6,000 to 7,000 per c.mm. The organisms isolated from the pharynx were pneumococci or streptococci. The hydrogen-ion concentration of the saliva was examined and the limits of pH were from 6.4 to 6.6—that is, slightly on the acid side of normal.

The only constant blood change was therefore reduction in haemoglobin, and that is due, I think, to the restricted diet on which these patients live, anything which causes the slightest difficulty in swallowing—meat, for instance—being rigorously excluded.

The cause is probably to be found in the inflammatory changes of the mucosa and submucosa. The nerve terminations in the epithelium are affected; they may even be destroyed; and the swallowing reflex is not initiated—at least, it is not normally and instantly initiated. There is no intermuscular plexus within two centimetres of this region, and unless the pathological lesion is in the medulla, it is difficult to imagine how else the condition can arise; although in passing it may be noted that the sympathetic supply of the oesophagus is much more definite here than in the rest of its course.

As regards the analogous condition at the lower end of the oesophagus, it seems clear, from the results published from Guy's Hospital and here, that inflammatory changes in Auerbach's plexus are frequently associated with it. A lesion, however, on the mucosal side of the ganglia might produce exactly the same effects without the nerve cells showing any change at all. Indeed, as I have stated elsewhere, this may be the common sequence of events—that the lesion in and around the plexus is the result of the outward spread of a primary oesophagitis. In some cases there may be a specific selection of the ganglia by bacterial toxins, but these must be very uncommon.—I am, etc.,

J. A. M. CAMERON.

Victoria Infirmary, Glasgow, March 18th.

## GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—The letter from my friend Dr. Poulton which appears in the *Journal* of March 17th (p. 469) may prove a little misleading if left without comment. It is essential to bear in mind that regurgitation of the duodenal contents and the secretion of a salt of chlorine by the stomach are two quite distinct issues; either may occur alone or both might occur together. To prove the occurrence of one does not disprove the occurrence of the other, and to prove that one gives only a partial explanation of the facts does not necessarily prove that its missing complement is to be supplied by the other. So that the fact that duodenal regurgitation does not by itself adequately explain all the facts is no proof whatever that the stomach normally secretes salt, as Dr. Poulton's letter seems to suggest. I have often said that if we might assume that both these things do occur this would probably provide the most convenient explanation of our problems; but unfortunately the convenience of an explanation is no guarantee of its correctness.

One other point is worth noting as it illustrates well the difficulties with which we are beset. Both the papers cited by Dr. Poulton are extremely interesting, and taken by themselves, apart from other work, they each make out quite a convincing tale; yet Dr. Poulton is very unfortunate in his choice of authorities, for while neither of them really supports the doctrine of gastric secretion of neutral chloride they are each mutually contradictory of the other in their conclusions. Baird, Campbell, and Fern (whose work has, I think, received too little attention) state definitely that "it is unlikely that chloride is secreted in the gastric juice in any large amounts," and one of their main conclusions is that at least in a proportion of cases the fall in the acid curve is due to neutralization by the alkaline pyloric secretion. Hansman, Day, and Clifton, on the other hand, do maintain that a salt of

<sup>1</sup> *Archives of Disease in Childhood*, 11, 12, p. 359; *Journal of Laryngology and Otology*, xliii, 3, p. 213.

chlorine passes through the stomach wall, but they are careful to avoid all mention of "secretion"; and the whole point of their paper is to show that the fall in the acid is brought about by dilution, and that neutralization only plays a minor role. Further, if Dr. Poulton accepts Dr. Campbell's curves from the duodenum he must dismiss as fallacious the assumptions on which the whole of Dr. Hansman's calculations are based. To avoid misconception I would add that I should be very glad indeed if Dr. Poulton, Professor MacLean, or anyone else can convince me that the stomach can normally secrete a salt of chlorine; but so far as I can see the evidence is still all the other way, and I know of no reason why Dr. Poulton should summon Pavlov to haul down his flag. I am, etc.,

London, W.14, March 17th.

GORDON W. GOODHART.

#### INJECTION TREATMENT OF VARICOSE VEINS.

SIR,—Dr. Borchers's communication on this subject in your issue of March 10th (p. 412) leads one to suppose that he regards syphilis as the common underlying cause of venous varicosity. In my experience there is not the slightest justification for such an assumption. On the other hand, the general use of salvarsan and its derivatives is fraught with danger, is very expensive, and, in the many non-syphilitic cases, quite useless.

Dr. Barber's letter on the same subject draws attention to the well-known experiment of injecting strontium bromide into a varicose vein and observing the centrifugal flow of the fluid. It should be pointed out, however, that the direction of flow depends upon the position of the limb. If it is horizontal the flow is centripetally directed. This raises the question as to whether it is not unsound practice to put patients with spontaneous phlebitis to bed. No doubt the specific gravity of the experimental fluids injected plays a part in the determination of the direction in which they shall flow. As I have pointed out in my monograph on the treatment of varicose veins, some of the injected fluid must pass centrally at once, as evidenced by the taste of quinine or the immediate tinnitus from salicylate.—I am, etc.,

March 13th.

A. H. DOUTHWAITE, M.D.

SIR,—It is evident from Dr. Borchers's letter that he considers the causation of all varicose veins to be syphilitic, and "from a pathological point the same as aneurysm." Therefore, he says, they should all be treated by injections of arsenical compounds, which, as he admits, do not cause thrombosis, but presumably act in a specific capacity.

It is possible to concede a certain percentage where syphilis is a factor, but I think, when one considers such other factors as pregnancy, increased intravenous pressure from uterine causes or constriction of the limb, long standing, and many other similar conditions, he is bound to assume the syphilitic percentage to be quite small. Accordingly, I cannot agree when Dr. Borchers says: "The great objection, in my opinion, to the use of other drugs which do not attack the cause of the disease, but produce thrombosis, is the risk of embolism . . ."; first, because I do not feel that he is attacking the cause of the disease by injecting arsenical compounds into quite the majority of varicose veins, and secondly, because I maintain that the risk of embolism after injection of solutions producing thrombosis has been proved to be negligible.

I shall be pleased to give Dr. Borchers references to over 30,000 injections in the literature to date, in which not one single case of embolism has been observed. In my own experience during the last three years of over 1,000 injections I have had such uniformly splendid results that I do not hesitate to express the opinion that, given great care in the technique of injecting sclerosing solutions, we have here a treatment which will supersede all other methods for the cure of varicose veins.—I am, etc.,

RONALD THORNHILL, M.B., Ch.B.

London, W.1, March 13th.

SIR,—With reference to Dr. Borchers's recommendation of "606" as an injection for varicose veins, it may be of interest to recount my solitary experience of this substance—or rather, neokharsivan—on a varix.

I was not using it to cure the varix, but for the treatment of syphilis in a woman in whom I found it difficult to obtain a suitable vein in the usual site, but who had a large and prominent varicose vein crossing the tibia on the left leg, apparently intended by Providence for my use. I gave her at least seven or eight of her twelve injections by this route, and can only state that the vein appeared just as large and varicose at the end of the treatment as it did before.

As to Dr. Barber's letter in the same issue, he apparently maintains that there is no risk of a clot from a thrombosed varix getting into the general circulation, and I confess I am puzzled. I have seen the statement made several times lately. If it refers only to the clot artificially induced in the injection treatment it is probably true, but I gather that it is intended to apply to all thrombosed varices. Is the teaching of the past on the subject, then, all wrong? And if so, what is the explanation of the sudden deaths which seem to have occurred with some frequency in this condition?—I am, etc.,

Portsmouth, March 13th.

E. W. DEWEY.

#### COLLECTIVE INVESTIGATION AND TUBERCULIN.

SIR,—I observe that Dr. Sharpe, writing from Hertford County Sanatorium, states in his letter in your issue of March 17th that he sees very few "simple, early, uncomplicated cases of [pulmonary] tuberculosis." This is a very important point. Where are these early cases which lie at the root of the whole matter? They are in the homes of the people—in the peculiar domain of the family doctor. While welcoming, therefore, investigation anywhere and everywhere, this particular research should be conducted locally, under the auspices of the Divisions of the Association. The tuberculosis dispensary would form a convenient centre if, as is to be expected, the authorities were sympathetically inclined, but it is essential that the active co-operation of those who are most favourably placed for diagnosing and treating the disease in its earliest stages should be retained.

I have purposely avoided the term "surgical tuberculosis" as unscientific. For purposes of demonstration visible lesions are obviously best; otherwise I do not discriminate between early pulmonary tuberculosis and early tuberculosis elsewhere; only let it be early. One of the great errors of tuberculin work hitherto has been to begin at the wrong end, with the advanced and unsatisfactory cases, which have resisted other forms of treatment, and in which tuberculin is tried as a last resort. This is a hopeless method. How would surgery stand such a test in relation to cancer? My experience is that in early pulmonary tuberculosis tuberculin is safe, easy, and effective when administered in accordance with Koch's methods, and with the limitations advised by him. It is to try out on a large scale Koch's momentous discovery that my suggestion has been put forward.

I have seen pulmonary tuberculosis flare up both with and without tuberculin, and although it is impossible to discuss individual cases without full details of the morbid condition and of the dosage of tuberculin, one may say, broadly speaking, that the earlier the case the less the risk. In the earliest cases there is none at all; it is mostly faulty technique which is responsible for the flaring up of suitable cases for tuberculin treatment which would not otherwise do so of their own accord. The point, however, is an important one and deserves close attention. Many years ago it was suggested by Sir William Watson Cheyne that secondary infection might play a mischievous part. Dosage and resistance vary, but there are clear leading indications to guide safely those who have knowledge and experience of the subject.

There is no difficulty in keeping careful records of pulse, temperature, weight, general, local, and focal reactions. I have taught many patients to do so, and have found

that the ordinary patient is a wonderfully acute observer in a matter which so vitally concerns himself.

I regard tuberculin as the key to the tuberculosis problem; at the same time I look forward, as Dr. Tippet does, to the possibilities of serum therapy. The question of the causal relationship of bovine to human tuberculosis is an important but separate question.

When the time comes for a central committee to be formed, one of its duties will be to consider the work which has already been done on tuberculin. In any such review the work of Dr. W. Camac Wilkinson, referred to by Dr. J. Gordon Hume, will fall to be carefully considered. There is a feeling that the investigation of Dr. Wilkinson's work by the committee of the Medical Research Council was not conducted with that sympathetic interest which it deserves.—I am, etc.,

Wandsworth, S.W.18, March 15th.

ROBERT CARSWELL.

SIR,—As a consistent advocate of the uses of tuberculin in general practice, and a convinced exponent of the value of tuberculin in the treatment of pulmonary tuberculosis from the very day of its discovery by Professor Koch, I challenge Dr. Sharpe to produce the protocols of the two cases upon which he ventures to suggest that tuberculin is a dangerous remedy for pulmonary tuberculosis. I wish to examine the evidence which has frightened him.

In a disease like pulmonary tuberculosis, liable to so many vicissitudes, vagaries, and uncanny complications, it is remarkable that out of many cases two might show fresh activity? Will Dr. Sharpe explain the meaning of the term "flare up"? The truth may be that these and other ill-defined disturbances, arising from the natural tendencies of pulmonary tuberculosis, are laid illogically to the charge of tuberculin. With my experience of thirty-seven years, in which I have consistently used tuberculin in doses that would terrify Dr. Sharpe, I have seen no evidence to indicate that the tuberculins mentioned by him (T.R. or B.E.), provided they are the preparations of Meister Lucius and Brüning, used in the proper cases, given in the proper doses, prepared by the physician himself on the spot and with a due regard to clinical manifestations, and injected at the proper intervals, will increase, for they will undoubtedly diminish, the inherent tendency to progress in this capricious disease. If Dr. Sharpe would visit the tuberculin dispensary I would show him scores and scores of charts proving that temporary increase of temperature, even with loss of weight and general disturbance, is almost invariably followed very soon by a distinct phase of improvement, and leads step by step, in the course of months, to the patient's recovery. As a set-off to his two cases, I will mention two cases which he can control for himself if he wishes.

1. A man, aged 28, developed pulmonary tuberculosis; he was in Brompton Hospital for four months, and then at Frimley for four months. From beginning to end the disease became worse and worse. He was discharged from Frimley, and was told that nothing more could be done. He went home, and was bedridden for six months, during which he wasted to a shadow. I was called in at this stage; and against my will consented to treat him with progressive doses of tuberculin. His pulse then was about 120; temperature 99.6° to 100° F. The physical signs were those of the third stage. From the first dose of tuberculin he began to mend. In twelve months he was able to leave his room, in another six months he was able to walk about. He has had tuberculin in enormous doses from time to time, and recently, at his own suggestion and with my consent, he applied to be taken back to a Government department, and his application was successful. It is now six years since I found him in this desperate condition after treatment at Brompton Hospital and Frimley. Dr. Sharpe can verify these facts from the patient, whose name I can give him in confidence with the patient's consent.

2. I was called in to see a patient suffering from pulmonary tuberculosis in the third stage, with pronounced disease of the larynx, causing hoarseness and pain on swallowing. There was disease of the vocal cords, with interarytenoid ulceration and oedema of both arytenoids. The patient, with my consent, was placed under the care of another practitioner, who, a month or so after I began treatment, told the patient that the tuberculin had made the condition worse. I suppose Dr. Sharpe would have said it caused the disease to "flare up." I wished to withdraw from this case, but the patient insisted that I should continue treatment with tuberculin without any interference. He was treated by me for several years, during 1911 and after, and subsequently did splendid work during the war, and is now (1928) apparently free from any symptoms of disease.

I have scores of cases in which I have observed exactly the same satisfactory results from the skilful, bold, and adequate use of properly prepared tuberculin.

Dr. Sharpe disagrees with the view that tuberculin can be given to ambulatory cases of open pulmonary tuberculosis with safety, success, and lasting results. What is his evidence? Let him produce it before any judicial tribunal and I will produce my evidence. My knowledge and experience of this disease lead me to believe that any casual "collective investigation" would be useless. The only investigation that is worth making must be on the lines I have already definitely laid down in the *British Medical Journal*.—I am, etc.,

London, W.1, March 17th. W. CAMAC WILKINSON.

SIR,—Your correspondents who have suggested collective investigation into the value of tuberculin appear to have forgotten the diversity of issues involved in such an investigation. Not only is there a great diversity in clinical conditions, but the aims of those employing tuberculin remedially; their choice of patient for the purpose, their views concerning dosage, spacing, and increase or otherwise of doses given, are equally diverse. Unless these varying circumstances are taken into account no useful conclusions can be drawn.

Some physicians aim at suppressing the tuberculin sensitivity of their patient by cumulative dosage, whereas others regard this as undesirable and sometimes dangerous. This alone results in enormous differences in dosage and mode of administration. Some control their treatment by temperature, pulse rate, and other clinical changes, including the state of the blood histologically and chemically, while others pay no attention to such indications. Even temperature records are differently compiled by different people; and are not always comparable. And clinically the same patient will react very differently to the same dose of tuberculin at different periods of his illness, and under different conditions of life and occupation.

It is eminently desirable that accurate investigations should be made into the action of tuberculin, but this can only be done in an institution where every factor can be noted and controlled.—I am, etc.,

Farnham, Surrey, March 19th.

F. R. WALTERS.

## PULMONARY TUBERCULOSIS: DIAGNOSIS AND TREATMENT.

SIR,—I should like to support Dr. F. G. Chandler's contention in your issue of March 17th (p. 469) that pulmonary tuberculosis is not soonest detected by physical signs.

As an instance, about nine months ago I saw a youth in whom pulmonary tuberculosis was diagnosed from the records of temperature and weight, general debility, and other symptoms, but in whom repeated examinations by auscultation, etc., gave no abnormal signs. The diagnosis was confirmed by sputum and x-ray examinations.

On the question of tuberculins raised by other correspondents in the same issue, I may say that this patient was treated with injections of diaplyte tuberculosis vaccine (Burnet's formula); he was kept at home for the first fortnight to observe the effect of the first few doses, but afterwards resumed his ordinary occupation—clerical work. He has made uninterrupted progress; there was a very slight general reaction after the first injection, but three days after his temperature became normal, and has remained so ever since; there have been no further reactions. He has gained weight steadily, is full of energy, and says he never felt so well before. A recent x-ray examination showed an almost entire absence of the former shadows, and there is no cough or sputum. Beyond ordinary hygienic measures no other treatment has been given. He has continued to live at home in comfort and carry on as a wage-earner instead of spending months in a sanatorium at some expense and discomfort.

The same vaccine has given results surpassing all expectations in other cases; in one, where the temperature had ranged from 100 to 102° F. for some weeks, it was brought to normal within fourteen days by the vaccine.

There is a very general distrust of tuberculins generally, and one hesitates to give rise to false hopes; but as this preparation appears to be a really specific antigen, which is free from unpleasant consequences, if given in small and gradually increasing doses, allows suitable cases to carry



on with their ordinary occupations, and does not require more supervision than can be given by the ordinary general practitioner, it seems worth further investigation.—I am, etc.,

London, N.W.8, March 18th.

E. CURNOW PLUMMER.

### SHOCK AND ABORTION.

SIR,—Dr. Hollins (March 17th, p. 471) seems to believe that shock associated with criminal abortion is due for the most part to the entry of irritating liquid into the peritoneum by way of the Fallopian tubes. To maintain his position he has to show that such shock is never produced in any other way—for example, by the simple dilatation of the internal os in the absence of anaesthesia; and, moreover, he has to explain the absence of early or immediate shock in cases of perforation of the intestinal canal. Gastric ulcer can perforate without causing shock; and a gangrenous appendix may give way with an apparent improvement of the patient, to the extent, indeed, that operation may be fatally postponed. Dr. Hollins has also to find a cause for "delayed" or ingravescent shock, so often unassociated with any peritonitis.

Truly it is difficult to understand how aberrant mental (emotional) states can cause profound bodily change; but that difficulty, I think, is largely due to the fact that though we admit or say that the "mind" (that is, the brain) affects the body, there seems no tangible demonstration of how it can do so or how it does so. In contemplating the causation of jaundice I was greatly impressed by the statement, admitted by Fagge and Pyc-Smith thirty-seven years ago, that emotion can cause jaundice.<sup>1</sup> It is, of course, easy to push such a statement aside, and, because we cannot see, or perhaps may never see, how emotion can have this effect, to deny the etiological relationship. Advance in medicine is not possible with such attitude: advance can only occur with the struggle to elucidate the *modus operandi* of such imputed cause. Repudiation can only be maintained when all possible explanations have been shown to be invalid.

As regards shock induced by criminal procedures, I indicated (in your issue of February 25th, p. 327) a mechanism causing shock which I think is sound. That all such procedures do not cause shock may possibly be explained by differences in the mentality of the patients: thus, some patients are more susceptible to pain than others. In any case, that aberrant mental (emotional) states predispose to shock, I think, is certain. Dr. Crookshank plainly is of this opinion (March 3rd, p. 375), and I have no doubt that others share the view.—I am, etc.,

Rugby, March 18th.

R. H. PARAMORE, F.R.C.S. Eng.

### HEALTH AND CHOICE OF A CAREER.

SIR,—During the last few years I have been impressed with the unsuitability of various trades and professions to the physique and general health of the individuals employed in them. This I attribute to the lack of consideration of the child's health in choosing a trade in which he should enter. Thus a youth employed in heavy manual labour and exposed to all types of weather may be found to possess a definite rheumatic tendency, possibly with a valvular lesion. In these cases some years may already have been spent in serving an apprenticeship to, say, the bricklaying or other outdoor trade, which may have to be discontinued, with the resultant loss of money to both boy and parents.

Again, a sedentary occupation, such as that of clerk, may have been chosen for a boy with a tendency towards tuberculosis, and whose family history in this respect is bad. Here again a judicious consideration of the boy's health before embarking him on a career would probably have led to the selection of some open-air occupation. I am convinced that much of the financial loss to the State caused through illness could be prevented by the medical man having some say in the mapping out of the child's future career.

My suggestion is that all children on attaining the age

<sup>1</sup> *Principles and Practice of Medicine*, 1891, II. 341.

of 13 or 14 years, and before leaving school, should be medically examined, and the school medical officer should advise as to the type of work most suited to the child's health and physique. For this purpose the various industries and professions might be classified into a number of groups according to the environment and manual or mental nature of the work, etc. While this would entail a little extra labour on the part of the medical officers inspecting the schools, it would be well justified by the great saving of suffering and taxation to the nation.

As medical practitioners we have all met the class of youth employed in some heavy manual trade who, after the first year or two of work, finds himself physically unable to carry on, and thus becomes a permanent burden upon unemployment or national health funds. Many of these cases of more or less total disablement might have been avoided if medical advice had been given at the commencement of the boy's career. This applies not merely to the heavy manual trades, but also to professions such as that of teaching, where examination on taking up a bursarship often discloses lesions which make teaching unsuitable for the individual. Here an examination at the age of 13 would probably have revealed the condition, or tendency to it, and led to the suggestion by the medical man of a more suitable career for the patient.—I am, etc.,

Penistone, Feb. 27th.

ALFRED A. MASSER, M.B., Ch.B.

### SHOCK IN BLACK RACES.

SIR,—The letter by Dr. George Sowden on shock after protrusion of intestines in your issue of December 31st, 1927 (p. 1250) contains the statement that "the resistance of the black races to surgical shock is considered to be very weak." I feel sure that an exactly opposite opinion has been formed by medical men who have had to do with the Bantu races (Kaffirs) in South Africa.

In an experience of over twenty years dealing with serious injuries resultant upon mining accidents I have invariably found that the Kaffir is peculiarly resistant to what we term surgical shock.

That the black man makes a good surgical but a bad medical patient is almost a truism. The explanation would appear to be that the black man endures the pain of trauma and post-traumatic shock in a manner comparable with that of the lower animals, but an illness is looked on by him as a visitation by a malevolent spirit, and as such admits of no explanation. Always a fatalist, the black man makes up his mind he is going to die, and die he does.—I am, etc.,

Rodepoort, Transvaal, Jan. 27th.

S. M. DICKSON, M.D.

## The Services.

### DEATHS IN THE SERVICES.

Colonel Cathcart Garner, C.M.G., C.B.E., R.A.M.C. (ret.), died at Southsea on February 5th, aged 66. He was born at Damfries on August 9th, 1861, the eldest son of the late William Hastings Garner of St. Grellans, Monkstown, county Dublin, and educated at St. Columba and at Trinity College, Dublin, where he graduated as B.A., M.B., B.Ch., and B.A.O. in 1885. Entering the R.A.M.C. as surgeon on July 28th, 1886, he became lieutenant-colonel after twenty years' service, and he retired on December 5th, 1906. On March 1st, 1896, he was seconded for civil employment in Egypt, and in that service he held the posts successively of president of the International Quarantine Board, Alexandria; deputy director-general of the Public Health Department, Cairo; and Under Secretary of State, Health Department, in the Ministry of the Interior. When war broke out in August, 1914, he rejoined the army and served in Gallipoli, Egypt, and Palestine, being A.D.M.S. in Palestine in 1917-19. He was mentioned in despatches in the *London Gazette* of January 28th, 1916, and received the C.M.G. and the C.B.E. in 1919. He was also a Knight of Grace of the Order of St. John of Jerusalem, an Officer of the Legion of Honour, and a Commander of the Order of George I of Greece. During his service in Egypt he received the Orders of the Medjidieh, second class, and Osmanieh, third class; and after the war the Order of the Nile. In 1900 he married Annetta Jane, younger daughter of the late J. Nadin, M.R.C.S. of Tipperary, and leaves one son.

## Obituary.

SIR DAVID FERRIER, M.A., M.D., F.R.S.,  
LL.D., D.Sc., F.R.C.P. LOND., Hon. F.R.C.P.I.,

Emeritus Professor of Neuropathology, King's College, London,  
and Consulting Physician to King's College Hospital and  
the National Hospital for the Paralysed and Epileptic.

We have to record with much regret the death of Sir David Ferrier, the great neurologist, on March 19th at his residence in Kensington.

David Ferrier was born on January 13th, 1843, at Aberdeen. He was educated at the University in that city, studying logic and philosophy under Bain, and graduated M.A. in 1863, securing a Double First. He then studied psychology in Heidelberg in 1864. His early medical education was obtained in Edinburgh, where he obtained first-class honours in the M.B. examination in 1868, and won the gold medal in the M.D. examination in 1870 with an elaborate thesis on the corpora quadrigemina. He was elected a Fellow of the Royal College of Physicians of London in 1877.

Equipped with such a wide mental training, Ferrier was essentially the man to interest himself in the problems of the physiology and pathology of the nervous system, and he became one of the pioneers of experimental research in this subject, bringing to his work the advantages of the practical knowledge of the physician. His earliest important publication was in the reports of the West Riding Asylum, where a pioneer school of neurology had been founded by Sir James Crichton-Brown in 1871. In the reports for 1873 Ferrier published his *Experimental Researches in Cerebral Physiology and Pathology*. This was followed by the Croonian Lectures in 1874 and 1875 on *Localization of Function in the Brain*, an event of fundamental importance in the history of neurological science. To appreciate the significance of Ferrier's researches it is necessary to recall the state of knowledge at that time in respect of cerebral localization. It was known by Galen that lesions on one side of the brain might cause paralysis on the opposite side of the body, and therefore some knowledge of localization of function in the brain already existed. Broca, in 1861, had described the association between lesions of the inferior frontal convolution on the left side with aphasia in right-handed persons, and in 1864 Hughlings Jackson had published his classical observations on the occurrence of localized convulsive movements (Jacksonian epilepsy) in association with lesions of the central convolutions of the brain. The earliest direct experimental evidence of motor localization was the work of the German physiologists Fritsch and Hitzig, in 1870. These observers were the first to show that the cerebral cortex in dogs was directly excitable by electrical stimuli, and that irritation of certain definite areas was followed by movements of particular parts of the opposite side of the body—movements which could be predicted from a knowledge of the point of stimulation. Ferrier was the first in this country to repeat and extend these experiments; he used the faradic current in preference to the galvanic, which was employed by Fritsch and Hitzig and

extended his observations to the monkey. He was followed later by Horsley, Schäfer, Bcevor, Sherrington, and others, who repeated the experiments in the higher apes and in man. Prior to these investigations it was believed that the surface of the brain was inexcitable by any form of external stimulus, and could only be activated by stimuli applied to the peripheral nerves and reaching the brain by central pathways. It was conceded that the cortex was concerned in some way with voluntary control of movements, but no knowledge existed of any localization of these phenomena, or that a special part of the cortex controlled the movement of particular groups of muscles. Such experimental study aroused bitter opposition from the opponents of vivisection. In later years the Research Defence Society was indebted to Ferrier, not only for practical substantiation of the claims of experimental medicine, but also for his help as treasurer.

Ferrier always acknowledged his indebtedness to the researches of Fritsch and Hitzig, and to the profound clinical and pathological observations of Hughlings Jackson. In his Goulstonian Lectures of 1878 on the localization of cerebral disease he brought his experimental work into line with the pathological findings in cases of cerebral disease in man. The second edition of *The Functions of the Brain* appeared in 1886. In addition to the localization of motor phenomena, the more difficult questions of the association of special parts of the brain with sensation and the special senses were the subject of prolonged investigation by Ferrier. A large part of his Croonian Lectures on cerebral localization in 1880 is concerned with the visual, auditory, and other sensory centres, and with the functions of the cerebellum. Though many of his conclusions in reference to these areas have been superseded, he laid the foundation of much of our present knowledge of the cortical representation of sensations; his pioneer work upon the cerebral control of movement has long passed the experimental stage, and forms the very basis of all modern neurological practice. That so much which is now everyday knowledge of fundamental importance was the fruit of the



Yours very sincerely  
David Ferrier

laborious researches of British physiologists and physicians is a source of legitimate pride to this country.

Other important contributions were the Harveian Oration in 1902 on *The Heart and Nervous System*, and the Lumleian Lectures in 1906 on *Tuberc Dorsalis*.

Many honours fell to Ferrier. He was elected a Fellow of the Royal Society in 1876, and was made a Laureate of the French Institute in 1878. He received the Marshall Hall Prize in 1883, the Baly Medal in 1887, the Royal Medal of the Royal Society in 1890, the Cameron Prize of the University of Edinburgh in 1891, and the Moxon Medal in 1912. His knighthood was conferred in 1911; he was made Hon. Sc.D. of Cambridge in 1914 and Hon. LL.D. of Birmingham in 1927. He was a member of the Council of the Neurological Society, on several occasions he held the post of vice-president, and he was president in 1894. He was one of the founders of *Brain*, which was started in April, 1878, the first editorial committee consisting, in addition to Ferrier, of Sir James Crichton-Browne, Sir John Bucknill, and Dr. Hughlings Jackson. For the first

five years of its publication the journal was edited in alternate years by Crichton-Browne and Ferrier. In 1913 Ferrier was president of the Medical Society of London, and of the Section of Neuro-pathology at the International Medical Congress held in London in that year. He was appointed lecturer on physiology at the Middlesex Hospital in 1870, and demonstrator of physiology to King's College Hospital in the following year; in 1872 he followed Dr. Guy in the chair of forensic medicine, and held this position until 1889, when he was elected the first professor of neuropathology.

Ferrier found time in his active life for practical interest in the British Medical Association, and was a member of the Metropolitan Counties Branch Council from 1888 to 1899. He was also a member of the old Scientific Grants Committee, now the Science Committee, and was President of the Section of Physiology at the Annual Meeting in London in 1895.

The funeral service was held on Thursday morning at St. George's Church, Hanover Square. It was attended, on behalf of the British Medical Association, by Dr. Alfred Cox, the Medical Secretary.

We are indebted to Dr. S. A. KINNIER WILSON for the following appreciation:

Sir David Ferrier was the last of the small and choice company of pioneers through whose labours the scientific neurology of to-day has come into being. Nearly sixty years have passed since he commenced researches on the functions of the central nervous system that brought him world-wide distinction and made his name familiar wherever neurology was taught. With those of Hughlings Jackson, Horsley, and Gowers, it will ever take that honoured position in the memorials of neurological science reserved by common consent for the path-makers and the masters. He was witness of the transition of knowledge of the nervous system and its diseases from the stage of empiricism and lucky guesses to its fruition in the fertile soil of accurate neuro-anatomy and experimentally proven neuro-physiology, and was himself one of the protagonists in this amazing revolution. The commonplaces of neural doctrine to-day were the discoveries of his early manhood, and we of a succeeding generation can appreciate but faintly the new world then revealed by the objective methods of precise cerebral experimentation. More than forty years separate us from the International Congress of 1881, when Ferrier gave a brilliant demonstration of the novelties of cerebral function and localization before the assembled savants of Europe; and fifteen years, too, have elapsed since their successors hailed him at the Congress of 1913 as the doyen of English neurology. If in these later times his work was less often referred to, if the echoes of old controversies had long since died away, if clinicians and surgeons cultivated the neurological field without a thought of the wilderness which it had replaced, a moment of quiet consideration would always bring to the mind of those who knew him and worked with or for him an impressive sense of the debt neurology owed to his imagination and to his persistence in following the path of minute and exact experimental research. Only a few of his friends are aware of the personal abuse which this line of investigation brought him, or of the extremes to which his opponents went in their endeavour to discredit his achievement.

It is on his many services to the experimental physiology of the nervous system that his reputation rests securely, nor can it be diminished by any contention that the technique was comparatively simple, and that the material lay ready to his hand and was only waiting to be utilized. Subsequent studies have not altered his conclusions fundamentally, even if the growing point of neurology has moved away somewhat from the rather schematic parallel he drew between excitation and response, between structure and function. To many of the younger generation he was known only as a clinician and clinical teacher, and this was possibly not the most original side of the man. A shrewd observer and a keen student of human nature, his contributions to clinical neurology are none the less by comparison not so memorable or so abundant. He had not Jackson's breadth of vision, or Gowers's faculty of patient and painstaking clinical scrutiny: what struck all those whose contact with him was of later

period was his mental vigilance and his consuming desire for information. Long after his best years had passed he was still a frequent attendant at meetings of the Neurological Section, the College, and the Royal Society, and within a few months of his death was still to be seen on occasion in the library of the Royal Society of Medicine. Nothing was more typical of Ferrier than this hunger for knowledge. On the day of Jackson's funeral in 1911 I walked away with him from the cemetery, and after many minutes of silence, occupied with his own thoughts of his teacher and friend, he suddenly turned and said, "Well, when I cease to take an interest in things it will be time for me to go." Those of us who were associated with him professionally and otherwise, who experienced his generosity, or who knew a little of that side of him that was but seldom revealed, will like to think of Sir David Ferrier as one whose life illustrated in perfection the meaning of the love of knowledge for its own sake, and who carried undimmed to the end the torch of science put into his hands sixty years before.

Dr. RAYMOND CRAWFORD writes:

The Editor has asked me to write a few words of Sir David Ferrier such as those who think of him only as a neurologist may perhaps leave unsaid. From an acquaintance of nearly forty years with him, first as my teacher and afterwards as my friend, I should pick out as most characteristic of the man two features—first, tireless activity of mind and body, and second, as a consequence of the first, the faculty of keen interest in everything that came under his notice. These qualities were appropriately tenants of a frail, brisk, dapper person, with a quick, springy step, and a face and eyes of penetrating keenness and alertness. He was a fine sample of that peculiarly Scotch product of combined graduation in honours in Arts and Medical Science, and was ready on occasion to improve a situation by an apt quotation from Horace. He always regretted that the exigencies of medical education compelled him to confine his clinic at King's College Hospital to neurological cases, and constantly urged me, when his house-physician, to show him cases of general medical interest. I recollect well his keenness to see the Widal reaction, newly introduced into clinical medicine, put to the test on the many typhoid patients that in those days thronged the wards; and when his turn came for a clinical lecture he would deliberately choose some subject outside his daily round of work, such as myxoedema, for his theme. On holiday, as at work, he retained the same boyish keenness on everything about him; he was never more happy than in the seaside cottage at Porthgwarra, where he spent many summer holidays, going to sea in all weathers in an open boat, and living the primitive life of the fisher-folk. In London one would often meet him at private views, and with a wide acquaintance in the world of artists he combined an appreciative knowledge of modern art.

After his retirement from practice his interest in medical science remained unabated. There was no more regular attendant than he at the lectures in the College of Physicians in recent years, and he loved to keep touch with the College that had bestowed on him all its highest honours and offices short of the Presidency, for he had been both Censor and Senior Censor, as well as holding several lectureships and gaining those prize medals bestowed only on men of the highest distinction.

One last tribute I desire to pay—a tribute to the indomitable determination with which, for the last two years of his life, he faced and fought the physical disability engendered by a very grave illness, such as most men would have accepted as a sentence of complete and final disability.

[The photograph reproduced is by Russell, London.]

SIDNEY MAYNARD SMITH, C.B., F.R.C.S.,  
Surgeon to St. Mary's Hospital, London.

We regret to announce the death of Mr. Maynard Smith, surgeon to St. Mary's Hospital, which took place at his residence in London on March 18th.

Sidney Maynard Smith was the son of the late Mr. W. H. Smith of the Admiralty, and was born in September, 1875. He was educated at Epsom College, and there obtained an entrance scholarship at St. Mary's Hospital Medical School.

After a distinguished career as a student he obtained the diplomas M.R.C.S.Eng., L.R.C.P.Lond. in 1898, and shortly afterwards was appointed house-surgeon to the late Mr. Edmund Owen. He served in the South African war as civil surgeon to the 3rd Battalion Welsh Regiment, and obtained the Queen's Medal and two clasps. On his return to London he was appointed house-surgeon to the Victoria Hospital for Children, and in 1902 became a Fellow of the Royal College of Surgeons of England. He graduated M.B.Lond. in 1904, and B.S. with honours in 1905; he then held the post of demonstrator of anatomy in St. Mary's Hospital Medical School. In 1904 he became surgical registrar to the hospital. He won a great reputation as a teacher, and in 1906 was appointed surgeon with charge of out-patients to St. Mary's Hospital and assistant surgeon to the Victoria Hospital for Children. He became surgeon to St. Mary's on the resignation of the late Mr. Ernest Lano in 1922.

Mr. Maynard Smith had a brilliant record of service during the great war. In 1914 he was appointed surgeon-in-chief to the St. John Ambulance Brigade Hospital, and, after devoting himself with the greatest energy to its organization and equipment, proceeded to France with this hospital early in 1915, holding the rank of honorary major in the R.A.M.C. At Etaples the St. John Hospital soon became famous for the outstanding perfection of its organization, and very many surgical cases were received; never was Mr. Maynard Smith's brilliant genius as an organizer shown to better effect than in the minutely detailed arrangements he made for dealing with the work of the St. John Hospital. His skill gained him a great reputation in France, and led to his appointment of consulting surgeon to the Fifth Army in 1916, with the rank of colonel, A.M.S. In his new position his work was equally successful, and he was largely responsible for the surgical arrangements for dealing with the heavy casualties of the prolonged battle of Passchendaele. He also distinguished himself greatly during the battle of St. Quentin and the retreat of the Fifth Army. He was subsequently appointed consulting surgeon to the Second Army, and held this post until the end of the war. For his services to the French Army during the fighting round Kemmel he was awarded the Croix de Guerre; for his war services he was three times mentioned in dispatches, and was created C.B. and a Knight of Grace of the Order of St. John of Jerusalem.

On his return from his long war service Mr. Maynard Smith resumed his busy practice in London and very heavy hospital work; in addition to his appointments at St. Mary's he was surgeon to the London Fever Hospital, consulting surgeon to the King Edward VII Memorial Hospital, Ealing, and consulting surgeon to Epsom College and the Royal Masonic Benevolent Institution for Girls. He was always intensely loyal to his old school, and served for some years with much enthusiasm as honorary secretary of the Old Epsomian Society. His contributions to surgical literature included the section on fractures of the lower extremity in the official medical history of the war. He was a former member of the Council of the Metropolitan Counties Branch of the British Medical Association, one of the secretaries of the Section of Diseases of Children when the Association held its Annual Meeting at Sheffield in 1908, and also one of the general secretaries of the special clinical and scientific meeting arranged by the Association in April, 1919.

As a surgeon Maynard Smith was distinguished by his shrewd judgement and the thoroughness of all his work; he was a splendid technician, neat and precise, and all his operations were performed after thoughtful preparation and with the most meticulous attention to details. He was a man of very charming personality, renowned among colleagues, patients, and students for his kindness and the distinguished courtesy of his manners. He was a delightful companion and a humorous after-dinner speaker. As in his other activities, he obtained distinction as a Freemason, being a Past Grand Deacon of the Grand Lodge of England. Maynard Smith had never been a man of robust health, but he did not allow this to limit his activities; his keenness for surgery impelled him to work harder even than the average London surgeon. Surgery

in general, and St. Mary's Hospital especially, have lost a very genial and kind-hearted man, and a surgeon of great distinction. As his war work showed, he had a genius for organization, and last year he was largely responsible for planning the details of the new theatre block at St. Mary's Hospital; it is sad that he should have passed away before its completion, but the hospital will for long reap the benefit of the time and thought he gave to the rebuilding. Mr. Maynard Smith married, in 1917, Isabel, daughter of Mr. F. I. Pitman, and the sympathy of his colleagues and numerous friends goes out to his widow and his son and daughter.

Major-General Sir S. G. Guise-Moore, K.C.B., writes: I should like to bear testimony to the loss both the medical profession and the army have sustained by the death of Sidney Maynard Smith. Late in February, 1918, Sir Anthony Bowlby, then senior consulting surgeon to the British Forces in France, informed me, as D.M.S., Second Army, that we were to have the services of Maynard Smith as consulting surgeon. His skill as a surgeon had preceded him, and was known by his work at the Duchess of Westminster's hospital at the base. The Second Army, like many another, had been fortunate in its consultants, both surgical and medical, and it did not take long to make certain that in "Maynard" it possessed, besides surgical prowess, a man of sterling qualities of heart and mind. At his own request he was early permitted to pay occasional visits to the front line, to regimental aid posts, and to advance and main dressing stations. He soon acquired a sound judgement as to what was essential to efficiency in the care, treatment, and evacuation of wounded. Anything short of this gave his gallant and kindly soul the deepest grief and concern. With any shortcoming he was never content until a remedy was found, and found it invariably was. At the casualty clearing stations, where his chief work necessarily lay, his cheery presence was always welcomed, his advice eagerly sought, and his capacity for unobtrusive and arduous labour recognized and appreciated. In the short intervals between the "crises" of incoming wounded, when alone it was possible to ponder and talk over things past and to come, we found in him a fund of quiet humour, a sense of timely loyalty, a gift of sage counsel, and a contentment that goes with successful accomplishment.

Dr. ALEXANDER HODGKINSON, who died in retirement at Farnham, Surrey, on January 6th, in his 82nd year, was a native of Salford, and received his early education at Queenwood College and Owens College, Manchester. He began his medical career as an apprentice and proceeded to the University of Edinburgh, where he graduated M.B., C.M. with honours, and B.Sc., being senior graduate, in 1873. He was a Baxter scholar in natural science, and afterwards pursued his studies at Vienna and Freiburg. Dr. Hodgkinson spent the greater part of his professional career in practice in Manchester, where he took an active part in medical affairs. He served as lecturer on diseases of the throat and nose at Owens College, was a corresponding member of the Société Française d'Otologie, Laryngologie and Rhinologie, and a member of various medical societies in Manchester. He was senior honorary consulting physician to the Manchester Hospital for Consumption and Diseases of the Throat, in the foundation of which he played a considerable part. In 1901 he attended the International Tuberculosis Congress in London, and in the following year was president of the Laryngological Section of the British Medical Association. Dr. Hodgkinson's interests extended far beyond the field of his profession. He travelled extensively in Australia and North and South America; among his hobbies were orchid growing, botany, physical optics, and photography, while his recreations included golf, fishing, and mountaineering. His wife died about a year ago, and he is survived by one son and two daughters.

Dr. JOHN ALLEN LYCETT, who died at Leamington on January 15th, in his 91st year, came of a medical family, being the third son of Dr. John Lycett, who spent the greater part of his career as a practitioner at



Minchinhampton; where he achieved more than local fame by his geological studies of the Cotswold Hills. John Allen-Lycett received his medical education at the Middlesex Hospital; in 1871 he obtained the diploma of M.R.C.S.Eng., L.R.C.P.Lond., and L.S.A. In 1881 he graduated M.D.St. Andrews, and a year later obtained the diploma of M.R.C.P.Ed. After holding various resident posts in the Middlesex Hospital Dr. Lycett commenced practice in Warwickshire in 1872, moving to Wolverhampton in 1874, where he built up an extensive practice in that town and the surrounding district, and remaining there until his retirement ten years ago, when he made his home in Leamington. He was, throughout his career, keenly interested in gynaecology, and played a considerable part in the establishment of the Wolverhampton and District Hospital for Women, serving subsequently on the staff of this institution as senior surgeon and consulting gynaecologist. He co-operated in the formation of the British Gynaecological Society, which was afterwards merged in the Royal Society of Medicine. He was a member of the Staffordshire Branch Council of the British Medical Association in the years 1888-91.

Dr. WILLIAM TIBBLES, who was born at Leicester in 1859, died suddenly at Nottingham in February. He received his medical education at Charing Cross Hospital, where he afterwards held an appointment as pathological assistant, and obtained the diplomas of L.S.A. and L.R.C.P.Ed. in 1881, and of M.R.C.S.Eng. in 1889. He had an extensive practice in Nottingham, and was medical officer of health for the Melton Mowbray rural district and a medical officer of the Nottingham District Union. From 1915 to 1919 Dr. Tibbles was assistant physician to the Nottingham General Hospital. He was a member of the American Association of Physicians and Surgeons, and of the Nottingham Medico-Chirurgical Society. He had long taken an interest in the work of the British Medical Association, serving on the Midland Branch Council in 1908-9 and again in 1921-22. He was the author of a number of books dealing with various aspects of dietetics, and his works on food attracted a considerable amount of notice during the war, both in Europe and in America. He had, at a much earlier period, been the recipient of academic honours in the United States in recognition of his studies in dietetics, including the honorary degrees of LL.D. (1895) and M.D. (1907) from the University of Chicago, and D.C.L. (1904) from the University of Washington. Dr. Tibbles was a prominent Freemason. His son has followed the family tradition and is also a member of the medical profession.

Dr. JOHN RAGLAN THOMAS, who died at Exeter on February 28th in his 73rd year, was educated at Epsom College, where he was Gilchrist scholar, and at St. Bartholomew's Hospital. He obtained the diplomas M.R.C.S.Eng. in 1876 and the L.S.A. in the following year. In 1884 he graduated M.B.Lond. with honours in midwifery and diseases of women, proceeding M.D. three years later; in 1886 he obtained the diploma D.P.H.Camb. After holding a resident post in St. Bartholomew's Hospital he succeeded, on the death of his father in 1877, to a large practice in Llanelli, but after about ten years in South Wales ill health compelled him to retire temporarily, and he spent some months recuperating in India. He then commenced practice in Exeter in partnership with the late Mr. A. J. Cumming; he also held the posts of Admiralty surgeon and certifying factory surgeon, and was a referee under the Workmen's Compensation Act. Dr. Thomas identified himself with the volunteer movement and the Territorial Force, from which he retired in 1912 with the rank of colonel, A.M.S. He was a vice-president of the Naval and Military Section of the British Medical Association in 1907. His services in connexion with the medical organization of the Wessex Territorial Division were recognized by his appointment as honorary physician to the King. He was a keen marksman and participated in numerous meetings at Wimbledon and Bisley, being a member of the team which won the China cup for Devon

in 1895. Golf was also among his recreations. He was greatly interested in literature and art, and himself produced many water-colour studies, notably of the coast near Exeter.

## Medico-Legal.

### A JURY'S VERDICT CRITICIZED.

*Tyndall v. Alcock.*

MEMBERS of the medical profession will certainly endorse the *obiter dictum* of Lord Justice Scrutton that a jury is rarely a suitable tribunal to try a case which involves a right differentiation between what is an error of judgement—which is not actionable—and what is, in fact, a departure from the degree of skill which a professional man holds himself out to exercise—which constitutes negligence in the eyes of the law. Even so, it must be poor consolation to Dr. Arnold Alcock of Gloucester to know that, although the Court of Appeal, consisting of Lords Justice Scrutton and Sankey and Mr. Justice Romer, might have come to a different conclusion from that of a special jury at Bristol Autumn Assizes, yet the sacrosanct nature of a jury's findings of fact prevented the Court of Appeal from interfering with their verdict.

A report of the case as it was presented at the assizes appeared in our issue of December 10th, 1927, at page 1121. Briefly, a child named Phyllis Tyndall, aged 10, who was described as "a prodigy at the piano," fractured her left humerus as the result of a fall from a pony. Dr. Alcock claimed to have skilfully adopted the most approved scientific method in reducing the fracture, since during the operation he caused an x-ray photograph to be thrown upon the screen, and when he had finished his task the radiologist reported that the bones appeared to be in perfect alignment. Unfortunately, however, the child's arm became fixed at the elbow and Volkman's contracture developed, resulting in impairment of movement. The trial jury found that Dr. Alcock had been negligent, and proceeded to apportion £2,000 damages to the child and £150 to the mother.

The comments of the three members of the Court of Appeal upon this verdict are interesting. While Lord Justice Sankey agreed with Lord Justice Scrutton that questions of professional negligence were difficult, he thought an ordinary jury was more likely to come to a correct conclusion than a jury of experts; Mr. Justice Romer ironically observed, however, that Dr. Alcock must get such consolation as he could out of the fact that trial by jury was the foundation of his liberties!

Questions of fact are the peculiar province of a jury, and it is an axiom firmly established in our law that a jury's verdict cannot be set aside unless it can be said that there was no evidence upon which they could have found their verdict. As Lord Justice Scrutton tersely observed, the jury were the persons put there by the Constitution to try actions involving questions of negligence, and, since there was evidence before them on which they were entitled to decide either way, it was impossible for a Court of Appeal to interfere with the result, although such a court might have come to a different conclusion. The verdict of the constitutional tribunal was, therefore, allowed to stand, and Dr. Alcock's appeal was dismissed.

### REGISTRATION OF DANGEROUS DRUG PURCHASES.

The West London magistrate (Mr. Marshall), on March 18th, imposed a fine of twenty-one guineas and three guineas costs on Dr. F. D. Parbury of West Kensington, who was charged with failing to enter in the register required to be kept for that purpose certain purchases of dangerous drugs.

Mr. Vincent Evans, who represented the Director of Public Prosecutions, said that Detective-Inspector Burnby interviewed the defendant regarding certain prescriptions of heroin and the cocaine which he had supplied to two women patients. The inspector asked to see his register of purchases of dangerous drugs, and he produced a book which contained a list of prescriptions, but no particulars of purchases of dangerous drugs, although on October 31st and January 1st he had made purchases from wholesale chemists of morphine sulphate and diamorphine from hydrochlorate. The Home Office regarded this kind of offence as serious, as it was most essential that the sources of all dangerous drugs should be easily traceable.

Mr. F. Denny, for Dr. Parbury, said that he had, until 1926, practised for fourteen years in Jersey, and was not cognizant of the regulations respecting dangerous drugs in this country. There was no suggestion that he had been engaging in any illicit dealing in drugs, and at most he had been guilty of great carelessness and stupidity.



## Universities and Colleges.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

## COUNCIL ELECTION.

MONDAY, March 19th, was the last day on which the names of candidates were to be received for the election of Members of the Council, which will take place on July 5th. Twelve nominations have been forwarded to the Secretary by candidates seeking to fill the four vacancies occasioned by the retirement in rotation of Sir Anthony A. Bowlby, Sir D'Arcy Power, and Mr. F. J. Steward (Vice-President), and by the death of Mr. W. Thelwall Thomas, M.B.E.\*

The candidates are: Mr. F. J. Steward (Guy's), Member, 1895, Fellow 1898; Mr. L. P. Gamgee (Birmingham), Member 1891, Fellow 1894; Mr. R. G. Hogarth (Nottingham), Member 1891, Fellow 1894; Mr. T. P. Legg, C.M.G. (King's College Hospital), Member 1895, Fellow 1897; Mr. H. W. Carson (Prince of Wales's), Member 1895, Fellow 1899; Mr. J. P. Lockhart-Mummery (St. Mark's), Member 1899, Fellow 1900; Mr. Russell J. Howard, C.B.E. (London), Member and Fellow 1903; Sir Crisp English K.C.M.G. (St. George's), Member 1903, Fellow 1905; Mr. Harold W. Wilson (St. Bartholomew's), Member 1903, Fellow 1905; Mr. C. Choyce, C.M.G., C.B.E. (University College Hospital), Member and Fellow 1905; Mr. R. E. Kelly, C.B. (Liverpool), Member and Fellow 1905; Mr. Robert Milne (London), Member 1904, Fellow 1905.

The constitution of the Council since July, 1927, has been as follows:

*President.*—Sir Berkeley Moynihan, Bt., K.C.M.G., C.B., Council (1) 1912 (substitute), (2) 1919, Pres. 1923.

*Vice-Presidents.*—Sir Cuthbert S. Wallace, K.C.M.G., C.B., C. (1) 1919, (2) 1927; Mr. F. J. Steward, C. 1927.

*Other Members of Council.*—Sir Anthony A. Bowlby, Bt., K.C.B., K.C.M.G., R.C.V.O., C. (1) 1924, (2) 1921, (3) 1920, Pres. 1920, 1921, 1922; Sir D'Arcy Power, K.B.E., C. (1) 1912, (2) 1920; Sir H. J. Verrier, C. (1) 1913, (2) 1921; Sir John ... M.G., C. (1) 1918 (substitute), (2) 1925; Mr. W. Thelwall Thomas, M.B.E. (died after second meeting (Rowlands, O.B.E., C. 1921).

*Members of Council.*—Sir James Berry, C. 1923; Mr. J. Herbert Fisher, C. 1923; Mr. W. Sampson Handley, C. 1923 (substitute); Sir Percy Sargent, C.M.G., D.S.O., C. 1923 (substitute); Mr. G. E. Gask, C.M.G., D.S.O., C. 1923; Mr. W. McAdam Eccles, C. (1) 1914, (2) 1924; Mr. Wilfred Trotter, C. 1924; Sir Charles Gordon-Watson, K.B.E., C.M.G., C. 1921; Mr. A. H. Burgess, C. 1925; Mr. V. Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917, (3) 1926 (substitute); Mr. Victor ... C. 1925 (substitute); Mr. G. Grey Turner, C. 1926; Mr. Hugh Lett, C.B.E., C. 1927 (substitute).

The medical schools are represented as follows:

## London:

*St. Bartholomew's ...	6
Guy's ...	3
London ...	1
St. Mary's ...	1
Middlesex ...	2
St. Thomas's ...	3
University College Hospital ...	1
Royal Free ...	1
Total London ...	18

## Provincial:

Bristol ...	1
Cardiff ...	1
Leeds ...	1
Liverpool ...	1
Manchester ...	1
Newcastle ...	1
Total Provincial ...	6
Total Council ...	24

\* Two Members retire and do not seek re-election.  
† Died in September, 1927.

## UNIVERSITY OF OXFORD.

The Master and Fellows of University College announce the election of P. C. Mallam, M.A., B.M., B.Ch., Queen's College, to a Radcliffe Travelling Fellowship. The Fellowship is of the value of £300, and is tenable for two years, during fifteen months of which the holder must engage in foreign travel and study. Mr. Mallam was formerly President of the Oxford University Boat Club, and was subsequently a student and resident at St. Mary's Hospital, London.

C. W. Carter, B.M. (Fellow of Queen's), has been appointed University demonstrator in biochemistry, and C. G. Douglas, D.M. (Fellow of St. John's), has been reappointed University demonstrator in general metabolism.

## UNIVERSITY OF SHEFFIELD.

At a congregation held on March 15th the degrees of M.B. and Ch.B. were conferred on P. B. Lee-Potter.

## UNIVERSITY OF DUBLIN.

The conferment of the honorary degree of M.Ch. upon Sir John Bland-Sutton, Bt., LL.D., F.R.C.S., has been approved by the Senate of the University on the recommendation of the Board of Trinity College. The honorary degree of M.A. is to be conferred on Miss Margaret Huxley, matron of the Elpis Nursing Home.

## TRINITY COLLEGE, DUBLIN.

At the spring commencement of Hilary term, held on March 16th, the following degrees in the Faculty of Medicine were conferred:

M.B., B.Ch., B.A.O.—L. R. Brumberg, D. M'M. Carson, G. Q. Chance, A. C. C. Charles, W. Crawford, A. R. Ewart, A. G. C. Ffolliott, J. R. Hanna, O. R. Harris, H. E. Knott, Christina McDonald, A. A. Morgan, C. E. G. Nunn, Wilfred D. C. T. Pigott, F. G. Stewart, C. Watson, J. E. Wells.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week passed the Navy, Army, and Air Force Estimates through the report stage. It also discussed the "Zinovieff letter" and a bill introduced from the Labour party dealing with the coal-mining industry. A Public House Improvement Bill, "to amend the law relating to the sale by retail of excisable liquors," was presented by Dr. Fremantle on March 15th, and was read a first time.

Dr. Fremantle was in the chair at a meeting of the Conservative Health and Housing Committee at the House of Commons on March 13th, at which Mr. E. D. LIDBETTER, relieving officer of Bethnal Green, and a member of the Eugenics Education Society, gave an address. Mr. Lidbetter produced records of pauper families going back in some instances for 150 years, which, he said, pointed, not to a general degeneracy of the population, but to the inbreeding of degenerates in "pockets." He remarked that sterilization of the unfit would not meet the case of the apparently fit person with an ancestry such as he had cited, but in his view there was scientifically no difference between sterilization and segregation. Asked about the experience of California with sterilization of the unfit, Mr. Lidbetter said it was reported to have been successful there. Members of the committee pointed out that the Mental Deficiency Act in this country provided not only for segregation, but for guardianship, and that three-fifths of the mentally defective in this country were covered by one or the other. Mr. Lidbetter answered that he did not think highly of the guardianship system. The forty members who attended the meeting were much interested in the discussion. Several offered to assist the Eugenics Education Society, and Dr. Fremantle was asked to represent to the Ministers concerned that there was a strong case for a Government grant in aid of research into the subject and towards the cost of publishing results.

## National Health Insurance.

Mr. CHAMBERLAIN, answering Mr. Rhys Davies on March 15th, said no approved society had been compelled through lack of funds to abandon the whole scheme of additional benefits. About a hundred societies, covering a total membership of between three and four million insured persons, which included dental and ophthalmic benefits in their schemes, had found that the demand for those benefits amongst their members had so far exceeded the expectation that the amounts allocated to the benefits for a particular year had been exhausted before the end of that year. They had consequently been obliged to defer the authorization of claims until the beginning of the following year, when further money became available. In nearly every case the authorization of claims for benefits had been resumed. Sir HENRY CAULEY asked if the balances of the societies would be improved if the doctors were able to exercise independent judgement on men continuing on the panel or coming off it. No answer was given.

Answering a question about dental treatment of insured persons, which Mr. Rhys Davies put on March 15th, Mr. CHAMBERLAIN said it would be improper for a society to require a member to attend for treatment at a dental clinic if he would prefer to obtain treatment elsewhere. He promised to look into any case where approved societies imposed the condition that members must attend dental clinics during working hours. Mr. RHYNS DAVIES asked whether the Minister was aware that some societies had established separate institutions and were giving dental treatment through clinics to their members, making it a condition that dental treatment could not be provided elsewhere. Mr. CHAMBERLAIN asked for particulars of any case where choice of dental treatment had been refused. Mr. EDMUND WOON asked whether the Minister intended to set up dental clinics under the National Health Insurance Bill. Mr. CHAMBERLAIN replied that approved societies were not at present empowered to establish dental clinics, but some societies were of opinion that in large industrial centres the setting up of dental clinics might be attended with advantages. The question had been fully considered by the Dental Benefit Joint Committee, composed equally of representatives of the dental profession and of approved societies of all types, and that committee recommended that to test this form of treatment one or more experimental clinics should be set up. Under the National Health Insurance Bill now before the House provision had been included which would enable this to be done, subject to regulations to be laid before Parliament. There was, however, no intention of making it compulsory for any insured person to obtain his treatment in a clinic if he would prefer to be treated by a private practitioner. Mr. Chamberlain added that he was satisfied that freedom of choice of dentist must be retained. There were no specially established dental clinics.

Answering Dr. Vernon Davies, on March 15th, Mr. CHAMBERLAIN said he knew some employers did not allow women employees to

remains at work in advanced pregnancy. Any such rule of an employer did not entitle an insured woman to sickness benefit under the National Health Insurance Act, but if she could produce medical evidence to the satisfaction of her approved society that she was incapable of work, she would be entitled to benefit. Dr. DAVIES asked if Mr. Chamberlain knew this question caused great difficulty to medical officers, doctors, and approved societies, and whether he could include this class of case in the National Health Insurance Bill. Mr. CHAMBERLAIN said there was a later question on the paper regarding that.

On March 19th Sir KINGSLEY WOOD informed Mr. R. Morrison that the Minister of Health had not recently issued any regulations which authorized panel doctors to charge insured persons over 65 the sum of 1s. for medical certificates. There was no power under the Acts to fix a fee for certificates which were not required for National Health Insurance purposes. Mr. Morrison asked whether insured persons over 65 who were not entitled to cash pensions were still entitled to medical advice, and whether that medical advice included medical service if required. Sir KINGSLEY WOOD replied that, as his answer implied, a charge other than that authorized under the National Insurance Act was not a proper charge.

#### Maternal and Infantile Mortality.

Mr. Chamberlain has received the resolution regarding maternal mortality passed on February 28th at a meeting of 600 representatives of local authorities and friendly societies. He is taking action to give effect to the recommendations made by the report recently issued by the Ministry of Health on protection of motherhood in regard to medical inquiry into all deaths due to childbirth, further training and experience in midwifery as a preliminary to general practice in medicine, the appointment of an official committee to advise on the whole question of the training and employment of midwives, and action to induce local authorities to make their maternal services adequate.

Sir KINGSLEY WOOD told Sir Robert Thomas, on March 14th, that the Annovored Societies Consultative Council has referred to a special subcommittee the proposal to modify maternity benefit so as to provide medical and nursing services in addition to a cash payment, linking up such services with the maternity and child welfare work of local authorities. Mr. Chamberlain will give the report most careful consideration as soon as he receives it.

Answering Major ROPNER, on March 14th, Sir KINGSLEY WOOD said the infant mortality figures for Houghton-le-Spring and Chester-le-Street during 1927 showed a small increase in each district compared with 1926, although the rates were lower than for 1924 and 1925. Only the report of the medical officer of health for Houghton-le-Spring, which was written on February 22nd, 1928, suggested under-nourishment as one cause of the increase. Other medical officers in the county of Durham attributed to the exceptional prevalence of bronchitis and pneumonia the temporary increase of infant mortality in that county during the last few months. Mr. LAWSON asked whether the Ministry of Health accepted only death from starvation as proof of destitution. Sir KINGSLEY WOOD denied this. Mr. MONTAGUE asked whether a medical officer's report stated that the deaths from bronchitis showed that there was lack of clothing as well as of food. Sir KINGSLEY WOOD said he was not aware of that.

In a reply to Mr. Robert Richardson, on March 15th, Mr. CHAMBERLAIN said that for the quarter ended December, 1927, the infant mortality rate for the urban district of Houghton-le-Spring was 152, and not, as stated by Mr. Richardson, 210 per 1,000. No official figures were available in this district for separate months. Mr. RICHARDSON alleged that the rate in October was 300 and in January, 1928, 210, but Mr. CHAMBERLAIN remarked that in a district with so small a population very slight variations in the numbers of births or of infantile deaths resulted in such substantial differences in the monthly infantile mortality rate as to render it of little value for purposes of comparison. The addition of one death meant an addition of 50 per 1,000 in the mortality rate. Mr. RICHARDSON, in a supplementary question, asked whether Mr. Chamberlain did not know that the medical officer of health had given the figures from October until February, showing little or no diminution, that he said it was the highest death rate ever recorded in Houghton-le-Spring, and that he was certain it was because of the underfeeding of mothers and children. Mr. CHAMBERLAIN said that was merely a repetition of the question.

#### Small-pox.

On March 20th Mr. CHAMBERLAIN gave Mr. Groves a detailed statement showing the number of small-pox cases and deaths from that disease which occurred in London in the five years 1923 to 1927, with the age, sex, place of death, and vaccinal condition of each case. The statement showed that in 1923 there were 13 cases of the disease, as follows: male, 12 years of age, unvaccinated; male, 15, vaccinated in infancy (a port sanitary case); female, 23, vaccinated in infancy; female, 23, unvaccinated; two females, 28 and 30, both vaccinated in infancy; male, 31, vaccinated in infancy (it was stated that this patient had been revaccinated in 1914, but the available evidence did not appear to support this statement); male, 47, and female, 44, both vaccinated in infancy; male, 50, unvaccinated; male, 53, vaccinated in infancy (this case was fatal, the patient dying in Joyce Green Hospital, Dartford); female, 79, vaccinal condition doubtful; male, 32, probably twice vaccinated, poor scars (port sanitary case). In 1924 there were 4 cases, as follows: male, 24, vaccinal condition doubtful; female, 54, and male, 54, both vaccinated in infancy; female, 73, vaccinal condition doubtful.

In 1925 there were 14 cases, as follows: females, 2 years and 4 years, both unvaccinated; female, 17, unvaccinated; male, 24, vaccinated in infancy (port sanitary case); male, 25, unvaccinated

(port sanitary case; this case was fatal, the patient dying in the Port of London Hospital, Denton); male, 27, vaccinated in infancy (port sanitary case); male, 30, vaccinated in infancy; female, 31, vaccinated in infancy; male, 44, vaccinated in infancy; and in 20 years of age (port sanitary case); male, 47, and female, 49, both vaccinated in infancy; male, 57, vaccinated in infancy; female, 57, vaccinated in infancy (fatal case, died in Long Reach Hospital, Dartford); male, 66, vaccinated in infancy.

There were 8 cases in 1926, as follows: male, 14, unvaccinated; male, 23, vaccinated in infancy (port sanitary case); female, 32, vaccinated in infancy; male, 34, vaccinated in infancy and at 10 years of age (port sanitary case); male, 36, vaccinated in infancy (port sanitary case); female, 42, vaccinated in infancy (fatal case, died in Long Reach Hospital, Dartford); females, 52 and 64, both vaccinated in infancy.

In 1927 there were 7 cases, as follows: male, 4 years, unvaccinated (fatal case, died in Long Reach Hospital, Dartford); male, 20, unvaccinated (port sanitary case); male, 25, vaccinal condition doubtful (port sanitary case); males, 29 and 33, both unvaccinated; female, 41, unvaccinated (fatal case, died in Joyce Green Hospital, Dartford); male, 54, vaccinated in infancy.

#### Foot-and-Mouth Disease.

In the House of Lords, on March 20th, Lord ERMLE asked whether the existence of two distinct types of foot-and-mouth disease was confirmed by the Research Committee. He further asked if the type of disease most prevalent in Denmark, Holland, and Belgium was the same as that which mainly prevailed in this country, and if the virus had been recovered from any imported supplies of chilled or frozen meat. Viscount HALDANE said the Government ought to search the biological laboratories and the universities to find a comparatively young man to devote himself exclusively to research into the bacillus of the disease. The Earl of STRATHMORE, replying for the Government, said that if the Government could find anyone to devote his services to this work his services would be employed. The Research Committee had confirmed the opinion arrived at by the Veterinary College in Paris, that there were two strains of foot-and-mouth disease, and that, if animals became immune after being attacked by one strain they were not thereby prevented from attack by the other. Those facts made it difficult to eradicate the disease, and the only way they saw at present was by slaughtering infected animals. There was no information on the type of the disease in the Argentine, but it was very prevalent. The Government hoped that the steps the Argentine Government had promised to take to check the sending to this country of carcasses likely to be infected would prove effective. No attempt had been made by the Research Committee to recover the virus from imported supplies of chilled or frozen meat, because it was felt that the task was impracticable. So many carcasses were imported that although they might take carcass after carcass and find nothing, yet all the time disease might be brought in. Lord BLESSING suggested that something might be done to co-operate in the matter of research with the eminent experts who were working in the Argentine and Brazil.

#### Edinburgh Corporation Bill (Venereal Diseases).

On March 15th Sir John Gilmour and Mr. Chamberlain received a deputation representing the Corporation of Edinburgh, and consisting of the town clerk, the medical officer of health, and the venereal diseases officer of that city, who set before these Ministers the facts which had induced the Corporation of Edinburgh to ask, in the Edinburgh Corporation Bill, for greater powers of detecting, controlling, and curing venereal disease. The speech of the town clerk was particularly impressive in its citation of the damage done by lapses or recalcitrant cases, but the Secretary for Scotland and the Minister of Health intimated plainly that for considerations of general public policy they would be compelled to advise the House of Commons not to give the bill a second reading. The deputation was introduced by Mr. William Graham, senior member for the city, who was accompanied by Dr. Drummond Shiels. Despite the Ministerial declaration of hostility, a number of members interested in the subject held that the Edinburgh Corporation should not withdraw the bill forthwith, but claim a second reading debate on it in the House of Commons. It was pointed out that bills introduced by other corporations to secure additional powers for controlling venereal diseases had received a second reading and been sent to committees. Other members, however, suggested that to press on the Edinburgh bill to certain defeat would prejudice the chances of the bill which the Glasgow Corporation contemplates introducing on the same subject. On the following day (March 16th) the second reading of the Edinburgh Corporation Bill was formally moved in the House of Commons. Objection being taken, the bill was put down for that day week.

#### Tuberculosis in the Navy.

In a reply to Admiral Beamish, on March 14th, Colonel HEADLAM furnished the following totals of incidence of pulmonary tuberculosis in the Royal Navy in the years 1922 and 1925, the latest available: Commissioned officers, 8 cases in 1922, 6 cases in 1925; available: telegraphists, 12 and 12; engine-room ratings, seamen, 91 and 107; sick-berth staff, 4 and 5; 49 and 58; other artisans, 3 and 9; ship's cooks, 5 and 12; writers, 4 and 0; supply staff, 2 and 5; ships' cooks, 5 and 12; Royal Marines, 10 and 16.

On March 15th, when the Navy Estimates were introduced and discussed, Admiral BEAMISH referred to the incidence of tuberculosis in the navy, a topic which the House had discussed in the previous week. He said this incidence in naval personnel had for years been higher than in the army or in the rest of the population. He called for immediate investigation and action.

Colonel HEADLAM, replying to the debate for the Admiralty, said the previous debate on the subject had shown that all sides in the House felt something was wrong. He agreed that the men themselves might be more satisfied if they had recourse to some outside board, but he pointed out that the independent tribunals of the Ministry of Pensions were set up to meet the special circumstances arising out of the war, when the medical history of thousands of cases could not be ascertained in the ordinary way. In the navy in ordinary times the medical history of a man was known from the moment he first came on board. Every detail of his case was known. The doctors forming the survey board before which he came were familiar with the kind of service he had, and were therefore better fitted than almost anybody else to judge whether the illness from which he was suffering was due to service. The man who came before such a survey board had the doctors on his side as far as was possible, and was given every chance of stating his case and of calling witnesses. Mr. GROVES, intervening, said he disputed that. Colonel HEADLAM, proceeding, said medical boards of survey were held twice in each month under the authority of the Commander-in-Chief or senior officer present. The board consisted of the medical officer in charge of the hospital, who acted as president, and three medical officers, two being senior medical officers of the hospitals and one a senior medical officer of the fleet or depot. The Admiralty had considered the suggestion that there should be an executive officer on the survey board, and the opinion was that nothing would be gained by reverting to a practice which was abandoned in 1914. An executive officer would either interfere with the medical officers in the performance of their duties or would be a mere figurehead. The medical officer who brought the case forward appeared before the survey board so that the surveying officers should receive full information on the case. A complete history of each case was made out, showing the details of the onset, the course, and the final state of the disability. Before survey the officer or rating was required to fill in a form on which he was asked to state what, in his opinion, caused his disability. The board was required to investigate and record whether the disability was attributable to or caused by service (pre-war, war, or post-war), and if not, to what specific condition it was attributed. These reports, with a statement by the officer or man, were sent to the Commander-in-Chief, who made his decision whether the man should be invalided.

Dr. VERNON DAVIES asked if the board decided the case simply from the medical history sheets of the man. Colonel HEADLAM said the board saw the man. After the Commander-in-Chief had decided, the case was sent to the Admiralty, where every case was carefully investigated by the medical authorities, comparison being made with reports and records from ships or establishments where the man had served. The question of attributability was decided by the medical officers at the Admiralty. These had all the papers before them. Commander KENWORTHY: Everything except the patient. Colonel HEADLAM said that if there was any bias at the Admiralty it was on the side of the man. Appeals for reconsideration of awards could be made by the men themselves or by organizations on their behalf. The regulations on which attributability or aggravation was assessed were set out in a secret and confidential memorandum to the surveying officers. They were based on the report of the Post-War Disability Committee and were applicable to cases arising in the Navy, Army, and Air Force. Dr. DAVIES interposed the remark that the great difficulty was tuberculosis. Colonel HEADLAM replied that there were other diseases. It might be fair to say that the rules by which these cases were judged were too severe and that the doctors were not given sufficient latitude. That might easily be the case, but to blame the Admiralty authorities was unfair. Sir Bertram Falle had in the previous debate cited cases of the year 1920, in which the claims to attributability had been rejected by an independent appeal tribunal under the Ministry of Pensions. The truth was that the rules were of importance, and not the tribunal. The admission of a man to the navy as fit simply meant that an examination had found nothing sufficiently wrong to make it impossible for him to enter, but did not however, that the whole matter required careful attention, and they were looking into it from all aspects. A joint committee of hygienic conditions in the navy had been referred to a special medical consultative board of outside specialists, whose report would guide the Admiralty to some extent in its policy. The cases were properly and fairly judged. That applied to tuberculosis. It was easy to exaggerate about tuberculosis in the navy. The incidence of that disease seemed to be less in the navy than in civil life, but the conditions of inspection were such that the cases were found out early.

The House passed to other naval topics.

#### *Incidence of Disease in the Navy.*

On March 19th Colonel HEADLAM, in reply to Mr. Hore-Belisha, gave a list of the disabilities for which recruits to the Royal Navy and Royal Marines were discharged within twelve months of their engagement in 1926 and 1927 respectively. He said that of diseases caused by infection, 4 recruits were discharged in 1926 and 1 in 1927 for pneumococcal infection (lungs); 6 and 8 in the respective years for rheumatic fever; 11 and 7 for pulmonary tuberculosis; 3 and 5 for non-pulmonary tuberculosis, and 3 and 3 for other figures were: Diseases of the spinal cord, 1 and 1; paralysis, 1 in 1926, 11 and 15; insanity, 2 and 4. Diseases of the eye, 34 and 21; of the ear, 66 and 66; and of the nose, 2 in 1927. Diseases of the circulatory system: diseases of the heart—organic 29 and

32, functional 2 and 6; diseases of the arteries, 1 and 1; diseases of the blood and spleen, 1 in 1926. Diseases of the lymphatic system: 1 in 1927; glands and internal secretion, 4 and 2. Diseases of the respiratory system: bronchitis, 2 in 1927; asthma, 2 and 2; fibrosis of lung, 3 and 4; pleurisy, 3 and 2; other diseases, 1 in 1926. Diseases of the digestive system: teeth and gums, 2 and 3; mouth, palate, fauces, and pharynx, 1 in 1926; tonsillitis, 1 in 1926; stomach, 1 in 1927; intestines, 1 in 1926; hernia, 3 and 1; rectum and anus, 1 in 1927. Diseases of generative system: varicocele, 3 in 1927. Diseases of organs of locomotion: periosteum and bone, 1 in 1926; cartilage and joints, 2 and 1; spine, 1 in 1926; muscles, fasciae, tendons, hursae, 1 in 1927; deformities of limbs, 11 and 11. Diseases of arcolar tissue and skin: eczema, 1 and 1; other skin diseases, 2 in 1927. Diseases of urinary organs: kidneys, 5 and 5; ureter and bladder, 2 in 1927; urinary disorders, 22 and 12. New growths, non-malignant, 1 in 1926; local injuries, injuries and wounds, 9 and 5. Totals: 1926, 261; 1927, 250.

#### *Dangerous Petrol: Protective Clause in New Bill.*

The bill for the amendment of the Petroleum Acts was considered by the Standing Committee of the House of Commons on March 20th, when Lieut.-Colonel Sir VIVIAN HENDERSON, who was in charge of the bill, moved a new clause empowering the Home Secretary to make regulations as to classes of petroleum likely to be dangerous or injurious to health. He said the Government intended to introduce a Consolidation Act in regard to the law governing petroleum and petroleum spirit, but it was desirable that certain amendments should be passed first. With regard to the recent controversy concerning dangerous spirit, the Home Secretary had set up a committee of inquiry which was asked to act expeditiously and report. The new clause would enable the Home Secretary to take such action in the framing of suitable regulations as might be deemed necessary on receipt of the report. The clause was added without opposition.

*Petrol Fumes in Armoured Cars.*—On the report of supply in the Army Estimates, on March 20th, Mr. HARRIE asked what was being done to protect men in the armoured cars and tanks from petrol fumes. Sir LAMING WORTHINGTON-EVANS replied that the army did not use ethyl-petrol at all. They had an experimental depot at Woolwich, which was constantly experimenting with a view to discovering means of saving human life, and of improving defence at the same time.

*Smoke Abatement.*—Sir KINGSLEY WOOD, replying to Mr. Naylor, on March 20th, said that by-laws respecting the emission of smoke had been made by fourteen local authorities, and confirmed. Two regional advisory committees and one executive committee had been set up since the issue of the Ministry of Health's circular calling the attention of local authorities to the Smoke Abatement Act of 1926, in addition to two advisory committees previously appointed. A committee had also been appointed by a conference of representatives of local authorities to report on smoke abatement in the Greater London area.

*Health Conditions in Artificial Silk Factories.*—Sir WILLIAM JOYNSON-HICKS told Mr. Kelly, on March 15th, that reports on artificial silk factories by medical and other inspectors of factories who had visited them showed that the conditions of health were generally satisfactory, but cases of conjunctivitis had occurred at one or two works, and there had also been cases of dermatitis. Suitable precautions were being taken, and the conditions would continue to receive the special attention of his medical staff. He could not answer without notice regarding individual firms or factories.

*Dispensing of Medicines in the Navy.*—Dr. VERNON DAVIES asked, on March 14th, if the First Lord of the Admiralty was aware that the dispensing of medicines for men in the army by dispensers who underwent a short period of training was, in the opinion of the army authorities, performed adequately and economically; and whether he would, in the interests of economy, introduce the same system into the navy, and not engage any more fully trained pharmacists. Colonel HEADLAM, Financial Secretary to the Admiralty, said he could not accept the suggestion that the replacement of fully trained pharmacists in the naval service by dispensers trained in the manner proposed would make for economy, nor did he think the conditions in the two services so analogous as to make such a change practicable. Fully trained pharmacists were employed only in naval hospitals and in the naval medical store depot. Pharmacists carried out other duties besides those of dispensing. They were responsible, in addition, for the supply of medical stores to the fleet and for medical store duties in hospitals. Sick-berth ratings were instructed in dispensing duties only so far as they related to the stores in the service afloat scales, and performed such duties under the supervision of the medical officer of the ship, who was personally responsible for the correct issue and use of all drugs. Dr. DAVIES asked whether Colonel Headlam held that there was a difference between dispensing for the navy and dispensing for the army. Colonel HEADLAM said that he could not answer for the army.

*Fitness for Labour of Vagrants in Casual Wards.*—Replying, on March 15th, to Mr. Grundy, Mr. CHAMBERLAIN said medical advice would not be obtained on the diet to be supplied to vagrants in casual wards where stone-breaking had been introduced. The dietaries were reconsidered in 1925 in the knowledge that casuals might have to break stones. He would not order medical examination to make sure of the physical fitness of the vagrants who broke stones. No task was required from a casual suffering from temporary or permanent infirmity. Mr. LANSBURY asked if it was not a fact that there were no medical officers at casual wards, and that no casual was medically examined before being set to





after referring to the British Empire as being the brightest jewel in the Irish Crown, commented on the valuable work of Irishmen and by the association in promoting co-operation between different parts of the Empire. Mrs. Claude Bettington, who also replied to this toast, delighted the audience with a stream of anecdotes suited, as she remarked, to a meeting which might have been presumed to consist largely of medical students. The toast of "The President and the Association" was proposed by Dr. Bertram Watson, and in his reply Mr. G. W. Dawson referred to the progress made during the fifty years of its existence. Songs were rendered by Miss Mary Sheridan, Mr. Patrick Hughes, and Wing Commander Tyrrell, and these contributed much to the pleasure of an audience numbering more than one hundred.

A PARTY of forty-five medical students from Scotland arrived in London on March 17th to devote five days to a programme of demonstrations, including operations, at various London medical centres, among them being the Royal College of Surgeons, the leading hospitals, the Radium Institute, and the Wellcome Historical Medical Museum. The arrangements were made by the National Union of Students.

THE London School of Hygiene and Tropical Medicine has ordered from Messrs. R. and J. Beck, Ltd., more than two hundred microscopes for use in the new laboratories now in course of construction in Gower Street. The microscope is of British manufacture and embodies certain special features. The base is of rigid construction and the foot combines the advantages of the horseshoe or Continental model with the so-called English foot. The stage is of the completely built-in mechanical type with travel of  $1\frac{1}{2}$  in. + 1 in., the entire top plate of the stage forming the moving part. On the stage a slide-holder of new design is provided, in which the slide is firmly held without springs. The fine adjustment is of the double lever pattern, operated by milled heads on either side. The body is 2 in. in diameter and is provided with an adjustable graduated drawtube. The substage is actuated by rack and pinion, and all substage appliances are carried on Akeley slides; thus the interchange of illuminating systems is both easy and accurate. The optical equipment is ample for all bacteriological requirements, and the objectives are to be coloured externally so as to enable them to be recognized at sight. Messrs. Beck have agreed that certain rigid tests shall be applied to the whole equipment before delivery is accepted.

THE report of the Joint Tuberculosis Council for 1926 and 1927 contains a brief account of the activities of that body since the issue of the last report more than two years ago. Reference is made to the report of the committee on the employment of tuberculous persons issued in 1926; the work is being continued, and a further report is promised in due course. The promotion of post-graduate courses for tuberculosis workers remains one of the council's main activities, and the research committee has presented a report on disinfection in tuberculosis which it is intended to embody later in a memorandum. A special investigation is being carried on in Lancashire on the fate of young children in tuberculous households. The council has decided that evidence be offered to the Royal Commission on Local Government. A committee appointed by the council to consider this question concluded that for tuberculosis administration large areas were best; these alone could provide adequate salaries for experts, together with facilities for diagnosis, treatment of patients, and training of tuberculosis workers. The Council is represented by Dr. C. G. Hawthorne and Dr. Arnold Lyndon.

THE third annual report of the North Kensington Women's Welfare Centre has now been issued, and may be obtained from the secretary, 12, Telford Road, Ladbrooke Grove, W.10. A supplement for medical readers is provided on request; it gives details of the contraceptive methods recommended at this centre.

THE Astor challenge shield, given by the National Baby Week Council for the most effective local baby week campaign in 1927, has been awarded for the third year in succession to the Northampton Maternity and Infant Welfare Voluntary Association, and therefore passes into the permanent keeping of that body. A special trophy has been given to Leicester Health and Baby Week Committee, which took second place, and certificates of merit to Kettering U.D.C. Ladies Voluntary Committee for Infant Welfare, Kingston-on-Thames Infant Welfare Centre, and Sunderland County Borough. A campaign organized by the Cambridgeshire Federation of Women's Institutes gained the William Hardy challenge shield, reserved for smaller areas.

THE fourteenth annual general meeting of St. Andrew's Hospital, Dollis Hill, for the professional and middle classes, was held under the chairmanship of Cardinal Bourne. It was reported that there had been a considerable increase in the

number of in-patients throughout 1927, and emergency accommodation had to be provided. The year ended with a deficit of £1,076 and a building debt of £281. Funds are required for new buildings, including a children's ward and a nurses' home, which will release additional accommodation for patients. In all £30,000 is needed for these and other developments. In response to an appeal made a year ago for £15,000 to enable building to be started according to plans approved by King Edward's Fund, £6,107 has been given or promised. The hospital was opened in 1913, and although contributions are asked from patients who can afford to pay, no patient, it is stated, has ever been refused, whatever his nationality or creed, solely on the ground that he could not pay a fee.

THE Cambridge University Press announce for early publication a volume of essays and addresses by the late William Bateson, F.R.S., edited, with a memoir, by Mrs. Bateson; and *Common Principles in Psychology and Physiology*, by Dr. J. T. MacCurdy.

AN international post-graduate course on modern therapy, with practical clinical work, will be held in Vienna from June 18th to 30th. Further information may be obtained from the secretary of these courses, Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

AT a recent meeting at Scheveningen, which was attended by delegates from twenty-five countries, it was decided that the international congresses of ophthalmology which had been interrupted by the war should be resumed. Professor van der Hoeve was elected president and Professor Lunds-gaard vice-president. An executive committee was appointed, consisting of Drs. Axenfeld (Germany), Mellor (Austria), Coppez (Belgium), Byers (Canada), Marquez (Spain), Morax (France), and Orto (Italy).

THE International Labour Office has published the December issue of its *Bibliography of Industrial Hygiene*, which contains recent papers on hygiene in general, industrial medicine, physiology, and pathology throughout the world. Copies may be obtained from the International Labour Office, 12, Victoria Street, S.W.1.

PROFESSOR R. KRAUS of Vienna has recently been invited by the Republic of La Plata to become the director of an experimental therapeutic institute.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

THE TELEPHONE NUMBERS of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 9361, 9362, 9363, and 9364** (internal exchange, four lines).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the **BRITISH MEDICAL JOURNAL**, *Aitology Westcent, London.*

FINANCIAL SECRETARY and BUSINESS MANAGER, *Westcent, London.*

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*); telephone: 4737 (Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

## QUERIES AND ANSWERS.

"Q." asks for suggestions for the treatment of a case of "masturbation" in a male child, aged about 20 months, circumcised in infancy, and with no local irritation present.

## FINISH FOR MOTOR CAR BODIES.

AN expert, to whom we have referred a query from a correspondent

states that cellulose finish is with-  
out paint and varnish for motor car  
fast colour, and ease of cleaning,

but it is not, as a rule, suitable  
have raised mouldings, served  
steel bodies or aluminium panels,  
which  
With  
cellulose  
finish is usually more durable.



## TREATMENT OF LYMPHATIC OBSTRUCTION.

DR. A. N. LEEMING (Old Colwyn) asks for advice as regards the treatment of a woman, aged 70, with considerable lymphatic swelling (resembling elephantiasis) in the suprapubic region, and also, to a less extent, of the left thigh and leg. The condition has been progressive, in spite of treatment, for the last six months. Her organs are sound, except that there is proctodentia, for which a pessary was worn for many years, but has now been abandoned. The treatment has been lotions; ointments, including zinc; mercurials; iodex; radiant heat; x rays every ten days; general, as for gout; colossal manganese; and rest in bed.

## CRAMP AFTER SCIATICA.

"F. W. S." writes in reply to "K." (March 10th, p. 430): This is due to irritation in the motor fibres of the great sciatic nerve. People who suffer from it generally have a subnormal temperature, and the effective remedy is heat. A warm bath on retiring, the temperature of which is gradually raised until it is as hot as the patient can bear, with plenty of covering on the bed afterwards, will generally ensure a comfortable night's rest. Radiant heat and diathermy are helpful, and vapour baths are perhaps best of all, as they encourage elimination. Finally, the patient's evening temperature can be raised by giving iodo-tirosinamin. By taking  $\text{mxxv}$  to  $\text{mxxx}$  after breakfast I was able to raise my own temperature to  $99^{\circ}\text{F}$ , or a little more, every evening for two months, and this did not cause any inconvenience or discomfort. It cured both sciatica and cramp.

## PRESERVING THE STERILITY OF HYPODERMIC SYRINGES.

DR. R. J. GITTINS, Medical Superintendent, Friends' Mission Hospital, Itarsi, Central Provinces, India, writes in answer to the inquiry of "Intramammary" (*Journal*, November 12th, 1927, p. 905):—The method which we have adopted and found satisfactory in this hospital for the past two years or so is as follows: After initial sterilization by boiling, the hypodermic syringes are placed in rectified or methylated spirit in a jar (previously sterilized), to which is fitted a screw cap. Such jars are obtainable for a few pence. The needles are placed in a suitable receptacle in petrol, which we find is a far better preservative than spirit, lysol, or chloroform, which we have also tried. A pair of forceps are kept in lysol for lifting out the syringes and fitting on the needles. Our injection solutions are placed in bottles, closed by small pieces of rubber, such as old cycle tubing, which is securely tied round the necks. In one bottle is kept sterile saline or distilled water, which, before giving an injection, is drawn into the syringe in order to remove traces of spirit and petrol. After the injection the syringe is replaced in the spirit jar without disassembling and the needles in the petrol, where they remain till next required. We have found this method quite reliable, and on the few occasions when there has been slight sepsis following injection we have traced it to a contaminated injection solution. We have employed syringes and needles straight out of these preservative solutions for intravenous injection without disaster. After use for intravenous injection it is our rule to re-sterilize the syringe by boiling, in order to avoid all risk of transmission of syphilis or other infection. We rely on spirit for cleaning the rubber caps of the injection bottles. We usually add small quantities of some antiseptic, such as one-half per cent. phenol or salicylic acid, to our injection solutions or the distilled water, with the object of dealing with any infection which might be carried into the bottles on the insertion of the needles through the rubber caps. These methods have proved quite satisfactory, and we must have given some thousands of injections since we established the system.

## INCOME TAX.

## Allowance after Marriage.

"J. K.," who was married on March 14th, asks what personal allowance he can claim for the year ending April 5th. \* \* \* Under Schedule 18 of the Finance Act, 1920, the married allowance of £225—in lieu of the single allowance of £135—is due if the claimant "has his wife living with him for the year of assessment." The Act does not stipulate that it shall be for the whole of the year of assessment, and we understand that in such circumstances as those of "J. K." the full allowance would be granted for 1927-28. He should therefore communicate with the local Inspector of taxes asking for the statutory form of declaration for relief as a married man, and suggesting that the full relief should be credited to the payment due from him on July 1st next.

## Replacement of Car.

"SATIS" bought a two-seater car in 1901 for £500, and has now replaced it by a four-seater car costing £295, less £35 allowance for the old car—that is, £260 net. Depreciation has not been claimed.

\* \* \* He should claim the amount actually expended—that is, £260. In view of the cost of the former car and the fact that no allowance can be claimed on this transaction for the balance of the loss incurred, it is thought that the authorities would not press the fact that the new car provides more accommodation. It is, however, arguable from the Revenue side that the £260 should be reduced by the difference, as regards the new make of car, between the two-seater and four-seater models.

## LETTERS, NOTES, ETC.

## PRECOCIOUS MENSTRUATION?

WE have received the two following clinical accounts of cases both of which the diagnosis of precocious menstruation has been suggested:

DR. J. A. KENDALL (Brixton, S.W.) reports the case of a child born in May, 1920, from whom on four occasions, at regular monthly intervals, there has been a slight blood-stained vaginal discharge, lasting for an hour or two. The first appeared about October 18th, 1927, successive ones occurring about the same time in November, December, and January. The discharge was slight and rarely amounted to more than a stain on the clothes. The child is healthy, precocious, and well developed for her age; she suffers from night terrors. At the times when the discharge appeared she became fretful, complained of headache, and had dark rings under her eyes.

DR. J. A. NOBLE (Husbande Bosworth, Rugby) states that a primipara, aged 23, gave birth to a female child, weighing 7 lb., on December 4th. Four days later blood commenced to pass from the vagina and continued until December 12th. The vulva was congested and the vagina was filled with a chocolate-coloured discharge; the breasts were purple and swollen, and a hard area surrounded the nipples. A drop of fluid resembling colostrum was easily expressed. With the cessation of the flow the breasts became normal. The discharge was examined microscopically on the sixth day, when the red cells were found to be diminished and the swab showed chiefly polymorphonuclear cells, with mucus and epithelial debris. Dr. Noble was assured that there had been no interference with the nipples. During the subsequent seven weeks there was no further sign of ovarian activity or disease.

## GAS GANGRENE FOLLOWING A ROAD ACCIDENT.

DR. W. B. BURKE (honorary surgeon, Victoria Hospital, Workson) writes: The report of two similar cases of gas gangrene in the *British Medical Journal* of December 24th, 1927 (pp. 1183 and 1184), suggest that the following notes may be of interest:

A married woman, aged 30 and apparently in perfect health, was admitted to the Victoria Hospital on May 30th, 1927, and placed under my care. In a motor cycle accident the pillion foot rest was driven into the right foot, causing a wound 3 or 4 inches long on the inner border of the sole of the foot; three sutures to stop haemorrhage had been inserted before admission. On examination under anaesthesia the head of the first metacarpal was found to be fractured. The wound was thoroughly cleaned; it was not particularly dirty. Bipp was rubbed in and sutures were inserted. On the next day much thin, evil-smelling discharge came from the wound, and bullae, containing dark fluid, were present near it. The leg was swollen and oedematous to within a few inches below the knee, and presented patches of brownish-red discoloration to the same level. The smell suggested gas gangrene, and amputation above the knee was contemplated. There were no constitutional symptoms. Under an anaesthetic it was found that all muscles of the calf, except the soleus, had undergone softening, having degenerated into brown pulpy masses containing gas. Amputation through the middle third of the thigh was performed; the muscles and other tissues at the level of the amputation seemed perfectly healthy. On June 2nd the stump seemed healthy in all respects, but towards evening constitutional symptoms developed and the temperature rose. The brownish-red discoloration reappeared in the stump on the next day, toxæmia was well established and became progressively more severe. The gangrene spread up towards the iliac region, and the patient died on June 6th.

Judging by the two cases in the *Journal*, and from investigation of the literature on the subject, I can only conclude that this case would have yielded to serum therapy, but as such cases are few and far between in general practice, it is a matter of life and death.

## A COINCIDENCE.

CAPTAIN H. WILLIAMSON, I.M.S. (Quetta, India), writes: In view of its possible medico-legal interest the following case seems worthy of publication. A short while ago a child, aged 18 months, was brought to me with a naevus at the inner canthus of the left eye. I told the mother to bring the child to hospital on the following Wednesday, when I would remove the naevus. She did not bring the child on the Wednesday, so the naevus was not touched, but on the following Saturday the child was admitted suffering from a sudden and fulminating attack of meningitis, from which it died twelve hours later. The diagnosis was confirmed post mortem. Had I removed the naevus I could not have avoided the conclusion that meningitis, occurring three days later, was the result of infection from the operation.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 45, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 100.

## Remarks

ON

## ADVANCES IN THE TREATMENT OF CANCER OF THE CERVIX UTERI.\*

BY

HERBERT R. SPENCER, M.D.,

CONSULTING OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

It was with some diffidence that I accepted the invitation to open a discussion on advances in the treatment of cancer of the cervix, for the reason that, since I retired from practice, just a year ago, my personal advance has been in the temporal rather than the gynaecological direction. But 'tis a pleasant thing, says Lucretius,† to watch our colleagues toiling, especially when they are at sea, and as lookers-on proverbially see most of the game, having played the game for forty years, perhaps I may be able to point out some advances which have been made, some advances which need making, and some methods of inquiry which give a false impression of the fact, the degree, and the direction of advance.

In this last connexion I would emphasize the futility of placing any reliance upon statistical inquiries based upon insufficient data, with which the literature of the subject abounds. These statistics purport to give the "absolute cure" rate of various methods of treatment in figures carried to two places of decimals, and if, like a celebrated Chancellor of the Exchequer, you inquire the meaning of those "damned dots," you will usually find that neither they nor the integers have any value, and that the "absolute cure" rate thus expressed is absolute cant. To ascertain the "absolute cure" rate—that is, the proportion of patients cured (after, say, five years) to patients seen—is a difficult matter on account of the large numbers concerned, the want of compulsory notification of cancer, and the absence of particulars of the treatment in the death certificates of patients who have been affected with cancer; but it may be done for small numbers without much difficulty, and I appeal to the younger gynaecologists to follow up, for a period of five or ten years the first ten or twenty cases seen, and give full particulars, with the microscopic appearances of the cases and the final results; thus figures will be available for replacing the misleading statistics of the present day. I have done this for my cases of cancer of the cervix complicating pregnancy, of which the whole of my experience has been given.

In dealing with statistics it is very important that no case should be accepted as cancer unless it has been examined microscopically by experts in gynaecological pathology. The Obstetrical Society of London, more than a quarter of a century ago, established a pathology committee to which cases could be referred, and this continues to function in the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and is, so far as I know, peculiar to this country. The result has been that many English gynaecologists have devoted themselves to the study of the pathology of cancer of the cervix, and specimens accepted by that Section may be relied upon as true examples of cancer, whereas the mere statement that a case is cancer, without examination, carries with it no such conviction.

I lay the more stress upon the importance of this advance in gynaecology because certain conditions closely resemble cancer of the cervix, and can only be diagnosed by those who have an expert knowledge of gynaecology. I may mention a few of these: erosions, leucoplakia, papilloma, adenoma, mucous tubercle, chancere, corroding ulcer, syphilitic and tuberculous ulcer, chorion epithelioma; and one—carcinoma adenomatodes (adenoma malignum)—in which even microscopic examination may lead to error. Having seen examples of all these conditions, in view

of the paucity of cases which have been published, I cannot help feeling that among the long lists of cases of "cancer" operated on some may have owed their non-recurrence to their non-malignant nature.

Another direction in which advance is needed is in the early recognition of the cases, in advocacy of which I read a paper<sup>2</sup> at the meeting of the British Medical Association in 1907. I am hopeful that some benefit has resulted from that paper, and the discussion to which it gave rise, at all events in getting the doctors to examine their cases, though I am doubtful whether further measures are not needed for bringing the importance of early treatment before the public. I have found the visits of patients to the clinic on the anniversaries of their operation to be a valuable means of bringing the subject before hospital patients.

## PREVENTIVE TREATMENT OF CANCER.

In the absence of knowledge of the essential nature of the disease the preventive treatment of cancer of the cervix is difficult. It is known that cancer of the cervix is almost limited to patients who have practised sexual intercourse, and mostly occurs in those who have had one or many pregnancies. Analogy with experimental cancer leads us to suspect the irritation of lacerated and inflamed tissues as likely to lead to cancer, and they have been known to be followed by the disease. Treatment of these sources of irritation is indicated, and, in rebellious cases, removal of the cervix is called for.

One great advance in the prevention of cancer has been obtained by the substitution—for example, in cases of myoma—of total hysterectomy for the subtotal operation, thus avoiding cancer of the cervical stump, which has caused the death of several hundreds of women. It is a discredit to gynaecologists that these deaths should occur. I am glad to say that I abandoned the subtotal operation twenty-eight years ago; it would gratify me more than the last line of the quotation from Lucretius if my colleagues would do the same.

## ADVANCES MADE.

I will now consider the advances which have been made in the treatment of cancer of the cervix.

Omitting a few pessimists, to whom I have alluded in the paper mentioned, it will be generally admitted that remarkable progress has been made during the hundred years that have passed since Blundell removed a cancerous uterus in 1828;—this was the first time that the cancerous uterus was successfully removed in this country.†

James Blundell, obstetric physician to Guy's Hospital, in 1825 wrote a valuable paper on "Researches physiological and pathological," which was not considered worthy of publication by the Medical and Chirurgical Society. The author published the paper privately in 1825; the copy of that paper in the library of the Royal College of Surgeons contains some manuscript notes by Blundell concerning the case of cancer of the cervix, and the specimen—preserved in the museum of the Royal College of Physicians—I am able, through the courtesy of the curators, to show you.

The experiments on animals, performed by Blundell had an important influence in the development of abdominal section, and his case of vaginal hysterectomy for cancer of the cervix enlarged the field of operative treatment, which, until recent times, was the sole means of cure at our disposal. Hopeless indeed had been the outlook for patients from the earliest times of which we have records.

The Anglo-Saxon leech (about A.D. 900) treated cancer by applying the ashes of a hound's head to the wound: "if it will not yield to that take a man's dung, dry it, thoroughly rub to dust, apply it. If with this thou art not able to cure him thou mayest never do it by any means." Even as late as 1791 Lowder wrote of cancer of the uterus, "This is a disease so incurable that physicians give it up."<sup>4</sup>

That gynaecologists of the twentieth century are more hopeful is shown by the many researches in which they are engaged, of which I need only mention that of Thies on immunization by cancer-albumin and implantation of

\* Made in opening a discussion at the Medical Society of London on March 26th.

† *Suave, maris magno furantibus aequora ventis,  
E terra magnum alterius spectare laborem;  
Non quia vexari quemquam est jucunda voluptas,  
Sed, quibus ipse malis careas, omnia cernere suave est."*

<sup>2</sup> The patient survived the operation nearly a year, dying on February 7th, 1829. Blundell also removed the cancerous uterus from three other patients, with fatal results.

<sup>4</sup> Sauter of Constance, in 1822, was the first to perform the operation successfully.

cancer; and of Blair-Bell on the treatment of the disease by lead, which he brought before this Society in 1926: it is too soon to pronounce an opinion on the value of this treatment, but its dangers have been pointed out by its originator. For the present, at any rate, the treatment of cancer of the cervix resolves itself into removal of the growth by operation or by radiation.

#### OPERATIVE TREATMENT.

Passing over the destruction of the growth by caustics or cautery and the simple removal of the cervix (first carried out by Oslander<sup>5</sup> in 1801), the operative treatment may be divided into high amputation of the cervix and vaginal and abdominal hysterectomy.

##### 1. High Amputation of the Cervix.

High amputation of the cervix, preferably by the electric cautery introduced by Byrne, is an excellent treatment for early cases, especially in elderly patients; it is free from risk and permits the continuance<sup>6</sup> and the subsequent occurrence of pregnancy,<sup>7</sup> in which respects it is superior to any form of hysterectomy. In patients operated on before the menopause it is sometimes followed by stenosis and dysmenorrhoea until the menopause occurs; yet even these patients have better general health than those who have been deprived of uterus and ovaries. I have watched such a patient for twenty-five years after the amputation, during which she has been able to fulfil her conjugal duties without trouble; in this respect also high amputation is superior to any kind of extended hysterectomy. It is the fashion to neglect this operation; but, in the case of an early cancer in an elderly subject, it is, in my opinion, the best means of operative treatment at our disposal.

##### 2. Vaginal Hysterectomy.

(a) Simple vaginal hysterectomy was first successfully performed in this country by James Blundell on February 12th, 1828. Various are the methods of carrying it out. The use of the cautery, which I have constantly employed, has, I think, some advantages in lessening the hæmorrhage at the operation and the frequency of recurrence of the growth. The whole operation is carried out with the cautery; but it is generally necessary to tie the uterine arteries and the broad ligaments. The vaginal operation has a very low rate of immediate mortality, and it has the advantages over the extended operation that it does not interfere with marital intercourse, nor, like the abdominal operation, give rise to scar-hernias. The minimal risk of the operation renders it of great value in enfeebled or aged patients. The superiority of the recovery over that after abdominal hysterectomy is so marked that it is surprising that there exist gynaecologists who never perform the operation.

(b) Extended vaginal hysterectomy consists in a more extensive removal of the tissues with the help of para-vaginal incisions, unilateral or bilateral, which facilitate the isolation of the ureters and very free removal of the cellular tissue. The operation, carried out with varying technique by Schauta, Thaler, Peham, Stöckel, and others, has a higher mortality rate than the simple operation, but it has been reduced to 2.7 per cent. by Peham, who claims an "absolute cure" rate of 31.13 per cent., against 27.9 per cent. for the extended abdominal operation.<sup>8</sup> This is a very remarkable result, and is probably due to the lower mortality of the vaginal operation; for all vaginal operations have the disadvantage that the removal of many glands is impossible. The removal of all the pelvic glands is, of course, impossible by any operation, and it may be that the extensive removal of glands and cellular tissue has other disadvantages than that of increasing the risk of the operation.

The remarkable results obtained by the extended vaginal operation have somewhat withdrawn the attention of gynaecologists from the abdominal operation, in which the chief advantage lies in permitting the removal of infected glands. The extended vaginal hysterectomy, like the extended abdominal operation, interferes with marital intercourse.

In all kinds of vaginal hysterectomy it is important that the peritoneum should be carefully closed; gauze introduced into the peritoneum for drainage sometimes gives rise later on to intestinal obstruction produced by intestinal adhesions set up by the gauze.

##### 3. Abdominal Hysterectomy.

(a) Simple abdominal hysterectomy is useful in cases where there are complications (uterine fibroids, tumour of the appendages) and where the weakness or advance of the patient renders the extended operation inadvisable. It permits more careful closing of the peritoneum than the vaginal operation, is less likely to be followed by obstruction, and has a lower rate of mortality than the extended operation.

(b) Extended abdominal hysterectomy, which will always be associated with the name of Wertheim of Vienna, was proposed by him as a more surgical operation than the vaginal procedure, in that it permits the wide removal of the tissues and of the pelvic glands. The chief drawbacks to the operation are its high mortality, its late sequelae (fistulae and urinary infection), and the interference with marital intercourse which it entails. Although the mortality rate has been lowered by the employment of gauze drainage,<sup>9</sup> I have not seen any statistics showing the frequency with which drainage is followed by hernia of the scar and intestinal obstruction. The employment of drainage does away with the complete closure of the peritoneum, which is one of the advantages of operating by the abdomen, and favours the occurrence of hernia of the scar, the prevention of which is one of the advantages of operating by the vagina.

With regard to the removal of glands it is to be borne in mind that in about two-thirds of the patients operated on the glands are not cancerous, that the removal of glands (necessarily incomplete) increases the danger of the operation, and that it appears probable that cancerous glands can free themselves from cancer, especially with the aid of radiation. Many patients, however, have remained free from recurrence for as long as ten years after the removal of cancerous glands, which is a triumphant result of the extended abdominal operation.

##### 4. Combined Abdominal and Vaginal Hysterectomy.

Combined methods of operating (abdomino-vaginal or vagino-abdominal) have some advantages in lessening the exposure of the peritoneum and the danger of infection.

##### 5. Radiation Treatment.

Great indeed has been the advance in the treatment of cancer of the cervix since the employment of radium, mesothorium, and Röntgen rays. As my experience of this treatment only dates back about a dozen years, and my colleague is dealing with the subject, I will merely state that in my opinion it is the most important advance of all. Its curative effects are incontestable, and it is especially valuable in the treatment of cancer complicating pregnancy.<sup>9</sup>

#### CONCLUSION.

In conclusion, I wish to state my opinion that the treatment of cancer of the cervix should be eclectic and that no one treatment is suitable for all cases. During the past century a great advance has been made, so that to-day about two-fifths of the "operable" cases can be cured. This proportion might be doubled if the cases came for treatment at an early stage of the disease. The great desideratum is to get the cases early; they may then be treated by one of the methods mentioned. Of these the most hopeful for the future is the treatment by radiation, the technique and dosage of which merit the intensive study of British gynaecologists, which I am sure will be advanced by the contribution of our Belgian colleague, Max Cheval.

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- <sup>7</sup> Vilanova: *Archiv. di ost. e gín.*, 1898, p. 670; and *ibid.*, 1900, p. 257.
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- <sup>10</sup> See Boderlein, *Monatsh. f. Geb. und Gyn.*, 1927, p. 454; Poucy, *Bull. de la Soc. d'Obstét. et de Gyn. de Paris*, 1927, p. 702; and Berkeley.

<sup>9</sup> For example, by Faure, from "about 20 per cent." to 2.6 per cent. *Cancer de l'utérus*, 1925, p. 897.

## TREATMENT OF CANCER OF THE CERVIX UTERI BY IRRADIATION.\*

BY

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### Action of Irradiation on the General Condition.

In their recent works Professor Slosse and Dr. Reding of Brussels have demonstrated the action of the  $\alpha$  and gamma rays on the organism.

For that purpose the patient drinks a solution of dextrose (50 grams of puro anhydrous dextrose in 200 c.cm. of distilled water). The authors detect the quantity of sugar in the blood by Hagedorn and Jensen's method. They found that the glycohaemia is more intense and has a longer duration in patients with malignant tumours than in the others.

These authors have shown also that cancer patients have a pH above the normal. When these patients are cured by a surgical operation this state may persist for years. On the other hand, if they are treated and "cured" by irradiation these symptoms disappear.

Having no personal experience of the utilization of  $\alpha$  rays I shall not speak of them, but will only indicate the improvements which seem to result from our practice in the treatment of patients by radium. To explain these improvements it seems useful to indicate precisely the technique which we have utilized since 1919.

### Technique of Curie Therapy.

In 1919 we utilized the utero-vaginal method of Professor Regaud, which consists in placing a certain number of tubes, suitably filtered, in all the length of the uterine cavity, and more tubes, also suitably filtered, in the vaginal culs-de-sac. Very early (1920) we gave up using needles with a weak filtration ( $1/2$  mm. of platinum), as their action was too caustic, and consequently too local (1 cm. in distance). We have given the preference to tubes filtered by  $1\frac{1}{2}$  mm. of platinum, plus aluminium  $1/10$  mm., plus rubber, plus gauze or cork. The distant action is greater and extends to a zone of 3 cm. around each tube.

Unfortunately the cervical canal is not always reparable, and we have had cases in which recurrence has taken place, the intrauterine cavity being the point of origin.

In the cases in which tubes could not be placed within the uterus we have, a month or two afterwards, made a vaginal application of radium. We have since 1922 performed subtotal hysterectomies by the abdominal route—the cervix is generally difficult to remove—followed by implantation of needles in the cervical stump, our motive being to destroy the malignant cells, which are too distant from the vaginal tubes; here the local action only is aimed at.

Having found that some of our patients presented recurrences in the neighbourhood of the parametrium, in 1922 we adopted the radium drainage method of Professor Daels. By this method tubes of radium may be placed outside the peritoneum in the neighbourhood of the external portion of the broad ligament. We have practised this without any operative accident, and have had a certain number of successes. We employed these methods combined up to 1926. Since then, Professor Regaud having drawn attention to the good results which followed the use of radium placed at a long distance, we have had constructed an apparatus containing 4 grams of radium element or  $7\frac{1}{2}$  grams of the bromide. We only use the very hard gamma rays. Our apparatus allows us to irradiate two patients at a time in large fields, as is done by the  $\alpha$  rays. The whole of the small pelvis is irradiated with an equal intensity, and, in spite of the enormous doses, the patient is neither rendered anaemic nor shocked. It is premature to speak of the results which this method will give, and to say whether it is useful to combine it with the local applications or with surgery; we have not used it sufficiently long to be able to discuss our results. Therefore we have only given a personal statistic ending in 1924; but we shall appeal to a large

\* Abstract of a contribution to a discussion at the Medical Society of London on March 25th.

number of authors of different countries to demonstrate that radium effects a cure in more than one-half of the operable cases; that in the cases on the limit of operability at least one-third are cured; and in inoperable cases 10 to 20 per cent. of the cases are cured.

### Conclusions.

1. Irradiation seems to effect cures of a better quality than surgery.
2. Of all cases treated by radiation 30 per cent. are definitely cured.
3. An improvement of this percentage should be obtained by the new methods, using large amounts of radium placed at a distance.

## An Address

ON

## THE CLINICAL STUDY OF PAIN:

WITH SPECIAL REFERENCE TO THE PAINS OF VISCERAL DISEASE.\*

BY

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"Every pain has its distinct and pregnant significance; if we will but carefully search for it."—John Hilton.

OF all the symptoms for which we are consulted pain, in one form or another, is the most frequent and frequently the most urgent. Properly assessed it stands pre-eminent among the sensory phenomena of disease as a guide to diagnosis. And yet it must be confessed that our understanding of its nature and mechanisms, and consequently of its full significance in practice, remains peculiarly limited. We are naturally dissatisfied with invisible and imponderable evidence, and it is therefore no matter for surprise that recent years have witnessed the introduction into medicine of a host of objective methods of studying disease, and that the study of subjective symptoms has suffered some contemporary neglect. The opaque meal and enema; pycnography; cholecystography; the electro-cardiograph; methods of blood analysis; the various chemical tests for gastric, hepatic, pancreatic, and renal efficiency; bronchoscopy; lumbar puncture and its developments; and the exploratory operation—all these, following in the trail of the stethoscope and the ophthalmoscope and older routine methods of physical examination, bear witness to our zest for objective information. It is, however, chastening to remind ourselves that, notwithstanding all the help derived from a judicious employment of them, these methods too have their limitations, and none of them is infallible. They are chiefly useful in proving or disproving the existence of established organic disease; in increasing the accuracy of a clinical opinion; and in serving to differentiate one form of organic disease from another. They have greatly helped in decisions for or against operative intervention. They have undoubtedly exerted an instructive and a corrective influence. In some degree—although, to my mind, by no means so much as they might have done—they have even enhanced our appreciation of subjective symptoms. But their contributions to the early diagnosis of organic disease and to the study of functional disorders are necessarily restricted, and it is clear that without the initial indication of certain symptoms they could never be rationally employed. Moreover, their aid can rarely be invoked in urgent problems or in the homes of the people. There is a very real danger that by over-reliance on them, by too great an anxiety to give our patients the benefit of modern investigations, and by a waning confidence in our own clinical ability, we may come to lose the astuteness and wisdom of our forebears.

In medical education the introduction of these methods has not been an unqualified blessing, and the training of ear and eye and hand and the development of the power of inductive reasoning have suffered much. Every year I see a number of mistakes made through inappropriate,

\* Delivered before the Newcastle-upon-Tyne and Northern Counties Medical Society on February 2nd, 1923.

unnecessary, or excessive investigation. Not infrequently I have myself fallen into error for similar reasons; and not infrequently I have extricated myself from error by a return to first principles, by taking the history of the case again, or by making a more careful analysis of the patient's sensations—Nature's earliest signals of morbidity. It will be readily agreed that many of the best diagnoses and judgements are achieved with the unaided senses backed by experience. It will also be agreed that no course of action can train these senses unless it includes experience patiently garnered at the bedside and in the consulting room.

If I were asked how the next considerable advance is to be sought and won in the field of medicine I should say (with grateful acknowledgements to the influence of Sir James Mackenzie) by the intimate study of the physiology of symptoms, and (once more acknowledging our debt to other great pioneers in this field—notably John Hilton and Sir Henry Head) I would submit that our first concern should be a more extended and intimate study of pain.

This brings me to a consideration of method. New research into subjective phenomena does not commend itself to the laboratory worker, and cannot easily be pursued in the experimental animal. It is presumably for this reason that even the more recent textbooks of physiology are extraordinarily reticent on the subject of all excepting the superficial pains, and that the scanty references which they make to visceral pain are often misleading. (Thus they nearly all declare that visceral pain is very inaccurately located, and devote more discussion to the occasional sympathetic or somatic than to the far more frequent visceral sensations.) Experiments on the healthy human subject, such as those conducted by Hurst and his collaborators in the course of their work on the sensibility of the alimentary canal, are of necessity limited, and no amount of ingenuity can quite reproduce the experiments in disturbed sensation with which Nature herself provides us in our own bodies or those of our patients. The study of pain must therefore continue to devolve mainly upon the clinicians.

I wish that time would permit me to refer to the method and the classical contributions of the pioneers whose names I have mentioned, and to the valuable communications of others, including Ross, Hurst, and Copo in this country, and of Lennander, Rudolf Schmidt, and others abroad. For my present purpose let it suffice to recall that, whatever the individual trend of these investigators may have been—whether anatomical, physiological, surgical, or neurological—the basis of all their researches was clinical observation.

Partly because the immensity of the subject compels selective treatment, partly because visceral pains have especially interested me in my work as a general physician, and partly because they seem to me to have suffered neglect in comparison, for instance, with the pains of nervous disease, I have chosen to confine my attention in this paper to the subject of pain expressing visceral disease. My remarks will fall into three sections. In the first I shall endeavour to summarize the present state of our knowledge of the physiology of pains affecting the hollow organs. In the second I shall outline a simple system for the clinical analysis of such pains—a system which really embodies nothing new, and which is in large measure applicable to the study of other pains. In the third I shall consider, with examples, the practical applications of pain analyses, for, after all, the chief interest to the practising part of our profession of all such studies is their bearing upon the advancement of diagnosis, prognosis, and treatment.

#### VISCERAL PAIN.

The insensitiveness to ordinary tactile, thermal, and chemical stimuli of the serous and mucous coats of the hollow viscera has been established in various ways. Partly on this account Sir James Mackenzie became protagonist for the view that there is no true visceral pain, but only pain projected to the somatic tissues supplied by the same segment of the cord as that which supplies the injured viscus. This view still finds a few supporters, but common experience and experiment have rendered it untenable for the majority of students. There is reason to believe that

Mackenzie latterly modified his earlier view to that more generally upheld, for in 1922, in response to certain observations of my own, he wrote to me as follows: "It is to answer this question that I have spent a long inquiry and have come to the conclusion that the only known stimulus that produces pain in the tissues which are supplied only by the autonomic nerves is the contraction of muscle." I would prefer, for reasons which will become apparent, that we should state the matter a little differently by saying that "visceral pain is due to an abnormal increase in tension in the muscular element of the wall of the viscus," for a positive contraction is not the only cause of increased tension or of pain.

This conception of the cause of visceral pain can be equally well adduced in explanation of pains as diverse in character and circumstance, as those of labour, of gastric ulcer, of renal colic, and angina pectoris. But there are other observations accessory to the main conclusion which may be made in regard to the pains of visceral disease. These I shall summarize as concisely as possible, referring to them as "laws" of visceral pain for brevity and convenience, and implying thereby "present beliefs" rather than "unalterable truths."

#### "Laws" of Visceral Pain:

(1) Visceral pain has its origin in and is due to an abnormal increase in tension of the muscular element of the wall of the viscus, this increase in tension resulting either (a) from contraction of the muscle, or (b) from its failure to relax in the face of increasing intravisceral pressure. (Examples: (a) tonic spasm of the colon, (b) bladder pain in the early stages of retention before the muscle fibres have become overstretched.)

(2) Relieving factors in visceral pain, other than those which merely deaden consciousness, are invariably factors which reduce intravisceral pressure or encourage muscular relaxation. (Examples: the relief of pain from the sudden perforation of a diseased appendix; the passage of a calculus; the taking of food in duodenal ulcer; the administration of amyl nitrite in angina pectoris.)

(3) As would be anticipated if the truth of (1) and (2) is conceded, the severity of mechanically induced pain is in inverse proportion to the normal distensibility of the viscus. (Thus the most severe pains are found in disease involving tubes of small calibre and small distensibility, such as the ureter, the bile ducts, and the arteries; the more bearable pains in disease involving organs of wide calibre and a wide range of physiological distensibility and postural adaptability, such as the stomach and urinary bladder.)

(4) Visceral pain when occurring alone or dissociable from attendant pains in the somatic tissues or other viscera can be accurately located by the patient, the localization corresponding, not with any segmental nerve distribution, but with the surface marking of the viscus. (Examples: the loin gesture of renal pain; the sternal gesture of cardio-aortic pain; the accurate indication of the point of obstruction in oesophageal and some colonic strictures.)

(5) Visceral pain, having its origin in muscle, is related to the functional activity of the affected viscus. (Thus it is increased or relieved by food or fasting in gastric ulcer, by effort or rest in cardio-vascular disease, just as pain in skeletal muscle is aggravated by use and relieved by rest.)

(6) Referred somatic pain or soreness in visceral disease may accompany (a) severe visceral crises of mechanical origin, (b) inflammatory or ulcerative disease of the visceral wall, and more particularly if this involves the muscular coat. (Examples: (a) arm pain in angina and testicular pain in ureteric colic; (b) cutaneous soreness in appendicitis and chronic gastric ulcer.)

(7) Sustained somatic pain or soreness in visceral disease persisting apart from recent crises of visceral pain invariably implies inflammatory disease of the viscus in question. (Example: scapular angle pain and interscapular pain and soreness in chronic cholecystitis.)

(8) Conversely, absence of somatic pains and soreness is the rule in cases of visceral pain dependent on functional derangements or due to obstructive lesions in the more distensible viscera. (Examples: chronic colon spasm; pyloric or colonic growths.)

It need hardly be remarked that in actual practice we often encounter confusing effects which result from the extension of disease or multiple lesions or from the "spread" of pain due to temperamental factors or long-continued psychological or physical ill health. Such a qualification need not, however, damage these main conclusions. It would be impossible to detail here the accumu-



lated evidence on the basis of which it has seemed justifiable to formulate the foregoing "laws."

The referred sensory phenomena, requiring for their production special circumstances, such as intensity or prolongation through an inflammatory process of the appropriate stimulus, are infrequent in comparison with the local phenomena, and so are of less constant diagnostic value. It would therefore seem fitting to devote our attention more particularly to the primary visceral pains. It is chiefly with these that I shall concern myself in outlining the scheme for the analysis of a pain which follows.

#### THE ANALYSIS OF A PAIN.

When a patient comes to us with a complaint of pain it is customary and natural to ask him where the pain is felt and what its character may be. Each of us, no doubt, has his individual method of approach. Often a few direct questions and a little patience will elicit replies so informative as to put us immediately on the track of a reasonably accurate opinion, but there remain a host of "difficult pains" in which our simple routine brings no reward, and we are left "wondering," or are compelled to proceed to the physical examination, which may, in its turn, prove exasperatingly negative. Even the "further investigations," when we can indulge in such luxuries or send the case to hospital, do not necessarily supply the answer to our problem. It is just in these cases that we feel the need for some fuller method of inquiry. A little reflection will show that there are no less than ten reasonable questions which may be propounded in any given case of visceral pain, and, indeed, of most other kinds of pain. Each of these questions has some direct bearing on the qualities or circumstances of the symptom, and so renders our investigation less haphazard. It is true that the answers to these questions must be accorded very variable marks for merit. We cannot expect to obtain consecutive or intelligent co-operation from all our patients, but this is no reason for abandoning the attempt. For our failures to "establish contact" or to assess the reliability of replies we must hold ourselves at least in part to blame, and, profiting by them, must aim at an improved technique.

Of these ten questions two have a bearing on quality and quantity, and may be answered under the headings of (1) character and (2) severity. Three have a bearing on spatial relationships, and are answerable under the headings of (3) situation (including depth from the surface), (4) localization (or extent of diffusion), and (5) paths of reference. Three have a bearing on temporal relationships, and are answerable under the headings of (6) duration, (7) frequency, and (8) special times of occurrence. Two have a bearing on determining causes, and are answerable under the headings of (9) aggravating and (10) relieving factors. Over and above these questions directly relating to the pain our interrogatory must also include associated symptoms. All of these questions are concerned with the spontaneous pain experienced by the patient. At a later stage we proceed to examine for elicited visceral pain (or "tenderness") and elicited somatic pain (or "soreness").

#### Practical Applications.

Now let us consider the practical utility of an analysis of this kind. What can we learn of the character of a pain? It is common knowledge that certain descriptive adjectives crop up again and again in the language of our patients, and these must be accorded their full due. Thus the pain of ulcer is usually "gnawing" or of a dull "toothache" quality; it is sustained while it lasts—that is to say, it is not markedly fluctuating and never intermittent. In an acute irritative gastritis the pain may be peristaltic and intermittent. The secondary gastric pain of gall-stone dyspepsia is commonly of a "bursting" character. The pain of angina pectoris, sometimes so agonizing as to defy description, is often referred to as bursting, crushing, or vice-like. The pains of biliary and renal colic, devastating in their ultimate throes, are nearly always continuous and crescendo, and in no true sense "colicky"; they start with a dull ache which becomes progressively more intolerable. The pain of enteritis or small intestinal obstruction is truly "colicky"—that is to say, rhythmically intermittent,

sharp, and gripping while in action, but quickly giving place to ease between the spasms. "Burning" pains are rarely indicative of gross organic disease. The most familiar example is the homely heartburn, with its unpleasant, but never agonizing, sense of a retrosternal and almost "chemical" heat, although such evidence as we have suggests that it is, in common with strangury and tenesmus, an accompaniment of spasm. Diffuse abdominal burning sensations are chiefly encountered in depressed or emotional patients.

The severity of a pain is notoriously hard to measure. It is always well to discover from our patient at an early stage whether "pain" or "discomfort" is the more appropriate description. True pain is more likely to mean organic disease. Pains which are comparable with or worse than those of labour, or which in past episodes have required a hypodermic injection, we accept as genuinely severe. The effect of the pain on the performance of daily duties or mental work or equanimity or sleep allows some estimate of its gravity. Recourse to hot bottles, or bed, or analgesic drugs may help in our assessment, but in this part of our inquiry more than any other our own observational powers in regard to temperament or other factors likely to raise or lower the "threshold" of the individual to pain must be called into play.

The situation and localization of a pain are best determined by observing the patient's gesture, and, best of all, when the opportunity can be found, or made, to see him in its grip. The more defined and accurately localized the lesion responsible for a visceral pain the more accurate and defined, as a rule, is the gesture of the patient. There are many significant gestures. A famous proprietary pill has caught in its advertisements the typical gesture employed by the victims of a kidney stone. The pain of ulcer is commonly indicated with the tips of the fingers applied to mid-epigastrium; the pain of a functional dyspepsia with the flat of a roving hand. The point of arrest of a ureteric calculus may sometimes be shown with a single finger. In cases of chronic colon spasm I have seen the course of the colon accurately traced by patients wholly ignorant of anatomy. Among the best recognized paths of reference are those involving the left arm in angina pectoris, sometimes extending to the right arm, and in other cases usually confined to the inner aspect and reaching the elbow, the wrist, or even the ring and little fingers, and sometimes also rising to the neck or jaw; the scapular or interscapular pain (not shoulder pain) of gall-bladder disease; and the testicular pain of ureteric colic. Superficial and more often deep skin soreness may be of very real assistance in the diagnosis of gastric and duodenal ulcer, of some forms of appendicitis, of cholecystitis, and diverticulitis. Referred pain down the front of the thighs may accompany salpingitis and tubal pregnancy. The details of the search for zones of soreness have received full discussion in the literature and need not be considered here. Care is sometimes necessary to avoid confusion of a fibrositic tenderness with a true sympathetic hyperalgesia.

The duration of a pain has a very special significance, and may frequently throw light on the particular perturbation of function which the pain itself less surely expresses. Thus the intermittent pains of intestinal colic, so clearly due to peristaltic over-activity, last a few seconds only. The pains of an anginal seizure (excluding the sustained agony of coronary occlusion) rarely last more than a few minutes, and depend, we believe (whether their focus be in the heart or its vessels), on an inadequate relaxation—or adaptation of posture—on the part of the coronary plain muscle in response to increased cardiac work and a rising blood pressure. The pains of gastric and duodenal ulcer last an hour or more, until the stomach is empty or replenished. Biliary and renal crises may continue for an hour or hours, and often enough until the blessed relief of morphine has been won. In each instance we can nicely correlate the time character with the mechanical event.

The frequency and special times of occurrence of a pain are also instructive. Epigastric pain which recurs daily and with some constant time relationship to meals is almost certainly of gastric origin. Epigastric pain arriving at rare intervals, "out of the blue," and independently of

eating or other physiological exercise, should raise a suspicion of gall-stones or tabetic crises. Epigastric pain, absent at times of rest but immediately induced by certain efforts, is almost undoubtedly due to cardio-vascular disease. Of special times of occurrence it is also noteworthy that angina, in concert with other "spasmodic complaints," as observed by Heberden, has a predilection for the early hours of the morning after the first sleep. The hunger pains of duodenal ulcer often wake their victims between the hours of midnight and 2 a.m., and gall-stone pains at a somewhat later hour.

Among *aggravating factors* (taking again the better known types of pain) exertion, cold, annoyance, and particularly exertion after food, may all be provocative of anginal seizures. Jolting is apt to evoke pain in biliary, renal, and vesical calculus, and also in sufferers from chronic colon spasm, a disorder which is highly responsive also to the influence of cold, fatigue, worry, tobacco, and purgatives. Gentle thumping of the loin will more readily evoke the pain of calculous renal disease than simple deep palpation. Of *relieving factors* rest of body and mind and warmth are common to the majority of painful visceral disorders. Amyl nitrite has an almost specific effect in anginal pain, but not so in the status nigrus of coronary occlusion. Alkalis and belladonna (both probably by facilitating pyloric relaxation) have a well-known efficacy in gastric pain. Abdominal pressure, ill tolerated in inflammatory abdominal disease, may alleviate the pain of intestinal colic.

Now I would not for a moment have it supposed that an interrogatory such as I have outlined can be employed by every busy physician in every case of visceral pain with which he is confronted; but I would suggest that some such method is not only appropriate but essential if we are to prosecute a careful inquiry into any single type of pain; and further, that it may be of decided value in practice in elucidating what I have described as "difficult pains," and more particularly in those unhappily plentiful cases of chronic abdominal disease in which physical signs are scanty or altogether lacking. I can think of nothing better calculated to stay the epidemic of injudicious abdominal operations than an extension of interest in pain as a diagnostic symptom.

If I were asked to enunciate a few important principles for the everyday clinical study of pain my choice would fall upon the following:

First, in obscure cases and important decisions to try, whenever possible, to see the patient when his pain is present, for then and then only will his own observations be accurate and reliable, and not dependent upon memory, and physical signs, absent at other times, may be in evidence. We all know how few and far between (especially in consulting and hospital practice) are these opportunities of seeing our patients in pain. This circumstance alone is evidence of the rarity of continuous pain (excepting in advanced inflammatory and malignant disease), and supports the contention that visceral pains come and go in a physiological sequence and in obedience to physical laws.

Secondly, to pay particular attention to the patient's gesture, and, if he makes none spontaneously, to ask for a manual demonstration with the clothes removed. "A pain in the stomach" may mean a pain anywhere between the manubrium sterni and the symphysis pubis, and our endeavour must ever be in the direction of greater precision. I have several times seen the mistake made of supposing a pain to be gastric because it was related to food. Colonic pains may also be influenced for better or worse by food, but they are situated in the lower abdomen, whereas gastric pains are always epigastric.

Thirdly, to remember the close association which exists between visceral pain and the functional activity of the viscera in question. I once had a case referred to me by a cardiologist on a suspicion of stomach trouble with a request for a gastric analysis. The patient was an elderly man complaining of high epigastric pain after food. Before examining him I ascertained that the same pain was also evoked by walking, and that the case was undoubtedly one of angina pectoris.

It remains for me to cite from my personal store a few case histories which serve to show the value of a full

analysis of pain, and how such an analysis may lead to a more correct opinion or may modify judgement or treatment in important ways. I have been careful to include mistakes of my own as well as those of others. How often these mistakes give us insight into matters previously debatable or obscure.

[Case histories illustrating the following conditions were here recounted, the detailed descriptions being omitted owing to lack of space.]

(1) A case in which examination of the patient during an attack of pain altered a diagnosis, based on careful investigations, from duodenal ulcer to gall-stones.

(2) A case in which the severity of the pain led to a diagnosis of gall-stones and a fruitless operation; in which a radiologist later found a lesser curvature ulcer; but in which the clinical analysis led to a diagnosis (proved at a second operation) of "chronic posterior duodenal ulcer adherent to the pancreas."

(3) A case of chronic colon spasm previously diagnosed as (a) gastric ulcer, (b) renal colic, and leading to laparotomy.

(4) A case of chronic right-sided colon spasm for which appendicectomy was performed.

(5) A case of aortic disease with abdominal angina subjected to investigations of the alimentary tract.

(6) A case in which opinions as diverse as coronary arterial thrombosis and gall-stones were entertained by different observers.]

#### CONCLUSION.

It is a criticism sometimes levelled at the clinician that his work is regrettably unsystematic. In general the criticism may seem justified, and we know well enough that we cannot make of medicine an exact sort of science. But in particular it is indisputable that a careful clinical examination or inquiry is just as much a scientific procedure as any other measure of research. According to Huxley's definition, "Science is nothing but trained and organized common sense"—a definition which we should be very ready to accept, and which applies particularly well to clinical work.

We hear much talk at the present day of research in general practice. I marvel at the temerity of anyone who can suggest that the busy practitioner should add another burden to his arduous life; but if there is one way of research not involving too great a consumption of time, and open alike to the general practitioner or to any other branch of the profession, it is that of keeping very full clinical notes on selected cases with a view to the solution of a selected problem in symptomatology. No symptoms better lend themselves to such a process of inquiry than some of the common pains of daily practice. A series of cases of headache, backache, or abdominal pain, as fully investigated as circumstances will permit, and carefully followed through the years, will certainly provide individual rewards for their investigator, and may ultimately furnish the material for a reasoned contribution to morbid physiology. System and patience are necessary, together with an inquiring mind. The only essential apparatus for the research is a good card index.

## GANGRENE FOLLOWING THE USE OF ERGOTIZED RYE BREAD.

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EARLY in 1923 we reported at the Liverpool Medical Institution a case of gangrene in symmetrical toes, a condition which followed upon a diet of ergotized rye bread.<sup>1</sup> In view of the recent article in this *Journal* describing symptoms, resembling those of ergotism, among foreign Jews in the Manchester area,<sup>2</sup> a synopsis of the essential features of epidemic ergotism and of this case of gangrene will now have greater interest.

Although the ergot fungus (*Claviceps purpurea*) occurs most commonly in rye, it occasionally infects wheat, oats, and barley, and, failing its usual host, it can exist on the following grasses: Poa, Phleum, Anthroxanthum, Agrostis,

Elymus, and others. The conditions favourable to propagation are a poorly cultivated or damp, clayey soil, and a wet season, together with the presence, at the borders of the field, of grasses which can harbour the fungus. The chief active principles of ergot have been proved by Barger, Dale, and others to be the alkaloids ergotoxine and ergotamine, and the amine bases tyramine and histamine.<sup>3</sup> Ergotoxine, which stimulates the peripheral motor sympathetic mechanism, causes the arterial constriction which, when prolonged, results in gangrene; excessive doses of ergotoxine paralyse the myoneural junctions of the motor sympathetic endings; tyramine, like adrenaline, stimulates both motor and inhibitory sympathetic receptors; and histamine, which is a direct stimulant to involuntary muscle, causes, as is well known, a large fall in blood pressure.

Ergotism may be of two types—the convulsive and the gangrenous. The former predominated in epidemics in Germany, Russia, and Eastern Europe; the latter in France and Switzerland.

The onset of the convulsive type is characterized by malaise, dizziness and headache, nausea or vomiting, colic with chronic diarrhoea, and cold extremities—symptoms of small diagnostic value. The more characteristic symptom of formication begins in the fingers and toes, and may spread to the body. Severe cases exhibit gastro-enteritis with muscular twitchings or painful clonic and, later, tonic contractions of different muscles, while, finally, contractions, chiefly of the flexor muscles of the limbs, may result.

The gangrenous type may exhibit similar initial symptoms; then follows, after intervals varying from a few days to several weeks, great pain with an erysipelas-like reddening of the skin and swelling in some peripheral part. This gives place to pallor and anaesthesia, cyanosis, darkening of the part, and the appearance of gangrenous blisters with separation of the epidermis; a sharp demarcation line generally results.<sup>4</sup>

From a study of the epidemics it appears that some individuals are more sensitive to ergot than others; thus instances are noted where some members of families eating the same ergotized bread remained unaffected or mildly affected while others were severely poisoned.<sup>5</sup> The time of appearance of gangrene is also uncertain; it is stated to have occurred four days after the consumption of the ergot,<sup>6</sup> or may be delayed for a month, or perhaps occur after consumption has ceased.<sup>7</sup> Some of these last cases appear doubtful, although Kobert recorded delayed poisoning in animals.<sup>8</sup> Both Kobert and Grünfeld noted in Russia that epidemics occurred shortly after harvest time, and generally in years following a preceding bad harvest, which caused the people to eat the new season's rye shortly after it had been reaped. Grünfeld also showed that ergot kept in a dry room lost activity by one-half each two months succeeding the harvest.<sup>9</sup> The proportions in rye which have caused epidemics vary from 1 per cent. in the Poltova, Kursk, and Tomsk epidemics<sup>10</sup> to 7 per cent. in the Novgorod epidemic (1879) and more.<sup>11</sup> Ergot in doses of 0.2 gram daily for one month has been stated to cause gangrene two months later,<sup>12</sup> and 1 gram daily induced intestinal symptoms in a few days,<sup>13</sup> while Lehmann regards 0.2 per cent. and upwards as likely to be injurious proportions in man.<sup>14</sup>

The following is the clinical record of a man, aged 42, a Polish Jew, by trade a travelling salesman, who had lived in England for thirty-five years.

He was admitted to the Royal Infirmary, Liverpool, on November 9th, 1922, complaining of pain and discoloration of the second toe of his left foot. He stated that he noted first some numbness in the toe, which later became red and finally black. The process was slow and occupied some five weeks. His history revealed that the same toe on the opposite foot had been amputated twelve months previously for an exactly similar condition two or three months after the first appearance of a discoloration.

**Condition on Admission.**—The terminal phalanx was obviously gangrenous and quite dry, but showed no definite line of demarcation; the toe was very painful, especially at night. There was no arterio-sclerosis, diabetes, or renal disease, and, although it was impossible to feel pulsation in either the anterior or posterior tibial artery, the radial arteries were not unduly palpable or thickened. There was no apparent disease of the heart, and the systolic blood pressure—taken after operation—was 140 mm. of mercury. Either thrombo-angitis obliterans or Raynaud's disease seemed the obvious diagnosis, but there had been no preliminary spasm of the arterioles. When asked what kind of bread he ate, he stated that

he always ate black or rye bread, known as "Kosher" bread. At the amputation of the second toe on November 17th there was an extraordinary lack of bleeding, but the wound healed well without further gangrene. The patient was seen on January 20th, 1923, and was well except that the circulation was still somewhat sluggish, although he had then given up rye bread for two months.

**Pathological Report.**—Dr. W. Howel Evans, lecturer in pathology, Liverpool University, reported as follows: The arteries of largest calibre, at the level of the first phalanx, show well-marked medial hypertrophy without calcification, and considerable regular, diffuse, intimal thickening and *ante-mortem* thrombosis; in one of them the clot is well organized and partly canalized. There is a very slight degree of fibrosis of the adventitia. In sections cut at the level of the second phalanx the more distal vessels show less marked changes, consisting, chiefly of a moderate degree of intimal thickening, sometimes irregular and without thrombosis. In this region the muscle is largely necrotic, no definite changes are observed in the arterioles or the nerves, and there does not appear to be any gross alteration in the veins.

A specimen of the rye bread usually eaten by this patient was examined microscopically and revealed mycelial tissue, which, in chloral hydrate solution, exhibited the oil globules characteristic of ergot. An extract was prepared with 60 per cent. alcohol acidified with citric acid; it was purified with absolute alcohol, and the residue, after evaporation, was dissolved in water. This extract, in doses representing 88 and 46 grams of bread, injected intramuscularly into a white Leghorn cock, produced after an hour distinct cyanosis and blackening of the back part of the comb and marked pallor of the anterior borders of the wattles.

With the assistance of Dr. W. Hanna, deputy medical officer of health, Liverpool, we found that samples of the flour also contained ergot tissue, and that, in the rye at the mill, ergot was obviously present. One sample picked over showed 0.1 per cent. by weight adulteration with pure ergot, and, in addition, many of the rye grains were blackened and microscopically revealed mycelium. In our opinion 0.1 per cent. represents the minimum of adulteration, and, from the relative frequency of mycelium in the first loaf, we surmise that the adulteration before our inquiries were broadcast was probably greater. We were informed that the rye flour was partly diluted with wheat flour by the baker, but he was vague about the exact proportion of the admixture; microscopical examination indicated that it was approximately one-half. As a precautionary and prophylactic measure the medical officer of health gave instructions for the dilution with wheat flour to be increased.<sup>15</sup>

It was ascertained that the rye had been grown in a comparatively restricted area of Lancashire; the farmer was quite well aware that his rye was infected, and, since 1922 was a wet year, it was presumably more heavily infected than usual. This patient, however, had suffered from gangrene a year previously, and it may be that in this area the relative infection shows merely seasonal variations.

Samples of the pure ergot taken from the rye were extracted, and when the extract was added to the isolated virgin guinea-pig uterus suspended in Tyrode's fluid it produced powerful contractions of the uterus in doses representing 0.02 gram of ergot.

An important warning must here be emphasized—namely, that this pharmacological test is fallacious and misleading if it is performed with the rye bread or an extract prepared from it, because certain cereals and starches contain a principle which induces powerful uterine contractions, but instead of causing, like ergotoxine, a rise in blood pressure, it induces a very marked fall—actions resembling those of histamine. This was noted by Macdonald and Grier<sup>16</sup> in testing the rye in Manchester. Our investigations showed that this uterus-contracting principle was present in wheat, oatmeal, maize, rice, and potato in variable amounts, and in their starches, but it was not present in specimens of chemically pure Lintner's starch. By various methods, such as that of Kutscher,<sup>17</sup> attempts were made to isolate the pure principle. It was found that concentrated extracts produced a decided red colour with Pauly's diazobenzene reaction, which is given by both tyrosine and histidine, and also with Totani's reagent,<sup>18</sup> which is believed to be characteristic of histidine, but it has not been possible to prepare either a crystalline picrolonate or picate, and, by determining the melting point of the salt, to identify finally the principle with histamine. The pharmacological actions and colour tests make it probable

that it is histamine or a nearly related substance, and that our inability to obtain other than an amorphous picrate may be due to some impurity.

The chief difficulty is to distinguish this case from Buerger's thrombo-angiitis obliterans, which affects usually the lower limb of a male between the ages of 30 and 40, and may recur in the other limb later. As Buerger<sup>1</sup> and Parkes Weber<sup>2</sup> have shown, this disease is common among Jews, but it is not confined to this race.<sup>3</sup> Evidence has been adduced to suggest an organismal<sup>4</sup> and also a nicotine<sup>5</sup> etiology.

We delayed full publication of our knowledge because we were not satisfied that our isolated case could be ascribed solely to ergot poisoning, and we should similarly hesitate to accept as proofs of ergotism evidence of numbness and coldness in the extremities of Jewish tailors, whose working attitude involves popliteal compression and whose workrooms may be cool. Since careful inquiries by Dr. W. Hanna, the deputy medical officer of health, in 1923, and again recently, failed to reveal other cases exhibiting symptoms of ergotism amongst foreign Jews in the Liverpool area, the presence of 0.1 per cent. of ergot in rye has not been proved dangerous, and we must regard our case either as a sporadic one of idiosyncrasy to gangrenous ergotism, or as a case of slight thrombo-angiitis obliterans contributed to by a diet containing ergot, for the following reasons: (1) the man ate exclusively rye bread containing at least 0.1 per cent. active ergot; (2) his attacks occurred in succeeding Novembers, about two months after the fresh ergotized rye was milled; (3) the absence of general arterio-sclerosis and diabetes;

(4) if 0.2 gram of ergot daily be regarded as causing gangrene this man would have taken this amount in three-quarters to one pound of rye bread; (5) cases of thrombo-angiitis obliterans usually involve the larger vessels of the limbs, whereas our case was peripheral and circumscribed.

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NOTES ON THE INJECTION TREATMENT OF  
VARICOSE VEINS.

BY

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THROMBO-PHLEBITIS and peri-phlebitis of a varix sometimes occurs during or very soon after a toxic fever, such as typhoid fever; and also after a direct blow on the varix; fibrosis and cure of the varix follow. The preceding phlebitis, however, has usually been treated with alarmed respect and lengthy rest in bed.

Recently, I met with a traveller who, during a mild typhoid fever, developed phlebitis of the varicose veins in one leg. He rejected advice to remain in bed, and with a thick solid red tender vein from ankle to saphenous opening took a four weeks' journey home—and then permitted me to reproduce by injection-stages a very similar clinical condition in the varicose long saphenous vein of the other leg.

It has been noted that phlebitis of a normal vein is set up sometimes by its intravenous injection with arsenobenzol compounds, quinine salts, or echaumoogra oil derivatives. In my experience this has been transient with the first two drugs; the oil derivatives more easily cause fibrosis and occlusion of the healthy vein.

In 1913 in West Africa, unable to find an arm vein in a fat alcoholic patient suffering from subtertian malaria with cerebral symptoms, I had recourse to a visible varix in his leg; 10 grains of quinine hydrochloride in 10 c.cm. of boiled rain water were injected into the varix, and the leg then lifted high. This produced thrombo- and peri-phlebitis. He survived to express satisfaction for the cure of the varix. Some time later I injected salvarsan into a varix in the leg of another patient, being foiled of an arm vein; cure of the varix resulted after thrombo-phlebitis and fibrosis. Such an experience led, with trepidation, to some "cures" of varicose veins with quinine injections until, after the war, Sicard's work brought encouragement to proceed less fearfully and sporadically.

During the last few years I have treated over 200 cases of varicose veins of the leg by injecting into the varices quinine hydrochloride, sodium salicylate, or sodium

chloride. In over 100 the quinine salt has been used. In my hands, of the three, it has been the least uncertain in effect.

Recently, with Dr. J. C. Gilroy, some observations were made on a perhaps callous, but consenting and rewarded male patient in the Seamen's Hospital, Royal Althorpe Dock who had many varicose veins in both legs. About two inches of uninjected varix were dissected out for control comparison; and also, at intervals of time, the same length of other varices, ten to fifteen minutes, twenty-four hours, and seven days after their intravenous injection with one or other of quinine hydrochloride 13 per cent., sodium salicylate 20 per cent., and sodium chloride 20 per cent.

Naked-eye and microscopic examination of the several injected varices revealed, ten to fifteen minutes after injection, no clot and no recognizable change in vein wall; twenty-four hours after injection, however, the lumen was filled with firmly adherent clot, the intima was swollen, with damaged cell nuclei, and there was round-cell infiltration of the tissue outside the vein. Seven days after injection the firmly adherent clot was undergoing organization.

The treatment has had its difficulties, tediums, and anxieties for patient and operator. I have found, as compared with many thousand injections into normal arm veins, that only the larger varices are easy to inject. In most cases the patient must stand to be injected. For the operator's convenience this standing must be on a level considerably higher than that of the floor—a severe trial for the nervous patient; all are nervous at first, and some always. Often the patient may sit high enough to suit the operator; very rarely can injection of a varix be performed with the patient lying down. A tourniquet above the varix helps not at all, one below it sometimes helps a very little.

The more advanced the varicose condition the less uncertain is the effect of the injected drug; but intensity of effect may vary in the same leg, with apparently the same size and condition of varix, and same dose of same drug. Sodii salicylate 20 to 30 per cent., sodii chloride 20 per cent., and quinine hydrochloride 13 per cent.—each sometimes has failed after more than one injection into a varix to produce the requisite obvious phlebitis. With each the thrombo-phlebitis and peri-phlebitis has sometimes extended quickly far beyond the usual one or two inches of vein above and below the point injected.



This incommodes the patient, and may even cause a preference for a few days in bed. The operator's anxieties do not count.

In tropical medicine quinine injections, subcutaneous or intramuscular, have had an occasional horrid reputation for producing sloughing cellulitis, deep abscess, and, in the tropics, have been followed more than once by a fatal tetanus. It has also been reported that sodium salicylate 20-30 per cent. and sodium chloride 20 per cent., injected under the skin, have caused sloughing. Another kind of slough, one-eighth to one-half of an inch in diameter, has, under my hands, been produced by each of these three drugs, although the lumen of the varix had been fairly entered. This slough has occurred where loops of smaller tortuous varicose vein lay closely together; it appeared one-half to three-quarters of an inch above the point injected; injections were directed upwards. It is true that to transfix a loop in such a varix bunch is easy. In these cases, however, injection was accurately intravenous, and there was no haematoma or subsequent discoloration of skin from extravasated blood.

The clinical events have been: A purplish mark in skin; next day this was a grey blister, which later dried to a hard adherent black scab surrounded by inflamed and tender skin. Some weeks later the scab could be separated, disclosing then an excavated pouch filled with black sticky clot, under which lay small grey-yellow sloughs. Microscopic examination of clot and sloughs revealed no organisms, and none has grown from clot or slough in aerobic culture. It is evident that a whole small length of thrombosed varix, with some of the skin over it, died quickly *in situ*. Healing readily followed on treatment with hypotonic salines. But the patient's view of the matter may be as black as the scab, and in one it was almost a jet-black ingratitude; such patients do exist.

This sort of sloughing, and the far extension of thrombo- and peri-phlebitis, appear in retrospect to have been due to too large a dose of the drug for that particular varix. Both were infrequent, and have not occurred with more cautious dosage. In none of the cases, even in those with a rapid extension of the phlebitis from lower leg to saphenous opening, has there been noted any rigor or fever—both usual features of a *septic* thrombo-phlebitis.

In hospital out-patients varicose ulcers of leg have healed well after the injection of the accompanying varicose veins. In three women in the third to fourth month of pregnancy cure of varicose leg veins by injection into them of quinine hydrochloride produced complete relief from aching legs and oedema of ankles, and no hint of relief from the pregnancy. Even doctors have submitted to injection of their leg varices. One or two have lessened the tedium of treatment by probing discussions of the symptoms and signs of embolism. There has been no demonstration of embolism; and in view of the large number of cases now safely injected here and in France, by many practitioners, the risk of embolism appears to be remote.

Thrombo-phlebitis of a vein, whether caused by bacterial toxin, trauma, or "chemical" injection, is, then, safe—if the thrombo-phlebitis is *aseptic* and the vein *varicose*. The dose of quinine hydrochloride 13 per cent. (with methane as analgesic) has varied from a few drops to—very rarely—1 c.cm. But even large loops of varix, if lying closely together, should receive small doses. It is easier to repeat an injection next time than to treat a slough ulcer. The most frequent dose has been 1/4 c.cm.—and four injections at a sitting.

It has been almost the rule for patients to return later (some with shorter skirts and some with now one stocking only—a thinner one—on each leg) to demand injection of some small veins not thought worthy of treatment when the bolder varices had challenged operator and patient; some, too, to deplore once more the scars of a past excision of veins that had not prevented varices reappearing. Perhaps a few of these vain scalp scars can be cancelled out by the depressed pigmented scar of an injection slough, or in some cases by the pale snuff-coloured sinuous line, or the brownish patch, that marks the track of a past too acute injection peri-phlebitis. Still later, the varices, now completely forgotten, and represented only by a thin hard subcutaneous cord; this more or less beige staining may

be counted to the operator for unrighteousness. It is not unlikely that the stain will prove as permanent as the scalp and the slough scars. Two of the earlier patients in this series have now all three, yet are content and even grateful to all concerned; such patients do exist.

## THE TREATMENT OF HYDRONEPHROSIS.

BY

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In general surgical practice hydronephrosis is met with somewhat infrequently. It so happened that during the year 1927 six cases came under my care, of which five appear to me to present features of sufficient interest to justify publication. The sixth was a simple case of impacted renal calculus.

### CASE I.

On January 16th, 1927, I was called to see in consultation a farmer, aged 79, wiry and active, with a tendency to occasional over-indulgence in alcohol. About fourteen days earlier he first complained of abdominal pain and nausea, but no vomiting. Under medical treatment the pain subsided for a few days and then recurred, with abdominal distension and constipation. The abdomen was found to be distended, but there was no visible peristalsis. Rectal examination revealed prolapsed piles, from which he had suffered for many years, and enlargement of the prostate. No growth could be made out. He was removed to a nursing home. Under treatment by enemata his condition improved and an x-ray examination after an opaque enema was carried out. The enema was badly retained and did not go beyond the lower end of the sigmoid. Everything seemed to point to obstruction due to growth, and an operation was decided on.

### Operation.

On January 20th an incision was made, splitting the left rectus below the umbilicus. The sigmoid was found to be normal except for some small diverticula. On passing the hand upwards a large hydronephrosis of the left kidney was at once found. The right kidney felt normal. The abdominal incision was closed and the patient turned on his right side. A free lumbar incision was made. The pelvis of the kidney was found distended to a capacity of some thirty ounces; it was very adherent to surrounding structures. The fluid was evacuated by puncture, and the kidney, together with as much of the pelvis as possible, was removed rapidly. A small tear of the peritoneum was sutured and the wound closed, except for a drain.

The patient bore the operation well. He had to be catheterized the next day, but subsequently passed urine without trouble. He was well enough to leave the home three weeks after the operation, although there was still some discharge at the site of the drainage tube.

The case is interesting from the point of view of diagnosis. Dilatation of the renal pelvis not infrequently gives rise to symptoms of intestinal obstruction. In this case the tumour was masked in the first instance by abdominal distension. The probable explanation of the misleading x-ray findings is that the prolapsed piles prevented proper retention of the opaque enema. The urine was normal. The operation had to be carried out rapidly, and no cause for the hydronephrosis was found. There was not sufficient prostatic obstruction to affect the right kidney.

### CASE II.

A medical student, aged 20, had been subject from early childhood to attacks of pain in the left loin, accompanied by vomiting, and lasting between one and eight days. The pain rose gradually to a climax and as gradually passed off. No diuresis after an attack had been noticed. On one occasion bacteriological examination of the urine had been made and streptococci found. The attacks had become more frequent lately and had interfered with his studies. He had been treated for gastritis, an x-ray examination of the stomach had been made, and he had also undergone a course of psychotherapy. Three months prior to my seeing him an x-ray examination of the kidneys had been made elsewhere, and he had been subjected to cystoscopy, after an attack was over, with negative results.

The patient was admitted to the Northampton General Hospital, and I was fortunate to see him during an attack. He was in considerable pain, and very tender on palpation in the left costo-vertebral angle. He had vomited copiously. The abdominal wall was rigid and muscular, and no tumour could be felt. A little pus was present in the urine. Immediate cystoscopic examination was carried out under general anaesthesia, after an injection of indigo-carmin. There was free excretion of the dye by the right kidney, but none by the left. A catheter passed up the left ureter stopped at 25 cm. A diagnosis of intermittent hydronephrosis was made.

### Operation.

On February 4th, 1927, a lumbar incision was made, and the left kidney was found much enlarged and reduced to a shell. The pelvis was dilated to a capacity of seven or eight ounces. Any



sort of plastic operation seemed out of the question, so nephrectomy was performed. The lumen at the uretero-pelvic junction was found to be very small. Recovery was rapid.

The history in this case was typical of that of intermittent hydronephrosis. There was presumably a congenital stricture at the uretero-pelvic junction. When secretion of urine was free the pelvis would become distended, with consequent valve formation at the orifice and increased obstruction to the passage of urine. Had the condition occurred on the right side a diagnosis of appendicitis would probably have been made sooner or later. The previous negative cystoscopic findings were presumably due to the fact that the examination was made when the attack was over. A pyelogram might have settled the diagnosis.

#### CASE III.

A married woman, aged 53, was seen in consultation on account of haematuria. She stated that she had passed blood on one occasion seven years previously. When recovering from influenza in February, 1927, she had profuse haematuria lasting several days, accompanied by pain in the right loin. She was a very thin woman, and the right kidney was palpable and tender. She was admitted to hospital. Cystoscopy on February 4th, 1927, after injection of indigo-carmin, showed active excretion of dye by the left kidney. The right ureter excreted a little turbid urine, but no dye. The patient was then anaesthetized, and the right kidney exposed by a lumbar incision. The kidney was found but little enlarged, the cortex was thin and its surface lobulated, the renal pelvis was dilated. The kidney was removed and found to be full of blood clot. No cause for the bleeding or for the dilatation of the pelvis could be found. The patient made a rapid recovery.

Haematuria as a symptom of hydronephrosis is recognized, but is rare. Prior to operation a diagnosis of new growth was made, although the history of haematuria seven years previously was difficult to account for on this diagnosis.

#### CASE IV.

An agricultural labourer, aged 52, had noticed a swelling in the lower abdomen for about three months; for a fortnight prior to admission it had been somewhat painful. He was a spare, muscular man. In the lower abdomen was a large cystic swelling, the centre of which was somewhat to the left of the mid-line. Cystoscopy showed the right ureter to be functioning normally, while from the left came a little blood-stained fluid. A diagnosis of hydronephrosis of an abnormally situated left kidney was made.

#### Operation.

The abdomen was opened through a left paramedian incision below the umbilicus. The right kidney felt normal. The posterior parietal peritoneum covering the tumour was incised, the swelling tapped, and six pints of chocolate-coloured fluid evacuated. The very large hydronephrotic kidney was removed without trouble and the posterior parietal peritoneum closed, leaving room for a drainage tube. The patient made a rapid recovery.

The diagnosis of what would otherwise have been an obscure condition was made easy by cystoscopy. The abnormal situation of the kidney made a transperitoneal removal the operation of choice, and it gave opportunity to examine the right kidney. With a normally situated kidney a loin incision should, in my opinion, always be employed.

#### CASE V.

A young married woman, four months pregnant with her second child, was sent into hospital as an urgent case about 8 p.m. on December 2nd. At 3 p.m. on December 1st, after a good meal, she complained of pain in the lower abdomen and vomited. During the night she vomited slightly, and was unable to sleep owing to the pain. She stated that for some years she had been subject to occasional attacks of pain in the right loin.

On admission she looked ill, the temperature was 100° F., and pulse 130. The tongue was clean and she was very tender in the right loin and in the right iliac fossa. The pregnant uterus interfered with palpation. The urine was normal. She was not thirsty and micturition was not frequent. Vaginal examination did not help. It was thought that pyelitis could be excluded. The diagnosis seemed to lie between acute appendicitis and some renal condition. The patient was very ill and operative intervention obviously urgent. The most practical method appeared to be to open the abdomen and, if nothing abnormal was found therein, to expose the right kidney.

#### Operation.

The abdomen was opened through a right paramedian incision below the umbilicus. A little free fluid escaped. There was no inflammation of the appendix. The gall-bladder and left kidney felt normal. The right kidney could not be felt, but there was a diffuse swelling in the right loin behind the peritoneum. The wound was closed, the patient turned on her left side, and an incision made in the loin. Much blood-stained fluid was evacuated, and a sacculated kidney could be felt lying high up under the ribs. On delivering it a hole in the cortex was seen, through which fluid was still escaping. The kidney was removed and the wound closed with drainage. A large stone was found blocking the

pelvis of the kidney. Spontaneous rupture of the thinned-out cortex appeared to have taken place. The patient made a good recovery and did not abort.

Spontaneous rupture of a hydronephrotic kidney must be a rare event. The onset of pain in the lower abdomen was an interesting feature. It is a debatable point whether I should have opened the abdomen, but the patient was very ill, the hour was late, and cases of intraperitoneal rupture of a hydronephrosis are on record, so the procedure seems to have been quite justifiable.

## TREATMENT OF GONORRHOEA IN WOMEN BY SWABBING WITH MERCUROCHROME AND FLAVINE.

BY

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EVERY gynaecologist who has to treat many cases of gonococcal infection of the female genital tract will agree that there is no more difficult condition to deal with adequately, and that any method whereby the time of treatment can be shortened is welcomed by patient and medical attendant alike. The method of treatment here described has been tried for the last nine months at the Bristol venereal disease centre, and the results are compared with those obtained from other methods. Although the total numbers are not large the results have been so encouraging that it seems worth while recording them in the hope that the method may be further tried out at other centres and in private practice.

The main points in the treatment of women suffering from gonorrhoea are daily and regular attendance, and treatment by a skilled and conscientious nurse or medical man, until cure is obtained; and the following factors are necessary in any treatment if good attendance is to be obtained.

- (a) Each treatment sitting must be fairly short.
- (b) The method used must cause as little discomfort as possible.
- (c) The patient must see some steady and increasing improvement in her condition.
- (d) There must be an atmosphere of sympathy and cheerfulness and complete absence of any suggestion of moral turpitude.
- (e) The treatment must be efficiently carried out.

It is claimed that this method of treatment completely meets conditions (a), (b), and (c). With regard to (d) and (e) the practical treatment in this clinic is carried out by the sister and her nurses, and any success achieved must be attributed to their enthusiastic co-operation and careful attention to detail. Not only have they reduced the discomfort of the patient to a minimum, but they have established a cheerful confidence, which is the first essential in getting the patients to attend regularly.

In this paper no mention is made of the ordinary methods of complete pelvic and bacteriological examination carried out on each patient.

#### Criteria of Cure.

Three consecutive negative smears from the cervical canal and urethra are taken at a month's interval, each after a menstrual period, and a culture from both situations. During these nine weeks no treatment at all is given. A "final test" is taken in a similar manner three months later. It will be seen that the patient has been five months later without any treatment when the "final test" is taken. If any of these tests are found positive a month's treatment is given and the series is started again. In every case of gonorrhoea two Wassermann blood tests were performed, the second following a provocative dose of 0.3 gram of stabilaran.

#### Methods of Treatment Previously Used.

Of the many methods devised the following has up till recently been found by far the most satisfactory, and is known here as "Routino A." It is a modification of a method described by its originator, Colonel Harrison, in

the *British Journal of Venereal Disease* (January, 1926). Briefly, it consists in irrigation of the urethra and cervical canal with a solution of sodium chloride and chloramine-T, and then packing the vagina with gauze soaked in glycerin of borax, or glycerin of ichthyol, or glycerin of eucalyptus daily for successive weeks.

While this method of irrigation undoubtedly clears up the surface of the cervix and vagina with great rapidity it fails in that it does not enable the fluid to reach all the folds and pockets of the vagina. The fornices retain small pools of infected material, and the vagina being H-shaped in section is not fully distended by the flow from the Harrison's two-way nozzle. It seems to be very necessary that a daily complete cleansing of the whole area accessible should be performed. The packs, while distending the vagina and keeping the glycerin in contact with the walls, unfortunately act as corks to the cervical secretions, and it is surprising how much muco-pus is found pent up behind them when they are withdrawn. Undoubtedly the associated chronic cervicitis is not improved by the prevention of exit of the quantity of fluid exuded in the presence of the glycerin.

#### The Method under Consideration.

The patient is placed in a gynaecological examination chair and the vagina is washed out with a weak solution of boric acid (mercurochrome acts best in a mild acid medium). A fenestrated Cusco's speculum, as large as can be tolerated, is then introduced and the vagina and fornices are fully stretched. All muco-pus is now cleared away with the boric lotion, and then a swab, soaked in 1 per cent. mercurochrome, is rubbed all over the cervix and vagina, so that the solution reaches every part, including the orifice of the cervical canal. As most cases display some urethritis at the beginning of treatment a small quantity is run into the bladder, retained there for a few minutes, and then passed again. The speculum is removed and the treatment is now ended.

In cases in which the gonococcus seems resistant to mercurochrome a change is made by using 1 in 1,000 flavine for seven days in exactly the same way, and then reverting to the mercurochrome.

#### Comments.

This method of treatment is rapidly and easily carried out, but entails care and some practice on the part of those performing it. It is absolutely necessary that all parts of the vagina be fully distended and swabbed over, and that no pockets are left untreated. It allows free drainage for all cervical secretions and causes no irritation to the inflamed surfaces. Mercurochrome, in an acid medium, penetrates to a remarkable extent, and the immediate result is a clearing up of the offensive discharge, with a consequent encouragement of the patient. Since using this method of treatment there have been practically no instances of patients failing to attend regularly and complete the treatment, though many of them have to come considerable distances for their daily swabbing.

#### Results and Comparisons.

Forty consecutive cases were treated daily except during the menstrual flow. (A few patients missed one or two treatments.) In all cases the gonococcus was present at the beginning of treatment.

	Days.
Average number of days from the beginning of treatment till the first negative smear* was obtained	39.1
Longest period under treatment (one case)	100.0
Shortest period under treatment (one case)	4.0

\* First negative smear is taken to mean the first smear of the final series. If a positive smear occurred afterwards the whole series was started over again.

Leaving out the extremes at both ends, it was found that twenty-eight days sufficed to render the smears negative in most cases.

Twelve cases were treated for one or two weeks with flavine 1 in 1,000 in place of mercurochrome.

	Days.
Average number of days under treatment	45
Longest period under treatment	91
Shortest period under treatment	17

*Complications.*—The above fifty-two cases include one case of acute gonorrhoeal rheumatism of the wrist-joint, which cleared up very rapidly, and two Bartholin's abscesses, which were incised as complete removal was impossible.

*Failures.*—Two cases have failed entirely to respond to treatment and have also made no progress with routine treatment. In both cases there is a possibility of frequent reinfection, one case being a prostitute, while the other has a husband who will not undergo treatment, although he is infected.

It will be seen that by this "swabbing" method there is a reasonable chance of getting the first negative smear in about a month, while the patients' symptoms have usually vanished some two weeks earlier, and they feel correspondingly encouraged. As soon as a negative smear is obtained active treatment is stopped till after the next menstrual period, and the patient need not attend again, till that date, when she comes up for smears and cultures only.

#### Comparison with Cases Treated by Routine A.

Fourteen cases, treated by Routine A during the same period, were taken as control cases. They were not selected cases, being the first cards which came to hand of those patients who had attended regularly.

	Days.
Average number of days to first negative smear	153
Longest number of days to first negative smear	270
Shortest number of days to first negative smear	60

There were twenty-one cases in which treatment had been going on for over six months, but the attendance was not absolutely regular, and so they are not included in the above figures, as the comparison was not considered fair.

#### Cases Treated first by Routine A and then by Mercurochrome Swabbing.

These cases are perhaps the most interesting. Fifteen cases which had been under Routine A for some time were examined and smears taken with positive results. They were then put on to the mercurochrome treatment, with the following results:

	Days.
Average number of days under Routine A and still infected	111.2
Average number of days under mercurochrome to the date of first negative swab	28.2

In addition to these cases treated at the venereal diseases centre, I have found this a most useful form of treatment in private practice. Among others, there have been five cases of pregnancy treated. They all made an uncomplicated recovery and there was no ophthalmia amongst the infants. The only essential is the service of a good nurse, or personal application of the mercurochrome by the medical attendant.

#### Conclusions.

1. This method of treatment is efficient in that it appears to cure the disease.
2. It greatly shortens the time under treatment, and so is a sound economic factor, both for the patient and the venereal disease centre.
3. It is not in any way painful or unpleasant.
4. The rapid improvement in the symptoms is encouraging to the patient, and so regularity in attendance is promoted.

It is very probable that there may be other substances which will prove even more efficient than mercurochrome, and it is intended that a trial shall be begun at once of the solution of brilliant green and crystal violet, used by Messrs. Berkeley and Bonney as a vaginal disinfectant, this to be used in an exactly similar manner to the mercurochrome.

I have to thank Dr. S. Hardy Kingston, director of the Bristol centre, for his encouragement in the trial of this method and the transfer of numbers of his cases on Routine A for comparison; also the other medical officers of this clinic for their hearty co-operation, and the sister and nurses for their enthusiasm in carrying out the treatment and their interest in reporting the progress of the cases under treatment.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## VESICAL BILHARZIA: DOUBLE INFECTION.

Dr. H. FAIRBairn states, in a memorandum that appeared in the *British Medical Journal* of January 14th (p. 52), that he knows of only two previous references to the existence of double vesical infection of *S. haematobium* and *S. mansoni*. He suggests that such cases are commoner than is at present supposed.

In a paper published in 1926<sup>1</sup> I have recorded the existence of *S. mansoni* ova in the urine of no fewer than 56 patients. Of these, 48 had double infection with both parasites, and 8 had pure *S. mansoni* infection of the urinary tract. These cases were found among a total of 7,090 individuals examined. Urinary bilharzial infection was found in 2,755—that is, 38.9 per cent. Of those infected, 1.7 per cent. had double infection with *S. haematobium* and *S. mansoni*. Among the same series of cases *S. mansoni* infection of the intestinal tract was found in 3,747 out of 7,136 individuals who submitted samples of stools for examination. *S. haematobium* infection of the intestinal tract was found in 65 cases (0.9 per cent.).

It is quite evident from the above that double infection of the urinary and intestinal tract with these two species of bilharzia is by no means rare.

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## HEAT CRAMP.

The recent discussion in the *British Medical Journal* on this subject prompts me to write a note on some cases once under my care in which the effects of high atmospheric temperature were manifest in two ways: first, as a mild degree of the heat-stroke common in high temperatures with excessive moisture, well written up in textbooks; and secondly, cases analogous to firemen's cramp, only occurring amongst the engine-room staff of a modern motor vessel, who, though submitted to hard work, do not have the excessive toil of the ordinary ship's fireman. The high engine-room temperature (130° F.) sometimes reached in the tropics is an obvious factor, but associated with it is the rather stagnant air, which is vitiated by exhaust fumes with a high percentage of carbon dioxide.

Without exception the cases occurred in men of the finest physique, the onset occurring after several days' exposure to the conditions with malaise, headache, and crampy pains in the limbs and abdomen. The body temperature was raised to well over 100° F. with rapid pulse. About twenty-four hours off duty, with drugs to relieve pain, and body fluids replaced (tea, lemonade, etc.), served to restore them to normal. I did not try the use of oatmeal water, which is often recommended, but should think this is only an additional way of replacing fluids. As a prophylactic the addition of salt in small amounts to the mess drinking water, as has been suggested by various writers, seemed to prove efficacious, and as no one knew that this was being done there were no complaints about bad water.

Heat cramp in firemen is usually ascribed to excessive tissue fluid and salt loss, which is quite a possible explanation; but in the cases outlined their tasks were nothing approaching the toil of a stokeholder, and suggest some failure of the thermic centre, due to or resulting from insufficient cooling of the body, as by reason of their build the surface weight ratio of the men was diminished, with consequent heat retention, which did not occur in the lighter men doing the same work.

Weymouth.

RAYNER THROWER.

<sup>1</sup> A comparative study of the methods utilized in the treatment of bilharziasis, with a report on a new remedy. "Bayer Sp. 212," *Arch. f. Schiffh. u. Tropen-Hygiene*, Lf. 926, B. 30, pp. 451-467.

## METASTATIC OPHTHALMIA.

The following case is, I think, worthy of note on account of its rarity and the difficulty in early diagnosis.

A well-developed child, aged 3½ years, had just been discharged from an isolation hospital after treatment for an ordinary attack of measles, from which it had completely recovered; apart from this there was nothing abnormal in the past history. It was brought to the casualty department because the right eye was inflamed; this was considered to be a mild attack of conjunctivitis following measles. When I saw the eye two days later there was considerable injection and chemosis of the bulbar conjunctiva, but the outstanding feature was a very considerable proptosis, with a puffy oedema of both lids. The cornea, anterior chamber, and iris were normal. The case was considered to be one of orbital cellulitis, probably secondary to an ethmoidal infection, but the temperature, and pulse were normal. On admission to hospital an orbital exploration was made, but no pus was found. Three days later a second anaesthetic was given, when the typical yellow reflex of pus in the vitreous was seen through the pupil. The eye was eviscerated and found to be filled with pus, from which a pure culture of pneumococci was obtained. The orbit contained no pus, but showed considerable swelling of all the retro-ocular tissues.

This was a true case of metastatic panophthalmitis; the origin of the pneumococcal infection was probably bronchitis, which so commonly accompanies measles. The septic embolus apparently lodged at the posterior pole of the eye in a retinal or choroidal vessel. This focus of infection must first have made its presence felt in the retro-ocular tissues, hence the very considerable proptosis. The infection took some time to reach the anterior part of the vitreous and so become visible. The correct diagnosis could have been arrived at much earlier had an ophthalmoscopic examination been made, but every indication pointed to an involvement of the orbit; metastatic ophthalmia was not considered.

Bristol Royal Infirmary.

E. R. CHAMBERS, F.R.C.S.Ed.

## BLOOD GROUP PERCENTAGES FOR ARABS, ARMENIANS AND JEWS:

## ANALYSIS OF 1,758 GROUPINGS.

In the course of routine blood grouping of patients at the hospital laboratory during the last five years a certain amount of data has become available which may be of general interest. In the accompanying table the Armenians and Jews represent well-defined unmixed racial groups; under the heading of Arabs a certain number of Turks, Turkomans, and Kurds have been unavoidably included. Their number is relatively small, and the analysis of a small series of "pure" Bedouin Arabs has given practically identical figures for the distinguishing Groups II and IV. It is hoped in the course of the next few years to compile a series for the Kurds, about whom, ethnologically, little is known.

Race.	Number Examined.	Group I.	Group II.	Group III.	Group IV.
Arabs...	933	61=6%	345=37%	194=21%	333=36%
Armenians...	653	42=6%	346=53%	89=14%	176=27%
Jews...	172	14=8%	58=34%	34=20%	66=38%

Note.—It will be observed from the above figures that whereas in the case of Arabs and Jews the relative proportion of Group II and Group IV is as 1 to 1, in the Armenian figures the proportion is as 2 to 1.

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## FOREIGN BODY IN THE MAXILLARY ANTRUM.

FOREIGN bodies in the antrum of Highmore are exceedingly rare, and I think the following case is worthy of record.

A girl, aged 7, was admitted to the Victoria Hospital, Bangalore, with the history of having had a swelling of the right cheek for over a year. At first the swelling appeared below the inner canthus of the right eye; an abscess, presumably lacrymal, formed and was incised at another hospital. There was purulent discharge through the incision for about two weeks; it then healed, leaving a minute sinus, but the swelling increased in size and gradually spread to the whole of the right cheek. The right nostril gradually became blocked, and for six months the patient

had not been able to breathe through it. Occasionally there was bleeding from the nose.

On admission to the Victoria Hospital the whole infra-orbital region on the right side was found to be swollen and slightly oedematous; the furrow between the nose and the cheek was obliterated. There was a small lacrymal fistula, which discharged a drop of pus on pressure. The right eyeball was pushed slightly upwards and the right nostril was almost completely obliterated, speculum examination being impossible. The right side of the palate was pushed downwards. There was no pain or tenderness over the cheek or palate. Transillumination showed marked opacity on the right side.

A Caldwell-Luc operation was performed. On making the usual incision through the gingivo-labial fold and retracting the labial flap upwards the anterior wall of the maxillary antrum was found to be absent, and a finger was easily introduced into the antrum. A large mass of cholesteatoma, of the consistency of putty, was evacuated, and in the middle of it a hard oval rhinolith was discovered. A large opening in the lateral wall of the nostril was present, establishing a communication with the antrum. Adhesions in the nostril were carefully broken down. After thoroughly clearing the antrum it was treated with bipp, lightly packed with gauze, and drained through the nose, the gingivo-labial incision being finally sutured. On breaking the rhinolith it was found to consist of a whole tamarind seed, with a thin crust of calcareous deposit on it.

The gauze plug was removed after forty-eight hours, and the antrum was irrigated daily through the nose. The patient made an uneventful recovery and was discharged cured two weeks after the operation.

In the *Revue de Laryngologie, d'Otologie et de Rhinologie*, 1924 (vol. xlv, p. 406), Gamalein reported a similar case in which maxillary sinusitis was kept up for two years by a shell splinter which had entered the antrum through the cheek. I am indebted to Mr. H. E. Powell, librarian of the Royal Society of Medicine, for this reference.

In the case here recorded the following features are worthy of note:

1. The foreign body evidently entered the antrum from the nares after ulcerating through its lateral wall.
2. Infection spread into the lacrymal sac through the nasal duct, and when the primary focus of suppuration was removed the lacrymal fistula healed.
3. The foreign body remained in the antrum for an unusually long time; I think it must have been there for at least four or five years, since the patient had no recollection of having introduced the tamarind seed into the nose. Evidently it must have been put in when she was only 2 or 3 years old; the subsequent deposition of calcareous matter had converted it into a rhinolith.

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## Reports of Societies.

### TREATMENT OF CANCER OF THE CERVIX.

At the meeting of the Medical Society of London on March 26th, with Mr. H. W. CARSON, the president, in the chair, two papers were read—ono by Dr. H. R. SPENCER on advances in the treatment of cancer of the cervix, and the other by Dr. MAX CHEVAL of Brussels on treatment of cancer of the cervix by radiation. The papers are printed at pages 535 and 537.

In the discussion that followed Dr. J. F. McCANN declared his scepticism with regard to cancer statistics, a scepticism which had not diminished after watching the work of different surgeons at home and abroad. He questioned the common idea that cancer was a local disease; his own impression was that it was a general disease of obscure origin, with local manifestations. If one happened to know the patient before the cancer developed he thought it would be found that in the majority of cases there was a period of subhealth before any cancer manifestation appeared. He referred to the striking differences in the results of treatment in cases which superficially were similar, and he traced the reason for the difference to some factor, as yet not understood, in the patient herself. Was cancer ever cured? What puzzled him was not the frequent recurrences, but that it should happen that patients went for as long as twenty years or more after operation without recurrence. At the same time one felt

that if such patients lived long enough the cancer would at some time or other recur. As to favourable signs in prognosis, he thought the most important was that the patient gained in weight after the operation. The type of patient was also an important matter. He himself viewed with much more misgiving the stout woman who came up for operation than the elderly dried-up woman, upon whom probably the results of operation, whether limited or extensive, would be much more successful. He was not yet convinced that better results could be obtained with radium than with the knife, though if such were proved he would give up the knife at once.

Dr. MALCOLM DONALDSON discussed the advantages and disadvantages of operation in cases of carcinoma. One of the disadvantages was that the operating technique took years to learn, and that the initial mortality among patients undergoing operation was considerable; further, the fear of operation deferred many patients from seeking advice sufficiently early. On the other hand, there were certain points in favour of radiotherapeutic methods: the initial mortality was negligible, and the technique was so simple that any gynaecologist could employ it after experience of a few cases. The disadvantage of radium therapy was that at present there was no scientific evidence that one could deal in that way with infected glands. It might be said that there were two schools, each practising a different technique; one of them believed in putting radium on the cervix, and another in putting it into and around the growth by means of needles. It was in Brussels that he first saw the needle technique, and he had been impressed by it ever since. But it was necessary in all these cases to wait for a number of years before speaking with any assurance of the real character of the results. A certain amount of investigation on what was happening in the individual cell under the action of the radium had been carried out at Cambridge in the Strangeways laboratory. The evidence so far obtained, working with tissue cultures, was that more damage might be done by small doses employed over a long time than by large doses employed for a short time. It was well known that the gamma rays of radium had a selective action on all quickly growing tissues. He proceeded to show on the screen tables of cases, operable and inoperable, treated at St. Bartholomew's, with the mode of treatment and the duration of the result. A combination of Wertheim's operation with radium had given good results in some cases.

Dr. DOUGLAS WEBSTER thought it desirable that massive radium therapy, the radium being used at a distance, should be considered, and it appeared rather extraordinary to him that the head of the Radium Institute, in a recent address before another society (*British Medical Journal*, March 24th, p. 496), should have stated that he did not believe specially in distance radium therapy. The speaker thought that results obtained elsewhere suggested that this was a very valuable method. With regard to x-ray work, one interesting point in connexion with gynaecological treatment was the use of deep x rays, both pre-operative and post-operative, in combination with surgical work. He thought there was considerable value in a combination of methods.

Dr. SIDNEY FORSDIKE said that nowadays one rarely opened a medical journal without finding a report of a number of cases of carcinoma relieved by radium, but what it was necessary to reach was a greater degree of certitude with regard to cure. He himself treated six operable cases in this way in 1921-22, and out of the six, four were still alive and well. When dealing with early carcinoma of the cervix by radium, it was his experience that in one-third of the cases the glands were affected, and he was perfectly sure that the application of radium in the vagina and uterus would not influence the infected glands in the ileum region. He was a little doubtful about Dr. Donaldson's remark that anyone could learn radium technique very quickly; in a certain clinic he found an eminent gynaecologist using radium evidently with insufficient knowledge of the agent he was employing. The important thing about radium was the dose, and the dose was determined not only by the number of hours the radium was left in position, multiplied by the weight of the substance, but also by the nature and thickness of

the screen employed and the distance of the radium from the growth.

In further discussion Dr. G. VILVANDRE spoke of the limitations of x rays in treatment, especially in deep therapy. If only an x-ray tube, actuated from a source of superlatively high voltage, could be made, results more striking and consistent might be forthcoming. Dr. BARNARD referred to the frequency with which in carcinoma of the cervix extraordinarily rapid and widespread dissemination was seen. Dr. A. GOODWIN mentioned the value of radium following upon operation, but recounted particulars of one or two accidents with radium, such as lost needles. Dr. SPENCER confined his reply to praise of Dr. Cheval's contribution to the subject, and Dr. CHEVAL added a few words, in which he argued against the too abundant use of needles, and also urged great care as to the dose actually given, especially in relation to the distance from the source of radiation to the tumour.

### THE PULPLESS TOOTH.

THE Sections of Odontology, Electro-Therapeutics, and Pathology held a combined meeting at the Royal Society of Medicine on March 26th for a discussion on the pulpless tooth. Mr. W. RUSSTON was in the chair.

Mr. FRANK COLEMAN, in a general introduction to the subject, said that more than half the population had pulpless teeth in some form or other, and in 10 per cent. the number of pulpless teeth might be from five upwards. He assumed the term "pulpless tooth" to denote a tooth from which the pulp had been removed, and the tooth subsequently treated by filling, crowning, or some other means. A pulpless tooth should not be designated a "dead" tooth, for the periphery of the tooth, the cementum, retained some vitality through its periodontal membrane. The main principles concerned in the treatment of teeth with exposed live pulps or teeth containing dead pulps were the following: (1) To remove as far as possible every trace of pulp tissue. In teeth with live pulps the desensitization of the pulp must first be assured. This could be brought about by the employment of a local anaesthetic or a caustic (usually arsenic), in which latter case a few days must elapse to bring about complete devitalization. The method by local anaesthesia was more scientific and would leave the tooth in a less unhealthy condition. (2) To cleanse the root canal or canals of the teeth, and to treat the periapical tissues via these channels. (3) To fill the cavity of the teeth when the periapical tissues had ceased to discharge through the canal and had formed a scar at the tooth apex. Most dental surgeons recommended filling the roots of the teeth as well as the cavity in the crown (that is, the pulp chamber), as by this means the periapical tissues could be further treated if and when necessary. The method of treating pulpless teeth which he himself had followed for nearly a quarter of a century depended upon the supposition that a scar formed around the apex of the tooth soon after the removal of the pulp. The operation of excising the end of a tooth involved in periapical destruction did not appeal to him as a rational method of treatment. The extent of disease of the root was incapable of diagnosis, as no line of demarcation was formed between the living and dead portions of the teeth. It therefore became merely the empirical removal of a certain amount of necrotic root. The opening and scraping of sinuses connected with dead teeth, the injection of drugs through those sinuses, and other such-like methods were only palliative whilst the cause remained.

Mr. OWEN C. MORPHY said that all dental surgeons were conscious of the gaps in their knowledge of this problem. He himself was inclined to the removal of pulpless teeth as far as possible, but there were many occasions when an attempt to save even a definite septic tooth was desirable and justifiable. The fundamental principles underlying such an attempt were that the patient must be in good health and, except in rare instances, not beyond middle age. The justification for the saving of such a tooth was that it obviated partial denture, which might sometimes lead to a greater degree of infection than arose from one or two pulpless teeth. He mentioned that that well-known

observer Weston Price, who, with a team of dental surgeons, bacteriologists, and laboratory workers, had carried out a very extensive investigation in dental sepsis, had produced a mass of evidence condemning the pulpless tooth, but his experiments were conducted on rabbits, which were very susceptible to streptococcal infection, and, moreover, received a sudden massive dose, giving them little chance of developing immunity, which was not the way in which infection ordinarily developed. The speaker believed in the value of zinc and iodine ionization for sterilizing those portions of the root not accessible to mechanical measures, the galvanic current conveying the ion into and through the finest channels.

Dr. H. M. WORTH spoke from the radiographic point of view. He said that there were no intrinsic radiographic changes to be seen in a tooth without a pulp, but there were often certain appearances in or around such a tooth which were of great value in aiding its recognition. After discussing, with the aid of radiographs, the evidence which might be regarded as certain that a tooth was pulpless, and the evidence that was only suggestive, Dr. Worth said that the radiograph was of use at the commencement of treatment to eliminate the presence of apical infection, and later to follow the effect of treatment on apical osteitis. It was important to know whether the apex of a tooth under treatment was completed. A tooth with a completed apex showed the pulp canal converging towards the apex, whereas when the apex had yet to form the canal was seen to diverge towards the apex and the apical foramen to be "funnel-shaped." To ascertain the number, direction, and length of the root canals it was advisable to insert small metallic broaches before taking a radiograph. During the process of treatment of root canals it was sometimes necessary to ascertain the presence of pulp nodules in the canal, or of a piece of broken instrument. Perforation of the apex or side of a tooth was usually seen only in a radiograph when a metallic broach or piece of wire had been inserted into it before radiography. It was often considered necessary in the treatment of a root canal that the apex should be reached by the filling material, and consequently a radiogram was indicated to ascertain this point. Occasionally the filling would be seen to have passed beyond the apex. He indicated the limitations of x-ray examination, and pointed out that radiography was only a "positive" test of the vitality of a tooth.

Dr. G. MURRAY LEVICK spoke on the value of light in the treatment of septic infection. The use of artificial light was the subject of a good deal of misconception. The destruction of micro-organisms was a side issue. The clearing up of septic infection in various parts of the body following a well-directed application of general light treatment was an indirect effect due to the conversion of the rays into an indirect energy in the tissues, so that the substances were chemical energy and distributed throughout the body. It was synthesized and distributed throughout the body. It was absurd to attempt the destruction of bacteria in infected gums and teeth by ultra-violet rays, whose lethal effect was so very superficial. He strongly deprecated the application of ultra-violet radiation to mucous membrane; it was dangerous and unjustifiable, and some very unfortunate results had been seen following such applications to the throat. He urged the value of local treatment by the red rays, under whose action various infective conditions cleared up. In the direct treatment of pyorrhoea red rays were of proved value. Gums which were spongy and bled easily and gave some purulent discharge were found to clear up under this particular form of radiation, which, however, should be supported by general irradiation of the body by ultra-violet and light rays.

Mr. A. T. PITTS said that he was scarcely optimistic enough to think that any great amount of light was going to be shed on a particularly dark problem as a result of that discussion. He wished to say a word about pulpless teeth. The only place for them, in his view, was the dustbin. Treatment for pulpless deciduous teeth was not really legitimate. With regard to the permanent teeth, there must be a discrimination between teeth devitalized by the dental surgeon and teeth already dead. He believed it to be permissible to treat dead teeth, but a much greater responsibility was now laid upon the dentist in this respect than was the case twenty years ago. His treatment must



be in the main antiseptic rather than aseptic, for aseptic dentistry, he thought, was not yet practicable. In the details of treatment he himself preferred to fill canals rather than leave them open as Mr. Coleman had suggested.

Dr. F. J. BRALLSFORD discussed, with the help of many radiograms, the x-ray appearances of pulpless teeth, and gave an analysis of radiographic pitfalls, which, he said, might arise from faulty technique or from misinterpretation. Misinterpretation of the radiograph was due largely to lack of experience in studying shadows and to lack of knowledge of general and dental pathology. Every radiologist who had correlated the radiographic and clinical, operative, and post-mortem findings knew that the radiograph might show only slight changes, even when a massive lesion was present. Thus, with acute inflammatory lesions of the skeletal tissues the radiograph might give no sign. One could almost say, especially in acute conditions, that the more attractive the physical signs the less the radiographic signs. In the case of dental radiography, as the lesions were often small, it was all the more important to pay attention to the finer details. There was no question that for the best interpretation of radiographs the observer must have a good knowledge of the normal and pathological anatomy of the part.

Dr. MEYRICK JONES recalled that pathological changes seen in radiograms were not produced immediately, but were the result of a long morbid process. Recent infections, even though severe, often showed no signs radiologically. There should be complete co-ordination between the work of the dental surgeon and the physician. He quoted some authorities to the effect that whenever a tooth showed pathological change it should be extracted. The speaker himself believed that a pulpless tooth in a patient who was the subject of general sepsis should be extracted, even if it showed no pathological change; in such a case the tooth might at any time become a secondary focus. In the healthy, vigorous young adult, if a pulpless tooth were left *in situ*, it should be periodically reported on after radiological examination.

Dr. A. LIVINGSTON joined issue with Dr. Worth, whose contention that the vitality or the pulplessness of a tooth could be diagnosed by radiological examination appeared to him unconvincing. Any contention based on the presence or absence of the lamina dura fell to the ground, because the lamina was not continuous. A cyst half an inch in diameter might show involvement of adjacent teeth, and although those teeth were stripped of their periodontal membrane yet they were alive. He did not agree with Dr. Coleman with regard to unfilled canals. The speaker did not think this method entirely satisfactory, for, in the event of accident to a tooth so treated, it could not be expected to resist infection—certainly not caries. He showed his own method of filling by silver nitrate. With regard to apicectomy, this was a successful operation, but it must be premised that cases subjected to it were carefully chosen and the best possible technique applied. It was never certain what was behind the apex of a tooth, and it was always possible that there might be organisms present.

Mr. ST. J. STREADMAN did not agree with Mr. Coleman that apicectomy was an empirical method of removing a portion of the root which was dead; his own special object was to deal effectively with the last quarter of an inch, which was the important part. In apicectomy he employed a big incision with a large flap. He showed lantern slides of the teeth of a girl aged 19 on whom he had successfully employed the operation.

Mr. NORMAN GRELLER held that a pulpless tooth should not be retained. Inflammation might exist at the apex of a pulpless tooth without producing symptoms, and it was very likely that radiography would give no evidence at all. As a dental surgeon and as a radiologist he had come to the conclusion that many pulpless teeth became sooner or later the seats of infection, and the majority of pulpless teeth were those from which a live pulp had been removed in the process of filling. In dealing with these matters it should always be borne in mind that there was possibility of infection of the jaw.

Dr. A. C. JORDAN had considerable sympathy with the dental surgeon who tried to save a dead tooth, but he

thought the effort foredoomed to failure. He believed that radiologists should confine their attention to obtaining a good radiograph and reporting what it appeared to show; they should not attempt to prescribe. He hoped that dental surgeons would impress upon patients the importance of a proper diet.

Dr. G. B. BATTEN agreed that the majority of pulpless teeth sooner or later caused trouble, but he cited himself as an exception, since he had a pulpless tooth which had given him no difficulty for twenty years.

The CHAIRMAN (Mr. Rushton), summing up the discussion, mentioned that thirty years previously he had plugged a tooth of one of his pupils with cotton-wool soaked in iodoform, and it had only recently been extracted. He did not suggest that that was the system he practised to-day, but the case illustrated the length of time for which a pulpless tooth might last. He himself had a pulpless tooth which he did not think came into the category of a pathological entity as insisted on by some of the speakers. He believed that if a person was healthy, with a vigorous resistance, little harm would come from a filled tooth.

### TREATMENT OF URETHRAL STRICTURE BY EXCISION.

At a meeting of the Section of Urology of the Royal Society of Medicine on March 22nd, with the president, Mr. FRANK KIDD, in the chair, a discussion took place on the treatment of urethral stricture by excision.

Mr. Frank Kidd opened with a brief survey of the history of the operation, followed by a short description and comparison of the methods of Hamilton Russell and MacGowan. It was claimed by these surgeons that complete excision of a portion of the urethra did not interfere with the blood supply or the power of erection, and that there was no recurrence of the stricture requiring further passage of bougies. Mr. Kidd favoured MacGowan's procedure with preliminary suprapubic cystotomy and the passage of retrograde bougies from the bladder to the stricture, since isolation of the posterior urethra and the division of the compressor urethrae produced incontinence. He said that the use of the operation of excision of urethral stricture was very limited, since most strictures could be treated and cured by internal urethrotomy with subsequent use of Kollmann's dilator or by simple dilatation. He had employed excision chiefly in periurethral infection with fistula formation, and in cases of hard, palpable tunnel stricture. He stated that for a successful result the free excision of septic wounds, tracks, and fibrous tissue was essential. He had found that excision of fistulae was a much more satisfactory procedure than wide drainage. Since almost all strictures were situated in front of the triangular ligament there was no need to damage the posterior urethral muscles, and if he found a fistulous track passing through the compressor urethrae muscle he did not damage this structure by following the track through it, but merely ligatured the track on the surface of the muscle, since the deeper portion of the fistula usually disappeared. If possible he tried to leave the roof of the urethra, but if this was not advisable he excised the affected portion completely, mobilizing the anterior portion in order to join the cut ends, but never mobilizing the posterior portion, owing to the risk of incontinence. He repaired the urethra over a metal bougie, which was removed at the end of the operation, and suprapubic drainage was continued for about fourteen days until the perineal wound had healed. He did not know whether excision obviated the necessity for less frequent post-operative dilatation than other methods, because most of the patients on whom he practised excision had been sailors with neglected strictures, who did not attend for further observation after operation. Mr. Kidd concluded by saying that excision should be employed more often in preference to external urethrotomy, always in cases complicated with fistulae, and in some inflammatory and traumatic tunnel strictures and strictures of the penile urethra. He mentioned the value of thyroid extract as a means of rendering strictures more easily dilatable.

Mr. E. T. C. MILLIGAN said he used the same technique as Mr. Kidd. He remarked that Hamilton Russell had now given up the deep dissection of the posterior urethra, and did not open the membranous urethra. Mr. Milligan described the urethroscopic appearances in the development of a stricture, and also the effect of various methods of treatment, as seen through the urethroscope at various periods after treatment. He showed some excellent pictures to demonstrate his observations. He pointed out that in inflammatory strictures the condition commenced in parallel rows of follicles in the roof of the anterior urethra, spreading gradually to the sides, and rarely to the floor. He divided strictures into two main types: (1) where the centre of the stricture was avascular, translucent, and confined to the mucous membrane, and (2) strictures composed of vascular, opaque, fibrous tissue, with spread of fibrosis into the corpus spongiosum. He added that gonorrhoeal strictures should never be allowed to pass beyond type 1. For the treatment of type 1 dilatation was usually sufficient, but, as he had noticed on urethroscopic examination, within one week the stricture and fibrous tissue had reformed. He mentioned that the urethra was normally a closed tube, only dilated to a small degree by the passage of urine, the urethra being, therefore, in a position of rest for most of the day and usually all night. To overcome this he always tied in a catheter for one week after dilatation or operation to keep the urethra dilated. Most strictures were of this type.

The second type presented the problem in treatment. Mr. Milligan first tried simple dilatation, and observed the effect with the urethroscope. If this method was not satisfactory he performed internal urethrotomy and tied in a catheter to prevent collapse of the urethra. This was a very satisfactory operation, since the cut was in the roof of the urethra. He did not think that excision was likely to overshadow internal urethrotomy. The speaker said he had performed excision in cases of stricture uncontrolled by dilatation and internal urethrotomy, as demonstrated by frequent urethroscopic examinations, and in all cases of stricture complicated by fistula. After excision of a stricture he had found that the urethra was kept permanently open by periurethral adhesions. He had observed recurrences of strictures about four years after operation, coincident with the disappearance of the adhesions and mobilization of the urethra. It was very important to excise freely and widely all fibrous tissue to ensure success. Excision was far superior to external urethrotomy, since in this latter operation the roof of the urethra was untouched.

Mr. OGER WARD stated that he freely dislodged the corpus spongiosum from its bed in front of the stricture, and then, if possible, behind the stricture. If he could not do the latter he never opened the bladder behind the stricture, but stripped the urethra from before backwards, looking for the dilated urethra behind the stricture. There was little danger in doing this, as the dilated urethra was usually immediately opened up before the dissection had passed very far posteriorly. He did not perform suprapubic cystotomy except in cases of urethral fistulae. He pointed out the difficulty and importance of preventing the perineal catheter passed into the bladder from touching the suture line. Extension of the stricture into the membranous urethra was found at operation in one case, and he had to dilate this with metal dilators before repairing the channel. In his opinion, excision of an impassable stricture was far superior to external urethrotomy. He had found that in some of his cases after excision dilatation was not always easy. He was doubtful, therefore, whether there was less need for post-operative dilatation with this operation than with other operations, and also whether excision was a cure for stricture as had been claimed.

Mr. FOWLER WARD said that he never cut the bulbocavernosus muscle, but reflected it. He considered internal urethrotomy a blind operation, and emphasized the risk of severe haemorrhage. For an impassable stricture he performed suprapubic cystotomy, passed a retrograde bougie, divided the stricture in the perineum, and introduced a metal catheter through the urethra into the bladder, leaving it in for seven days. If this could not be done, owing to a great deal of fibrous tissue, he then excised

the stricture. He reported several cases of stricture of the penile urethra in which he had used plastic skin flaps, restoring the urethra with complete success. He emphasized the importance of always employing drainage of the bladder, either suprapubic or perineal, in all cases of plastic operations on the urethra.

Mr. KENNETH WALKER reported that he had found excision of great help in traumatic strictures. He commented on the difficulties at operation when the stricture was far back in the anterior urethra, and remarked that though he was often dissatisfied with the immediate appearance of his repair of the urethra, he found that the end-result was very satisfactory.

Mr. CLIFFORD MONSON mentioned the marked improvement in recent years in the treatment of gonorrhoea, and the early and preventive treatment of urethral stricture. He believed that in the future operations would only be necessary in traumatic strictures. Internal urethrotomy was at the present time a comparatively rare operation.

Mr. WINSBURY WHITE said that some of the worst strictures he had to treat were those following external urethrotomy. In almost all cases of stricture a filiform bougie could be passed after patient manipulation, and then internal urethrotomy could be performed.

Mr. KIDD, in reply, said that internal urethrotomy was good and most useful in the majority of strictures, but excision was necessary in some advanced cases and cases with urinary fistulae. The use of a small knife in the urethrotomy obviated the risk of severe haemorrhage after internal urethrotomy.

#### PATHOLOGY OF THE MAMMARY CONNECTIVE TISSUES.

At a meeting of the Manchester Pathological Society on March 14th, the president, Mr. F. H. WESTMACOTT, in the chair, an address was given by Sir G. LENTHAL CHEATLE on normal and abnormal states of the connective tissues in the breast, illustrated by specimens and lantern slides.

Sir Lenthal Cheatle said that the general supporting tissue of the breast, like fibrous tissue elsewhere, was liable to sarcoma and fibroma, but these were not true breast changes. A sarcoma could only be diagnosed from a fibroadenoma by studying a whole section of the breast. It was impossible to separate hyperplasias of the true breast connective tissue from the accompanying epithelial hyperplasias; the pathological importance of the combination was seen in the papillomata. Physiological influences had a great bearing on the generalized (and as a corollary on the localized) hyperplasias. In a section shown of the breast of a woman, aged 42, which very closely resembled a state of "chronic mastitis," two points were striking: first the presence of fibro-adenomata, formed and forming; and secondly, the hyperplasia of the pericanalicular and periacinous connective tissue. A consideration of the normal breast at puberty and at birth would show physiological relations between the formation of fibro-adenomata at puberty on the one hand and the so-called "chronic mastitis" on the other. Both of these conditions were manifest in the specimen described. In the normal breast at puberty there was an enormous increase of acini and a hypoplasia of the pericanalicular and periacinous tissue, among which lymphocytes were common. The fibro-adenomata which were so common at puberty consisted of hyperplasia of the pericanalicular and periacinous tissues, and, in some of them, new acini developed, so that in the pathological part of the breast there was only an irregularity of the physiological activity which was progressing in the rest of the same breast. Lobulation of fibro-adenomata was not due to outgrowths from the original tumour, but to primary similar and later changes in the breast tissue adjacent to it. The presence of lymphocytes among the hyperplastic pericanalicular and periacinous tissues in the normal breast at puberty gave all the morphological characteristics of so-called "chronic mastitis," and was thus evidence that this term was an incorrect nomenclature. At birth it was impossible to distinguish a male from a female breast; in both a desquamative epithelial hyperplasia, filling the ducts, together

with a hyperplasia of the pericanalicular and periacinous connective tissue, containing lymphocytes, gave an appearance which, in the adult, would certainly be diagnosed as "chronic mastitis." This condition in the adult was not an inflammation, but a physiological change become pathological by reason of its irregularity and of its exceeding the normal. In passing, it was pointed out that most breasts of the age to which this condition belonged only appeared nodular on the surface owing to hypertrophy of the ligamenta suspensoria of Cooper, which isolated fat nodules. If the skin was undercut, the nodularity disappeared. Such breasts were never adherent to the pectoral fascia, as might be the case in the rare nodular breasts which were the seat of carcinoma. The elastica was next considered. Hyperplasia might be (1) general and associated with carcinoma or with dysgenetic epithelial hyperplasia, or (2) local, in conjunction with carcinoma, epithelial hyperplasia, Paget's disease of the nipple, or hyperplasia of the intra-elastica. It did not represent a local resistance to the malignant invasion. Finally, hyperplasia of the intra-elastica was described; in this state it often underwent early degeneration. Hyperplasia of this tissue did not affect the whole breast, and it might not produce a localized tumour. On the other hand, it might form one kind of intracanalicular fibro-adenoma (which the lecturer believed to be common), and also certain uncommon, unbranching papillomata.

### COLLOIDAL LEAD.

At a joint meeting of the Manchester Medical Society and the Liverpool Medical Institution at Manchester on March 7th, Professor W. J. DILLING of Liverpool read a paper on colloidal lead.

Professor Dilling said that the standards on which the suitability of various colloidal lead preparations for use in the lead treatment in carcinoma had been approved had been (1) that intravenous injections representing 0.025 to 0.05 gram of lead per kilo body weight should be tolerated by rabbits without local irritation, immediate or late symptoms, and (2) that similar injections in cats should cause neither respiratory nor circulatory disturbance. The latter was the greater safeguard, since a decided, although brief, fall in blood pressure, synchronous with, and due to, impairment of the contractility of the auricular muscle, resulted from injections of ionized lead solutions and many colloidal lead preparations. Tracings from cats showed this effect on the auricle, with consequent diminution of the pulse wave and of blood pressure; large doses of "approved" lead colloids frequently repeated could produce similar effects. Microscopical examination of the tissues of mammals injected with lead colloids revealed fine granules, which microchemical tests indicated were colloidal lead; a series of microphotographs showed these free in the blood vessels and in the interior of leucocytes. The spleen contained large numbers in the splenic pulp, free in the blood sinuses, forming extranuclear rings in the splenic cells, and concentrated in the phagocytic splenocytes; the Malpighian corpuscles contained relatively few particles or none, and where they occurred they were merely minute. The liver contained particles, but their distribution varied; they occurred in the blood sinuses, in the hepatic cells, and in the endothelial cells of Kupffer. In the kidney, particles had been found within the glomeruli and punctuating the outlines of the convoluted tubules. This organ almost invariably showed evidence of degeneration of the secreting cells of the cortical tubules, loss of nuclear staining, and occasionally necrosis; glomerular congestion and haemorrhage had also been observed. Particles were also present in the lung, but owing to the presence of carbon granules their exact distribution was uncertain. Granules had not been found in any other tissue with certainty. Microphotographs of the spleen and the liver of a case of lead acetate poisoning in a man also exhibited granules in comparable positions. Chemical analysis of mammalian tissues from these experiments with the chromate method confirmed that the lead was in highest concentration in the spleen, liver, lung, and kidney, and in the blood. The percentage in other tissues examined, including bone, was relatively low, but

indicated the commencement of excretion by the bile and urine. The lead granules were apparently concentrated chiefly in the reticulo-endothelial system, but it had not yet been possible to trace them to the endothelial cells of the lymph glands, of bone marrow, or of connective tissue. The only organ in which histological damage was apparent after large colloidal lead injections in animals was the kidney. The clinical importance of this fact was emphasized.

### Gastric and Duodenal Ulcers.

Mr. F. STRONG HEANEY (Liverpool) reported a series of 183 consecutive gastric and duodenal ulcers operated on by him during the past four years. He had, with the assistance of Dr. Aidin, followed up and obtained the end-results after a year in about 90 per cent.; the cases included 33 perforations, 65 chronic duodenal ulcers, and 85 gastric ulcers. Among the 33 perforations, the early mortality was 8.7 per cent., and the follow-up showed good end-results in 90 per cent. of the remainder. In 31 cases, in addition to repair and pelvic drainage, gastro-enterostomy was performed. There were two unsatisfactory end-results: one case where gastro-enterostomy had not been performed, and one where the gastro-enterostomy opening contracted; both required a further operation. In chronic duodenal ulcer the operation consisted of a vertical gastro-enterostomy running into the lowest point of the great curvature, in some cases with infolding of the ulcer, and in some with appendectomy. The mortality in hospital was 3 per cent., almost entirely from post-operative pulmonary complications. The "follow-up" showed good end-results in 90 per cent. of those leaving hospital alive. There were two gastro-jejunal ulcers (3.1 per cent.), one arising four months and one four years after gastro-enterostomy; both were cured by partial gastrectomy. The other unsatisfactory end-results happened in patients who for one reason or another did not have appendectomy performed at the same time as gastro-enterostomy. Present symptoms in almost all were suggestive of recurring appendix trouble. This, however, may have been a coincidence, as the end-results after gastro-enterostomy for perforation showed no such symptoms, although in all the latter the appendix had been left undisturbed. Chronic gastric ulcers varied so much in clinical picture and operation findings that for the purpose of useful comparison they were subdivided into complicated and uncomplicated. The uncomplicated included small or moderate-sized ulcers situated at the pylorus or near the lower part of the lesser curvature without serious adhesions. The complicated included the larger ulcers of the posterior wall, those with perforation of neighbouring structures, those situated high in the stomach, and those accompanied by cholecystitis, ptosis, and hour-glass contraction. Of the 55 uncomplicated cases gastro-enterostomy was performed in 54, with 2 deaths, both from pulmonary complications. In the remainder the end-results were uniformly satisfactory. Mr. Heaney briefly referred to the present views on the etiology of gastric and duodenal ulcer in the light of the experimental work of Morton, and to the relation of chronic gastric ulcer to gastric cancer. In his series there was no instance of cancer being found in the "follow-up" in any case of simple gastro-enterostomy for gastric ulcer, nor was there any instance of cancer arising after excision or gastrectomy where the specimen removed at operation was reported histologically non-malignant.

### CHOCOLATE CYST OF THE OVARY.

At a meeting of the Midland Obstetrical and Gynaecological Society, held in Birmingham on February 14th, with Professor D. C. RAYNER, the president, in the chair, Mr. ALFRED DANBY exhibited a specimen of a large chocolate cyst of the ovary, which he had removed from an unmarried woman, aged 26.

Mr. Danby said that the history was interesting, since apart from rather severe pain on the first day of her period, the patient had always been healthy. The cyst had been discovered during a routine medical examination. There was a symmetrical mid-line hypogastric swelling reaching to the umbilicus, the size being that of a twenty

weeks pregnancy. It could not be distinguished from the uterus, and an x-ray examination was made to exclude pregnancy. On opening the abdomen a brownish-purple tumour was found arising from the pelvis, and reaching as high as the umbilicus. It was densely adherent to the surrounding structures, more especially to the posterior wall of uterus and rectum, the right adnexa, the appendix, and the great omentum. An ovarian trocar was inserted, and nearly two pints of thick chocolate-coloured fluid removed, containing many blood cells, but no oxy-haemoglobin. An analysis showed 30 mg. of urea, 14.15 mg. of calcium, and 354 mg. of cholesterol in 100 c.cm. No sugar was found. The tumour was removed with difficulty owing to dense adhesions, and several parts of the wall had to be sacrificed. Large bare areas in the pelvis were exposed; these were peritonized as much as possible, and owing to a considerable amount of oozing a rubber drain and gauze packing were inserted. Convalescence was uneventful. Histological examination of the wall of the tumour failed to disclose any endometrial remnants. Some of the sections consisted of ovarian stroma, and in others the structure was that of dense fibrous tissue with red blood cells scattered about in it. Mr. Danby said that the specimen he was showing had unfortunately shrunk considerably since it was removed. He had no doubt that it conformed to Bailey's stage VI in the life history of the endometrial type of tumour of the ovary, but it appeared to be larger than any that writer had described in his paper. A considerable part of the wall of the tumour was composed of thinned-out and compressed ovarian stroma, suggesting that the ovary had been extensively excavated and stretched out on its surface. The failure to demonstrate the presence of endometrial tissue from the cavity of the larger of these tumours was not unusual. To meet with any measure of success it was necessary to cut serial sections, but this was not done in this instance.

#### *Dystocia due to Hydatid Cyst.*

Mr. MASLEN JONES (Wolverhampton) communicated the notes on a case of Caesarean section for hydatid cyst obstructing labour. A primipara, aged 25, had been operated on four years previously for "cysts on the liver." Twelve hours after the commencement of labour the midwife had called in a doctor, who found a cystic swelling in the pouch of Douglas. When the patient was seen by Mr. Jones an hour later dilatation was complete, but the advance of a normal vertex presentation was prevented by this cystic swelling, which could not be displaced. Obstruction due to hydatid cysts was diagnosed, and Caesarean section was successfully performed. During the operation the pelvis was examined and was found to contain some isolated intraperitoneal cysts, an extraperitoneal cyst in the left half of the pelvis, and a cyst in the left ovary. Convalescence was uneventful, and the patient refused any further operative treatment. Because of general malaise and a pain in the chest she came up to the out-patient department in February, 1928, when a flaccid cystic mass filling the pelvis and reaching nearly to the umbilicus was found. An x-ray examination of the chest was negative. An operation was performed, and the specimens produced at the meeting included four cysts, which were lying on the raised floor of the pouch and loosely attached to the peritoneum and omentum. One of these had invaded the mesentery of the appendix, which had been removed with the cyst. A large specimen consisted of the uterus and both appendages; there was a cyst the size of a golf ball growing from the right ovary, and a very large cyst, which was partially intraligamentary, crossed the mid-line in the floor of the pouch, and had completely replaced the left ovary. Macroscopically the isolated cysts were typical hydatids, whilst the others appeared to be ovarian in origin. Mr. Jones said that full pathological findings would be reported later.

#### *Sarcoma Botryoides.*

Mr. MASLEN JONES also read notes on a case of sarcoma botryoides occurring in a girl, aged 18, who had complained of continuous haemorrhage for eight weeks. A fleshy polypoid mass protruding through the vulva was found to have an annular base of attachment round the cervical

margin, being practically a tubular prolongation of the cervical mucosa. The growth was removed by a circular amputation of the cervix. Histologically it was a mucous polypus showing no evidence of malignancy. The patient was not seen again until five months later, when she complained of continuous haemorrhage for three weeks, and a large mass of numerous semi-translucent polypoid bodies was discovered distending the vagina. It was evident that the condition was sarcoma botryoides. Histologically the grape-like bodies were found to consist of myxomatous tissue containing stellate and round cells, with a covering of squamous epithelium. The stellate cells were the more numerous, and were identical with those found in a myxoma or myosarcoma. More on clinical than histological grounds panhysterectomy of the Wertheim type, including the greater part of the vagina, was performed. At first the patient progressed well after the operation, but six months afterwards there was evidence of a recurrence in the abdomen which was considered inoperable. She died a month later with signs of pulmonary metastases during the last weeks of life. Leave for a necropsy was refused.

#### *Pulmonary Embolism following Delivery.*

Mr. FURNEAUX JORDAN showed a specimen of pulmonary embolism from a primipara, aged 45, who had had a natural delivery followed by a normal and apyrexial puerperium. She was allowed to get up on the eighth day, when, on walking to a chair, she suddenly became giddy. She was at once put back to bed, but later became cyanosed, dyspnoic, and retched frequently. Later there was very severe epigastric pain and restlessness; she rapidly became unconscious and died two and a quarter hours after the first symptoms. At the necropsy a firm embolus 2½ inches long was found at the bifurcation of the pulmonary artery. The uterus was well involuted and the placental site was normal. There was a small degenerating fibroid in the anterior wall of the uterus.

#### *Hydatidiform Mole.*

Mr. FURNEAUX JORDAN showed also a specimen and microscopic slides of a case of chorion-epithelioma occurring in a primipara, aged 28, who nine months previously had had a hydatidiform mole removed.

Mr. BRAINE-HARTNELL (Cheltenham) read notes on a case of a hydatidiform mole which he removed from an unmarried girl by hysterectomy. When he saw her she had been bleeding for some time, and was profoundly anaemic. There was a mid-line elastic swelling reaching half way to the umbilicus, but there were no other signs of pregnancy. After a stormy convalescence she made a good recovery from the operation, and had since married and had one child.

#### *RIPENING OF THE GRAAFIAN FOLLICLE.*

A MEETING of the Edinburgh Obstetrical Society was held on March 13th, the president, Dr. HAIG FERGUSON, being in the chair, when Dr. WILFRED SHAW described the histological changes in the Graafian follicle during the process of ripening.

Dr. Shaw said that through the action of special mechanisms the enlargement of the follicle proceeded towards the surface of the ovary, and the discus proligerus rotated so that immediately prior to ovulation it lay beneath the spot which was subsequently to become the stigma. An account was given of the histological appearances at the stigma immediately before ovulation, and also after rupture of the follicle had taken place, and the methods of permanent closure of the stigma were described. Some distortion occurred in the outline of the follicle after ovulation, but there was no effusion of blood into the cavity of the follicle, because at this stage the granulosa layer was not vascularized, and the engorged theca interna layer was shut off from the granulosa layer by the membrana limitans externa. In the development of the corpus luteum from the follicle the granulosa cells hypertrophied and gave rise to the large lutein cells. The theca interna cells persisted at the periphery as the paralutein cells. The convolutions of the corpus luteum were produced through the enormous growth of the granulosa cells, aided by



capillary tufts, which grew up from the theca interna layer. The method of determining the time relations between ovulation and menstruation was then described. It consisted in the accurate histological examination of both ovaries of women with normal menstrual cycles; in these cases the dates of the last menstrual period and the day of the cycle when the specimens were obtained were known. It was found that recently ruptured follicles and proliferating corpora lutea were demonstrated only after the sixteenth day of the cycle—the first day of the menstrual period being taken as the first day of the cycle—while until the thirteenth day of the cycle only retrogressing corpora lutea were found, although, in cases corresponding to the post-menstrual phase, ripening follicles were also present. It was concluded that ovulation took place between the thirteenth and sixteenth days of the menstrual cycle, in healthy women constantly without gross variations in time, and that it occurred rhythmically once a month. Further indirect evidence in support of this view could be obtained by observing the earliest time in the cycle when premenstrual changes appeared in the endometrium, for there was good evidence that the corpus luteum produced these premenstrual changes.

The corpus luteum produced from the first follicle to rupture inhibited further ovulation; the remaining ripening follicles in the ovaries underwent atresia, and ultimately gave rise to the interstitial cells. Occasionally, in about 5 per cent. of cases, two follicles ruptured simultaneously, and two corpora lutea were found in the ovaries. If both ova were fertilized binovular twins resulted. Ovulation did not occur before puberty or after the menopause, for at these times no corpora lutea could be demonstrated in the ovaries. During pregnancy ovulation was inhibited although follicle ripening proceeded normally, and again, during lactation, amenorrhoea was determined through no corpora lutea being produced. It was pointed out that if menstruation was considered as the result of the disintegration of a premenstrual endometrium, menstruation could be distinguished from abnormal uterine haemorrhage; with this definition it followed that menstruation was invariably preceded by ovulation. Menstruation did not always follow ovulation: examples of this were seen in the case of pregnancy and in the condition described as corpus luteum persistens. The problem of the relation to conception was then raised, and it was pointed out that fertilization probably occurred only after the fourteenth day, but, since spermatozoa might survive in the female generative tract for some time after coitus, it followed that coitus might be fertile before this time. Whether coitus could be fertile after the fourteenth day depended upon the survival period of the ovum after ovulation; in human beings there was very little evidence to show what this period might be. It seemed, however, that the least fertile part of the cycle was the late premenstrual phase. Evidence was brought forward to show that the amenorrhoea met with in advanced stages of conditions such as Graves's disease, diabetes, and dementia praecox was due to an inhibition of ovulation. An account was then given of the changes in the ovaries as a result of x rays and radium used therapeutically to create an artificial menopause; it was shown that with large doses follicle ripening was inhibited, with smaller doses ovulation was inhibited, and it was concluded that the action of radiations in producing an artificial menopause was on the ovaries and not on the uterine. The changes in the ovaries in Schröder's metropathia haemorrhagica were described, and evidence was adduced that the inhibition of ovulation in these cases was due to the endometrium.

### FRACTURE OF CERVICAL VERTEBRAE.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on February 17th, the president, Dr. T. T. O'FARRELL, in the chair, Sir WILLIAM I. DO C. WHEELER showed a specimen consisting of the cervical vertebrae and spinal cord removed from a man, aged about 40, who had fallen from a height on to his head. Sir William Wheeler said that when the patient was

admitted to hospital there was a lacerated wound over the right temple, and partial paralysis of both legs. The knee-jerks were exaggerated; there was no Babinski sign and no ankle clonus. The pupils were small, but reacted to light; the temperature was 98.6° F., and the pulse rate 80. After the lapse of twelve hours both the motor and the sensory paralysis in the legs were complete. The right arm had become weaker than the left, but the muscles were capable of co-ordinated movements. The left arm seemed unaffected. Four hours later the right arm was helpless and the left arm weaker; the abdomen and thorax had now become paralysed. The temperature was 103° F., and respiration was carried on by movement of the diaphragm. The man was fully conscious, and it was therefore obvious that the total paralysis was not produced by an intracranial lesion. Fracture of the cervical vertebrae below the third (emergence of the phrenic nerve) was suspected. The man had several times moved his head freely backwards and forwards and from side to side; in fact, there was no limitation of movement. Spinal puncture revealed that the fluid was not under pressure and contained no blood. The condition of the patient remained unchanged for another ten hours, when he suddenly complained of headache, vomited, became unconscious, and died; the temperature then was 109° F. An x-ray photograph taken before death showed an injury in the nature of a "sprain fracture" of the fourth, fifth, and sixth cervical vertebrae, but there was no displacement. At the necropsy it was ascertained that the chief lesion was produced by hyperextension of the neck, the intervertebral discs between the fourth and fifth, fifth and sixth, and sixth and seventh cervical vertebrae being torn open. Some insignificant fragments of bone were detached; there was no extradural haemorrhage, nor was any blood extravasated beneath the meninges. The cord itself appeared intact. Sir William Wheeler thought that the trauma to the cord was analogous to the trauma produced by overstretching of the brachial plexus or of the musculospiral nerve; it was difficult to explain why the paralysis was not complete until about sixteen hours after the injury. The points of interest in the case were: (1) The suspicion that the man was suffering from a head injury—a suspicion which was at once dispelled by the presence of wide paralysis in the absence of unconsciousness. The free movements of the head in the presence of such an injury were noteworthy. (2) From the time of the injury to the man's death the pupils were contracted; this was characteristic of severe injuries in the lower cervical region. Sir William Wheeler traced the course of the sympathetic fibres from the cilio-spinalis centre to the Gasserian ganglion, and from thence to the eye. (3) The uppermost lesion in the spinal column was just below the phrenic nerve. (4) Wide variations of temperature occurred in lesions in this situation, Brodie having mentioned a patient who died with a temperature below 83° F. (5) Further examinations of sections of the cord might throw some more light on the exact pathological condition, and thus explain the gradual nature of the paralysis.

### Sarcoma of the Lung and Liver.

Dr. R. H. MICKS read notes on two cases of sarcoma of the liver; in one patient the condition was associated with a pulmonary growth, and in the other it was melanotic. Dr. LART exhibited specimens in both cases.

A man, aged 41, was admitted to hospital complaining of pain in the left side, and difficulty in breathing. Pus was found in the left plural cavity. The liver was greatly enlarged. The necropsy revealed a tumour involving the left pulmonary root, and spreading diffusely throughout the lung, in the apex of which there was a large cavity, and at the base numerous small abscesses, though there was no evidence of tuberculosis. The liver was greatly enlarged, and when fixed weighed 7 lb. It was everywhere infiltrated by the tumour in a diffuse manner. Microscopically the tumour was a small round-cell sarcoma.

The second patient, a man aged 61, when admitted to hospital, complained chiefly of epigastric pain, and was jaundiced; the liver was distinctly enlarged. At the necropsy a greatly enlarged liver was found which, when fixed, weighed 9½ lb. Scattered throughout it were nodules of melanotic sarcoma, mostly pigmented, though some were free from pigment. None of the other organs was involved, and no primary focus was found after a careful examination. The microscope corroborated the naked-eye diagnosis.



## Reviews.

## ABDOMINAL SURGERY OF CHILDHOOD.

PEDIATRICS is a comparatively recent specialty, and if the process of subdivision goes much further it is possible that children will before long have their own surgeons, as they now have their own physicians. Ours may indeed be an age of over-specialization, but the children's surgeon is in the unusual position of being able to call himself "general" or "special," as his fancy dictates or his company demands. At any rate, Mr. L. E. BARRINGTON-WARD's book on *The Abdominal Surgery of Children* will soon convince the ignorant or the sceptic that a wide variety of diseases may lurk within the narrow limits of a child's abdomen. The book is founded on the author's work at the Hospital for Sick Children, Great Ormond Street, and he has dedicated it to Mr. George E. Waugh, "whose generous and original mind has stimulated so many in the past twenty years." Great Ormond Street is the thread that runs right through it. The patients and the hospital museum have provided the subjects of the illustrations, and a late house-surgeon (Mr. C. A. Keogh) has contributed some excellent drawings.

The opening chapter is devoted to general principles, and might be read with profit by every doctor. The treatment of children, both before and after operation, is fully considered, and the author drives a final nail into the coffin of purgation and starvation as a preliminary to operation. Glucose receives its due weight as a therapeutic agent, and details are given of the strengths and ways of administering it. The general reader will probably begin with intussusception or congenital pyloric stenosis, and he will find much to interest him. We confess to disappointment at finding no mention of that form of intussusception—neither acute nor chronic—which seems best labelled "intermittent." Mr. Barrington-Ward believes that colopexy should be performed when an acute intussusception has recurred. He does not refer to the conception of the mobile ascending colon as a safety valve against strangulation in such patients, though any further attacks must surely be more dangerous if the habit of intussusception is not cured by colopexy. The chapter on congenital pyloric stenosis is full of good things. There are some excellent tables to show the effect on prognosis of age, weight, feeding, and length of symptoms, and the illustrations here are particularly good. The hospital series includes 310 patients, and thus provides material for an authoritative consideration of the whole subject. Results have improved from an 80 per cent. mortality in pre-Rammstedt days to about 18 per cent.; there was only one death in twenty-five patients operated upon in the first half of 1927.

The section on maldescent of the testis and its treatment is less satisfying than the rest of the book; some pronouncement on the late results of operations would have greatly strengthened it. Mr. Barrington-Ward is optimistic on the subject, though he does not seem to practise Bevan's method, which often converts an impossibility into a fairly simple proceeding. There is no mention of typhoid fever in a list of causes of enlargement of the spleen, though kala-azar and malaria appear. "Non-surgical drainage of the bile" is a riddle without an answer, and "obspitation," on page 245, is a word whose proper place, many will think, is the dictionary. However, we must not carp at such trifles when a book is so free from misprints, errors, and omissions. The exclusion of the genito-urinary system certainly leaves a big gap, but no doubt it was unavoidable in a work of this size.

The book is very well produced. There are eighty-two illustrations, each chapter has its list of references, and there is an index of names as well as of diseases. Mr. Barrington-Ward writes fluently and clearly in an agreeable manner, and we think that his book should make a wide appeal alike to surgeon, general practitioner, and student.

<sup>1</sup> *The Abdominal Surgery of Children*. By L. E. Barrington-Ward, Ch.M., F.R.C.S. Ed., F.R.C.S. Eng. Oxford Medical Publications. London: Milford, Oxford University Press. 1928. (Demy 8vo, pp. xxii + 203; 83 figures, 3 plates. 15s. net.)

## NERVE TRACTS.

PROFESSOR KEILLER, of the University of Texas, has attempted a protean task in *Nerve Tracts of the Brain and Cord: Anatomy: Physiology: Applied Neurology*.<sup>2</sup> He takes for granted that the student is acquainted with the gross dissection of the brain, and proceeds directly to the anatomy of the tracts. The description of Wallerian degeneration and the clear exposition of the value of the Marchi and Weigert-Pal technique is excellent. The second part deals with the anatomy and physiology of the nerve tracts from the point of view of the clinical neurologist, and the third part deals with the diseases of the nervous system in terms of the various syndromes. The book is an attempt at filling a gap of which all clinicians are keenly aware, and represents the result of many years of teaching. Supplemented by an adequate supply of sections of the brain and cord of the normal, foetal, and diseased brain, the book provides an excellent scheme for teaching purposes. The publisher cannot, however, be complimented on the illustrations, as they are badly reproduced and calculated to exhaust the patience of the beginner who is trying to unravel the numerous complexities of structure. A bad diagram is like a bad map—it leads us hopelessly wrong.

Terminology is a bugbear, and the use of the term "telodendria" for the branching of the axones is not justifiable, as it confuses the clear distinction between axons and dendrites, which Golgi insisted upon. From the morphological point of view several of the definitions are questionable. With reference to the lower motor neurone, it is said that "the axones end in special motor nerve endings in striped muscles or by synapsing with sympathetic neurones for the supply of unstriped muscle or of glands." This contradicts Gaskell's conception of the analogy of the lower motor neurone with the cell of the sympathetic ganglion. The distinction between the sympathetic and the bulbo-sacral outflow of the parasympathetic is also omitted. The view that protopathic impulses are carried by unmyelinated fibres and epiatic by myelinated fibres is still a rash assumption. Hair-sense should not be regarded as identical with tickling, for the latter is well developed on the palms and soles. The statement that Head fails to find representation of the sixth to the twelfth thoracic nerves in the nucleus gracilis or cuneatus does not justify the author in saying that tactile discrimination and postural sense find no representation in the trunk and are limited to the limbs. Similarly, the statement that visual impressions are stored in the left occipital lobe only in right-handed persons is not based on fact. The statement that certain efferent fibres from the vermis and flocculus pass alongside the vestibular nucleus without interruption and join the vestibulo-spinal tract is in direct contradiction to Horsley's teaching that no fibres run directly from the cerebellum to the spinal cord.

There is one feature of Professor Keiller's book for which he deserves the greatest praise—namely, that he has confined himself to the human brain. Many of the recent textbooks have dealt almost exclusively with the brain of the sheep or other lower forms, to the exclusion of the brain of man. The value of comparative neurology is immense, but the medical student is not a morphologist. A considerable improvement in the standard of the illustrations should convert this first effort into a standard manual, and assure for it as great a popularity as Obersteiner's manual of forty years ago.

## PROTEIN METABOLISM.

THE regularity with which the successive instalments of Professor OTTO FÜRTH's comprehensive textbook of physiological and pathological chemistry<sup>3</sup> come to us is a tribute to the industry with which the author executes his formidable task. The sustained level of interest and critical treatment displayed in each new subject are tokens of his zeal and authority. Volume I is now complete and two

<sup>2</sup> *Nerve Tracts of the Brain and Cord: Anatomy: Physiology: Applied Neurology*. By William Keiller, F.R.C.S. Ed., New York: The Macmillan Company. 1927. (Cr. 4to, pp. xii + 455; 225 figures. 8 dollars.)  
<sup>3</sup> *Lehrbuch der Physiologischen und Pathologischen Chemie*. Von Dr. Otto Fürth. Band II, Lieferung IV und V. Leipzig: F. C. W. Vogel. 1927. (Sup. 8vo; Lieferung IV, pp. iv + 148; Lieferung V, pp. 125. 3/15 each Part.)

sections (Parts IV and V) of Volume II are now before us. This volume is to be devoted to the chemistry of metabolism, and the present parts have for their subject the metabolism of protein, purine, and carbohydrate. In Part IV we are given a full discussion of the chemistry of the digestion of protein and of the proteolytic enzymes, of protein synthesis in the animal body and of the biochemistry of urea, hippuric acid, creatine, creatinine, oxypuric acid, and the cyclic structures involved in the metabolism of the amino-acids. The concluding chapter deals with the biological breakdown of haemoglobin and its relation to the origin of the bile pigments. Part V opens with a discussion of the physiology and pathology of purine metabolism. There follow detailed reviews of our knowledge of the digestion, storage, and mobilization of carbohydrate, of pancreatic diabetes, and the role of insulin and of phloridzin diabetes. Concluding chapters treat of the biochemistry of glycuronic acid, lactic acid, and the chief fermentative processes. Professor Firth continues to display a wide acquaintance with the vast literature of his subject and an unusual ability to marshal it with a critical, yet not dogmatic, hand.

### THE LABYRINTH.

DR. BALDENWECK has incorporated nine lectures on the physiology, central connexions, examination, and pathology of the labyrinth into one volume.\* This is of a handy size, but the capacity is less than appears, because the text is printed only on the left-hand page, whilst on the right are numerous sketches and illustrations relating to points in the text opposite, just as a lecture might be illustrated by a running series of diagrams on the blackboard. It thus happens that some pages are occupied by several diagrams, others by one only, with here and there a blank page. Dr. Baldenweck apologizes for his inability to demonstrate the tests on the living subject, but the combination of clear writing, consecutive thought, and wise choice of illustrations is such as to make this of the least consequence. To ensure the necessary emphasis, to render some points perfectly clear, there are some deliberate repetitions and illustrative digressions, but these are merely the arts of an experienced lecturer. It may be said that, short of actual demonstrations on living subjects and objective specimens, these lectures are as satisfactory an exposition of a most intricate subject as it is possible to attain. The examination of the ear as an aid to the neurologist is becoming almost as much a matter of routine as the examination of the eye, and these lectures should prove of the highest assistance to instructors in otology and to those whose work brings them into frequent contact with a department of neurology. There is no clearer account, and it is difficult to imagine that there could be one, in which all the difficulties and obscure points are met by such simplicity of language and such profusion of illustrations; in short, by so complete a grasp of the subject.

### A SYMPOSIUM ON THE MIND.

THE scientific study of the human mind has probably been handicapped by the speculations and hypotheses of philosophers—social, metaphysical, and educational. The opinions of these philosophers, from Plato downwards, are scattered through a vast number of volumes, and it is by no means easy to ascertain how far their views have any physiological basis. Consequently there is great value for the general reader in the series of lectures delivered last year at King's College, London, and gathered together into one volume, with the title *The Mind*,\* under the editorship of Dr. R. J. S. McDOWALL, professor of physiology at the College. The object of the lectures was to give the public a concise general idea of the mind from several academic standpoints, and to show the complexity of the subject and the difficulty, at present, in reaching definite conclusions.

The medical man and the scientist will probably regard Professor McDowall's statement of the physiological view of mind, taken with the biological aspect described by Professor Julian Huxley, as the more rational argument, even if it be admitted that there is still much that is difficult for physiology to explain. Anyhow, the argument is more intelligible to the finite mind than the exposition of modern philosophy, as represented by Lloyd Morgan, Whitehead, and Gentile, set forth in the lecture by the Dean of King's College, the Rev. W. R. Matthews. Comprehending our inability to grasp the absolute, reality, and the transcendental ego, as expounded by Gentile, we are gratified to find that Dr. Matthews himself is unable to accept Gentile's wholesale scrapping of objectivity. There may be satisfaction to be derived from asserting that the table at which we sit has no objective existence, but that somewhere in reality there is a real table; yet for practical purposes it seems probable that greater progress in knowledge of the mind will be made by beginning at the bottom, and investigating mental phenomena as they are presented to our senses. Similarly, it seems hardly likely that much advance will be made by labelling oneself an interactionist, a parallelist, an epiphenomenalist, or any of the other brands of philosopher described by Dr. Aveling in his lecture on psychology.

When the intellectual Philistine has made an effort to grasp the meaning of the lectures given by the psychologist and the philosopher, it becomes hardly necessary to pursue investigations into the views of the educationist, the sociologist, and the aesthete. It is sufficient, perhaps, to quote a remark of Professor McDowall, "Man's conception of Mind is the greatest evidence of his conceit." The human mind has suffered from the fact that its study fell into the hands of the philosopher long before the experimental observer came into existence. It is for this reason, probably, that Mr. Collingwood thinks that when he wants a country cottage his mind creates an aesthetic something which existed previously only in his imagination.

### NOTES ON BOOKS.

THE first quarterly number of the seventy-eighth volume of the *Guy's Hospital Reports*\* has as the frontispiece the portrait of the late Professor Adrian Stokes, of whom an extremely sympathetic appreciation is given, containing extracts from his letters when with the Rockefeller Commission on yellow fever in West Africa. These show that the results obtained there throw doubt on the now generally accepted view that the disease is caused by the *Leptospira icteroides*. During his four years at Guy's as Sir William Dunn Professor of Pathology Stokes made a unique position for himself as an inspiring teacher and unfailing source of help, to whom all turned. Sir William Hale-White contributes a note on the birthplace of Richard Bright and on Bright's two earliest papers—his thesis for the Edinburgh doctorate on erysipelas in 1813, and a dissertation on gangrene read before the Royal Medical Society of Edinburgh in the same year, which is reproduced in full. Dr. G. W. Nicholson discusses the problems of heredity in the light of pathology, and concludes that potencies are transmitted, but that characters are always acquired. In his essay on hyperpiesia Dr. A. H. Douthwaite speaks highly of the therapeutic effect of venesection. In recording a case of pancreatic cyst associated with diabetes Mr. O. A. Beadle reviews the literature, and finds only three similar cases. A case of meningitis accompanying pneumonia and followed by recovery is recorded by Mr. R. L. Waterfield, and one of cut throat in a 5-months infant by Mr. N. Eckhoff. In his article on cataract Mr. Marcelli Shaw provides some interesting historical details, and analyses the results of the medical treatment of this disease. Mr. W. M. Mollison's historical account of the work of Samuel Sharp and his predecessors on the functions and surgery of the tonsils was apparently stimulated by the "Critical inquiry into the present state of surgery" by this surgeon to Guy's Hospital from 1733 to 1757.

It is not surprising that a second edition of Dr. C. L. DANA'S *Peaks of Medical History*, the first edition of which was noticed in our columns less than two years ago, has so soon become

\* *Leçons sur l'exploration de l'appareil vestibulaire*. Par Dr. L. Baldenweck. Paris: Vigot-Frères. 1928. (61 x 9½; pp. 300; 153 figures. 40 fr.)

\* *The Mind*. By various authors. Edited by R. J. S. McDowall, D.Sc., M.R.C.P.E.D. With an Introduction by Ernest Barker, M.A., D.Litt., LL.D. London and New York: Longmans, Green and Co., Ltd. 1927. (Cr. 8vo, pp. xvi + 316. 8s. 6d. net.)

\* *Guy's Hospital Reports*, Vol. 78 (Vol. 8, Fourth Series), No. 1, January, 1928. Edited by Arthur F. Hurst, M.D. London: The Lancet, Ltd. (Med. Bro. pp. 126; 2 plates, 1 figure. Annual subscription, £2 2s.; single numbers, 12s. 6d. net.)

\* *The Peaks of Medical History: An Outline of the Evolution of Medicine for the Use of Medical Students and Practitioners*. By Charles L. Dana, M.D., LL.D. Second edition. New York: P. B. Hoeber, Inc. 1928. (Demy 8vo, pp. 105; 62 illustrations. 3 dollars.)

necessary. He shows that the present state of medicine is the result not of steady progress during the four thousand years of its existence, but of the last four hundred years of scientific research and the impetus given to physiology by Harvey's discovery of the circulation. The concluding section on biographical notes ends with a graceful tribute: "Whoever knows well the writings of William Osler is an educated man."

Literary output has become so enormous that many give up all hope of keeping themselves informed of the general progress of the science of medicine. Yearbooks, indexes, and collections of abstracts are available in abundance to assist them, but a mere glance into some of these works, so laboriously compiled, is often sufficient to dispel any lingering desire to tackle the subject at close quarters. Yet it is not as extensive as it at first appears. Probably nine-tenths of the observations recorded are mere stepping-stones to some final inference, and it is the inference alone that the general reader needs to know and assimilate, the observations themselves, with their complicated technique and conditions of proof, being of interest only to those engaged in the problems to be solved. In approaching the subject this fact has to be borne in mind, and it will be found to render our course much clearer. We need as a starting point to have some dogmatic statement of the doctrine of disease, as it is generally accepted at the present time; this can be readily obtained from the textbooks. But it is indispensable that we should also be informed of the directions in which the conception of disease is tending to change, and of the existing currents of opinion. If these are known it becomes less difficult to gauge the significance of what might otherwise appear to be a disconnected series of observations. Professor G. HERXHEIMER has written a book<sup>1</sup> to help his fellow countrymen in this matter. Starting with the fundamental pathological processes—the cellular pathology, inflammation, the degenerations so called, inflammation, infection, and tumour formation—he describes the trend of opinion in these branches of medical science which he conceives to have been observable in the period 1912-26. It is a small book exhibiting considerable originality of treatment. Some of the subjects are dealt with somewhat too concisely, but if the book were expanded so as to cover the whole ground it should become a standard work. It is a model that might be copied in this country with advantage.

The object of Dr. ROBERT A. KILDUFFE's *Clinical Interpretation of Blood Chemistry*<sup>2</sup> is to make the practitioner familiar with the significance and clinical interpretation of the results of chemical examination of the blood, especially in diseases such as nephritis, hypertension, diabetes, and acidosis, which cannot be managed intelligently without such examination. The work consists of twenty-one chapters, in which the writer gives a concise account of the various chemical constituents of the blood, and then discusses the clinical applications of blood chemical analysis, the dietetic management of metabolic conditions, the calculation of diabetic diets, and the insulin treatment of diabetes. A short bibliography of recent literature, mainly American, is appended to each chapter. The work should prove a useful guide to the practitioner and senior student.

Dr. CORBET FLETCHER's *Compendium of Aids to Home-Nursing*<sup>3</sup> suffers from an attempt to compress too much information into too small a space. He endeavours to assist the digestion of this potted knowledge by means of aids to memory, so that "Nurse Spratt knew the aids to diagnosis" is meant to recall to the neophyte that she must observe the skin, pulse, respiration, attitude, tongue, and temperature of the patient. Fortunately Dr. Fletcher provides a glossary of these aids. The information he gives seems in the main to be correct and easy to follow; but when we are told that the sick-room requires a maximum of sunlight, a large air inlet, and a minimum of draughts, we are not sure of the meaning of the statement that "these requirements are satisfied by a window which allows 24 square inches per person."

The publication of the forty-fourth annual issue of the *Year-Book of the Scientific and Learned Societies*<sup>4</sup> will serve, its producers hope, to call attention to the vast amount of original work that has been done by scientific investigators. While this well-known volume has an established place as a work of reference, it is also intended to serve as an index to

the progress of science since the last issue. The societies mentioned include Government departments, and are grouped under fourteen main headings according to the branches of science concerned. Lists of contributions to the proceedings and publications of societies are given; thus mention is made of the various papers read before the Sections of the British Medical Association at the Annual Meeting in Edinburgh last year; of the papers published in the *Proceedings of the Royal Society of Medicine*; and also of the publications of the Medical Research Council and of the Lister Institute.

## PREPARATIONS AND APPLIANCES.

### TABLOID IRRADIATED ERGOSTEROL.

Messrs. BUNNONGHS WELLCOME AND Co. produced pure ergosterol in 1925, and they have just issued a tabloid form of irradiated ergosterol. Each tabloid contains 0.15 mg. (0.00015 gram) of drug, and its potency is indicated by the fact that this minute quantity is equivalent in vitamin D content to a tablespoonful of cod-liver oil. The makers point out that cod-liver oil contains vitamin A as well as vitamin D, and that probably the former is of importance in promoting resistance to infection. Since the oil contains the combined vitamins it is therefore ideal in rickets, where there is increased tendency to respiratory and gastro-intestinal infections. Sometimes, however, the rachitic condition is refractory and yields slowly to treatment, and in these cases the vitamin treatment can be greatly intensified by administration of tabloid irradiated ergosterol. They suggest, therefore, that the product should be used as a supplement to cod-liver oil in the treatment of rickets. Tabloid irradiated ergosterol can also be used in prophylaxis of rickets, and one particular method is the administration of the drug to the pregnant or nursing mother to increase the maternal supply of vitamin D.

### A PORTABLE URINE-TESTING OUTFIT.

We have received from Messrs. Reynolds and Branson, Ltd. (13, Briggate, Leeds) a small portable urine-testing outfit, which has been designed by a general medical practitioner, and is termed the "Urolyt." Although capable of fitting easily into the overcoat pocket or into a small bag, it enables albumin, sugar, acidity,



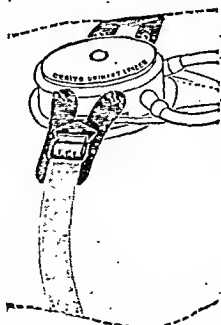
and specific gravity tests to be made, an ingenious arrangement permitting boiling up of a Fehling solution on a glass slide. It is supplied in two sizes, the larger at £1 5s. and the smaller at 15s. The accompanying illustration will give a sufficient idea of the layout.

### A BELT FOR USE IN SUPRAPUBIC DRAINAGE.

Mr. R. H. Jocelyn Swan, M.S.Lond., F.R.C.S., has devised a new attachment for use with a Hamilton Irving's suprapubic drainage box.

It consists of two pieces of flat rubber, each fitted with a buckle, to which can be attached a broad piece of elastic webbing. When applied to the elastic webbing of the box the rubber lateral supports of the box the patient's abdomen; the elastic passes over the iliac crests and forms a much more comfortable attachment than that usually supplied. The buckle on each side renders the attachment of the webbing and the adjustment of the box very much easier than with the previous strap, while the perineal straps can be dispensed with. In use it is more comfortable to the patient, and it has the additional advantage of cheapness.

The belt is made by the Genito-Urinary Manufacturing Company, 28, Devonshire Street, London, W.1.



<sup>1</sup> *Krankheitslehre der Gegenwart*. Von Prof. Dr. Gotthold Herxheimer. Dresden und Leipzig: T. Steinkopff. 1927. (6 x 8 1/2, pp. xvi + 256. R.M.12.)

<sup>2</sup> *The Clinical Interpretation of Blood Chemistry*. By Robert A. Kilduffe, A.R., A.M., M.D. Philadelphia: Lea and Febiger. 1927. (5 1/2 x 8, pp. x + 185; 20 figures. 2.50 dollars.)

<sup>3</sup> *A Compendium of Aids to Home-Nursing*. By N. Corbet Fletcher, M.B., R.Ch.Cantab. Third edition. London: J. Baile, Sons, and Danielsson, Ltd. 1927. (Demy 16mo, pp. 409. 1s. net.)

<sup>4</sup> *Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, Session 1926-27*. Compiled from official sources. Forty-fourth annual issue. London: O. Griffin and Co., Ltd. 1928. (Demy 8vo, pp. vii + 416. 18s. net.)

## EPILEPSY.

## LUMLEIAN LECTURES BY DR. JAMES COLLIER.

THE Lumleian Lectures for 1928 were delivered at the Royal College of Physicians of London by Dr. James Collier, physician and lecturer on medicine, St. George's Hospital, on March 22nd, 27th, and 29th.

## THE NATURE OF EPILEPSY.

In his first lecture Dr. Collier said that he had chosen "epilepsy" as his subject because it seemed to him opportune to reconsider this symptom-complex in general in view of the new clinical facts which had been brought to light and the new conceptions of the nature of epilepsy which had arisen. He mentioned a few recent hypotheses to indicate the necessity for an analysis of the opinions held by authorities, sometimes widely divergent, with the object of producing a useful working theory.

His own argument was that the clinical phenomena met with in idiopathic epilepsy, in epilepsy from local lesions of the brain, and in the symptomatic epilepsy occurring in disordered metabolic states, general diseases, and intoxications, were identical and truly indistinguishable. Further, that those occurring in narcolepsy, migraine, vaso-vagal seizures, idiopathic syncopal attacks, and perhaps also in tetany, were phenomena of the same order, and were closely allied to those of epilepsy, with which they occasionally mixed. He believed that there was one pathological factor common to all these conditions—a metabolic dyscrasia, the nature of which was not always quite the same, so that different clinical syndromes occurred in which the prognosis varied.

So far as the so-called "idiopathic" epilepsy which affected man and the animals was concerned, no pathological changes had been found upon which any hypothesis as to the nature of epilepsy could be built. The findings had been for the most part frankly negative. Attention had therefore been turned to the possible discovery of an explanation of epilepsy in some perversion of the chemistry of life—some metabolic dyscrasia leading to the presence of substances within the system which acted upon the nervous system as did convulsant poisons, and might cause in some cases the progressive impairment of its higher functions.

The lecturer mentioned a number of experimental investigations along these lines, and referred particularly to the enticing theory put forward by Bossard that the immediate cause of the epileptic attack was "anaphylactic shock" from some product of disordered metabolism, the local effect of which was upon part of the cerebrum, while the general effect was shown by the fall in the blood pressure and the leucopenia which, Bossard claimed, invariably and immediately preceded every epileptic attack of any magnitude. Bossard's hypothesis was not contradicted by any experimental evidence, and upon it all the clinical manifestations of epilepsy could be intelligibly explained. It was a useful working hypothesis for the present. By far the most important statement was that one of the essential features of the epileptic attack was a fall of blood pressure. If this was true it was of far-reaching importance, for it did away with the hard-and-fast line of separation between epileptic manifestations and syncopal attacks which had been laid down by many authorities. Such initial fall of blood pressure, if proved to be constant in the epileptic attack, would serve, the lecturer hoped, to rid the mind of that explanation in pathology of so many ill-understood diseases—arterial spasm.

*Metabolic Disturbance the Essential Cause.*

The lecturer submitted that there were many clinical features of epilepsy which strongly supported a metabolic disturbance as the essential cause of the condition.

(1) The very common incidence in early infancy, when the personal metabolism might not be strongly organized, nor the developing brain highly stable, and the important influence which so definite a metabolic disorder as rickets might have in determining the incidence of epilepsy; also the incidence at the time of puberty, when important metabolic changes might be presumed to occur, and again a small incidence in the degenerative period of life, when

metabolic regulation might be failing. The periodicity of epilepsy also might be most reasonably explained on the grounds of a metabolic dyscrasia.

(2) The usual immunity of the epileptic woman from attacks during pregnancy, a fact only to be explained on the basis of the correction of a faulty metabolism in the mother by that of her foetus. On the other hand, epilepsy might occur only during pregnancy; this form probably belonged to the class of eclampsias due to anaphylaxis from foetal products.

(3) Status epilepticus, for which, in the lecturer's view, the only explanation was on the grounds of an acute autotoxic process. The condition closely resembled experimental convulsions from the exhibition of convulsant poisons.

(4) The immunity of the habitual epileptic from many common diseases—an immunity which he showed in common with the subjects of infantilism, idiocy, or cerebral diplegia, and which favoured the argument that in the epileptic subject metabolic perversion was a fundamentally important factor.

*Organic Epilepsy.*

The occurrence of epilepsy in connexion with every conceivable variety of local disease of the cerebral hemispheres was a difficulty in the conception of a fundamental factor for epilepsy in a disordered metabolic state. The idea of organic epilepsy as something quite apart from idiopathic epilepsy, with a different clinical aspect and etiology, had impeded progress in the knowledge of epilepsy, for there was really no difference whatsoever between the clinical manifestations of epilepsy resulting from organic disease of the nervous system and those of idiopathic epilepsy. The lecturer had himself observed every known feature characteristic of idiopathic epilepsy in cases of organic disease of the brain. He had seen every conceivable variety of local attack, both sensory and motor, occur in idiopathic epilepsy, and he was in the habit of teaching, perhaps too dogmatically, that the commonest cause of Jacksonian epilepsy was idiopathic epilepsy, but that actually was his individual experience.

There was no lesion of the brain that would certainly produce epilepsy, whatever its nature or position; on the other hand, there was hardly a lesion of the brain of any nature which had not produced epilepsy. Obviously, therefore, it was not the lesion of the brain alone which was responsible for the condition. There must be some other factor which, together with the brain lesion, could produce epilepsy. This second factor had been widely sought in many directions, but the lecturer submitted that it was in reality the same disorder of metabolism which he had already put forward as the fundamental cause of idiopathic epilepsy, but existing in minor degree, so that there were no spontaneous outbursts until the local lesion of the brain was added.

He went on to describe the experimental work of Dandy and Elman at the Johns Hopkins Institute at Baltimore, which gave some support to his idea of the unity in cause of idiopathic epilepsy, organic epilepsy, and symptomatic epilepsy. These experimentalists had shown that a local lesion of the brain, not in itself epileptogenic, could in junction with a disturbing agent in the general body circulation, again not in sufficient dose to be epileptogenic, produce both local and general epilepsy. That was the proposition, said the lecturer, which he had already advanced as a possible explanation of epilepsy as occurring from local disease of the brain.

In conclusion, he spoke of those happenings usually called convulsions, with which were found on occasion—he would not say commonly—most, if not all, of the clinical phenomena which characterized epilepsy, the clinical picture *qua* epileptic manifestations being sometimes indistinguishable from epilepsy proper. He submitted that since the train of phenomena resembling those of epilepsy was well known to occur from disordered nutritional states, from interference with important organs of metabolism, and from infections and intoxications, all of which were productive of metabolic dyscrasia, it was a fair argument that all epilepsy might be similarly caused, and that symptomatic convulsions and other epilepsy-like manifestations should be included in the epilepsy description.



## ASSOCIATED MALADIES.

In his second lecture Dr. Collier dealt with several separately described diseases which had a close affinity with epilepsy—perhaps in clinical association, or with parallel manifestations, or arising under the same circumstances. These conditions were migraine, pyknolepsy, narcolepsy, vaso-vagal attacks, syncopal attacks, and tetany. Migraine, narcolepsy, and tetany were well known to occur, as did epilepsy, from local lesions of the brain, and there seemed to be very good grounds for including all these maladies in the same clinical and pathological group with epilepsy, of which some of them might be only varieties.

Migraine was sometimes personal, but often hereditary and familial. Its symptoms might be usefully divided into two groups: (1) that of the hallucinations, paralyses, and mental states; (2) that of the headache and vomiting. He maintained that a state of lowered blood pressure was always present with both groups. The symptoms of the first group almost exactly resembled those which occurred in epilepsy, except that they were so tardy in onset and lasted for such a long time, and that the migrainous attack was never associated with convulsion. The symptoms of the second group corresponded in a less degree with the headache, vomiting, and vestibular disorientation which often followed the epileptic attack. In both migraine and epilepsy they seemed to be the result of rapid increase of intracranial pressure from actual swelling of the brain. It seemed quite clear that the two groups of symptoms in migraine resulted from two distinct processes—the first from some process nearly identical with that occurring in epilepsy, the second from local brain-swelling. The two processes might coincide, producing the fully symptomatic attack of migraine, but much more commonly the second process occurred alone, so that migraine was best defined as paroxysmal headache.

After discussing other relations between the two conditions, the lecturer submitted that migraine might be considered as a protracted form of local epilepsy, having its seat of origin most often, but not always, in the posterior regions of the brain, and having the special association of swelling of the brain which gave rise to the conspicuous headache and vomiting.

## The Parallelism with Narcolepsy.

In the remarkable condition of narcolepsy two quite different kinds of attack occurred. One was the sudden onset of apparently normal sleep, the other was the "cataplectic" attack, as it had been termed by Dr. Adie, produced always from a sudden emotion, most often of the pleasurable kind. There was no fundamental distinction between these two varieties of attack. The sudden attacks of sleep, usually without cause, might occur upon any emotion; the cataplectic attacks might occur spontaneously; and blends were met with in which cataplexy and sleep occurred together. It would appear that both kinds of attacks had their basis in a normal event, and that in narcolepsy there was no qualitative change in the reaction of the human being to his surroundings, but rather an exaggeration or misplacement of events of the normal state. Dr. Adie considered that the malady was a functional disorder of the nervous system, primarily of an endocrine disturbance of the nucleus hypophyseus and adjacent centres of the mid-brain.

The parallelism between many of the signs of narcolepsy and those of epilepsy was striking, and it was also noteworthy that there had been authoritatively advanced as the pathological explanation of narcolepsy a metabolic disorder peculiar to the individual and, alternatively, a local lesion of the nervous system. Collectively both these conditions might be given as the pathological explanation, and that was the same pathology as he was submitting as the explanation of epilepsy.

The arguments urged against the relation of narcolepsy with epilepsy were not very strong. When Dr. Adie stated his determination that the two conditions were not the same because in narcolepsy some of the attacks were reactive, whereas in epilepsy the attacks were never reactive, the lecturer had frankly to object that it had been laid down by great authorities, including Gowers, that the most frequent of all the tangible excitants of

the epileptic fit was fright, and that he had seen many examples of this. Moreover, he did not see why the multitudinous records of reflex epilepsy from almost every possible form of stimulus—like psychic, special sensory, and sensory, and occurring indiscriminately in idiopathic epilepsy, organic epilepsy, and symptomatic epilepsy—should be excluded from the class of attacks which were known as "reactive." It would seem, therefore, that narcolepsy was usually a malady *per se*, but that it was closely parallel with epilepsy in its manifestations; that it had a similar pathology in a metabolic dyscrasia and in local lesions of the nervous system, but that in some cases the nature of the metabolic change was such as to produce a coincidence of the two diseases in the same patient.

## Pyknolepsy and Vaso-vagal Attacks.

Pyknolepsy was a type separated from among the various forms of epilepsy by Friedmann in 1906 as worthy of separate description. The attack was said to be always an inhibition of the higher psychological processes lasting from five to ten seconds; the power of speech and of voluntary movement was in abeyance, but the automatic movements were retained. The lecturer argued that the contention that pyknolepsy was a disease *sui generis* fell to the ground utterly; it was, in fact, simply a variety of epilepsy. The variation in the nature of the metabolic disturbance which underlay epilepsy was responsible for the type and the constancy of the phenomena which resulted.

Vaso-vagal attacks—called *vasal* because of the conspicuous pallor of the surface and coldness of the extremities, and *ragal* because of the common occurrence of epigastric and cardiac discomfort and respiratory restriction—made up a definite syndrome which had an important bearing upon epilepsy and related conditions. He was convinced, as the result of many observations, that the pallor at the commencement of the epileptic attack and that seen in the vaso-vagal attack, the attack of migraine, and in the syncopal attack, were all due to the same cause—namely, a general fall in blood pressure. In the vaso-vagal attack there was plenty of time to determine this fall accurately. He had seen many patients with vaso-vagal attacks, and he gave details of a case in which he had observed the attack from start to finish on at least twenty occasions. But vaso-vagal attacks were not epileptic, though, like those of migraine and narcolepsy, they might mix clinically with epilepsy and were amenable to the same medicinal treatment. It would be well to follow Gowers and class them as distinct, but belonging to the same clinical and pathological group.

## Syncopal Attacks.

The lecturer had often wondered why fainting attacks had been so stringently separated as having no association with epilepsy; he supposed it was because the lowering of blood pressure was slow and prolonged enough to be so obvious, and because the syncopal attack appeared so often as an affective reaction to some very definite though often trivial cause. He held very strongly that the syncopal attack was not an epileptic attack, but that it was a phenomenon of the same order and dependent upon a similar pathology, and should be classified in the same group with epilepsy, migraine, narcolepsy, and vaso-vagal attacks. It seemed to him that the otherwise healthy people who were subject to syncopal attacks had a personal metabolic peculiarity not far removed from that which he had suggested as the underlying factor in epilepsy and the other conditions just mentioned. The fall of blood pressure so conspicuous in the syncopal attack was an essential element in all the others.

After dealing with the occurrence of convulsion in syncopal attacks, the lecturer closed with a few words on the association of epileptic manifestations with those of tetany. Tetany was certainly the result of metabolic disturbance, for it could be produced by calcium deprivation and by parathyroid extirpation, and removed thereafter by calcium administration and parathyroid feeding. In rare instances it might appear as the result of a local lesion of the brain, and a few cases were recorded in which both epilepsy and tetany so resulted. The sudden onset of general tetany was usually associated with sudden loss of consciousness, as was the general epileptic attack.



## CLINICAL FEATURES OF EPILEPSY.

In his third and concluding lecture Dr. Collier called attention to some of the clinical features of epilepsy which had a bearing upon the argument he had advanced as to the cause of the disease. Mental deterioration, though commonly met with in epilepsy, was no necessary associate of the disease. The highest mental attainments had long been known to accompany a recurring epilepsy of life-long duration. Nor did mental failure seem to have any relation either to the severity or the frequency of the epileptic attacks, and progressive mental degeneration was met with in patients in whom the attacks were neither severe nor frequent, and was absent in patients who suffered such attacks. Mental deterioration might precede the epileptic manifestations by months or years. It was certainly not caused by the occurrence of fits. In those cases which presented mental deterioration there was another factor at work besides that which produced epilepsy, and in arguing that this was a metabolic disorder it was easy to add a further such disorder, similar to the hypothetical cause of dementia praecox, in order to account for the association of mental deterioration with epilepsy in some cases.

The lecturer supported Muskens in his recent opinion that myoclonus-epilepsy was not a blend of two diseases, but that myoclonus was a characteristic manifestation of epilepsy and simply an exaggeration of jactitation, which was a common phenomenon of epilepsy. Simple paralysis was one of the essential epileptic manifestations, not dependent upon, nor in train of, any other epileptic incident; it might be the sole manifestation of an epileptic attack, just as the paralysis of migraine usually was the sole manifestation of the migrainous attack in which it occurred. He went on to describe in close detail a case which illustrated the nature of epileptic paralysis, and drew attention to the amazing effect which a strong psychic disturbance had upon even an organic epilepsy, changing the type of the attack from an infrequent and general attack to a very frequent and local one. With regard to the lowering of blood pressure, he had argued that this was a characteristic manifestation of the attacks of epilepsy and of the allied maladies referred to in his second lecture. He would not place lowering of blood pressure as the immediate cause of the epileptic attack, nor of any of the epileptic manifestations, except the blanching of the brain and the skin—though this might in truth be the real relation—but he thought it a common manifestation of the commencement of the epileptic attacks, and he wished to bring epilepsy into line with the other epileptiform maladies in which such lowering of blood pressure did occur.

*The Epileptic Processes.*

The site of origin of epilepsy seemed definitely confined to the cortex of the cerebral hemispheres; every local lesion productive of epilepsy which he had seen had been in or near the convolutions, or had been in such a position as to allow of some secondary process affecting the convolutions. Some authorities, however, held that epileptic attacks might originate from subcortical centres. They maintained their arguments rather from the standpoint that the symptoms of tonic fits were such as they would expect to result from disturbance of function in the basal ganglia, because these showed in some degree the same kind of rigidity as did basal ganglia lesions. This was very debatable ground. No one would deny that in lethargic encephalitis the strangest varieties of paroxysmal phenomena often appeared, and this disease affected the basal ganglia in particular. The lecturer drew attention at this point to the newly described symptom of epilepsy—given by Knapp—which was held to have its origin in the putamen and optic thalamus. The case described by Knapp was of the usual type of general epilepsy in a child, with fits increasingly frequent, speech slow and difficult, limbs and trunk rigid, with perversity and slow spontaneous movements, facial grimacing, and emotional overactivity. The picture came to resemble exactly that of the malady which Gowers called "tetanoid chorea," and which Wilson had now named "hepato-lenticular degeneration," in which there were conspicuous lesions in the

lenticular nucleus. The lecturer described a characteristic case of Knapp's syndrome which was recently under his care; it convincingly indicated the truth of Knapp's picture, and left it open whether the cortex or the basal ganglia was primarily at fault. There was nothing in the nature of the fits in this case to suggest anything but a cortical origin. They were local tonic-clonic fits without loss of consciousness, they could be arrested by strong voluntary effort, and they could be produced reflexly.

*Loss of Function and Release Phenomena.*

Loss of function was the most commonly occurring feature in all epileptic symptoms. So far as the highest functions of the nervous system, commonly referred to the cerebral cortex, were concerned, the phenomena of epilepsy were, with one exception, unvaryingly those of loss of function. The whole train of positive phenomena did not seem to belong to the highest levels of the nervous system, except in the occurrence of the "dreamy state" and of highly organized hallucinations of hearing and vision. The opinion was widely held nowadays that the essential element in the epileptic attack was a sudden loss of function, local or general, in the higher levels of the nervous system, and that all positive phenomena which occurred, such as hallucinations and convulsions, were of the nature of "release" phenomena in lower centres. This, which was known as Hartenberg's theory, seemed to be the best working hypothesis for the explanation of epilepsy, though its terms "inhibition" and "release phenomena" seemed inadequate physiological words appended to very obvious things, of the real nature of which almost nothing was known at present. The lecturer suggested here that if the theory of "release" was correct, some of the release phenomena, which he instanced, must be of the negative order.

*The Treatment of Epilepsy.*

The lecturer concluded with a few remarks on treatment. The less the life of the epileptic patient departed from that of the normal person the better would be the result of medicinal treatment, and the more hopeful the outlook. In every case of epilepsy where it was possible education, occupation, and recreation should continue without any restriction. Since the introduction of the malonyl-urea compounds for the treatment of epilepsy their very great value had gained universal acceptance, and luminal, which might be taken as a type of them, had largely supplanted the bromides. It had much the same effect as they had, and did not cause acne or dyspeptic symptoms, but there seemed still to be some cases which did better on bromides. Whichever drug was used, there appeared to be no advantage in administering it more than twice a day, or in employing any but moderate doses. The whole purpose of these remedies seemed to be to anticipate and prevent the fit; it therefore appeared useless to give these drugs for the treatment of nocturnal epilepsy except in single doses at night, or for diurnal epilepsy except in a single dose in the morning, or for epilepsy that occurred both by day and by night in doses both night and morning. Inasmuch as the attacks appeared at regular times, and could be aborted one hour previously by a dose of the remedy, the epilepsy could be the more successfully treated. The only other remedies which really influenced epilepsy were zinc salts and belladonna.

Status epilepticus, however, was completely resistant to the remedies just mentioned. In that condition there was the utmost necessity to preserve the bodily nutrition and strength by careful use of food, fluids, and stimulants administered from the first by the nasal tube. Any remedy which had a depressant effect, such as luminal or bromides, did more harm than good. Paraldehyde, first used by Dr. Arnold Carmichael at the National Hospital, was of signal value in the treatment of status epilepticus. It could be given in large doses, up to 8 drachms, without ill effect, and was readily absorbable from the rectum when mixed with an equal quantity of olive oil. The lecturer said that with this remedy he had saved many patients in status epilepticus when their condition was so desperate as to make him believe that without it they must have died. He recommended the use of paraldehyde in any epilepsy in which convulsive attacks were frequent.

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## THE SPREAD OF MEASLES.

In the present-day immunological epoch in the history of medicine, when so many diseases have yielded the secret of their origin, and at the same time disclosed their antidote, it is matter for regret that one of the commonest infections, and one which contributes in a substantial degree to the mortality of the country, should to such an extent have baffled inquiry as to be accepted meanwhile by public health administrators as an inevitable evil. Despite the progress of sanitation and the general improvement in ways of living, measles continues in populous communities to prevail in repeated outbreaks which ultimately outstrip every effort at control, though their case mortality in recent years has happily been reduced by the growing practice of removing selected children to hospital with the object of preventing fatal complications. The solution of the problem of measles is still in early stages, and every effective contribution to an understanding of the circumstances under which the virus passes from person to person is of interest and value.

A study by Dr. James L. Halliday of the Public Health Department of Glasgow,<sup>1</sup> which deals with the occurrence of measles among young working-class children in the city during portions of 1925-26, throws light on the part which may be played by the style of housing on the spread of this disease. In the working-class quarters of Glasgow the people are housed on the tenement system, each house, usually of three or four stories, being divided up into tenements of several apartments, arranged in flats and joined by a stairway which is the common playground of the children. In Scotland the house is called a tenement and the tenement a house. The words are here used in their English senses. In one house of four stories with fifteen tenements, as the author recounts, among ten children under the age of 10 who had never had measles nine developed the disease. The infection was introduced by one school child, who infected all the others. In another house of four stories with twenty-nine tenements, twenty-six of which opened on two common stairs, while three had front doors opening on the street, among twenty-two children under 10 who had not had measles fourteen took the disease. Four of the fourteen were school children, and ten were under school age. All the three houses with front doors of their own escaped invasion. In a short cul-de-sac of seven four-story houses, including 108 tenements in all, among eighty-eight children under 10 who had not had measles forty developed the disease. Of the forty cases nine were primary; the rest were mainly infected on the stairs. In some instances the disease was introduced from schools, in others the source was not discovered; but in all three places, once measles was brought in, its chief propagation was not in the line of the family, but among the children leading the community life on the close or common stair. These structures are inseparable from

the tenement style of dwelling in the older quarters of Glasgow, which thus lies open to the charge of favouring the spread of measles.

As regards the cul-de-sac referred to, Dr. Halliday pertinently comments upon the fact that, though eighty-eight children were exposed to risk, only forty were seized, and suggests as an explanation that the forty-eight who escaped had been immunized by receiving from time to time subinfective doses of the floating virus diffused about their neighbourhood. We think this view correct. It accords with Dudley's theory of the velocity of infection, under which infective charges which fail to infect, though they wither away, yet leave their host enriched with protective antibodies. It fits in, too, with the experience of Glasgow in the measles outbreak of the winter of 1907-8—one of the largest recorded in the city—when it was shown by J. Brownlee that at the close of the epidemic all liable to attack had not been infected, since children of susceptible ages who had not had measles repeatedly came under his notice during the ensuing summer on their admission to the Glasgow fever hospitals with other infectious diseases. They were regarded then as susceptibles who had escaped; we should think of them now rather as immunes who had resisted, having been immunized by exposure to subinfective doses of infection during the course of the outbreak.

The part played by the house which is composed of tenements, as contrasted with the house which has its own front door, in producing a higher incidence of measles at the younger ages of childhood is well brought out by the figures submitted. The incidence of measles among Glasgow children under the age of 5 years was five times as great in houses composed of tenements as in new subsidized houses erected in blocks in housing scheme areas. The percentage of school children between 5 and 6 years of age who had not had measles was in tenement areas 40 and in a housing scheme area 67. The age incidence of measles at every age up to 5 was higher in industrial and poor districts consisting entirely of houses composed of tenements than in residential districts where such houses were few. These relations have a sinister significance because of the disproportionate risk of death at the younger ages. The case mortality of measles in Glasgow in the first year of life, according to figures quoted in this study, was sixty times as great as at ages 5 to 10. For Aberdeen, Renfrewshire, and Birmingham in order the corresponding figures are 25, 21, and 24—similar, though not so high.

The author of this report attributes to the houses composed of tenements which he has dealt with, and to houses of a similar type, a definite responsibility for favouring the spread of measles at early ages, when the risk of death is greatest. The self-contained house, for the safeguarding of young children from measles, is better than the house composed of tenements. All tenement houses, however, are not essentially bad. A root-and-branch policy is not called for, and tenement buildings in Scotland, of modest height, with wide well-lit passages and spacious airy staircases, may yet have a useful part to play in the hygienic scheme of things. Be that as it may, measles meanwhile remains, regulating itself by its own laws and determining the period of its recurrent outbursts by the number of immunes which it has itself created. The immunity believed to be produced by subinfective doses is short-lived; that which follows a survived attack is usually lifelong. Each successive epidemic adds an appreciable quota to the total number of immunes in the population, and protects our country,

<sup>1</sup> An Inquiry into the Relationship between Housing Conditions and the Incidence and Fatality of Measles. By James L. Halliday, M.D., D.P.H. Medical Research Council Special Report Series No. 120. London: H.M. Stationery Office. 1928. 1s. net.

from such widespread visitations as fell upon Faroe in 1846, when measles was introduced from Copenhagen, or on the Fiji Islands in 1874, when the chief brought the disease with him from Sydney.

### DIAGNOSTIC VALUE OF PAIN.

THROUGHOUT the ages pain has been looked upon almost wholly as an evil thing. Poets, indeed, have sometimes sung of it with picturesque imagery, and fanatics have inflicted it upon themselves in the hope of acquiring merit or of purging themselves of sin; but by the great mass of mankind pain has ever been regarded as an evil to be got rid of if this be possible, and, if not, to be borne with fortitude. In an age of self-medication this attitude towards pain has become intensified, and if we could put the clock back some thirty years a great many people would probably be much less inconvenienced by the fact that they would find no toxicans on the streets than by their inability to buy a bottle of aspirin from the chemist. Yet it seems clear that, if the matter is looked at philosophically and in its widest aspect, pain is in truth a blessing, and that, as Richet said, it is a fundamental factor in human progress. We need not here discuss it in its biological aspect, or go deeply into its nature, in Sir Charles Sherrington's definition, as a psychical adjunct to a protection reflex; but, looking at it within the narrow limits of clinical medicine, with which we are more particularly concerned, pain is presented to us as a sign and a warning, to be accepted with gratitude rather than endured with curses. Many a weary hour of anguish might be saved if the medical attendant could but assess correctly the meaning of a pain; and how different would be the outlook for many a patient with cancer if only the very onset of the disease were marked by the agonizing pain of angina instead of the phantom twinge that passes as a stitch!

The importance of the careful investigation of pain as a guide in diagnosis was brought prominently forward more than sixty years ago by John Hilton in his classical lectures at Guy's Hospital on *Rest and Pain*; and although the seed that he then sowed has borne abundant fruit—tended and nurtured as it has been by the patient and penetrating observations of later investigators, notably by Ross, James Mackenzie, and Head in this country—we are still impelled far too often, either by ignorance or by lack of skilful observation, to fall back on some such explanation as "rheumatism"—now, as in Hilton's day, "our favourite phantom." If progress has been slow, this is in no way due to forgetfulness in the famous school where Hilton taught, as the clinical teaching of Jacobson, the researches of Hurst, and the biological musings of Professor Pembrey have borne eloquent witness. Following in the same tradition, Dr. J. A. Ryle draws further attention, in an address which we publish to-day, to the diagnostic value of pain and the need for a more extended and intimate clinical study thereof. In this paper Dr. Ryle confines himself, for the most part, to visceral pain, but much of what he says is equally applicable to the subject as a whole; and in relating the results of his own experience and the methods with which he sets about his observations, he has much to say that should prove a help and an encouragement to others. Hilton himself laid chief stress on what he called sympathetic pain, which was practically the same thing as the "referred" or "somatic" pain of later writers, and he related many cases in which the patient refused

to accept a diagnosis that placed the origin of the pain somewhere else than at the site where it was felt; but he was far from neglecting the information to be gained by careful observation of the patient's own sensations. The important help that may be given by the sufferer's own spontaneous gesture in describing the pain is sometimes brushed rather brusquely aside by the over-zealous possessor of the latest gadget for testing skin sensation, but it is given a prominent place by Dr. Ryle, whose vivid description of the various gestures brings to mind the old Latin proverb, *Ubi dolor, ibi digitus*.

The reasons for our inability to grasp the commonest of all symptoms, and to make it the centre point in diagnosis, are only too clear. Pain is elusive, here at one moment and gone the next, and (fortunately for us) so completely forgotten, except for the fact of its occurrence, that we often have no words with which to describe it. Then, again, there are no means of measuring its intensity or of comparing pain in different subjects. What is an agony to one may be borne with comparative indifference by another—or so we say, and who shall judge the truth? Nor is pain easy to "place," and even if it can be located we know that it may be due to some far distant lesion. Authority, too, will sometimes fail us, for disease changes its ground and pain shifts with it, so that new sources of pain are constantly being added, to be confounded with those we were beginning to understand. But above all others looms the difficulty of distinguishing the pain of organic disease from functional pain. Bichat's advice to feel the pulse may be of service on those rare occasions when the patient is seen during an attack, but for the most part the observer must rely on his own unaided judgement, which may too often be at fault. Dr. Ryle suggests that the astuteness of our forebears in judging of these things—their clinical acumen—may be in danger of being lost through too great a reliance on laboratory methods, and many a good judge will agree with him; but it is open to the other side to suggest that the absence of any laboratory method in the clinical investigation of pain is, at least in part, the explanation of our lack of working knowledge. All will, at any rate, agree that it is undesirable and unnecessary to await such developments before undertaking the more intimate clinical study for which Dr. Ryle pleads.

### MEDICAL CO-EDUCATION IN LONDON.

THE question of medical co-education in London has been raised with some prominence lately in the public press, following an announcement that three of the metropolitan medical schools, which during and since the war have admitted women students to their courses under temporary arrangements, have now resolved to take men only in the future. The schools in question are those attached to Charing Cross, King's College, and the Westminster Hospitals, and in this decision they are following the course already pursued at the London Hospital and at St. Mary's and St. George's. At University College Hospital the number of women students is limited to a small figure, while the medical schools of St. Bartholomew's, Guy's, St. Thomas's, and the Middlesex Hospitals have hitherto opened their doors to men only. The effect of the recent decision would therefore be to confine the medical education of women in the metropolis to the London (Royal Free Hospital) School of Medicine for Women and, with strict limitation in respect of numbers, to University College Hospital Medical School. Thus to all intents London would revert in a few years' time to the position it held before

the war as the only great teaching centre in these islands without facilities for medical co-education. It would have been strange if this had come to pass without some public protest, or at least without a strong plea for careful inquiry. The obvious body to move in the matter is the University of London, of which all the metropolitan medical schools are constituent colleges, and no time has been lost in starting the academic machinery. At a meeting of the Senate on March 21st a motion was brought forward by Mr. Walter G. Spencer and Dr. E. Graham Little, M.P., calling for an inquiry into the position that has now arisen, and the Senate, after discussion, appointed a committee to consider the question of the medical education of women undergraduates of the University. The committee consists of Sir William Beveridge, Vice-Chancellor of the University; Professor S. L. Loney, Chairman of Convocation; Dr. L. N. G. Filon, Chairman of the Academic Council; Dr. Graham Little, Chairman of the External Council; Sir Holburt Waring, F.R.C.S., Chairman of the Finance Committee; Mr. Walter Spencer, F.R.C.S.; the Rev. Dr. W. R. Matthews, Dean of King's College; Mr. W. R. Halliday, Principal of King's College; Sir Andrew Taylor, Chairman of the Managing Committee of University College; Miss Ethel Strudwick, Principal of St. Paul's School for Girls; and Miss Margaret Tuke, Principal of the Bedford College for Women. It is by no means a simple problem that has been set before this committee. Besides the large matters of principle involved, such as the autonomy of the several medical schools, there are questions of ways and means and of supply and demand to be gone into. We must not attempt to prejudge an issue that has already been a little confused by special pleading, but we may at least express the hope that when the matter has been studied in all its bearings a working solution may emerge which will be fair and just to the medical schools of London and in the best interests of medicine.

#### GERMAN LEGISLATION AGAINST VENEREAL DISEASE.

DURING the course of last year a law dealing with venereal disease was enacted in Germany, where a campaign for reform, chequered by many incidents and reverses, had been carried on for more than twenty years. The story of this campaign and of its successful conclusion in 1927 is told by Dr. Roeschmann in the *World's Health* for March. The German Association for Combating Venereal Disease was founded in 1902. In the following year it secured the withdrawal of the restrictions on the treatment of venereal disease out of sickness insurance funds, and the patients became entitled to free medical treatment and sickness benefit. The association soon found that the campaign against venereal disease had small chance of success without suitable legislation; that existing when the association was founded was in some respects mischievous. To understand the difficulties with which the association had to deal it is necessary to turn back to the law of 1869, according to which the "free practice of healing" was legalized. This meant that any person could set up as a healer without having passed an examination to prove his professional capacity. Unqualified healers were thus able to work endless mischief among patients suffering from venereal disease. In 1913 the association took the initiative in calling a commission of experts to draft a new law, but its discussions were interrupted by the outbreak of war. They were resumed in 1916, and a bill was laid before the Reichstag a year later; it would probably have become law if this body had not been dissolved after the revolution. By this time, however, the great importance of this matter to public health had been recognized, and the Government of the period decided to enforce several of the proposed measures by an emergency decree dated December 11th, 1918. This decree was found to be inadequate, and

in 1922 the Ministry of the Interior submitted another bill to the Reichstag, which passed it the following year after a prolonged and complicated debate. On the instigation of the unqualified healers a clause was inserted permitting not only fully qualified physicians to treat venereal disease, but also other persons if they worked under medical supervision. This was simply a licence for "covering"; unqualified healers would only have to find a doctor willing to assume responsibility for their "cures," and in large towns one doctor could have lent his name to several unqualified healers. The Reichstag, which must pass every law before it comes into force, recognized the danger of this clause, and vetoed the bill. In 1925 the bill was again laid before the Reichstag, after it had been redrafted so as to prohibit treatment by the unqualified healers; they did their best to defeat the measure, but it was passed by the Reichstag in January, 1927, and the Reichstag approved it in the following month. The federal character of the German constitution requires that the legislation of the Reich shall lay down only general directions, details of administration being left to the several States. The law in question, therefore, dispenses with coercive measures as much as possible, merely requiring the patient to submit to treatment by a medical practitioner qualified to practise in Germany. It does not provide any penalty for the patient who does not immediately fulfil this requirement, since such a penalty might prevent a patient guilty of violating the law from seeking medical advice at a later date. It is incumbent on every doctor treating venereal disease to inform his patient of its character, of the danger of infection, and of the penalties for transmitting it. If a patient discontinues treatment prematurely, the doctor in charge first asks him to resume treatment, and, in the event of refusal, reports the case either to one of the venereal disease dispensaries organized by the national insurance societies, or to the health authorities, who in their turn summon the patient to resume treatment. The summons is in both cases of the nature of a reminder, and contains no threat; only when the patient refuses to answer the summons of the health authorities may coercive measures be taken, involving compulsory treatment and even a sojourn in hospital if this is found necessary to prevent infection. Treatment involving serious risks may not, however, be enforced without the patient's consent, and he may choose his own doctor. The treatment of venereal disease by unqualified persons is explicitly forbidden; so is all treatment by correspondence, as well as self-treatment based on lectures and leaflets. The violation of this law is punished not only by fines, but also, and primarily, by imprisonment. The law contains special provisions for the protection of infants and wet-nurses. Under penalty of imprisonment or fine it forbids a woman suffering from venereal disease to suckle any infant but her own. Penalties are provided for the wet-nurse who practises her profession without an up-to-date certificate stating that she is free from demonstrable venereal disease. There are also penalties for persons engaging a wet-nurse unprovided with such a certificate. Similarly, a syphilitic infant may not be suckled except by the mother unless the person in question is herself already infected; nor can an infant suffering from venereal disease be put in charge of foster-parents unless they are informed of this fact. The Government reserves the right to prohibit the sale of prophylactics until they have been examined and approved by the health authorities; this clause has put an end to the flooding of the market with worthless productions. The supervision of prostitution is materially modified by the new law, which dispenses with compulsory measures as far as possible. Police supervision is abolished, and the maintenance of brothels is forbidden. Persons providing lodgings for women over the age of 18 will not be prosecuted for pandering unless it can be proved that the

lodge has been exploited, encouraged, or forced to engage in prostitution. The medical supervision of persons suspected of being capable of spreading the disease is, however, maintained. The medical authorities may require those suspected of spreading infection to present a medical certificate or to submit to a medical examination. In the past women alone were obliged to submit to medical examination and supervision; henceforth men also are subject to the same measures under certain conditions. The supervision of women is not confined to the comparatively few persons registered by the police, but is also extended to the clandestine prostitute. It is hoped that by these means it will be possible to stamp out centres of infection more effectively than hitherto. The problem of professional secrecy is dealt with in such a way that doctors are held to be free to report infected persons to the health authorities. But, as already pointed out, it is only a patient who refuses treatment who is subject to coercive measures. Generally speaking, responsibility has shifted from the police to the medical profession, although the police have not been wholly excluded from the field; they will continue to deal with persons soliciting in the streets or committing other offences against public decency.

#### FAMILIAL HYPERTROPHIC PYLORIC STENOSIS.

The exact etiology of the so-called congenital hypertrophic stenosis of the pylorus is still a matter in dispute, but the occurrence of familial cases strongly suggests that it is not an acquired, almost accidental, characteristic. Evidence as to its familial incidence has been collected by E. J. Caulfield in America, who reported one family described by Finkelstein in which four children were affected. At a meeting of the Section for the Study of Disease in Children of the Royal Society of Medicine, held on March 23rd, Drs. E. A. Cockayne, A. Moncrieff, and W. P. H. Sheldon demonstrated some striking examples of the familial incidence of this malady. They described uniovular twins, under the care of Dr. R. Hutchison, in whom hypertrophic stenosis of the pylorus had been diagnosed and confirmed at operation in each case. These twins had been both born by a vertex presentation, with one placenta, one chorion, and two amniotic sacs. The only other child in the family was 12 months old and healthy. One twin began to vomit at 3 weeks old, and the other at a month old; both were brought to hospital within a week of the beginning of the vomiting, and Rammstedt's operation was performed in each case. The other family shown at this meeting consisted of five children; the oldest, a girl, was healthy, and the youngest, a boy aged 4 years, had shown no manifestations of the disease. Of the remaining three boys two had been successfully operated upon in early infancy for congenital pyloric stenosis, and in each the condition was definitely confirmed at operation. The other boy had suffered from projectile vomiting beginning on the twelfth day of life, but no other definite evidence of pyloric stenosis had been obtained, and the vomiting had stopped soon after admission to hospital. Here, therefore, in a family of five children, there existed one possible and two certain cases of pyloric stenosis. A. C. Strachauer<sup>1</sup> has recently stated that the condition has been found in a seven-months foetus and in the stillborn, and this indicates very strongly that it is a developmental error. Dr. Cockayne was of the opinion that pyloric stenosis is probably inherited as a Mendelian recessive, but this cannot be proved unless, in addition to the familial incidence, the condition is found to occur more often in the families of parents related by blood than chance intermarriage would account for. It is possible, too, that as children successfully operated upon since the introduction of Rammstedt's operation grow up, a better chance of observing the hereditary nature of the disease may be afforded, since

a characteristic operation scar dating from early infancy will be better evidence than at present offered by even the most definite history of characteristic vomiting cured by medical means in either of the parents of a pyloric baby. In the meantime, the recording of familial cases gives strong support to the theory of congenital abnormality as the cause of the condition.

#### SEASONAL VARIATIONS IN DISEASE.

IF "Nature hates calculators," as Emerson said, what must her feelings be towards a medical paper which includes nearly two hundred statistical curves? The paper read by Dr. C. O. Stallybrass of Liverpool to the Section of Epidemiology of the Royal Society of Medicine on March 23rd, was thus accompanied, and his subject—the seasonal variations of diseases—could scarcely have been explored with greater pains. He had even worked out curves for diseases, not commonly thought of as seasonal—for example, curves based on returns for cities as far apart as those of Scotland and of Sweden, showing gonorrhoea to be an autumn disease, and primary syphilis a winter disease with its peak in January. His main argument was that seasonal variations in disease, like the spread of infective diseases generally, depend upon three primary factors—the presence of micro-organisms, the mode of transmission, and the susceptibility of the tissues. All other factors, in this relation largely climatic, could act, said Dr. Stallybrass, only through these primary factors, and therefore were secondary. They included temperature, relative and absolute humidity, rainfall, wind, sunshine, barometric pressure, and perhaps atmospheric electricity; and, in addition, there were certain influences arising out of the effect of the season upon human activities, such as school holidays, indoor crowding in winter, annual festivals, and so forth. The paper was largely an attempt to express the effect of variations in the secondary factors in terms of the changes which these produced in the primary factors. To express the total effect of the three primary factors on the spread of infection the author chose—or coined—the term "dispersability." The effect of climatic changes, he said, was often cumulative, and this was most pronounced in the autumnal group of infections, whose seasonal occurrence could not be directly explained by temperature changes. He cited enteric fever as an example of a cumulative effect of atmospheric warmth prolonged even for months after the maximum temperature had been reached. Why should enteric fever differ from cholera, dysentery, and diarrhoea in this respect? The explanation might be that these three diseases had short incubation periods, while enteric fever was long in developing, so that, other things being equal, in enteric the number of foci of infection would be relatively slow in multiplying. An examination of the curves of dispersability showed that while cholera, dysentery, and diarrhoea exhibited single curves with maximums in May–June or June–July, enteric fever, on the other hand, had a double curve of dispersability, with maximums in April–May and in August–September. The difference between enteric and the triad of intestinal diseases just named might perhaps be something more fundamental than mere length of incubation period. The definite rise in enteric in May had been noted by other observers, but its significance had perhaps been overlooked. He had himself noticed that chronic typhoid carriers most often gave rise to other cases in their families in the spring. In throat and streptococcal infections generally it was obviously impossible to account for autumn prevalence in relation to the length of incubation period. An investigation of the curves of dispersability showed that all these presented a double or bimodal curve, with maximums in April–May or May–June, and in August–September or September–October. Carriers of scarlet fever or diphtheria appeared to show increased activity in the spring, more especially in May.

<sup>1</sup> *Annals of Surgery*, 1:27, 167.



The curve of carriers of virulent diphtheria amongst London school children in some recent years showed a double formation, with maximums in May and in October. It was customary to attribute the increased activity of the carriers to the prevalence of catarrhal complaints or colds, but there might be other factors at work. In New York, and he believed in Paris also, both scarlet fever and diphtheria had recently been spring and not autumn diseases. In New York the maximal prevalence of both diseases was in May, although the maximal dispersability was in the late autumn. Dr. Stallybrass went on to say that the effects of temperature upon human susceptibility would appear to be evanescent. The rapid rise of respiratory mortality consequent upon a cold spell soon passed away with the return of milder weather. But might there not be a certain cumulative effect of climate upon susceptibility? The discovery of vitamins which were dependent upon the action of sunlight on plants or animals suggested that a certain climatic influence—namely, deficiency of sunlight or of ultra-violet radiation—might be capable of producing such cumulative effects. But if deficiency of vitamin could reduce the resistance of the host to infection, might there not be an action of vitamin in increasing the activity of the virus? The discussion on the paper called forth two interesting contributions—one by Sir Leonard Rogers, who showed curves of certain diseases in India correlated with temperature and humidity changes, and the other by Professor Major Greenwood, who mentioned that for certain diseases the seasonal variation had become relatively greater. The difference between the seasonal maximum and seasonal minimum in scarlet fever was very much greater during a recent period than it was a quarter of a century ago. If the incidence of infective diseases was due to two factors, one entirely uncontrollable and the other removable, then the smaller this second factor became, said Professor Greenwood, the more obvious and striking would be the seasonal variation. At any rate, the seasonal variation of scarlet fever was tending to be sharper, and the same phenomenon had been noted in America.

#### A CASE OF MISTAKEN SEX.

PHYSICAL hermaphroditism in minor degrees is not very uncommon, and is mainly interesting because of the developmental problems concerned. It is generally detected early in life, and the practical difficulties associated with it are, as a rule, met before puberty. Unusual interest attaches, however, to a case reported lately by Dr. A. J. Wilson,<sup>1</sup> since the age of 30 was reached by a person with marked genital abnormalities without the occurrence of any untoward circumstances due to a male being mistaken for a female; in fact, the true sex was only discovered when advice was sought for pain in the lumbar muscles. Inquiry elicited the fact that this supposed woman had had no menstrual period of any kind, and physical examination revealed very definite male characteristics. The body was lean and muscular, and dark wiry hair covered the limbs and chest; the upper lip and chin resembled those of a dark-haired man who had shaved for several years, which proved to have been the case. The voice was guttural and broken, the pubic hair and breasts were of the masculine type, and the movements were athletic. The scrotum was small, cleft, and not pendulous; it contained two obvious testicles, and a web of skin bound down to the scrotal left a short but thick penis, which had no prepuce, but showed hypospadias, the urethra opening on the lower surface near the corona. A smaller and blind opening was present on the lower surface behind the urethral orifice, presumably the prostatic vesicle or homologous of the uterus. Micturition was performed in the squatting position. Erection of the penis had been experienced, and, during sleep, ejaculation of a whitish fluid. The patient's sexual attraction was

towards women, and the interests were those of a male. There seems to have been some doubt at birth about the sex, but the child was brought up as a girl, and until the age of 30 had shared a sister's bed. There were seven brothers and sisters, all physically normal. As regards treatment we are informed by Dr. Wilson that the sex and name were duly corrected; the patient received operative treatment for the genital malformation, and afterwards went to live in another place.

#### THE ROYAL MEDICAL BENEVOLENT FUND.

THE annual meeting of the Royal Medical Benevolent Fund was held, under the presidency of Sir Thomas Barlow, on March 22nd. The report for the year—the ninety-second—which was presented by Dr. Newton Pitt, stated that during 1927 the applications for relief had numbered 450, and that grants had been made in all but five cases. Among the grantees were 45 doctors (four of them medical women), and 177 widows and 124 daughters of medical men. The persons receiving annuities included 16 medical men, 79 widows, and 86 daughters. Altogether the number of individuals relieved was 623, at a total cost of £13,346, in which sum the working expenses represented less than 10 per cent. The income derived from subscriptions and donations amounted to £7,590, as compared with £7,250 in 1926, and from invested property to £4,857, as compared with £4,718. Among the special donations included in the year's income was £1,000 from Dr. W. Tinker (second donation), £800 from the British Medical Association Charities Committee, and £625 from the Medical Insurance Agency. Grateful acknowledgement was made of the assistance of the British Medical Association in collecting subscriptions from its members—during the past year the sum received through this channel was £1,271, an increase of £130—and in co-operating with the Fund in several cases requiring investigation and assistance. It was stated that during the year, on a vacancy occurring in the secretaryship, Sir Charters Symonds, for many years treasurer of the Fund, voluntarily undertook the work of the secretaryship for six months, partly in order to ascertain whether its volume was such as to require a whole-time or part-time secretary. As a result a part-time secretary had lately been appointed. Sir Thomas Barlow was re-elected as president, Sir Charters Symonds as treasurer, and Dr. Newton Pitt and Mr. R. M. Handfield-Jones as honorary secretaries. Besides the existing vice-presidents, who were re-elected, Mr. F. Belben, Mr. E. W. Hey Groves, Dr. J. J. Perkins, and Dr. A. B. Soltan of Plymouth were called to that office; and in addition to the members of the committee who retired by rotation, and were re-elected, Sir Charles Ballance, Mr. Hugh Lett, Sir George Makins, Sir D'Arcy Power, and Mr. Walter Spencer were invited to join the management. In moving a vote of thanks to the president and officers, Dr. C. O. Hawthorne said how fortunate the Fund was in the men who were at the head of its administration. Its president was revered by the whole profession, the treasurer had given another instance of his devotion to the Fund by his six months of secretarial toil, and Dr. Newton Pitt and Mr. Handfield-Jones were admirable honorary secretaries. Sir Charters Symonds, in reply, said that during his experience as secretary he had learnt more about the necessities of the Fund than he had ever known before. The usual votes of thanks to all the various helpers were carried, and a special vote of thanks to the British Medical Association was moved by Sir Thomas Barlow, who said that not only had the Association given material help, but had given it in a spirit which made it all the more welcome.

We regret to announce the death, on March 25th, of Dr. Hugh Playfair, consulting obstetric and gynaecological surgeon to King's College Hospital, London.

<sup>1</sup> *Clinical Journal*, February 29th, 1928.

## Nova et Vetera.

### THE TUTELARY DEITY OF MEDICINE.

THE CLAIMS OF IMHOTEP.

BY

JAMESON B. HURRY, M.A., M.D.

For many centuries Asklepios has been accepted by the civilized world as the emblematic god of medicine, without any inquiry as to the propriety of conferring this dignity on him. Recent research into the history of medicine, however, has brought rival claimants into the field, and the time has come when their relative merits should be examined with a view to a general consensus being arrived at. Such a broad survey of the gods of medicine of the ancient world as has recently been published by Jayne<sup>1</sup> shows that the various nations of the ancient world have recognized innumerable gods of healing, some with a local, others with a national or even an international reputation. Among the best known may be mentioned Ea of the Babylonians and Assyrians (said to be the earliest deity associated with healing), Dhanvantari of the Hindus, Verethraghna of the Iranians, Eshmun of the Phoenicians, Imhotep of the Egyptians, and Asklepios of the Greeks and Romans.

When, however, the history of these deities is examined, the evidence of their earthly career usually proves to be of the flimsiest description; there is little more than a shadowy tradition, nothing amounting to proof that the reputed god of medicine was actually a man of flesh and blood, still less that he ever practised the healing art. The one exception is that of Imhotep, the famous vizier and magician-physician of the time of Pharaoh Zoser of the Third Dynasty.

Imhotep was born in Ankhtowe, a suburb of Memphis, on the sixteenth day of Epiphi, the third month of the harvest season. The year of his birth is uncertain, but may be assigned to about 3000 B.C., since he was a contemporary of Zoser, whose reign is believed to have begun about 2980 B.C. His father, Kanof, was a distinguished architect; his mother was named Khreduonkh. Imhotep formed part of a long line of architects, there being no fewer than twenty-three named ancestors and descendants in his pedigree who were architects, including his son Rahotep.

This versatile man Imhotep, whose name signifies "he who comes in peace," was renowned as an architect, as a sage, as an astronomer, and as chief lector priest or ritualist. But he was specially distinguished as a magician-physician, and so impressed his contemporaries that after his death he was raised first of all to the rank of medical demigod (circa 2850 B.C.), and finally to that of full deity of medicine (circa 525 B.C.). Temples were erected in his honour at Memphis, Philae, and elsewhere, to which flocked patients from far and near, many of whom returned to their mud hovels on the banks of the Nile full of gratitude for the gift of healing that had been bestowed on them. His worship lasted till about A.D. 550—that is, a few years before the conquest of Egypt by the Moslems.

Thus in Imhotep we have, not a mere mythical creation of the imagination, but a definite and specific personality, of whom many historical details have survived—a beloved physician who ministered to his sick and suffering fellow countrymen, and who has left behind him the memory of a well-spent life devoted to the public weal. The famous Step-Pyramid, familiar to every tourist who ascends the Nile, remains as a striking memorial of his architectural

skill. There also survive many statuettes representing him as a medical demigod, as well as bas-reliefs on temple walls representing him after full apotheosis. The accompanying engraving, which is taken from a wall painting in a temple at Philae,<sup>2</sup> shows him in the stage of full deity of medicine, carrying the usual emblems of divinity—namely, the *ankh*, or sign of "life," which is carried in the right hand, and the sceptre of power in the left hand. On the grounds of priority, of nobility of character, of brilliant services to his country, and of an enduring reputation as a healer of disease, Imhotep has strong claims to be recognized as the patron spirit of medicine, as the emblematic god of our ancient profession.

In view of such overwhelming qualifications it seems on first thoughts strange that Asklepios has for centuries been accepted by the civilized world as the deity of medicine, and it is interesting to inquire how he attained to this dignity. His cult appears not to have extended much further back than the time of Homer, who is believed to have lived about the year 850 B.C. Although Homer speaks of Asklepios as a "blameless physician,"

*ἰατρός ἀμύμων*, and the father of two heroes, Makhaon and Podaleirios, who were physicians in the Greek camp at the siege of Troy, most historians assign him a mythical origin, and describe him as the son of Apollo and the nymph Coronis, who was educated by the centaur Cheiron, and instructed by him in the art of healing disease. Yet other authorities assert that Asklepios never existed as a man of flesh and blood; but was merely the personification of certain ideas. However this may be, we know that in the course of time remarkable recoveries from disease became crystallized round a real or fictitious personality, who was afterwards apotheosized by grateful humanity. Numerous temples were erected in his honour in Greece and elsewhere, the oldest one being at Trikka in Thessaly, while others were at Epidauros, Cos, and Pergamos. The cult of Asklepios gradually spread all over Greece, and became so popular that by the time of Alexander the Great between three and four hundred temples were dedicated to this deity of medicine. It was introduced into Rome at the time of the great plague early in the third century B.C., and from that period onward gradually extended throughout the civilized world, Asklepios



Imhotep as Deity of Medicine.

being accepted as the emblematic god of medicine, the reputed healer and consoler of men. His figure appears on countless statues, charters, diplomas, coins, and seals associated with hospitals, medical schools, and societies throughout the world.

The neglect of Imhotep is doubtless attributable to the fact that Western civilization has been nurtured on the literature of Greece and Rome. Not till Young and Champollion deciphered the hieroglyphs about a century ago was the history of ancient Egypt revealed to the learned world. Now that Imhotep has emerged from the mists of antiquity as the first physician whose biography has descended to us, the time has surely come when justice should be done to this Egyptian deity. To him unquestionably belongs the highest place in our hagiology; to him should physicians all the world over look up as the patron spirit of the *ars medendi*, as the emblematic god of medicine. His portrait should become the badge of our profession.

Apart from the strong historical claims of Imhotep to occupy the throne so long the seat of Asklepios appears the desirability of having as our figurehead a specific human personality, a man of flesh and blood, instead of one of uncertain and probably mythical origin. Of the life and work

of Asklepios scarcely anything is known, whereas of Imhotep there remains at least one striking architectural monument as well as numerous epigraphical and papyric inscriptions, statuettes, and mural representations,<sup>1</sup> all pointing to a distinguished and well-spent life, devoted in part to public service and in part to the healing of the sick. In selecting Imhotep as its tutelary deity the medical profession would erect on its pedestal of honour a most distinguished Egyptian who for many centuries before our era had been worshipped as the deity of medicine.

## REFERENCES.

- <sup>1</sup> W. A. Jayne: *The Healing Gods of Ancient Civilizations*, 1925.  
<sup>2</sup> Cf. J. F. Champollion: *Monuments de l'Égypte et de la Nubie*, 1835-45, I, Plate Lxxviii.  
<sup>3</sup> For further details see *Imhotep, the Vizier and Physician of King Zoser, and afterwards the Egyptian God of Medicine*, by J. B. H.

## THE STUDY OF MENTAL ABNORMALITY.

PROLEGOMENA TO THE ESTABLISHMENT OF A NATIONAL  
LABORATORY FOR THIS PURPOSE.

BY

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In the *British Medical Journal* of January 14th, 1928, there appeared a plea by Professor R. J. A. Berry of Melbourne in favour of a national laboratory for the study of mental abnormality. This project deserves encouragement from all interested in the welfare of the Empire, and it is to be hoped that before many years elapse the proposal may have aroused sufficient interest to make its realization a reasonable expectation. For some reason the study of mental abnormality has conspicuously failed to fire the imagination or enlist the support of the British public. This fact is all the more remarkable in view of the appeal which this study appears to make to the citizens of the United States. There the subject is not only held to be important, but receives practical support; here neither general interest nor support is forthcoming. In consequence there is no institution in this country really comparable to the Psychopathic Hospital in Boston. It is true that in London, through the generosity of the Commonwealth Fund, the problems of mental reactions in children are about to be attacked on a large scale, but even here the impetus appears to originate in the United States.

In view of this unsatisfactory state of affairs Professor Berry's plea comes none too soon, and ought to be a trumpet call to others who share his desire to see a national disgrace removed. While, however, the establishment of a national laboratory for the study of mental abnormality is an urgent need, the proposal would be incomplete without further discussion of the lines upon which it ought to be established. Many who have read Professor Berry's plea will agree with me that the basis upon which he would have it established is too narrow to ensure its being of optimum value to the community. It is true that, when he deplores the lack of co-operative effort between non-correlated specialties in the past and advocates unity of study in the future, he lends an apparent atmosphere of breadth to his proposals. To discover how essentially narrow they are, however, we have only to ask how this unity of study is to be achieved. Though it is never explicitly stated, the general trend of Professor Berry's paper leaves the reader no doubt as to the answer which he would give. Towards the end of his paper he makes the following definite statement:

"The first place to seek for mental abnormality of all kinds, and certainly those which are commonly classified as antisocial, are the cells of the human cerebral cortex, and this study demands co-operative national effort. That there has not hitherto been any co-operative effort to study the mental abnormalities appears to be due to a lack of appreciation of the simplicity of the great principles underlying the construction of the vertebrate neuraxis."

He represents the study of the nervous system at the present day as being illogically divided between neurology and the psychological sciences on an anatomical basis; neurology is represented as concerning itself with the

receptor and effector neurons, psychology and psychiatry as concerning themselves with the internuncial neurons in their normal and abnormal functioning respectively. He then goes on to make this statement:

"To divide a functional entity, like the neuraxis of man, into a series of watertight, non-correlated specialties appears to be unscientific and calculated to breed error. It is rather unity of study which is so essential."

As the earlier and greater part of Professor Berry's paper is devoted to the interpretation of human conduct in terms of neurons and their development, it would seem that he believes unity to be best attained by substituting for all the partial, non-correlated specialties the study of the physiology of the nervous system. It is presumably to this study alone that, in Professor Berry's view, the proposed national laboratory is to be devoted. It is with the object of drawing attention to the dangers of a spurious attempt at comprehensiveness in the study of mental abnormality, and in the hope that discussion will favour the adoption of a genuine comprehensiveness, that I submit the following observations.

I. The functional entity to be studied in problems of mental abnormality is not the neuraxis of man, but man himself as a psycho-physical organism. If it is unscientific to study the receptor and effector neurons in isolation from the internuncial neurons and vice versa, it is at least equally unscientific to isolate the neuraxis from the rest of the organism. The neuraxis has definite functions to fulfil, but it is no more a real functional entity than the liver. The neuraxis may, indeed, be considered for purposes of science in relative isolation—as, indeed, neurology does consider it; but, if we desire to establish a comprehensive science, the functional entity with which we shall concern ourselves will not be the neuraxis, but the organism. That the neuraxis is meaningless apart from the rest of the body is evident when we ask ourselves what significance the neuraxis has for mental abnormality in isolation from the endocrine organs. Professor Berry has made the interesting statement that "75 per cent. of those antisocial reactions against which society seeks to protect itself, and known as 'crimes,' are directed against the person or the property—sex and acquisition." But what meaning can we ascribe to crimes of sex in terms of a neuraxis conceived apart from the gonads? What significance have crimes against property, or the steps taken by society to prevent them, if we regard the neuraxis in isolation from the pituitary and adrenal glands?—the former intimately associated, as it is, with the disposition of self-preservation, and the latter, as Cannon has shown, with the disposition of self-preservation, attack and defence. Further, if the neuraxis is physiologically meaningless in isolation from the rest of the body, it has even less meaning when divorced from psychological processes. Antisocial reactions are completely unintelligible in terms of brain cells alone. They can only be adequately understood if we introduce the psychological conceptions of instinct, motive, and purpose. The crime of rape is not simply the failure of a few pyramidal cells to inhibit the functions of the infragranular cortex; it is also the behaviour of an organism whose sexual impulses have not been subordinated to the social sentiments in the process of development. Of these two ways of conceiving it the latter is the more significant and the more fruitful. If, then, we are seeking a real functional entity on which to base a comprehensive science of human behaviour, whether normal or abnormal, there is only one such entity to be found—the entity which behaves, and this is nothing short of the human psycho-physical organism.

II. Since the functional entity in all behaviour is the psycho-physical organism, it follows that neither physiology nor psychology, nor any other science that considers but one aspect of the organism, can claim to offer a comprehensive study of either normal or abnormal reactions. In actuality no such unifying science exists; if it did, it would partake of the nature of biology. Doubtless such a science will eventually be elaborated; but in the meantime there are insufficient data for this establishment. Such data can only be accumulated at the present stage of knowledge by allowing the various biological sciences to work unrestrictedly in their own fields, and to compare their various findings with one another. This being so, division of the field between the various special sciences is not a matter for regret. On the contrary, the advance of modern knowledge has been characterized by a multiplication of partial sciences. Only by restriction of the

field can advance in knowledge take place. The history of science is the history of the birth of new sciences. The finitude of the human mind necessitates increasing specialization as knowledge accumulates. Even two thousand years ago it was only possible for Aristotle to cover the whole ground of human knowledge because he was the greatest genius in history. To-day it would be impossible even for him to compass the field of human behaviour, which, for purposes of study, is divided between various partial sciences. Comprehensive study of human reactions is not to be obtained by substituting for the individual sciences, like neurology and psychology, one single science, but by correlating the results of individual sciences with one another. The study of mental abnormality is therefore most likely to be furthered by allowing physiology, neurology, psychiatry, psychology, and other biological sciences to pursue their own goals independently, and by then attempting to relate the various results obtained in each field with one another. To attempt to obtain comprehensiveness in the study of mental abnormality by allowing the physiology of the nervous system to usurp the fields of the other biological sciences would be a procedure at once retrograde and barren of results. To devote a laboratory to such an attempt would be of little value to the community.

III. Assuming that the various sciences capable of throwing light upon the problems of mental abnormality are to be allowed to proceed unrestricted in their own fields, we must be careful to see that the various fields are properly delimited and the boundaries between them accurately drawn; otherwise clarity of thought is impossible, and confusion is the inevitable outcome. An allocation of the field such as that which Professor Berry believes to exist at the present day is above all to be avoided. If the boundaries were actually drawn where he believes them to be drawn there would be some justification for his advocacy of the physiology of the neuraxis as final arbiter in questions of abnormal human reactions. Fortunately the fields are not delimited in the manner which he represents. According to Professor Berry, neurology concerns itself with the receptor and effector neurons of the neuraxis, and psychology and psychiatry concern themselves with the internuncial neurons in their normal and abnormal aspects respectively. The unifying science whose cause he pleads would, on the other hand, concern itself with the whole neuraxis as a functional entity. The science which concerns itself with the neuraxis as a whole is, of course, the physiology of the nervous system. As regards the other sciences concerned, the boundaries are in reality drawn as follows. Neurology restricts its outlook, for clinical reasons, in two respects: it restricts itself to the neuraxis in isolation from the rest of the organism, and it further restricts itself to the consideration of the neuraxis in its anatomical aspects so far as these are affected by disease. Psychology takes as its subject matter not the internuncial neurons, but the psycho-physical organism as a whole. It restricts itself, however, to one aspect (not part) of the organism—namely, the normal behaviour of the organism so far as that can be interpreted in terms of mental process. Psychiatry resembles psychology in concerning itself with the behaviour of the organism interpreted in terms of mental process, but, being a clinical science, it has a narrower field, and, for practical reasons, restricts itself further to such abnormal behaviour as indicates a gross lack of adaptation to reality. Physiology (which, so far as it is neurological, Professor Berry would set up as the comprehensive science) resembles psychology in that it adopts as its subject matter the behaviour of the whole organism, but it differs from psychology in excluding those aspects of human behaviour which can be interpreted in terms of mental process, and restricting itself to those aspects which can be interpreted in physical and chemical terms only. Within the boundaries indicated each of the sciences concerned is entitled to complete autonomy, and is justified in attempting to push its conclusions as far as they can be carried without inconsistency. Any attempt, however, on the part of one of these sciences to usurp the field belonging to another is to be resisted in the interests of consistency and clarity of thought. To claim for the physiology of the nervous system the right to annex or even to establish a protectorate for the charge of the genuine science is to make a claim which will not bear examination. Any laboratory for the comprehensive study of mental abnormality which may be established in the future must therefore be prepared to admit to its precincts every science which is able to

make a significant contribution to the solution of the problems of the subject.

IV. Lastly, attention must be drawn to the futility of any scheme for the study of mental abnormality which fails to recognize the claims of the psychological sciences. There is an unfortunate tendency in some medical circles to depreciate the psychological in the interests of the physiological sciences. Since modern medicine is based upon physiology it is easy to see how this tendency arises, but the result is an unnecessary impoverishment of medicine. The belief that the first place to seek for mental abnormality is the cells of the cerebral cortex appears to be bound up with wrong conceptions of the provinces of the various sciences such as have already been discussed. It is, of course, quite legitimate for the physiologist to seek a solution of the problems of mental abnormality in terms of the cells of the cerebral cortex, if such a solution is consistent with other physiological facts; but it is equally legitimate for the psychological sciences to seek a solution of these problems in terms of mental processes. Both attempts are legitimate; but a survey of the last twenty-five years suggests that the remarkable advance which has taken place in the understanding of mental abnormality during that period has derived its impetus mainly from the side of the psychological sciences. Certain contributions have undoubtedly been made by neurological physiologists. The work of Pavlov and his followers may be cited as evidence of work in the physiological field which has thrown light upon the problems of human reactions, and theories of the psycho-neuroses have been elaborated which make the "conditioned reflex" the basis of their explanations; but the conception of conditioned reflexes only explains human conduct in a superficial way, and, in any case, it really offers no explanations that have not already been elaborated in terms of psychological conceptions. The work of Pierre Janet and Henry Head might also be legitimately cited as having received its inspiration from the direction of neurological physiology. The great value of Janet's conception of dissociation and of Head's work upon the problems of sensation and of aphasia is indisputable, but it is a question how far this is not to be attributed to the fact of their bringing psychological conceptions to bear upon the problems before them. This is particularly noticeable in the case of Head's researches on aphasia, which have thrown a flood of light upon a field rendered barren and obscure by a succession of workers dealing with narrow anatomical and physiological ideas. In the case of Janet the influence of psychological conceptions is also noteworthy, and the further interesting fact appears that not only the value, but the limitations, of the dissociation theory depend upon his psychological ideas. The limits of Janet's views are the limits of his sensationist psychology. It is the abandonment of sensationist psychology and the adoption of a dynamic psychology that has led in recent years to such advance in the understanding of mental abnormality. For this application of dynamic psychology to the facts of mental abnormality credit is mainly due to the psycho-analytic school.

The liability to errors, which an attempt to understand human behaviour purely in terms of brain cells involves, may be illustrated by a statement in Professor Berry's paper. Discussing the effect of environmental stimuli upon brain growth, he says:

"If, for example, the acoustic exteroceptive stimuli be completely cut off, the child becomes a deaf-mute, with a thinner acoustic cortex and a correspondingly diminished general intelligence."

In this statement it is assumed that a failure of development of the acoustic cortex necessarily implies a corresponding diminution of general intelligence. This is just the sort of assumption to which an exclusive preoccupation with "brain cells" is liable to lead. It may be true, or it may not be true, but proof or disproof of such assumptions is only possible when the psychologist is permitted to produce his evidence also.

Reference may here be made to an investigation of the general intelligence of deaf-mute children which is at present being conducted at the George Combe Psychological Laboratory of Edinburgh University by Dr. Drever and his workers. Though the results of this investigation are still incomplete, and thus not available for publication, those so far obtained would seem to emphasize the surprisingly slight degree to which the general intelligence

of deaf-mutes is affected by their disability. Mental defect is certainly not a feature of deaf-mutism, though mental defectives naturally occur among deaf-mutes as they do among hearing children. As judged by the performance tests used in this investigation (language tests being impossible), the deaf children scored remarkably high; they proved to be retarded by less than one year of mental age, as compared with a control group of hearing children. In view of the enormous disability which a deaf-mute suffers both as regards deprivation of valuable cortex and loss of the main channel for the acquisition of human knowledge, it is a striking fact that his general intelligence should seem to be so little affected. At any rate, the results of such investigations indicate the danger of pronouncing upon questions of mental reactions, normal or abnormal, if brain cells alone are studied and psychological factors neglected.

Many instances could be quoted of problems for which consistent explanations of a psychological nature have been offered, but upon which the study of the supragranular cortex can throw little light. What explanation can be offered in terms of brain cells for the fact that a hysterical patient suffers from, for example, a fear of open places; an obsessional case from, for example, a compulsion to wash his hands every time he touches a door-handle; and a paranoiac from a delusion of persecution? Perhaps all depends upon which part of the supragranular cortex is affected by some hypothetical pathological process; but no one knows what the pathological process is, which neurons are affected, or what connexion there is between these hypothetical lesions and the symptoms. Any explanation of this sort is completely barren. Yet, for the differences between the symptoms of hysteria, obsessional neurosis, and paranoia psychological explanations have been offered which, whatever criticisms may be passed upon them, introduce order and intelligibility into a difficult and obscure field.

In conclusion, the hope may be expressed that, when the national laboratory for the study of mental abnormality comes to be founded, it will be founded upon a basis broader than the study of the neuraxis and its neurons. Moreover, every precaution ought to be taken to provide facilities for the inclusion of every science that is capable of throwing light upon the problems at issue—not excluding the physiology of the nervous system. It is in the hope that Professor Bery's most valuable suggestion for a national laboratory to study mental abnormality may not be prejudiced by too narrow a conception of its functions that the above observations are submitted to the medical profession.

## New Zealand.

[FROM OUR OWN CORRESPONDENT.]

### Hospitals and Preferential Treatment of Friendly Societies.

THE public hospitals in New Zealand are not voluntary hospitals; they are supported financially mainly by Government taxes and local rates, and are "nationalized." The larger hospitals, however, have honorary staffs. The cost of treatment in hospital averages at least 17s. a day, but adult patients are charged usually 9s. a day, although only a small proportion meet their obligations. So many bad debts are incurred that as a matter of expediency hospital boards are contracting with friendly societies—better known as lodges—for a flat rate for lodge members of 4s. 6d. a day for adults and half that sum for children. This and similar arrangements are contrary to the principle, apparently now outworn, that patients are admitted into public hospitals only because they are ill and because they are not able to pay for private medical attention and nursing. It would appear that lodges are able to bargain for discounts because of their great numerical strength. The lodges object to their surgeons sending members into hospital when they might be treated at home, but members of the honorary staffs receive no remuneration for treating these patients in hospital, and the taxpayers and ratepayers feel the strain. The sick and funeral funds of the combined lodges in New Zealand in one year have shown a surplus of nearly £200,000. In the year 1925, the last for which

the records are complete, the accumulated capital of the friendly societies in New Zealand was £3,136,237, an average per member of over £34.

### Iron Starvation in Ruminants.

A deficiency disease of special interest, and commonly known as "bush sickness," has been successfully investigated, chiefly by Mr. B. C. Aston, head of the chemical division of the Department of Agriculture. This disease has been proved to be non-transmissible, occurring in ruminant stock only when pastured on certain land on the central volcanic plateau of the North Island of New Zealand. The soil affected has been formed from pumice deposited from air and not from water. An analysis of the blood of an animal in an advanced stage of the disease shows a great deficiency of iron, but the animal can be restored to health by being given Parrish's syrup or iron and ammonium citrate, or the pastures may be top-dressed with sulphate of iron. A non-ruminant, such as a horse, may continue healthy for many years on the same food and water on which a cow will sicken and die in from six to nine months. An official report on the subject states: "The pasture is composed chiefly of red and white clovers and cocksfoot. Animals taken away for a change to healthy country and then brought back still in poor store condition may now be fattened on the pasture upon which they originally became sick. The bones of an animal dead of bush sickness show no signs of malnutrition. The facts indicate that the disease cannot be referred to chronic poisoning, and that a deficiency in some essential element in the food is the real cause. The abundance of clovers and the excellence of the diseased animal's bones preclude the possibility that the bone-forming elements, calcium and phosphorus, are deficient in the pasture. Feeding tests have eliminated all other essential elements except iron, which is found to be abnormally low in the affected soils, and in the pasture grown on them."

### Post-graduate Training for Nurses.

A post-graduate course for nurses, of six months' duration, for which a diploma will be issued, has been recently established by the Department of Health in conjunction with the University and the Wellington Hospital. Various hospital boards are awarding bursaries to enable nurses to attend the course, on condition that they enter into a bond to return to the service of the boards for a stated period. The course is intended for nurses who have completed three years' training in a general hospital and are registered in New Zealand. Its object is to prepare nurses to fill positions as administrators, tutor sisters, ward sisters, and public health nurses, and it includes principles of education and methods of teaching.

## India.

### Cholera in the Punjab.

ALTHOUGH there were only 87 deaths from cholera in the Punjab during 1926, as compared with 3,049 in the preceding year, some interesting details in connexion with this disease are reported by Lieut.-Colonel W. H. C. Forster, I.M.S., director of public health for the Province, in his annual report. In the first place, since there were no annual report. In the first place, since there were no imported cases an estimate was obtained of the cholera possibilities latent in the Punjab itself. It was noticeable that the incidence of cases during the year was scattered about the Province, and did not follow the line of infection customary in the case of epidemics which have so frequently followed the entrance into the Punjab of infected persons from Hardwar. The small total mortality is held to supply further proof of the rule enunciated by Colonel Forster—that cholera and plague are not epidemic in the same year. Since the cholera season begins in April, when plague is at its maximum, the rule gives a convenient and reliable basis on which to forecast the occurrence of cholera in non-epidemic form. Thus, in 1926, plague was severely epidemic and the occurrence of cholera was



negligible. Colonel Forster adds that, fortunately for the Province, the rule does not furnish an equally sound basis on which to forecast the occurrence of cholera in epidemic form, but he thinks it worthy of note that the greatest cholera epidemic in the Province since 1901 occurred in 1921, when the plague mortality reached the lowest recorded in these twenty-six years. Colonel Forster tells an interesting story of an outbreak of a disease resembling cholera, and of indigenous origin, in a village just outside Simla. The disease was clinically indistinguishable from true cholera, but the *post-mortem* and bacteriological findings definitely negated this diagnosis, and so the matter was referred to the police. The bodies were exhumed, but chemical examination failed to reveal the presence of any poison in them. One survivor of an afflicted family fled to a village in the Ambala district, developed symptoms of cholera, and died, his death being followed by an outbreak of so-called cholera in the village. The district medical officer of health of Ambala investigated this outbreak, but again the bacteriological findings were inevitably negative for cholera. Colonel Forster concludes, therefore, that in the Punjab there is an indigenous disease which clinically, and also as regards infectivity, is indistinguishable from cholera, though the *post-mortem* and bacteriological findings contradict this etiology. There is at present no evidence as to the real cause of this disease or the extent to which it contributes to the total cholera mortality.

#### Sanitation Measures in Connexion with Fairs and Festivals.

During 1926 no fair or festival in the Presidency of Bombay was responsible for any outbreak of epidemic disease, and some indication of the nature and extent of the preventive work which lay behind this gratifying achievement is given in the annual report of the acting director of public health, Dr. Jamshyd Munsiff. The itineraries of the various bands of pilgrims are ascertained in advance, and arrangements are made to inspect the various halting places and to provide medical supervision along the routes. Large staffs of medical officers and student assistants, with sanitary officials, are collected and distributed according to pre-arranged plans, in order to assist the local authorities. Wells are treated with permanganate solution, reservoirs are filled with sterilized water, tranches are provided for pilgrims, and cholera hospitals are opened. In suitable centres the incoming and outgoing pilgrims are inspected, ambulances are kept in readiness, and cases of infectious disease with any contacts are isolated. Refuse is carefully collected and burned, foodstuffs for sale are regularly examined, and any found unsuitable are destroyed. Specially qualified inspectors are placed in charge of the vegetable and fruit markets. Adequate provision of water is ensured—a matter of considerable difficulty in some places—and special precautions have to be taken to prevent pilgrims from bathing in the drinking water. Chlorinated water is made available for pilgrims night and day in some towns, and all storage reservoirs and cisterns are carefully and regularly sterilized. Temporary dispensaries have also been found very useful in certain towns to deal with minor emergencies and prevent more serious disease from developing. Some impression of the number of pilgrims dealt with may be gleaned from the following figures for three centres: Pandharpur (two fairs), 165,312 and 91,529; Nasik (two fairs), 58,907 and 77,574; Saundatti-Yellamma, 125,000. The numerous smaller fairs and festivals receive similar attention. Cases of various infectious diseases occurred in 1926 in all parts, though epidemics were absent, and it can easily be realized what an immense amount of sickness and suffering is prevented by this systematic scheme of prophylaxis, and how many lives are saved each year.

#### Prince of Wales Medical College, Patna.

While Sir Norman Walker was making his tour in India last year as representative of the General Medical Council he visited the Prince of Wales Medical College in Patna, which has not yet been recognized officially by the Council. He spent some days there, making a careful examination of its equipment, curriculum, and general competency. In the annual report of the work of this

institution during 1926-27 the acting Principal, Major R. R. M. Porter, I.M.S., announces that during the second year of its existence all the departments have been brought into effective action. The accommodation for biological students has been increased by one-third, and minor improvements have been made elsewhere in the buildings. A good pathological museum is being developed, and a provincial pathological laboratory is to be established, together with a department for antirabic treatment. Cultivation is proceeding of a small botanical garden for the use of students, and the museums of anatomy, pharmacology, and biology are being extended. Although the department of physiology is at present rather hampered by restrictions of staff and space, good work is in progress; a biochemist is to be appointed, and experimental work in this subject is being carried on. For instruction in practical midwifery the students go to Bangalore. In addition to the ordinary curriculum a three months' post-graduate course was conducted during the year.

## Scotland.

#### Edinburgh LL.D. Degree.

THE list of those to whom the honorary degree of Doctor of Laws has been offered by Edinburgh University contains the names of several distinguished members of the medical profession and of persons connected with it. These include Sir John Rose Bradford, K.C.M.G., M.D., F.R.S., President of the Royal College of Physicians of London; Dr. James Cossar Ewart, F.R.S., formerly Professor of Natural History, Edinburgh University; Dr. George Lovell Gulland, formerly Professor of Medicine, Edinburgh University; Dr. James Haig Ferguson, M.D., formerly Senior Lecturer in Midwifery and Gynaecology, Edinburgh University; Dr. Robert Alexander Fleming, P.R.C.P.Ed., formerly Senior Lecturer in Clinical Medicine, Edinburgh University; Dame Mary Scharlieb, D.B.E., M.D., M.S.; Dr. F. G. Donnan, F.R.S., Professor of Chemistry in the University College, London; and Mr. Henry S. Wellcome, founder of the Wellcome Research Laboratories at Gordon College, Khartoum, and of the Wellcome Bureau of Scientific Research and the Historical Medical Museum, London.

#### Glasgow Cancer Hospital.

The annual meeting of the Glasgow Royal Cancer Hospital was held in the Merchants' House, Glasgow, on March 23rd. Sir John MacLeod, Bt., presided, and among those present were Sir John Gilmour, Secretary of State for Scotland, and Sir George Beatson, senior surgeon to the hospital. The chairman stated that the ordinary income in the past year had increased by over £200, and the hospital was doing valuable work in the direction of investigation into the nature of the disease for which it provided. Sir George Beatson, speaking on the work of the year, stated that enough was known in regard to cancer to say with confidence that it began as a local malady. The hospital admitted both operable and inoperable cases in order to furnish them with the best medical skill and trained nursing that was possible. It also existed to investigate the disease, and, if possible, elicit a cure. They had come to the conclusion that for inoperable cases the best system of treatment was by irradiation with radium, x rays, or ultra-violet rays. It had been found that the ultra-violet ray treatment, rather over-praised at the present time, was being used unwisely, and that many people were even installing apparatus into their own homes. A careful study of this subject was being made in their research department. They would like to make this hospital the centre for the distribution of radium emanation in Scotland. Sir John Gilmour remarked in regard to hospitals generally that whatever changes or advances might take place the fundamental thing which they must try to preserve was the voluntary principle. The death rate from cancer in Scotland had reached a very high point, the figure being 141 deaths per 100,000 people during 1927, the highest death rate yet recorded, and second only to heart disease among causes of death.

This meeting should show the citizens of Glasgow that the malady was being dealt with as one of the problems facing the country which could at least be mitigated. He believed that research was essential if they were to make progress, both in regard to hospitals and disease, as well as in many commercial enterprises. He was glad to know that progress was being made in cancer research, and he thought this ought to be encouraged by everyone.

#### Discussion on Pharmacopoeia Revision.

A meeting of the North British branch of the Pharmaceutical Society of Great Britain, held in the Society's Hall at Edinburgh on March 21st, discussed the question of revision of the *British Pharmacopoeia*. Mr. Peter Boa, Ph.C., pointed out that the 1914 edition, which had been produced prior to the war, was now fourteen years old, and did not cover many new things introduced in the interval. There had been in the last *Pharmacopoeia* a drift towards a reduction in the number of preparations, and this had led to the provision of ready-made preparations for the practitioner by wholesale manufacturers. He thought that if the *Pharmacopoeia* was to regain its prestige with prescribers it would be necessary either to increase the number of preparations or, alternatively, while making the *Pharmacopoeia* a standard for drugs, there should be some official complementary book containing suitable preparations for medical use. A strong plea for the reintroduction of imperial weights and measures in the *Pharmacopoeia* was made by Mr. Henry Stout, Ph.C. Although the last edition, he said, had given only metric weights and measures, the custom was still almost universal in manufacturing, retailing, and dispensing medicines to employ the imperial weights and measures, and for these practical reasons they ought to be included in the official publication.

#### Deaconess Hospital, Edinburgh.

The annual meeting of the Church of Scotland Deaconess Hospital was held in Edinburgh on March 19th, with the Rev. D. J. Montgomery Campbell, Moderator-Designate of the Church of Scotland, in the chair. The Rev. Dr. A. Fiddes, vice-chairman of the board of management, in submitting the report, said that the hospital was in a fortunate position, because twelve months ago it had been faced with a debit balance of £1,000, while now this had been converted into a credit balance of over £550. The number of patients treated in the wards during the year had been 732, an increase of 99 over the number of the previous year. The number of surgical operations performed had been 598, while the number of out-patients had been 6,914, with attendances numbering 23,457. It was now necessary to raise £7,000 every year for its management on efficient lines. The institution was unique in Great Britain in being the only hospital carried on by a Church, and it discharged a double purpose, treating the suffering and injured and providing a training place for nurses who had the intention of taking up mission work in this country and beyond the seas. The chairman, in moving the adoption of the report, said that he knew no form of practical Christianity which was so interesting as the work done by this hospital. He was strongly in favour of the voluntary system in the management of hospitals for many reasons. He was quite sure that a compulsory hospital could not command to the same extent the best of medical, surgical, and business talent for its work. Further, it was good for the community that it should have to do this work. The relation between Church and medicine was a very old one. Hospitals, like education, had begun with the Church, and it was valuable that the connexion should, in some way, be maintained.

#### An Ancient Scottish Surgeon.

At a meeting of the Greater Edinburgh Club, held in the Synod Hall, Edinburgh, on March 14th, Mr. John Smith, F.S.A., gave an account of the career of John Naesmyth, surgeon to King James VI of Scotland and I of England. He was the son of Michael Naesmyth, Chamberlain to the Archbishop of St. Andrews, where he received his early education. Choosing the profession of a barber-surgeon, he joined the Incorporation in Edinburgh in 1588. In 1575 he had been a member of the retinue of Lord Seton,

proceeding ostensibly on an embassy to Queen Elizabeth, but actually entrusted with the perilous task of delivering to Mary Queen of Scots certain letters from the Regent in Scotland. He succeeded in his mission, although the letters were discovered afterwards, necessitating his hasty return to Scotland. Naesmyth afterwards rose to high favour with King James, but becoming involved in a plot with Francis, Earl of Bothwell, he had to retire to France, where he stayed for about six years, and was appointed chief surgeon to the Scots Guards of the King of France. In 1600 he married Helen MacGrath, daughter of one of the most opulent citizens of Edinburgh, and prospered greatly. Being reinstated in favour with King James, he removed with the court to London in 1603 as court physician, and in 1604 was appointed royal herbalist for life. Dying in London on September 16th, 1613, in the fifty-seventh year of his life, his body was, by his own request, removed to Edinburgh and interred in Greyfriar's Kirkyard, where a handsome monument still marks his resting place.

## Correspondence.

### GLAND GRAFTING AND INHERITANCE.

SM.—In the articles headed "Gland grafting" (p. 510) and "Voronoff's experiments on the improvement of livestock" (p. 505) in the *British Medical Journal* for March 24th it is suggested that Dr. Voronoff's claim that the improved characteristics which, according to him, appear in the offspring of "decrepit and infecund males" who have been rejuvenated by implantation on their testicular tissue of portions of the corresponding tissue from young and healthy adult males, and which in turn are transmitted to their offspring, "involves the acceptance of the hypothesis of the inheritance of acquired characteristics." Even assuming there is truth in Dr. Voronoff's claim that there is an increased production of mutton and wool, for example, in the progeny of rejuvenated rams, this surely does not prove that an acquired characteristic has been inherited. An acquired characteristic, in the strict biological sense, is some alteration in the somatic cells caused directly by the environment. The appearance in offspring of a characteristic resulting from the action of the environment upon one or other of the two conjugating gametes is not, I submit, a transmitted acquirement.

The main principle underlying Dr. Voronoff's experiments would appear to consist in the replacement or reinforcement of the senile by virile testicular tissue. Where the new glandular material reinforces the physiological action of the old glandular tissue there is merely a revivification of a waning reproductive power. Where, however, it replaces the old tissue the position is more complex, but even so does not, I think, necessarily involve acceptance of the hypothesis of the inheritance of acquired characteristics. My point may be elucidated with the case of the bull Jacky, who, when 17 years old, was discarded as useless for breeding purposes. This bull, whom we will call "J," was grafted with a piece of the reproductive gland of a virile bull "V." After the operation "J" is said to have sired nine calves. Now, if this was so, surely it follows that, since the gametes of "V" have surely taken the place of those of "J," the calves are the offspring, not of "J," but of "V." Biologically speaking, "J" has merely acted as protector and food provider to the gametes of "V," and has had no more participation in the manufacture of the nine calves than a gardener has in the production of cucumbers that have grown in his frames as a result of his transference of pollen from the stamens of the male to the stigma of the female flower. Any improved characteristic appearing in the progeny begotten through "J's" mating activities are received from "V," are germinal (blastogenic) in nature and not acquired.

The case is paralleled by an experiment of Boveri. He removed the nucleus from the virgin egg-cell of a sea-urchin (*Echinus microtuberculatus*) and then fertilized it with the spermatozoon of another species (*Sphaerechinus granularis*). The egg-cell so treated developed into a larva with the characters of the paternal echinus only; the

main substance of the egg-cell provided nutriment for the daughter-cells, but did not transmit to them any of its parental characters. It should be stated, however, that Boveri's experiment has been severely criticized. Perhaps a better illustrative parallel is to be obtained by a consideration of the reproductive capacities of the scion twig used in plant grafting. The bud, which contains the germ cells, when inserted in the bark of a different variety of plant, reproduces the kind of flower or fruit that characterized not the tree or bush on which it now grows and of which it forms a part and from whose sap it draws its food, but the tree from which it was originally taken.—I am, etc.,

CHARLES M. BEADNELL,  
Surgeon Rear-Admiral.

Aberystwyth, March 25th.

#### THE NEW PORTRAIT OF JOHN HUNTER.

SIR,—With reference to the "new" portrait of John Hunter, Mr. Buckston Brownie (*Journal*, February 25th, p. 325) corrects an error made by Sir Arthur Keith as regards Christie's catalogue, but in doing so suggests that the name "Seton," to whom the portrait is there attributed, was either fictitious or that of a quite unknown man.

Before this letter appeared the error had already been pointed out to me. Seton, or Seaton as I understand it is more usually spelt, was a known portrait painter of Hunter's time, as will be seen from the following extracts from recognized authorities.

*Graves's Dictionary of Artists*.—Seaton, John Thomas. ? Seton. Exhibited 13 Portraits at the Society of Artists and 3 at the Royal Academy between the years 1761-1777.

*Redgrave's Dictionary of Artists*.—Seaton, John Thomas. Portrait painter. Pupil of Frank Hayman, studied in the St. Martin's Lane Academy, also a member of the Incorporated Society of Artists. He exhibited half-length portraits at the Royal Academy in 1774. He was practising in Edinburgh about 1780, and was in high repute, which his works merited. He was living in 1806.

*Bryan's Dictionary of Painters and Engravers* (edit. 1889, vol. ii) gives a similar account of Seaton.

As to the remaining question—by whom and on what authority the portrait was attributed to Seaton—I have the following information.

Mr. Martin of Christie's, usually responsible for drawing up the catalogues, and a recognized authority on pictures of that period, states that the pictures of Mr. McCormick came to them all labelled according to the owner's own attribution and description. Although Mr. McCormick may have told his friends he thought the portrait of Hunter was by Gainsborough, he evidently did not consider it worthy of being labelled as by that artist. The McCormick pictures consisted of 157 lots, several of which consisted of two or three pictures, and formed a full day's sale, but they only realized between £4,000 and £5,000. Mr. Martin added that the picture was very unlikely to have been by Gainsborough, or it would not have been passed over by the expert dealers.—I am, etc.,

Egham, March 23rd.

CECIL F. BEADLES.

#### BRITISH DOCTORS IN MADEIRA.

SIR,—Opposition to the presence of British doctors in this island has now been ended by a generous concession from the authorities at Lisbon by which the *modus vivendi* established with me sixty years ago is respected and amplified. I enclose a copy of a telegram from our Ambassador to Portugal showing fully the privileges conferred on us. We are by no means unmindful of your assistance in the *Journal* contributing to this happy issue from our difficulties.—I am, etc.,

MICHAEL GRABHAM, M.D., F.R.C.P.

Madeira, March 20th.

\*\*\* The telegram to which Dr. Grabham refers is addressed from Sir Lancelot Carnegie, British Ambassador at Lisbon, to the British Consul at Funchal, and repeated to the Foreign Office. The position has been the subject of discussion between the Ambassador and the Portuguese authorities following a report that a threat had been made to expel from Madeira foreign doctors who were practising there without being legally qualified to do so (*Supplement*, August 20th, 1927, p. 118). Dr. Grabham explained the position in a letter published in the *Journal* on September

24th, 1927 (p. 566). The telegram defining the Portuguese Government's attitude reads: "Permission granted for British physicians and surgeons to attend foreigners living in and visiting Madeira. They must exhibit their diplomas to inspector of health at Funchal."

#### MIDWIVES AND ANTE-NATAL WORK.

SIR,—The letters by Professor Louise McLroy and Dr. Malcolm Donaldson (March 17th, p. 466, and March 24th, p. 520) show an imperfect acquaintance with the rules of the Central Midwives Board which they criticize.

Dr. McLroy criticizes the Board for telling a "nurse" to "examine the heart with a stethoscope." Will she kindly quote the rule referred to, as I cannot find it? If the foetal heart is meant it should be stated. The examination of the foetal heart is surely essential.

She also speaks of "calling in the aid of a medical practitioner in doubtful cases." Will she kindly read the rule referred to? It runs as follows: "In all cases of illness of the patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in, a midwife must forthwith call in to her assistance a registered medical practitioner" (E. 20).

She also refers to "diagnosis." "Diagnosis" is not either expected or desired; the presence of "any abnormality" at once obliges the midwife to call in medical aid, and she is the only person who has it in her power to discover abnormalities in pregnancy where a doctor is not in charge of the case.

Dr. Malcolm Donaldson endorses Professor McLroy's views. I would point out that, whatever may happen in the future, a very large proportion of labours are at present attended by midwives. If midwives were now to be abolished, many women would fall back into the hands of the untrained handy-woman. The object of the rules of the Central Midwives Board is to make pregnancy, parturition, and lying-in in charge of midwives as safe as possible.—I am, etc.,

London, S.W.1, March 25th.

H. G. WESTLEY,  
Secretary, Central Midwives Board.

#### THE EXPECTANT MOTHER.

SIR,—The care of the expectant mother has become a national question, and the Queen, in her recent message to the Maternity Mortality Conference on March 1st at the Central Hall, Westminster, expressed the opinion that the time had come for concerted action. Local authorities must by now have realized their responsibilities as regards the ante-natal, natal, and post-natal care of the expectant mother, especially amongst the poorer classes of the community. No one can deny that the care and treatment deemed necessary for the well-to-do in the trying time of childbirth must be equally necessary for the poor.

It is all very well for local authorities, whose duty it is to deal with these matters, to appoint and direct educated and trained women to go round or instruct in the clinics the people who live in the humble homes, and give advice as to what they should do and what they should not do. This, no doubt, is most excellent, but those of us who have been in medical practice for many years know to our sorrow that these poor women are not able to do as they are advised, inasmuch as they are compelled by force of circumstances to continue their home duties up to the very hour of their confinement, and to be up and about again in a week or so, or even less, doing the washing, cleaning the house, getting the children off to school, preparing the husband's dinner, and all the other responsibilities of a home. The well-to-do expectant mother can, however, rest for weeks before and after the birth of the child. It is not surprising, therefore, that our hospitals are so full of working-men's wives requiring surgical attention owing to relaxation of the tissues.

Local authorities have been empowered by Circular M. and C.W.A. of the Local Government Board, dated August 9th, 1918, to provide home helps; nearly ten years have elapsed, and how few have exercised this power! The time has come when they must wake up to the heavy responsibility which rests upon their shoulders. Home helps must be working women; they can no doubt be obtained

and paid by the local authority, to which the State can make a grant. They should take over the whole or the greater part of the housework of the expectant mother for a short time before and after childbirth, and so relieve the mother of this burden. Then, and only then, can it be expected that maternal mortality will be reduced and more healthily children be born.—I am, etc.,

ARTHUR M. BARFORD, M.D.,  
D.P.H., F.R.F.P.S.

Chichester, Sussex, March 17th.

### THE PROTECTION OF MATERNITY.

SIR,—Although we are all anxious to see a diminution in maternal morbidity, I do not think that Dr. J. S. Fairbairn's remarks at the Midwives' Institute (as reported in the *British Medical Journal* of March 17th, p. 462) ought to be allowed to pass unnoticed.

He said that "some doctors had stated that forceps were used in half the cases they attended." What doctors were these? Certainly not average general practitioners. I can understand that an occasional individual, exceptionally skilful, with very well trained assistants and a faultless aseptic technique, might use forceps where the majority of us would prefer to wait longer—and possibly rightly; but I am afraid that actually Dr. Fairbairn has been the victim of a fisherman's yarn.

However, because of this statement I have taken the trouble to look up the notes of my last 200 cases. I find that I used the forceps in fifteen cases only, and one of these was that of a multipara to whom I was called by a midwife. This, it is true, is rather more than twice the percentage which Dr. Fairbairn guesses to be that of institutions, but I do not think we can expect to get ours down to that level because of our much larger proportion of primiparae—40 per cent. in this series. I suspected five of the 200 to have subsequent genital infections. Five other patients had pyrexia due to causes such as bacilluria, mammary infection, and influenza.

I believe that these figures are in no way exceptional in general practice—in fact, I do not doubt that many doctors can show better ones—but they do suggest that the general practitioner is not the danger to his patients that our critics represent, and I like to think that the morphine and scopolamine that we can give in the first stage, and the chloroform which eases so much the last part of the second, help to justify our attendance even in cases of normal labour.

I hope Dr. Fairbairn will forgive me if I add that the necessity for accuracy is so great, and the way of exaggeration so easy, that it is difficult to be too careful when addressing an unscientific and uncritical audience; especially as this is the case when the speaker is one who is supposed to be more *au fait* with actual practice than the mere official.—I am, etc.,

London, S.E.26, March 20th.

W. M. PENNY.

### IMPORTANCE OF SPUTUM EXAMINATION IN PULMONARY DIAGNOSIS.

SIR,—Dr. Chandler's letter emphasizing the value of sputum examination is welcome because there is no doubt that this aid to diagnosis is sometimes neglected altogether, or that an insufficient number of examinations are made. Practically all public health authorities give facilities for free examination, so that there should be no difficulty about getting a patient's sputum investigated early and often.

The following points may be usefully summarized:

1. In cases with early manifestations repeated sputum examination may be necessary before the bacilli are found, although positives sometimes occur at first trial where there are few signs and symptoms.
2. The kind of case described as running its course without sputum or positive sputum includes the acute and some sub-acute types. The signs and symptoms, however, usually become distinctive before the illness has proceeded far.
3. In chronic and long-standing cases of pulmonary disease, with frequent cough and much spit, even two or three negative findings go a long way towards ruling out tuberculosis. Bronchiectasis is commoner than many people suppose, and some of its symptoms (streaked sputum, dry pleurisy, and exacerbations due to localized broncho-pneumonia) resemble tuberculosis. Asthma and chronic bronchitis may mask tubercle, which remains undetected until the sputum is examined.

4. There is no type of sputum absolutely typical of pulmonary tuberculosis; nummular sputum occurs in other diseases, and an innocent-looking mucoid drop may swarm with tubercle bacilli. So far as my experience goes, tubercle bacilli are not often found in foul-smelling sputum, and in early cases it is not usual to find them associated with large numbers of other organisms.

5. It is worth while taking trouble to obtain a good specimen for examination, and avoiding oral, nasal, and tracheal secretion, also specimens contaminated with food and tobacco. A few simple directions to the patient, and particularly instructions as to rinsing the mouth with water before expectorating into the tube, are all that is required. Two or three spits are quite enough: one does not want a tubeful.

—I am, etc.,

County of Rosburgh, March 20th. G. B. PAGE, M.D., D.P.H.

SIR,—I heartily agree with Dr. Chandler that the "absence of tubercle bacilli after many repeated examinations . . . practically excludes tuberculosis." He wisely alludes to the "pathetic constancy of the radiologist's diagnosis of tuberculosis," and we all know how "pathetically constant" that usually is—simply because they apparently dub every abnormal shadow they see in a chest radiogram as of tuberculous origin, without reference to its being evidence of an active or passive condition, or to its having originated perhaps some years previously, or to its having some other causation. This pathetic constancy is quite equalled, if not surpassed, by some zealous tuberculosis workers of to-day, who diagnose any abnormal condition they find in a chest as of tuberculous origin, basing their diagnosis upon physical signs and ignoring the fact that the physical signs of pulmonary tuberculosis are in some respects the same, and in others closely resemble those produced by a large number of other chest diseases. They thus become blind to that large and increasing ensemble which includes bronchiectasis, silicosis, chronic interstitial pneumonia, spirillosis, syphilis, and malignant disease—all producing the "damaged lung" (of Riviere), with physical signs and x-ray appearances closely resembling tuberculosis, and, as Dr. Chandler puts it, "masquerading" in its name.—I am, etc.,

B. S. NICHOLSON, M.D., D.P.H.,  
Tuberculosis Officer, Derbyshire County Council.

Chesterfield, March 20th.

### TREATMENT OF PNEUMONIA.

SIR,—I suppose the majority of doctors would agree that most cases of pneumonia are self-curative, and nothing can be done more than general good nursing; this may be true, but it is very difficult to dogmatize or to be too certain of anything in medicine. We all have our experiences with successful cases, and again, failures. I see another new remedy in the field—sodium udeinate—and some give very good accounts of it. No doubt it is a good and proper thing to write and relate our cases; in fact, it is a pity it is not a more general habit. I might say that I have treated a few cases of pneumonia very successfully with polyvalent antistreptococcus serum. I remember one case, which was secondary to a very bad septic haemid, where the first injection of the serum brought down the temperature; again, in two days temperature was mounting up, and a second injection again brought it down, and the patient recovered.

Another was a case of double broncho-pneumonia in a child about 4 years old, where I gave in one injection a whole phial of antistreptococcus serum (Parke, Davis and Co.), and had the child put into hot packs and afterwards wrapped in blankets, producing copious perspiration. I admit the treatment was somewhat heroic, and perhaps not too pleasant for the child; but anyway it proved successful, and no doubt it was a very hopeless-looking case, and much treatment had been given for days prior to this.

However, these cases are of no importance as compared to a case related in the *Lancet*, June 21st, 1913, by Sir John Byers and Thomas Houston of Belfast. Anyone reading this case will see that very often our failures are due to the fact that we do not have a correct bacteriological diagnosis.—I am, etc.,

D. HENNESSY,

Medical Officer, Bandon, co. Cork.

March 16th.



## Medico-Legal.

### ALLEGED NEGLIGENCE IN A FRACTURE CASE.

#### A JURY'S RIDER.

AFTER listening for several days to evidence in a case in the High Court in which the members of a medical partnership were the defendants, the jury took four hours to determine their verdict in favour of the doctors, and their rider points a moral which needs emphasis. The plaintiff, Mr. Henry Stroud, claimed damages from Messrs. Bates, Bates, and Wilson, medical practitioners, of St. Albans, alleging that one of the partners, Dr. Ronald Edmund Wilson, instead of treating him for a fracture of the upper part of the right femur following a motor accident, treated him for bruised muscles and strained tendons. An x-ray photograph was not taken until thirteen weeks after the accident, and that showed a fracture of the femur which had not united. The plaintiff, as a result, went to the London Hospital, and subsequently to the Lewisham Hospital, but was discharged a helpless cripple with the intimation that nothing could be done unless he consented to a major operation involving bone grafting.

Dr. Wilson maintained that from the very first he advised the plaintiff to go into a hospital and to submit to an x-ray examination, but that the plaintiff persistently refused to act on his advice, and insisted on being treated at his own lodgings. Whilst he was suspicious of many fractures in the neighbourhood of the pelvis, the spine, the sacrum, and the femur, and actually told the plaintiff that it was quite possible that an x-ray photograph would reveal one or more, Dr. Wilson found no definite symptoms. A qualified masseur gave massage for the relief of pain and stiffness for some weeks, and the plaintiff ultimately consented to have an x-ray photograph taken.

The plaintiff's story was a blank denial. He said he had never refused to submit to an x-ray examination or to go into a hospital. Dr. Wilson had never said that such refusal by him had amounted to throwing the weight of diagnosis on the doctor's own unaided judgement. Neither had the doctor said he might treat him as if there were no fractures, whereas there might be one or more. Such a conversation had never taken place. A succession of witnesses was called by both parties. On the one hand, Miss Hilda Randall said she heard Dr. Wilson say he did not think an x-ray photograph necessary; but, on the other, Mr. J. W. G. Smith, who knew Miss Randall as "Mrs. Stroud," said he heard Dr. Wilson say, "You must go to hospital for x-ray treatment," and heard Mr. Stroud reply, "I will not go into hospital on any account. Mrs. Stroud will attend to me." Dr. Wilson's version was further supported by the masseur, Mr. Gray, who said the plaintiff himself had said he refused both hospital and x-ray treatment.

The jury felt that they were entitled to better guidance than such conflicting testimony afforded in a case where a medical man's skill and veracity were questioned. Hence the rider attached to their verdict:

"We are of opinion that Dr. Wilson should have protected himself by calling in another doctor and repeating in his presence his advice that Mr. Stroud should go to hospital and submit to Roentgen rays."

Clearly, the medical practitioner whose patient refuses to take advice should at least make a definite record of that circumstance as a safeguard against the possibility of an action at law. This is a matter on which Mr. W. E. Hempson, who is retiring from the post of Solicitor to the British Medical Association after thirty years, gave clear advice in the course of an address at Hastings two years ago. He said:

"In my experience controversy frequently arises at the trial of an action as to whether the doctor did or did not recommend some particular form of treatment which the patient or the relative refused, and no conclusive evidence is forthcoming on the subject. It may be indeed the vital point upon which the whole allegation of neglect is based, and I can recall instances in which this has been the case. The position which I indicate must, I am sure, often occur in the practice of every medical man. My advice to you is that when it does happen note it in your books; such a note as this would suffice: 'X-ray treatment advised and refused.' In addition, take the simple precaution of placing it on record in a letter to your patient, and keep a copy of it. This may be the means of saving serious trouble in the future. I have in mind one case in particular which turned on this point—namely, 'Did or did not the doctor recommend that the injury which was obscure should be x-rayed?' The doctor affirmed that he did, and that he offered to take the patient to the radiologist then and there in his own car. The patient denied that any such suggestion was made by the doctor, stating that he, the patient himself, in fact, suggested it to the doctor, who said that there was no occasion for it being done. This case passed through two trials, at a cost of nearly £1,000, and had the precaution which I now advocate been taken I am convinced that it would never have been brought into court at all."

### STANDARDS OF SOBRIETY.

THE difficulty of the police courts in the absence of any authoritative legal definition of what constitutes drunkenness is illustrated almost every day. Not long ago Sir Robert Wallace, K.C., chairman of the London Sessions, having before him a taxi-driver charged with drunkenness while driving his vehicle, intimated that if the accused were found guilty he would grant leave to appeal with a view to eliciting from the Court of Criminal Appeal some direction upon which lower courts could proceed. Unfortunately for future jurisdiction—though fortunately enough for the accused person—Sir Robert Wallace, in his address to the jury, examined the case with such nicely balanced precision, omitting no point which could tell on either side, that the jury, without leaving the box, gave the accused the benefit of the doubt, and so the case never reached a higher court at all.<sup>1</sup>

More recently, at Marylebone police court, when a man was summoned for being drunk in charge of a motor car, for driving the car in a manner dangerous to the public, and for not having a driving licence, the divisional surgeon testified that the man was drunk "in view of his symptoms and of the history of the case," whereupon the magistrate (Mr. Hay Halkett) intervened: "I want to keep you away from that. You have nothing to do with motor cars or anything like that." The divisional surgeon then explained that in his view the defendant was in a condition where lapses of judgement and errors in direction and co-ordination were likely to occur, but he agreed that if the man had been walking in the street he would not have certified him as drunk. The magistrate remarked that the law did not require a higher degree of sobriety in persons in charge of motor cars than in persons walking in the street; he agreed that it might be a good thing to exact a higher standard, but it was not the law of the land. In the result, however, the magistrate fined the defendant a total of £14 on the three charges, which included the charge of drunkenness, and disqualified him from holding a licence for twelve months.

A certain inconsequence about the conviction, following the doctor's statement that if the man had been walking in the street he would not have formed the opinion that he was drunk, and the magistrate's statement that the law does not require a higher degree of sobriety among pedestrians than among motorists, may be due to the necessarily summarized character of the newspaper reports, and the magistrate may have had further evidence which convinced him of the defendant's drunkenness. But on the face of it, we think the divisional surgeon expressed the common sense of the situation, and also that, in spite of a deprecatory frown from the bench, he might properly have regarded as a medical man to the fact that the accused person was driving a motor car, and to the facilities which motor driving demands. There is bound to be in the public judgement a higher standard for motorists or any persons in charge of complicated machinery, in whom even a momentary aberration may have disastrous consequences, than for persons without the same access. The community might well tolerate on the part of a signalman off duty a manner of behaviour which it would visit with the severest condemnation if he were in his cabin, and this, we believe, is the principle adopted by railway companies. There are not only degrees in the state of drunkenness, but degrees also in culpability arising out of the circumstances in which the drunkard or the "person under the influence of drink" is placed. But there is a further consideration—that even for the pedestrian the offence of drunkenness cannot be regarded with anything like the former leniency, for the pedestrian who is the worse for liquor may easily be the cause of a serious accident. In fact, upon the whole community a higher standard of social behaviour is being imposed by the very complexity of modern civilization. New occasions not only teach new duties, but involve new restraints.

## The Services.

### ROYAL NAVY MEDICAL CLUB.

THE annual dinner of the Royal Navy Medical Club will take place this year at the Trocadero Restaurant, Piccadilly Circus, on Thursday, April 26th, at 7.30 for 8 p.m. Members who wish to be present are asked to inform the honorary secretary, Royal Navy Medical Club, Queen Anne's Chambers, Tothill Street, S.W.1, not later than seven clear days before that date.

### NAVAL MEDICAL COMPASSIONATE FUND.

A MEETING of the subscribers of the Naval Medical Compassionate Fund will be held at the Medical Department of the Navy, Queen Anne's Chambers, Tothill Street, Westminster, S.W.1, on April 26th, at 11.30 a.m., to elect six directors of the Fund.

<sup>1</sup> See *British Medical Journal*, February 18th, 1928, p. 283.



## Obituary.

## THE LATE SIR DAVID FERRIER.

WE have received from Sir CHARLES BALLANCE the following tribute, supplementing the memoir we published last week:

Sir David Ferrier belongs to that small group of great men who rediscovered and recreated the science of experimental neurology, lost to mankind since the times of Galen. Ferrier was experimenting before Charles Beever, Victor Horsley, or myself were students of medicine. His first paper was published in 1873. In this paper numerous experiments were related bearing on the subject of the localization of the functions of the brain. Some later papers dealt with the discovery of the visual and auditory centres, and the understanding of the symptom-hemianopia, and in 1879 two papers were published, (1) on pain in the head, and (2) on vomiting, in connexion with cerebral disease. The supreme value of the experimental method was exemplified in Ferrier's life and work. He was fond of quoting from G. H. Lewes, "Every discovery is a verified hypothesis; and there is no discovery until verification has been gained; up to this point it was a guess, which might have been erroneous." Cruveilhier, in 1830, knew, as Hippocrates did, that a lesion of one side of the brain was not seldom associated with paralysis of the opposite side of the body. Broca showed at the Anthropological Society of Paris in 1861 the brain of a man who for twenty-one years had lost the faculty of speech. There was softening of the third left frontal convolution. Fritsch and Hitzig, in 1870, marked out certain centres on the brain by means of electrical stimulation; but Ferrier soon left this work far behind by precisely charting on the cerebral cortex certain centres for movement and for the special senses. How little these facts and the inferences from Ferrier's paper in 1873 had reached the mind of the profession is illustrated by the statement made in a lecture I attended six years later, in 1879, as a student, that "the brain functioned as a whole."

Ferrier's work was brought prominently into notice in the Physiological Section of the International Medical Congress in 1881. A dog was shown by Goltz and two monkeys by Ferrier. Experimental injuries had been inflicted on the cerebral cortex of each of these animals. The condition of the dog was supposed to prove that localization of function in the cerebral cortex did not exist. One of the monkeys had characteristic cerebral hemiplegia; as it came into the room Charcot remarked, "It is a patient." The other monkey showed no signs of hearing when a percussion cap was snapped in its immediate vicinity. Thus all doubt as to the truth of the great doctrine of cerebral localization was laid to rest, and the ground was prepared for the marvellous progress of the coming years. Ferrier, in the Marshall Hall Oration in 1883, said that "Up to that time cerebral localization had been absorbed like latent heat by medical science itself as distinct from medical and surgical practice, but that the unflinching safety of experiments on animals made it clear that similar results would soon be achieved on man himself." This forecast was soon to be verified by the wonderful operations of neurological surgery.

While it is comparatively easy to trace in history Sir David Ferrier's share in the progress of neurology, it is more difficult to write of his attractive and vivid personality. To me the world seems barren without the presence of my great friend. Sir David was of slight build, his mind was extraordinarily alert and full of many kinds of knowledge, and his hands were small and capable of the most delicate manipulations. I often said to him that it was a good thing for some of us that he was not a surgeon. From the time that I was elected on the staff of the National Hospital, Queen Square, now nearly forty years ago, Sir David was in all circumstances and at all times a most inspiring and kind colleague. No wonder, then, that my memory of him is one of deep affection and admiration. No time or trouble was of any importance to him if he could, by his presence or counsel, aid me in

my work. Up to the time of his last fatal illness his mind was as keen and eager concerning problems in neurology as it was when I first knew him. Many, I am sure, could testify as I am trying to do.

Sir David was never so happy as when he was able to place his rare genius and wisdom at the disposal of, and for the encouragement of, a junior. His delightful keenness and intense interest when attending an operation or an experiment often masked to other visitors the real reason of his presence, which was to give support and confidence to a friend or junior. He has built in the minds of those privileged to be associated with him a temple of gratitude, and has left behind him a rich legacy—the example of a long life of unselfish scientific labour and a record of splendid and fruitful achievement.

In the gradual evolution of truth it would seem that at the end of each stage of the history of knowledge a great man appears who is the herald of the dawn of a wider insight into light and truth. Carlyle, in his lecture on the hero as poet, takes as examples Dante and Shakespeare; he calls them "the Saints of Poetry." Two great and fit men appeared in the sixties of the last century: Hughlings Jackson and David Ferrier. They may be named "the Saints of Neurology." Hughlings Jackson represented, as Hippocrates did, the highest development of intellectual and clinical research—the very soul of neurology; while David Ferrier, the "soul of practice," awoke in the minds of his contemporaries and later fellow workers a desire to explore the old ground by the experimental method, and to unearth truths long concealed. Every part of neurology has felt the vivifying influence of the principles and practice emanating from the bold imagination and inventive genius of these great men. The influence of their labours on the progress of the physiology and pathology of the nervous system has been universal and immense, and thus to them science owes an incalculable debt.

The world moves on in a succession of dreams and their fulfilment, and the wild imaginings of one age become the splendid realities of the next. We ought never to forget what is due to those who have gone before. It is difficult for anyone to bring himself to believe that what is now the easy and obvious property and knowledge of all was once the perilous and toilsome discovery of David Ferrier. As Hughlings Jackson is the Socrates of neurology, so Ferrier may be described as the John Hunter of neurology. It was the boast of Augustus that he found Rome built of brick, and left it built of marble. Jackson and Ferrier found the knowledge of cerebral physiology practically non-existent; they have left it a beautiful science. We speak of the immortal labours of Pasteur and of Lister; it is also true to speak in the domain of neurology of the immortal labours of Jackson and Ferrier. They are among the greatest benefactors of the human race. They have made straight the way for us, their humble surgical followers.

Dr. ALDREN TURNER sends us the following appreciation:

The death of Sir David Ferrier, after an illness of some duration, recalls to many a vivid personality in the profession of medicine and work of a pioneer character accomplished more than fifty years ago. In the seventies of the last century, and for many years afterwards, the name of Ferrier was associated with certain areas of the cortex of the brain, to which he had attached specific functions as a result of original and careful experimentation. This was the first precise effort in this country to elucidate the functions of the brain on scientific and experimental lines, and to clear up much which up to that time had been vague, theoretical, and speculative in this connexion. The results of his experiments were given in a number of papers in various scientific journals, but his most important work, *The Functions of the Brain*, was first published in 1876, and in it he presented a systematic exposition of the bearing of his experiments on cerebral function. Ten years later a much enlarged and almost entirely rewritten edition was published, and attracted universal attention, as it presented to the reader what were the established facts of physiological research into the functions of the

brain, as revealed by his own work in conjunction with that of his contemporaries. Much of his original work was published in the *Transactions* of the Royal Society, in *Brain*, and in numerous lectures, papers, addresses, and communications to learned societies during a number of years. As an example of his graphic method of demonstrating his work, reference may be made to the exhibition of a monkey at the International Medical Congress in London in 1881. Before exhibition he had destroyed the first temporo-sphenoidal convolution on both sides. While the animal was disporting itself in the presence of the assembled physiologists a percussion cap was exploded. The monkey remained perfectly unconcerned and gave not the slightest indication of having heard anything, while another monkey was observed to start suddenly and show signs of fear.

At an early age, in conjunction with his colleagues Jackson, Gowers, Bastian, and others, he became one of the founders of the British school of neurology, which has contributed so extensively and fruitfully during the last half-century to our knowledge of the structure and functions of the nervous system, and has done so much to promote the study of nervous diseases throughout the world. To his medical colleagues, and to a large public, he soon became known as one of the foremost of scientific physicians of his day, and he rapidly acquired an extensive consulting practice. He served upon the medical staffs of King's College Hospital and the National Hospital in Queen Square, holding successively the posts of assistant physician and physician, and eventually becoming consulting physician. In hospital and in private practice he possessed a manner and a style in the examination and treatment of a case which carried conviction. He was an investigator rather than a teacher, a physiologist perhaps more than a clinician. The bent of his mind in youth was towards philosophy and the classics, but he developed into a man of science, and later became a physician whose opinion in difficult cases was largely sought.

Sir David Ferrier's industry was enormous. Over a period of about thirty years his working day began at 8.30 in the morning and rarely terminated before midnight. When I became associated with him in experimental work in the neuro-pathological laboratory of King's College in 1890, although his days were fully occupied with hospital duties and the heavy burdens of an increasing practice, he found time to visit the laboratory most afternoons and to assist in experiments from time to time. One of the most remarkable features of his career was that throughout his professional life he combined the pursuit of science with the practice of his profession. His earliest experimental work dates from 1873, while his last contributions were published in 1898—a period of twenty-five years. He was essentially an enthusiast both in work and play. The former had no terrors for him, while into the latter he threw all the energy, interest, and spirit of an almost boyish nature. He was a man of action, forceful in purpose and tenacious of his opinions; yet withal a man of affectionate and kindly nature, and imbued with much human sympathy. His physical and mental make-up showed the character of the man. A short and spare figure, a strong nose and chin, and sharp features, combined with great alertness of mind and manner, and an inquiring disposition, denoted the energetic and successful seeker after information. He thought clearly, wrote clearly, and spoke clearly, his speech having a slight accent, denoting his Scottish origin.

He found rest, pleasure, and recreation upon the sea. At one period of his life his autumn holidays were devoted to deep-sea fishing off the Cornish coast, while in later life he took kindly to golf. To most men retirement affords an opportunity for ease and relaxation, but to Ferrier it was an occasion for gratifying his dominant interest in medical and scientific matters. He was a regular attendant at the College of Physicians, of which he had filled most of the offices, at the Royal Society, the Royal Institution, and the Royal Society of Medicine. During the last two years of impaired health he fought his disability as strenuously as he had fought the battles over cerebral localization in his earlier life.

Mr. WALTER G. SPENCER writes:

I would like to mention the first occasion and the last one on which I had the opportunity of listening to Sir David Ferrier. On the first, at the Brown Institution, Horsley and Beever were engaged in electrically exciting areas on the surface of the brain of an anaesthetized anthropoid ape. Ferrier was looking on, and discussing confirmations and minor elaborations of results obtained by him upon lower-grade monkeys, as well as the pathological correlations which had followed. Shortly before last Christmas I was able to show to Sir David Economo's *Atlas*, just purchased by the Royal Society of Medicine for its library. As we viewed each of the much-enlarged photographs of microscopical sections taken from the surface of the brain, each demonstrating some variation in one from the other, he took special delight in noting that a difference in structure was now demonstrable, confirming differences already proved to exist as the result of experimental and pathological inquiry. It was very evident that Sir David Ferrier not only retained his memory, but had kept up acquaintance with the progress of neurology.

#### GEORGE STEVENSON MIDDLETON, M.D., M.A., LL.D.,

Consulting Physician, Royal Infirmary, and Royal Hospital for Sick Children, Glasgow.

We have to announce with much regret the death of Dr. George Middleton, one of the leading figures in the medical profession of the West of Scotland, which took place at his residence in Glasgow on March 21st, after a painful and prolonged illness.

George Stevenson Middleton was born in Aberdeen in 1853, and received his early education at the Grammar School there, proceeding later to the University and graduating in arts with honours in 1873. Among his classmates there were Sir Watson Cheyne and Dr. Andrew Laws, the medical missionary. It was, however, in Glasgow that he commenced his professional studies, graduating M.B., C.M. in 1876, and proceeding to the degree of M.D. in 1884, on each occasion with honours. In 1893 he obtained the diploma F.R.F.P.S.Glas.

After graduating Dr. Middleton held resident posts successively at the Royal and Western Infirmaries in Glasgow, being associated there with the work of Sir Hector Cameron and Sir William T. Gairdner. Later he accepted an appointment as superintendent of Knightswood Fever Hospital, but work of this kind did not possess much attraction for him, and before long he resumed his connexion with the University on becoming assistant to his former teacher, Professor Gairdner, a position which he held for thirteen years. In 1894 he was appointed full physician at the Glasgow Royal Infirmary, with which he was actively associated for nearly twenty years. His success as a teacher during this period may be judged from the fact that his former students deemed it worth while to induce him to conduct for their benefit a special class, which may be regarded as constituting the foundation of post-graduation work in Glasgow. From 1906 for several years he gave his services also as senior physician to the Royal Hospital for Sick Children, Glasgow, holding office as honorary consulting physician to that institution and to the Royal Infirmary after his retirement. During the war he held a commission as lieutenant-colonel, R.A.M.C., and was chief physician to the 4th Scottish General Hospital, Stobhill, Glasgow.

Dr. Middleton took a full share in public affairs, devoting himself largely, as was natural, to higher education. For eighteen years he was a member of the board of the Royal Technical College, Glasgow, and in 1918 he was elected to the council of the University of Glasgow, which, in 1915, had conferred on him the honorary degree of LL.D. He represented the Royal Faculty of Physicians and Surgeons on the board of governors of the Royal Samaritan Hospital for over a quarter of a century. In both the Association of Physicians of Great Britain and Ireland and in the Glasgow Medico-Chirurgical Society he had held office as president. His decision to retire from active practice was announced just over two years ago,

when, at a gathering described as unique in the medical history of Glasgow, he was entertained to dinner on the occasion of his seventy-third birthday by an assembly of his old college friends, colleagues, and assistants.

We are indebted to Dr. C. O. HAWTHORNE for the following personal appreciation:

Although Middleton held for many years a prominent position as a physician and clinical teacher in the medical school of Glasgow it was neither his professional status nor his recorded work that explained the influence he exerted on his colleagues and the regard he received from them. For long, neither himself nor his work gained much in the way of recognition. He had no gift of self-assertion, and his temperament led him to quiet studies rather than to controversial activities or to brilliant achievements. Ready methods to popular success were not for him, and his limited ability to see a virtue in compromise did not always commend him to his colleagues. He was not conciliatory when he felt a principle to be at stake, and he was inclined strongly, and even obstinately, to hold to his own views; while, if he had prejudices, he did not disguise them. Altogether, partly from circumstances, partly from his personal qualities, the earlier part of his professional life was hardly an easy one or an encouraging one.

The later part of the story is of happier quality, for it includes confidence freely given and fully justified, work worthily accomplished, merit recognized, and "honour, love, obedience, troops of friends." And the contrast between the earlier and the later years finds its explanation in the character and personal qualities of the man as these gradually became manifest in professional work and responsibilities, and in the opportunities of social life and comradeship. Efficiency and thoroughness and sincerity were the conspicuous notes of his practice as a clinical teacher and physician, and many of his pupils and house-physicians became not only his disciples, but also his devoted admirers and affectionate friends. Gradually his capacity for sound and impartial judgement and his unbending rectitude won the confidence of his colleagues, and thus high duties were entrusted to him without hesitation. Everyone recognized, whether in agreement or in disagreement, that he was ever loyal to what he conceived to be the worthy motive and the larger interest. His decisions and opinions might be questioned, but never his integrity. In personal friendships, as in public affairs, he knew the meaning of loyalty and sincerity and frankness. No master of smooth phrases, he never shirked a candid judgement, and his counsel, often sought, was valued even when it was unpalatable. To the new generation Middleton was necessarily the representative of the older school and the established tradition, but those of us who knew him well through many chequered years will recall him as one who, "in praise and in dispraise the same," held ever a steady course and gave of his best to the cause and service of professional duty and of loyal comradeship.

#### RICHARD JOHN KINKEAD, M.D.,

Professor of Obstetrics and Gynaecology, University College, Galway.

We regret to announce the death of Dr. Richard John Kinkead, for fifty-three years professor of obstetrics and gynaecology at University College, Galway, which took place at his residence there on March 18th, at the age of 84.

The son of a clergyman, he was born at Ballina, county Mayo, in 1847. He received his medical education at the schools of the Royal College of Surgeons of Ireland and Trinity College, Dublin, obtaining the diplomas L.R.C.S.I. and L.M. in 1865 at the age of 19, and graduating M.D. (Dubl.) in 1873. For a brief period, between 1865 and 1867, he practised in Tuam. In 1875 he was appointed professor of obstetrics and gynaecology at Queen's (now University) College, Galway, and held that appointment to the time of his death, being also lecturer in medical jurisprudence and hygiene. He acted as examiner in these four subjects to the National University of Ireland. For nearly fifty years he was gynaecologist at the County Infirmary, now merged in the Central County Hospital, Galway, and for an almost equally long period, covering

the troubled times of the earlier Home Rule agitation, the Sinn Féin disturbances of the pre-treaty years, and the later civil conflict, he was medical officer at Galway Prison. Dr. Kinkead was a Fellow of the Royal Academy of Medicine of Ireland, and had held the office of president of the Irish Medical Association. He was the author of a number of publications, of which the titles are a sufficient index to his versatility; they included *Our Homes*, *The Irish Medical Practitioners' Guide*, *Insanity*, *Inebriety and Crime*, and *Our Senses and How They Serve Us*.

The affairs of the College to which he was attached attracted a large share of his attention, apart from his teaching work. He was a member of the council of the old Queen's College and of the governing body of its successor, one of the constituent units of the National University of Ireland, until recently, and as auditor of Queen's College gained fame as a public speaker. He had for some time past been unable to fulfil his professional duties, but the governing body of the College decided, in recognition of his work, to retain his services.

In the Church of Ireland he ranked among the leading personalities in the diocese of Tuam throughout his life, and a few years ago his services were recognized by a presentation from the bishop, clergy, and laity. He was a member of the General Synod of the Church, and lay honorary secretary of the Tuam Diocesan Synod; and in his own parish of St. Nicholas had occupied almost every office open to a layman. As a Freemason he held the position of Provincial Grand Master for South Connaught.

A colleague, "J. M.," writes: A man of remarkable force of character and originality has passed away in the person of R. J. Kinkead, who has been for several generations of medical students one of the outstanding figures of University College, Galway, which, although one of the smallest and poorest of the university centres of Great Britain or Ireland, has a far-flung chain of alumni wherever English is spoken. In the training and education of these men to adapt themselves so well to all circumstances Kinkead took a large part. He was a fearless operator and never failed to command the interest of his class in the lecture room and the wards. His interest in professional affairs was unflagging, and many years ago he was elected by his professional brethren, president of the Irish Medical Association. A phase of his work which brought him into the limelight which illumines the ephemeral political celebrities and those in contact with them in a country given to political activity, was his position as surgeon to the county gaol, which was frequently in former troubled days selected for the concentration of a number of political prisoners. In a very difficult position Kinkead ran his course so fairly and evenly that no party had any opportunity to attack him. Among those who came under his care were the late Mr. John Dillon and the late Mr. William O'Brien. In addition to his professional activities he took a large part in the life of the community. With his outspoken honesty, robust common sense, wide sympathy with his fellows, and large outlook on life he filled a place in the regard and esteem of his contemporaries not often attained, and I think this short and inadequate tribute will find an echo wherever the past students of Galway College are to be found.

#### JOHN PERCY INGHAM HARTY, F.R.C.S. Eng., B.A., M.B., B.Ch. R.U.I.,

Surgeon, Ear, Nose, and Throat Department, Bristol Royal Infirmary.

We regret to announce the death, at the early age of 47, of Mr. John Percy Ingham Harty, honorary surgeon to the ear, nose, and throat department of Bristol General Hospital, who died on March 10th after an operation for duodenal ulcer.

Mr. Harty received his early medical education at Queen's College, Cork, and in 1902 graduated M.B., B.Ch., B.A.O. R.U.I. After spending several years in private practice at Halifax, he decided to specialize in nose and throat work, and studied in Leeds and London. In the short period of eighteen months he passed both the primary and final examinations, and in 1912 obtained the diploma

F.R.C.S. Eng. After holding resident appointments in London and Cardiff, he went to Bristol as house-surgeon to the ear, nose, and throat department of the Royal Infirmary, subsequently becoming registrar of the department, and beginning private consultative work with immediate success.

Mr. Harty was a keen Territorial officer, and on the outbreak of the late war was mobilized with the 3rd South Midland Field Ambulance. He accompanied that unit to France early in 1915, but soon afterwards was attached to the 6th General Hospital at Rouen as a specialist, and organized the nose and throat department for the Rouen base. While holding this appointment the illness first developed which ultimately caused his death. Towards the end of the war he was transferred to the Royal Air Force, and served with it as a specialist until his demobilization in 1919. On returning to Bristol he resumed his work, and in 1921 was appointed honorary surgeon in charge of the ear, nose, and throat department of the Royal Infirmary. He held a number of other public appointments in Bristol, being clinical lecturer on laryngology to the University, consulting surgeon for diseases of the ear, nose, and throat to Southmead Hospital, and aural surgeon to the Education Committee. He was a member of the British Medical Association and of the Bristol Medico-Chirurgical Society.

A colleague writes: The death of J. P. I. Harty has deprived Bristol of one of its best known consultants, and has caused a gap in the circle of his colleagues and friends which it will be well-nigh impossible to fill. Those who met him for the first time after the war little realized how much it had changed him. A noted Rugby player (he played twice for the South of Ireland, and was "capped" for his medical school all the time he was a student), he played most games well, and was endowed with a magnificent physique. A typical cheery Irishman, with a never-ending fund of good stories and jokes, he was the best of companions, beloved alike by his colleagues and patients. From the date of his first illness in France he never enjoyed good health, and in later years, in spite of numerous operations, he was greatly aged and never free from pain—at times very severe—but always so bravely borne that those who did not know him well seldom had any idea of the distress he was enduring. He "did great good by stealth." The shoals of letters received from his poorer patients are an eloquent testimony to the affection he inspired in them. He married, in 1916, Helen Dorothy, daughter of the late Dr. Clarke of Kensington, and leaves two young sons.

#### JAMES DAVISON, M.D., M.S., M.R.C.P.,

Consulting Physician, Royal Victoria Hospital, Bournemouth.

It is with much regret that we have to announce the death of Dr. James Davison of Bournemouth, who died there on March 18th, in his eighty-second year, as the result of an attack of pneumonia supervening on an illness which had kept him confined to his bedroom for several months.

He was a native of county Down, and commenced his medical education at Queen's College, Belfast, proceeding later to Dublin, and graduating M.D. in the Queen's University of Ireland in 1869, and M.S. ten years later. He afterwards pursued his studies in Edinburgh and London, and in 1889 he obtained the diploma M.R.C.P. Lond. For a short time after beginning his professional career he practised in Sheffield, where he was demonstrator in anatomy in the Sheffield Medical School, and afterwards he visited South Africa and New Zealand. On returning to England he settled down in Bournemouth, commencing in 1882 the association with that place which continued until his death. There Dr. Davison soon established an extensive family practice, although in later years he specialized in diseases of the ear, nose, and throat. He was among those largely responsible for the establishment and organization of the Royal Victoria Hospital, Bournemouth, which was opened in 1891. For a period he served on the staff as senior physician and physician in charge of the ear, nose, and throat department, and he was latterly consulting physician to the hospital. In 1888 he was elected physician

to the Royal National Sanatorium for Consumption and Chest Diseases, Bournemouth, being consulting physician at the time of his death. He was also honorary examining physician to the Alexandra Sanatorium, Davos, Switzerland.

Dr. Davison, throughout his active life, took a considerable part in professional affairs, and over a long period filled various offices in the British Medical Association, being a member of Council in 1910. The period of his service as honorary secretary of the Dorset and West Hants Branch included the year 1891, when the Annual Meeting of the Association was held at Bournemouth; as local secretary his ungrudging expenditure of time and money did much to make the meeting a success. In the Dorset Branch he was a member of the council for several periods, acted as secretary for a second term, and held office as president in 1886. At the Annual Meeting of the Association in 1892 he was vice-president of the Section of Diseases of Children. Only last year, in making a routine communication to the Central Office, Dr. Davison took occasion to express his continued interest in the advancement of the Association's work and to voice his regret at being unable to see the new premises. He was also a Fellow of the Royal Society of Medicine and of the Medical Society of London, and had been president of the Bournemouth Medical Society and vice-president of the British Laryngological, Rhinological, and Otolological Society.

His favourite recreation most of his life was horseriding, and in his earlier years he was a keen follower of hounds, riding regularly with Lord Portman's and the New Forest packs, and it was with regret that he was forced, with the passage of time, to abandon this pastime. While he did not take any very prominent part in public affairs, other than those associated with his profession, he was a well-known and popular figure in Bournemouth.

At the funeral at St. James's Church, Pokesdown, representatives were present from the Dorset and West Hants Branch of the British Medical Association, the Bournemouth Medical Society, and the staffs of the Royal National Sanatorium and of the Royal Victoria and West Hants Hospital. Dr. Davison is survived by his widow and two daughters.

#### HENRY GOFF KILNER, M.B., B.S.,

Honorary Surgeon to the West Suffolk General Hospital.

By the sudden death, on March 17th, of Dr. H. G. Kilner, at the age of 42, East Anglia has lost one of its most greatly loved and talented sons. The second son of Dr. Charles Scott Kilner, Henry Goff Kilner was the fourth generation of that family to practise medicine in Bury St. Edmunds. Educated at King Edward VI's School in Bury, he entered the Middlesex Hospital, where, after a brilliant career in the medical school, he gained the senior Brodrip Scholarship. After qualifying as M.R.C.S., L.R.C.P. in 1909, he held the appointments of house-physician, house-surgeon, and obstetric house-physician, and became demonstrator in anatomy. He graduated M.B., B.S. Lond. in 1912, and was appointed house-surgeon at St. Peter's Hospital for Stone. On the outbreak of war Kilner was gazetted second lieutenant to the 5th Suffolks, and served as a combatant till the Army Order of the summer of 1915 requisitioned medically qualified men to associate themselves with the R.A.M.C. He was present at Gallipoli, where he served in a hospital ship. Subsequently he was on the headquarter staff at Mudros, and then in Egypt with the 29th Division. At a later date he served with the 7th Field Ambulance in France, and became D.A.D.M.S. to the 2nd Cavalry Division. While there he was awarded the Croix de Guerre and was twice mentioned in dispatches.

Returning to Bury St. Edmunds after the war, Kilner acted as surgeon to the hospital for disabled men under the British Red Cross Society and the Ministry of Pensions, and was elected honorary surgeon and honorary radiologist to the West Suffolk General Hospital. He was a loyal worker in the British Medical Association. He served on the Suffolk Branch Council in 1920-22, was the representative of the West Suffolk Division in the Representative Body in 1920-21, and was a member of the Executive Committee of the Division in



1923. In 1916 he had married Olive Simpson, the daughter of the late R. T. Simpson and Mrs. Simpson of Horsecroft. His widow is left with two young children, aged 7 and 4, to mourn their loss.

"C. E. L." writes: Kilner was a humanist to the core, and he could never spare himself where he felt that anyone was in need of him. His kindness was unbounded, and it is many a lame dog he has helped over a stile. The hundreds that thronged the churchyard bore eloquent testimony to the love and respect of numberless patients whom he had benefited. He was the most loyal of friends and the best of companions, and over all there was that abiding cheerfulness and inexplicable charm which comes not from the head, but from the heart. The wind, the sun, and the open country were as the breath of life to him. He was a keen naturalist and an archaeologist of no mean order. He was perhaps most happy tramping over his native soil in search of some rare bird or on his way to show a friend one of the many architectural glories with which his countryside abounds. He loved life, and his spirit of enjoyment was infectious. *Vale, vale, dilectissime!*

Another colleague writes: Kilner was an exceptional man. In addition to bearing the brunt of a busy practice he did an immense amount of work at the West Suffolk General Hospital which was invaluable. Nothing but a boundless energy and complete unselfishness could have enabled him to cover the ground he did. He was a first-class general surgeon, and owing to his training at St. Peter's had a special knowledge of genito-urinary work. Few men would have had the energy to undertake any more for the hospital; yet Kilner took over the x-ray department almost in its infancy, and worked it up to a state of efficiency of which the hospital is justly proud. He also assisted the consulting orthopaedic surgeon, and was in charge of the department between his visits. Whatever the pressure of work, no one ever appealed to Goff Kilner for help in vain, and his death leaves a deep sense of personal loss which is felt by all his colleagues in West Suffolk.

#### LIONEL R. FIFIELD, F.R.C.S.,

Surgical First Assistant, London Hospital.

THE tragic death in a street accident of Mr. Lionel Richard Fifield on March 21st, at the age of 30, has removed a most promising surgeon. He received his medical education at the London Hospital, where he obtained the diplomas M.R.C.S., L.R.C.P. in 1921, and the F.R.C.S. Eng. in 1923. Previously to this he had enlisted as a combatant in the war, and served in France, where he was wounded, and received a commission. He held various resident appointments at the London Hospital, including that of house-surgeon to the surgical teaching unit under Mr. H. S. Souttar; for some years he was demonstrator of anatomy, and in 1925 he was appointed surgical first assistant. As an operator Fifield was quick and careful, and his judgement was always to be depended on; his clear reasoning and power of lucid explanation rendered him very popular as a teacher. He was highly esteemed in the Law Courts as a reliable witness and a surgeon equipped with sound knowledge and skill in presenting the facts of a case and the inferences to be drawn from them. His publications included *Minor Surgery*, which was reviewed in our columns on November 7th, 1925 (p. 850), and *Infections of the Hand*, which was noticed on August 6th, 1927 (p. 218). He recently obtained the Buckston Browne prize of the Harveian Society for an essay on new growths of the bladder, which is to be published in book form. A colleague writes: Brilliant though he was, and recognized by all who knew him as a man of great ability and promise, he will be remembered even more, perhaps, for his kindly generous nature, unassuming modesty, genial humour, and unfailing sympathy. A man of keen ambition and indomitable energy, he was the soul of honour and incapable of any petty meanness or doubtful jockeying which might procure him advancement. A large gathering of the London Hospital staff, residents, and students attended the funeral ceremony; their numbers bore eloquent testimony to the affection and esteem in which their friend and colleague was held.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week had a second reading debate on the Equal Franchise Bill introduced by the Home Secretary. On the Consolidated Fund Bill discussions arose on the state of the populations in distressed mining areas and on the wisdom of placing the three fighting services under a central control. Several medical members were prepared to speak but could not, as the debate was curtailed for other business.

Objection was taken to the second reading of the Edinburgh Corporation Bill on March 23rd, and it was set down again for March 30th. The Edinburgh Corporation and the members representing the city are anxious that time should be provided for a discussion of its proposals for the control of venereal disease.

The House of Commons will adjourn for the Easter recess on April 5th and reassemble on April 17th.

### Bills.

On March 21st a bill to regulate the methods of slaughtering animals was presented by Mr. Noel Buxton, supported by Dr. Drummond Shiels.

On March 20th Miss WILKINSON introduced a bill to regulate offices and the employment of young persons therein. She said it sought to extend to people who worked in offices some of the protection at present given to those who worked in factories. The conditions in many big cities were rapidly growing worse, and something ought to be done to protect the health of the men and women who worked in offices. Many employees had to work under artificial light all day and every day, right through the summer, not only in old but in new buildings. In one of the best and newest offices in the City of London large provision was made for underground office accommodation. Damp was another enemy in these basement offices. She had brought to her notice the case of an office where girl clerks worked in the basement while books were stored in the sub-basement. The occupier found that his records and papers were mildewed, so he exchanged the places of the girls and the books. When she interviewed him this occupier said he could get no other office in which the girls could work. The effect of such conditions was worse because many of these girls worked long hours and special overtime at quarter-days. In some cases the electric light had a bad effect on the eyes. One-third of the disease among those who worked in offices was due to phthisis, and 122 out of every 1,000 died by diseases caused by working in cramped spaces with bad light, bad ventilation, and long hours. Many employers would welcome some legislation, and long hours. The bill made provision for adequate ventilation, latrine action. The bill made provision for proper sanitary accommodation, lighting, and heating, and for proper sanitary accommodation. It threw the burden of keeping offices in a proper condition on the owner. It would prevent overcrowding and would prevent any premises being used as underground offices which were not so used when the bill became law. The bill, which was supported by Dr. Drummond Shiels, was read a first time without a division.

### Invaliding from the Navy.

In the report stage of the Navy Estimates, on March 22nd, Sir GERALD HONLER returned to the question of invaliding out of the navy. He said he was not satisfied that, in deciding whether a man's invaliding was attributable to or aggravated by service, the Appellate Board had sufficient evidence concerning the state of the man might wish to make. There was some defect in the system. He cited the case of a man who got dysentery in the Red Sea, was sent to Malta, ordered home, recalled to the Red Sea, and became a constant invalid without an invaliding pension. Rear-Admiral BEANSMITH said he could not return too often to the question of tuberculosis and the invaliding of men. Invaliding was made upon secret and confidential instructions received from the Admiralty from the Treasury. He did not know whether there was any method by which the House of Commons could get hold of these instructions and see them. The rate of tuberculosis had been higher in the navy for at least four of the last five years than it had been in the army, and conditions of life in the navy were largely responsible for that difference. He urged that some change should be made, not only in the methods of invaliding men, but in the composition of the boards which invalidated them, and in the recognition of attributability in diseases and injuries for which the men were invalidated. Mr. KELLER said that very little regard was paid to the living conditions of the men of the lower deck on board ship, and modification of the men of the lower deck on board ship, and that so many of them were troubled with tuberculosis and other diseases. Dr. VERNON DAVIES said tuberculosis was a most serious subject, and he desired to arouse in the navy so that the Admiralty would feel compelled to do something. At present only 3 to 5 per cent. of the cases were held to be attributable. Men who went into the navy passed a medical examination so difficult that only 10 per cent. of recruits succeeded in passing the tests. They went in for five or ten, or fifteen years, then developed tuberculosis, were invalidated, and the Government and medical authorities said the disease was "not attributable." They could not wonder that men who went into the service physically fit, in the prime of their youth and came out practically condemned to death must hold the service had something to do with it. The different incidence of tuberculosis in the army and navy was not surprising in view



Mr. BALDWIN said that the present was a period of transition, and a continuation of the present methods met our peculiar conditions best. He would like to show, by way of illustration, what was being done by co-operation between the hospitals at the present time. In that respect there had been a move forward in the last year or two. The Royal Air Force had moved from the hospital at home, except the two big hospitals at Aldershot and Granwell. They had no hospital at Aldershot, but there was a small officers' hospital of twenty-five beds at Uxbridge for dealing with flying accidents which might occur at that centre. But abroad, where the Royal Air Force was in control, they maintained their own hospitals, and during 1925 there were up to 3,000 admissions of personnel of the navy, the British and Indian armies, and local forces of Iraq and Palestine treated in the Royal

Air Force hospitals. The military hospitals at Cosham and Devonport were closed in that year, and arrangements were made for the sick of the Portsmouth military area and of the military stations in the Devonport area to be treated in the Royal Victoria Hospital at Netley or the Royal Naval Hospital at Haslar; and the Royal Naval Hospital at Plymouth. No fewer than 3,000 of the R.A.F. personnel received treatment in the naval, army, and civilian hospitals during the last eighteen months. In the same way there had been considerable treatment of Air Force and army patients in the naval hospitals, both at home and abroad.

The possible pooling of other hospital arrangements had been examined, and in some cases had been found impracticable, but there were some places which were still under investigation. The Air Force itself made no general contracts in regard to medical supplies; it took the existing army contracts. Standardization and pooling had been agreed to in principle in regard to the ambulance trains, and the details were being worked out. The India Office was being invited to co-operate, and a number of other matters were now being studied by the general medical services, etc. In research co-ordination was effected through three co-ordinating boards for chemistry, physics, and engineering.

#### *Destruction of Vermin.*

In the House of Lords, on March 27th, Lord STRATHSPEY moved the second reading of the Public Health (Destruction of Vermin) Bill. He explained that the bill provided that if it appeared to the local authority, on the certificate of the medical officer or sanitary inspector, that any articles in any premises used for human habitation were infested with vermin, or were likely to be so infested, the local authority, at its expense, should cause those articles to be cleansed, disinfected, or destroyed. If it appeared to the local authority, on the certificate of the medical officer or the sanitary inspector, that any premises used for human habitation were infested with vermin the local authority should give written notice to the occupier or the owner if the premises were vacant, requiring him to cleanse the premises. The notice might require the removal of wallpaper or other covering from the walls. As a penalty for default a fine not exceeding £5 was provided, and a daily penalty of 10s., and the local authority was authorized to do the work and to recover the costs. Clause 3 provided that on the application of any person the local authority might take such measures as were deemed necessary to free that person and his clothing from vermin. Where it appeared to the local authority, on a report from the medical officer, that any person or his clothing was infested with vermin, and that person consented to be removed to a cleansing station, the local authority might cause him to be so removed. If he did not consent a petty sessions court, if satisfied on the application of the local authority that it was necessary, could make an order for his removal to the cleansing station. It was provided that the cleansing of females should be effected only by a registered medical practitioner or by a woman duly authorized by the medical officer. As soon as the occupier of a house became aware that it was infested he was required to send notice to the medical officer of health, and if a person became infested he must notify the medical officer.

LORD BANBURY moved the rejection of the bill, and said it was absolutely unnecessary. It enacted clauses already in existence, and some of the new clauses converted the private individual into a police officer. They would compel him to do the business of the local authorities, who already had powers through their medical officers and sanitary inspectors to find out if people had got vermin on them or not. Viscount GAGE said that the Minister of Health was not convinced that any real defect existed in the present law on these matters. After further discussion Lord BANBURY'S motion was carried without a division, and the bill was rejected.

*Diphtheria among Elementary School Children.*—MR. OTTO NICHOLSON asked, on March 22nd, whether parents of children attending elementary schools in the county of London were notified of cases of diphtheria in such schools, and given an opportunity of isolating any child who had been attending; and whether there was disinfection of classrooms in which cases had occurred. Lord EUSTACE PERCY said the arrangements made by the London County Council for dealing with cases of diphtheria in ordinary schools were based on experience over twenty years, and he was advised that all reasonable precautions were taken. He did not propose to interfere.

*Health of Workers in Artificial Silk Factories.*—MR. KELLY asked Sir W. JOYNSON-HICKS, on March 22nd, whether any of the reports received from Lancashire or Derbyshire on artificial silk factories showed that work in them was harmful to health. Sir W. JOYNSON-HICKS said the reports did not show this. Complaints about the Derbyshire works had been received in 1925 and 1926, but extensive alterations had since been made in plant and buildings, and no further complaints had been received. Mr. KELLY asked whether any recent reports had mentioned blindness due to working in the artificial silk industry. The HOME SECRETARY replied that no complaints had been received for a considerable time, and urged that if Mr. Kelly had information showing that blindness had arisen from working in the industry he should furnish the information to the Home Office. Sir WILLIAM added that he was unaware that any recent report from a Home Office inspector had mentioned any cases of eyesight being affected or of workers being operated upon for blindness. Artificial silk was a new industry. Home Office inspectors were watching it carefully, but at present had no evidence to establish it as being dangerous in any particular.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

DR. W. W. JAMESON, medical officer of health for Horsey and lecturer on public health and preventive medicine at Guy's Hospital Medical School, has been appointed, as from January 1st, 1929, to the University Chair of Public Health at the London School of Hygiene and Tropical Medicine.

The degree of D.Sc. in Anatomy has been conferred upon Professor W. E. Lo Gros Clark, F.R.C.S.

The Committee of the Medical Members of the Senate has appointed Dr. John Fawcett as its chairman for the remainder of the academic year.

### UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examination indicated:

FINAL M.B., Ch.B.—Part I: J. D. Bright-Richards, J. P. Flanagan. Part II: A. L. Beresford, A. E. Carroll, A. Gardner, W. W. Gerrard, G. A. Talwin-Jones.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—N. J. Barton, R. V. Berrington, E. O. Fox, Norah M. Walker.

DIPLOMA IN TROPICAL HYGIENE.—R. R. Evans, W. J. Laird, H. V. R. Miller, G. H. Pearson, J. H. Pottinger, S. A. Wilkinson.

### VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examination indicated:

D.P.H.—W. C. V. Brothwood, Miriam Florentin, T. Peirson, J. B. Wiley. DIPLOMA IN PSYCHOLOGICAL MEDICINE, PART I.—R. Handley, J. E. Howie, W. H. Shepley, H. Stafford.

The following awards have been made: Sidney Reusshaw Prize in Physiology, E. Davis; Danutsey Senior Medical Scholarship, R. V. Wright; Danutsey Junior Medical Scholarships, C. H. Gray, Philip Zimmermann.

### UNIVERSITY OF DUBLIN.

#### TRINITY COLLEGE, DUBLIN.

IN addition to those whose names were published last week (p. 529) receiving the degrees of M.B., B.Ch., B.A.O., the following have been approved at the examinations indicated:

FINAL M.B., PART I.—*Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene; Pathology and Bacteriology.*—A. G. Thompson, Lilla M. Spiller, T. E. McMahon, C. M. Taylor, M. E. Kirwan, R. P. M. Garrido, E. B. Lee-Wilson, F. O. W. A. Mahon. PART II.—*Medicine.*—D. S. P. H. Dundon, H. R. F. Treedy, R. F. W. K. Allen, A. J. Bur, J. Sayers, K. Watson, E. K. Malone, C. M. O'Brien, M. E. G. P. Martin, F. R. Falkner, I. W. Pigott, C. King, J. P. McGinn, R. M. Wilson, J. F. K. MacCarthy-Morrogh, J. E. McMahon, H. S. North, R. H. Bland, Mollie Finegan, J. A. Dowds, A. J. Burden. \* Passed on high marks.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—P. O. Basu, M. Hurwitz. MEDICINE.—E. E. Bowen, K. J. M. Graham, H. J. Harcourt, M. Hurwitz, J. Beckitt, E. E. Bowen, M. Hurwitz. FOR . . . J. C. F. White, W. Ziv. K. McCoan, L. W. Sanders, W. Ziv.

MDWIFERY.—M. . . The diploma of the Society has been granted to Messrs. E. E. Bowen, H. J. Harcourt, and N. S. J. Roberts.

## Medical News.

SIR HUMPHRY ROLLESTON, on the occasion of his visit to Philadelphia to take part in the Harvey Tercentenary celebrations there, has been made an Honorary Doctor of Laws of Jefferson Medical College.

THE PRINCE OF WALES, as President of King Edward's Hospital Fund for London, has appointed Mr. Eardley Holland, M.D., F.R.C.S., F.R.C.P., to be a member of the Distribution Committee in place of Sir Francis Champneys, Bt., M.D., F.R.C.P., who has retired from the committee after eighteen years' service.

A CONJOINT meeting of medical practitioners and pharmacists will be held under the auspices of the South-East Metropolitan Branch of the Pharmaceutical Society, with the co-operation of the neighbouring Divisions of the British Medical Association, on Thursday, April 19th, at the Borough Medical Association, on Thursday, April 19th, at 3 p.m. Dr. E. G. Anais, Hall, Royal Hill, Greenwich, will take the chair, medical officer of health for Greenwich, will take the chair, and Dr. J. Stanley White will deliver a lecture, illustrated by films and slides, on some recent aspects of biological therapy.

At a meeting of the Royal Sanitary Institute to be held in the Sessions House, Maidstone, on Friday, April 13th, a discussion on the health of hop pickers and the sanitation of hop pickers' encampments will be opened by Dr. Alfred Greenwood, medical officer of health for Kent. The chair will be taken at 5 p.m. by Professor A. Bostock Hill. On the following day visits will be made to hop pickers' encampments and hospitals.

THE second lecture of the post-graduate course on cancer at the Leeds Medical School will be given on April 4th by Professor G. E. Gask on radium in the treatment of malignant disease. The first of these lectures was given by Sir Berkeley Moynihan on March 7th, and the final one will be delivered on May 9th, when Professor G. Grey Turner will discuss cancer of the rectum. The lectures are free to medical practitioners, who should, however, inform the secretary of the British Empire Cancer Campaign, 47, Park Square, Leeds, or their intended presence at least two days before the lecture.

A SERIES of six clinical demonstrations of types of mental disease, illustrated by numerous cases, will be given at the Maudsley Hospital Medical School, Denmark Hill, S.E.5, by Dr. Edward Mapother, medical superintendent, on successive Wednesdays, commencing on April 25th, at 2.30 p.m. The fee for the series, payable at the hospital, is one guinea. The first demonstration will deal with congenital and early types and with conditions associated with endocrine disorders; the second will cover psychoses associated with epilepsy and with syphilis, and the third psychoses associated with senility, with arterio-sclerosis, and with certain organic diseases of the brain. Alcoholic psychoses and dementia praecox will be the subjects of the fourth demonstration, and delusional states of the fifth; while the sixth and last, on May 30th, will be concerned with states of exaltation and depression.

WE gave an outline last week (p. 510) of the provisional programme for the Conference on Rheumatic Diseases to be held at Bath on May 10th and 11th. It will be followed on Saturday, May 12th, by the annual meeting of the Balneological Section of the Royal Society of Medicine. There will be demonstrations of treatment on appropriate cases at the hot mineral baths at 9.30 to 11 a.m., and of clinical cases at the Royal Mineral Water Hospital from 11 a.m. to 12.15 p.m. Those taking part in the Conference on Rheumatic Diseases are cordially invited to attend these demonstrations.

THE first general meeting of the Wolverhampton and District Clinical Club was held in the board room of the General Hospital on March 20th, with Dr. S. C. Dyke in the chair. Discussion centred on the constitution, which is designed to give members of the club an opportunity for exchanging experiences and opinions in an informal way. A programme of meetings has been arranged. The next meeting will be held at the General Hospital on Tuesday, April 17th, at 8.30 p.m. The honorary secretary is Dr. R. L. Mackay, Woodfield Avenue, Wolverhampton.

THE Board of Education announces that its Medical Branch will be transferred from 54, Victoria Street, S.W.1, to Whitehall, on April 2nd. Correspondence from that date should be addressed to the Secretary, Board of Education (Medical Branch), Whitehall, S.W.1.

THE Standing Committee appointed by the Board of Trade heard evidence on March 19th and 20th in connexion with an application for an order that imported instruments used in the medical, dental, and veterinary professions, dental supplies, and dental furniture should bear an indication of origin. The inquiry was closed, and the report of the committee will in due course be made to the responsible Minister. In the application, the Surgical Instrument Manufacturers' Association and the Association of Dental Manufacturers and Traders of the United Kingdom were supported by the Sheffield Surgical Instrument Makers' Association, opposition being offered by a group of dealers and importers. It was stated on behalf of the applicants that they desired to ensure that there was no chance of their products being confused with inferior foreign-made goods, and it was alleged that in some cases imported instruments were stamped as British after being received in this country. Another statement suggested that the Germans did not mark their inferior products, but stamped their best articles "Made in Germany." A witness for the opposition said marking would cause great trouble. Purchasers were usually more interested in the quality than in the origin of goods, while hospitals bought British or foreign supplies according to the funds at their disposal.

THE Guide to the British spas and climatic health resorts, which is published as part of the *Medical Directory* for 1928, has been reprinted in booklet form, and may be obtained from Messrs. J. and A. Churchill, 40, Gloucester Square, W.1, price 1s. net. The Guide includes lists of hotels, hydros, and other residential accommodation.

THE House and Library of the Royal Society of Medicine will be closed from Thursday, April 5th, to Tuesday, April 10th, both days inclusive.

THE International Labour Office has published six more leaflets (Nos. 82-87) dealing with accumulators (storage batteries), acetylene, aniline, arseniuretted hydrogen, aviation or aviator's sickness, and tetra-ethyl lead. They may be obtained from the director of the London office of this organization, 12, Victoria Street, S.W.1.

THE Rumanian authorities have placed at the disposal of the Privy Council a limited number of invitations to the fifth International Congress on Thalasso-Therapeutics, to be held at Bucarest and Constantza between May 21st and 29th. Applications for invitations should be made to the Privy Council, Whitehall, S.W.1.

THE diphtheria case and death rate for the year 1926 were the lowest ever recorded in the United States, the death rate being 7.5 per 100,000 and the case rate in forty-seven States 80 per 100,000. In 1927 there was a reaction, thirty-seven States showing an increase of 15.7 per cent. over 1926 and 15 per cent. over 1925.

THE French Academy of Medicine has decided to class malonalurea (barbitone) derivatives as dangerous substances falling within the third category of poisonous substances, as laid down by the decree of 1916. This does not necessitate their being kept in special locked cupboards, but ranks them with such drugs as chloral hydrate and the tinctures of digitalis and belladonna. The decision was reached after a recommendation had been received from the Society of Therapeutics, consequent on a case of suicidal poisoning due to one of these derivatives.

THE following appointments have recently been made in the French faculties of medicine: Dr. Debeyre, successor of the late Professor Laguesse in the chair of histology at Lille; Dr. Richou, professor of medical pathology; and Dr. Hamant, professor of clinical surgery at Nancy.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, *British Medical Association House, Tavistock Square, W.C.1*, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are MUSEUM 9361, 9362, 9363, and 9364 (internal exchange, four lines).

THE TELEGRAPHIC ADDRESSES are:

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), Articulate Westcent, London.

MEDICAL SECRETARY, Medisera Westcent, London.

The address of the Irish Office of the *British Medical Association* is 16, South Frederick Street, Dublin (telegrams: *Macillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumshough Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 24361 Edinburgh).

## QUERIES AND ANSWERS.

### FLUSHING OF THE HANDS.

DR. A. LEE (Bournemouth) asks for suggestions for the treatment of a case of "red hands" in a married woman, aged 24. The condition is probably due to a vasomotor disturbance, since the hands flush up on the slightest provocation—as, for example, when the patient meets people or takes a mild alcoholic drink; otherwise she enjoys extremely good health.

### MEAT EXTRACTIVES AND GASTRIC JUICE.

"BETA" asks if there is any definite evidence that meat extractives produce an excessive flow of gastric juice, which is usually hyperacid, and therefore causes increased motility of the stomach walls.

### MILROY'S DISEASE.

DR. A. HAWKARD (Leeds) asks for suggestions for treating a case of Milroy's disease, or hereditary oedema of the legs. The patient is a woman, aged 35, and is in good health generally. The condition was first noticed six or eight years ago.





## Remarks

ON

## THE HAEMORRHAGIC DIATHESIS.\*

BY

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F.R.C.P. LOND.,

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The title "The haemorrhagic diathesis" includes all varieties of primary purpura. Secondary symptomatic purpura will be referred to incidentally. Haemophilia is not included.

The primary purpuras are divided into two groups: (1) haemorrhagic purpura; (2) anaphylactoid purpura. The first group includes all grades of severity in which the escape of whole blood from the vessels constitutes the essential feature. The anaphylactoid group includes Henoch's and Schönlein's purpura. This group exhibits not only haemorrhages, but also swellings which do not contain blood cells, and is characterized by abdominal pain and colic, and by swelling and pain around the joints.

In urticaria there are similar swellings and pains, but no escape of blood. Urticaria is undoubtedly due to a transient increased permeability of the capillary endothelium. It will be held here that three grades of capillary defect exist—namely, haemorrhagic purpura, anaphylactoid purpura, and urticaria. Variations in the platelets are secondary factors. The term "angio-stasis" is suggested for the group.

## Normal Function of the Platelets.

Two functions are usually ascribed to the platelets. (1) When platelets disintegrate they are said to secrete substances which take part in coagulation of the blood. It is doubtful whether the action of coagulation is of great importance. (2) A function in protecting injured or abnormally permeable capillary endothelium. This is effected by platelets adhering in masses to injured intima, and is partly a mechanical blockage and partly a preparation of blood.

In the circulating platelets are thus affected by (a) a loss equal to the amount of blood escaping, and (b) a special loss owing to their adherence to the weakened spots and consequent destruction, and hence the loss of platelets is out of proportion to the amount of blood escaping. The normal number of platelets is from 200,000 to 350,000 per c.mm. It may vary with great rapidity.

## SYMPTOMATOLOGY OF THE HAEMORRHAGIC PURPURAS.

The principal manifestations to be considered are:

1. The character of the haemorrhages.
2. Coagulation time, and retractility of the clot.
3. Bleeding time.
4. The tourniquet or capillary resistance test (the Rumpel-Leede test). Hess's test.
5. Variations in the number of the platelets.
6. The presence or absence of splenic enlargement.

## 1. The Character of the Haemorrhages.

The haemorrhages may be into the skin, from the mucous membranes, into the subcutaneous tissues constituting ecchymoses, and also a general tendency to bleed easily. The relationship of such conditions as essential haematuria is very important, but will not be here referred to further.

Many entities have been separated from these haemorrhages, such as purpura simplex, purpura haemorrhagica, and many others. Bleeding from the mucous membranes cannot be accepted as distinguishing a special group of purpura. It often occurs from time to time, to a mild degree, in cases which never exhibit any great severity. Neither by the type of haemorrhages nor by their severity can any dividing line be distinguished between the purpuras

in this group. If purpura haemorrhagica is to be separated as an entity from mild chronic purpura it must be on other than the clinical manifestations.

## 2. Coagulation Time.

Results in the literature can rarely be compared owing to differences in the methods. Two general factors influence the normal coagulation time: first, the temperature at which the observation is made; and secondly, the coagulation time varies rapidly in successive drops from the same prick. Christie's results at 37°C. are approximately as follows:

	Normal.	Purpura.
1st drop ...	2 minutes 10 seconds.	2 minutes 35 seconds.
2nd drop ...	1 minute 5 "	1 minute 30 "
3rd drop ...	42 "	1 " 10 "
4th. and subsequent drops ...	40 "	1 " 5 "

In primary purpuras of all grades there is no appreciable increase in the coagulation time. Christie's results show a slight lengthening. Hess has attempted to show that purpuric blood contains in solution the active products of a normal number of platelets which have been disintegrated. His experiments are very scanty and are open to other interpretations, and have been too lightly accepted. It is clear that the absence of circulating platelets does not greatly affect the coagulation time. The clot in purpuric blood may fail to retract normally: this appears to correspond with and be due to the diminution of platelets and is of little importance.

## 3. Bleeding Time.

In this test the blood from a prick is dried off with blotting-paper without pressure every quarter- or half-minute. Normally the bleeding ceases in one to two and a half minutes. It is prolonged in certain circumstances in primary purpura, and may be thirty or sixty minutes or many hours. Evidently the bleeding time and tendency to haemorrhages vary independently of the coagulation time. As to the relationship to platelets, the bleeding time is nearly always normal when the number of platelets is normal. When platelets are greatly diminished the bleeding time is usually markedly prolonged, but this is not by any means invariable. Roskam found in experimental thrombopenia that the bleeding time could be increased to about three times the normal length, but not beyond this. In primary purpura he also found no constant relationship to the number of platelets, and illustrates this by the mean results in two series of cases.

	No. of Platelets.	Coagulation Time.	Bleeding Time.
Series I ...	43,000	5 min. 30 sec.	1 hr. 33 min.
Series II ...	32,000	5 " 50 "	5 "

Spence has found a similar lack of relationship after splenectomy. It will, however, be found that a close relationship exists between bleeding time and the presence of active bleeding. There is clearly a factor common to these and independent of the platelets and coagulation time. This factor must be increased permeability or defect of the capillaries. It is difficult to suggest any other explanation.

The platelets influence the bleeding time by their function of adhering to defects in the endothelium. If platelets are absent, endothelium which is injured by a slight prick, though otherwise normal, will lack their protection, but if present in normal numbers they will protect to some extent even defective endothelium. The observed bleeding time is thus the resultant of the permeability of the capillaries on which it is mainly dependent and of the number of platelets. It shows a close agreement to the amount of haemorrhages occurring at the moment.

## 4. Capillary Resistance or Tourniquet Test.

For this test a tourniquet is placed round the upper arm. In subjects of the haemorrhagic diathesis in the active stages pressure for two to five minutes will produce a crop of purpuric spots in the lower arm. This is also known as the "Rumpel-Leede" or "Hess's test." Hess also introduced a test by subcutaneous injection of saline, which in haemorrhagic stages will provoke haemorrhage. These tests are of more interest than importance.

\* Abstract of paper read before the Section of Medicine of the Royal Society of Medicine on February 23rd, 1928.



5. *Variations in the Number of Platelets.*

The most important general principles which are commonly held may be stated as follows:

1. Platelets are greatly diminished in number or completely absent in the active stages of conditions clinically justifying the term "purpura haemorrhagica."
2. Platelets are not reduced in other forms of purpura—that is, in purpura simplex, anaphylactoid or urticarial purpura, and secondary purpura.
3. During periods of remission of purpura haemorrhagica the number of platelets may rise nearly to normal, but a reduction of platelets precedes recurrence of the haemorrhages.
4. The reduction in the platelets is the essential cause of purpura haemorrhagica.
5. The relation of platelets to haemorrhages is such that when the number is below 60,000 there is abnormal tendency to bleed, below 10,000 the haemorrhages are severe, and below 1,000 fulminant.

These points will now be considered.

1. This is certainly true, and, accepting that platelets adhere to capillary defects, extensive capillary haemorrhages could not exist for any period without a substantial reduction in platelets. Cases of purpura haemorrhagica often have long preceding periods of haemorrhages, which are of the same type, but of less severity, and observations now show that platelets are reduced in these stages to intermediate and various extents. There is no dividing line, either clinical or haematological, which separates the state of purpura haemorrhagica from the milder preceding stages.
2. Investigations in the last few years now show that platelets may undoubtedly be reduced in other forms and grades of purpura; examples in the literature are numerous. This also applies to secondary symptomatic purpura. Patients in this group are always suffering from some serious disease, and hence may be very ill, though the amount of haemorrhage is very slight; in such circumstances a very sick patient with purpura may exhibit little change in the platelets. This will also be shown to apply to anaphylactoid purpura. The evidence can be summed up by saying that platelets show a reduction in numbers when capillary haemorrhages have occurred to any considerable extent, irrespective of the cause.
3. From recorded observations during exacerbations after mild stages the only substantial conclusion that can be drawn is that a rough parallelism exists between the reduction of platelets and the increase of haemorrhages. It is impossible to say which comes first. If, however, the occurrence of haemorrhages is due to the fall of platelets, the converse should be true—namely, that the cessation of haemorrhages is preceded by a rise of platelets. A case of Foerster's shows that this is not so. The patient was in a state of severe purpura with complete absence of platelets. The haemorrhages ceased spontaneously, but it was not until three days later that the platelets showed a rise in numbers. Clearly the cessation of the haemorrhages preceded the rise of platelets.
4. This contention was originally based on the belief that platelets are reduced in purpura haemorrhagica and not in other forms of purpura. This has been proved to be incorrect, but it does not negative the possibility that purpura of any grade is due to reduction in the platelets. With regard to the relationship of platelets to capillary haemorrhages, the following points must be noted:
  - (i) Platelets may be absent from the circulation without the occurrence of haemorrhages. This has been repeatedly recorded in patients who have had previously various grades of purpura, both with and without splenectomy.
  - (ii) An attack of purpura haemorrhagica may pass spontaneously while platelets are still absent.
  - (iii) Both Bedson and Roskam have experimentally reduced the platelets to very low figures without the occurrence of haemorrhages.

Therefore the absence of platelets cannot be the essential factor leading to capillary haemorrhages, and some other primary cause must be present.

5. The evidence given above shows that this statement is incorrect.

6. *The Size of the Spleen.*

The presence or absence of an enlarged spleen will depend on the work which it has to do in dealing with effete constituents of the blood, including red and white cells as well as platelets. The size will depend on numerous factors. When anaemia and leucopenia are advanced there is no reason for the spleen to be enlarged, and, in fact, in such circumstances it is practically never palpable. If the marrow is producing platelets and cells of a low standard a spodogenous enlargement of the spleen results. The size of the spleen is indeed of little importance.

## PATHOGENESIS.

Four structures or tissues must be considered in the pathogenesis of capillary haemorrhages: (1) the platelets; (2) the spleen, which destroys effete platelets; (3) the marrow, which produces platelets; (4) the endothelium of the capillaries, through which the haemorrhages actually occur. Also, in certain circumstances, other portions of the reticulo-endothelium. The marrow and spleen apparently can only affect the haemorrhagic state through the medium of the platelets.

The most prominent recent theories are the following.

- (1) Frank holds that purpura haemorrhagica is an entity distinct from all other purpuras, and is due to an essential thrombopenia caused by lack of formation by the marrow.
- (2) Kaznelson attributes the primary disturbance to overactivity of the spleen, which destroys excessive numbers of platelets.

Both these theories are based on the belief that a reduction in the number of platelets is the essential cause of purpura haemorrhagica. This has been shown to be impossible, and hence some other factor must exist. As the spleen and marrow can only act through the platelets, they cannot constitute the essential cause. An increased permeability from some defect of the capillaries remains as the only possible primary factor.

It is suggested here that so long as the capillary endothelium is normal or intact blood will not escape even in the absence of platelets, but in the event of any defect or abnormal permeability, then the number of available platelets and the maintenance of the supply will become deciding factors in the occurrence and extent of the haemorrhages, the function of the platelets being to adhere in masses to abnormal intima. Bedson's researches give experimental support to this view. He was able to separate two factors necessary to produce purpura in normal animals: (a) an injury to the endothelium which he caused by injections of an appropriate serum, and (b) a reduction of platelets which he produced by injections of agar-serum. Neither of these alone produced haemorrhages. The known phenomena of the primary purpuras, both clinical and haematological, are explicable on this view.

Consider what will occur to an individual in whom the capillary endothelium develops local sites of increased permeability. At first the platelets circulating in normal number defend the weak spots and check the haemorrhages and the associated tendency to an increase in the bleeding time. Adhesion in masses to the threatened spots leads to a fall in numbers, until the platelets are no longer able efficiently to protect all the weak areas. Haemorrhages will then commence and the bleeding time increases. As the platelets fall a vicious circle is established, and the haemorrhages and bleeding time will progressively increase more and more rapidly. The marrow, by responding to the increased demands, may establish an equilibrium at medium stages. Return of the capillaries towards normal at any period will abate the haemorrhagic state and diminish the demands on the platelets: the bleeding time will diminish with this change in the capillaries even before the platelets have appreciably increased. The recovery of the capillaries may be rapid (as occurs in urticaria) or slow, and may be partial. Platelets in varying numbers will still be required and consumed in its protection.

## URTICARIAL PURPURA.

Urticarial or anaphylactoid purpura includes the forms known as Henoch's and Schönlein's purpura. There is extensive clinical evidence of the close relationship between

urticarial purpura, haemorrhagic purpura, and urticaria. Mosler published a careful study. In urticarial purpura swellings occur in which there is no haemorrhagic factor, and there are also two varieties of superficial haemorrhages: (a) purpuric spots, scanty in the early stages; (b) areas of ecchymoses into the swellings. Appearances similar to the latter can be produced in haemorrhagic purpura by the subcutaneous injection of saline. The haemorrhages in this test are produced by distension causing injury to capillaries of reduced efficiency, and thus differ from true purpuric spots.

A patient with Henoch's syndrome is sick at the onset, not from the purpura, but from the urticaria. He is more sick than purpuric, and there may be little fall in the platelets. A slight increase in the capillary defect leads to the same position as in haemorrhagic purpura, and the case is often said to have changed from Henoch's purpura to thrombopenia and purpura haemorrhagica.

Splenectomy should be considered in this group as in other forms of primary purpura, and it is unjustifiable to say that operation is contraindicated.

#### SPLENECTOMY.

The results of this operation are extraordinarily good, except in the acute cases, which would probably die in the absence of operation. In many of the chronic cases there is an immediate cessation of the haemorrhages and a rapid rise in the number of platelets. A similar rise in platelets occurs after splenectomy for other causes and when performed experimentally in animals. There is also a rise, though of a greater extent, in the number of leucocytes, and within twenty-four hours the number of polynuclear cells alone may exceed 30,000 per c.mm. Such a rise cannot be ascribed to the absence of the destructive action of the spleen, and the immediate rise both of leucocytes and of platelets must be due to flooding of the blood with reserves from the marrow. The immediate cessation of the haemorrhages is due to this large number of platelets being sufficient to protect the sites of capillary defect. This obvious explanation is supported by Bedson's experiments.

This is the most favourable, but not invariable, course after splenectomy. The results may be summarized in the following five groups:

1. Platelets rise high and then fall to about a normal level. Haemorrhages cease, and do not return.
2. Platelets rise, but subsequently fall to a very low level. Haemorrhages cease, and do not return.
3. Platelets rise and fall as above, but haemorrhages return in varying degrees.
4. Platelets fail to rise to any great extent, but haemorrhages cease.
5. Platelets fail to rise, and haemorrhages continue.

These different courses depend on variations in the following factors:

- (i) The degree of capillary defect, and its transient or permanent nature.
- (ii) Condition of the marrow.
- (iii) Alteration in the platelet circulation due to the absence of the spleen.

With regard to the last, it may be accepted that in the absence of the spleen the tissues which undertake its functions work at a lower standard. This is undoubtedly what occurs in acholuric jaundice. Fewer platelets will thus be destroyed by the marrow and a larger number available for the protection of the capillaries. This is a permanent gain.

The capillary defect may pass during the period of high protection after splenectomy, or it may only pass partially and still require protection by platelets, resulting in the subsequent fall. The platelets may or may not be sufficient to prevent the haemorrhages, thus accounting for the second and third courses.

The marrow may be already denuded of reserves, and hence the initial rise will not occur, or only partially. Courses 4 and 5 will follow in these circumstances, depending on the recovery of the capillary defect and the platelets available.

The various courses which follow splenectomy can thus be followed on the theory that the primary defect lies in the capillaries.

#### TREATMENT.

##### Splenectomy.

In view of the successful results following splenectomy the essential question in treatment is when the operation should or should not be advised.

1. *Acute Cases.*—The mortality here is very high, but a study of the cases in conjunction with our knowledge of their normal course suggests that the fatal cases would probably have died without the operation.

2. *Chronic Cases.*—It is here that the results have been so good, and the only questions arising are as follows:

(i) Is the condition such that in the absence of operation life can continue without serious impediment or risk? A certain number of cases obviously fall into this category. The decision is often easy, but in doubtful cases many points have to be taken into consideration—that is, the extent of the haemorrhages, their duration, and any evidence of increasing severity, the degree of anaemia, and evidence of strain on the marrow, as shown by leucopenia.

(ii) With regard to the remainder, for what reasons should operation not be advised?

(a) As regards direct operative risks, this depends on the usual risk of any major operation, but especially on the degree of anaemia and the risks of heart failure or thrombosis. These risks possibly may be diminished with greater experience with the operation. The rapid rise in platelets may dispose to thrombosis.

(b) What cases will do badly if they survive? This will depend on (1) excessive permeability of the endothelium, and (2) aplasia of the marrow. With regard to the permeability, the extent of the haemorrhages is little guide, as many extreme grades do well. The duration of the bleeding time may prove to be a better guide, but at present observations have not been very accurate; possibly up to thirty minutes is consistent with a good outlook. With regard to aplasia, the number neither of platelets nor of red cells is a guide. Observations suggest that if the total number of polymorphs is definitely below normal a good result cannot be anticipated, but even in these circumstances there is no evidence that splenectomy makes the patient worse.

3. *Urticarial Purpura.*—The patient here is sick primarily because he is urticarial, and not because he is haemorrhagic; yet it may be suggested that the existence of purpura or bleeding of more than a trivial degree is an indication for splenectomy, whatever be the number of platelets.

##### Transfusion.

Transfusion may completely abort an attack, but usually the improvement is only temporary. Unfortunately suitable donors must be chosen with special care for purpuric subjects.

##### Blockade of the Reticulo-Endothelial System.

It is generally accepted that the immediate effects of splenectomy are due to the flooding of the circulation with platelets, whatever may be the origin of this occurrence. The question arises whether this effect can be produced by any less dangerous methods than an operation. Bedson found that a certain definite rise in platelets followed splenectomy. He found also that an equal rise followed injections of Indian ink, designed to block the reticulo-endothelial cells. The evidence points to the rise in platelets being identical with that which follows splenectomy, for if this operation is performed immediately after the blockade has raised the platelets no further increase occurs. It is reasonable to suppose that these injections will produce a similar rise in human beings and a similar effect, at least temporarily, to that of splenectomy.

#### CONCLUSIONS.

1. Increased permeability or defect of the capillary endothelium is the essential cause of the haemorrhages in the haemorrhagic diathesis.
2. Alterations in the number of platelets are secondary to the capillary haemorrhages.
3. The haemorrhagic purpuras form a single group, and

are only separated from urticarial (anaphylactoid) purpura and urticaria by the degree of the capillary defect.

4. Splenectomy should have a permanent beneficial effect, though protection from capillary haemorrhages may not be complete.

The term "angio-stasis" is suggested for the condition.

## THROMBO-PHLEBITIS MIGRANS.

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PHLEBITIS of widespread distribution, recurrent and migratory, has been described from time to time. In most of the descriptions we find an association with various suggested etiological factors. As far back as the time of Paget, Lancereaux, and Hewitt we find reports of a number of cases in which gout was invoked as the exciting cause, though often with but scant justification. Dagnillon<sup>1</sup> described a series of cases of migratory phlebitis in 1894, and regarded the condition as an indication of "an arthritic constitution, with or without actual gout." In a case published by Neisser<sup>2</sup> in 1903 there was a clear-cut history of syphilis, whilst in two cases recorded by Schwartz<sup>3</sup> in 1905 there was advanced pulmonary tuberculosis. In other cases of more or less widespread phlebitis we find an association with various conditions, such as rheumatic fever, trauma, and a number of toxic and cachectic illnesses.

The first description of a type of recurrent phlebitis in which no causal factor could be adduced, and which possessed individual and constant symptomatic features, was made in 1905 by Briggs,<sup>4</sup> who thought that the cause was possibly to be found in a sclerosis of veins analogous anatomically with arterio-capillary fibrosis.

The type of phlebitis which we are about to describe, and of which we have seen four cases, differs from that of Briggs and other writers in that in each patient there was definite evidence of involvement of visceral veins as well as of peripheral veins. These cases had so many unusual features in common that we were led to the conclusion that we were dealing with a rare type of phlebitis *sui generis*, to which we could find but little reference in the English literature.

### Case Histories.

#### CASE I.

A lady, aged 55, suffered from an illness diagnosed as pleurisy in September, 1926. Early in October she was bitten by a mosquito on the left hand, but no local septic symptoms developed. A week later she got extensive thrombosis of the left cephalic vein. In another week the veins of the right arm became involved, and ten days later there was extensive dry pleurisy, involving mainly the right lung, but also the base of the left. Throughout there was mild pyrexia. This cleared up slowly, and the patient was progressing favourably when, three weeks later, there was an attack of violent abdominal pain, with collapse and accompanied by severe melaena. The patient at this time was extremely ill, and mesenteric thrombosis was diagnosed. Recovery took place, and everything seemed well, when, after an interval of a month, the left saphenous vein became thrombosed. Subsequently the right saphenous vein was also involved. Finally, a branch of the facial vein became affected, and was followed by some ulceration of the mouth, this event occurring about six months after the beginning of the illness. Each attack of phlebitis was accompanied by fever, but in the intervals the patient was fairly well. Apart from the facts above stated nothing abnormal was found. A blood culture was sterile; the heart, kidneys, and other organs were normal. Various treatments were employed, including peptone injections and a vaccine made from streptococci isolated from the teeth. It was not apparent that any treatment had any special effect on the course of the disease, apart from relieving symptoms. Since the involvement of the facial vein the patient had made slow but satisfactory progress, and is now, twelve months later, except for some persistent oedema of the legs, practically well.

#### CASE II.

A strong healthy man, aged 62, who had had no previous illness of importance during the last twenty years, suffered towards the end of July, 1927, from a mild pyrexial attack. This was accompanied by abdominal discomfort and slight pain. The possibility of appendicitis was discussed, but in a couple of days the attack cleared up, and a week later the patient went on a holiday. On the first day of this holiday he walked about three miles, and that evening felt discomfort in his right leg. Two days later the leg was swollen, and there was obvious phlebitis of a superficial vein in the calf. The temperature was raised, and remained slightly above normal for one week.

After three weeks' rest the patient returned home, and after a further couple of weeks resumed work. Soon after, the right leg, which had returned to normal, again became swollen and tender, apparently due to thrombosis of the deeper veins. A week later a small vein in the left calf became thrombosed. This settled down in a fortnight, and the patient was apparently going on well when pain in the left side of the thorax developed, and a pleural rub at the base of the left lung was detected. This was accompanied by a smart fever and haemoptysis, and as the sputum was found to contain pneumococci in pure culture, a diagnosis of mild pneumonia was made. After five days the attack cleared up, but haemorrhagic sputum continued for about a fortnight.

The next event was an attack of abdominal pain with flatulence, followed by thrombosis of the right saphenous vein, and again mild pyrexia. This attack subsided, and the patient was sent to a nursing home for full examination. A complete x-ray examination revealed nothing abnormal, a blood culture was sterile, and the Wassermann reaction negative. Mild anaemia, but nothing else, was found on full examination of the blood. The urine was sterile, and contained nothing abnormal, and a complete examination of the faeces showed nothing wrong.

Just as this examination was complete, pain was again experienced over the left lung, and another attack of apparent pneumonia developed, again accompanied by some haemoptysis. Five days after the subsidence of this attack there was a severe bout of anginal pain, believed at the time to be due to thrombosis of a cardiac vein. This was accompanied by a very rapid fibrillating pulse. When this attack had subsided the patient again returned home, and the day afterwards had a further pneumonic attack, in which the base of the right lung was involved.

The last event in this long illness was an attack of violent abdominal pain, so violent as to produce complete collapse. This came on in the evening and lasted several hours, and although no melaena followed, it was diagnosed as an attack of mesenteric thrombosis, owing to its resemblance to a similar attack seen in Case 1, in which melaena was a prominent symptom.

During the whole of the illness, which lasted about six months, and which included eleven thrombotic episodes, the patient was depressed and felt ill, and suffered from lassitude. He looked anaemic, and there was marked loss of weight. A week after the abdominal attack his spirits began to improve, and his tongue, which had been furred all through, became normal. From this time on he made a slow but satisfactory recovery.

#### CASE III.

This patient, a woman, aged 50, had enjoyed robust health until the month of June, 1924, when she developed phlebitis in the region of the left foot, with resultant pain, tenderness, and swelling. This attack was the precursor of many similar attacks, which came on at varying intervals and affected the veins of the left leg, left thigh, and later those of the right ankle and leg. With each attack there was mild pyrexia. In addition to involvement of superficial veins there was implication of deeper veins, with marked oedema. The patient spent five weeks in bed, and for nine months rested for most of the day on a couch.

In April, 1925, phlebitis attacked the veins of the right hand, which became painful and tender. Shortly afterwards the left hand became affected. On September 30th, 1925, the patient was admitted to hospital for investigation. The ankles were oedematous, and the skin of the legs was thick and discoloured, showing the appearance seen frequently after a severe attack of phlebitis. Over the inner aspect of the thigh a number of nodules could be felt, with a distribution corresponding to the course of the large saphenous vein. Blood culture was negative. There was severe pyorrhoea, and culture from the gums yielded a pure growth of *Streptococcus viridans*. Teeth extraction was advised, and a vaccine prepared from the gums.

Improvement continued until December, 1925, when the patient developed symptoms and signs similar to those of a mild pneumonic attack. This was accompanied by haemoptysis and by moderate pyrexia, and necessitated a month's stay in bed. Shortly afterwards phlebitis developed in a vein of the left arm. This was followed by a further remission, which lasted until the month of June, when some pain, tenderness, and swelling developed in the flexure of the right knee. No further attack has occurred since.

During her illness the patient experienced considerable malaise, loss of appetite, and general deterioration of physical strength. As residua of the recurrent attacks there is a tendency to the development, after exertion, of swelling of the ankles, especially on the left side, and to stiffness of and pain in both legs, after even moderate exercise.

#### CASE IV.

A nurse, aged about 22, got a superficial burn on the left ankle in February, 1922. Three months later there was extensive thrombosis of the superficial veins of the left leg, with pyrexia. This cleared up, but was followed two months later by thrombosis

of practically every superficial vein of the right leg. A section of a vein was removed for examination and showed a firmly adherent clot, with slight thickening of the vein wall. Cultures made from the vein were sterile. An absolutely complete examination at this time failed to reveal any cause for the trouble. Further events in this case were thrombosis of a superficial vein in the abdominal wall, and of one or two other superficial veins of the trunk at intervals of two or three months, each attack being accompanied by a general febrile reaction. Finally, a year after the beginning of the illness, the right popliteal vein became affected. In this case no involvement of visceral veins took place; but recovery was very tedious, and the patient was only able to resume work about two years after the beginning of her illness. Various treatments, including colloidal manganese and peptone, were employed, but do not require detailed comment.

It will be seen that the main feature of these cases is the tendency to metastatic extension, often at long intervals. The trouble commences in a segment of a peripheral vein, which becomes painful and tender. Redness and swelling ensue, and there is slight or moderate pyrexia. Soon the symptoms begin to subside, only to reappear in some portion of the same vein or of a distant vein. All four limbs may be involved, and with each recurrence of phlebitis there is a recurrence of pyrexia.

In association with the tendency to extension we note implication of visceral veins. Thus the pulmonary involvement with haemoptysis, noted in three of our cases, was referred by us to a process in pulmonary veins similar to that met with in the peripheral veins. Embolism was negatived by the definite absence of characteristic symptoms associated with this condition. In this connexion we would like to stress the conspicuous absence of embolic symptoms in our cases, though the patients were not confined to bed throughout their illness, and must therefore at one time or another have been in a condition most favourable to the production of embolus. In two of our cases symptoms of mesenteric thrombosis were encountered, and in one patient symptoms occurred which suggested involvement of a coronary vein. This implication of a coronary vein is unique so far as the literature is concerned, though it seems likely that the paroxysm of tachycardia in a case described by Legrand<sup>5</sup> was due to this cause.

The etiology of the condition is obscure, though the local signs of inflammation and the method of spread suggest forcibly the presence of a blood infection. This view is strongly advocated by Vaquez and Leconte,<sup>6</sup> and later by Legrand,<sup>7</sup> in connexion with a series of analogous cases described by them under the title "subacute venous septicaemia." Legrand quotes two cases in which the streptococcus was isolated from the blood stream. In our cases blood culture was uniformly negative, but was not repeated with sufficient frequency to permit definite conclusions. In one case severe pyorrhoea was present. Apart from this no septic focus was found in any of our patients.

The disease follows a prolonged course with alternations of remissions, more or less complete, and of subacute recurrences. The ultimate prognosis seems to be favourable, though functional disability may persist. It is interesting, though perhaps inapposite, to draw attention to cases quoted by Buerger<sup>8</sup> in which recurrent phlebitis of superficial veins was the precursor of thrombo-angiitis obliterans. Such a sequel has not been encountered by us, and it is likely that Buerger's cases did not belong to the group with which we are dealing.

#### Summary.

We publish four cases of phlebitis of extensive distribution and migratory character, showing involvement of peripheral and visceral veins, prolonged course, and relative benignity. We can throw no light on the etiology, but present our short paper in the hope that it will stimulate research which will elucidate the cause of this unusual but interesting malady, and place therapeutic efforts on a scientific basis.

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## THE HISTORY OF AN OUTBREAK OF TYPHOID FEVER IN PRETORIA:

WITH SPECIAL REFERENCE TO THE DETECTION OF TYPHOID CARRIERS.

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THE history of this outbreak is of interest in that it illustrates the necessity of empowering medical officers of health to exercise a closer supervision of dairies than has been the case hitherto, especially so far as the native element in such places is concerned. It also shows the superiority of the complement-fixation test over the agglutination test of Widal for tracing the course of an outbreak and discovering carriers.

The total number of cases in this outbreak was twenty-eight, including seven among natives. Only one patient died, a European female child, one of the first to be infected. This low mortality is probably due partly to the prompt recognition of the disease in the later cases, when medical practitioners and the public were aware of the probability that slight illness in a family supplied by the incriminated dairy would probably turn out to be typhoid fever. The typhoid case mortality in Pretoria is ordinarily about 7.5 per cent.

The first patient was a European boy. The usual inquiries were made as to the supply of milk and food to the household, but since nothing suspicious was found, and it was said that the child drank very little unboiled milk, no further steps were taken. Quite a different light was thrown on the matter, however, when, two days after this child had been notified (complement-fixation test positive, Widal test positive, typhoid bacilli recovered from blood), the daughter of the proprietress of the dairy which supplied this household, who had been ailing for some time, was subjected to a typhoid complement-fixation test, and her reaction was found to be positive. This patient was removed to hospital as soon as the diagnosis was established, and on the same day blood specimens were taken from the eleven natives employed at the dairy, who were all "healthy" and at work. The result was surprising, for seven of them reacted positively to the typhoid complement-fixation test. Of these seven, five were strongly positive, one just positive, and one weakly positive. Widal tests were performed at the same time, but only two positive reactions were obtained: the serum of one boy, which was definitely positive with the complement-fixation test, agglutinated only in serum dilutions up to 1 in 20, while the serum of the boy whose complement-fixation reaction was just positive only reached 1 in 40.

This large number of positive findings made the position very difficult. From past experience we know that carriers as a rule give a positive complement-fixation reaction, but we also know that this test remains positive for a varying period after convalescence. It seemed absurd to assume that seven out of eleven natives employed at one dairy were carriers. A much more probable explanation of the situation was that there had been a local epidemic at the dairy among the native servants, and that we were concerned with the tail-end of this epidemic. Interrogation of the proprietress and the natives at first seemed to elicit facts which supported this view. There was a vague history of several of the natives having been down with "malaria" off and on during the previous weeks, and having been dosed with quinine for that reason; and there was also a tale of a young native who had been engaged two or three months before this trouble started, but who had never done any work and had been either malingering or ill most of the time. This rather imaginary young native had now disappeared, and all our attempts to trace him proved in vain. Moreover, the more we pressed for further details about the illnesses of the natives in the past weeks the more vague, confused, and unreliable the information became. There

evidently existed a marked reluctance to assist us in clearing up the position.

We therefore put our own construction on the matter and dealt with it in the following way. All the natives except one were removed to the isolation hospital on the same day on which their blood tests had been performed, on the strength of a magistrate's order procured for the purpose. The one native left behind gave a negative test, and had been employed at the dairy for sixteen years. It was assumed that when a native has worked at a dairy in town for that period, and is exposed to typhoid infection without harm, he is either naturally immune or has become so by having had the disease. That he was the carrier responsible for the whole outbreak was highly improbable for the same reason, and also because he gave a negative complement-fixation reaction. Moreover, as this boy had been in the dairy's employ for so many years, he would be very valuable to his employer, who was considerably disconcerted by the removal of all the other natives, and who naturally experienced great difficulty in carrying on her business. Still, this was better than closing the dairy altogether.

The rather drastic measure of removing all the natives was, in our opinion, warranted on the grounds that there evidently had been, or was at present, an outbreak of typhoid fever amongst the native employees, and that at any rate those who reacted positively had something to do with the outbreak; that there might very well be a carrier amongst them; and that, further, those four boys who gave a negative reaction might have become infected quite recently, so that removal of only the obvious cases would not have the desired effect of stamping out the infection. Taking away obviously infected natives and leaving behind a few possibly or even probably infected ones would have been a half-measure that might easily have undone whatever would have been achieved by the steps taken. It was also found that the native quarters at the dairy were not in good condition, and that when once infection had started there probably every native would fall a victim to it.

That the measure of removing all the natives was not too drastic became evident three days later, when two of the natives developed manifest typhoid fever at the isolation hospital. These were the two boys who had given a weakly positive and a just positive complement-fixation reaction.

The other measures taken to prevent the further spread were: disinfection of the dairy premises and the sending of a written warning to all the customers of the dairy to boil their milk. Naturally this last measure was not, strictly speaking, necessary. If the source of infection had been removed, as we believed it had, there was no need to boil the milk; it was thought, however, that with such a large number of infected natives at the dairy some infectious material might still persist, notwithstanding thorough disinfection of the premises, and that therefore the boiling of the milk might help to destroy any source of infection that remained.

It may be stated at once that the measures taken were quite successful, though the mischief had been done before they were put into force. During the ensuing fortnight an unusually large number of typhoid notifications reached the health office at Pretoria. These cases were investigated with particular care. With very few exceptions (and these were chiefly persons from outside the town) all the cases could be traced to the consumption of milk from the incriminated dairy. In all cases except one the patients were customers of the dairy; in that one case the patient was in the habit of drinking milk at a teashop which was supplied by the dairy. The large majority of patients informed us that they usually drank their milk unboiled; in two instances the only person in a household to contract the disease was the one who insisted on taking his milk unboiled, whilst the other members preferred it in the boiled condition. Still, considering the risks of infection run by the public in those days—as, for instance, the man who contracted typhoid through drinking milk at a teashop—one is impressed by the relatively small number of persons who contracted the disease. Even if allowance is made for a fairly large number of "ambulatory" and otherwise undiagnosed cases, the conclusion

is inevitable that there must exist a pretty widely spread immunity against the disease.

The removal of the natives had the desired effect of extinguishing the source of infection. A fortnight after the natives were removed the notifications came to an end. Several weeks later a child in a family supplied by the dairy was found to be ill with typhoid, but closer investigation showed that in this family another child had been ailing for many weeks, without the true cause being suspected, and that this other child had become ill at the same time as the large crop of victims of the outbreak. The dairy could therefore only be held indirectly responsible for this late case.

Notwithstanding the fact that only one case terminated fatally, the disease was not of a mild type. Relapses were fairly frequent, the disease lasted the usual time in most cases; and although, as always happens, some cases were very mild, there were also several in which the life of the patients was seriously endangered. A complement-fixation test was performed in all cases but one, and was uniformly positive. Blood cultures were attempted four times with a pure growth in each case. In addition, Widal tests were performed on four patients and were positive in only two.

To return to the natives who had caused the outbreak. It has already been stated that two of them showed manifest symptoms of typhoid infection three days after they were removed from the dairy; their disease ran a normal course. Of the other eight, the three who gave negative complement-fixation reactions at the start remained negative. Complement-fixation tests were performed once every week on all these natives; in addition to this, regular weekly examinations of the stools and urine were instituted.

The unpleasantness and difficulties of repeated stool examinations are considerably relieved by adopting the following technique. Strong glass rods are made, about 1 cm. thick and about 15 cm. long, with rounded ends. At about 1 cm. from one of the ends a hole, about 2 mm. wide, is drilled across the rod, care being taken that the edges of the hole are left smooth. The rods are inserted into test tubes, with a plug of cotton-wool in the mouth of the test tube, just like diphtheria swabs, and sterilized in this position by hot air. A sample of stool can now be obtained from any patient at a moment's notice by taking the glass rod from the test tube, inserting it into the patient's rectum (vaselining is not necessary), turning it round a few times, and, after withdrawal, replacing it into the test tube. Sufficient material will always find its way into the drilled hole.

It would have been of considerable interest if these stool and urine examinations could have been performed immediately after removal of the natives. Pressure of other work prevented this, and it was thought more advisable, both with a view towards preventing further spread among these natives and in order to make a possible carrier amongst their number harmless in the shortest possible time, not to lose time over examinations, but to institute preventive treatment without delay. In Pretoria we have so far obtained very good results from the use of the Besredka method of immunizing against typhoid. It seems to have definite prophylactic value, and also an undoubted effect on "stool carriers." On three consecutive mornings each person takes one bile pill, followed by a pill containing 40,000 million typhoid bacilli, killed by heat. (Paratyphoid bacilli are not included because this infection is practically non-existent in this region.) This treatment was given to the isolated natives a couple of days after arrival at the isolation hospital. It probably assisted in keeping the natives with negative blood tests free from infection, although here also the improvement in sanitary conditions, as compared with those obtaining at the dairy, must have had an influence.

When the first stool and urine examination was made it was found that not one stool of the eight yielded typhoid bacilli. In one urine typhoid bacilli were detected in large numbers. This native had been engaged by the dairy six months previously, and had acted as stable and delivery boy. As the infection had only spread from the dairy quite recently, it must be concluded that this native had arrived at the dairy in a perfectly sound condition, and that he had contracted the infection at the dairy. He had



a strongly positive complement-fixation reaction for typhoid, but his Widal reaction was negative from the start, and remained so for some weeks after. The three natives who persistently showed negative blood reactions and negative findings in both urine and stools were discharged from the isolation hospital after four weeks and returned to the dairy. It was thought that one might rely, if not on their natural immunity, then on the immunity acquired from the Besredka prophylactic treatment. This left five boys, one of them the urinary carrier, and the four others giving positive complement-fixation but negative Widal reactions, and negative findings in stools and urine. After the urine and stools had been examined five times, and it had been noticed that during these weeks their complement-fixation reactions had become weaker and weaker, it was considered that it was safe for them to return to work, and they were allowed to resume work at the dairy. The only one then left over was the urinary carrier; his blood gave a persistently positive complement-fixation reaction, and his urine every week showed typhoid bacilli. It was not to be expected that Besredka treatment could have had any effect on this condition. Treatment was therefore instituted with ordinary typhoid vaccine given under the skin, and large doses of urotropine, but after many weeks, although the typhoid bacilli in the urine showed signs of diminishing in number, they were still to be found. It took four months before they disappeared entirely and the boy could be discharged.

This constitutes the history of the outbreak. The moral of the story is that if the first case of typhoid at the dairy had been recognized as such—whether it was the imaginary stray young native or a member of the regular staff—much suffering and unhappiness would have been prevented. Our dairy by-laws place the obligation on dairy owners to notify the health department of any case of infectious or contagious disease occurring on their premises; it is evident that this is an unsatisfactory arrangement. The onus thus rests on the health department to prove that the dairy owner was aware of the fact that a disease amongst the personnel was infectious or contagious, and that will always be difficult. The whole responsibility should be transferred to the health department, provided that at the same time it receives the powers and facilities to examine all employees upon their being engaged by the dairy, and at regular short intervals thereafter. This examination should include a blood test for typhoid fever, and the foregoing record amply shows that for such work the complement-fixation test is superior to the Widal. If the Widal test had had to be relied on the urinary carrier would not have been detected with the same rapidity, and where two other natives at the time gave a positive Widal reaction the investigation would probably have stopped at that, and the chief culprit would have carried on his work.

It remains to give a brief description of the principles and technique of the complement-fixation test for typhoid. We have for many years insisted on the necessity of abandoning agglutination tests for typhoid in South Africa, as we have proved<sup>1,2</sup> that the majority of cases cannot be diagnosed by this method. We have also obtained some evidence from animal experiments that this failure to develop agglutinins which we have demonstrated in South Africa is at least partly due to the prevailing excessive sunlight.<sup>2</sup> The complement-fixation test is positive in over 90 per cent. of cases, is as a rule not positive in persons who have been vaccinated against typhoid but are suffering from some other infectious disease, becomes positive at an early stage of the disease, and is much more helpful in the detection of carriers. Its only drawback is that it requires perfect technique and much more care than agglutination tests. Our present procedure is as follows.

The antigen is prepared by cultivating typhoid bacilli (there is no difference between typhoid strains for this purpose) on ordinary agar slopes for twelve to twenty-four hours and washing them off with saline solution, using about 4 c.c.m. per slope. The suspension is heated in the water-bath at 57° for one hour, stored in the ice-chest for forty-eight hours, and filtered through a Berkefeld candle. The filtration must be slow and produce only a few cubic centimetres per hour. Suction may not exceed 16 mm.

of mercury. It is only by strictly observing these rules that a potent and constant antigen can be prepared. Each filtrate must be titrated afresh with each new haemolytic system to be used. This is done by employing diminishing quantities of filtrate, from 0.5 c.c.m. to 0.05 c.c.m., with 0.5 c.c.m. of guinea-pig complement diluted ten times, making up to 1.5 c.c.m. with saline solution, incubating for one hour, and then adding 1 c.c.m. of haemolytic system. A control tube is required which contains only saline and complement; to this tube also 1 c.c.m. of haemolytic system is added. The time is noted when this control tube has cleared, and ten minutes after this the tubes are again inspected. The tube which then shows complete haemolysis and contains the largest quantity of antigen indicates the quantity of antigen to be used in the test proper. The antigen is then diluted so that 0.5 c.c.m. contains the suitable dose. As a rule we find that 0.3 c.c.m. represents the quantity of antigen to be used.

If the filtrate is to be kept for more than a few days it is advisable to add 0.25 per cent. carbolic acid to the filtrate previous to titration. A good filtrate has considerable keeping qualities, and although we do not use it after it is fourteen days old we have found that it will keep its antigenic properties for at least thirty days.

We prepare haemolytic system by determining the minimum quantity of a sheep's cells-rabbit serum which, in the presence of 0.5 c.c.m. of ten times diluted guinea-pig serum, will completely dissolve in two hours 0.5 c.c.m. of a 5 per cent. suspension of sheep's cells, the total volume in each tube being made up to 2.5 c.c.m. Four times this minimum quantity of serum is then used in the test proper. The serum is suitably diluted for this purpose with saline, and equal quantities of diluted serum and 5 per cent. sheep's cells suspension are mixed.

The patient's serum is inactivated, and 0.1 c.c.m. is put up with 0.5 c.c.m. antigen, 0.5 c.c.m. complement 1 in 10, and 0.4 c.c.m. saline. This is incubated for one hour, and then 1 c.c.m. of haemolytic system is added. At the back of every patient's tube is a serum control, containing 0.2 c.c.m. of the patient's serum, no antigen, 0.5 c.c.m. complement, and 0.8 c.c.m. saline. In addition an antigen control, containing 0.5 c.c.m. antigen, 0.5 c.c.m. complement, and 0.5 c.c.m. saline, is put up.

Readings are taken when the antigen control has cleared, and then for every individual patient when his serum control tube has similarly cleared. Serums from the later stages of the disease show complete and lasting fixation; those from earlier stages show partial fixation, which is often not permanent. It is useful to include a known positive serum in the series, either from a previously tested typhoid patient or from an injected rabbit.

Human serum which produces complete fixation under these conditions will retain that quality when kept at room temperature for a considerable time.

By following this technique we have been able to make a positive serological diagnosis of typhoid fever in cases where the presence of the disease was established beyond doubt by positive blood cultures, but where Widal's agglutination test was persistently negative.

We have found the method particularly valuable in the detection of carriers. Here we also often found a negative Widal and a positive complement-fixation reaction, as illustrated by the case recorded in this paper.

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## THE ROLE OF DEAD AND INFECTED TEETH IN AUTOGENOUS INFECTIONS.

BY

A. P. BERTWISTLE, M.B., Ch.B., F.R.C.S.Ed.

WHILE the literature teems with works on the evil effects of pyorrhoea alveolaris—and there can be no doubt as to its baneful effect on health—there is another dental condition which is but now receiving the attention it deserves—namely, the tooth which has died before or after filling, and which has subsequently become infected. That death may occur without pain makes the condition all the more unsuspected.

The bacteria in pyorrhoea pass into the mouth, where the majority are ingested by the salivary corpuscles; the rest pass on to the stomach and are destroyed, if the gastric juice is normal. In the case of the filled tooth the bacteria cannot regain the mouth by way of the original decay, but must enter the bone, from which they or their toxins may be disseminated by the blood stream to all parts of the body, when those tissues which are "helo par" fall a prey to them. By the irony of fate it is those people who take care of their teeth, having no untreated caries, who

are often the sufferers. The following references to clinical cases will illustrate these points.

**Case 1.**—A man, aged 27, had thrombosis of the posterior tibial venae comites. Five years later he developed the first of a series of eight or nine attacks of the lymphangitis which precedes elephantiasis. The whole course of the lymphatics accompanying the saphenous vein and the superficial inguinal glands became inflamed for a period of about a week. Though there were no obvious caries one tooth was bluish, and x-ray examination showed an area of rarefaction at its root. On opening the pulp pus welled up, and the tooth was removed. Another attack, differing somewhat from the others, occurred a year later, and two days after its commencement a tooth crowned by the old method without root treatment became slightly tender for a day. An attack of fibromyositis occurred; this had been frequent before the first extraction, but had not been experienced since. X rays showed no abnormality. The tooth was removed, however, and a granuloma was found at the root which yielded *Streptococcus salivarius* and diphtheroid bacilli. The pulp cavity was found to be full of greenish pus from which was obtained a scanty growth of *Staphylococcus albus*. There has been no return of the fibromyositis or lymphangitis in the nine months which have elapsed, and the oedema has been less marked.<sup>1</sup>

**Case 2.**—A man with arthritis of the left knee was treated by rest for two years, followed by manipulation, which caused a "flare-up." For two more years walking was only possible with the aid of a stick. Attention was accidentally drawn to a tooth which had been stopped, and an x-ray examination showed apical rarefaction of this and of an adjacent tooth. These teeth were extracted, and a course of antistreptococcal vaccine instituted. The joint gave no further trouble for five years, when two more teeth showed apical rarefaction. After their removal the joint cleared up at once.

**Case 3.**—A man, aged 62, had been afflicted with osteitis deformans for twenty years; the other tibia, right humerus, clavicle, and head became involved later. The teeth were very foul, and much pyorrhoea alveolaris was present; this condition must have existed for many years, and probably dated from the time of onset of the osteitis. All the septic teeth were extracted, large masses of granulation tissue were removed, and portions of bone from the upper alveolus, including a local enlargement, in order to lessen the deformity. The skin over the tibiae, which had become oedematous and inflamed, speedily cleared up, and the bone lost its tenderness.<sup>2</sup>

**Case 4.**—A married woman, aged 35, came for dental treatment seven years ago, at which time she was suffering from tenosynovitis of the wrist. There were three dead teeth, and the gums were badly infected, streptococci being recovered from them. On removal of the dead teeth, six months later, the synovitis disappeared, though streptococci were still present in the gums.<sup>3</sup>

**Case 5.**—A woman, aged 65, had fibromyositis of the neck muscles and cervical spondylitis deformans, leading to much limitation of movement. The removal of two dead teeth caused considerable improvement, but she refused to have other dead ones out.<sup>3</sup>

**Case 6.**—A man, aged 45, had for two years suffered from sciatica, which failed to respond to vaccines or sunlight. He had two dead teeth, which were extracted, one yielding a pure culture of *Streptococcus longus*. The socket did not heal readily, and whenever pus accumulated in it he had an exacerbation of his sciatica, which was promptly relieved by opening up the socket.<sup>3</sup>

**Case 7.**—A young woman with dyspepsia and anaemia had fleeting joint pains accompanied by slight swelling. The appendix was removed and found to have an abscess at its tip, but her condition did not improve. Two years later she began to have an evening rise of temperature, associated with severe nasal catarrh. A radiogram showed a rarefied area at the tip of a filled dead tooth, which was extracted. After three rigors, during each of which the socket became painful and inflamed, her health improved greatly, and the "rheumatic" pains and pyrexia disappeared.<sup>4</sup>

**Case 8.**—A man, aged 45, suffered from myocarditis and emphysema; removal of eleven grossly septic teeth was followed by great improvement in health. Later six more were removed, and now, nine months after the extractions, he is able to walk two to three miles without discomfort, whereas formerly great discomfort followed after a mile. (Dr. Keith Tucker, Margate.)

**Case 9.**—Eight years ago a man began to have pain and swelling of the right hand, threatening later to incapacitate him from work. One tooth was removed, causing an exacerbation. X rays showed many apical abscesses. The infected teeth were removed, with the result that the condition cleared up entirely. (Mr. Fowler Ward, Ipswich.)

#### Signs of Infection.

The determination as to whether a tooth is dead is usually not difficult, as the tooth generally takes on a bluish-black colour. The diagnosis of infection, on the other hand, may be very difficult; the view that the live tooth may be infected further complicates matters. The most important clinical sign is tenderness on clinching the jaws and on percussion. This tenderness is well recognized by the patient, and is quite unlike that which results from "cold." The presence of tenderness in a dead tooth should

be regarded as sufficient reason for extraction; a radiograph sometimes shows nothing abnormal. In some cases the tongue will be found furred opposite an infected tooth.

A radiogram is invaluable in most cases. The first evidence of infection is a thickening of the periodontal membrane, visible in the film as an increase in the dark line round the tooth. As the condition proceeds one of two things happens—either (a) the pus may escape by passing between the tooth and the bone, causing a further increase in thickness of this line, usually on one side; or (b) if exit is impossible, a crescentic area of rarefaction appears, the tip of the root forming the concavity of the crescent. In either of these cases, but especially in the latter, actual absorption of the root may occur if the organisms are very numerous or virulent; in other cases the root appears bulbous owing to deposit of cementum; the organisms being of lower virulence.

It is of the utmost importance to examine the whole length of the jaws when a dental focus of infection is suspected, as only in this way can remnants, cysts, and abscesses be revealed. One cause of persistence of symptoms is residual infection of the socket; in such cases the socket outline may be apparent years after clinical healing has occurred. It must be clearly understood that a radiogram only shows involvement of the alveolus with any certainty; a tooth may be dead and infected and show nothing on the skiagram, as in Case 1.

#### Causes of Death and Infection of Teeth.<sup>5</sup>

1. Failure to remove all carious dentine at the time of filling allows caries to go on until finally the pulp is reached and death of the tooth occurs.

2. Synthetic fillings such as are used for front teeth may kill the pulp, owing to their phosphoric acid content, unless they have a cement lining.

3. Paraform and other disinfectant dressings may kill the pulp, which subsequently may become infected by the blood stream.

4. "Capping" the pulp is a frequent cause of ultimate death of a tooth.

5. Trauma to a tooth or the alveolus in the vicinity may interfere with the circulation of the pulp.

6. Operations on the antrum may implicate the superior dental nerves and vessels.

7. Local anaesthetics containing adrenaline render the tooth painless, so giving no warning of pulp exposure. Pain in this case develops immediately the effect of the drug has worn off.

8. Large metal fillings near the pulp may cause irritation and death of teeth, but these again are nearly always painful from the time of filling.

A devitalized tooth, in which the pulp has been replaced by gutta-percha, may function perfectly for many years. It is advisable to have it x-rayed at intervals for apical rarefaction; if this is present the tooth must be redressed until sterile and then refilled, or, better, extracted on the first evidence of infection.

#### Bacteriology.<sup>2</sup>

Examination for the micro-organism present at the apex of the tooth is difficult owing to the flooding of the socket with saliva due to the partial vacuum created by extraction. Before this is done the gum should be painted with absolute alcohol; iodine is contraindicated, since traces tend to adhere to the tooth and inhibit growth in culture. Immediate culture of the blood as it wells up is the surest way of discovering the bacteria responsible. The commonest organism found is the *Streptococcus salivarius*, but in acute abscess *Streptococcus haemolyticus* is frequent. If immediate culture is impossible, it is futile to place the tooth loose in a test tube, since contamination is inevitable. It should be embedded in the stopper of a wide-mouthed vessel. To examine the pulp the tooth is washed with alcohol, dried, then fractured, and its contents cultured.

#### Pathology.

In an infected tooth the necrotic nervous and vascular tissue forms an ideal pabulum for micro-organisms. In untreated caries the toxins and pus may pass into the mouth by way of the decay. In a filled tooth this exit is closed, so they proceed down the apical canals into the

bone, from which they may then pass into the mouth between the tooth and the bone, but in the greater number of cases the pus lies pent up in the apex, forming an abscess. Here in the sinusoids of the marrow it is free to exert a toxic influence on the whole body, as is shown by the anaemia which is so common in these cases. Apparently the relatively avascular tissues, such as fibrous tissue and synovial membrane, are the usual sites of election for local manifestations. The pulp chamber contains a bead of pus; any increase in the number or virulence of the bacteria causes increased pressure, which results in toxins and pus being squirted down into the bone. Natural resolution, which can occur in bone, cannot take place here, owing to the fact that the walls cannot collapse and no new tissue is available to fill the pulp cavity. Rarely, however, calcification occurs.

As with other streptococcal infections, once a patient has been attacked recurrences are very liable to occur, either from residual infection or from the subsequent infection of other teeth (Cases 1, 2, 6, and 8).

It is not yet possible to give a complete list of the diseases caused by infected teeth. Among those given are fibromyositis, arthritis, and lymphangitis. To these may be added others of a "rheumatic" nature, and possibly Dupuytren's contracture. It must not be thought that every case will clear up on removal of the infective focus; the condition may only be diagnosed when the disease is advanced, and then even its arrest may be problematical.

Sir William Willcox<sup>3</sup> states that the disabilities responsible for one-sixth of the days lost in the industrial world come under the category "rheumatic." In 100 consecutive cases of this nature he found the teeth to be responsible in 72. He writes:

"The eradication of the primary focus in early cases of arthritis has, in my experience, been followed by cessation of active inflammatory changes of the infected joints. Where bony changes have occurred, or other destruction of the joint, it cannot be expected that removal of the focus of infection will rectify these. When active inflammation of the joint has ceased treatment for restoration of movement will be followed by real improvement."

Much has been written on the areas of rarefaction seen in skiagrams of the teeth, and Weston Price has brought forward evidence that there are granulomata shutting off the toxins and bacteria from the general circulation. This may be so; I have heard of a man with six such areas who is in perfect health. Surely, however, there must be a grave potential danger of the resistance of this granulation tissue becoming lowered from time to time and allowing toxins and bacteria to escape.

Important advances might be made if all suspicious teeth found at necropsies of patients suffering from the diseases mentioned in this article, and others of obscure origin, were extracted and cultures made of their contents.

#### Summary.

1. A tooth may die painlessly before or after filling; infection readily occurs, and such a tooth may be the focus of autogenous infection.
2. The condition may be very much more serious than pyorrhoea alveolaris.
3. A positive radiogram indicates apical infection, but a negative one does not signify absence of disease of the pulp.
4. Continuance of symptoms after extraction, or in edentulous jaws, may be due to tooth remnants such as fragments of roots, abscesses, and cysts.
5. Special precautions are necessary at the time of extraction if bacteriological investigation is attempted.
6. The commonest diseases caused by dead and infected teeth are those termed rheumatic—namely, fibromyositis, synovitis, and arthritis.

It is a pleasure to acknowledge the help I have received from a symposium on this subject held at the Post-Graduate Hostel. Especially would I like to mention the contributions of Mr. Doubleday, Mr. Sprawson, and Dr. Human on the dental aspect, and of Dr. Cauti on the bacteriological investigations.

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## FRACTURE OF THE NAVICULAR.

BY

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So many patients are seen suffering from a persistent painful disability of the wrist following an unrecognized fracture of the navicular (Fig. 1) that it is important that the symptoms of this lesion be more widely known. These symptoms are characteristic, the treatment is simple, and the results extremely satisfactory if the patient is dealt with soon after the fracture occurs.



FIG. 1.—Radiogram of the carpus taken two years after the injury, showing, A, the two ununited fragments of the navicular. There are definite osseous changes present.

No attempt is made in this paper to consider every aspect of the subject—this has been done already by Todd.<sup>1</sup> My purpose is rather to accentuate the clinical features of the condition which are of diagnostic importance.

Fracture of the scaphoid bone (os naviculare) is by no means an uncommon lesion. In the past two years I have seen forty-six examples of the condition, but unfortunately the majority were late cases. These patients come to hospital complaining of persistent pain and stiffness in the wrist and inability to carry out their work efficiently. The history usually is that months or years previously the patient had fallen and injured the wrist. Either it was treated as a simple sprain or he paid no attention to it at the time, but the wrist never fully recovered, and was a continual source of trouble. If patients are to be spared a disability such as this it is essential that the fracture from which they suffer be diagnosed at once, and as the symptoms are so definite and characteristic, provided that this lesion be kept in mind, there should be little reason for its escaping notice.

The mechanism of injury is usually a fall on the outstretched hand, very similar to that which produces a



FIG. 2.—Case of recent fracture of the navicular, showing the dorso-radial swelling. Note that the swelling does not extend to the ulnar side of the wrist.

Colles's fracture. Less commonly the fracture results from the back-fire of a motor car. On examination of the wrist no gross deformity is noticed, but a very definite oedematous swelling is seen, situated on its dorso-radial aspect and extending into the anatomical snuff-box, with the result that the tendons bounding it no longer stand out prominently on extension of the thumb (Figs. 2 and 3). The swelling does not extend to the ulnar side of the wrist. Palpation reveals normal bony points, but there are two points of marked tenderness—one over the dorsum of the navicular, immediately below the line of the wrist-joint, and the other in the anatomical snuff-box, immediately below the styloid process of the radius. Pain at the site

of fracture may also be elicited by Vaughan's knuckle percussion test, which is described by Todd.

"The metacarpal joints are all flexed to a right angle, or if possible the patient is made to clench the fist; he is then told to keep his eyes shut, whilst the surgeon taps the knuckles smartly, one after another. If the fracture of the scaphoid is present sharp pain will be elicited when the head of the second metacarpal is struck, but not when any of the others is struck."

I have not found this sign of great value in diagnosis. In some cases it is not present, and in others it would appear to be present although no fracture is seen on x-ray examination.

The movements of the wrist, both in flexion and extension, are markedly limited, and the latter movement causes pain referred to the dorsal aspect of the navicular. Pain on flexion is rarely localized to a definite point.

The clinical features may be summarized as follows:

1. Swelling on the dorso-radial aspect of the wrist.
2. Obliteration of the tendons bounding the anatomical snuff-box.
3. Tenderness over the dorsum of the navicular.
4. Tenderness at the base of the snuff-box.
5. Limitation of flexion and extension of the wrist, the latter causing pain over the site of fracture.

While these symptoms are always prominent in recent cases they persist in untreated cases for long periods. I have recently seen a patient who had had an untreated fracture of the navicular for two years, and at the end of that period, when he came to hospital, he still showed all the characteristic signs which have been described.

I would stress the fact that diagnosis can be established without an x-ray examination, but, when available, plates should be taken to confirm the diagnosis. It is of the utmost importance that the skiagram be taken with the hand in marked ulnar deviation, for only in this position will all fractures of the navicular be detected.



FIG. 3.—Note the swelling in the anatomical snuff-box with masking of the extensor and abductor tendons.

FIG. 4.—Photograph taken five weeks after a fracture of the navicular, which had been treated in a plaster case. The patient was entirely free from pain, and full dorsiflexion was possible.

#### TREATMENT.

Immobilization is the keynote to success in the treatment of fracture of the navicular. The value of active movement in upper limb fractures is widely recognized, but the number of patients who suffer from a chronic disability following what has been erroneously diagnosed "sprained wrist," and treated by active movement, is sufficient proof that in this type of fracture, at least, it is not to be recommended. When the patient is seen

early the following treatment has given excellent results. A plaster case is applied to the forearm, wrist, and hand, the wrist being dorsiflexed, and the fingers and thumb maintained in the position of normal grip. In most cases it is necessary to give an anaesthetic to enable sufficient dorsiflexion to be obtained. The parts are immobilized in this

plaster for a period of three weeks, but at the end of a fortnight the upper half of the plaster is removed to allow of massage. At the end of the third week the plaster is discarded and free movement encouraged. All the patients who have been treated in this way have obtained perfect results, both as regards movement and freedom from pain (Fig. 4).

When the patient is not seen until a month or two have elapsed immobilization has not proved of value. In some of these cases the proximal fragment has been removed by operation, but the results are not very satisfactory, and equally good results have been obtained by a prolonged course of massage, together with exercises for the wrist and hot and cold douching of the part. In my experience, however, the vast majority of these patients are left with a chronic disability, pain and stiffness in the wrist, and with a marked tendency for osteo-arthritic changes to occur (Fig. 1).

#### REFERENCE.

<sup>1</sup> *British Journal of Surgery*, vol. 9.

## TWO CASES OF ACUTE YELLOW ATROPHY OF THE LIVER FOLLOWING ADMINISTRATION OF ATOPHAN.

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IN 1922 Schroeder<sup>1</sup> first drew attention to the toxic properties of the drug variously known as phenylethynonine acid, eincophen, quinophan, atophan, agotan, and phenoquin. His seventeen cases—chiefly of mild poisoning—consisted of headache, gastro-intestinal disturbances, and transient jaundice; while Worster-Drought<sup>2</sup> a year later reported a similar case. Following a communication from Langdon-Brown<sup>3</sup> in 1926, a dozen fatalities were reported by Evans,<sup>4</sup> Glover,<sup>5</sup> Wilcox,<sup>6</sup> and Wells.<sup>7</sup>

In his presidential address to the Section of Therapeutics of the Royal Society of Medicine Graham<sup>8</sup> emphasized the fact that every fatal case recorded was the result of uninterrupted use of this compound for a more or less lengthy period. Individual susceptibility plays a certain

part in determining the production of poisoning, as may also previous hepatic derangement, but it is noteworthy that there is no record, except in our second case, of any untoward result of this form of therapy where the drug is given in the correct manner. By this is meant its administration for periods of not longer than four days with intervals of not less than four days, as advised by Graham. This method brings about the maximum excretion of uric acid; the extension of the drug beyond these bounds, therefore, is not only therapeutically useless, but may be positively harmful.

The following are notes of the authors' two cases:

#### CASE I.

*Read by L. J. A. L. before the Liverpool Medical Institution on February 23rd, 1928.*

E. H., aged 55, had suffered from rheumatoid arthritis for many years. In July, 1927, on the advice of a neighbour, she began taking atophan at the rate of three 7½-grain tablets daily and without intermission. During the second week of January, 1928, she developed mild jaundice, apparently without any other symptoms. The final catastrophe occurred suddenly. The jaundice became more pronounced, on January 20th coma followed delirium, and she died on the following day.

The faeces had retained their normal colour throughout, and on this account a diagnosis of "acute yellow atrophy of the liver" was made. In view of the self-administration of atophan a coroner's inquest was held and a post-mortem examination performed.

*Pathological Report.*

(By the courtesy of Dr. W. Howel Evans of the University of Liverpool.)

**Macroscopically.**—The liver was the typical yellow-ochre colour, with small reddish cell areas. It weighed about 19 ounces, and resembled in consistency a fluid jelly contained in a thin capsule. The gall-bladder was normal, and contained a small quantity of bile. There were no gall-stones present.

**Microscopically.**—Sections showed a moderate degree of multilobular cirrhosis, which probably antedated the acute yellow atrophy. The great majority of the liver cells were completely necrotic; some areas showed fatty degeneration. There seemed to be practically no attempt at compensatory regeneration. The picture is that of almost complete necrosis, with the addition of the areas of fibrous tissue and the round-celled infiltration due to the multilobular cirrhosis.

## CASE II.

Reported by W. A. M.

"Mrs. R., aged 55. Previous history—nothing pertinent. On April 28th, 1927, the urine had been tested, and gave specific gravity 1010, reaction acid, no sugar or albumin. In May, 1923, she had sustained a fracture of the skull, with wound (compound fissured fracture). In the second week of December, 1927, she was ordered, for neuritic pains, atophan (7½ grains) three times a day for three days a week, and to take each morning a teaspoonful of sodium bicarbonate. According to her daughter's evidence at the inquest she never exceeded the dose, and ceased taking the drug about the end of January, 1928—five weeks before death. This was about a fortnight before the onset of jaundice.

On February 15th I found her jaundiced to a slight degree. She was put to bed, but became deeply jaundiced, and evidently was going downhill. There was some tenderness over the gall-bladder, and, owing to the uncertainty of the diagnosis, exploration was determined upon. A small cirrhotic-looking liver was found, but no dilatation of the ducts. She died within twenty-four hours on March 5th, 1928.

The urine had contained bile pigment. The faeces could not be got free from urine, and the examination of them gave equivocal results as regards the evidence of bile. *Post mortem.* a biphasic van den Bergh reaction was obtained on the blood. No obvious cause of the atrophy was found, and it was thought better to report the suspicion to the coroner, who held an inquest.

The extreme quantity she could have taken is 540 grains spread over eight weeks, and four days' interval followed each 67½ grains. At first she told her family that the drug was doing her good; later she had expressed a doubt.

*Post-mortem Report (E. C. L.).*

**Macroscopically.**—The liver was considerably smaller than normal, weighing about 26 ounces; it was soft in consistency, its capsule showing typical shrinkage. The cut surface was of the typical yellow-ochre colour and studded with small reddish areas. The gall-bladder and bile ducts were normal and patent. No gall-stones or cholecystitis were present. The pancreas was normal in size and consistency. The spleen was not enlarged, but rather softer in consistency than normal. The kidneys were normal in size, but somewhat soft in consistency.

**Microscopically.**—Liver sections showed marked necrosis of the hepatic tissue, interspersed with round-celled infiltration, without the development of any multilobular cirrhotic changes, the picture being typical of acute yellow atrophy. Sections of the spleen and pancreas showed no abnormal findings. Sections of the kidneys showed marked parenchymatous degeneration of the tubular epithelium, and suggest a considerable amount of subacute nephritis.

*Conclusions.*

1. Poisoning by phenylethionine acid and its congeners is a condition which the medical practitioner should always bear in mind.

2. There may be no premonitory symptoms, although urticaria, albuminuria, gastro-intestinal disturbances, and transient jaundice have been noted. Acute yellow atrophy ushers in the fatal termination.

3. For the present we would suggest that the presence of albuminuria or any evidence of nephritis should be considered as a contraindication for the administration of this drug.

4. The slightest sign of intolerance, such as nausea or loss of appetite, should be an indication for the immediate stoppage of administration of the drug.

5. The estimation of a van den Bergh reaction and icteric index of the patient's serum will probably give the earliest evidence of any pathological effect upon the liver cells, and present the opportunity for omitting treatment,

long before any evidence of clinical jaundice could be observed.

6. Even if administered in the correct intermittent manner phenylethionine acid or any of its congeners may be a dangerous drug. The authors feel that its indiscriminate use is very undesirable.

## REFERENCES.

- <sup>1</sup> Schroeder, K.: *Ugeskrift for Læger*, September 7th, 1922, p. 1141. References 2 to 7 are to the *British Medical Journal* of the dates given. <sup>2</sup> Worster-Drought, C.: January 27th, 1923, p. 148. <sup>3</sup> Langdon-Brown, W.: July 3rd, 1926, p. 37. <sup>4</sup> Evans, G.: July 10th, 1926, p. 83. <sup>5</sup> Glover, L. G.: July 17th, 1926, p. 136. <sup>6</sup> Willecox, Sir W. H.: August 7th, 1926, p. 273. <sup>7</sup> Wells, C. J. L.: October 23rd, 1926, p. 759. <sup>8</sup> Graham, G.: Presidential address, Section of Therapeutics and Pharmacology, Royal Society of Medicine, October, 1926. See also *British Medical Journal*, October 16th, 1926, p. 683.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## GAS GANGRENE OF SIGMOID.

I venture to think that the following case, resulting in death from toxæmia in twelve hours, must be fortunately of rare occurrence.

On February 27th, at 3.15 a.m., I was called to see a man, aged 51, with violent abdominal pain which had lasted about an hour. He had vomited twice, and had passed a little blood and mucus. The pain had begun in the right iliac fossa, and had become generalized. He was a healthy man, and looked less than his age. There was no history of any abdominal symptoms whatsoever, and of no illness except "rheumatism."

**Condition on Examination.**—He appeared to be very ill and was in obvious agony, though not collapsed. The temperature was 98° F., and the pulse 88. The tongue was furred, brown, and very dry. The abdomen moved on respiration; it was somewhat distended and extremely resistant, though there was no board-like rigidity. The tenderness was marked and universal. No assistance was given by a rectal examination.

**Diagnosis.**—This was difficult to fit in with any of the ordinary causes of an "acute abdomen" in a man of his age. It was decided to operate on the assumption that volvulus was present, and a quarter of a grain of morphine was given.

At 4.30 a.m. the pulse was 100 and the temperature was 100° F. There had been no more vomiting, but the pain was quite unrelieved.

**Operation.**—After a second injection of a quarter of a grain of morphine and 1/100 grain of atropine, the right rectus was displaced outwards below the umbilicus; free peritoneal fluid welled up on opening the cavity. The appendix was found to be normal, the gall-bladder was blue and apparently normal; the intestines were not unduly distended, and there was nothing to suggest an obstruction; there was no sign of duodenal or stomach contents, nor was any ulcer felt. There was no question of acute pancreatitis or of diverticulitis. The only abnormality I could find was in the lowest part of the sigmoid, where it passed into the rectum; this was rather swollen, oedematous, and stained by a few purple petechiae near the mesenteric border. I was frankly puzzled, since I hardly thought a lesion so low down, and so unfamiliar as a cause of an abdominal catastrophe, could account for the acute onset and extreme illness of the patient. His general condition was good and the pulse had hardly risen (120). Mr. Arthur Cooke also carefully examined the abdominal cavity and found everything normal except the sigmoid. He had never seen such a case, but hazarded an opinion of a *B. welchii* infection of the affected loop, and 10 c.c.m. of gas gangrene serum was injected immediately. At the end of the operation the pulse rate was 100, and a rectal saline was given. At 9 a.m. the pulse was still only 100. The tongue was more moist, and his colour was better, but the agony was unrelieved. Morphine (1/4 grain) was given. At 12 noon the pulse had risen to 140; he was flushed and there was cyanosis. The breathing was rapid. The patient was evidently still in terrible pain; he had not vomited since the operation. The abdomen was somewhat distended. Another quarter of a grain of morphine was given. At 2.15 p.m. the patient had become cyanosed and grey; he was completely comatose and pulseless, and died a quarter of an hour later.

**Post-mortem Findings.**—Permission for a limited necropsy was obtained, and at 9 p.m., with Dr. H. E. Nourse, I explored the abdomen through the original incision extended upwards. The *post-mortem* changes generally were very marked for the short time since death, and the odour on reopening the distended suture line was appalling. There was mucous exudate, and the changes in the rectum to complete gangrene for about six inches reflected of the peritoneum. There was no bubbles of gas were observed below the peritoneal coat. Elsewhere the abdomen was quite normal.

I sent some of the fluid and five inches of the gut to the Bonnett Laboratory; the following is a summary of Dr. C. H. Whittle's pathological report.

1. *Erudate.*—Large numbers of Gram-positive capsulated bacilli were found in films. Culture: (a) aerobic—streptococci and *Staphylococcus albus*; (b) anaerobic—a bacillus of the *B. welchii* group.

2. *Sections of Gut.*—There was intense congestion and gangrene of the whole wall and bleeding into the lumen. The wall was



packed with *B. welchii*. The blood vessels of the mesocolon of the affected part were thrombosed; the vessels showed no sign of any previous disease.

3. *Animal Inoculation*.—A guinea-pig inoculated intramuscularly and subcutaneously with broth cultures died within forty-eight hours from gas gangrene. The organism was highly pathogenic.

It is difficult to assign a cause for a primary thrombosis, because Mr. Cooke and I are both satisfied that there could have been no volvulus in the relatively immobile loop.

If, alternatively, it is assumed that the thrombosis was secondary to the intensity of the inflammatory process (which must have started in the mucous membrane), the reason for the selection of the sigmoid for attack in a perfectly healthy subject has still to be explained.

The case was as tragic as its origin was obscure.

Cambridge.

R. SALISBURY WOODS, M.D., F.R.C.S.

### TREATMENT OF VARICOSE VEINS BY INJECTIONS.

IN the course of a series of treatments for varicose veins of the lower extremities my attention was drawn to the fact that the size of the veins varied considerably with the act of respiration, and it occurred to me to make use of this when injecting them. If a patient, either standing or lying down, is asked to take a deep breath, the veins will be seen to dilate on inspiration and to contract on expiration. This phenomenon is best seen in markedly dilated veins on the inner side of the thigh, especially over the great saphenous vein; it occurs in a lesser or almost imperceptible degree in the veins of the leg. It exists, however, in all cases.

Two requirements must be fulfilled to obtain satisfactory results in treating varicose veins by sclerosing injections: (1) the injected fluid must not be too diluted by the amount of blood in the vein, and (2) the fluid must come in as direct contact with the endothelium of the vein as possible. For these reasons the injections must be given with the patient lying in certain positions which tend to empty the veins as much as possible of their blood; taking advantage of the changes due to respiration will, I believe, also help in this.

The site for injection having been purified, the patient should be asked to take a very deep breath; while he is doing so the needle is inserted. He is then asked to breathe out very slowly, and the solution is injected while he is doing this. In this way the needle will be inserted when the vein is distended, and the injection will be given when it is almost empty. In making use of respiration and posture I have found that a smaller quantity of the sclerosing solution will bring about the same end-results, since there is less blood to dilute the fluid, and also the walls of the vein are in closer contact with the injection. After all injections the patient should lie down for ten minutes, and during that time breathe slowly and lightly. It will be noticed that when a vein has been successfully treated its size is no longer affected by respiration.

I have ventured to record these details since I have been unable to find any reference regarding the effects of respiration in connexion with varicose veins, and think it may be of interest and worthy of further study.

London, S.W.

T. HENRY TREVES BARBER, M.D.

### LARYNGEAL MYXOEDEMA.

THE fact that the diagnosis, and therefore the correct treatment, was missed by general practitioner, physician, and laryngologist alike in three successive cases of laryngeal myxoedema, suggests that a note may be useful.

The first case was that of a surgeon, aged 65. He had always had good health, although there was, on rare occasions, slight albuminuria. He complained that when he tried to sing all he could get instead of a clear note was a grunt. There was some swelling about the eyes; his voice was hoarse; there was pronounced oedema, red, glazy, of the mucosa of the back and sides of the larynx and of the ventricular bands. On a grain of thyroid extract twice daily he quickly got rid of the oedema of his face and larynx, regained his voice, and vigour, and has continued an active professional life for the last four years. On inquiry it was found that his sister died of myxoedema.

The next case was that of a Salvation Army officer, aged 60, who found open-air speaking a difficulty. The symptoms in this case were not pronounced as in the previous one; the vocal cords were sound, but there was some beefiness of the rest of the larynx, thinning of the eyebrows, and clear waxy skin with scattered telangiectases. The whole aspect suggested hypothyroidism, and the diagnosis was made instantly on inspection by my assistant. Thyroid extract cleared up the case.

The third case is the most interesting. A lady of 70 came to me in July complaining of laryngitis, for which she had been sent home from the coast, although she had been there only two days and the "laryngitis" had lasted six months; the voice, indeed, was hoarse, the mucosa above the glottis, and especially on the back of the larynx, was beefy red. Moreover, she had marked exophthalmos, and gave a history of severe Graves's disease when she was 30, which had disappeared by the time she was 40. Viewed across the room, however, her face looked thick; and, when asked about it, she used the suggestive expression, "When I wash my face it fills my hands." Under a fortnight's treatment with thyroid extract her symptoms disappeared—except the exophthalmos. This was a case of hyperthyroidism passing during forty years through fibrosis into the "hypo" stage, but leaving the exophthalmos for witness of the hyper. one.

The cause of error was simple and the same in all—distraction from the general appearance and symptoms by the patient's complaint of the laryngeal condition. There was some excuse in each case: in the first because the patient was a man, and so familiar to his colleagues that they were thrown off their guard; in the second because the symptoms were slight; in the third because of the exophthalmos. If myxoedema is not suggested to the observer's mind by the patient's appearance and voice the moment the latter enters the consulting room the diagnosis is apt to be missed. The laryngeal picture, however, is unmistakable. The back of the larynx looks like a beefy red shield and throws itself at one's eye. Certainly the pale anæmic appearance of some textbooks was not exemplified in these cases. A "laryngitis" that has lasted for months and leaves the true cords practically unchanged in appearance is presumably myxoedema.

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## Reports of Societies.

### THE ETIOLOGY OF ALCOHOLISM.

THE Section of Psychiatry of the Royal Society of Medicine joined with the British Psychological Society on March 29th for a discussion on the etiology of alcoholism. Dr. R. LANGDON-DOWN, president of the Section, was in the chair.

Dr. BERNARD HART, opening, said that to the question, "Why do certain people take alcohol to excess?" many answers had been returned. Leaving aside such facile explanations as that alcoholism was a vice or a disease—explanations which added nothing to knowledge—theories had been put forward emphasizing the part played by heredity, by the mechanism of habit, and by the response to stresses and strains in the mental organism. Psychological theories of recent origin tended to dominate the field, and the other factors were now in some danger of being unduly minimized. In the modern psychological approach to the subject it was held that the forces which drove men to take alcohol to excess were, in some measure, at least, identical with those which impelled men to take it at all, and it would seem that the causation of alcoholism must be sought for by inquiry into the effects of alcohol. Stockert had divided such effects into psychomotor stimulation, coupled with euphoric affective tone, and, secondly, a "dulling" process extending to paralysis. The speaker thought that these groups might usefully be employed as a basis for further amplification. Possibly the euphoria was only to be explained in chemical terms, or it might be directly produced only in part, and be in some measure the secondary result of the removal of inhibitions and the consequent release of impulses. With regard to the "dulling" process, in general it might be said that psychoanalysts accepted the view that alcohol was taken in order to achieve a psychological aim, which consisted partly in the assuaging of conflict and partly in the attainment of freedom of expression for repressed forces. The euphoric

affective tone, the submerging of conflicts, the cloaking of reality, the release of impulses, were all possible ends, and it might be expected that in the wide range constituted by these various ends would be found the psychological factors responsible for alcoholism, though it was a debatable question how far alcohol was to be regarded as an aim and how far as a price to be paid to achieve some other end. The psychological aims, however, although important, did not exhaust the problem. The craving which formed an essential feature of chronic alcoholism was not capable of satisfactory explanation in psychological terms, and the processes involved were probably best understood by employing chemical conceptions. Altogether, the various psychological aims, the craving, and the mechanism of habit might be said to constitute the factors immediately responsible for the development of alcoholism. The question arose whether these exciting causes acted on each and every individual, or whether certain persons were predisposed to their action, either by hereditary constitution or previous history. To the earlier authorities, as well as to a number of later investigators, heredity was the factor of predominant importance, although it had been conceived to act in many different ways. After discussing various theories which had been put forward, Dr. Hart said that it was apparent that there was a wide range of opinion as to the relative importance to be assigned to the various contributory factors to the etiology of alcoholism. Hereditary constitution, prior psychopathic conditions, conscious or unconscious "urges," the striving to achieve relief from conflict, the release of inhibited impulses, habit, custom, tradition—all were differently estimated by various authorities. On the one hand, there was such a statement as that given by J. T. MacCurdy, in discussing the etiological factors in alcoholic psychoses (*British Medical Journal*, 1922, vol. ii, p. 204), that "the alcoholic is, before he even touches a drop, an abnormal person," and on the other hand, there were those who maintained that alcoholism might arise in the normal person untroubled by internal conflicts or "urges," solely as the result of fortuitous environmental circumstances working upon the mechanism of habit. Stockert, who took a wide view of the problem, concluded that alcoholism might arise in many different soils and for many different reasons; he divided alcoholics into convivial drinkers and those who took alcohol as a drug, and subdivided the latter group into weaklings, who drank merely because it was the easiest way to obtain pleasant sensations, and psychopaths, asocial repressed personalities, who could only adapt to environment with the help of alcohol, or could only in this way substitute day-dreams for reality. Such a classification was of a rough-and-ready character, certainly incomplete, but it served to indicate the many-sided nature of the problem. The solution was not to be found in any single or specific mechanism. Alcohol might serve one or more of several ends, and various types of individuals, on account of their hereditary constitution or their previous history, might be more or less likely to avail themselves of alcohol as a means of securing these ends, and so engender processes in which presently habit would play its fixing part.

Dr. EDWARD GLOVER agreed that not all psychopathologists were at one on the etiology of alcoholism. He himself urged that three main etiological factors had to be considered in relation to this condition—namely, the partial fixation of the libido at certain levels, the constant tendency to regress to a narcissistic ego-organism which automatically set primitive mechanisms into action, and disorders of primitive conscience, which lead to fruitless exploitation of this mechanism of projection. He noted the resemblance between alcoholic lability and manic-depressive insanity, and suggested that some forms of alcoholism might be called artificial manic-depressive states, though the manic depressive had a more severe "oral fixation of libido," his super-ego was more disordered, and his sadism completely inverted. On the other hand, with more primitive narcissistic regression and more disintegration of the super-ego, the picture became one of paranoia. The speaker argued in favour of there being a close relation between alcoholism and perversion, suggesting even that alcohol might be chosen as a means of short-circuiting

sexuality and releasing the pressure of repression. Although alcohol brought out important perverse sexual tendencies it might be said that it had a function as a "surrogate" of component sexuality. Alcoholism itself might be described as a pseudo-perversion. Finally, its close relation to pseudo-sexual impotence was a reminder of the fundamental significance of "castration anxiety." Alcohol, said the speaker, owed much of its attraction to the fact that it was primarily well adapted to overcome this anxiety, although in the long run it defeated its own end by bringing about impotence and death.

Dr. EDWARD MAROTNER said that it was probable that the great majority of normal drinkers took alcohol because, although it might be bad, it made them "feel good." He believed that of the youths who indulged unduly in alcohol on Boat Race night only a small percentage did so with the idea of drowning world weariness or a secret sorrow. If he was wrong in this, psychoanalysts should be retained at Vine Street and these youths be submitted to them instead of being brought before a magistrate, who crudely fined them forty shillings! Alcohol had been called the "anaesthetic of the poor," though it seemed quite popular among the well-to-do also, and he doubted whether the poor regarded it in so negative a light. Most alcoholism which sought negative effects was more than alcoholism, but there was much alcoholism which at first was positive—pleasure seeking or the "doctor's orders" type—and subsequently became hardened by habit. To ask whether the factors which induced men to drink were psychological or physico-chemical was not to present a true antithesis. Was euphoria the result of stimulation or of decontrol, with, in the latter case, necessary impairment of a higher level? Dr. Hart seemed to have preferred the idea of stimulation, which was certainly the more cheerful and, the present speaker thought, sound, but it did not appeal to English scientists—witness the report of the committee of the Medical Research Council on alcohol in 1923. Incidentally he thought it rather cynical for such a body to assume that something which resulted in a decrease of receptivity and cast a veil over reality was almost universally bound to enhance cheerfulness. It was possible that the euphoria was due to the fact that alcohol was taken with a lively expectation that it would produce euphoria, and it would be interesting to learn whether any experiments had been done to show whether euphoria followed upon the taking of alcohol in ignorance. The speaker went on to remark on the slow decrease in the consumption of alcohol since the beginning of the century, and the very striking decrease during the ten years 1914 to 1923. During those ten years there was a fall in the consumption per head of about 50 per cent. This result must have been due, not to the sudden abstinence or disappearance of the comparatively small numbers of alcoholics, but to the cutting down of alcoholic consumption by the moderate drinker. Moderate drinking was not a subject, in the main, for individualized psychological study, but depended on such factors as social custom, cost of liquor, and facilities for obtaining it. The speaker thought there had been a decrease in the number of cases of alcoholic psychosis by about two-thirds after the war as compared with the pre-war period; alcoholic morbidity was reduced to about one-third of its pre-war prevalence. As for the idea that homosexuality had any predominant or specific relation to alcoholism, he asked if there was anybody of experience, who was not in other matters Freudian, who accepted this. If there were such cases he would expect to find that at some period they had shown unmistakable signs of overt homosexuality, or that this had figured in the content of delusions and hallucinations. He had been carefully through sixty cases of alcoholic psychosis at Maudsley during five years, and the proportion in which any overt homosexuality was evidenced was negligible—this in spite of the fact that the cases were, short of psycho-analysis, dealt with adequately.

Dr. H. CRICHTON MILLER declared that in the broadest sense alcohol might be said to be taken in order to modify the feeling tone. The numerous modifications of feeling tone which resulted from the ingestion of alcohol could be referred to two chief mechanisms—interruption in the continuity of the functioning of the central nervous system,

and a regressive change whereby the activity of the cortical centres was subordinated to thalamic control. Acquired inhibition succumbed to instinctive pressure, and conceptual thinking was submerged by perceptual activity. It might be presumed that these changes depended on two physical mechanisms, one largely and the other entirely hypothetical—namely, change in intracranial blood pressure, and alteration in functioning directly occasioned by alteration in the chemical constitution of the cerebro-spinal fluid. The modification of feeling tone or euphoria thus produced might be sought under many circumstances. In the first place, any effortless attainment of oblivion must necessarily constitute an alluring retreat from most forms of conflict. People were enabled to forget their past follies and future difficulties; in other words, a retreat from conceptual to perceptual ideation was frequently pleasant, if not desirable. The introverted found in alcohol a chemical solvent of those inhibitions that dammed up his self-expression, and the man with an inferiority sense felt himself 100 per cent. better when alcohol had blurred his discriminating capacity. The psychasthenic, with his constitutional intolerance of strain, physical or emotional, derived from alcohol a temporary rise in the threshold of consciousness. Similarly there were two groups whose demand for alcoholic euphoria was based upon physical states—one the hypopietic and the other the subthyroidic. Probably the factor of low blood pressure entered into a very high proportion of all cases of alcoholism, especially among women, the ill-nourished, and the toxic. That alcohol afforded satisfaction to many subthyroidics was notorious; presumably the mechanism was a general vaso-motor stimulation. On the other hand, hyperthyroidics did not tend to be steady drinkers. Another group was the sensorial type, who sought the modifications in sensory experience produced by alcohol. To this group belonged those who alternated alcoholism with excessive auto-erotism. The "rebels" should also be mentioned—those who drank because their fathers were rabid temperance reformers, just as the son of a fanatical Calvinist became a Roman Catholic and the son of a Tory Minister became a Fabian. In this group gold cures or injections of alkaloids reached the limit of absurdity. He also mentioned the group which showed an association between alcoholism and epilepsy, the "dual personality" group, and the manic-depressive group, this last resistant alike to analytical treatment, to forced abstinence, to medicinal cures, and to affective influences. In this group the alcoholic craving might be a feature either of the depressed or of the exalted phase, but not, in his experience, of both phases.

Professor GEORGE M. ROBERTSON agreed that no single formula could be adopted to explain the etiology of alcoholism; nor could there be one therapeutic method. In most cases a lowering of mental functioning by some process or other was involved, in consequence of which the mental powers were less able to encompass difficulties; it might be due either to a psychic or a somatic cause. In most cases there was conflict of some kind, and in addition temptation and the presence of facilities. He doubted whether there was craving for alcohol in the same sense as for morphine in the morphine addict. In the latter case there was probably a toxic chemical change in the blood, and he did not believe that the same thing occurred in alcoholism. Again, the sudden cessation of alcohol in the case of the alcoholic, while it might possibly produce delirium tremens, did not result in anything like the same damage as the sudden cessation of morphine in the case of the morphine addict.

Dr. W. H. B. STODDART quarrelled with the definition of alcoholism given by Dr. Hart—that it was the state of a person who took large quantities of alcohol—for he (Dr. Stoddart) maintained that a person might be an alcoholic before he had taken any large quantities. During the war he saw at least four cases of delirium tremens occurring in people who, previously to the restrictions on alcohol, had been quite moderate drinkers. During the restriction period, however, these people had attacks of anxiety as the time for the closing of public-houses drew near, and drank as much alcohol as they could obtain; all of them developed delirium tremens. The speaker therefore

regarded alcoholism as including the state of a person who believed that he could not do without alcohol; it was not necessary to take large quantities before becoming an alcoholic. He added that in the treatment of delirium tremens to cut off all alcohol sharply might be serious. Nowadays it was usual in this condition to give a little alcohol.

Dr. ALFRED CARVER (Birmingham) answered Dr. Mapother's question as to whether euphoria could be obtained without the patient knowing that he had imbibed alcohol. In certain manic-depressive cases some alcohol had to be given unknown to the patient; it was given with paraldehyde, which was so pungent as quite to disguise the alcoholic taste. The patient was told that it was medicine, but the euphoria was forthcoming as usual. Dr. Hart had stated that in ordinary recurrent attacks of alcoholism he did not think the craving arose before the taking of the first dose. The speaker's experience of cases was different. The craving most certainly arose before they had touched a drop.

Dr. T. A. ROSS said that craving for alcohol frequently arose in a person who was encountering difficulties, or some obstacle which was too much for him, or experiencing some strong emotion, thus differing from the craving for morphine, which had a physico-chemical basis. In his experience delirium tremens or other accident did not often result from the sudden cutting off of alcohol, but in the case of morphine addiction the drug could not be cut off suddenly.

Dr. ARTHUR HADFIELD thought that the majority of people who suffered from alcoholism—not of the social type, but of the drug type—were people of highly strung temperament. This introduced an heredity factor, because temperament was in most cases inherited, and there was also a physiological factor in which low blood pressure played a part. But the fundamental factor he believed to be regression—these were people with a fatal predisposition which prevented them from facing the difficulties of life, simply because they had never grown up.

Dr. M. P. LEAHY spoke of the good effect of suggestion in combating the fixed idea of the alcoholic that he must have alcohol; it depended, of course, on the non-resistance by the patient to the injection of the opposite idea.

Dr. J. D. ROLLESTON drew attention to the ancient and modern association of alcoholism and prostitution; the modern association was disclosed in the recent report of the committee of experts appointed by the League of Nations. There was also an alcoholism which might be described as of therapeutic origin. Some persons who were originally abstainers became chronic inebriates because they had been ordered by their doctors to take some alcohol.

Dr. J. BRANDER said that he had been a little alarmed to hear that evening of the multitude of abnormal psychological states which must be held to account for the habitual addiction to alcohol even in moderation. Was it really necessary to call in a psycho-analytical explanation of the "Frothblowers"? And would it not be necessary also to apply the same researches to the much-advertised effects of certain tonics and "sovereign remedies"?

## FEMALE SEX HORMONES.

At a meeting of the Section of Comparative Medicine of the Royal Society of Medicine, held on March 28th, with the president, Sir D'ANEX POWER, in the chair, several short papers were read, of which two had a general medical interest.

Dr. J. W. TREVAN spoke on recent advances in our knowledge of the female sex hormones. He said that now that there was a method of standardizing and isolating one of the female sex hormones great extension of knowledge was possible. Dealing with the fundamental problems of the differentiation of the sexes Dr. Trevan illustrated the essential features of the chromosomal difference, and went on to describe the freemartin, which was a calf with the external genetic pattern of the female, but internally like the male. This calf was always a twin, with anastomosis of the placental circulation with a twin male.

The testis developed in the male before the ovary in the female, and it was supposed that a hormone from the testis prevented the development of the corresponding female hormone in the freemartin. This was the first of the sex hormones. The next changes occurred at puberty, and it was especially the cyclic anatomical changes which had recently been studied, mostly in the rat. At oestrus in this animal there was not only a swelling of the external genitalia, but there was an actual change in the character of the vaginal secretion, whereby cornified epithelial cells almost completely replaced the leucocytes which were present in the dioestral period. There were corresponding, if not so easily detectable, changes in other animals. The first step towards finding out something about the cause of this phenomenon was the discovery that the hormone concerned could be obtained by a process of alcoholic extraction of the ovary in a certain way, and the biggest experimental step was made by Allen and Doisy in 1924, when they produced the characteristic changes in the vaginal secretion of the rat by the hormone they had obtained from the ovary. This it was proposed to call oestrin, and it could be obtained from the ovarian residuum in an amount of about 200 to 300 rat units per kilo. It could also be obtained from the follicular fluid and from the placenta, and, what was very surprising, also from the corpus luteum. The effect of injection of oestrin was to produce oestrus in rats, even if they had their ovaries previously removed. If a young rat was splayed its vagina remained as a solid cord of cells, but within twenty-four to forty-eight hours after the injection of one to two rat units of oestrin the vagina became a tube. Oestrin had been obtained from the ovaries of the sheep in the anoestral period, and this raised the question of why oestrus was a cyclical phenomenon. It had been suggested that it was due to the ripening of the follicles, but Parkes had destroyed follicular tissue in mice by means of x rays, and these animals went on having the cyclic phenomenon as before. The next problem was whether the corpus luteum was responsible, and recent work by the speaker suggested that the corpus luteum contained another sex hormone, which might be called anti-oestrin. This might explain the absence of the cyclic phenomenon during pregnancy, for the blood at this time contained very large amounts of oestrin. Finally, Dr. Trevan suggested the possibility of yet another hormone concerned with reproduction, and he also discussed the role of the anterior lobe of the pituitary in preventing the onset of puberty.

#### B.C.G. Vaccine.

Dr. H. J. PARISH described his work with B.C.G. (Bacille Calmette-Guérin) vaccine and guinea-pigs. This work had been undertaken by himself and Dr. C. C. Okell to confirm the work of Calmette on the prophylactic effect of B.C.G. vaccine in the tuberculous infection of guinea-pigs. He recalled briefly the preparation of the B.C.G. vaccine by Calmette over a period of thirteen years, and then described in detail one of the four series of experiments which had been made. Into each of a group of guinea-pigs 20 mg. of vaccine were injected intravenously, and after five to eight weeks 0.01 mg. of a virulent bovine tubercle bacillus strain was inoculated on to the eyeball. The average period of survival was thirty-five weeks, as compared with a control group of animals which had not received the B.C.G. vaccine, and which survived for an average period of twenty weeks. Of the vaccinated group six did not succumb, and at necropsy they showed no signs of tuberculosis. These might have escaped being infected at the time of inoculation, but even excluding these the period of survival was twenty-nine weeks, and still considerably longer than in the control group. The fact that there were six survivors in the vaccinated group was of great significance. The average increase in weight after infection was three times as great in the vaccinated as compared with the control animals. Dr. Parish concluded that B.C.G. vaccine does exercise a restraining influence on the development of tuberculosis. In none of the experiments had there been any evidence that the vaccine ever did any harm. Some guinea-pigs had been kept alive for a year after vaccination, and at necropsy there was no sign of tuberculosis.

#### ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

At a clinical meeting of the Aberdeen Medico-Chirurgical Society on March 1st, the president, Dr. THOMAS FRASER, in the chair, Mr. G. H. COLT showed a boy, aged 12 years, who had fallen down three steps and struck the left side of his abdomen. The boy felt sick, but did not vomit, and had been kept in bed. After a week an epigastric swelling appeared; it extended into the left loin, and there was an evening rise of temperature to 101° F. The swelling was apparently fluid, and its dullness merged into that of the spleen; the colon lay below it. The blood count and diastatic index were both normal. From the fourteenth to the twenty-first day there had been profuse bright haematuria, which had begun and ceased suddenly; no clots were passed. The size of the swelling had somewhat diminished since his admission on the twelfth day. No other symptoms had been noticed, and the temperature had not been raised. The quantities of urine passed and the urea percentages in the urine and blood were normal. The diagnosis lay between a pseudo-pancreatic cyst (Jordan Lloyd) and a renal cyst or haematoma. Dr. J. A. STEPHEN described the history of a case of difficult feeding in an infant where lactic acid milk and insulin and intraperitoneal salines were employed. The child weighed 5 lb. 6 oz. at birth, and during the first period of three and a half weeks on breast feeding the gain was only 1½ oz. For the next seven weeks it was given a supplementary feed of lactic acid milk four-hourly for three days; it was then weaned and fed on lactic acid milk. In four months the child gained only 1 lb., and yet it had made quite satisfactory progress at the end of one year. Dr. EDWARD WALKER exhibited a male child, aged 11 months, showing several of the stigmata of Mongolism. The skull was brachycephalic, but without marked occipital flattening. The features were small and high coloured. There was a slanting palpebral fissure downwards and outwards, a reversal of the common peculiarity which has been reported in otherwise typical Mongols. The nose was small and snubbed, and the tongue, which was large and broad, protruded from the mouth. The abdomen was large and tumid; the skin showed exaggerated mottling and was rather dry on the face, but not elsewhere. The thyroid gland was palpable. Mentally the child was bright and friendly, but it appeared to be stupid and was given to grimacing. A diagnosis of Mongolism associated with hypothyroidism was suggested, and thyroid extract was being administered as a therapeutic test. Mr. ALEXANDER MITCHELL showed a case of ectopia vesicae in a boy aged 5. There was no actual prolapse of the posterior wall of the bladder, but only a defect in the anterior wall, with a short penis and the lower half of the circumference of the urethra alone present. A plastic operation on the bladder was not considered advisable; it was hoped that the sphincter control of the rectum would improve when transplantation of the ureters into it could be effected. Mr. GEORGE S. DAVIDSON showed an x-ray film of a patient with a Naegele pelvis, who first came under his care in 1927. The point emphasized was that there ought to be much closer co-operation between the obstetrician and radiologist. Mr. WILLIAM ANDERSON showed a case of chronic pulmonary suppuration treated by cauterizing pneumectomy (Graham's method). Repeated aspirations had failed to locate pus. Four inches of the seventh, eighth, and ninth ribs posteriorly were resected. An indurated area was being excised when thick, foul pus escaped. The cavity was cauterized widely in all directions and packed, the skin wound being only partially closed. The convalescence was fairly smooth, but a sinus persisted at the patient's back. The wound was opened up and extended in an upward direction, the sixth rib being resected, the thickened area of the lung again thoroughly cauterized, and the wound packed. There was a free discharge of pus, and irrigation with flavine caused the sputum to be stained yellow. Five weeks later, however, the sinuses were practically dry, and soon after this it healed up. The patient returned to work as a street porter, which involved the dragging of a heavy trolley cart. His only complaint was slight breathlessness on extreme exertion, and the clubbing of the finger tips entirely disappeared.

## Rebifus.

### THE SOCIAL STRUCTURE OF ENGLAND AND WALES.

WHENEVER the time comes for organizing a national census those responsible for the work receive many suggestions for increasing the field of inquiry, and every year Government departments are invited or exhorted to obtain this or that new piece of statistical information. It not infrequently happens that those who make proposals are ill-acquainted both with the difficulties of the task they set and with the published results of similar inquiries. There is some excuse for this, because the mere mass of official publications is great, and it often happens that the precise meaning of some tabulation can only be grasped if the descriptive text—perhaps separated from the tables by a wide space—is carefully studied. In recent years a good deal has been done to smooth the path of the private inquirer by the Government itself—for example, in the admirable *Guide to Official Statistics*—and by organizations such as the League of Nations, in its handbooks of the official vital statistics of many important countries; but there was room for a treatise such as that of Professor A. M. Carr-Saunders and Dr. D. Caradog Jones,<sup>1</sup> which should illustrate the lessons to be learned from a study of the official, and some unofficial, data.

The authors first set out the salient facts as to the number, age, sex, marital condition, housing, geographical distribution, industrial, and occupational classification of the people. Next they consider the statistical measurement of social status, the numbers and nature of occupational associations, and other aggregates. The means of estimating national wealth and income are next considered; and then in turn education, ways of entering occupations, State provision against misfortune, taxation, charity, the measurement of poverty, the prevalence of crime. Finally, the distribution of "intelligence" and the differential birth rate are discussed and illustrated. The authors have treated their material in a lucid and objective way; the medical reader will find, in their discussion of the subject, matter of particular interest to him, little to criticize, and much which he should know, but perhaps does not know. Professor Carr-Saunders and Dr. Caradog Jones, having set out the facts as to the differential net fertilities of various social strata, abstain from rejoicing or bemoaning.

"The net results of differential rates of contribution," they remark, "may be favourable or unfavourable. It is at least possible that, even if they are unfavourable in respect of inborn intelligence, they may be favourable in respect of temperament and physique, and that, therefore, the general trend may not be in the direction of biological degeneration."

Similar caution is displayed in the introduction to the chapter on inborn qualities, although the authors seem to accept the view that the intelligence quotient is a measure of innate qualities; it might perhaps be remarked that the conclusion that "most of those tested are moderately gifted with intelligence" is a truism, having regard to the definition of an intelligence quotient, although, of course, the result that very high and very low quotients are about equally numerous is not a truism. It might perhaps have been an improvement had rather more space been devoted to the discussion of the measurement of "intelligence," which is a somewhat controversial issue, but a very interesting and relevant one. On the other hand, perhaps a little too much prominence is given to Professor Bowley's estimates of future populations, since these are based upon demonstrably false assumptions—namely, that the death rates will continue to be the same as in 1910-12, that the annual number of births will remain as in 1921-23, and that there will be no migration. Professor Greenwood's conjectures (published in *Metricron*, 7, 1925), which assumed an improvement of the death rates continuing to 1927, and that the births would decrease logarithmically, have a somewhat more plausible

basis; but, so far as births are concerned, this foundation too is more favourable to the increase of population than the facts.

These, however, are not points of much practical importance, and we can unreservedly commend the book, which should be very useful to all interested in the present position and prospects of our country.

### THREE BOOKS ON PATHOLOGY.

PATHOLOGY, instead of occupying, as heretofore, a merely subordinate position as the handmaid of practical medicine, has now established its claim to be considered an independent science. The new point of view has necessarily had its influence on methods of teaching and the character of textbooks, as is clearly shown in Professor OERTEL's book *Outlines of Pathology*.<sup>2</sup> The book is based on the method of teaching adopted at present in the McGill University, where pathology is dealt with primarily not as a preliminary medical subject, but as a scientific and cultural branch of knowledge. Completeness in detail, such as was aimed at in the older textbooks, is not its main purpose, nor are practical applications to the art of healing discussed to any considerable extent. The student is brought to the threshold of the subject, and an effort is made to unfold critically the origin of, and trace the different methods of attack upon, the great problems in pathology, and to emphasize its constant interactions with other sciences. The author considers that the increasing wealth of positive information which is at present scholastically handed to the student as a necessary equipment is bewildering rather than illuminating, and his endeavour has been to stimulate the student's interest and critical faculty rather than burden him with innumerable details, which he will discard, in the main, after his examination. The subject is developed in two main sections—on etiology, and on pathogenesis or the development of disease. Under etiology are considered, first, subjective or internal factors—namely, hereditary or ancestral qualities and individual or developmental qualities; and secondly, objective or environmental factors—namely, physical and chemical agents and organized parasites. Under pathogenesis are considered in the first place infection and immunity, or the interrelations between subjective and objective causes of disease; and secondly, pathological anatomy and histology, including the manner of development of morbid lesions. It may be said that these headings exhibit nothing new; the book does, however, exhibit a novel and striking difference from the older type of textbook in its more philosophical spirit, and in its recognition that pathology is something more than the mere description of anatomical lesions with passing references to their causes; that the foundations of the subject are to be looked for in such matters as the laws of heredity and somatic development, the reaction of cells to environmental changes, the nature of immunity, and the physical and biochemical relations of the cells. The author brings these and kindred subjects into prominence, and links them up with the facts of pathological anatomy. It is only by such a method that the student can be taught what pathology is.

Textbooks on pathology generally reflect to some extent the temperaments of their authors—anatomical, physiological, practical, or philosophical—but there appears to be a growing tendency to present the subject in its entirety and in all its aspects. Dr. POWELL WHITE's book on *The Principles of Pathology*<sup>3</sup> is an example of this tendency, or rather it is an attempt to lay the foundations of an all-embracing exposition of the subject which, in its entirety, would seem to be beyond the powers of a single author. It is, therefore, not a textbook on pathology, but a carefully drawn ground plan, starting from which the student may feel confident that he can build up the entire edifice without any fear of omitting important sections.

<sup>2</sup> *Outlines of Pathology*. By Horst Oertel. Montreal: Renouf Publishing Co. 1927. (Sup. roy. 8vo, pp. xi + 478 + vii; 131 figures. 10 dollars net.)

<sup>3</sup> *The Principles of Pathology*. By Charles Powell White, M.D., F.R.C.S. Publications of the University of Manchester, Medical Series, No. XVII. Manchester: The University Press; London: Longmans, Green and Co., Ltd. 1927. (Demy 8vo, pp. x + 278; 8 figures. 15s. net.)

<sup>1</sup> *A Survey of the Social Structure of England and Wales as Illustrated by Statistics*. By A. M. Carr-Saunders and D. Caradog Jones. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xi + 249; 81 tables. 10s. net.)



Such seems to have been the intention of the author, and he has carried out his scheme with considerable success. The basis of an attempt of this kind must necessarily consist in a satisfactory scheme of classification—one that will enable every detail to be included and to be put in its proper place in relation to other details—and the author has placed classification in the forefront of his work. He lays down four main divisions of the subject—namely, morphological, chemical, physical, and physiological pathology, and deals with each of these along two lines—biostatics or morbid states, and biodynamics or morbid processes. The biologic and scientific aspect of the subject, which is too often neglected in ordinary textbooks, is therefore placed in proper relief. Considerable ingenuity is exhibited in the subordinate classifications adopted, among which may be mentioned the classification of pathological processes into (1) consecutive, or those which are the direct effect of injury in the widest sense of the term; (2) adaptive, or those which arise as a reaction against changes in the environment and tend to neutralize or compensate for injurious action; and (3) autonomous, or progressive processes which are harmful and neither adaptive nor reactive against changes in the environment. The value of a sound classification and nomenclature cannot be overestimated, and Dr. White's book is a contribution to this subject; but the work contains, besides, very good and concise descriptions of the morbid states and processes themselves, and such chapters as those on surface phenomena, surface tension, electric charge, adsorption, and diffusion are particularly clear and valuable. The book should assist the student in obtaining an insight into the scope of pathology, regarded as an independent science.

KARNSER's textbook of *Human Pathology*<sup>4</sup> presents the subject in the traditional form adopted in works on pathological anatomy—that is to say, it treats in the first instance of general pathological processes such as degeneration, inflammation, and tumour formation, and in the second part deals with the special pathology of the different organs. This arrangement is considered by the author to be in harmony with the position of pathology in the medical curriculum, and the best way of presenting the subject as an introduction to, and a basis for, the clinical branches of medicine. The more intricate problems of pathology are discussed in sufficient detail to permit of a definite understanding of the points at issue, and an attempt is made to distinguish clearly between fact and theory. The subject matter appears to be complete, and the book presents the broad facts of pathology in a manner suitable for the medical and biological student as well as for the practitioner of medicine desiring to keep abreast of this ever-enlarging subject.

#### DERMATOLOGY.

Dr. R. W. MACKENNA's textbook on *Diseases of the Skin*<sup>5</sup> has now attained the distinction of a second edition, although in doing so it has not undergone the usual increase in bulk, and the general characteristics of the original volume have been preserved. In reviewing this book on its first appearance we remarked that Dr. MacKenna had not succumbed to the lure of the coloured-plate. This time he has; in fact there are no fewer than thirty-six coloured illustrations in this edition, mostly, we should think, from photographs, although this is not expressly stated. Although too much store is often set upon coloured illustrations, which are not by any means always satisfactory, there is no doubt that in this instance they are very successful and form a most notable improvement on the former edition.

The advances in etiological research since 1923 are reflected in the present edition by additions to the chapter on diseases due to filter-passing viruses. Among these, owing chiefly to the studies of Pernau, herpes is now

included, whereas in the first edition it was included among the neurodermatoses. Dr. MacKenna also touches in passing on the interesting question of the relationship between the dermatotropic strain of the virus and the neurotropic strain, which, according to the researches of Lovaditi, is the cause of encephalitis letargica. He mentions also the recent attempts to treat lupus erythematosus with intravenous injections of certain gold preparations, such as krysolgan. He is not, however, enthusiastic about this line of treatment, and he is equally cautious on the subject of thallium acetate as a remedy for ringworm of the scalp. Here we note that he makes no reference to the convenient method provided of making a naked eye diagnosis of ringworm of the scalp with the help of the fluorescence of the infected hairs produced by ultra-violet light shining through the deep purple of Wood's glass.

Speaking generally, our examination of the second edition of Dr. MacKenna's book only serves to confirm the verdict given upon the first: that he has produced a textbook well above the average, thorough, practical, sound, and easy to read, which may safely be commended both to students and practitioners. The only fault we have to find is with the binding, which is not sufficiently strong; those who study the book as thoroughly and as often as it deserves will be fortunate if, in course of time, it does not come to pieces in their hands.

#### SURGERY AT THE SALPÊTRIÈRE.

THE second series of *Travaux de la Clinique chirurgicale et du Centre anticancéreux de la Salpêtrière*,<sup>6</sup> brought out by Professor A. GOSSET, fully maintains the high standard of matter and presentation set up by the first series, which was reviewed in these columns a year ago (1927, i, 144). Of the ten articles, Professor Gosset is personally responsible for four, solely in the case of two, and conjointly in the other two. The volume, which is generously illustrated, begins with a full account of the organization and activities of the department under his direction by Professor Gosset, who, in giving a brief historical sketch, pays a special tribute to his teacher and predecessor F. Terrier (1837-1908), who did so much to introduce surgical asepsis. Among the laboratories attached is a biological one under the care of Dr. J. Magrou, who has devoted much time to the investigation of vegetable cancer, and contributes an article on the tumours due to the *Bacterium tumefaciens*. Professor Gosset and M. J. Charrier describe the removal in two stages of tumours of the ascending colon—a method which they think likely to diminish the mortality from this operation. Dr. Robert Monod's report on the combined radium and surgical treatment of 75 cases of cancer of the cervix uteri is very encouraging, as many of the cases were sent in as inoperable, and 55 per cent. of the cases were well three years later. In a beautifully illustrated and detailed account of 38 cases of the strawberry gall-bladder Professor Gosset, with his collaborators MM. Ivan Bertrand and Georges Loewy, points out that in 20 of their cases the gall-bladder contained free mulberry calculi, and reiterates their opinion, expressed in 1920, that detachment of the lipid-laden villi is one, if not the sole, mode of the formation of cholesterol calculi. The strawberry gall-bladder, in their view, though not the result of inflammation, is pathological, and good results are obtained by cholecystectomy. Clinically the symptoms of a strawberry gall-bladder without calculi are the same as those of cholelithiasis. In an article on the surgical treatment of mammary cancer, based on Halsted's methods and dealing with 102 cases operated on between January, 1919, and January, 1927, Professor Gosset states that of the 84 traced, 47 are alive and well, 25 of them three years after operation. The indications, technique, and results of degastro-enterostomization are described by M. Marcel Thalheimer. The clinical and sigmoidoscopic aspects of chronic haemorrhagic and purulent proctitis are set out by M. Roger Savignac, who promises a further account of the etiology and treatment of this peculiarly obstinate affection. M. Raymond Bernard describes the technique of removal of malignant glands from the neck, and

<sup>4</sup> *Human Pathology: A Textbook*. By Howard T. Karnser, M.D. With an introduction by Simon Flexner, M.D. London: J. B. Lippincott Co. 1927. (Med. 8vo, pp. x + 890; 433 figures, 20 plates. 45s. net.)

<sup>5</sup> *Diseases of the Skin*. By Robert W. MacKenna, M.D., B.Ch.Ed. Second edition, revised and enlarged. London: Baillière, Tindall and Cox. 1927. (Roy. 8vo, pp. xii + 450; 146 figures, 36 plates. 25s. net.)

<sup>6</sup> *Travaux de la Clinique chirurgicale et du Centre anticancéreux de la Salpêtrière*. Publiés par A. Gosset. 2e. série. Paris: Masson et Cie. 1927. (Imp. 8vo, pp. 273; 134 figures. 65 fr. sans majoration.)

M. Maurice Boureau provides the results of twenty-seven years' experience as an anaesthetist; he has produced general anaesthesia 24,000 times, and has had only three deaths. He finds that pulmonary complications are much commoner in hospitals than in nursing homes, and ascribes this to the difference in the preparation of the patient, especially the hygiene of mouth and teeth, and to exposure in transit through cold passages. Professor Gosset, however, has the teeth specially examined and a solution of methylene blue applied to them.

### GYNAECOLOGY.

The second edition of Dr. JAMES YOUNG's *Text-book of Gynecology*<sup>7</sup> has recently been published, and the author is to be congratulated anew on a very satisfactory production. The plan of the book has not been altered, but fresh matter has been introduced in several chapters. Recent work on the physiology and anatomy of the corpus luteum has been included, and the discussion on the relation between the ovary and menstruation is well treated. In the treatment of carcinoma of the cervix the claims of radium are advanced. Heyman's figures of 40.5 per cent. of five-year cures are quoted in support of the author's leaning towards radium treatment as opposed to the Wertheim operation. Dr. Young describes Rubin's test for the patency of the Fallopian tubes, and a diagram of a simple apparatus for practical use is included. The chapter on ovarian tumours now contains an account of endometrioma of the ovary in accordance with the view set forth by Sampson of America. Apart from these changes, the book varies little from the previous edition. It is perhaps rather strango to see a British textbook of gynaecology with its title spelt in the American fashion, but this is a trifling matter in a work admirably suited to the needs of the final-year student and the recent graduate. The book has been greatly improved by being printed on more pleasing paper, and its continued success may be looked for.

### NOTES ON BOOKS.

THE author of *The Essentials of Otolology*<sup>8</sup> states that "there are very few books on otology that the student can read intelligently." The meaning of this sentence, which appears to lay the onus of intellectual quality on student rather than book, is not perfectly clear, but if it is intended to imply that there are very few books on otology intelligible to the average student a singular want of appreciation of contemporary otological literature is displayed. Such works are quite numerous, and the claim inferred by this remark is the more unfortunate because, after careful perusal, the book by Dr. McAULIFFE cannot be given a place among them. The more it is studied the greater appears the chaos which the author has contrived to compress into a comparatively small space. The chapter on tests, for example, which is placed just in the middle of the book, contains some sixteen pages, of which no fewer than thirteen are devoted to an analysis of nystagmus. Anatomical studies, which are nowhere more important than in dealing with diseases of the ear, are relegated to the end, the place usually assigned to deaf-mutes, who are certainly not of much importance to students. "When to tie off the jugular" provokes a paragraph of five lines, which do not tell the reader, looking for guidance on difficult points, "when." The radical mastoid operation is dismissed in a few lines, and its results are condemned as altogether unsatisfactory. We should perhaps add that the book is well bound and printed on good paper, and that it contains a few good illustrations of the simple mastoid operation, after Dr. Whiting's well-known work on the modern mastoid operation, without the usual acknowledgement.

Mr. CHARLES WICKSTEED ARMSTRONG is a eugenicist, who is convinced that the English, and probably other races, are degenerating as the result of democracy and humanitarian legislation. In *The Survival of the Unfittest*<sup>9</sup> he states his conclusions that "a differential birth rate, obliging all ranks

to recruit from the classes below, must cause the rot to spread slowly upwards"; and that since the war the process has been hastened "by legislation more and more dysgenic, better and better calculated to hasten the catastrophe which we refuse to see approaching." By improving environment appearances can be improved for a certain time; but if the hereditary factor is neglected the time comes when improvement in environment can no longer prevent the downfall. The statesman, it appears, has not merely allowed breeding in man to go on haphazard; he has deliberately interfered with a view to helping the unfit to survive and reproduce, and "the extraordinary excuse for such interference with the divine plan of evolution has been that in man natural selection is no longer operative." The worst instance of man's interference is, in Mr. Armstrong's opinion, the National Insurance Acts. The only national insurance which he finds not prejudicial is that against old age, and to some extent that against widowhood. As Mr. Armstrong thinks that "every sane man knows instinctively that the proper cure for unemployment is useful relief work" he would seem to be afraid of the conclusions which really follow from his arguments. Mr. Armstrong's solution for our troubles is to establish a settlement of eugenicists. He suggests the South-Eastern Pyrenees as the home for the settlement, where the cult of beauty and good government could be developed. It is perhaps disappointing that a tirade against the doubtful blessings of democracy and humanitarian legislation should end in Utopia, but, as Mr. Armstrong says hopefully, the world owes its progress to the unconventional, and the "crank" of to-day may be the revered teacher of to-morrow.

Mr. A. L. ROWSE, Fellow of All Souls, has contributed to the General Series of the *Psyche Miniatures*, which must be distinguished from the Medical Series, a charming essay *On History: A Study of Present Tendencies*,<sup>10</sup> dedicated to the members of the Essay Club at Christ Church, where presumably it was read. It is arranged in chapters, with the headings "An analogy," "The present situation and the problem," "A sketch of a theory of history and applications," and a Conclusion. From the time of Hallam and Macaulay, and throughout the Victorian age, the attitude of historians can be summed up as the glorification of the English Constitution; but this tradition has faded away, and historians have now fallen back more and more upon the solid work of arranging and editing sources, and upon a more exacting standard of critical methods. But with its advantages this method has its drawbacks, and the present generation might be criticized for burdening their books with notes and addenda which, from lack of constructive power, such as Macaulay so pre-eminently possessed, have not been incorporated into the body of the text. His remark that "a whole essay might be written alone on the tyranny of references" may apply even to some medical writers. He concludes on the cheerful note of Lord Acton's dictum, the study of history "fulfils its purpose even if it only makes us wiser, without producing books, and gives us the gift of historical thinking, which is better than historical learning."

In commemoration of the seventieth birthday of Professor Bernhard Nocht, director of the Institute of Tropical Diseases in Hamburg, a collection of articles on tropical diseases<sup>11</sup> has been published by his friends and pupils. Over ninety special contributions have been sent in from investigators in twenty-eight different countries, and the book is a handsome tribute to a world-renowned scientist. Numerous illustrations and tables are incorporated in it, and there is a good photograph of Professor Nocht.

The fifth volume of scientific reports<sup>12</sup> from the Institute for Infectious Diseases at Tokyo, edited by Dr. YONENJI MIYAGAWA, contains thirty-six papers (of which twenty-eight are in English and eight in German) devoted to bacteriology and serology, pathology, biology, chemistry, parasitology, and medical entomology. The subjects discussed include the pathogenesis of experimental pneumonia in rabbits, antirabic vaccination, standardization of cow-pox lymph, the oxidase reaction in bacteria, chicken sarcoma, the function of the supranal cortex, potassium deficiency in animals and birds, and experimental studies in hook-worm infection.

<sup>7</sup> *On History: A Study of Present Tendencies*. By A. L. Rowse, Fellow of All Souls College, Oxford. *Psyche Miniatures*, General Series, No. 7. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1927. (Pott 8vo, pp. 103. 2s. 6d. net.)

<sup>8</sup> *Arbeiten über Tropenkrankheiten*. By Bernhard Nocht zu seiner 70. Geburtstag herausgegeben von seinen Schülern. Hamburgische Kunde, Band 28. pp. x + 643; 41 plates, 1 portrait. R.M. 49.)

<sup>12</sup> *Scientific Reports from the Government Institute for Infectious Diseases*. The Tokyo Imperial University for the year 1926. Vol. 5. Edited by Dr. Yonenji Miyagawa. Tokyo: Shirokane-Daimachi, Shitsaku. (Cr. 4to, pp. 651; illustrated.)

<sup>1</sup> *A Text-book of Gynecology*. By James Young, D.S.O., M.D., F.R.C.S.E. Second edition. Edinburgh Medical Series. London: A. and C. Black, Ltd. 1928. (Cr. 8vo, pp. xviii + 338; 183 figures. 15s. net.)

<sup>2</sup> *The Essentials of Otolology*. By George Birmingham McAuliffe, A.B., D.O., F.A.C.S. Oxford Medical Publications. London and New York: Oxford University Press. 1928. (Demy 8vo, pp. xv + 177; 46 figures. 16s. net.)

<sup>3</sup> *The Survival of the Unfittest*. By Charles Wicksteed Armstrong. London: The C. W. Daniel Company. 1927. (Cr. 8vo, pp. 160. 6s. net.)

# British Medical Journal.

SATURDAY, APRIL 7TH, 1928.

## EPILEPSY.

THE subject of epilepsy—or “the epilepsies,” to use a convenient and more elastic terminology—has of recent years been attracting the attention of neurologists, psychologists, and biochemists, who have severally approached its many problems from somewhat different angles of study. The older conceptions of epilepsy tended to regard it as a disease of the brain itself—some peculiar inborn abnormality of the nerve cells by reason of which recurrent explosions, so to say, of neural energy occurred, with the production of convulsions or other manifestations of the disease. The failure of many careful and prolonged histological studies to find any adequate structural changes to account for the symptoms led gradually to the abandonment of the conception that epilepsy is in any sense essentially or primarily a disease of the brain itself. And more modern trends in the study of disorder of function in the nervous system, as opposed to that of actual structural changes, have gone far to widen our conceptions of the epilepsies, both in regard to their forms and their etiology. That rigid barrier—so artificial but yet so attractive on paper—between epilepsy and hysteria has been seriously breached by many clinical observations, and this in itself is an advance of no small value; recent investigations of the epilepsies, moreover, may fairly be held to illustrate the advantages of breaking down the hard-and-fast line of demarcation between “organic” and “functional” disease.

Dr. Kinnier Wilson has lately published a valuable paper on “Epileptic variants”<sup>1</sup> which brings into prominence that wider conception of the epilepsies which now prevails, both as regards their forms and their causes. In this article in the *Journal of Neurology and Psychopathology* attention is drawn to the view that the clinical phenomena of the epilepsies must be considered as escapes from physiological inhibitions, and that such escapes of function may be exteriorized in the form of motor, sensory, or visceral symptoms. Thus on the motor side Dr. Wilson recognizes five variants: (1) myoclonic or regional epilepsy, (2) epilepsy partialis continua, (3) tonic epilepsy, (4) co-ordinated epilepsy, (5) inhibitory or akinetic epilepsy. The sensory variants he classifies as follows: (1) reflex epilepsy, (2) sensory epilepsy, (3) affective epilepsy. Among the visceral variants he places that peculiar symptom-complex termed by Gowers vaso-vagal attacks, which that distinguished author fully described twenty years ago in his book *The Borderland of Epilepsy*. It is interesting to note that under the term “inhibitory or akinetic epilepsy” Dr. Wilson places that peculiar disorder of function cataplexy, a condition which has lately been attracting much attention, especially since the publication of the valuable paper by Dr. W. J. Adie on narcolepsy,<sup>2</sup> with which the cataplectic attacks seem to be so closely associated.

Dr. James Collier's Lumleian Lectures (of which

we published abstracts in our last issue at page 557) cover wider ground, embracing as they do the whole subject of epilepsy. On the etiological side Dr. Collier brings forward convincing arguments in favour of the view that epilepsy is essentially due to a metabolic disturbance, although the exact nature of these disturbances is not particularized; indeed, we gather that in his view the disturbance need by no means always be of exactly the same order. While many may be found to accept freely such a hypothesis as an acceptable explanation of that condition which is termed idiopathic epilepsy, we feel that the lecturer is on less sure ground in maintaining the same thesis for cases of organic epilepsy—that is, those cases associated with some gross organic lesion of the brain, such as a tumour. Even in this latter variety, however, a good deal of evidence is available in support of his view, especially the experience of the enormous numbers of wounds of the skull and brain in the war with the relatively very small incidence of consecutive epilepsy, as well as recent experimental work of great interest which is quoted in the lectures. Interesting parallels are drawn by Dr. Collier between the clinical phenomena of migraine, pyknopsy, narcolepsy, vaso-vagal attacks, and even tetany, the opinion being submitted that migraine, for example, may be regarded as a particular form of local epilepsy, associated with a local swelling of the brain, analogous to angioneurotic oedema and dependent again on some metabolic dyscrasia.

Dr. Collier and Dr. Wilson agree in their inability to separate narcolepsy from epilepsy, differing in this respect from Dr. Adie, who has attempted to distinguish clearly between them. A loss of function is regarded by Dr. Collier as the essential feature of epilepsy, agreeing with the physiological inhibition defined by Dr. Wilson. If this view be correct the positive symptoms of any epileptic attack must be regarded as release phenomena, occurring at lower levels of the nervous system. Such a physiological conception is certainly attractive, and appears to fall into line with the recent monumental researches on conditioned reflexes of Pavlov and his colleagues, who have shown that sleep itself is but a matter of internal inhibition—a discovery which seems to dispose of the idea that release symptoms must of necessity be “positive,” using that term in the sense defined by Hughlings Jackson. The Lumleian Lecturer is undoubtedly in advance of current opinion in his contention that the ordinary fainting or syncopal attack is not to be clearly separated from the epilepsies either on etiological or on physiological grounds. It may be admitted at once that cases are to be found in which the two seem to merge almost imperceptibly into one another, yet general experience is still, we think, far from admitting their identity.

Much has been written of recent years on the psychological aspects of epilepsy; some, indeed, have gone so far as to claim for it an inevitable mental causation as well as a particular mental “make-up.” It is probably true to say that the balance of opinion is not in favour of accepting such a view, but this is far from denying the powerful part played by the emotions in the production of attacks. Such a concession, however, to the psychologists does not imply a surrender of the metabolic theory. The correlation between body and mind is constantly being displayed in all the functional disturbances, whether these be exteriorized in symptoms referable to the nervous system or to others, such as the respiratory or the digestive. The elucidation of problems such as these is a task which modern medical

<sup>1</sup> *Journal of Neurology and Psychopathology*, viii, No. 31, 223.

<sup>2</sup> *Brain*, 1926, xlix, 257.

research is happily well disposed to undertake, and in such a field the further study of the epilepsies may furnish fruitful results. Biochemical studies of epilepsy have been numerous, but they cannot as yet be said to have achieved results which carry much conviction in regard to the essential etiology of its many variants. Nor, we fear, can a claim be made out for any great advance in treatment. On the metabolic side the multitude of "cures," such as vegetarian diets, fat-free diets, ketogenic diets, and others, is in itself a confession of failure. A close study of the metabolism in the condition known as status epilepticus—where, as Dr. Collier rightly points out, a definite toxæmia must certainly be present—might succeed in throwing more light on this difficult problem, though the opportunities for such research are few and uncertain.

A healthy discontent with the mere label of epilepsy is the proper attitude of mind; the epilepsies should be regarded as symptoms, whose essential causes have as yet to be unravelled, possibly indeed varying with each individual case, whose peculiarities, therefore, are all the more deserving of careful study.

### BREAST-FEEDING.

A SURVEY of medical literature during the last decade or so clearly indicates the increasing importance attached to breast-feeding. As Dr. Frank Howard Richardson pointed out not long ago when discussing the progress of breast-feeding in New York State, "Even though much of this enlarging volume of medical attention has been concerned with public health measures rather than with private practice, still there has been a steadily increasing tendency on the part of students of infant health and nutrition to concern themselves with some of the multifarious problems connected with the natural feeding of children, as compared with an earlier (and still altogether too prevalent) tendency to experiment with artificial methods of nourishing babies." Nevertheless, it is still a difficult matter to obtain exact information, even from the most recent literature, on the prevalence and duration of breast-feeding in the community as a whole. It may, however, be taken for granted that breast-feeding is more usual in hospital than in private practice.

The findings of an investigation on "The prevalence and duration of breast-feeding in hospital practice" in the Obstetrical Unit of the Royal Free Hospital have been recorded and discussed by Professor Louise McLroy.<sup>2</sup> She remarks that in obstetrical departments it is the endeavour of the medical and nursing staffs to induce the mother to nurse her infant unless the mother is suffering from pulmonary tuberculosis or advanced cardiac disease, when lactation is contra-indicated. Owing to distance and other causes all the infants born in a hospital cannot attend its welfare clinic, many of them being taken to the local practitioner or to nearby welfare centres. This practice makes it difficult to obtain information as to the duration of breast-feeding. In the Obstetrical Unit of the Royal Free Hospital every mother is made to nurse her baby when possible, and every means available is taken to enable her to supply a sufficient quantity of milk for the needs of her infant.

Complications with the breast or nipples which

prevent suckling, as well as a deficient supply of milk, call for appropriate treatment. Professor McLroy stresses the importance of carious teeth and pyorrhoea as causes of failure in lactation, much improvement in the infant's weight chart often following suitable treatment of the mother's teeth. Further, during the last few months treatment of the nursing mother by artificial sunlight has been carried out, and the results, which will be published later, are said to be most encouraging. When the supply of milk is inadequate, and cannot be improved, supplementary feeds are given, in some cases twice daily and in others by alternate feeds. Fresh cow's milk is preferred to dried or condensed milk. Only where it is learned that home circumstances would not render cow's milk available is a dried milk given, so that the mother may be taught in hospital how to prepare it, and also that the infant may continue at home with the same method of feeding as it has had in hospital. Professor McLroy is positive that it is a mistake to carry out in hospital a method of feeding infants which is only possible for a trained staff, and which is beyond the capacity of the mother and her home surroundings. She points out that the infant suffers enough from its dislocation at the end of ten days without adding to its discomfort by complete change of food. It is, also, better to begin artificial feeding in hospital and to treat the breasts for the prevention of lactation in those cases in which, owing to occupation or the necessity of separation from the infant, the mother cannot nurse it. On an average 5.1 per cent. of the infants in the Obstetrical Unit of the Royal Free Hospital leave the hospital entirely artificially fed. A much larger proportion of artificially fed babies attend the welfare clinics, from which it may be gathered that all the mothers do not continue the methods they used in hospital.

In reply to a questionnaire in the form of a personal letter, the condition of 730 infants with reference to the method of feeding was investigated about nine to twelve months after birth. Of these, 333, or 45.8 per cent., were entirely breast-fed—among these there were 16 deaths; 33, or 4.5 per cent., had supplementary feeds after leaving hospital—among these there were no deaths; 7, or 0.96 per cent., had supplementary feeds while in hospital—among these there was one death; 320, or 43.7 per cent., had artificial feeding substituted after leaving hospital, and among these there were no deaths; while 37, or 5.1 per cent., were never breast-fed, and among these there were 3 deaths. Professor McLroy believes it desirable that all maternity hospitals should have a follow-up system in co-operation with the infant welfare clinics, so that supervision of the health of the nursing mother may be systematically carried out. It is open to question whether a delicate mother should entirely feed her infant; supplementary feeds may be necessary to keep it in health, and were found to be more satisfactory than entire artificial feeding.

In this investigation the infants in satisfactory home surroundings were found to be in better health than those living under poorer conditions, even when entirely breast-fed. Although among the poor breast-feeding is more economical than any method of artificial feeding, yet its benefits are apt to be counteracted by the struggle for a bare existence and unsuitable home conditions. It may therefore be concluded that, although nine months' breast-feeding is the ideal to strive for, yet care and attention must be given to the nursing mother if this is to yield better results than supplemented artificial feeding.

<sup>1</sup> Journ. Amer. Med. Assoc., vol. 89, No. 18.

<sup>2</sup> Journ. Obstet. and Gynaecol. of the British Empire, Winter Number, 1927.

## HARVEY TERCENTENARY CELEBRATION.

WE are asked to make it known that the Royal College of Physicians of London has set aside a proportion of tickets for such Members and Licentiates of the College as may wish to be present at certain parts of the Harvey tercentenary celebrations. One hundred tickets are available for the conversazione at the Hall of the Merchant Taylors Company at 9 p.m. on the evening of Tuesday, May 15th; each ticket-holder is invited to bring a lady with him. A similar reservation for Members and Licentiates, without ladies, has been made for the banquet at the Guildhall at 7 p.m. on the evening of Wednesday, May 16th. There will be an inclusive charge of two guineas for each dinner ticket, which should be sent as soon as the applicant receives notice that a ticket has been allotted. Some tickets will also be allotted to Members and Licentiates for the demonstrations in the Physiological Department of University College, Gower Street, on Tuesday and Wednesday mornings, May 15th and 16th, from 10.30 to 12.30 o'clock, at which, along with demonstrations of recent additions to our knowledge of the circulation, will be shown a film, specially prepared for the occasion by the Royal College of Physicians, displaying a reproduction of Harvey's original experiments. Members and Licentiates are advised to make early application, as tickets will be allotted to both London and provincial applicants as far as practicable in the order of application. Letters should be addressed to the Registrar, Royal College of Physicians, Pall Mall East, S.W.1.

## FIRST-AID SERVICE ON THE ROADS.

THE development of a first-aid service to meet the great increase in road accidents forms the main subject of the ninth report of the Home Service Ambulance Committee of the Order of St. John and the British Red Cross Society, covering the period from April to the end of December last year. We have referred here from time to time to the progress made in this direction by the committee, but the most recent report contains a more comprehensive review of the methods adopted. All over the country last year, the report states, members of the organizations concerned spent their week-ends and holidays on the roads equipped to render assistance to the injured. First-aid boxes are being set up on many main roads. Individual members living in villages on or near main roads have notified the police and other officials of their readiness to give their services when required. The committee hopes to be able ultimately to provide permanent first-aid posts with the necessary equipment and trained personnel, in addition to maintaining patrol services and establishing temporary stations when the need arises. This system will, it is believed, do something to relieve the pressure on the voluntary hospitals created by the demand for treatment of minor injuries, and will ensure that more serious cases are not subjected to the unskilful and often harmful handling of persons who have no qualification but good intentions. It is suggested that the wide diffusion of road accidents masks the extent of their effects in death and injury. In connexion with the ambulance service proper an increase in the demand for transport for the sick and injured is again noted. The average number of cases carried per ambulance last year was 267.7 against 243.2 in 1926 and 125.6 in 1920. These figures reflect the increasing use being made of the ambulances by members of the medical profession to secure for their patients the advantages of modern systems of diagnosis and treatment dependent on mechanical apparatus. With adequate transport available it has been possible to bring the whole country within reach of the facilities available only in hospitals and allied institutions. Most of the ambulances, it is interesting to note, are now in the care of detachments of the Red Cross

Society or divisions of the St. John Ambulance Brigade, and it is claimed that this voluntary service is definitely superior to that under the control of public authorities. Like the voluntary hospitals, the ambulance units, although depending on local support, have to bear a heavy burden in dealing with strangers who become involved in road accidents in their districts. We may recall that our late Editor, Sir Dawson Williams, was a member of the Home Service Ambulance Committee until his death, and took a warm personal interest in its valuable work.

## CARDIAC TONICS.

THOUGH much has been written on the subject of heart tonics, the uncomplicated effect of these drugs upon the heart has never been clearly defined. Most of the older investigations were made on the frog's heart under conditions which do not exist in normal life, and the conclusions drawn from these experiments are unconvincing. Study of the isolated heart, and even of the heart left in the body of the frog, are not suitable for drawing deductions as to the effect of heart tonics in man. Since the chambers are more or less empty in the isolated heart, the organ performs much less work than in the living animal. Moreover, experiments on the whole frog, though furnishing many very important facts, do not indicate simply the direct effect of drugs on the heart, since this effect might be complicated by the drug action on the nervous system, which might in turn modify the heart rate, with a resulting alteration in output. Again, cardiac tonics might conceivably affect the vessels, and, consequently, the venous inflow and the ventricular output, thus obscuring the direct cardiac effect of the drug. In the *Journal of Physiology* for February 10th, 1928, there is an interesting paper by Mr. R. Bodo, who describes a series of experiments in the department of physiology and biochemistry of University College Hospital. Mr. Bodo tried to obviate the defects in previous work; dogs were used, and Starling's heart-lung preparation seemed to be the most suitable, since in it the environmental conditions of the heart—namely, the temperature, the composition, alkalinity, volume, and pressure of the entering blood, and the opposition to the outflow offered by the arterial resistance—can be exactly controlled, changed within very wide limits, or kept unaltered during the whole of the experiment. A clear definition of heart-tone is essential, and Bodo adopts Starling's conception of the mechanical efficiency of the muscle fibre—that is, the relation of the mechanical energy to the total energy liberated. Among the heart tonics investigated were digitalis, caffeine, camphor, and strychnine, both as regards their effect on the heart muscle fibres and on the coronary circulation. In order to obtain further evidence as to a possible relation between these two effects, certain other drugs, not usually considered as heart tonics, but known or suspected of having an effect on the coronary circulation, were examined. These were the nitrites (both amyl and sodium), insulin, pituitrin, and quinidine. The mechanism of tonic action was found to be the direct opposite of that which occurs during dilatation of the heart. When the tonic effect begins to be apparent there is a transitory increase in the output and a gradual decrease in the heart volume, until a state is reached at which the output is again equal to the inflow, but the heart volume is smaller. Decrease in volume is said to be the important therapeutic effect of tonics upon the heart. Judged by these experiments digitalis, caffeine, and insulin produce their tonic effect by enabling the heart to expel the same amount of blood with a smaller average heart volume. This effect is, after digitalis administration, delayed but lasting; after caffeine it is relatively rapid in onset, but evanescent; and after insulin it could be observed only once in each preparation. The



common view that digitalis increases the diastolic volume is said to be certainly incorrect. Camphor, sodium nitrite, pituitrin, and quinidine cause dilatation of the heart, but strychnine and amyl nitrite have no cardiac tonic effect. Digitalis, caffeine, camphor, and the nitrites increase the coronary flow, the two former only slightly, the two latter in a very high degree; while pituitrin, quinidine, and insulin diminish the coronary flow, the two latter only in large doses, small doses being without effect. Apart from the case of pituitrin, there exists no obvious relation between the tonic effect and that produced on the coronary flow by administration of these drugs.

#### MATERNAL MORTALITY IN CANADA.

At the last annual meeting of the Canadian Medical Association, held in Toronto, Dr. Helen MacMurchy read a valuable paper on maternal mortality in Canada, which has now been published in the journal of the association.<sup>1</sup> She showed that the maternal mortality for the year 1925-26 (the fifty-ninth year of the Confederation of Canada) was 1,532, a rate of approximately 6 per 1,000 living births. Examination of the previous medical history of these 1,532 mothers elicited the fact that in 727 the health had not been good, and 68 others were destitute. Nearly all these 795 deaths, Dr. MacMurchy considers, might have been prevented by proper pre-natal and domiciliary care, good nursing, and adequate medical attention. There were 226 deaths from cardiac disease; the number of mothers reported as having tuberculosis was 96, and 19 were stated to have been exhausted by too frequent pregnancies. Among the special causes of death sepsis came first, occurring in 418 cases, or 27 per cent. of the total maternal mortality. Haemorrhage caused 357 deaths, or 23 per cent.; toxæmias of pregnancy 344 deaths, or 22 per cent.; long and difficult labour 87 deaths, or 5 per cent. This gives a total of 788 deaths from haemorrhage, toxæmias, and dystocia, and nearly all these might have been prevented by proper ante-natal care. Pituitrin was used in 327 cases, and in three of these rupture of the uterus occurred. Finally, the histories show that of the 1,532 women who died, 1,302 had had no ante-natal care, and in 128 cases the medical practitioner was not called until labour had begun, while in 237 no doctor was in attendance at all. Surveying the position, Dr. MacMurchy finds little evidence of progress during the last twenty-five years. Much more, she thinks, could be done to inform prospective mothers and their husbands about the need for ante-natal care, and there are still some medical practitioners who do not seem to realize the importance of this prophylactic measure. She notes that of the 244,000 births in Canada during the year, 38,634, or 16 per cent., took place in hospital.

#### DISEASE OF THE PULMONARY ARTERY.

THERE is little opportunity of studying primary disease of the branches of the pulmonary artery in the lungs, but it is a disease which may sometimes be recognized clinically, and an interesting paper by Clarke, Coombs, Hadfield, and Todd on certain abnormalities of the pulmonary artery<sup>2</sup> affords a means of becoming acquainted with its main features. Five cases are described: one a clear case of syphilitic disease; the second an infant with patchy peribronchial fibrosis of the lungs and small cysts lined with bronchial epithelium; the third an infant in whom the sole changes were a dilatation of all the pulmonary branches without any histological alteration, and a defect in the interventricular septum; the fourth a girl of 5 years with marked "nodoso atheroma" of the pulmonary artery and its branches, with endothelial proliferation of the capillaries of the muscular coat and cellular infiltration at the junction

of intima and media; the fifth a woman of 22 years with primary arterio-sclerosis of both lungs. The last case is, perhaps, the most interesting. Apart from the disease in the lungs and its secondary effects—hypertrophy and dilatation of the right heart and pulmonary artery, dropsy, and visceral congestion—no other pathological condition was present. There was a nodular thickening of the intima of all the intrapulmonary arteries down to those with a diameter of 1 mm., the plaques being almost acellular and exhibiting in their central parts a few lipid clefts and scanty lipid phagocytes. In addition all the vessels, including the main pulmonary arteries, showed a diffuse increase in the elastic tissue. The fibrosis of the lung, especially at the hilum, appeared to be more marked than is usually the case in chronic venous congestion. There was nothing in the history to throw light on the etiology of the condition. The patient had suffered from breathlessness and nocturnal dyspnoea from the age of 6 years, the onset coinciding with an attack of scarlet fever. During the last few months of life she suffered from dropsy, orthopnoea, and cyanosis of sufficient intensity to suggest a congenital defect. Beyond a persistent increase in cardiac dullness to the right no definite signs were found in the heart, and the pulse was always recorded as being regular in force and frequency. The grounds on which the diagnosis of pulmonary arterio-sclerosis is based are stated by the authors to be deep cyanosis coming on at an age which precludes the diagnosis of congenital anomaly, without physical signs of pulmonary or cardiac disease severe enough to account for the cyanosis. The diagnosis is strongly supported if signs of right ventricular hypertrophy are discernible. Other clinical features are protruding eyes, an absence of clubbed fingers, and the pulmonary diastolic murmur which is sometimes observed. Dropsy develops late, but is apt to increase rapidly, and in some cases polyglobulism has been strongly marked.

#### THE GENERAL MEDICAL COUNCIL'S INCOME-TAX CASE.

WE referred in our issue of December 10th last to the appeals taken by the General Medical Council and its English Branch Council to the King's Bench Division of the High Court in an endeavour to establish the contention that the Councils' incomes derived from invested funds are not liable to income tax. Mr. Justice Rowlatt's decision was adverse to that contention, and his view has now been supported by the unanimous decision of the Court of Appeal. It is some small consolation to notice that the judges were agreed as to the value of the Council's work from the public point of view. The Master of the Rolls, for instance, in delivering the leading judgement in the Court of Appeal, said that one, at any rate, of the main objects of the Council was for the benefit of the public. Unfortunately such questions as this have to be decided in accordance with statute law judicially interpreted rather than in the light of pure equity. As the Master of the Rolls pointed out, "There is no general exemption of a charity from income tax . . . it must be shown that the income is the income of a body of persons established for charitable purposes only, and it is exempted only so far as it is applicable to such purposes." We do not propose here to follow the discussion as to the precise constitution of the Councils, the alternative constructions that can be placed on the preamble to the Medical Act, 1858, or the other legal niceties of the case, including the precise scope of the phrase "charitable purpose" as deduced from Statute 43 Elizabeth, ch. 4; such a discussion would be more appropriate to the columns of a legal journal than here. The root of the objection to the claim seems to lie in the requirement that the trust or other body shall be established for charitable purposes only; a mixture of

<sup>1</sup> Canadian Medical Association Journal, December, 1927.

<sup>2</sup> Quarterly Journal of Medicine, Vol. 21, No. 81.

public with professional duties seems to be fatal to any such claim to exemption from income tax. To quote the Master of the Rolls once more: "Unless the Council come exclusively and fully within the spirit and intention of the statute of Elizabeth I do not think they can claim exemption." It seems to us to be a serious blemish in the income-tax code that income which is in part expended in the discharge of very grave and responsible duties to the public should be liable to tax on the ground that the other part is not so expended. The exclusiveness of the charitable function does not seem logically to have any real bearing on the equitable claim to exemption for such income as is expended "charitably" in carrying out the duties of a statutory body such as the General Medical Council. Whether an appeal to the House of Lords will be made we do not know, but the Council's legal advisers will not be encouraged by the judicial views expressed.

#### BAYLISS AND STARLING MEMORIAL.

THE opinion has been widely expressed that there should be some memorial to record the great services rendered, both to the science of physiology and to its applications in the practical problems of medicine, by the labours of Sir William M. Bayliss and Professor Ernest H. Starling, who were intimately connected for so many fruitful years. The patient zeal of the one, the fire and enthusiasm of the other, and the eagerness of both to place their knowledge and experience at the disposal of other workers, have led to a universal appreciation of their services. The number of those in all countries who have profited directly from their help or indirectly by their influence is very great, and their writings stand as monuments to their industry and learning. A widely representative committee has been formed to issue an appeal for funds wherewith to commemorate the connexion with physiology of these great partners in a manner of which they themselves would have approved. The committee is of opinion that the most fitting memorial would be the creation at University College, London, of a Bayliss and Starling Studentship, open to any graduate in science of any university, or any graduate or undergraduate in medicine of suitable standing, to enable him to spend a year or more in such training in physiology and biochemistry as would fit him for research. Subscriptions may be sent to Professor C. Lovatt Evans, F.R.S., at the Institute of Physiology, University College, Gower Street, W.C.1. (Cheques and postal orders should be crossed, and endorsed "Bayliss-Starling Memorial Fund.") The Governing Body of University College has agreed to assist the appeal by remitting all fees payable by the selected candidate.

#### HEALTH IN INDUSTRY.

Is the field of preventive medicine the increasing attention now given to health in industry, to accident prevention, and to welfare work constitutes an interesting development in social organization, involving as it does the co-operation of the State, the employers' associations, the workers' trade unions, and numerous private individuals. The second annual report of the Industrial Health Education Society, for 1927, illustrates one side of the movement in which medical practitioners play an important part, in company with employers and labour organizations. In the course of the year the work of the society has extended considerably, and the increasing demand for its services shows a widespread interest among workers in occupational diseases and their prevention. The main purpose of the lectures given has been to convey information to those liable to be directly affected, but the discussions which have followed the addresses given by medical practitioners have served a very useful purpose by bringing to light complaints which had previously been known only to those engaged in the particular occupation concerned. Rheumatism appears to be the most common trouble in industry, and

a leaflet on the subject has been prepared for circulation by the society by Professor E. L. Collis. Another, on "Mule-spinner's cancer," by Dr. Prosser White, is in course of preparation for distribution among cotton operatives. The advancement of education in industrial health should be assisted also by the establishment of the Home Office Industrial Museum, which is a permanent exhibition of methods, arrangements, and appliances for promoting safety, health, and welfare among workers in manufacturing industries. It is the first of its kind in this country. The descriptive catalogue which has been prepared (obtainable from H.M. Stationery Office, Kingsway, W.C.2, price 3s. 6d. net) is designed to serve not only as a guide to the museum, but also in some measure as a handbook on the subject. Sections in the museum are given to accident prevention and safety devices, illustrated by examples and photographs, to labour-saving devices, and to welfare; but medical interest will centre mainly in the section devoted to industrial diseases, dealing especially with anthrax, lead poisoning, silicosis, and dermatitis. Photographs are employed to show preventive methods adopted in various industries; charts indicate the incidence of the diseases, models illustrate the lesions they produce, and micro-photographs of pulmonary conditions are exhibited. Doctors who practise among industrial workers liable to occupational disease should find the health section of the museum a useful source of information.

#### THE NEW IRISH FREE STATE MEDICAL REGISTER.

THE new Register under the Saorstát Éireann (Irish Free State (Medical Practitioners) Act, 1927, will, as announced in our advertising columns, be established on May 26th, after which date no person will be entitled to any of the rights and privileges of a registered medical practitioner unless his name appears therein. Such a person will not, for example, be entitled to recover fees for advice or attendance, or to hold any public medical appointments in the Irish Free State, even though his name appears in the general *Medical Register*. Any person whose address in the general *Medical Register* is outside the Free State must, to be entered in the new Irish Register, make application to the Medical Registration Council, Room 123, Custom House, Dublin, giving full name, address, and qualifications, between April 25th and May 26th. Persons whose addresses in the general *Medical Register* are in the Free State are entitled to be entered in the new Register without application, but it is suggested that all who desire to be registered should make application, particularly if they have changed their address since the beginning of the year. Those who are not entered on the new Free State Register at its establishment can only be registered subsequently on payment of the prescribed fee.

At the meeting of the Royal College of Physicians of London, held on April 2nd, Sir John Rose Bradford, K.C.M.G., M.D., F.R.S., was re-elected President.

THE KING has made the following appointments to His Majesty's medical household in Scotland: Honorary Physician, Ashley W. Mackintosh, M.D.; Honorary Surgeons, John Marnoch, C.V.O., and John Fraser, M.C.; Honorary Surgeon Oculist, Arthur Havens Sinclair, M.D.

At the last meeting of the Council of the Royal Society of Medicine the Nichols Prize was awarded to Dr. Peter L. McKinlay and Dr. Remington Hobbs, the prize being equally divided between them. This prize, of £250, under the will of the late Dr. R. T. Nichols, is offered every three years for the most valuable contribution by a British subject towards "The discovery of the causes and the prevention of death in childbirth from septicaemia."

## THE ECONOMICS OF MENSTRUATION.

It is noteworthy that during recent years the physiological nature of the menstrual cycle has received more general recognition, and there has been some tendency to deprecate the view of this period as a time of disability and ill health. While this attitude of cultivating healthy-minded indifference to menstruation should go far towards preventing many, if not most, cases of dysmenorrhoea, it is still urged that the industrial employment of women is always bound to be unsatisfactory on account of the economic loss entailed by an unreliable worker, and it is often alleged that women are greatly handicapped in professional and business life by physiological instability, said to be the natural consequence of a conspicuous monthly rhythm to which all their functions are subject. For some years past the Industrial Fatigue Research Board has been conducting investigations into the effect of the menstrual cycle on working capacity, and in a recent report<sup>1</sup> two lines of study are considered.

*Psychological Considerations.*

Miss S. C. M. Sowton and Dr. C. S. Myers deal in the first part of the report with the influence of the menstrual cycle on mental and muscular efficiency. The subjects of the investigation were arranged in two groups, of which the first, "A," consisted of thirteen university students, and the tests consisted of the "sparring" tests and a simple form of "number-checking," which were employed every week-day at the same time each morning during two successive terms. The subjects were unaware of the exact nature of the investigation; details of the occurrence of the menstrual period were obtained by a simple procedure, a short daily bulletin of the subject's general condition at the time of the test being recorded, and the occurrence of the period being noted among several other general observations, including such occurrences as headaches, excitement, and worry. The influence of practice soon made itself evident in these university students, and the vacation considerably interrupted the work, so group "B," consisting of sixteen industrial girls, was chosen. The test chosen was a modified form of "number-checking," with the introduction later of the "dotting" test, while the experiment was continued for six consecutive months. The results of both series of experiments were analysed by means of composite curves and other statistical methods, and before considering the conclusions to be drawn from the investigations the report enters very fully into the efficacy of the tests and the validity of the deductions. The results in each individual case are carefully scrutinized. Of the twenty-nine subjects seven had to be rejected owing to insufficient data being obtained or to gross irregularity of performance, and in one case because of illness. Of the remaining twenty-two, five showed no alteration in performance of the tests at the menstrual period; in four there was a better performance; in nine the performance was worse at these times or just before them; while four showed a better or worse performance according to their stage of familiarity with the tests. After discussing various points in regard to social status, the feeling of pleasure or displeasure at the tests, general physical fitness, and other matters, the report concludes this part of the work by saying: "Any lowering of efficiency at the tests which occurred at or near the menstrual period was not in general greater than that which occurred at other times—that is to say, no experimental evidence was obtainable that the menstrual period in normal women is associated with serious incapacity for mental or muscular work."

*Physiological Considerations.*

In the second section E. M. Bedale considers the relation of the menstrual cycle to general functional activity. A three months' study of a single subject under conditions controlled as closely as possible was made in a healthy woman, aged 30. Observations were made twice in twenty-four hours of the body temperature, the basal metabolism, pulse rate, blood pressure, and respiration rate in the post-absorptive resting condition, the vital capacity, and certain ergometer experiments. The diet was fixed, and

<sup>1</sup> Industrial Fatigue Research Board, Report No. 45. London: H.M. Stationery Office, 1928. Price 2s. 6d.

the hours of bed, exercise, and occupation were all scheduled. The subject knew the purpose of the experiment, but had no prejudices as to the result. The work was to a certain extent disturbed by the delayed onset of the period in the second month, and by a general deterioration of vigour which set in about the middle of the experiment. A simple statistical device, slightly modified from one used by Moore and Barker, was employed to analyse the results at the end of the experiment, and the conclusions reached may be summarized in the following quotations:

"The evidence of the present experiments seems to be that a periodic heightening of functional activity above the average occurs late in the intermenstrual phase of the monthly cycle, and that a corresponding reduction below the average is found shortly before or at the onset of menstruation."

"There seems no reason to think that the fundamental physiological rhythm in women is such as to affect, either considerably or constantly, the quantity or quality of their industrial work, provided always that no pathological conditions are present."

The general deductions from this report are of great economic importance, since the work tends to confirm the result of other recently published investigations on the menstrual cycle. It may now be asserted more definitely that this physiological phenomenon has, as a rule, no noticeable effect on working capacity among normal healthy women, and such a statement will be of special interest to those concerned in industrial matters.

## JOSEPHINE BUTLER.

## CENTENARY TRIBUTES.

It seems a long time since the activities and adventures of the early suffragettes. How much more remote are the days of Josephine Butler, a great part of whose life was devoted to working for the repeal of the Contagious Diseases Acts, 1864-69. In an endeavour to illuminate this shadowy period for the benefit of the present generation, and also to keep green the memory of a great and noble woman who was born one hundred years ago, Dame MILlicent Fawcett has compiled a book entitled *Josephine Butler: Her Work and Principles, and their Meaning for the Twentieth Century*.<sup>1</sup> To many people to-day her name is unknown, and after reading this book it must come to many as a surprise that in the years 1869 to 1886 it was a household word, either for warm praise or bitter denunciation, according to the views held on the work to which she had devoted herself. Sixty years ago it was unknown for women to speak in public; two years later, in 1870, Mrs. Butler was addressing mixed audiences all over England on the subject of prostitution. During those years, when prolonged and furious controversy raged round the question of the "State regulation of vice," Mrs. Butler was the central figure, not only in this country, but also on the Continent. It is difficult for us to realize the courage and intense conviction needed in those days for a woman to challenge public opinion on such a subject. Josephine Butler, drawn irresistibly to the work, inspired by her valour a band of men and women who gathered round her. "Mrs. Butler was the head and front of the movement throughout, her beauty, her grace, her eloquence, and indomitable courage won adherents on every side and secured the victory for us at last"—so wrote Dr. Bell Taylor.

About 1868 great alarm was felt at the increase of venereal disease, not only in the fighting services, but also in the civil population, and so the first of the Contagious Diseases Acts was introduced and readily passed. The system of regulation of prostitution then existing in France was regarded, almost without exception, by the medical profession and police administrators as the only method of dealing effectively with this problem. Under the French system women registered as "prostitutes" were set apart in certain houses "tolerated" or licensed by the

<sup>1</sup> *Josephine Butler: Her Work and Principles, and their Meaning for the Twentieth Century*. By Millicent G. Fawcett, G.B.E., and E. M. Turner. London: The Association for Moral and Social Hygiene. (Cr. 8vo, pp. vii + 164; 1 portrait. Paper cover, 1s. 6d.; cloth, 2s. 6d.)

police. The inmates of these houses could be medically examined at stated intervals, and were subject to the control of specially appointed police and medical officers. In France such control operated as a police measure, but in England it was inaugurated by Act of Parliament. The Contagious Diseases Prevention Act (Women) had been passed in 1864, and further Acts were thought necessary in 1866 and 1869. They applied at first to fourteen naval and military stations, but it was intended by degrees to extend their operation throughout the country. Mrs. Butler was firmly convinced that such State regulation of prostitution and the traffic in women and children were interdependent; that the licensed house constituted the chief market for the traffickers; and that the only effective way to abolish the traffic was to raise continuous and uncompromising opposition to official regulation of vice in every shape or form. She felt strongly that such regulation infringed the rights of women as citizens. In her speeches and writings she appealed again and again to the main principles of the British Constitution, above all to the famous words of the Great Charter—"To no man will we sell and to no man will we deny or delay right or justice."

The first association formed to oppose the Acts was inaugurated in 1869 at Bristol, following the meeting of the Social Science Congress, at which the Acts had been discussed. Almost simultaneously the Ladies' National Association for the same purpose was formed, and the two societies worked together in the closest harmony until success was at last achieved. The fight was long and arduous, and not (incredible as it may seem) without physical danger for Mrs. Butler, but victory was finally

hers in 1886, when the Contagious Diseases Acts were totally repealed. The direct but later consequences of this accomplishment are manifold. Dame Millicent Fawcett appends a list of these results, with the dates of their achievement. The year 1927 saw the publication of Parts I and II of the League of Nations Experts' Report on the Traffic in Women and Children,<sup>2</sup> which referred appreciatively to the great campaign of Josephine Butler. This report endorses for the world all the principles for which she fought in this country. What the report proclaims now, with the authority and prestige of the League of Nations behind it, one woman dared to say fifty-eight years ago under very different conditions. To her belongs the honour of being the first to organize a challenge to the State regulation of vice and the double standard of morals.

This year has been published *Human Merchandise: A Study of the International Traffic in Women*,<sup>3</sup> by H. WILSON HARRIS, a book commemorating Josephine Butler. It summarizes the report of the League of Nations referred to previously, and should have a wide appeal, particularly for those who take an interest in the work of the League. One of its objects is to prove that certain national social problems can only be solved by international action. It is a happy incident in the celebration of Josephine Butler's centenary that further testimony should be forthcoming of the good which has sprung from the seed sown by her.

<sup>2</sup> League of Nations Report. Obtainable from the League of Nations publication agents, Messrs. Constable and Co., 12, Orange Street, London, W.C.2. (In two parts, 2s. and 7s. 6d. respectively.)

<sup>3</sup> *Human Merchandise: A Study of the International Traffic in Women*. By H. Wilson Harris. London: E. Benn, Ltd. 1928. (Cr. 8vo, pp. xii + 272. 6s. net.)

## Scotland.

### Tuberculosis in Scotland.

THE annual report of the Royal Victoria Hospital Tuberculosis Trust, Edinburgh, which has just been issued, describes the work of the Trust in regard to the care and prevention of tuberculosis throughout Scotland and at the Southfield Sanatorium, Liberton, during the past year. One point noted is the great increase in the number of applications for the admission of young children to the colony; this is regarded as a good sign, indicating an appreciation of the fact that tuberculosis is generally implanted in early life. While it is admitted that the claims of persons with advanced tuberculosis must be met, in the interest both of the individual and of the community, it is pointed out that the eradication of tuberculosis would not be achieved by this alone; in the scientific care of the tuberculous child, it is held, lies the sure line of advance, and if this was more thoroughly realized by parents and doctors throughout the country, the depressing procession of tuberculous cripples would disappear in the course of a generation and a half. When a child is received at Southfield Sanatorium Colony the presence of tuberculosis and its extent are defied. Thereafter, by every available means, the child's physiological resistance is raised, and measures are taken to meet particular issues. The production of clean milk is considered an important link in the chain of efforts against tuberculosis, and the Tuberculosis Trust has developed a herd of tubercle-free cattle during the last few years with two objectives—namely, the production of tubercle-free milk and the acquiring of a stock of cows which could be sold as cattle free from tuberculosis. The herd now numbers approximately 100; of these, some 50 are utilized for maintaining the supply of certified milk to a large clientele, which readily takes up all that is available. Of the remainder, about a score would be ready in a year as milk producers for sale to farmers, and the number of cows that would be available would increase year by year. With regard to research, it was the desire of the committee to co-operate as far as possible with tuberculosis care committees. The committee hopes to appoint two special workers for the prosecution of systematic investigation, for which it would be in a position to afford opportunities if an annual sum of £600 could be obtained. During the past year 211 patients had

been admitted to the sanatorium colony from all parts of Scotland. Six additional beds have been rendered available for patients, and the extension of the nurses' quarters has proved of great assistance in administration. The Trust is co-operating closely with tuberculosis committees, and financial grants are made in special cases to assist the families of tuberculous patients. The report is attractively illustrated and contains a reference to the visit paid to the sanatorium colony by members of the British Medical Association during the Annual Meeting at Edinburgh last year. Sir Robert Philip, President of the Association, is vice-president of the Trust, which owes its inception in large measure to his genius.

### Edinburgh Maternity Hospital.

The eighty-third annual meeting of subscribers to the Royal Maternity and Simpson Memorial Hospital, Edinburgh, was held on March 27th. Dr. T. G. Nasmyth, who presided, called attention to some of the chief features in the annual report. The number of patients delivered in the hospital during 1927 had been 2,094, which was the largest number for one year in its history. The institution in its indoor and outdoor work dealt with 38.6 per cent., or more than one-third, of all the births in greater Edinburgh. The ante-natal clinics were growing in popularity and usefulness, and in the past year 10,002 visits were paid to these clinics. During 1927 83 nurses and 287 medical students had been trained. Dr. Nasmyth announced that it had been agreed for financial, administrative, and educational reasons to amalgamate the Maternity Hospital with the Royal Infirmary. The site of George Watson's College, upon which it was proposed to rebuild the hospital, would not be available for some years, and the arrangements for amalgamation were accordingly still in an unsettled state. The hospital must remain under its present management for about six years to come, and the need for support was greater than ever. The income from the fees of pupil nurses had now almost disappeared, because, in common with the other Scottish maternity hospitals, they had to offer free board and training in order to secure the requisite complement of nurses provided with previous hospital training. The deficit on the ordinary working account for the past year had been £3,026, and the hospital had no reserve funds which could stand a repetition of such shortages. If the work was to be continued at its present high standard

of efficiency, a stabilized subscription income of £4,000 per annum must be forthcoming. The adoption of the report was seconded by Mrs. Burnett Smith (Annie S. Swan). Dr. James Haig Ferguson, moving the re-election of the directors, said that the object of the hospital was to provide a maternity service for the eastern counties of Scotland, and this they had to do at present from an undersized, obsolete, and out-of-date building, incapable of adequately overtaking its important function. The fact that the hospital was practically the same in structure as it had been fifty years ago, notwithstanding the greater work done, was not the fault of the directors, but was due to the apathy of the public, which had failed to realize what it ought to do with regard to this institution.

#### Proposed Extension of Galashiels Hospital.

In the annual report of the Galashiels Cottage Hospital recently issued, the necessity for extension of the hospital is urged. Surgical work appears to have increased much in recent years, rendering the present accommodation inadequate both for the number of patients and for administrative requirements. Maternity cases which are likely to be complicated have also been admitted in recent years. Although the hospital was primarily intended for the town of Galashiels and its immediate neighbourhood, a view is now gaining ground that the hospital might serve a larger area, and donations amounting to £3,000 have already been received for the purpose of extension.

#### Glasgow Sick Children's Hospital.

The forty-fifth annual report of the Glasgow Royal Hospital for Sick Children has been recently issued. The number of patients treated in the wards of the hospital was 7,143, while those consulting at the out-patient department numbered 83,591. The average daily number in residence was 244. Ordinary expenditure amounted to £33,294 as compared with £32,108 in the previous year. The country branch of the hospital at Drumchapel, which was inaugurated by a gift of £17,500 from the trustees of the late Mr. Peter Coats, is reported as being still £4,600 short, and the directors make a special appeal for this sum. It is also intimated that a sum of £10,000 is required to provide facilities for research work in the hospital's pathological department.

## Ireland.

#### Royal Victoria Hospital, Belfast.

THE annual meeting of the Royal Victoria Hospital, Belfast, was held in the King Edward VII Memorial Building on March 20th; the Marquess of Dufferin and Ava, chairman of the board of management, presided. The annual report dealt with the amalgamation of the Belfast Maternity Hospital and the Royal Victoria Hospital, and also with the alarming increase of motor accidents; investigation of these cases showed that a large number of the drivers were not insured. The total number of medical and surgical cases admitted into the wards during 1927 was 5,450, of which 202 were cases of motor and bicycle accidents; this did not include a large number of minor accidents treated in the out-patient department. About 50 per cent. of the injured were pedestrians, the majority of whom had been knocked down by motor cars or bicycles; nearly 25 per cent. of the total were motor cyclists. Death had followed in 16 cases. About 50 per cent. of the patients had head injuries, and about 30 per cent. had fractures of the lower extremities, which necessitated prolonged stay in hospital. The number of beds constantly occupied by patients suffering from motor accidents during the year was 17. The estimated cost to the hospital amounted to £1,806, of which only £236 had been recovered to date. The honorary treasurer said the total receipts were £58,646, of which the workpeople's contribution amounted to £20,665. The reduction in the cost of maintenance per bed occupied from £129 to £124 18s. 7d. indicated the economy in management. The adoption of the

report was proposed by the chairman, seconded by the Vice-Chancellor of the Queen's University (Dr. Livingstone), and passed unanimously. Lieut.-Colonel Mitchell, O.B.E., chairman of the medical staff, proposing the adoption of its report, drew attention to the increasing work of the laboratories of the hospital and of the radiological department. The report was seconded by Dr. Rankin and passed. Professor Lindsay proposed the re-election of the honorary treasurer, Dr. Henry Berrington, and of the honorary secretary, Mr. F. A. Heron, and bore testimony to the hard work of both on behalf of the hospital.

#### Dentists Bill in the Free State Senate.

The Irish Free State Dentists Bill was taken in the committee stage in the Senate last week. Its provisions and the discussion which marked its passage in the Dail were outlined on March 17th (p. 465). Sir Edward Coey Bigger, M.D., moved an amendment that in Section 41 the words "Dental Board" be substituted for "Medical Council." Sir Edward said that the section as it stood gave powers to the Medical Council to exercise very important functions in relation to dentistry. He held that the Dental Board should be in a position to make suggestions and also to regulate the curriculum for the qualification of dentists. Mr. O'Farrell said that the proposal in the bill to leave the matters of examinations for dentists and their professional standard in the hands of the Medical Council was illogical and expensive; it placed the Dental Board in a very humiliating position, and he could see no reason for the idea, except that it was a copy of something else. Mr. McGilligan, Minister for Industry and Commerce, said that he had been in touch with the medical profession and the Dental Association, and their views were entirely contrary to those expressed by Sir Edward Bigger. The view of the Dental Association was that it would suit its profession better to leave the matter of education to the Medical Council. Sir Edward Coey Bigger contended that the Minister had not met the points raised. He himself had made it his business to get into touch with two prominent men in the dental profession, who thought that the arrangement proposed by him would be ideal. By twenty-one votes to fourteen the House rejected the amendment. With reference to persons who might feel that they had a claim to be included in one or other of the schedules, the chairman said that these schedules had been referred to a subcommittee to look into the cases listed, and also into certain further applications. The committee had decided to adjourn the matter to allow additional applications to be sent in. Sir Edward Bigger said that the committee had that morning extended the period during which applications could be sent in until April 16th. Further consideration of the committee stage was adjourned, pending the report of the subcommittee.

#### Vaccination in the Free State.

On the motion of Mr. S. Everett (Labour) the Vaccination (Amendment) Bill, 1928, was introduced in the Free State Legislature. This measure, which is a private member's bill, proposes to alter the law governing vaccination by authorizing a statutory declaration of conscientious objection, and amending the Public Health (Ireland) Act, 1879, or Section 7 of the Vaccination Amendment (Ireland) Act, 1879. It gives parents the right to declare within three months from the date of birth of a child that vaccination would be unfavourable to its health. The bill, which received its first reading, gives in the Free State the rights enjoyed by persons in England and Wales.

#### Bangor Sewerage.

Since Bangor, in co. Down, is adjacent to Belfast, and a favourite seaside resort for the inhabitants of that city and of the neighbouring parts of the province, it is with considerable anxiety that statements are received of sewage contamination of the bay and of that of Ballyholme, which adjoins it. The surveyor's report recommends a scheme which will cost some £750,000; but, whatever the outlay, it is generally felt that the sanitation of this beautiful and convenient resort must be made irrefragable.



## England and Wales.

### Royal Sanitary Institute Congress.

THE thirty-ninth congress of the Royal Sanitary Institute, which is to be held at Plymouth from July 16th to 21st, will be attended by delegates from some three hundred societies and sanitary authorities, and by representatives of the universities, Government departments, the dominions, and several foreign countries. Viscount Astor will preside, and the popular lecture will be given by Professor W. E. Dixon of Cambridge. The arrangements follow the usual lines; the congress consists of seven sections, eight conferences will be held, and there will be a health exhibition. In the section of preventive medicine the president is Dr. L. Rajelmann, medical director and secretary of the Health Committee of the League of Nations; Professor Hobday will preside over the section of veterinary hygiene. The remaining sections are devoted respectively to engineering and architecture, maternity and child welfare, personal and domestic hygiene, the hygiene of food, and hygiene in industry, the last-named section having for its president Mr. Ramsay MacDonald. The first conference will comprise representatives of sanitary authorities, the second representatives of port sanitary authorities, and the remaining conferences will be composed of representatives of national health insurance services, medical officers of health, engineers and surveyors, sanitary inspectors, and health visitors. Among subjects on which discussions are being arranged are the tuberculosis problem, immunity methods in scarlet fever and measles, the rheumatic child, and various aspects of national health insurance, including the sickness experienced among insured persons.

### Training and Recruitment of Health Visitors.

The Ministry of Health has issued to local authorities carrying out maternity and child welfare schemes a circular (879) dealing with the position of health visitors, and recalling the decision embodied in Circular 557, to which reference was made on February 21st, 1925 (p. 384). It was announced in the previous circular that on and after April 1st, 1928, the Minister would not approve the appointment of a woman for the first time as a whole-time officer of a local authority with health visiting duties unless she had obtained the new health visitor's certificate. This certificate could only be obtained by women who had attended one of the prescribed courses of training, and by existing health visitors who had completed at least five years' satisfactory service. To facilitate the obtaining of the new certificate by existing health visitors it has now been decided to reduce the qualifying period to three years. The new circular further states that the Minister is anxious that the position of existing health visitors should be fully safeguarded, and that each local authority should pay full regard to the claims of those candidates in making appointments, although they have not obtained the new certificate. Authorities are reminded that the Ministry maintains a list of all health visitors whose appointments have been approved by it, and that local authorities who, in this connexion, desire information should communicate with the department. The remainder of the circular deals with conditions of service, recruitment, and methods of training, which appear to be causing some anxiety. Wide variations exist, and difficulty is being experienced in securing candidates to undergo training owing to the inadequate remuneration offered in many areas; it is therefore feared there may be a shortage. The Minister asks local authorities, when the remuneration of health visitors is under consideration, to give full weight to the fact that new entrants have now to devote three and a half or four years to their training. Reference is made to the conditions of training set out in Memorandum 101/M.C.W. of February, 1925, and alternative methods are described for overcoming the difficulty created by the fact that the expense of undertaking a six months' whole-time course of instruction while earning no salary may have acted as a deterrent to some candidates. In certain areas in which the ordinary full-time six months' course has been provided candidates agree to serve in the

areas for at least six months after obtaining the health visitor's certificate, and receive from the local authority during training an advance of salary, to be repaid during their first six months of service. Further, the Minister is prepared to approve a course of training covering not less than three academic terms, including all necessary subjects and providing for lectures, visits of observation, and practical work. Such a course, it is suggested, could be organized, for example, jointly by a university and a local authority, and the latter body could facilitate attendance by appointing the students, who must be trained nurses with the certificate of the Central Midwives Board, as probationer health visitors, their work, under supervision, being regarded as part of their practical training. They might be paid a salary not exceeding three-quarters that of the ordinary commencing salary of a health visitor. The salaries paid for health visiting would be eligible for grant under the Maternity and Child Welfare Regulations, but, if this was obtained, no grant would be payable in respect of training under Part II of Memorandum 101/M.C.W. Proposals of this kind are invited by the Minister with a view to securing suitable candidates who could not otherwise enter.

### Small-pox among Casuals.

The Minister of Health has been advised that it will be necessary to maintain the arrangements described in his circular (859), to which we referred on January 28th (p. 154), for the detection of small-pox among casuals. A further circular (880) has therefore been addressed to boards of guardians in England and Wales directing that medical officers shall continue to examine all casuals admitted from April 1st to June 30th with a view to detecting cases of small-pox. The circular states that if the procedure already outlined is observed it should not be necessary to keep casual wards closed after adequate disinfection has been carried out. Their prolonged closure, it is suggested, may lead to the dispersal of casuals in other places and to the spread of small-pox. Guardians are also reminded that the powers conferred on them to detain persons suffering from infectious disease do not extend to persons who, though they may have been exposed to infection, are not actually suffering from disease. There is, therefore, no power to detain such persons beyond the prescribed period of two nights, even though they have declined to be vaccinated.

## Correspondence.

### HEAT CRAMP.

SIR,—I was much interested in the description by Dr. Rayner Thrower in the *British Medical Journal* of March 31st, p. 546, of cases of acute cramp occurring, not among stokers or miners working in hot atmospheres, but among men working in the engine-room of a motor ship. From Dr. Thrower's description, however, I can entertain little doubt that the cause of the cramp is the same—namely, acute poisoning by water.

When we say that the "osmotic pressure" of the blood must be kept constant what we really mean, as I have several times pointed out, is that the diffusion pressure of water, just like the diffusion pressures of many other substances, must be kept constant. This pressure depends on the relative concentrations of water molecules and other molecules, and, in the case of the blood, more particularly on the concentrations of sodium chloride. The kidneys are constantly engaged in regulating this "osmotic pressure," but in the case of men engaged in pretty heavy muscular exertion they are almost completely thrown out of action, as was very clearly shown a few years ago by Dr. Pembrey and his associates.

Now a man who is both sweating hard and working hard, and is at the same time drinking water to relieve his thirst, is losing chloride rapidly in his sweat and at the same time replacing the sweat, which contains about a quarter per cent. of sodium chloride, by practically pure water. The kidneys at the same time are out of action, so cannot deal with the excess diffusion pressure of water. The result is acute rise in the diffusion pressure of water or fall in the

"osmotic pressure"; and violent attacks of cramp are symptomatic of this.

The whole subject has for some years past been occupying part of the attention of the Birmingham University Mining Research Laboratory, of which I am director. Professor Moss discovered the existence of heat cramp among miners. When a miner, who had already had an attack, was examined underground by my son, Mr. J. B. S. Haldane, he found, first, that only a few cubic centimetres of urine had been secreted during the whole shift, and secondly, that this urine contained not the smallest demonstrable trace of chloride. There was thus acute shortage of chloride.

Perhaps few persons realize how much sweat, and therefore how much chloride, a man who is thoroughly acclimatized to heat may lose in a short time. Professor Moss found that a thoroughly acclimatized miner from hot workings lost, in the experimental hot chamber, as much as 6½ lb. an hour, though the sweating of an unacclimatized man is feeble in comparison.—I am, etc.,

Oxford, March 31st.

J. S. HALDANE, M.D., F.R.S.

#### GLAND GRAFTING AND INHERITANCE.

SIR,—The letter of Surgeon Rear-Admiral Charles M. Beadnell in your issue of March 31st (p. 570) is clearly written under a complete misapprehension of the nature of the various testicle-grafting operations.

He is under the impression that any offspring sired by the grafted animal after the grafting are descended from spermatozoa derived from the foreign testicle which has been implanted. This is definitely not so. Neither in Voronoff's operation nor in the operations of Steinach, Lichtenstern, Mühsam, or any of the other workers in this field has it been found possible to bring the graft in such a relation to the testicle itself, or to the vas deferens, that spermatozoa from the graft could be emitted in the animal's semen. Nor has it yet been found possible to maintain the graft in such a condition that it will continue to produce spermatozoa in its new position. Microscopic examination of grafted testicular tissue, at intervals after its transplantation, show clearly that the spermatogenic tissue degenerates, and sperm cells are no longer produced.

Thus, since (1) the graft ceases to produce sperm cells, and (2) even if sperm cells were produced by the graft they could not find their way into the semen, there can be no question of the future offspring of the grafted animal being descended from the gametes contained in the graft.

It is curious that the medical profession in this country seems to know so little about the technique and results of the various so-called "rejuvenation" operations which are more widely practised elsewhere. It is very desirable that some exact observations should be made under strict test conditions, first in laboratories and then in hospitals. In the meantime, those of us who have carried out the operations in a considerable number of cases are convinced that if one chooses one's cases wisely one often does get remarkable results. And it is important to emphasize the fact that the improvement which often follows the operation is not exclusively, or even predominantly, sexual.—I am, etc.,

London, W.1, March 30th.

NORMAN HAIRE, Ch.M., M.B.

#### MINIMAL RISES OF TEMPERATURE IN RHEUMATOID ARTHRITIS.

SIR,—Dr. L. Schmidt is to be congratulated on his timely article in your issue of March 24th (p. 493) advocating rest and feeding in those cases of rheumatoid arthritis in which the temperature is unstable. Any form of movement involving the affected joints he regards as provocative of auto-inoculation. It is difficult to improve on the clarity of his words:

"The important point is the entry of substances foreign to the body, or at least to the joints, into the joints and the surrounding tissues in such amounts that the irritation set up leads to various degrees of inflammation and their sequels. The joint tissues and the surrounding tissues are thus toxic, whether they take the form of macroscopic or merely of microscopic exudates and chemotactic combinations. Absorption of such substances has, according to this view, the same significance as an auto-inoculation."

Long-standing fallacies notoriously die hard. One of the worst is embodied in the idea that to prevent permanent stiffness patients must be kept moving. Every medical student knows that inflammation has to be treated by rest, and yet continually this universal rule is broken or is disregarded in the case of arthritis. Personally I would go much further than Dr. Schmidt, and would urge that the treatment of rest advocated by him should not be confined to cases in which a general intoxication is present, but that in all arthritides treatment should be begun by reducing the voluntary movements of those joints showing active disease. The amount of movement to be permitted is largely a matter of experience, but it is always better to be on the safe side, and even a period of complete immobilization of one or more joints is preferable to permanent disablement.

The governing factor in all cases should not be the prevention of disease, but the control of auto-inoculation. Fortunately in the majority of cases auto-inoculations are not sufficiently marked to prevent gentle movements of some kind. Thus, for example, even febrile cases at rest in bed may often be permitted to move their lower limbs once or twice a day—a very different proposition from continually walking about on them. The difficulty is that in so many mild degrees of arthritis, particularly osteoarthritis attacking one joint, patients can seldom be persuaded to give up their activities. Yet, when through some intercurrent illness these activities are forcibly curtailed, it is invariably found that the pain in the affected joint has lessened or even disappeared.

In every case of arthritis, from the mildest to the most severe, treatment should be directed toward reducing the active movements in affected joints, more especially in those of the lower limbs. In some cases no measures short of complete immobility will prevent auto-inoculation. In these, after a period, experiments can be made first with very slight passive movements, and then with more energetic voluntary movements, in order to find that degree of activity which the patient can undertake without provoking auto-inoculations or increasing the local inflammatory changes. The former would be shown by malaise, pain in other joints, or even in a rise of temperature; the latter by pain in and around the joint itself. If these principles were more generally recognized and universally applied, there is little doubt that the crippling results of arthritis would be less in evidence.—I am, etc.,

London, W.1, March 29th.

H. WARREN CROWE.

#### DYSPHAGIA ASSOCIATED WITH ANAEMIA.

SIR,—In your issue of March 24th Dr. A. F. Hurst takes exception to my statement that the closure of the lower end of the gullet in cardiospasm is always firmer than normal, and that sometimes it is so great that it yields only to prolonged steady pressure. He maintains that "anybody who has passed a mercury tube in such a case must have been struck by the remarkable absence of resistance offered by the sphincter, and by the absence of any grip upon it when it is withdrawn from the stomach."

Dr. Hurst naturally contests my statement, for, if true, the old-established view that the disease in question is cardiospasm receives further confirmation, while that as to achalasia is confuted.

It is self-evident that a more exact estimate of the degree of resistance at the lower end of the gullet can be made by the gradual introduction of an oesophagoscope under visual control while the patient is recumbent and anaesthetized, as is my practice, than by passing blindly, or with the assistance of x rays, a mercury tube, as recommended by Dr. Hurst. All of my cases, excepting a few of the earliest, have been carefully examined with reference to the tendency of the cardiac canal to undergo spasmodic contraction, and as to the degree of resistance offered by this contraction. Resistance greater than the normal has been encountered in all cases, and active spasm has been seen in nearly all cases.

Dr. Hurst employs rubber tubes of various sizes, each containing 1 lb. 5 oz. of mercury. If one of these weighty instruments passes through the lower end of the oesophagus—which has no anatomical sphincter and where the muscular

fibres are unstripped—he accepts this as proof of the absence of spasm. He considers that if spasm did exist there would be resistance such as the anal sphincter in a state of spasm offers to the introduction of the finger. Surely an inappropriate comparison.

Turning for a moment to the upper end of the oesophagus. When this is inspected in the manner above described in cases of the same nature as those which formed the subject of the paper by Mr. Mason Jones and Mr. R. D. Owen I have invariably found such firm closure that any other diagnosis than spasm was inadmissible. I do not deny that in some of these patients the muscles concerned in projecting the food into the oesophagus may have been weak and possibly parietic; or that spasm of the crico-pharyngeus extending over a period of years occasionally gave rise to an appearance resembling a circular membranous stenosis, but which was shown to be due to the spasm.<sup>1</sup> Paresis or achalasia of the crico-pharyngeus itself certainly did not exist.

The only other important reason advanced by Dr. Hurst in support of his recommendation to substitute the term "achalasia of the cardia" for the term "cardiospasm" is that in the disease in question "hypertrophy of the cardiac sphincter is never observed after death, even if the obstruction has lasted twenty or more years, although long-continued spasm would necessarily lead to hypertrophy." In reply to this objection I need merely point to the published drawings and descriptions of specimens in which more or less of the terminal portion of the oesophagus or "cardiac sphincter" has undergone hypertrophy.<sup>2</sup> My patient was aged 21 years and Dr. Cameron's was 6 years. In both of these young subjects there was pronounced hypertrophy in the wall of the cardiac canal. From remarks made by the late Professor Shattock in this connexion one is led to inquire whether this hypertrophy does not exist in many of the cases at a stage earlier than that when usually examined *post mortem*, and whether the degenerative changes in the muscular coats so frequently reported may not cause muscle which at one time was hypertrophied to appear of normal or diminished thickness.

The theory of achalasia is based upon three negative conditions—namely, absence of sense of obstruction at the cardia on passing the mercury tube, absence of grip by the sphincter so that the mercury tube is easily withdrawn, and absence of cardiac hypertrophy. In this letter I have shown that more exact methods of observation and an acquaintance with the recent literature of the subject go to prove that the conditions which Dr. Hurst denies in reality exist.—I am, etc.,

Glasgow, March 28th.

A. BROWN KELLY.

### THE "CURE" OF PULMONARY TUBERCULOSIS.

SIR,—Many of your correspondents seem to be very sceptical as to the possibility of the "cure" of advanced cases of pulmonary tuberculosis. If by "cure" is meant the restoration of destroyed tissues it is, of course, impossible, but if it means the restoration of the patient to health in spite of more or less seriously damaged lungs, with the disappearance of cough and sputum, this has, of course, been done in numerous instances. The method used is the complete immunization of the patient with tuberculin (H.T.S.) and autogenous antigens made from the enterrh-producing microbes found in the sputum. Before the war I demonstrated a series of these cases to a special investigator sent by the Medical Research Council. The patients shown are alive and well now. At the Bradford Meeting I showed a series of charts and radiograms of such arrested cases.

Some years ago Dr. Maguire, medical insurance commissioner, examined a series of these advanced arrested cases, all of them with unquestionable evidence of arrested disease. Dr. Maguire made a report to his commission, who forwarded it to the Government department concerned. Messrs. Hewlett, who are agents for my tuber-

culin, have demonstrated x-ray photographs before and after treatment at several medical exhibitions. These patients are alive, well, and are not infectious, but parts of their lungs are destroyed and replaced by fibrous tissue, and in many their hearts are displaced by the contraction of this fibrous tissue—one who is perfectly well and active to such an extent that the "apex beat" is in the right axillary line.

Early cases can be restored to such an extent that no evidence of disease can be discovered by physical examination, and are therefore useless for demonstration purposes to the sceptic who invariably suggests an error in diagnosis. Except in one exceptional case of acute lobar pneumonia phthisis with massive consolidation and no sputum, the diagnosis in which was made by the response to tuberculin (H.T.S.), all cases in which I claim arrest and cure have had acid-fast tubercle bacilli in their sputum. I have enabled many general practitioners to cure patients, and I hope to see every practitioner treating his own patients; he will give them a far better chance of recovery—indeed, in advanced cases, their only chance of recovery.

Tuberculin by itself will produce an increased percentage of cures, but nothing like the percentage of cures produced if complete antigens are used. Tuberculin cannot be expected to induce antibodies against virulent streptococci. May I say again, however, that tuberculosis will not be stamped out or reduced to reasonable proportions by the treatment, however effective, of advanced cases? Normal natural immunity will protect against the tubercle bacillus, as is evident by the survival of the majority of us. This normal immunity can be assured by a few inoculations with a potent tuberculin. I assure members of families in which tuberculosis has occurred that they will not develop the disease if they receive these inoculations; I have been practising this for over twenty years and I have yet to meet with a failure.

Finally, I would say to the opponents of tuberculin that, like strychnine, it is a potent drug, and must be used in proper dosage. It is easy to kill any patient with strychnine, it is easy to kill a tuberculous patient with overdoses of tuberculin; but no physician kills patients with strychnine, and no patient is killed by tuberculin given in proper doses.—I am, etc.,

University College, Dublin, March 26th.

W. M. CROFTON.

### EFFICACY OF TUBERCULIN.

SIR,—With regard to the efficacy of tuberculin I have been long convinced that one of the chief obstacles to a conclusion on a sound scientific basis has been the absence of proper "controls." Enthusiasts commonly adduce a series of cases treated successfully by tuberculin, but do not contrast these results with the results of treatment of a similar series of cases without tuberculin. Tuberculosis, in the early stage, is a disease from which complete recovery will spontaneously occur in a fair proportion of cases if reasonable precautions are taken. The necessity, therefore, of proper "controls" is obvious if we are to avoid the old fallacy of arguing *post hoc, ergo propter hoc*.

Where an effort has been made to conduct an investigation with such "controls"—as, for instance, in that of Dr. Noel Bardswell at King Edward VII Sanatorium, Midhurst (*Preliminary Report on the Treatment of Pulmonary Tuberculosis with Tuberculin*, H. K. Lewis, 1914)—the result has been to discredit tuberculin. In a prefatory note to this report Professor Karl Pearson states: "If it were possible the scientific method would be to select patients suitable for tuberculin treatment, treat only those whose surnames began with A to K, and then compare the results with simple sanatorium treatment of the remainder, L to Z, of these selected patients. Thus in two or three years we should know exactly the value of the treatment. When all selected cases are treated as at present we shall have no suitable control to determine whether the treatment has any real value, unless, indeed, we again leave it off."

My own experience of tuberculin goes back to 1912, when tuberculosis officers in many areas were almost under compulsion to give tuberculin. Patients received injections twice a week, provided they could be taught how to keep

<sup>1</sup> See Dan McKenzie's paper, "Post-ericoid spasmodic stricture," *Journ. Laryngol., Rhinol., and Otol.*, 1918, p. 270, and author's paper, *ibid.*, 1919, p. 285.

<sup>2</sup> See Irwin Moore's papers in *Journ. Laryngol., and Otol.*, 1927, p. 577, and *Proc. Roy. Soc. Med.*, vol. xii, Sect. Laryngol., p. 67; author's case, *ibid.*, vol. xiii, Sect. Laryngol., p. 206; and J. A. M. Cameron's case, *Arch. of Dis. in Childhood*, vol. ii, p. 358.

a temperature chart efficiently. I also had patients under treatment at sanatoriums, where the effects of treatment could be more closely observed. My experience was that the cases which appeared to do well with tuberculin were precisely those cases which would be expected to do well under any treatment (sanatorium or otherwise)—namely, the cases where the disease appeared to be in the incipient stage, for the most part "ambulant afebrile cases," or those in which there was a possibility that no active tuberculosis was really present, tubercle bacilli never having been demonstrated. This draws attention to the necessity in any scientific investigation of dealing separately with cases in which tubercle bacilli have been demonstrated and those in which they have never been found. On the other hand, I have records of cases in which tuberculin appeared to aggravate the disease, and in which the condition improved (as shown by temperature chart, weight, and the feelings of the patient with regard to lassitude, appetite, etc.) on the discontinuance of tuberculin. As regards the less favourable type of case, I unhesitatingly echo the words of Dr. Bardswell: "Tuberculin cannot be looked upon as a means whereby an unfavourable case can be converted into a favourable one, or as likely to turn the scale in a patient's favour when his progress is doubtful." The method of administration was that of slight reactions, and I have confined my remarks to pulmonary tuberculosis.

Is it not taking a very sanguine view to expect that one of the first outstanding successes of vaccine treatment should be with such a widespread and intractable disease as tuberculosis? What real scientific basis is there for the belief in the efficacy of vaccines in therapeutics? All the unequivocal successes with vaccines have been not with the cure of existent disease, but with the protection of the healthy individual against disease; its great victories have been won not in therapy, but in prophylaxis. Professor J. C. G. Ledingham (*British Medical Journal*, May 8th and 15th, 1926) gives reasons for doubting the specific action of vaccines in vaccine therapy. Furunculosis, for example, may respond as well to a vaccine prepared from *B. coli communis* or *B. typhosus* as to a staphylococcal vaccine. The temperature in typhoid fever has been promptly reduced by an intravenous injection of typhoid vaccine; but it was found that an injection of *B. coli communis* vaccine, or even less specific substances such as casein or albumose, could produce the same effect. On the other hand, in vaccine prophylaxis, he points out, the vaccine must be of true specificity. The one stands on a sure scientific basis, the other on a shifting foundation of conflicting clinical testimony. If, then, we look to tuberculin as a weapon against the tubercle bacillus, we should expect to find it successful—if at all—as a prophylactic rather than as a therapeutic remedy. The hitherto unequivocal success of bacteriology in therapeutics has been not with vaccines, but with serums, and unfortunately so far there seems to be small hope of finding an antituberculous serum, nor is the disease one that lends itself to such hope.—I am, etc.,

Clifton, Bristol, March 23rd.

E. WEATHERHEAD.

#### MIDWIVES AND ANTE-NATAL WORK.

SIR,—I have read with interest the letters of Professor A. Louise Mellroy and Dr. Malcolm Donaldson (March 17th, p. 466, and March 24th, p. 520, respectively). That ante-natal work is still in its very infancy is only too sad a fact. Meetings to "discuss" maternal morbidity and maternal mortality seem to be held almost daily, but "discussions and resolutions" seem to be as far as they proceed. Having, until almost a year ago, been for between two and three years in charge of the obstetrical and gynaecological wards of a large and modern Poor Law institution, I have been appalled—sometimes I have been almost terrified—by the so-called midwives one meets in general practice. To suggest that more than a very small percentage of them can give proper ante-natal supervision is absurd. Many of the old myths and superstitions of the dark ages of midwifery still persist in their midst. Their chief aim seems to be triumphantly to inform the practitioner on his arrival as to the state of the os uteri—whether the patient be in labour or not—and for this information they appear to expect a certain amount of

praise and admiration. The whole system appears archaic. That admirable body the Central Midwives Board to my mind must continue to strive to provide the mothers—and future mothers—of Britain with a body of more efficient and less meddlesome midwives. Many of those at present in practice could elicit as much information from the palpation, etc., of a straw-stuffed sack as from the palpation of a pregnant abdomen nearing full term.

But is the midwife entirely to blame? Two abnormal conditions that can be avoided have come to my notice more often than one would expect; and they are: (1) eclampsia—a practitioner, not yet middle-aged, informed me that he had about six or eight "unavoidable" cases of this almost historical condition in his practice each year; and (2) breech presentations in primiparae. A still very large percentage of these cases occur with, in many cases, fatal results to an otherwise healthy infant. The practitioner is not to blame; he must undertake midwifery, or else his practice will suffer financially.

Queen Mary has recently expressed the hope that in the near future the figures for maternal morbidity and maternal mortality would show a marked decrease. This hope can only be fulfilled when maternity work comes much more under the jurisdiction of obstetrical and gynaecological specialists in maternity hospitals, maternity homes, or, where circumstances permit, in the patients' homes. It seems a pity that obstetrics has not shown the same progress as surgery since the days of that pioneer, Sir James Y. Simpson.—I am, etc.,

London, N.2, March 26th.

IAN S. ROBERTSON-BAIN.

#### SUPERANNUATION OF MEDICAL OFFICERS OF HEALTH.

SIR,—The article on page 511 of your issue of March 24th about the report of the Departmental Committee on the Superannuation of Local Government Officers offers cold comfort to medical officers of health serving those authorities which have not yet adopted the Local Government and other Officers' Superannuation Act, 1922. As shown on page 559 of the November, 1927, issue of *The Local Government Service*, the official organ of the National Association of Local Government Officers, only 16,962 (that is, 2.89 per cent.) of the total number of public officers in the country remain unprovided for by superannuation schemes.

The departmental report has been over two years under the consideration of the committee, and it is now quite time all medical officers of health were placed on an equal footing in respect of superannuation, especially seeing that the report recommends compulsion being applied to any recalcitrant local authorities. Junior medical officers can leave their posts to obtain these benefits elsewhere, but the seniors must stay where they are. Cannot the Parliamentary Medical Committee see its way to take early action on their behalf? Otherwise elderly medical officers must continue in office, even though they may become physically incapacitated, whilst the more capable juniors continue to avoid entering the service of the less progressive local authorities, the public welfare in these areas being thereby doubly handicapped.—I am, etc.,

March 26th.

A VETERAN M.O.H.

#### SALARIES OF MEDICAL WOMEN.

SIR,—I have noticed with much concern the extremely small salaries which lady colleagues in the medical profession have to content themselves with when undertaking assistantships to doctors in general practice.

For some time past I have known that well-qualified women doctors are willing to act as assistants for £3 or less per week, but until lately I did not know that they are willing to go as assistants for their board only—without any salary. I have obtained this information from an unquestionably reliable source.

Such a condition of affairs must react unfavourably upon the whole profession, and the first to suffer will be the male members of the public health service. The matter is one which should receive the early consideration of the Society of Medical Officers of Health and the British Medical Association.—I am, etc.,

March 27th.

COUNTY MEDICAL OFFICER.

## Obituary.

HENRY LAWRENCE McKISACK, M.D., F.R.C.P.,

Consulting Physician to the Royal Victoria Hospital,  
Belfast.

We have to announce with much regret the death of Dr. H. L. McKisack, on March 26th, after a short illness, supervening on some months of impaired health. His loss will be deeply felt throughout the medical profession in Northern Ireland.

Henry Lawrence McKisack was a native of Antrim, and was born at Carrickfergus in 1859. His school days were spent at Holywood and Broadstairs, and he was for some years a student at the Royal Academical Institution. After engaging in business for a short time he entered the medical department of Queen's College, Belfast, and graduated in the old Royal University of Ireland as M.B., M.Ch., M.A.O. with honours in 1887. He proceeded M.D. in 1890, obtained the diploma M.R.C.P.Lond. in 1904, and was elected F.R.C.P. in 1916. Among the important posts in Belfast which he held were those of visiting physician to the Royal Victoria Hospital and the Ulster Hospital for Women and Children. He later became consulting physician to these hospitals and also to His Majesty's Forces in Northern Ireland and to the civil service. Dr. McKisack held the appointment of clinical lecturer at Queen's University, Belfast, and had been an examiner in medicine at Trinity College, Dublin. He was a past president of the Ulster Medical Society, and served as president of the Ulster Branch of the British Medical Association in 1914-15, and he was one of the original members of the Association of Physicians of Great Britain and Ireland.

Dr. McKisack contributed numerous clinical articles to medical periodicals, including one on atypical exophthalmic goitre which appeared in the *British Medical Journal* in 1913. His principal work, a *Dictionary of Medical Diagnosis*, was published in the autumn of 1907. Although arranged on the alphabetical system, this useful and clearly written book was informed throughout by a definite purpose—to help the student to acquire the habit of approaching every case with an open mind and refusing to form an opinion until he has observed and reflected upon all the signs and symptoms. Among its best articles were those on physical signs in the lungs and heart. He also published, in 1912, a smaller book entitled *Systematic Case-taking*. Both works passed into a second edition.

A colleague writes: No more popular medical man than McKisack has lived in Ulster. He had the capacity of impressing his impartiality on others, and of enabling them to see both sides of a question. Everyone knew that he was both clear-sighted and upright, and so could be absolutely trusted. He inspired confidence and affection in his patients and colleagues. He is survived by a son and daughter, with whom much sympathy is felt. His elder son was killed in the Flying Corps during the war, and Mrs. McKisack died about a year ago.

HUGH PLAYFAIR, M.D., F.R.C.P., F.R.C.S.,

Consulting Obstetric Surgeon, King's College Hospital, London.

We announced last week the death, on March 25th, of Dr. Hugh Playfair, who was for many years obstetric and gynaecological surgeon to King's College Hospital, and a well-known figure in the medical world of London.

Hugh James Moore Playfair was born in 1864 at Edinburgh. His father was General Archibald Playfair, and he was a cousin of the late William Smoult Playfair, M.D., LL.D. (1835-1903), obstetric surgeon to King's College Hospital, in whose footsteps he followed. W. S. Playfair had been one of the first obstetricians in this country to insist on doing his own abdominal operations instead of handing them over to a general surgeon. From Fettes College Hugh Playfair went to King's College, London, and while studying medicine served as dresser in Lord Lister's wards in the old building of King's College Hospital. He obtained the M.R.C.S., L.R.C.P. diplomas and the degree of M.B.Lond. in 1890, and after a period of study in Germany proceeded M.D. in 1892. He then held

in succession at King's the posts of resident accoucheur, obstetric tutor, assistant obstetric surgeon, and lecturer on practical obstetrics. He obtained the diploma of M.R.C.P.Lond. in 1896, the F.R.C.S.Eng. in 1899, and was elected F.R.C.P. in 1918. For some years Playfair held the appointments of assistant physician to the Royal Waterloo Hospital for Women and Children and gynaecological surgeon to the Metropolitan Hospital, relinquishing them when he was elected to the full staff at his own hospital. He was an able and lucid teacher, and extremely popular with all his students. On his retirement from active work at King's College Hospital three years ago, owing to impaired health, he was elected consulting obstetric surgeon. He had served as examiner in midwifery and diseases of women for the English Conjoint Board, was consultant to a number of cottage hospitals in towns near London, and enjoyed for many years a considerable private practice.

We are indebted to Sir G. LENTHAL CHEATLE, K.C.B., F.R.C.S., for the following personal appreciation:

It is a sad, respectful custom which ordains that those of us who are left behind should publicly state our impressions of our friends and colleagues who have recently passed away. I recognize the inadequacy of my attempt to treat thus the memory of Dr. Hugh Playfair. With deep regret his colleagues, students, and friends learned that ill health necessitated retirement from our midst. It was with profound grief we heard that our hopes and desires for his recovery in the quiet, happy, and picturesque home that had been planned by Mrs. Playfair and him, had all been in vain. Our friendship began when I was house-physician at King's College Hospital and he was one of my clerks. I recognized his ability, and entrusted him with many duties that were additional to his official work. In those early days Playfair had already determined to specialize in gynaecology and obstetrics; with that object in view he began to study for the F.R.C.S.Eng. as well as for the M.D.Lond. Although he was a clerk to Lord Lister he never became house-surgeon; he limited his house appointments to those intimately bearing upon the work of his life. In the early times of our professional careers Hugh Playfair and I occasionally visited the clinics and towns of interest in Europe. He was an ideal companion, and he kept the eye of a skilled financier on our expenditure without stinting our enjoyment. In many cities we scoured the shops of dealers in "antiques." In one of these establishments we were pestered by a dealer whose goods we did not consider were as genuine as he tried to make us believe. While he had disappeared to the back of his premises in search of more convincing "pieces" we took the opportunity of making a rapid exit and decamped. Feeling that we had skilfully solved an embarrassing situation we hastened into a similar shop two or three doors away, to continue our hunt and partly to bide ourselves. While thus engaged we failed to notice the attendant of our inspection. At last we turned our attention to him, and were horrified to see the same person whom we had just evaded; he owned both premises. While antique hunting in Milan Playfair unearthed a type of picture he was then collecting. The picture is in his collection. Playfair's instinct for attaining his object was so intense that he failed to notice the incidence of a small earthquake, which sent the owner of the shop and me into the street in great alarm. On our return we discovered Playfair still expostulating with the assistant upon the enormity of the sum demanded for the picture. Neither of them had been aware of the earthquake.

Our busy lives necessitated a loss of touch with each other, yet in the nature of things my family and I reaped the benefit of his friendship and skill, the value of which I can never repay. Playfair loved his home, his profession, art, and all his fellow creatures. His guests must have been struck by their host's taste in art as well as in hospitality. His knowledge, appreciation, and judgement in selection were always increasing his art collection and beautifying his home. The love he bore his fellow creatures was reciprocated by all those with whom he came in professional or friendly contact. We are all sure that he passed a happy life as well as a successful one. Playfair's death leaves a gap in our lives that can never be filled.



**JAMES BUCHANAN YOUNG, M.B., D.Sc., F.R.S.Ed.,**  
Formerly Lecturer on Public Health, University of  
Edinburgh.

THE death took place suddenly, on March 17th, of Dr. James B. Young at his residence, Dalveen, Liberton, Edinburgh. Dr. Young had for many years been lecturer in public health at the University of Edinburgh, and was well known to many generations of medical students.

James Buchanan Young was born in 1866, and took the medical course at the University of Edinburgh, where he graduated M.B., C.M. in 1890. Determining from the first to devote himself to public health, he took the B.Sc. degree in that department in 1892, and in the following year became a Doctor of Science in Public Health. In 1892 he became assistant to the late Sir Douglas MacLagan in the department of forensic medicine, which at that time included the teaching of public health, and he continued in this capacity as assistant to Sir Henry Littlejohn when the latter succeeded to the combined chair in 1897. In the following year the subjects of forensic medicine and public health were separated, and when, in 1898, Professor Hunter Stewart was appointed to the chair of public health Dr. Young became his assistant. In 1902 the Usher Institute in Public Health was established in Warrender Park Road, and upon Dr. Young, as assistant to the professor, fell a very large share in the organization of this institute. The important work of reporting upon clinical material examined at the institute in connexion with the public health work of the city devolved upon Dr. Young, and in this matter he rendered for many years invaluable help to the city and to the practitioners of Edinburgh. In the laboratories a great part of the teaching of the large number of medical students passing through the department of public health, as well as of graduates taking a practical course for the B.Sc. degree, was done by Dr. Young. Many students who graduated through a period of thirty years will remember with gratitude his helpfulness, kindness, and devotion to duty. In 1921 his long period of service as an assistant was recognized by his appointment as the first lecturer in public health in the University of Edinburgh, and he continued work in this capacity to the time of his death.

As a Fellow of the Royal Society of Edinburgh he took much interest in the work of this society, and made numerous contributions to it, such as an account of "A new apparatus for counting bacteriological colonies in roll cultures," communicated in 1893, and on "Chemical and bacteriological examination of soil," with special reference to the soil of graveyards.

The interment took place at the Grange Cemetery, Edinburgh, on March 20th, and was attended by a large number of representatives of the medical profession.

**WILLIAM MUIR SMITH, M.B., C.M.,**  
Eastbourne.

WE regret to record the sudden death from heart failure, on March 26th, of Dr. William Muir Smith. He was born at Irvine, in Ayrshire, in 1861, and graduated at Glasgow University as M.B., C.M. in 1884. After qualifying he went as assistant to Dr. Wilson at Crewe, and from there to a practice in the country, at Bourton-on-the-Water in Gloucestershire. There he led the hard life of a country general practitioner, and in those days, before the arrival of the motor car, did much of his work in the saddle. His spare time was occupied in hunting, for he was a lover of horses. He had by this time married, and, as his family was increasing, he sold his practice at Bourton and proceeded to Eastbourne in 1893, and lived there until the time of his death. He soon acquired a large practice in Eastbourne, but being a man of tireless energy and restless spirit entered into many other activities. He was a keen politician, an enthusiastic Liberal, and a forceful platform speaker. For many years he actively supported the Liberal candidates, and was engaged in the work as chairman or vice-president of the local Liberal Association. He was appointed a justice of the peace in 1906, and as magistrate appeared on the bench whenever time would permit. A true Scotsman, he was a prominent member

of the local Scottish Association, and had the honour of proposing the "Immortal Memory" at the Burns Night dinner, an oration which subsequently was printed in pamphlet form. He was a Presbyterian and an elder of the Church. He was a life vice-president of the Amateur Football Association, and for very many years an active member of the Eastbourne Cricket and Football Club, and chairman of the Eastbourne Football Club for twenty-five years. He always took a keen and active interest in medical politics. In the early nineties there was much friction between the friendly societies and the medical profession; and so in 1895 there was started the Eastbourne Provident Medical Association. This was a "club" by which the members obtained medical treatment on payment of a small weekly sum, but which was controlled and administered by the doctors themselves. Muir Smith was largely instrumental in founding this provident association. It was one of the first started in the country, and is still flourishing to-day. He was actively connected with national health insurance work from its inception, and was secretary of the Local Medical and Panel Committee until the time of his death. His most active public interest was the work of the British Medical Association. It was only last year that his twenty-first year as secretary of the Eastbourne Division was completed, and the occasion was honoured by the presence of Dr. Alfred Cox at the annual meeting and dinner of the Division. Muir Smith never missed a meeting, and was the representative of the Division at the . . . of the Association for many years. . . these activities he conducted a large general practice, and was clinical tuberculosis officer to the borough of Eastbourne, with charge of the tuberculosis hospital. A man of decided and fearless opinions, final in his judgement, a somewhat curt and outspoken manner concealed a generous and warm heart. He never spared himself, and did his utmost in other people's interests; none came to him in vain for help or advice. For the past two-years his health had been failing, but he continued with his work. He leaves a widow, five sons, and one daughter.

THE MEDICAL SECRETARY writes: The above notice gives a very good idea of Muir Smith's activities, and it says truly that his main interest outside his practice was the British Medical Association. It has been my good fortune to come into contact with many men for whom the Association was a real hobby to which they gave much time and interest, and a few men for whom it was the object of something approaching devotion. Muir Smith belonged to the latter select few, and during the course of my long friendship with him I received much advice, frequent remonstrances, more in sorrow than in anger, when he thought we were not strong enough at headquarters, but always devoted co-operation. He was absolutely fearless, and conscientious to an extent which his colleagues at Eastbourne must sometimes have found rather trying, but they never questioned his honesty, his knowledge of his subject, or his intense desire to serve his profession. In 1926, writing to ask me if I would attend the annual meeting which would celebrate his twenty-first year of office as secretary, he said:

"By that time I will have completed my twenty-one consecutive years as honorary secretary. I know the members will not entertain the idea of my resigning without some better reason than advancing years, but I feel that I have served my day and generation (with credit, I hope) long enough, and I am keeping someone of the rising generation from taking active participation in the work of the Division and getting initiated into the duties of the position before I am called hence; and lest I might depart of a sudden it is my duty to resign. Again, as the members do not worry about medical politics so long as I am at the head of affairs I feel that the present one-man administration is inimical to the enterprise of the Division in working out its future salvation in this direction. Not that my interest in the work of my office, in the betterment of the profession, or politics in general, is abated in its keenness one jot or tittle from thirty years ago. During all this long period I have not been absent from a single meeting of the Division or executive; I have been representative at the Representative Body twelve annual meetings; on Branch Council ever since the Branch was formed; past-president Sussex Branch; second chairman of the Division; honorary secretary of Local Medical and Panel Committee ever since formed; attended every conference of representatives of Local Medical and Panel Committees ever since instituted; served on Insurance Committee ever since set up, etc.—all of which, I think, constitutes a bit of a record."

It is sad to think that his presentiment that he might die suddenly while still holding office has proved true, but I cannot help feeling glad that he retained to the last an office of which he was so very proud. The Association can have had few more loyal or more devoted servants than Muir Smith.

Dr. A. DEANE writes: By the death of Dr. Muir Smith his colleagues in Eastbourne have lost a most sincere and indefatigable worker on their behalf. As secretary of the Eastbourne Division for twenty-one years, and of the Panel Committee since its commencement, he has done extraordinarily keen and strenuous work, much of which has been carried out in the small hours of the morning. His loyalty to his profession and strong integrity of character won the deepest respect and regard from his colleagues, to whom he was ready to give his help without stint of time or trouble. He was a staunch fighter on controversial subjects, and ever with a sense of fairness and justice. His self-sacrificing work on behalf of his profession, added to that of a very busy practice, must have been a great strain on his health. His keen and vivacious presence will be sadly missed by his fellow practitioners, who as members of the Association gratefully recognize the immense work he has done for this Branch.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE Parliamentary Medical Committee heard an address, on March 28th, from Sir GEORGE BUCHANAN on the health work organized by the League of Nations. He said this was mixed with questions of international health, which were dealt with by other machinery and might be divided into intergovernmental health work and "fraternity" and mutual education. To the International Health Office at Paris were allocated formal agreements and conventions, general epidemiological discussions, and monthly bulletins, and the Consultative Council of the League of Nations Health Organization. To the Health Organization at Geneva were allocated combined expert studies, standards, disease work, intelligence services, special missions, and work referred to the Organization by the League Assembly or Secretariat. The League's health budget was for about £40,000 annually, plus a Rockefeller grant of £20,000. The British delegate was nominated by the Foreign Office to represent Great Britain, not merely the British Ministry of Health. He was elected as British member of the League's Health Committee, and also attended with the British delegation at meetings of the Assembly and Council, when desired, as British technical adviser. Sir George gave examples of the work done by the Paris and Geneva organizations in liaison on the International Sanitary Convention of 1926, and in regard to therapeutic and physiological standards. International standards had now been fixed for insulin, pituitary extract, digitalis, arsenobenzols, etc., serum, and vaccine standards for diphtheria, tetanus, and dysentery, and serum diagnosis test standards for the Wassermann, Sachs-Georgi, and other tests. Combined organization had been arranged against epidemics in Poland and Uganda, and was proposed against yellow fever in Africa. Special disease studies had been made both at Paris and Geneva into small-pox and vaccinia, malaria, cancer, Leishmaniasis, and other diseases, and had been of great value. The "fraternity" work, which had become more important each year, was essentially between public health departments, universities, medical societies, and individual experts, and had little official character. The Medical Committee heard Sir George Buchanan's remarks concerning small-pox with special interest. Subsequently the Committee considered a letter from the Hinchin Board of Guardians asking its support for a proposal that the Ministry of Health, in order to check the spread of small-pox by vagrants, should close all casual wards for three weeks or issue an order authorizing the detention of casuals for that period. The Committee decided to take no action. Dr. DRUMMOND SNIELS, the honorary secretary of the Committee, spoke on the proposed visit to be paid by medical members of Parliament to military hospitals and medical institutions at Aldershot. Regarding the Edinburgh Corporation's bill asking further powers to control venereal disease cases the Committee agreed that while it could take no official attitude towards the proposals its members ought to endeavour to ventilate the subject by speaking for or against as medical men when the bill was discussed in the House of Commons at a date not then fixed.

The Royal assent was given on March 28th to the Protection of Lapwings Act, the Industrial and Provident Societies

(Amendment) Act, the British Guiana Act, and the Rating (Scotland) Amendment Act.

Mr. Hayes, on March 28th, introduced a bill to amend the Firearms Act, 1920, in respect to the definition of firearms. He explained that he proposed to include within the definition of firearms "toy" pistols which had the barrel and chamber plugged, but which were capable, by boring, of conversion into lethal weapons. The bill was read a first time.

### Tetra-ethyl Lead in Motor Spirit.

#### Committee of Inquiry Appointed.

In the House of Lords, on March 29th, Lord BUCKMASTER asked the Government the constitution of the committee set up to inquire into the danger arising from the use of tetra-ethyl lead in motor spirit; why the committee was not sitting in public, and when their report was expected. He moved that serious warning should be at once issued by the Ministry of Health on the possible danger from the use of tetra-ethyl. Lord Buckmaster said that the committee had been set up in pursuance of a resolution which was before the Lords about a month earlier. Ethyl spirit, he said, had been advertised in this country for more than nine months, but no warning had been issued to any person who was compelled by his occupation to use it. Employees at petrol stations had heard nothing of the danger from the use of this spirit, and one had told him that it was splashing over his hands daily. Since last speaking in the House on the subject Lord Buckmaster had received a letter from a medical man who said he had examined parts of a car which had run for some 3,000 miles on ethyl petrol. The deposits proved to contain over 50 per cent. of soluble lead. Mr. J. L. Jeffery of the Board of Trade had examined the parts and confirmed the chemical findings. On December 22nd this doctor had handed all the facts in writing to the Board of Trade, but nothing further had been done. The same doctor, writing in the medical press, had asserted that in the United States, between the autumn of 1923 and the spring of 1925, the fatal cases numbered from 11 to 16, and about 100 non-fatal cases were known to have occurred. Death from this poison was preceded by one of the most hideous forms of insanity, much resembling delirium tremens. The poison was almost incapable of remedy, was cumulative, and was slow in action. Lord Buckmaster said he had a letter asserting that Dr. Harris, the Commissioner for the Board of Health for New York City, had forbidden the sale of this spirit there, though it was still allowed in New York State. Switzerland had forbidden its sale throughout the whole country. Lord GAGE, replying for the Government, at once read the names of the committee which had been set up. They were as follows:

*Chairman:* Sir Frederick Willis, K.B.E., C.B., who was until recently Chairman of the Board of Control.

*Departmental Representatives:*—Ministry of Health: Sir George Buchanan, C.B., M.D. Home Office: Dr. J. C. Bridge, F.R.C.S. (Senior Medical Inspector of Factories). Air Ministry: Mr. D. R. Pyc, M.A. (Deputy Director of Scientific Research). Medical Research Council: Sir Charles J. Martin, C.M.G., D.Sc., F.R.S., F.R.C.P. (Director of the Lister Institute). Government Chemist: Sir Robert Robertson, K.B.E., D.Sc., F.R.S. War Office: Major W. R. Galloway, O.B.E., M.C., M.B. (Director of Experiments in the Chemical Warfare Department). Department of Scientific and Industrial Research: Dr. C. H. Lander, D.Sc. (Director of Fuel Research).

*Non-official Members:*—Mr. A. Chaston Chapman, F.R.S., F.I.C., Sir William Willcox, K.C.I.E., C.B., M.D., F.R.C.P., Professor W. E. Dixon, M.D., F.R.S.

*Secretary:* Mr. S. F. S. Hearder, Ministry of Health, Whitehall, S.W.1.

Lord Gage said the committee would have to examine conditions throughout the country to see what precautions were taken by manufacturers and distributors, how far the action of the trade in informing the public sufficed, and how far it should be reinforced by statutory regulations. Laboratory research might be needed, with repetition of some of the American experiments. The investigations of the committee must be prolonged. Meanwhile the Government could not, by an official warning, prejudice the products of a particular firm without the strongest reason for doing so. There had been three inquiries into tetra-ethyl in the United States. The last, a very elaborate one, by the Surgeon-General's Department in Washington, involved experiments not only on animals, but on human beings. These committees had not found actual evidence that harm had resulted from the ordinary commercial use of tetra-ethyl petrol. Though no legislation was introduced the committees did recommend precautions both in manufacture and in distribution in garages. Writing on March 3rd to the Ministry of Health the Surgeon-General said:

"As a result of this report, the precautions recommended by this Commission (that is, the American Commission) for the manufacture of the substance have been carried out, and the effect of the use of ethyl spirit on the distributors throughout a large area of this country has been under the immediate observation of the Public Health Service in co-operation with the authorities of the

University of Cincinnati and others. I may add that, notwithstanding the late publicity given to the investigations and the general use of the substance all over the United States and Canada, no instance of lead poisoning has been reported in the lay or medical press or to any of our Federal or State authorities."

Lord GAGE asserted that during the five years the spirit had been in use in America no one had discovered a single case of lead poisoning from its use, though its consumption ran into millions of gallons a year. Tetra-ethyl was blended in this country under precisely similar conditions to those prevailing in America, and the Home Office had satisfied itself that the precautions were adequate to meet the risk of poisoning. If the new British committee found evidence controverting the findings of the American committees it could issue an interim report and the Minister could immediately apply to Parliament for powers. A Petroleum Bill awaited third reading in the House of Commons, and contained a clause enabling the Minister to make regulations for the distribution or manufacture of any class of petroleum spirit which appeared to him dangerous or injurious to health. Other substances containing lead compounds equally poisonous were manufactured and retailed subject only to the same restrictions and regulations as prevailed in the manufacture and distribution of this ethyl petrol. The Minister of Health saw no use in prejudicing the inquiry by condemning this substance before the committee had reported, and he was not persuaded that the public would suffer serious risk before the committee issued an interim report.

Lord HALDANE suggested that the Government should instruct the committee to issue an interim report on the question whether *prima facie* this substance was of a dangerous character and whether there ought to be some restriction in its use.

Lord MONTAGU OF BEAULIEU said that so far as his experience of tetra-ethyl was concerned there had been no definite bad results. There was danger if tetra-ethyl was allowed to rest on the hand and danger from the exhaust. The ordinary exhaust from a motor car consisted of carbon monoxide. If they added tetra-ethyl lead it made carbon monoxide more liable to cause insensibility. He had definite cases of the effects from the exhaust of a car running on the road, in one case upon both the driver and the occupants of the saloon that was being driven. The inquiries in the United States were not very conclusive, when read carefully, and, in addition, the sale of tetra-ethyl was not allowed in New York City. It was absolutely barred in the tunnel which ran under the Hudson river, because of its effects. There was sufficient evidence to make people who used this petrol very careful in doing so. The Government, he considered, had been somewhat dilatory in setting up an inquiry.

Lord SALISBURY said the committee which had been appointed was going to sit at once, and had been asked to expedite its findings. He did not see what more could be done. Undoubtedly the American inquiry was very careful. By raising a debate twice Lord Buckmaster had let those interested throughout the land know that questions had been raised in Parliament about the poisonous qualities of tetra-ethyl. He would see that the suggestion of a request for an interim report was considered.

Lord BUCKMASTER renewed his suggestion that the Government should issue a warning to the public. Lord SALISBURY cited a warning issued by the firm selling ethyl petrol. Lord BUCKMASTER said that that warning, so far as he knew, was not read by the people who handled the spirit. Nobody denied the spirit was dangerous. Lord Buckmaster's motion calling upon the Government to issue a warning was then defeated by 36 to 21.

The terms of reference to the committee, which was announced in the House of Lords on Thursday, March 29th, are: "To inquire into the possible dangers to health resulting from the use of motor spirit containing lead tetra-ethyl or similar lead-containing compounds, and to report what precautions, if any, are desirable for the protection of the public or of individuals in connexion with the use or handling of such motor spirit."

#### Small-pox.

Mr. CHAMBERLAIN told Mr. J. Baker, on March 28th, that he had renewed the instruction that, with a view to detecting cases of small-pox, all persons admitted to the casual wards of Poor Law institutions should be medically examined. Small-pox was known to the Ministry of Health to have occurred in some sixty casual wards during the present year.

Answering Dr. Fremantle on March 29th, Mr. CHAMBERLAIN said the Metropolitan Asylums Board, the Surrey Small-pox Hospital Committee, the Uxbridge Joint Hospital Board, and the Willesden Urban District Council had respectively available for small-pox 2,123 beds, 19 beds, 26 beds, and 25 beds; of these, only 6 were then occupied. Dr. FREMANTLE asked whether Mr. Chamberlain knew that two cases of small-pox in the infirm ward at the Brentford Union institution had to be isolated there from March 16th to 22nd, and another case from March 25th. Mr. CHAMBERLAIN said he knew of this. Dr. FREMANTLE asked whether the Minister would secure that vacant beds in small-pox hospitals were available for cases of small-pox from neighbouring areas subject

to proper chargeability of expenses. Mr. CHAMBERLAIN replied that he had no power to require authorities possessing small-pox hospital accommodation to admit patients from other districts, the councils of which had made no provision or inadequate provision for the purpose. Dr. FREMANTLE asked whether Mr. Chamberlain was using his powers of persuasion to get this selfish policy of local authorities altered. Mr. CHAMBERLAIN said he could not accept that definition. In most infirmaries provision was made for isolation treatment of infectious cases.

On March 29th Mr. GROVES asked whether butchers buying calves at the Government's Hendon lymph establishment were informed that they had been used for inoculation, whether butchers offering such calves for sale were compelled to exhibit a notice that the calves had been used for inoculation; for what purpose rabbits were inoculated at the Hendon establishment, and whether rabbits so used were destroyed. Mr. CHAMBERLAIN said Mr. Groves had already had facilities for visiting the Hendon establishment, and suggested that he should go there again to secure information. Two Government clerks had been occupied for a whole day answering Mr. Groves's last question, and for him to ask for further detailed information was scarcely reasonable. Mr. MONTAGUE pressed for a reply to the question about butchers and calves. Mr. CHAMBERLAIN said butchers were not informed that calves had been used for inoculation, nor was there any compulsion to exhibit a notice of the fact. Answering a further question by Mr. Groves, Mr. CHAMBERLAIN said that after production of the lymph a calf was not used again, but was slaughtered. The carcass was at the disposal of the contractors who supplied it, and was sold for food.

#### Shops Bill.

When a Standing Committee of the House of Commons considered the Shops Bill on March 27th Miss WILKINSON moved to omit the subsection permitting a shopkeeper to supply goods after hours if reasonable grounds existed for believing that the article was required in the case of illness. She said that articles sold in chemists' shops and other things required as matters of life and death were already covered by other clauses of the bill. Spirits were dealt with by entirely different legislation, and the subsection she was discussing would apply very largely to the contents of the average grocer's shop, none of which was likely to be needed in cases of sudden illness. She instanced beef-tea, mustard, and oil. Dr. VERNON DAVIES denied that the other subsection to which Miss Wilkinson referred provided for all the goods which were needed in sudden illness. Sir WILLIAM JOYNSON-HICKS undertook to see the bill made clear that if the shop was open for the needs of sickness it was not to be used for the sale of other goods. The amendment was withdrawn and the clause added to the bill.

**Death after Operation for Adenoids.**—On March 22nd Mr. MACQUEEN asked Lord EUSTACE PERCY whether he would inquire into the circumstances of the death of a boy at Oulton, Wigton, Cumberland, who was a healthy child in Oulton School until he underwent an operation for tonsils and adenoids. Mr. Macquisten was operated on for tonsils and adenoids. Mr. Macquisten alleged this had been done in spite of protests by the boy's mother, and asked under what authority the action had been taken. Lord EUSTACE PERCY said he had received a report on this case from the school medical officer. He understood that the concurrence of the boy's mother was obtained before the operation was performed. The boy was operated upon at a hospital by a specialist; he was kept in the hospital for two nights after the operation, and was apparently quite well when discharged. Death was due to complications which subsequently arose, and this regrettable occurrence was not due to defect or failure in the authority's arrangements for treatment.

**Housing Statistics.**—On March 26th Mr. CHAMBERLAIN, in reply to General Clifton Brown, said that the numbers of houses completed by rural district councils in England and Wales up to March 1st, 1928, were 92,532 under the Housing Act, 1923, and 24,525 under the Housing Act, 1924. The number of houses not exceeding £26 rateable value erected in rural districts without subsidy during the period from April 1st, 1923, to September 30th, 1927, the latest date for which figures were available, was 76,357.

**National Insurance: Ophthalmic Benefit.**—Mr. CHAMBERLAIN, replying on April 2nd to Lieut.-Colonel Mason, said that there was not in the National Health Insurance Bill, nor was there any intention to include in any regulations that might be made under it, any provision which would place an insured person in a less favourable position than hitherto with regard to arrangements for obtaining ophthalmic benefit.

**Pensions.**—Mr. ROBINSON asked Major Tryon, on March 29th, how many pensioners suffering from tuberculosis had been put on treatment allowances during the three months ended February 29th. Major TRYON said 2,459 cases terminated a course of treatment with allowances, and 1,221 fresh cases were admitted to such treatment. It was not the policy of the Ministry of Pensions only to pay treatment allowances if a man was in an institution.

#### Notes in Brief.

Sir KINGSLEY WOOD said, on March 21st, that Mr. Chamberlain was taking steps to set up a committee to inquire into the training and supply of midwives.

In its report, which will be issued shortly, the Voluntary Hospitals Commission will deal with the financial difficulties resulting from the fact that many of these hospitals have to treat cases caused by motor accidents.

The Minister of Health has no power to order a notice to be displayed in all shops where synthetic cream is sold.

## Medical News.

THE KING visited the Woolwich War Memorial Hospital on March 27th, when he was received by Mr. E. Kemp, L.C.C., the chairman of the hospital; Lord Dawson, consulting physician; Sir Berkeley Moynihan, consulting surgeon; and Mr. Cecil Rowntree, chairman of the Medical Committee. His Majesty made a tour of the wards and special departments, and inspected the new stainless steel and chromium-plated furniture in the operating theatres, made by Messrs. Arnolds to Mr. Rowntree's designs. His Majesty expressed his satisfaction at hearing that all the equipment was of British manufacture, and congratulated the chairman on the beauty and efficiency of the hospital. Before leaving the King planted a cedar tree in the grounds.

To celebrate the centenary of the Royal Free Hospital, and in aid of the centenary appeal for the new extensions, the medical staff and students, with some other friends of the hospital, are organizing a ball to take place on May 1st, from 9.30 p.m. to 2 a.m., at the British Medical Association House, Tavistock Square. There will be dancing in the Great Hall to Newman's Band, with short cabaret turns by well-known artists at intervals, while ample space for bridge players will be provided in the Hastings Hall. Tickets, to include supper, are one guinea each, and may be had from any member of the committee, from the Royal Free Hospital, and from the Honorary Secretary, May Day Ball, 24, Mecklenburgh Square, W.C.1.

A MEETING of the West Kent Medico-Chirurgical Society will be held on Friday, April 13th, at 8.45 p.m., at the Miller General Hospital, Greenhithe, S.E.10, when Mr. R. Ogier Ward will give an address on some difficulties in the diagnosis and treatment of urinary diseases.

UNDER the auspices of the Fellowship of Medicine a special course in infants' diseases for medical officers of welfare centres and others will be held at the Infants Hospital, Westminster, from May 7th to 19th. In addition to lectures and demonstrations visits will be paid to the Model Pasteurizing Plant, Willesden; the Nursery Training School, Hampstead; the V.D. Centre, Tavies Inn; the Home for Blind Babies, Chorley Wood; and the Infants Hospital Convalescent Home, Burnham Beeches. Details may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1. Similar courses at the Infants Hospital will be held in August and December.

A POST-GRADUATE course on diseases of the nervous system will be held at the National Hospital, Queen Square, from May 7th to June 29th, consisting of clinical lectures and demonstrations each week-day afternoon, except Wednesday and Saturday, work in the out-patient department each week-day, except Saturday, and a series of seven pathological lectures and demonstrations. A course of eight lectures on the anatomy and physiology of the nervous system will be arranged if there are sufficient applicants. There will also be a course of twelve clinical demonstrations on Tuesday and Friday afternoons, chiefly on methods of examination of the nervous system. A limited number of students can be enrolled as ward clerks. Full details regarding the course and these appointments may be obtained from the secretary, Medical School, National Hospital, Queen Square, W.C.1.

THE seventh International Congress of Photography, which is to be held in London from July 9th to 14th, under the auspices of the Royal Photographic Society, is the first to take place in this country. All branches of photography and its applications, including radiography, photomicrography, and methods employed in chemistry and biology, will be discussed in the various sections and illustrated in a series of exhibitions during the congress. Offers of radiographic prints, photomicrographs, and photographs of biological interest should be sent as soon as possible to the honorary secretary to the Organizing Committee, the Science Museum, South Kensington, S.W.7.

THE Council of the Royal Society of Arts announces that the next award of the Swiney Prize, which on this occasion will be for the best published work on medical jurisprudence, will be made in January, 1929. Dr. Swiney, the donor of the prize fund, who died in 1844, left £5,000 to the society to provide, on every fifth anniversary of his death, a prize consisting of a cup, value £100, and money to the same amount, the awards being made alternately for medical and general jurisprudence. Any person desiring to submit a work or to commend a work for consideration should do so in writing to the secretary of the society, John Street, Adelphi, W.C.2, not later than November 30th; the award is made jointly by the Society of Arts and the Royal College of Physicians. The last two awards for works on medical jurisprudence, in 1909 and 1919, were made to Dr. Charles

Mercier for his books, *Criminal Responsibility* and *Crime and Criminals* respectively. One of the earliest prize-winners, in 1859, was Dr. Alfred Swayne Taylor, whose *Medical Jurisprudence* has lately appeared in its eighth edition, more recent awards going to Dr. C. M. Tidy in 1889 and Dr. J. Dixon Mann in 1899.

AS announced in our advertisement pages applications for the Dickinson Travelling Research Scholarship in Medicine and the Dickinson Surgery Scholarship must be made by May 1st to Mr. Frank G. Hazell, secretary to the Trustees, Manchester Royal Infirmary, from whom further information can be obtained. The former is of the value of £300, tenable for one year, and candidates must have graduated at the University of Manchester, with distinction in medicine and surgery, in any of their academic years immediately preceding the award of such scholarship. The surgery scholarship is open to students who shall have received at the University of Manchester and the Royal Infirmary instruction in pathology, medicine, and surgery necessary for obtaining the degrees of M.B., Ch.B. Manch.

THE Royal Westminster Ophthalmic Hospital will move to the new building in Broad Street, High Holborn, W.C.2, on April 10th.

THE *British Guiana Medical Annual* for 1925 has been recently issued at the cost of 7s. It contains the transactions of the British Guiana Branch of the British Medical Association for the years 1922-24, four original articles, and two clinical notes. A supplement deals with leprosy in British Guiana, including the related statistics and legislation, and also a note on treatment. The public health and medical statistics of the colony, usually published in this Annual, have been postponed to the 1926 issue, which is in course of preparation.

THE February issue of the *Kenya and East African Medical Journal* contains an account of the annual meeting of the Kenya Branch of the British Medical Association, and a review of the medical history of the colony during 1927. Attention is drawn to the improvement of railway communications, and to the closer co-operation of the public medical and health services in the various territories in East Africa under British rule. Other articles in this issue deal with the serological diagnosis of *B. pestis*, the treatment of ulcers with Stockholm tar, and inoculation of the monkey as a means of diagnosis of small-pox. The series of simple notes on tropical diseases is continued, with a practical account of the treatment of plague.

THE third congress of the International Society for Logopaedics and Phoniatrics will be held at Vienna from July 12th to 14th. Further information can be obtained from Professor E. Fröschels, Ferstelgasse 6, Wien IX.

THE eighth International Congress of Dermatology and Syphilology will be held at Copenhagen from August 5th to 8th, 1930. Further information may be obtained from the general secretary, Dr. S. Lomholt, Raadhnsplads 45, Copenhagen.

A COURSE in oto-rhino-laryngology will be held at Strasbourg, under the direction of Professor Georges Cannyt, from July 2nd to 14th.

THE *Journal of the Egyptian Medical Association* has during the last ten years been printed solely in the Arabic language. Commencing with the issue of January, 1928, translations, or summaries, of the articles appear in English, French, German, or Italian. The first number published under the new conditions includes articles in English on the biochemical race-index of the Egyptians; hilariazis of the conjunctiva, illustrated by coloured plates; and the determination of the solubility of digitoxin.

THE *Bruxelles-Médical* has recently published a special issue devoted to the annual congress known as the Journées Médicales de Bruxelles, held last June. The issue contains abstracts of the principal communications, with portraits of their authors, and an illustrated account of the social functions.

A NATIONAL fund is being created in Sweden for presentation to King Gustaf V as a gift on his seventieth birthday in June this year. The King intends to expend the fund in promoting cancer research. A special Institute may be established in Stockholm.

THE following appointments have recently been made in foreign faculties of medicine: Dr. Hermann Straub of Greifswald, professor of internal medicine at Greifswald; Dr. A. Kohlrausch of Greifswald, professor of physiology at Tübingen in succession to the late Professor Trendelenburg; and Dr. Belak, professor of public health at Debrecein.

CHAIRS of therapeutic hydrology and climatology have been founded at the faculties of medicine of Paris, Lyons, and Montpellier, with Drs. Villaret, Pléry, and Girard respectively as their first occupants.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

**ORIGINAL ARTICLES** and **LETTERS** forwarded for publication are understood to be offered to the **British Medical Journal** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to **ADVERTISEMENTS**, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the **British Medical Journal** are **MUSEUM 9861, 9862, 9863, and 9864** (internal exchange, four lines).

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### QUERIES AND ANSWERS.

#### CHRONIC BRONCHITIS AFTER GAS POISONING.

"D. M. M." asks for any suggestions in treating an obstinate case of bronchitis caused originally by gas poisoning in France. The secretion is both abundant and free. All the remedies indicated in chronic bronchitis, including tar, mineral acids, and belladonna, have been of no avail. The patient is aged 54 and otherwise healthy.

#### NEPHROSTOMY.

A CORRESPONDENT inquires as to the use of the word "nephrostomy" in Mr. J. F. Dobson's article on "The late results of operation for renal calculus," published in our issue of March 24th (p. 486).

\* \* \* We have referred the point to Mr. Dobson, who writes: "Nephrostomy" implies incision and drainage of the kidney, and is the term which ought to be used in preference to "nephrotomy," which merely means an incision into the kidney and does not imply drainage. The term "nephro-lithotomy" is used to describe the operation of incision of the kidney, extraction of the calculus, and suture of the kidney. If a surgeon incised the kidney with the intention of removing a calculus, could not find the calculus, and closed the incision by suture, that operation would be correctly described as a "nephrotomy." With our more precise methods of diagnosis the operation of exploratory nephrotomy is now rarely performed; but many surgeons will remember the period when such operations were rather common. When nothing was found the case was labelled "nephralgia," and confident assertions were made by the more optimistic operators that the patients were cured of their symptoms by the interference.

#### INCOME TAX.

##### Motor Car Allowance.

"W. G. S." bought a car in January, 1923, for £475 and sold it in 1927 for £60, when he bought a car of another make for £265. He has been allowed a total sum of £132 in respect of depreciation on the old car for the three years to 1927-28 inclusive.

\* \* \* The allowances to be claimed are: (1) Obsolescence allowance—as an expense of the year 1927—the actual sum expended, namely, £265—£60=£205. (Note.—This does not exceed the cost of the car replaced after deducting the total wear and tear allowances given thereon and the sum obtained for the old car.) (2) Depreciation allowance for 1923-29, £265 at 15 per cent.=£40.

#### Appointments and Post-Graduate Study.

"F. C. B. G." is in practice in the provinces as an ophthalmic surgeon, and holds an appointment as clinical assistant at a London hospital. Can he deduct as a professional expense (1) the expense of travelling to the hospital; (2) the cost of attending classes for further study; and (3) the expense of attending meetings of the Royal Society of Medicine, including the incidental hotel expenses?

\* \* \* (1) We understand that the authorities do not object to the inclusion of the fees in the general return and the deduction

of the travelling expenses, but this presumably proceeds on the assumption that the appointment is one of appreciable value—for example, we imagine they would object to the deduction of expenses to an amount in excess of the gross value of the appointment. From the point of view of strict law, and apart from any departmental concession, the deduction is not due. (2) and (3) There is neither law nor concession to support the claim.

### LETTERS, NOTES, ETC.

#### MATERNAL MORTALITY AND PELVIC DEFORMITY.

DR. KATHLEEN O. VAUGHAN (London, W.2) writes to suggest that a factor which has been overlooked in discussing the causes of maternal mortality is maldevelopment of the female pelvis. No ante-natal care during pregnancy can remove a defect produced during growth of the pelvis, and therefore, she says, considerably more attention should be devoted to this part of the body in early life. The complex nature of the processes involved is indicated by the fact that sexual differences are present in the pelvis by the fourth month of intrauterine life, that twenty-one centres of ossification are concerned in the developing sacrum, twelve more in each innominate bone, and forty-five centres continue to grow actively until the age of 25, when the process is complete. Thus any failure in the factors necessary to proper development and ossification may have very serious consequences in later life. The head only doubles in size from birth to maturity, whereas the size of the pelvis at puberty is thrice that at birth, but the three bones composing the innominate are still only united by cartilage at the acetabulum. Dr. Vaughan suggests that the greater elasticity of the pelvis at puberty may explain the partiality for early marriage in the East, in view of the assistance given to childbirth by pelvic elasticity. She emphasizes the necessity for further investigation of the growth of the pelvis, particularly during the rapid stage from 8 to 15, and calls attention to the possibility of defective light and ventilation in houses and workshops giving rise to imperfect pelvic development in girls.

#### APPENDICECTOMY DURING HERNIOTOMY IN AN INFANT.

MR. H. C. CRAVEN VEITCH (Huntingdon) refers to Dr. D. Mac-kouzie's case (March 17th, p. 443) and writes: On March 22nd, 1927, a male infant, 7 weeks old, was admitted to Huntingdon County Hospital under my care with a strangulated right inguinal hernia. A general anaesthetic was given, and when I opened the sac I found the caecum nipped in its neck and the appendix lying free in the sac. I removed it, completed the operation in the usual way, and circumcised the baby. I believe that the appendix in a hernial sac is not a very rare find; I have seen it previously myself. I have, however, never seen another in a strangulated hernia or noticed one reported. This is the youngest age at which I have removed an appendix or encountered a strangulated hernia.

#### LIME-DEFICIENT FOOD AND CARDITIS.

DR. G. ARBOUR STEPHENS (Swansea) writes: While on a recent holiday to the West Indies I was agreeably surprised to find that there were no cases of heart disease or any deaf and dumb children on the islands. The children feed mainly on vegetables, fruit, and ground provisions—all grown on soil well impregnated with lime from the coral—together with milk from goats or cows with lime from the condensed variety. I am inclined to ask to what extent or the condensed variety. I am inclined to ask to what extent this substantiates my theory that acute rheumatism and carditis occur only in that type of child whose food has been markedly deficient in lime, combined with a perverted appetite for acids, such as vinegar. My attention has been drawn to the interesting report by Dr. Orr (January 28th, p. 140), together with your comments thereon, and I wish to point out that whilst rate of growth is important, the direction of that growth is also very important. Cancer cells grow quickly, but in the wrong direction, and consequently it is all important that growth in childhood should be towards the development of that type of child which should be towards heart disease—namely, the milk-fed one never falls a prey to heart disease—namely, the milk-fed one never falls a prey to heart disease. The curative value of calcium with no craving for vinegar. The curative value of calcium salts in acute ulcers, such as chilblains, of calcium iodide in chronic ulcers, of calcium permanganate in gastric ulcers, and of calcium in the colloidal form in cardiac ulcers, serves to suggest that these salts satisfy a physiological need.

#### ERRATUM.

DR. H. M. HANSCHALL has called attention to an obvious slip in his paper on the injection treatment of varicose veins, published in the *Journal* of March 31st. In page 543, line 21 published in the foot of column 1, the word "methane" should, of course, be "urethane."

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 120.



## A Lecture

or

## THE INTENSIVE ALKALINE TREATMENT OF GASTRIC AND DUODENAL ULCER.

DELIVERED TO THE KENT BRANCH OF THE BRITISH MEDICAL ASSOCIATION

BY

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To the general practitioner the treatment of gastric and duodenal ulceration has always bristled with difficulties. Patients suffering from these lesions are frequently encountered in general medical practice, and very often the results of medical treatment are unsatisfactory. If relief does not come within a short time the patient is generally handed over to the surgeon, since it is considered that, on the whole, medical treatment in these cases is not very efficacious. Surgical intervention is not infrequently productive of excellent results; on the other hand, the last state of the patient may be worse than the first, and though surgery has many successes to its credit in this field it has also many failures. Different views are held as to the exact indications for surgical treatment, but the appearance of a well-marked niche or so-called "penetrating" ulcer in the radiogram is often accepted as evidence that the condition is not likely to be benefited by medical treatment, and so operation follows. In many cases operation is quite unnecessary, for excellent results may usually be obtained by simple medical means which can be quite easily carried out by any medical practitioner with little or no inconvenience to the patient. This can be done by the use of intensive alkaline treatment. Before describing this treatment in detail it is necessary to make a few preliminary observations.

## THE USE OF ALKALIS IN STOMACH LESIONS.

For a very long time indeed alkalis have been used by almost every medical practitioner in the treatment of gastric conditions. That these substances have a very marked action in relieving distressing gastric symptoms is known to all. How they produce this effect is a matter for discussion, and opinion on this point is not unanimous. According to some observers this action is an indirect one, while others take the view that it is due to the antacid properties of these bodies. Personally, I have little doubt that the latter view is the correct one. If the action were an indirect one after absorption it is impossible to imagine that relief from symptoms would follow so quickly after ingestion as is usually the case.

Although almost every medical man has recognized the value of alkalis for many years it is somewhat strange that this fact has not resulted in a more intensive use of alkali treatment. Though undoubted benefit was derived from small doses of these bodies it was recognized that this benefit was usually but a temporary one, and that very often symptoms recurred after a short time. Assuming that alkali produces these good effects by neutralizing the hydrochloric acid of the gastric juice, it is a matter for wonder that more physicians did not push the treatment to its ultimate conclusion and give sufficient alkali, not only to neutralize the acid temporarily, but to do so for long periods. Logically, this would be the most likely means to cure an ulcer, and I will try to convince you that this statement is correct. It is quite true that several medical men did give large doses of alkali, but to Sippy<sup>1</sup> belongs the credit of first pointing out that an ulcer could usually be cured by giving sufficient alkali to keep the stomach alkaline for several days or weeks. Though Hurst,<sup>2</sup> in a very interesting paper, published an account of Sippy's method, it does not appear to have been taken up with any enthusiasm in this country. Perhaps this was due to the fact that Sippy's directions were somewhat elaborate. In spite of certain alarming statements as to the danger of the treatment it is, in ordinary circumstances, perfectly safe. For five years my colleagues and I have used a

simple modification of the method with most excellent results. Altogether over 350 patients have been treated without any untoward symptoms. Indeed, I have not been able to find a single case of any toxic effects when our modification was carried out. The method is now in use by many of the staff of St. Thomas's Hospital and by many of our recent graduates, yet I have found no one who has had the slightest difficulty with the treatment. In our experience there is no method that gives such excellent results in a short time. It is simple, requires no special knowledge or supervision, and can be carried out at the patient's home, however humble his circumstances.

## EXPERIENCES WITH INTENSIVE ALKALINE TREATMENT.

Personally, I have always been interested in the physiology and pathology of gastric secretion, and very many years ago had frequently given large doses of sodium bicarbonate and other "alkalis" in cases of severe dyspepsia. In 1920, when I was put in charge of beds at St. Thomas's Hospital, we began to test various methods of treatment for gastro-duodenal ulceration, and among these methods was the use of large doses of alkali. This continued until 1923, when it appeared to us that the results with alkali were very much better than those afforded by other means. In 1923 the majority of our gastric cases were treated by the intensive alkali method, with such excellent results that since 1924 the method has been used as a routine one. The results have been gratifying in the extreme, and far better than we had hoped for. Uncomplicated ulcers clear up in a short time, as indicated by x rays, and in the great majority of cases all the symptoms disappear quickly. Often large "penetrating" ulcers clear up in a few weeks. So far we have not had a single instance of an ulcer recurring at the site at which it was formerly present as indicated by radiograms. Our operation list has gradually diminished, and for the last year not a single case out of over 70 treated has required operation. Even in patients suffering from pyloric stenosis an operation can often be avoided by the use of alkali treatment. For the last year we have had only one patient readmitted to the wards after he had undergone treatment. These results are altogether better than any we have had by other means, and seem to us to indicate that in the judicious use of alkali we have a method that will cure the average case of uncomplicated duodenal or gastric ulcer.

In my monograph<sup>3</sup> on gastric diseases published in 1925 I pointed out the great value of this method of treatment, and further experience has more and more impressed me with its value. At the beginning of this year my colleagues and I published a paper showing a number of radiograms illustrating the excellent effects obtained by this treatment.<sup>4</sup> This article elicited a certain amount of criticism which had to a large extent but little bearing on the facts, but nothing helpful transpired. Apparently, however, if we may judge from the mass of correspondence received from medical practitioners, this article has served to stimulate interest in the method. For some years I have described the alkaline treatment at various meetings of medical men, and invariably, so far as I know, those who have tried it have had good results. We hope to publish a detailed account of our medical unit results at an early date, but, so far, the conclusion we have arrived at is to the effect that the method will cure the ordinary case of gastro-duodenal ulceration. Patients with adhesions and other complications are probably not suitable cases, but we have some evidence which may suggest that even cases with adhesions to sundry organs may do quite well. On this point, however, we are not certain at present. We have so few failures that on general averages some of our successes probably had complications.

## THE RATIONALE OF INTENSIVE ALKALINE TREATMENT.

In nearly every case of severe dyspepsia and ulceration hydrochloric acid is present in the stomach secretion. Now it is well known that hydrochloric acid is very injurious in the case of an ulcer: it causes irritation and prevents healing. This has been amply proved by Bolton<sup>5</sup> and many others. To what extent the gastric peptin is also responsible for this deleterious action is unknown, but

this is of no great importance, since pepsin is inactive in the absence of acid. The hydrochloric acid is therefore the important factor in preventing the healing of an ulcer. While this is generally admitted, there seems to be a good deal of confusion regarding the matter. It is sometimes said that there is not necessarily any excess of acid concentration in gastro-duodenal ulceration. This is often true, but why worry about excess of acid? The ordinary normal acid secretion is sufficient to cause the damage. Very often there is a "hyperacidity" in the sense that the stomach continues to secrete acid after digestion is completed and the food has passed on to the intestine. This acid must do a very great deal of harm.

A theoretical objection to the use of large amounts of alkali is to the effect that it prevents gastric digestion. This is, however, exactly what we wish to prevent. If the food is passed into the stomach in a finely divided pulvaceous mass there is no need for gastric digestion. The food is passed into the duodenum and digested by the pancreatic juices lower down. Stomach digestion is not essential to health, and its temporary suspension will do no harm. Now it is a strange fact that ulceration practically never occurs in the alkaline small intestine. In the first part of the duodenum ulceration is common, and here acid frequently comes into contact with the mucous membrane; in the remaining parts of the duodenum, where an alkaline medium is the rule, ulceration is almost unknown. All this seems to indicate, on theoretical grounds, that ulceration is in some way associated with the presence of hydrochloric acid. This conclusion is enormously strengthened by the observation that ulcers will heal when they are no longer subjected to the action of acid, but are bathed in an alkaline medium.

#### DETAILS OF INTENSIVE ALKALINE TREATMENT.

Sufficient "alkali" must be given to prevent the presence of free hydrochloric acid in the stomach for some time. The substances generally used to neutralize the acid are sodium bicarbonate, magnesium carbonate or oxide, and calcium carbonate. In America magnesium-ammonia phosphate has been frequently used, and a mixture of calcium phosphate and magnesium phosphate has been recommended by Shattuck, Rohdenburg, and Booker.<sup>6</sup> Sodium bicarbonate being very soluble is an excellent antacid, but has the disadvantage that it tends to produce a secondary increased flow of acid. It is not satisfactory to use this substance alone, but when associated with less soluble bodies such as magnesium and calcium carbonate a very satisfactory mixture is obtained. It does not matter very much what combination of "alkalis" is used, but the following powder will be found to give excellent results.

Sodium bicarbonate	...	...	...	...	35s
Heavy magnesium carbonate	...	...	...	...	3j
Calcium carbonate	...	...	...	...	3i.
Bismuth oxy carbonate	...	...	...	...	3ii

It is important to have the bowels fairly free, and usually the above mixture, when given as directed, will produce a fairly free bowel movement. Should this be too free, some extra bismuth carbonate may be given, while, on the other hand, if constipation should prove troublesome extra "magnesia cream" may be given in doses sufficient to overcome the difficulty. Bismuth carbonate does not neutralize acid to any appreciable extent under ordinary conditions unless the acid is in greater concentration than is usually found in the stomach. It does, however, seem to possess some beneficial effect in gastric lesions, and is very useful in regulating any diarrhoea that may be present. Calcium carbonate is an excellent antacid with little effect on the bowels; magnesium carbonate, on the other hand, tends to act as a mild purgative, but is a good neutralizer of acid.

In order that the powder should have its maximum effect the patient should be put on liquid diet for a week or longer according to the severity of the condition and the intensity of the symptoms. Pain usually disappears within forty-eight hours, and the patient feels comfortable. If definite symptoms persist after two or three days' treatment it is probable that the condition is not an ulcer, or that adhesions to adjacent organs are present. The im-

portant point in treatment is to make certain that sufficient alkali is given to control gastric acidity. This is generally quite easily done during the daytime, but may be more difficult to accomplish during the night. It usually happens that the patient sleeps well if the acid is satisfactorily controlled, but if this is not the case he often wakes up complaining of pain and discomfort. It is therefore necessary to warn the patient that he must take a dose of the powder when he wakes up with feelings of discomfort. By this means the difficulty of preventing accumulation of acid during the night may be overcome.

Though it is best to have the patient in bed during the early stages of treatment, this is not always necessary, and we have treated many patients with success in the out-patient department. After some weeks of treatment the amount of powder given is gradually reduced. Patients with duodenal ulcer should, however, take the powder three times a day for two to three months. One most important point is to warn the patient that he must resume taking the powder and go on to liquid diet for a few days if any symptoms return. By this means an attack which might otherwise prove troublesome can be cut short. Patients who have had ulcers are sometimes liable to attacks of dyspepsia when they get run down, or after some infection such as influenza, but these attacks do not mean that there is a recurrence of the ulcer. This we have shown by x-ray investigation in such cases.

Though the exact details of treatment may be varied to suit different patients, the following general scheme will be found useful in the majority of cases.

#### First Week.

The patient is kept on a fluid diet consisting of milk, or milk with Benger's food. About three pints of milk per day are given in feeds of approximately 8 oz. every two hours. It is important, especially during the earlier part of the treatment, to prevent the clotting of milk in the stomach, and in order to ensure this 10 grains of sodium citrate are added to each feed of milk. This, of course, acts as a neutralizer of acid as well as an anti-coagulant. A small teaspoonful of the "alkali" mixture described is given every two hours shortly after the milk. The powder is best swallowed in a little water; care must be taken to stir the mixture thoroughly immediately before drinking. The powder is practically tasteless. About six to seven doses of powder are given per day. In addition, a double dose is given immediately before going to rest at night. The patient is warned that if he wakes up at night with any pain or discomfort he must take an extra dose of powder, or more than one dose if necessary.

Generally, it is quite easy to control the acidity by the above procedure, but in a few severe cases it is difficult. This failure to control the acidity usually becomes obvious to the patient by a return of the pain or discomfort. When this happens the patient must always take an extra powder; if the pain is due to insufficient neutralization it is immediately relieved by this extra dose.

In severe cases it is a good plan to give rather a smaller dose of the mixture every hour, for a two-hourly interval may allow of the passage of the whole of the powder from the stomach, with the result that free acid may be present. I have frequently used this plan with excellent results. In ordinary cases one or other of the above methods will generally give the desired effect. With patients suffering from renal disease or pyloric stenosis slight modifications may be advisable, but this will be discussed later.

#### Second Week.

If the patient has had no pain or discomfort for several days a little solid food is now added. If any discomfort or pain still persists the procedure of the first week is continued for a few days longer. If there are no symptoms the powder may now be reduced to five or six times a day; the quantity of milk being somewhat reduced also. Two or three eggs are now added to the milk and beaten up, or lightly boiled eggs are given. This is followed by small amounts of toast and butter, and cream. The diet is then gradually increased until by the end of the week the patient is taking, in addition to his milk,

a certain amount of toast, plain biscuits, butter, eggs, custards, a little porridge, and weak tea. A dose of powder immediately before retiring is taken as before, and the same care to take a powder during the night if pain occurs is still necessary; also an extra powder must be taken if pain or discomfort occurs during the day. Indeed, it is very important during all stages of the treatment that any discomfort arising by day or night should be immediately checked by a dose of powder.

#### Third Week.

Powder reduced to four or five times a day, and at bedtime. Food is gradually increased and should now consist largely of eggs, cream, toast, butter, plain biscuits, rice and other cereal puddings, porridge, custards, a little steamed white fish, and a small amount of potatoes. Sodium citrate need no longer be added to any milk taken.

#### Fourth, Fifth, and Sixth Weeks.

Milk is taken only in the usual average quantities. Powder is reduced to three or four times a day and at bedtime if no pain or discomfort is present. Food is still further increased with the addition of chicken, preferably creamed to begin with. In the fifth week a little meat (mutton or veal) may be taken, but only a small amount. By the end of this time the patient is taking a simple, nourishing diet, and the ulcer should be healed or well on its way towards healing. All the symptoms should have entirely disappeared in the average case.

#### After-Treatment.

The powder should be taken two or three times a day for another six to ten weeks. If there is an entire absence of symptoms the powder may then be given up during the day, but a dose should be taken at bedtime for several months. If any symptoms persist the powder should be taken two or three times a day for several months. A powder containing a suitable amount of magnesia may be taken at bedtime as a laxative for years without doing the slightest harm. It is impossible to give exact directions with regard to the length of time the powder should be taken, for this differs in different patients. It is, however, better to err on the safe side and to continue the powder for a long time if there is any evidence of dyspepsia.

It goes without saying that any source of infection, such as septic teeth or tonsils, should be attended to. Whether or not the wholesale extraction of teeth, so largely practised to-day, is an advantage or otherwise is a point for discussion.

#### Diet.

Much of what is written regarding diet is purely empirical and has no scientific basis in fact. Indeed, for many of the statements made in the literature there can be no foundation whatever. Rules regarding diet can be made quite simple, and may be summarized as follows.

1. The patient should avoid any article of food which would tend to cause physical irritation in the stomach. Now since raw vegetables are not digested to any appreciable extent in the stomach they should not be taken. Salads are therefore prohibited. The same applies to such articles as currants, raisins, nuts, or anything that would tend to leave an undigested residue in the stomach. If this principle is remembered the patient cannot go far wrong.
2. Meat, which tends to cause a marked secretion of gastric juice, should not be taken except in small amounts. Beef-tea and meat extracts of all kinds should be avoided.
3. Great care should be taken never to take too large a meal at one time, for this often tends to bring on symptoms.
4. The food should be thoroughly well masticated, so that it enters the stomach in a homogeneous pulpy mass.

#### Smoking and Alcohol.

Excessive smoking is a very frequent cause of gastric symptoms, and the less tobacco is indulged in the better. It should be given up entirely for a time. Alcohol should also be avoided, for it tends to excite the flow of gastric acid, which is so injurious to patients suffering from ulceration.

#### Other Considerations.

When the above treatment is carefully carried out as indicated, no other therapy is necessary in the average case. The tendency to excessive secretion of acid can sometimes be controlled to some extent by giving fats or oils. For this purpose they are of little value unless given on an empty stomach between meals, but if the patient can take olive oil, a dessertspoonful, two or three times a day, shortly before meals, may prove useful. Cream acts in a somewhat similar manner.

Various other measures may be used, but it is unnecessary to discuss them here. Probably belladonna is the most useful drug, but it is seldom necessary. The value of tonics and good general conditions as part of after-treatment is obvious.

#### RESULTS OF TREATMENT.

The rapidity and ease with which the majority of gastric ulcers heal when this treatment is used is very striking. It was hoped that actual photographs illustrating this point might be given in the present article, but this was impossible owing to printing difficulties. Drawings from four cases are therefore given. These have been carefully copied from the originals by an expert, and have been drawn to scale; they present exactly the same appearances as the original photographs, and show well how quickly these

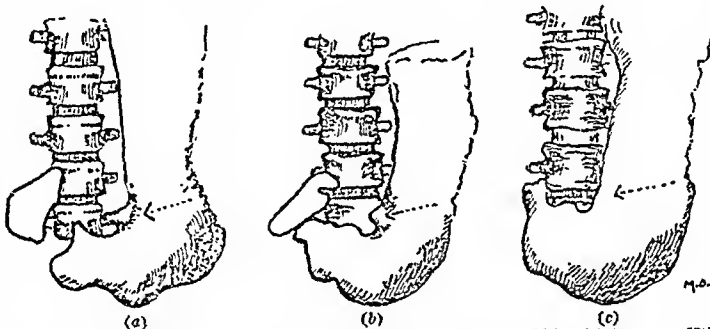


FIG. 1.—Case 1. X-ray findings. (a) January 3rd; (b) January 19th; (c) January 27th.

ulcers disappear without leaving any trace whatever of their presence.

#### CASE 1.

A police sergeant, aged 38, who had had symptoms for over nine years, was admitted to hospital on January 2nd, 1923, on account of recurring attacks of haematemesis associated with severe epigastric pain. Melæna had been marked of late. Three years ago he commenced to have "hunger pains," which caused him great inconvenience, so that often he was unable to remain on duty. He was always conscious of some more or less intense upper abdominal discomfort. At times food gave relief, but sometimes it only intensified the discomfort. He had had many forms of treatment, but symptoms gradually became worse. He stated that he had vomited blood on four occasions during the three months before admission, but never in very large quantity. Vomiting had been troublesome, and recently the vomit had contained much mucus. There had been considerable loss of weight during the last year. Palpation showed marked epigastric rigidity, especially on the right side; there was also a very tender area above and to the left of the umbilicus.

The patient was put on intensive alkaline treatment on January 3rd. He quickly lost all his symptoms, was quite comfortable, and in about three weeks from the beginning of the treatment all signs of the ulcer had disappeared.

The X-ray findings are shown in Fig. 1 (a) (b) (c). In the first photograph (January 3rd) the X-ray report was "large penetrating lesser curvature ulcer low down." The next radiogram (January 19th) showed "a smaller crater low on lesser curvature." The third radiogram, taken on January 27th, showed a normal stomach with no appearances of ulcer.

The patient is quite well and has had no further symptoms.

#### CASE 11.

A boilermaker, aged 55, had suffered from stomach trouble for thirty years. He was admitted to hospital on January 16th, 1923, with a provisional diagnosis of carcinoma of the rectum. He was very anaemic and wasted, and showed marked cachexia. He stated that for over thirty years he had been "a martyr to indigestion," and "had tried all remedies, but without effect." Upper abdominal discomfort had been troublesome for several years. He had vomited frequently, especially during the last few years. Food nearly always made him worse. During the last six months his condition became so bad that he could scarcely get to his work. He thought his stools had been tarry. Marked tenderness and rigidity were present in the epigastrium, and his

general condition was very bad. Nothing was found in the rectum. A diagnosis of gastric ulcer was made, and a radiogram taken. The patient was put on intensive alkaline treatment, and soon obtained marked relief. He is now quite fit, and says that he has not felt like this for over twenty years.

The changes in the ulcer are shown in Fig. 2 (a) (b) (c). In spite of the length of his illness the ulcer healed completely in less than two months. The first radiogram showed "a large penetrating lesser curvature ulcer with much delay in emptying of stomach from antrum." The next one, taken about a month later, showed "crater" still present but very much reduced in size; local tenderness not present." The third radiogram, taken a fortnight later, showed the entire disappearance of the ulcer. These results, in a case of thirty years' standing, are certainly very striking. The patient has put on weight steadily and is now quite fit and well.

#### CASE III.

A police constable, aged 44, says he has had stomach trouble "ever since he was a young man," but that it generally improved when he went on to a milk diet. He has had several teeth removed at intervals during the last seven years as they were "bad." He states that he has suffered "indescribable agony" during the last five years whilst on duty, with a feeling of "hunger and emptiness." For this period he has never been able to get relief for more than a day or two, no matter what he took. Recently he has lost weight and his ordinary clothes are now much too big for him. The epigastric area was very tender and rigid. His general condition was bad, and he looked as if he had suffered a good deal.

He was admitted to hospital on January 29th, 1928. A radiogram taken the following day showed a large penetrating lesser curvature ulcer (Fig. 3, a). He was put on intensive alkaline treatment and almost immediately got relief from his symptoms. A radiogram taken on February 14th still showed a crater, but this was considerably smaller than before (Fig. 3, b). Another radiogram taken on February 23rd showed that the ulcer had entirely disappeared, the report being "no ulcer now seen" (Fig. 3, c).

This patient is now quite free from symptoms and is rapidly gaining weight.

#### CASE IV.

A married woman, aged 35, was admitted to hospital on January 2nd, 1928, on account of a long-standing dyspeptic condition

#### ALKALINE TREATMENT IN PYLORIC STENOSIS.

It might be thought that stenosis of the pylorus from old ulceration would not be much influenced by medical treatment, and that the aid of surgery should always be sought in such cases. Strangely as it may seem, intensive alkaline treatment is often of the greatest value in pyloric obstruction, and, if the symptoms are not too severe, a trial should

be given to this treatment before deciding on operation. In mild cases alkaline treatment often gives excellent results, and even in patients suffering from intermittent vomiting relief from symptoms may be obtained. In this connexion Sippy<sup>1</sup> remarks that

"Pyloric obstruction, even of the highest grade, and of long duration as evidenced by the presence of vigorous peristaltic waves showing through the abdominal wall, history of vomiting food eaten the day before for many months, the aspiration of food eaten twelve or more hours before, and the presence of abundant saucine, often rapidly disappears, so that at the end of ten days' or two weeks' management, seven hours after the largest and coarsest kind of a motor meal is given the stomach is found empty."

The reason for this wonderful effect of alkali depends on the fact that the obstruction is often due not to fibrotic changes alone, but to inflammatory oedema and spasm. Under the influence of alkali the spasm relaxes and the oedema subsides, so that a way is formed sufficiently large for the passage of food. I use this method in all but the most severe cases of pyloric stenosis, and generally with good results. Sometimes, indeed, the effect is really striking. About two years ago an elderly lady, aged 72, was admitted to St. Thomas's Hospital with all the usual signs of stenosis. She vomited two or three times a week, and

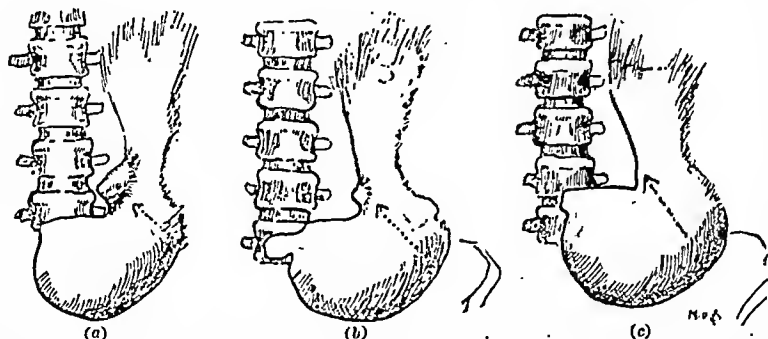


FIG. 2.—Case II. Showing changes in ulcer: (a) January 19th; (b) February 23rd; (c) March 6th.

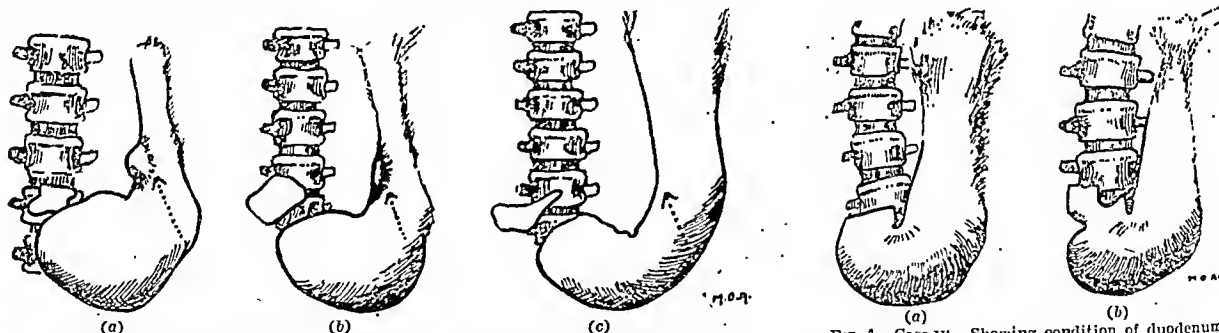


FIG. 3.—Case III. Showing changes in ulcer: (a) January 10th; (b) February 14th; (c) February 23rd.

becoming so severe that she could not carry on her household duties. She gave a history of more or less troublesome indigestion for some ten to twelve years. She had had much nausea, together with pain, for which she could never get definite relief until recently, when she bought large quantities of patent alkaline preparations. When she went on to a very low diet she obtained some relief, but she always had a definite sense of discomfort. Her weight had got progressively less, and on admission she was thin and careworn, with much epigastric pain and tenderness. A radiogram was taken before the patient entered hospital, and the report was as follows: "Stomach a little low and showing no duodenal cap. Emptying is definitely delayed. Appearance of partial pyloric obstruction probably due to an old ulcer" (Fig. 4, a).

Treatment was commenced on January 3rd, and another radiogram taken on February 3rd. The patient's symptoms cleared up immediately and she is now quite well.

The report on the second radiogram (Fig. 4, b) was "general appearance much improved—emptying in normal time—a small cap now seen."

Many other similar results could be given, but the above will serve to show the extraordinary marked and rapid effects produced by this treatment, even in very long-standing cases with severe symptoms and marked x-ray changes.

food eaten twenty-four or thirty-six hours before was often found in the vomit. Peristalsis was observed through the abdominal wall, and it was obvious that the condition was passing on to a serious stage. An operation was suggested as the only means likely to help, but this the patient obstinately refused, and no amount of persuasion could induce her to yield on this point. Though it was thought that the case was much too severe for medical treatment, a trial was given to alkalis. In a short time all the symptoms passed away, and the patient could take a certain amount of food without discomfort. It is over two years since she had the treatment, and she has not vomited once during that time. Special inquiries made a fortnight ago elicited the fact that she is doing quite well and has no gastric symptoms.

In cases of mild stenosis the ordinary alkaline treatment as indicated above may be used, but in very severe cases with vomiting a slight modification, as indicated below, may be advisable.

FIG. 4.—Case IV. Showing condition of duodenum (a) on January 1st, (b) on February 3rd.

## ALLEGED DANGERS OF INTENSIVE ALKALINE TREATMENT.

No medical man need be afraid to use this treatment. In some patients it may give rise to slight symptoms, especially during the earlier stages, but generally these symptoms rapidly subside, and the system accommodates itself to the comparatively large amounts of alkali ingested. According to American writers, the chief symptoms encountered are, first of all, dryness of the mouth and throat, followed by headache, anorexia, nausea, and vomiting. There may also be mental depression and loss of energy. Analysis of the blood in some of these patients shows that the nitrogenous waste products may be somewhat increased, while there may be some interference with the "acid-base equilibrium" of the body. This so-called "alkalosis" following the use of very large doses of sodium bicarbonate has been described, among others, by Hardt and Rivers<sup>7</sup> in 1923, by Brown, Rusterman, Hartmann, and Rowntree<sup>8</sup> in 1923, by Ellis<sup>9</sup> in 1924, by McVicar<sup>10</sup> in 1924, by Houghton, Venables, and Lloyd<sup>11</sup> in 1925, and by Jordan<sup>12</sup> in 1926.

From a careful perusal of the literature on alkalosis it seems fairly clear that the medical practitioner need not fear in the slightest degree to use the intensive alkaline treatment as indicated here. That certain symptoms may occasionally appear is admitted, but they are exceedingly rare. Indeed, it is obvious that, in many cases where the symptoms were described, quite excessive doses of sodium bicarbonate were used. The exact dose is not always given, but where it is recorded it often amounted to about 30 grams a day over long periods. When the treatment is used as indicated here there is practically no risk of alkalosis in otherwise healthy people, and even if symptoms should intervene there is no harm done. If the patient complains of headache, nausea, vomiting, anorexia, and excessive dryness of the mouth it is quite easy to stop the treatment for a few days. So far, as already indicated, I have never seen anyone who had any symptoms. If followed on the lines indicated here the amount of sodium bicarbonate taken daily is too small to cause any damage in ordinary cases. That there may be some danger when the patient is suffering from chronic nephritis is admitted (see Stieglitz<sup>13</sup> and others), and the same may be true when very marked pyloric stenosis with excessive vomiting is present.

## SPECIAL TREATMENT IN PYLORIC STENOSIS.

In ordinary cases of mild pyloric stenosis with little or no vomiting, but showing marked x-ray changes, the ordinary alkaline treatment may be used. In severe cases, however, with excessive vomiting, there is practically no communication between the stomach and the intestine, and in such cases hydrochloric acid is constantly being lost to the body by vomiting. This results in a decrease of acid and a consequent relative increase of alkali, so that the body fluids may tend to pass to a more alkaline condition than normal. This "alkalosis" may be accompanied by severe symptoms, the most pronounced being tetany. If the symptoms are dependent on relative or absolute excess of alkali in the body, it is obvious that it might be dangerous to give more alkali, especially a soluble alkali such as sodium bicarbonate, for this would tend to make the condition worse. Theoretically we should really give an acid to make up for the acid loss.

Now in cases of practically absolute obstruction the giving of sodium bicarbonate could do no harm, for it could not get through into the intestine and so reach the blood. It would simply neutralize the acid in the stomach and then be thrown out, either as bicarbonate or chloride. From the stomach, absorption of sodium bicarbonate does not take place. It is true, however, that the effect of the sodium bicarbonate in neutralizing the acid might result in a subsidence of the oedema and spasm of the pylorus, so that some gastric contents might pass on into the intestine. At this stage an excess of sodium bicarbonate would tend to increase the alkalosis, and what we really want is something to favour acidosis.

Haldane<sup>14</sup> has shown that calcium chloride when taken by the mouth acts as an acid, and is equivalent in effect to giving hydrochloric acid, because most of the calcium remains in the intestine while the chloride is absorbed.

Gamble, Ross, and Tisdall<sup>15</sup> showed that about 40 per cent. of the chlorine of  $\text{CaCl}_2$  acted inside the body as  $\text{HCl}$ . Indeed, instead of causing an alkalosis the bivalent cations (calcium and magnesium) produce an acidosis in the body (McDonald and Godfrey<sup>16</sup>).

Therefore, in a case of very severe pyloric stenosis it would obviously be best to use as an antacid, not sodium bicarbonate, but calcium carbonate, or this along with magnesium carbonate. The carbonate would be changed into chloride by the gastric acid, and some of this would net as hydrochloric acid in the body, and so tend to prevent the drain of acid. That calcium carbonate acts quite efficiently as an antacid has been demonstrated by Loevenhart and Crandall.<sup>17</sup> The safest treatment for severe pyloric stenosis would therefore appear to be by means of a powder consisting largely of calcium carbonate with some magnesium carbonate to help the bowels. Teaspoonful doses of such a powder should be given on the lines indicated above for the ordinary powder. In addition to this, small doses of calcium chloride would help the alkalosis.

Generally speaking, the intensive alkaline treatment is not associated with any real danger under ordinary conditions, but the treatment must be carried out on the general lines indicated here, and the vastly excessive doses of sodium bicarbonate sometimes used should be avoided.

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## DEBATABLE ASPECTS OF THE SURGERY OF GASTRO-DUODENAL ULCERATION.\*

BY

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So long as the innate nature of gastro-duodenal ulceration is still ranked among the unknown phenomena of pathology there is bound to be disputation about the manner of its control. Controversy arises over many problems of the disease and its complications, but the greatest of these is the problem of the uncomplicated ulcer.

## THE NEED ON IMPROPRIETY OF SURGERY FOR THE UNCOMPLICATED ULCER.

It is most perplexing to read the writings of physicians and surgeons, for they are often directly contradictory in their views and recommendations; but their very discordance engenders the suspicion that the conclusions of the extreme enthusiasts of medical or surgical measures must largely cancel each other out, and that the truth lies somewhere between them. The relevant facts upon which alone a sound judgement can be based are simply stated.

(a) Ulcers of the stomach and duodenum can and do heal without the aid of surgery when conditions are favourable. This has been proved by actual visual inspection through a gastroscope,<sup>1</sup> by the x-ray disappearance of the ulcer niche under medical treatment,<sup>2,3</sup> and by the finding of the scars of ulcers after death at necropsy.

(b) Certain ulcers fail to heal with the most careful medical treatment, or they heal and break down again so that the symptoms recur. The number of ulcers which will heal without surgical help is large. It has been stated that *post mortem* as many scars as open ulcers are to be found.<sup>4</sup> But one pathologist discovered nine times as many scars as ulcers in the stomach.<sup>5</sup> This is the highest

\* A lecture delivered to the Kensington Division of the British Medical Association on March 23rd.



proportion of scars to open ulcers I have been able to find reported. Quite possibly scars in the stomach get overlooked at necropsy, and this higher figure more nearly approaches the truth. At any rate, it is certain that the tendency to healing is great. So a most important rule, to which there are a few exceptions, may be laid down: *No ulcer patient should be subjected to operation until medical treatment has proved a failure.*

It is pertinent to ask what proportion of ulcers respond to medical treatment. One observer, in 244 cases, found the percentage for gastric ulcer to be 62.5, and for duodenal ulcer to be 79.5.<sup>6</sup> These facts should be graven upon the mind of every operating surgeon. However, certain of these immediately cured cases will relapse. There are not many records of the late results of medical treatment. Forman,<sup>7</sup> in 32 cases followed up and subsequently x-rayed, found 57 per cent. failures. The number of permanent cures is certainly much smaller than the number of immediate successes. Is it possible to select those cases which will prove resistant to treatment? Several observers have said that there is no relation between the rate of healing and tendency to relapse and the length of history or size of the niche, but this last statement is open to doubt. When the niche is large, with a rounded extremity, healing is not so likely to occur or remain permanent, particularly as the gastric or duodenal wall in its neighbourhood is often fixed by the ulcer having invaded the pancreas and caused much surrounding fibrosis. Therefore it seems right to conclude that, while the tendency to repair is great, a significant percentage of ulcers cannot be induced to heal by medical means alone, and that of those that do heal a certain number break down again. It is thus justifiable to resort to surgical measures when medical treatment has failed, provided always that the mortality of operation is not too high—a consideration which will be dealt with in the next section.

#### CHOICE OF THE TYPE OF OPERATION.

Having decided that there is occasion for surgery, it will be necessary to select the type of operation. A simple operation, gastro-enterostomy, can alter local conditions in the stomach so that healing may be assisted; or more can be effected by the removal of the diseased part of the stomach, whereby the tendency to ulcer formation in the future is very greatly diminished. Both of these are indirect methods, though the latter is often spoken of as a radical procedure. To choose between these we must know how effective each is, and what is its accompanying mortality.

##### *Gastro-jejunostomy.*

In the case of gastric ulceration there have been a number of reports of what success gastro-enterostomy can bring. Emanating from all parts of Europe, from America, and from this country, they show a surprising agreement in all essentials. It is found that about 75 per cent. of open ulcers at the pylorus are made to heal, but only about 50 per cent. or less of ulcers away from this region. There can be no doubt at all that gastro-jejunostomy does not meet with really striking success in gastric ulcer, yet it would not be right to leave the matter here without asserting the fact that sometimes unexpectedly large ulcers have healed when this operation has been performed. It obviously has its place, and should be considered when other methods are either impossible or fraught with grave risk.

When we consider the use of gastro-jejunostomy in the treatment of duodenal ulcer there is no such general agreement. Thus Moynihan,<sup>8</sup> Walton,<sup>9</sup> Balfour,<sup>10, 11</sup> and Sherren<sup>12</sup> obtained complete cures in 85 to 92 per cent. of their patients. But other clinicians have not achieved anything like the same success. Wydler,<sup>13</sup> Forsyth,<sup>14</sup> Lewisohn,<sup>15</sup> Smithies,<sup>16</sup> and myself<sup>17</sup> can only count upon 50 to 70 per cent. of cures at most. The mortality of gastro-jejunostomy ranges from none in 500 cases (Moynihan<sup>18</sup>) to 8 per cent. by such a skilled operator as von Haberer.<sup>19</sup> It is bound to be higher in the statistics of those surgeons who reserve it for the worse risks, but I believe it fair to assess it at 4 to 5 per cent.

The liability to haemorrhage from a gastric, but particularly a duodenal, ulcer is about as great after an

operation as before. Perforation of a gastric ulcer may occur subsequently, but very rarely that of a duodenal ulcer, though this is not unknown. There is also a very definite incidence of gastro-duodenal ulceration, the frequency of which is estimated from 2<sup>nd</sup> to 18 per cent.<sup>15</sup> Sometimes a gastro-jejunostomy performed for duodenal ulceration will cause this lesion to heal, but subsequently an ulcer will form on the lesser curvature of the stomach. I have known this happen in 4 cases. Curiously enough, Rowlands mentions a similar case in a recent paper upon gastro-jejunal ulcer.<sup>21</sup> If we accept the hypothesis I put forward<sup>22</sup> as to the conditions favourable to the formation of peptic ulcers—namely, admixture of the duodenal with the pyloric secretions—it is easy to see how cure of the duodenal ulcer will lead to relaxation of pyloric spasm and so to duodenal regurgitation along the gastric sulcus once more during the later stages of digestion, a phenomenon which is absent when a duodenal ulcer exists. Conditions thus become favourable to ulcer formation on the lesser curvature.

#### *Resection Operations.*

We may now turn to the facts about resection operations. The properly conceived operation of this type not only removes the ulcerated area, but also takes away so much of the pyloric part of the stomach that the second stage of gastric secretion is very much interfered with, thereby lessening the disposition to further ulceration. I have knowledge more particularly of three types of such operations—the Péan resection, the sleeve resection, and the Moynihan variety of Polya's procedure. They all meet the requirements stated above, and are indicated in different circumstances. There are many reports of late results of resections for stomach ulcers (see references 13, 20, 23, 24, 25, and 26). The successes range from 70 per cent. to well over 90 per cent., most observers giving the higher figures. My own late results give 80 per cent. perfectly well. At any rate, it may be said that, with the same standard of cure, these resection operations give half as many good results again as gastro-enterostomy. It is widely held that a high mortality is associated with gastric resection, a very much higher death rate than with gastro-enterostomy. But this is not so. Amongst 59 gastric resections for ulcer I had 3 deaths. One of these, due to a technical fault at the operation, was preventable; the others were from lung complications, which are very imperfectly under control. This makes a mortality of 5 per cent. It is quite a serious mortality, but not so very high when it is remembered that 83 per cent. of all cases submitted to me had the resection operation performed on them, though many were in a poor condition from malnutrition or a previous severe haemorrhage.

Let us now turn to the much debated subject the resection of duodenal ulcers. At one time the removal of the affected segment of the duodenum was regarded as impossible;<sup>17</sup> but it was shown by the work of von Haberer, Flusterer, and Clairmont that this is not so. Some surgeons who claim good results from gastro-enterostomy at the same time recommend excision of the anterior ulcer when it is simple and easy. The operation of partial duodenectomy is not performed by many men because of the belief that it is an extremely dangerous one. I have done a partial duodenectomy for duodenal ulcer 61 times, with 2 deaths, both from lung complications. Moreover, this series includes the very first cases, in which the technique was anything but perfected. The mortality rate is, therefore, 3.3 per cent. I have only tried the operation in bad cases. Sometimes it cannot be done because the callous mass has extended too far down the duodenum; sometimes it seems undesirable because the ulcer is small and soft. So I have performed a resection in only 72 per cent. of cases. The results of the procedure have been much more satisfactory than those of gastro-enterostomy. Of 21 cases operated upon for more than two years 18 (86 per cent.) were perfectly well, in contrast with 69 per cent. by the latter operation. One other patient had such very slight symptoms that he may almost be regarded as a complete cure. Counting him, the percentage would be raised to 90. To ensure success, it is necessary to take away a sufficient portion of the pyloric region of the stomach; more than a simple pylorotomy must be done.

Having brought out the facts, it is now possible to adjudicate upon the question of operation in the uncomplicated ulcer. With few exceptions, every gastric ulcer patient should be submitted to a course of medical treatment. When, by proper rest, diet, and medication, the pain cannot be controlled, vomiting continues, and weight is lost, then surgery is indicated. If there has been a single haemorrhage of any volume in the past, and an ulcer can be demonstrated by the x rays, an operation should be carried out without a trial of medical measures. When a Haudek's diverticulum is large, with a rounded, blunt end, it is often wise to advise an operation, as relapse in many cases occurs. Finally, economic conditions may require that the patient should be got well with as little loss of time as possible. Perhaps he must work to live, or he is performing such valuable work for the community that his services can ill be spared. Such circumstances must be very carefully weighed before a decision to operate is made, remembering always that there is about 5 per cent. mortality associated with the procedure.

#### THE BLEEDING ULCER.

The controversy on this problem cannot be so easily dismissed as some surgeons would wish by accepting the statement of many of our medical colleagues that a patient seldom dies from such loss of blood. The truth is quite otherwise. Haemorrhage from a chronic ulcer of the stomach or duodenum is a serious menace to life. Bulmer recently, in 500 cases, reported a mortality of 8.3 per cent.<sup>22</sup> From our point of view the clinical course of the event is important. Sometimes the victim will die in a few hours from a single massive haemorrhage. He is at once beyond human help. More often he rallies from this first haemorrhage, but his immediate future is full of peril. Bleeding from an ulcer is of the secondary type and follows the characteristic course of this affection. The uncertainty of the arrest of haemorrhage is great; very frequently after a few days a further loss of blood occurs, and this may be repeated until the patient's strength is sapped to his extinction. Cannot ordinary surgical principles be applied to this gross complication? The answer is not quite simple to give.

Arrest of haemorrhage means a rather big operation which the patient may not be in a condition to stand, and this, combined with the undoubted fact that numbers of patients recover under expectant treatment, has led to the majority of surgeons deciding against operating. The mortality from it has been so high that it is held that the lives saved do not compensate for those lost when operation is adopted as a routine. Of late years, however, conditions have somewhat changed. Not only have operations upon the stomach become safer, but the transfusion of blood allows us to operate in circumstances which formerly would have proved fatal. Immediately a haemorrhage has occurred the patient falls into such a state of shock that any kind of surgical procedure is precluded. This shock, with its lowered blood pressure, is the natural method by which haemorrhage is arrested and clotting in the eroded vessels allowed to occur. When this has actually happened the patient can, with some degree of certainty, be considered safe for a few days. Therefore steps to combat the loss of blood, including a transfusion, should be taken. As the victim rallies from his shock an estimate of his general state should be made by observing the fall in pulse rate and estimating the percentage of haemoglobin in his blood. A pulse rate which remains over 100 means that there has been a very great loss of blood. Operation is risky, but is often possible. A patient with only 50 per cent. of his haemoglobin is in a very poor state to withstand a resection, but in favourable circumstances it can be employed. A blood transfusion will always be necessary in such a grave case. Local anaesthesia is regarded as essential by Finsterer, but I have employed only general anaesthesia, being somewhat afraid of the lowering of blood pressure which the splanchnic block produces. Once within the abdomen the type of operation must be decided upon. A partial gastrectomy or duodenectomy is the ideal, and should always be done whenever it is technically possible. Fortunately a resection by proper methods can now be performed with very little

further loss of blood. Sometimes it will be decided that resection is too dangerous; then the arteries supplying the ulcer must be tied, a procedure which may necessitate the opening of the viscera and ligation from within. A gastro-jejunostomy is useless for stopping haemorrhage from a gastric ulcer.

To sum up: Every case of bleeding from a gastric or duodenal ulcer should be looked at from a surgical point of view from the first. There should be a disposition to operate as soon as ever the condition of the patient will allow. Though the step is a serious one, the adoption of this policy, taking the precautions which I have mentioned, will save more lives than the pursuit of a solely expectant attitude. It is fatal to wait for successive haemorrhages before considering operative treatment. The patient will only be reduced to such a state of weakness that he is unlikely to stand it and survive.

#### THE PERFORATED ULCER.

The problem of the perforated ulcer is not whether an operation should be performed, but whether any other procedure should be added to the essential closure of the perforation. On the Continent operators have actually, of late, been performing typical resections of the stomach in cases of perforation—a development in gastric surgery so amazing that it must be passed in review. In this country there are many surgeons who hold that a gastro-enterostomy should be done at the time the ulcer is sutured. These surgeons claim that the anastomosis is frequently necessary because the suture of the ulcer leads to pyloric stenosis; they say that convalescence is smoother and the risk of the new suture line failing to hold diminished, as the stomach cannot become distended. They also make a great point of the fact that by doing a gastro-jejunostomy they are performing a curative operation upon the ulcer. What, once more, are the facts?

It is recognized that many ulcers which perforate are acute lesions, they have a different pathology from the chronic ulcer, and once the crisis is over conditions leading to the formation of such ulcers may never recur. Unless the technique is very clumsy the pylorus will not be obstructed by the in-turning of the stomach wall necessary to close the perforation.<sup>23</sup> It is also proved by late investigations<sup>24, 25, 26</sup> that many patients after simple suture are permanently cured and never again suffer from their ulcer. I believe that this recovery rate is perhaps overestimated and that the true percentage of cures is probably about 50. Gastro-jejunostomy is, therefore, unnecessary from this point of view in one-half of the patients; as a fine stomach tube will relieve distension of the stomach should blocking of the pylorus by the suture have occurred, it is not to be recommended on this account. Should the ulcer give trouble later another operation will be necessary, but it will not preferably be a gastro-enterostomy. The patient with a perforation is so ill that the less done to him the better. For this same reason I think resection in the presence of a perforation is not to be recommended. It would obviously be wrong treatment for an acute ulcer, and certainly too severe as a routine method for a perforated chronic lesion.

#### THE LATE CICATRIZED STOMACH.

When an ulcer has cicatrized it may leave the stomach with a narrow pyloric canal, or if it has been on the lesser curvature an hour-glass constriction deformity may result. Sometimes the two deformities occur together. When there is pyloric constriction alone a simple gastro-jejunostomy will often give an excellent result. The operation has its place, and should be done when there has been so much vomiting that the patient is dehydrated and is suffering from chloride starvation, which cannot be remedied by the injection of salt solution. In every other case I believe a Péan type of resection is preferable in pyloric stenosis. For hour-glass constriction, though a simple gastro-gastrostomy will frequently meet the case, I prefer a sleeve resection or the Péan operation. Chloride starvation must always be investigated in every patient in whom there is some defect in the passage of the contents of the stomach into the duodenum. It should be corrected before any serious operation is undertaken.

Surgery is not likely to say the final word in the treatment

of gastric ulcer. In the present state of knowledge it is the only method which brings relief to a number of victims of the disease. While such is the case there is sure to be controversy as to methods. I have striven to present these problems to you, and have suggested what I regard as the best solutions to them.

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## THE TYPE OF TUBERCLE BACILLUS COMMONLY PRESENT IN TUBERCULOUS LESIONS IN BONES AND JOINTS.

Two Cases with Unusual Numbers of Tubercle Bacilli in the Discharges.

BY

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THE question whether tuberculosis of bones and joints is commonly caused by drinking milk from a tuberculous cow, or by inhaling tubercle bacilli derived from some human being, is, for the sake of prevention, not without practical importance. Yet it is one on which current medical opinion seems to be imperfectly informed, for, in conversation, one too often hears it taken for granted that such cases are usually caused by tubercle bacilli of bovine type. This is assuredly not the case.

The Royal Commission on Tuberculosis of 1901-11, Park and Krumwiede in the United States, and the committee of the Gesundheitsamte appointed in 1901 to investigate the rôle of the bovine type of tubercle bacillus in human tuberculosis, all agreed in finding that the tubercle bacillus present in the great majority of the cases of bone and joint disease which they investigated was of the human type. Cases from which the bovine type of bacillus was obtained occurred, but they were uncommon.

Then in 1912 came J. Fraser, who, having investigated 70 cases of tuberculosis of bones and joints in the Research Laboratories of the Royal College of Physicians in Edinburgh, came to the surprising conclusion that no fewer than 41, or 57 per cent. of them, yielded tubercle bacilli of bovine type alone; that 3 gave a mixture of both mammalian types; and that only 26, or 37 per cent., yielded the human type alone.

These findings were so different from those of all other observers, who agreed in putting the proportion of such cases infected with the human bacillus as high as 80 per cent. or more, that they were not received without criticism by bacteriologists who had worked in this field. Nevertheless, it seems that it is just these exceptional results obtained in Scotland that have attracted the attention of English physicians, rather than the far more extensive investigations made in this country.

It therefore seems worth while calling attention to the fact that A. S. Griffith, F. Griffith, and A. Eastwood, than whom no more experienced workers in this field (all trained in the school of the Royal Commission, 1901-11) could be

found, working for the old Local Government Board and the Medical Research Council, have made a most comprehensive study of the types of tubercle bacilli present in various kinds of human tuberculosis. This study, which has extended over twenty years, and, so far as bone and joint tuberculosis is concerned, embraces five different investigations, now includes close on six hundred (598) cases of this kind in which the type of tubercle bacillus has been fully determined.

This is the total dealt with by A. S. Griffith in his dissertation for the degree of Ph.D. Camb. in 1926. It includes 14 cases investigated by the Royal Commission, as well as a number in which the cultures were made, not from material taken directly from the bone or joint, but from some other lesion. For this reason I prefer to quote from a paper by the same author entitled "Tuberculosis of bovine origin in the human subject," read at the eleventh National Conference on Maternity and Infant Welfare held in London on July 5th to 7th, 1927. It deals with 541 cases of bone and joint tuberculosis, with the result that 81.3 per cent. of them were found to be caused by tubercle bacilli of the human type. This percentage refers to patients of all ages; if one takes only children under 5 years of age (102 cases), the percentage so infected naturally falls; but even here it is over 70 per cent. Under 10 years (327 cases) it is 75 per cent. This total includes a few cases from Scotland. These, in a somewhat earlier paper by the same author,<sup>1</sup> are separated from the English cases, with the result that a lower proportion of infections with the human type of bacillus is found in them than in those from England and Wales. The difference, however, is not great; for Scotland the percentage of infections with the human type of bacillus is 71.4 (28 cases), while for England and Wales it is 81.7 (389 cases). For children under 10 the corresponding percentages work out at 63.6 and 75.4 respectively.

### Frequency of Tubercle Bacilli of Human Type in Tuberculosis of Bones and Joints.

	No. of Cases.	Percentage w/ Human Type
All ages ... ..	541	81.3
Under 10 years ... ..	327	74.6
Under 5 years ... ..	102	70.6

### English and Scottish Cases Compared.

	No. of Cases.	Percentage w/ Human Type
Scottish cases, all ages ... ..	28	71.0
English cases, all ages ... ..	389	81.7
Scottish cases, under 10 ... ..	22	63.6
English cases, under 10 ... ..	288	75.4

Thus from this exhaustive and competent investigation we may conclude, indeed, that infection from the tuberculous cow is a good deal commoner in Scotland than it is south of the border. But it must be pointed out that the proportion of human infections in Scottish cases found by the English authors—namely, 71.4 per cent.—is very different from the 37 per cent. (or if we include the mixed cases, 41 per cent.) found by Fraser.

The fact is that bone and joint tuberculosis, commonly results from tubercle bacilli being transported to the part from some tuberculous focus (often a small and unsuspected one in some lymphatic gland) by the blood stream. In this respect it falls into line with other haematogenous kinds of tubercle—namely, with general tuberculosis, tuberculous meningitis, and genito-urinary tuberculosis, in each of which the proportion of infections caused by the human type of tubercle bacillus has been found to be in the neighbourhood of 82 per cent. In tuberculous meningitis it is even a little higher still.

It can therefore be stated positively that in England and Wales the great majority of cases of bone and joint tuberculosis are caused by bacilli of human type, derived from another case of human tuberculosis, and that they have nothing to do with the cow. Cases of bovine origin do indeed occur, and in very young infants constitute nearly a third of the total, but taking all ages together they do not amount to one-fifth.

It is interesting to note that in tuberculosis of the vertebral column bovine infections are rather commoner than in tuberculosis of the hip, and that in this latter condition they are somewhat more frequent than in tuberculosis of the knee. The higher incidence in the spine is

explained by Griffith on the ground that some of these lesions are caused by direct infection from the abdominal cavity, where, of course, as it is well known, the ratio of infection with the bovine to that with the human type of bacillus is high.

#### *Significance of Numbers of Tubercle Bacilli in the Discharges from a Tuberculous Joint.*

Two samples of pus from tuberculous joints which came to this laboratory attracted my attention on account of the unusual numbers of tubercle bacilli they contained. The severity of the disease turned out to be unusual also, and it seems that the numbers of bacilli in joint cases may have some prognostic significance. These cases, therefore, seem to be worth reporting.

A married woman, aged 38, was admitted to Addenbrooke's Hospital, Cambridge, on June 23rd, 1927, on account of severe pain in the left ankle. She came under the care of Mr. W. H. Bowen, to whom I am indebted for notes of the case. On admission there was a swelling on the outer side of the joint. This was aspirated five days after admission. The fluid then taken was sent to me on account of the numbers of tubercle bacilli, which were visible in stained films made from it. As is well known, the bacilli in such specimens are, as a rule, either few in number or not to be seen; but in this specimen they were so numerous that it was difficult to believe that one was not looking at a rich sample of tuberculous sputum; another unusual point was that there were well-formed pus cells present. Here was a case, then, worth investigating, and I proceeded to determine the type of the tubercle bacilli.

The clinical course of the case showed a disease of great activity. The history on admission was seven weeks only, and consisted chiefly of severe pain in the left ankle, especially at night. The joint appeared to be exquisitely painful on the only occasion that I saw the patient. Soon after admission it was immobilized on a poroplastic splint; but seventeen days later it was necessary to aspirate again, and 20 c.cm. of caseous fluid was then removed. The disease progressed rapidly, and it became imperative to amputate the limb. This was done forty-four days after admission. But though the wound healed the condition of the patient did not improve. On the contrary, she rapidly went downhill, and died of meningitis on November 11th, seven months after symptoms had first appeared in the joint. Tubercle bacilli were found a few days before death in cerebro-spinal fluid removed by lumbar puncture. Mr. Bowen writes: "The outstanding feature of the case was the rapidity of the process; also very noteworthy was the persistence of pain in the joint."

After death there were found marked signs of cerebral tubercle: excess of fluid, flattening of convolutions, tubercles in the basement membranes, dilatation of ventricles. In both lungs were some old fibrous scars at the apex, and here and elsewhere recent foci commencing to break down into little cavities with caseous walls; in the rest of the lung tissue diffuse military tubercles. A few minute tubercles were seen on the surface of the liver, but none in kidneys or spleen. The mesenteric glands and peritoneum were normal. The bronchial glands were much enlarged and beginning to show small caseating foci.

The original sample of pus, so rich in tubercle bacilli, had arrived in my absence, and I was unable to deal with it. Three weeks later I obtained a second, in which tubercle bacilli were present, but not in anything like the numbers originally seen, and pus cells were now absent. From this sample animals were inoculated and a culture raised from a tuberculous guinea-pig. The culture grew luxuriantly, and formed voluminous nodular growths on glycerin-potato and glycerin-agar, and, on suitable batches of glycerin-serum, it produced a yellow growth.

Four rabbits were injected intraperitoneally with 10 mg. of bacilli from young serum cultures. They were killed about four months later, fat and well grown. With one exception the lesions did not exceed those usual after such an injection of tubercle bacilli of human type—namely, a few little lightly encysted collections of caseo-purulent matter in the peritoneal cavity; but in one animal paralysis of the hind legs had occurred, and at the *post-mortem* examination a tuberculous lesion was found in one of the vertebrae, pressing on the spinal cord. Such a lesion is not unknown after injections of tubercle bacilli of human type into the rabbit; but Griffith and myself have met with it, and its presence in this case in no way weakens the conclusion that the bacillus with which we were dealing belonged to the human type. This strain of bacilli has since been used for many other experiments having a different object, and it has all along shown that low degree of virulence and inability to produce a progressive disease in the rabbit which is characteristic of the type. For the guinea-pig it proved virulent, and caused fatal tuberculosis.

The second case was that of a tuberculous wrist-joint in a man aged 69 years. As in the other case, it was the tubercle bacilli in the pus from the joint that first excited my interest in it; but they were not so numerous as in the first sample from that case. Some were seen in most of the fields; the largest number seen in any one field was five.

For the clinical history I am indebted to Dr. Christopher Tylor of Long Melford, Suffolk. The disease in the joint came on after a slight injury caused by jarring it severely when using an axe. About the same time the patient developed a cough, and had physical signs indicating tuberculous mischief in the lungs. The disease in the wrist-joint then became more acute, and there was evidence of fluid. Six months after the commencement he was sent to Addenbrooke's Hospital, Cambridge, where an operation was performed by Mr. Cooke, who let out a large quantity of pus, curetted the walls of the abscess cavity and the bones, and closed the wound without drainage. A few days later the patient returned to his home. After this the pulmonary disease advanced rapidly, and he died a few weeks after his discharge from the hospital. No *post-mortem* examination was made.

A culture raised from a guinea-pig inoculated from the pus showed all the characters of the human type, and produced voluminous nodular growths on glycerin-potato, wrinkled films on glycerin-agar, and pigmented growth on certain batches of serum.

Two rabbits inoculated intraperitoneally with 10 mg. of serum culture on September 22nd remained well, and when killed two months later were well-grown, fat animals, with no sign of tubercle beyond the usual little collections of caseo-purulent matter lightly encysted in a thin membrane (which one so frequently sees in the peritoneal cavities of rabbits injected with the human type of bacillus), and in one of the animals a little wedge-shaped streak of chronic tuberculous disease in one kidney.

There can therefore be no doubt that in this case, as in the other, the tubercle bacilli concerned were of the human type, and we may conclude that the fact that numerous tubercle bacilli are visible in stained specimens of pus from tuberculous joints is not inconsistent with an infection caused by bacilli derived from another case of human tuberculosis.

The unusually rapid course and the fatal termination in these two cases, selected only because there were large numbers of tubercle bacilli visible in the discharges, raise the question whether the presence of these bacilli in numbers such as these cases showed would justify a grave prognosis. One hesitates to draw this conclusion from two instances, but they at least call for further observations of cases of a similar kind.

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## EARLY DETECTION OF TUBERCLE BACILLI IN SPUTUM:

### PRACTICAL METHODS OF OBTAINING SATISFACTORY SPECIMENS.

BY

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THE importance of the early detection of tubercle bacilli in the sputum has been most strongly insisted on by Dr. Chandler and by various correspondents in recent issues of the *British Medical Journal*. I can heartily endorse their views, and I propose, therefore, to describe some very practical means for applying them in cases of difficulty such as not infrequently present themselves.

In many of these cases in which the general clinical evidence is in favour of the diagnosis of tuberculosis the report on the sputum supplied by the patient is that no tubercle bacilli have been found. As often as not this is because a good specimen of the sputum has not been obtained. Many patients seem to be unable to eject the liquid from the bronchi, but involuntarily swallow and spit little more than frothy saliva from the mouth. By means of coaxing, and urging them to "shoot it out into the bowl" while the head is kept down over it, a better specimen may often be obtained. If this fails, an active cough reflex may be excited by getting the patient to sniff

the vapour of *oleum sinapis volatile* from the neck of a bottle (say a six-ounce medicine bottle) at the bottom of which there is about half an ounce of the oil. This gives off the vapour all the more readily if the bottle is warmed over a lamp. Two or three sniffs generally result in a good cough and the expulsion (with a little encouragement) of the ejecta from the larynx and trachea into the basin. The sister in charge of the throat room at Brompton Hospital is of the opinion that if this does not excite a cough there is probably no laryngeal tuberculosis. I cannot go quite so far as this, but I am sure that the procedure described has often given us a "positive" result when all previous examinations had proved "negative." In a recent case a history of syphilis led to a diagnosis of that disease as the cause of the hoarseness which was complained of, no bacilli having been found, but a sniff of the oil led to a cough and the expulsion of a small quantity of sputum, in which the bacillus was found in fair abundance. This procedure should, of course, not be preceded by anaesthetization of the nose or larynx.

Another method of value when by any chance the former fails is the *intralaryngeal injection*, by means of a syringe, of a few drops of the lotion we use for cleaning up the larynx—namely, a weak solution of sodium bicarbonate to which is added a little hydrogen peroxide. This is done under the guidance of the laryngeal mirror, and it often works well, but in some cases we are balked by the obstinate closure of an irritable larynx.

In a case of this kind I recently tried another process. The patient either could not or would not cough, and

failed to respond to the methods above described. I therefore applied to his case the principle of *transnasal instillation* used for the introduction of oily solutions into the larynx. The patient was seated with his head thrown back and his mouth wide open. He was instructed to pant in and out through his mouth and not to swallow. While he was doing this I gently syringed about half a drachm of the soda and peroxide solution drop by drop through the nose. A small quantity entered the larynx and started a cough which resulted in the expulsion of a little sputum into the basin. Tubercle bacilli were found, and the diagnosis established. The patient was not upset in the least, and reported himself later as feeling much better.

I have occasionally caught on the *laryngeal mirror* a little patch of sputum sufficient for staining purposes, if the patient coughed spontaneously or did so by instruction during the examination. The examiner does well to wear a muslin veil when practising this last method.

The administration for a few days of *potassium iodide*, if not otherwise contraindicated, is known to facilitate the expulsion of sputum, and my colleague Mr. Ormerod and I have made use of it for this purpose.

These processes have helped in many cases of doubt or difficulty, and I describe them in the expectation that others will find them useful. It need hardly be said, however, that they should not be practised without discrimination. The most appropriate cases are obviously those in which there is doubt as to the diagnosis, and in which, therefore, the disease has not reached an advanced stage.

## THE RESISTANCE FACTOR IN DISEASE:

WITH SPECIAL REFERENCE TO SEPTICAEMIA AND ALLIED CONDITIONS.

BY

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In January, 1927, I was called into consultation in a case of facial erysipelas. The patient, who was in *extremis* and who died some six hours later, appeared to have been an otherwise healthy and abstemious man, and his death drew attention to the unsolved problem: What is the true or chief factor in causing the death of a patient who is suffering from a septicaemic condition? The question was put to several medical colleagues, and the answers were interesting, if not very illuminating. One man replied that the cause of death was a profound toxæmia; another, that the centres in the brain were put out of action by bacterial toxins; a third gave it as his view that death was due to cloudy swelling of all the cells of the body; a fourth answered that he did not know, and a fifth suggested that death was due to a lack of resistance on the part of the patient.

Such diversity of opinion indicates the difficulty of the question at issue, and although we may theorize as to the cause of death, the majority of us must admit frankly that we can offer no certain explanation of it. But we are on safe ground when we say that death has resulted from the patient's lack of resistance to the effects of bacterial invasion. This is, of course, a self-evident fact. If his resistance had been all-sufficient, it is unlikely that he would have died.

"The patient seemed to have no resisting power" is a phrase that we have used, often wonderingly, when a previously healthy man has succumbed to some infection—when he has been poleaxed, so to speak, by a disease from which he might reasonably have been expected to recover. Six men may have lobar pneumonia, and one—often seemingly the healthiest prior to the illness—may die, while the remaining five recover. Or death may occur unexpectedly following an apparently successful operation for appendicitis, or from septicaemia following a normal childbirth in which no manual or instrumental interference was required.

What is this lack of resistance, this subtle  $x$  factor, which determines a dangerous downhill course or even a fatal issue?

I desire to put forward the hypothesis that our successful resistance to bacterial infection depends largely on the orderly response of certain of our endocrine glands—namely, the sympathicotrophic group comprising the thyroid, suprarenal, and pituitary, and the vagotrophic group comprising the parathyroids and the pancreas.

### EXPERIMENTAL CONSIDERATIONS.

Extirpation of the thyro-parathyroids produces a reduction in the phagocytic properties of the leucocytes in a normal man; extirpation in monkeys produces increased liability to infection, and in some animals, there is frequently a fatal result.<sup>1</sup> Extirpation of the suprarenals appears to be invariably fatal. With regard to the pituitary, Cushing<sup>2</sup> states: "My own impression has been that total extirpation often provokes a peculiar train of symptoms passing from cachexia to coma and ultimate death." Smith<sup>3</sup> says that if the pituitary gland of rats is sucked out by the buccal route an invariable syndrome occurs. In young animals there is cessation of growth, and in adult animals there is, *inter alia*, physical impairment with atrophy of the thyroid, parathyroids, and suprarenal cortex.

Since extirpation of one or other of these glands may produce such serious results, surely it is only sound common sense to assume that a severe infection in the blood stream, attacking each and every gland simultaneously, may produce a result which may easily be fatal. To swamp an endocrine gland with a potent toxin must surely cripple its function, sometimes to an extent which may be equivalent to extirpation.

In profound toxæmias or infections in childhood hæmorrhage may take place into the adrenal medulla, producing profound collapse, associated with convulsions, vomiting, and purpura, a fatal result generally occurring within twenty-four hours.<sup>4</sup> Elliott and Tucker have shown the lack of chromaffin substances in the adrenals of fatal cases of diphtheria,<sup>5</sup> and, in certain fulminating cases of cerebro-spinal meningitis, hæmorrhage into the suprarenals has been associated with the fatal termination.

Unless the infection is overwhelming in potency, the glands may withstand its effects to some extent and for some time, and may hold out until the invasion has been quelled successfully. But in certain individuals what appears to be a comparatively mild disease may be fatal, and I suggest that the following are among the explanations in many such cases.



(a) The patient may have started life with faultily constructed glands.<sup>12</sup>

(b) He may have a natural tendency to faulty balance in the endocrine glands. Cammidge,<sup>13</sup> working with Howard, has carried out experiments with mice, and has found that in some apparently healthy animals a low blood sugar is a recessive character, transmitted in accordance with Mendel's theory of heredity, and he suggests that it seems probable from the experiments that the hypoglycaemia is due to hyperfunction of the pancreas relative to the glands of the opposite group—that is, thyroid, suprarenals, and pituitary.

This hereditary dysfunction or lack of balance is interesting, since the percentage of sugar in the blood of the peripheral circulation appears to be similar under like conditions in all mammals. It seems not unreasonable, therefore, to suppose that human beings may exhibit similar hereditary tendencies to imperfect balance of endocrine secretions. Such endocrine imbalance would explain certain cases of diabetes mellitus in young children; it would explain also the tendency to diabetes as a racial or hereditary condition, and would, in my opinion, explain a low grade of resistance to infection in some young children.

(c) Some gross or, more usually, subtle toxin from the apices of the teeth, from the nasal sinuses, from the tonsils, from the digestive tract (as in alcoholism) or from elsewhere may have been at work, undermining the healthy activities of his endocrine glands. Such a condition may be cumulative in old persons and may account for senility, sometimes of premature type, also for the glycosuria which occasionally develops in later life, and for the ease with which elderly people succumb to acute infections.

(d) He may be the victim of unsuspected vitamin deficiency. McCarrison has shown that vitamin defects lead to endocrine changes; the adrenals and pituitary enlarge, while other endocrine glands show more or less atrophy.<sup>14</sup> Hence there must be a resultant imbalance. Pighini<sup>15</sup> has found that if tadpoles are fed on thyroid gland from pigeons in which beri-beri had been induced by an exclusive diet of polished rice, the tadpoles failed to show the acceleration of growth which is produced by administering the thyroid gland from normal pigeons. This suggestive experiment points to the assumption that a deficiency of vitamin B has a definitely inhibitory effect on the healthy functioning of the thyroid gland. For more than a century before the vitamin content of cod-liver oil was discovered the oil was used on account of its known beneficial effect in raising the patient's resistance, particularly to pulmonary affections.

(e) Emotional causes may lead to a disturbance of balance in the endocrine glands, as witness the well-known fact that cases of exophthalmic goitre showed a great increase during enemy air-raids on London. It seems reasonable to think that prolonged anxiety or psychological trauma of any kind may cause or be associated with endocrine imbalance. The gonads are sympathiotropic, and it is possible that sexual affairs may play a part in producing such an imbalance.

(f) Exposure to cold and damp and other adverse climatic conditions, such as lack of sunlight and fresh air, may cause a lowering of resistance and allow of the advent of certain diseases. In this case it is possible that impulses may pass from the nerve endings near to the surface of the skin and produce imbalance by way of the sympathetic nervous system. It is well known that in hyperthyroidism there is an intolerance to heat and in hypothyroidism to cold.

The position may be summed up in the words of Langdon Brown: "The balanced life is like a well-planned herbaceous border—to each season its appropriate flowers. For the due ordering of this we are much beholden to the endocrine system." I believe that the simile may be carried a stage further—if a sudden storm sweeps down on the herbaceous border there is an equally sudden strain thrown on the endocrine glands to stand up to the emergency.

Having outlined certain experimental points in connexion with the theory of endocrine resistance, I wish to mention some clinical details; but before doing so it is desirable to touch on physiological and other features associated with the two groups of endocrine glands.

1. The sympathiotropic group, katabolic in function, comprises the thyroid, suprarenal, and pituitary, and this group responds to invasion of an external foe by activating fight or flight, and of an internal foe (bacterial invasion) by pyrexia and other reactions. It is clearly recognized that these glands, associated with the sympathetic nervous system, are therefore concerned with the activation of the body for defence.<sup>16</sup>

The chief secretory impulses of the thyroid are under

the control of the sympathetic nervous system, but it is innervated also from the superior and inferior laryngeal branches of the vagus. It alone of all the secretions of the body contains iodine.<sup>9</sup> Thyroid secretion accelerates the heart without augmenting the strength of the beat; increased secretion diminishes sugar tolerance and may raise the basal metabolic rate. It is well known that hyperthyroidism may follow sepsis in tonsils or teeth in adult life. Adrenaline stimulates the force and frequency of the heart-beats, raises the blood pressure, and may excite glycosuria, because it tends to empty the glycogen reservoirs of the liver.

The anterior portion of the pituitary gland is concerned chiefly with the mechanisms of growth, and it is believed to influence the basal metabolic rate. As regards growth, it is interesting to note that when a child has recovered from some acute infection its bodily growth is often thought to have been accelerated, a point which suggests a stimulation of the anterior portion of the pituitary gland.

Dott<sup>17</sup> considers that the hypothalamic region of the brain, which has been called the head ganglion of the sympathetic nervous system, acts in conjunction with the anterior portion of the pituitary gland in its metabolism-regulating function. The internal secretion of the posterior portion of the pituitary gland has the property of slowing the pulse and raising the blood pressure. It appears to have a balancing effect on carbohydrate metabolism, inhibiting, for example, the effect of drugs which tend to change the blood sugar concentration away from normal in either direction.<sup>18</sup> Its overaction leads to glycosuria, and stimulation may play a part also in raising the basal metabolic rate.<sup>16</sup> It appears to be an antidiuretic, and its action on uterine and other muscle is well known.

It will be noticed that little mention has been made of another set of endocrine glands—namely, the gonads, which are linked up with the sympathiotropic group. Extirpation of the gonads, or their dysfunction as a result of disease or involution, may and does cause certain disturbances in the body processes, but I am unable to produce evidence that they play any important part in resistance to acute infection. For a similar reason no mention is made of the pineal body.

2. The vagotropics glands, anabolic in function, comprise the parathyroids and the pancreas.

Vines's<sup>17</sup> work has emphasized the importance of the parathyroids. He has demonstrated that parathyroid substance is a physiological adjuvant to the normal mechanisms of defence, and he states that there is some evidence that the production of antibodies may depend on the functional integrity of the parathyroid glands. He has shown that the calcium content of the blood is lowered in infective conditions. The parathyroid glands probably act as regulators of calcium metabolism, and, further, the giving of parathyroid gland may raise the polymorphonuclear leucocyte count in infections. The extract has a sedative effect on the nervous tissues; its diminution may lead to irritability, restlessness, and even to tetany.

The pancreas is probably activated, to some extent at least, by the parathyroids, and in the present connexion it is only of moment in relation to its function in helping to raise sugar tolerance.

#### CLINICAL ASPECTS.

I wish now to consider the clinical aspects of a patient who is in the early stages of an acute infection such as puerperal or other septicaemia, and to correlate the signs and symptoms with special reference to the sympathiotropic and vagotropic glands.

I desire to stress the point that the first effect of a severe bacterial invasion is a stimulation, obviously protective in character, of the sympathetic nervous system, in relation to which are the sympathiotropic glands. At the same time there is an inhibition of the vagotropic group, which may be actually paralytic in character—that is, it may result from imperfect response in these glands—or it may be a relative effect, by which I mean that the vigorous response of the sympathiotropic group may swamp the activities of the vagotropic group, thus causing imbalance in the whole endocrine mechanism.

Side by side with the clinical findings at an early stage of the infection I tabulate the findings in a case which is rapidly approaching a fatal termination.

Clinical Findings:	Early.	Late.
Facial aspect ...	Usually flushed	Pale or cyanosed.
Skin ... ..	Hot and dry, but sometimes perspiring	Cold and clammy.
Musculature ...	Movements may be strong and may even require restraint	Limp. Feeble, irregular movements may occur.
Mental state ...	Variable, sometimes clear, often delirious	Usually lethargic.
Temperature ...	High and swinging in type	May fall suddenly before death.
Pulse ... ..	Rapid, generally regular	Rapid, frequently irregular.
Respiration ...	Rapid and regular	Rapid and shallow, with irregular sighing before death.
Blood pressure ...	Slightly above normal for patient's age	Low.
Urinary secretion	Merging from normal to scanty	Scanty.
Basal metabolic rate	Raised	Not determined, owing to seriousness of patient's condition.
Sugar tolerance ...	Tends to be lowered	Blood sugar immediately before death averages 0.15 per cent. (see below).
Blood calcium ...	Lowered	—

As examples of the initial stimulating effect on the thyroid it may be noted that the face is flushed, the pulse and respirations are rapid, the basal metabolic rate is raised, and the sugar tolerance is lowered.

The tendency towards raised blood pressure seems to point to stimulation of the suprarenals, and their increased secretion may also be a factor in producing the rise in blood sugar. It has been said that the pituitary plays a part in connexion with the regulation of the basal metabolic rate, and the increased functioning of the posterior lobe of the pituitary may be one factor in the scanty urinary secretion.

The question of fever in connexion with the endocrine glands, calls for some comment. The mechanism of the production of fever is by no means certain. It seems likely that the heat-regulating centre resides in the tuber cinereum, and that this centre is stimulated as a result of bacterial invasion. Fraser<sup>10</sup> states that fever is now believed to be closely associated with hyperthyroidism due to the reaction produced in the thyroid gland by toxins. Langdon Brown<sup>11</sup> points out that fever increases the secretory activity of the adrenals and thyroid. This floods the blood with sugar, the increased oxidation of which increases the production of heat, and if the oxidative mechanisms are intact glycosuria is not excited. Miller<sup>12</sup> states that increased adrenaline inhibits loss of heat, and it follows that such suprarenal activity would be of great use in the initial stages of an acute infection by raising the internal temperature to a point unfavourable to the growth of micro-organisms in the blood and other tissues. The low blood calcium and low sugar tolerance point to inefficient functioning of the vagotropic glands.

Turning now to the signs and symptoms which accompany the approach of a fatal termination, many features seem to indicate a failure of glandular activity. The drop in blood pressure points to cessation of suprarenal secretion, perhaps with that of thyroid and post-pituitary.

It is a significant fact that limp musculature is an outstanding event, prior to death, in experimental removal of the pituitary gland. There is also, of course, the important fact that, in an acute infection, the muscles themselves have been inundated with the toxins produced by the invading organism. But may not this muscular condition be due in part to failure of the suprarenals to supply a substance acting on the myo-neural junction and maintaining muscle tone in normal circumstances? The irritability and restlessness may be due in part to parathyroid failure as well as to the direct effect of the toxin on the brain cells.

Dr. E. L. Carter, one of the resident staff of the Blackburn Royal Infirmary, is carrying out observations on the blood sugar immediately prior to death. His work is

not yet published, but he allows me to say that his average figure at present is 0.15 per cent. in patients dying from such conditions as lobar pneumonia and septicaemia. This is an isolated figure, as it is impossible, for obvious reasons, to carry out a complete sugar-tolerance test in a dying patient.

The points which have been mentioned are not convincing, but they are suggestive if they are regarded in an unbiased way. I do not for one moment imply that the sole cause of death is to be found in the failure of endocrine glands, but merely that these may play a highly important part, which may have been hitherto insufficiently stressed in relation to treatment. What of the heart itself, and what part does essential heart failure play in determining the lowering of blood pressure and a fatal result?

Pembrey<sup>21</sup> points out that the heart is very susceptible to a rise of temperature and malnutrition. Perhaps this malnutrition may consist in a lack of normally balanced constituents of the blood, so that the heart, like other muscles, is thereby enfeebled. In this connexion it is interesting to note that adrenaline actually dilates the coronary vessels in spite of its general vaso-constrictive action. If the blood supply to the myocardium is thus increased by dilatation of the coronary arteries this may explain to some extent the prompt action of intracardiac injection of adrenaline when the heart has apparently ceased to beat. If adrenaline is lessening in the blood during the later stages of an acute infection the coronary arteries will fail to allow of the passage of an adequate blood supply. Further, it is possible that the blood which does reach the myocardium is wanting in other constituents which should normally be supplied by the endocrine glands.

Many physicians consider that digitalis is of little use as a heart stimulant during an acute infection such as pneumonia. As Mackenzie<sup>22</sup> said: "The factors exciting the heart, such as high temperature, toxins, or the invasion of the heart by specific organisms, exert an influence over the heart which digitalis cannot overcome."

The modern tendency is to combat heart failure in these and other conditions by such substances as post-pituitary or suprarenal extract, and in this way we may be feeling our way towards the right path. Indeed, it is possible that when such a remedy succeeds it may do so, in part at least, by supplying a specific deficiency in the blood. One medical friend of mine to whom I had mentioned this matter treated a moribund case of lobar pneumonia with massive doses of thyroid extract, and to his astonishment the patient recovered.

To make use of an everyday expression, it is no good blaming the carburettor for the faulty running of an engine if the real cause of the trouble is petrol which is inadequate in character.

It is possible that the liver may play a not inconsiderable part in resistance to acute infection, but the means for assessing hepatic function in such a condition are somewhat inadequate. In like manner I know of no explanation, which has been proved hitherto, as to why the phagocytes flag in power under certain conditions, and I suggest that this may be due to deficiency of endocrine gland secretions in the blood stream. Reference to this point has already been made in connexion with the parathyroids. As regards agglutinins, opsonins, precipitins, and bacteriolysins, Dudgeon states:<sup>23</sup> "Unfortunately the presence of all these substances, even in large amounts in the blood, is not necessarily an indication of the patient's resistance to a bacterial invasion."

If, then, it can be accepted that exhaustion and failure of many of the endocrine glands may be an important factor in allowing the patient to be overcome by the invading organism, I submit that it is a rational procedure to supply him, from the beginning of the infection, with gland products to aid the tissues in their fight.

I suggest that the initial stimulation of the thyroid, parathyroids, and suprarenals throws a sudden strain on these glands, and it has been pointed out that the glands may be faulty from congenital causes, from the effect of toxins, or as a result of avitaminosis and other factors. We have little means of estimating the efficiency of the glandular response until the time of testing comes. They

may fail or they may withstand the strain, but it is hardly safe to wait. An acute appendicitis may subside without the surgeon's aid, yet it is usually more prudent to call for that aid. By supplying gland products we attempt to reinforce the natural defensive mechanism and thus to prevent its exhaustion. Just as insulin may be said to rest an overstrained pancreas, so other glandular extracts may co-operate with the natural secretions and allow them to continue their work without depletion of their strength. In the words of Vines:<sup>18</sup>

"The aim of treatment should be fundamentally to encourage the re-establishment of normal conditions (that is, a metabolic balance), and since the endocrine glands are the regulators of normal metabolism it is to them that we should look for a means of obtaining the end in view."

Geikie Cobb has called these the glands of destiny, and it is probable that the personality or "make-up" of each member of the human race is influenced profoundly by the predominance of one or more of the endocrine glands. This implies that there is an endocrine balance which is normal for each individual, though differing widely in different individuals; and I believe that health depends upon the maintenance of that normal balance, with slight but constantly occurring deviations according to the needs of the moment.

Departure from health, on the other hand, probably depends on, or is associated with, an unusual deviation from the normal balance. The compass is deflected more or less violently. If, for some of the reasons which have been given—for example, faulty diet or long-continued emotional strain—the endocrine glands become temporarily inefficient, acute disease may result from the advent of a virulent organism in the system, which then responds well or badly, according to the underlying condition of the endocrine glands. If the latter are only slightly under-

mined as regards their efficiency, they will respond adequately to the sudden stimulus of an acute infective condition, in which case recovery is likely after a struggle. An example of this is lobar pneumonia. If the endocrine response is poor, death is probable. Even if the invading organism is one of comparatively mild virulence, death may result if the endocrine glands are inefficient. An example of this would be the occurrence of boils, or a scratch on the skin, followed by septicaemia in a sufferer from diabetes; or the occurrence of puerperal septicaemia in a patient with apical infection of the teeth, presupposing that no interference with the normal course of labour has been necessary.

According to this view subacute and chronic diseases represent varying degrees of virulence in attack, balanced by varying degrees of endocrine response in defence. Having set forth the theory, I am carrying out work at present in connexion with its application to treatment in acute infective conditions.

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## SIMPLE ILEO-CAECAL LYMPHADENITIS.

BY

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THE subject of mesenteric lymphadenitis has from time to time attracted attention, probably, however, not to the extent it merits. Considerable confusion still exists apparently, to judge from the writings that appear now and again, as to the forms in which the condition occurs. The disease may be purely tuberculous, purely non-tuberculous, or a mixture. Tuberculosis of the glands may be diffused, but much more frequently is localized to the ileo-caecal angle; its late effects here, particularly as a cause of obscure chronic right-sided pain, are familiar to all. It is not uncommon to find a septic exacerbation of the process, just as is so often seen in connexion with cervical adenitis.

It is desired here to call attention to the existence of a simple adenitis, which may be either an acute inflammation or a chronic hyperplasia. Occasionally a chronic hyperplasia is found throughout the mesentery of the small bowel—usually in younger children affected by some definite chronic enteritis; much commoner, however, is the condition here described, which is localized to the ileo-caecal lymphatics.

## CLINICAL FEATURES.

The disease is seen chiefly between the ages of 5 and 15, and is more frequent in girls. Acute attacks may or may not have been preceded by other acute attacks or by chronic abdominal symptoms—for example, dyspepsia. A large proportion of patients conform to type: the child is a "finicky" feeder, is listless, easily tired, sallow, is liable to acidosis; the musculature is hypotonic. There is sometimes antecedent bowel irregularity, and acute attacks may be preceded by a definite catarrhal condition. It is notable also that a considerable proportion show cervical gland hyperplasia in addition; frequently there has been tonsillar trouble, as if the "stopping power" of the (alleged) first line of lymphatic defences of the mucosae were in general deficient.

## Acute Attacks.

The pain is rapid in onset and nearly always right-sided, but sometimes is epigastric or diffuse at the beginning. Vomiting and nausea are relatively infrequent; the appetite may be retained throughout, and the tongue remains moist and only slightly furred. Fever is early and often much higher than in appendicitis, not uncommonly reaching even 102° to 103° F. The bowels may be loose or constipated; the breath often smells of acetone. True abdominal rigidity is not found, though the right side may not move freely; deep tenderness is present over a band about an inch wide under the outer and middle part of the rectus muscle, above McBurney's point. Swollen glands are commonly palpable with a conscious patient, practically always under anaesthesia. Pain is often elicited by either active or passive movement of the hip.

The disease is as rapid in recovery as in onset: two or three days usually sees it end, while the pain itself may last only a few hours. It will be obvious that while there is a superficial resemblance to appendicitis, the two conditions are sharply cut clinically.

## Chronic Cases.

The patient comes under attention for repeated attacks, usually very short, of abdominal pain; there may be dyspepsia, and the case usually agrees with the type already described. The pain may be right-sided, umbilical, or epigastric; there may sometimes be persistent aching, worse on movement, on the right side. In a great number of cases the lumpy glands can be felt—the patient has a thin lax parietes; only slight tenderness is present.

## PATHOLOGY.

The glandular condition is localized to the ileo-colic chain, and affects the ileo-caecal group in particular. In some cases glands were enlarged up to and in contact with the duodenum, and the lowest were commonly adherent in the ileo-caecal angle; nodes are frequent on the anterior and posterior aspect of the ileo-caecal junction, and in the meso-appendix. In the acute cases the swelling is considerable, the retroperitoneal tissue is oedematous and abnormally vascular, and there may be a small amount of clear colourless fluid in the peritoneal cavity. In the chronic cases the glands are firm, nearly always discrete,

and rarely larger than a filbert. There is never any evidence of peritoneal thickening or adhesion over these glands, as is so common in tubercle, nor are there visible the whitish or yellowish patches of that disease. The glands are semitranslucent, fawnish or grey, never white; there is never caseation or suppuration. The total number of nodes is not greatly increased, as is so characteristic of tuberculous, nor is there dense periadenitis. On section the glands are homogeneous and firm: in acute cases they are oedematous and exude fluid, and show microscopically all the signs of acute inflammation; in chronic cases there is simple hyperplasia. Culture in two acute cases gave a growth of *B. coli*; in many, however, it was negative. All cases easily pronounced non-tuberculous on the above appearances were confirmed microscopically.

The bowel was carefully inspected in all cases, but in none was there any external evidence of ulceration, inflammation, or hyperplasia of submucous lymph nodes. In one case with intense glandular swelling the terminal two inches of the ileum and the caecum were intensely and uniformly glistening and rubbery, with the appearance seen after reduction of an intussusception—the condition was clearly one of lymphatic obstruction, and a result, not a cause, of the glandular disease. In general there is no gross appendicular disease (and it may be stated that manifest appendicular infection—for example, suppuration—is not associated with such glandular swelling as here described). Very constantly, however, there is a diffused, swollen, succulent condition of the mucosa, slight polymorphonuclear infiltration, and lymphoid hyperplasia, at times considerable. Other abnormalities—oxyurides, soft faeces, submucous fibrosis—were fairly common, but did not appear relevant.

#### PATHOGENESIS.

Once again it must be insisted that this disease is not tuberculous, and occurs chiefly in a very distinct type of patient, whose mucosae offer but poor resistance to the passage of bacteria and in whom exacerbations of infection are apt to precipitate attacks of acidosis. That the incidence is chiefly on the ileo-colic glands would suggest the altered nature of the bowel content in this region as a determining factor. No confirmation of a catarrhal disease of the caecum was obtained by microscopy of a small portion of this excised with the appendix. There is, however, another possibility: it is commonly said that lymphoid tissue, wherever found, is defensive, a barrier to infection; applied to submucous nodes, such a view is certainly open to the gravest objections, the structure of some such masses in particular giving the impression of being designed to favour the entrance of bacteria into the system. The appendix, by its structure, invites infection, and by its nature causes stasis and enhancement of bacterial virulence. In a large proportion of cases, but admittedly not all, treated by appendicectomy there has been not only cure of the symptoms but also a considerable improvement in general health. Treatment by intestinal antisepsis has been quite valueless, but, in view of their general inefficacy, perhaps the argument fails to carry weight as to whether or no the bowel is the source of the infection. The production of the acute attacks of pain may perhaps excite curiosity; it seems probable they may be vascular or neurogenous in origin, owing to the intimate relationship of the diseased structures to the neuro-vascular supply of the gut. In a recent case of acute adenitis it was seen at operation that irregular peristalsis had been excited, for, in addition to pronounced glandular disease, there was the beginning of an intussusception in the terminal ileum.

A protest should be registered against the widespread, rather happy-go-lucky "child will grow out of it" attitude; chronic infections in childhood may be the cause of grave damage, which may not become apparent until the stresses of middle age find the viscera exhausted; and it should be remembered in this particular instance that the infected lymphatics, as has long been known, are capable of inducing disease in such organs as the pancreas, gall-bladder, and pylorus.

#### TREATMENT.

In the acute cases, though recovery is invariable without intervention, and the diagnosis from appendicitis is usually

easily made, it will nevertheless often be felt that operation is safest, if only to put the diagnosis beyond doubt. In such instances the appendix will be removed.

In the conservative treatment of both acute and chronic cases the mouth and throat are put in order, the bowels are regulated, and the diet modified—green vegetables with plenty of roughage seem to exercise more influence than any other dietetic factor. If there be acidosis both sugar and alkali are necessary. A fair trial may be given to these and other general hygienic procedures (in my experience seaside air, sunlight, etc., have proved disappointing in these cases). A very considerable proportion of patients resisting such treatment will be cured by appendicectomy, and the opportunity can be taken to verify the non-tuberculous character of the case by microscopy of a gland. This again needs emphasis, as there seems to be an ineradicable general impression that all enlarged abdominal glands are tuberculous.

#### STATISTICAL SUMMARY.

Total cases 48; average age 10 years. Females 74 per cent.

*Acute Cases* (8).—Duration of symptoms three and a half days (average). Culture of *B. coli* from glands in 2 cases.

*Chronic Cases*.—Average duration of symptoms ten months. The patient conforms to type in about 75 per cent. Pain purely local in 72 per cent., on walking in 20 per cent. Glands felt without anaesthesia in 74 per cent. Constipation in 52 per cent.; occasional diarrhoea in 15 per cent. Tonsils removed in 17 cases. Urinary culture negative—9 female cases. Cases operated on 28; oxyurides in appendix in 6 cases; culture of glands always sterile.

*Results*.—Cases difficult to trace. In those followed, cures with great improvement in general health noted from six months up to five years. Four recurrences after operation—in one case there were several attacks during the first month after operation, none since; one case had several attacks up to two years after. Dental caries: one case (referred to under "Pathology") in which a large glandular mass was removed; this was actually said to be sarcoma by one pathologist. A painful attack occurred three years later; this seemed to be partial obstruction, possibly due to adhesions from the operation.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### SARCOMA OF THE STOMACH.

MR. JAMES S. HALL's report on March 10th (p. 393) of a case of sarcoma of the stomach which clinically simulated a duodenal ulcer has led me to consult the records of an undoubted case which came under my observation.

Although the condition is said to be extremely rare, another case was recorded on January 22nd, 1927 (p. 139), by Mr. H. Stewart Brander. In both these instances symptoms pointing definitely to stomach or duodenum were prominent features, whereas in the case I saw the symptomatology was entirely different.

A young man, aged 20, pale and listless, had begun three months previous to admission to have twinges of pain in the abdomen. This pain was in no way related to the taking of food; he had had no sickness, and his appetite was good. He was found to have a tumour mass about the size of a man's clenched fist in the left hypochondrium and extending into the epigastrium. The tumour was slightly movable, and was not notched. He had been sent in with a diagnosis of abdominal tuberculosis, but in appearance he looked more like a patient with a grave blood condition, and the position of the swelling seemed to support this. A blood examination gave a haemoglobin percentage of 70, with 4,500,000 erythrocytes and 12,000 leucocytes, a differential count revealed no abnormal elements.

One month after admission the abdomen was opened by Mr. James Taylor. A large tumour mass was found involving practically the whole of the stomach wall save for small portions at the cardiac and pyloric ends. It was adherent to the pancreas and to the under surface of the liver, and numerous omental masses were present in the gastro-hepatic and gastro-colic omenta. Removal of the growth was attempted, but was found impossible; a small portion and an enlarged gland were taken for pathological examination. Sections revealed small round cells of a typically sarcomatous nature with very little surrounding stroma. I for-

warded part of the specimen to Dr. R. M. Buchanan, city pathologist, who independently diagnosed it a sarcoma.

The patient remained in hospital for two weeks after operation, and during that time his appetite remained good; he had no nausea or vomiting, and little discomfort save for spasmodic attacks of abdominal pain. His anaemia rapidly became worse till the haemoglobin percentage had fallen to 30, with about 2,000,000 red cells; the anaemia remained of a simple secondary type. He died three weeks after going home.

Apart from the rarity of the tumour the case is interesting because of the entire absence of digestive disturbances, which may be explained by the fact that the neoplasm, originating, as such tumours are said to do, in the submucosa, spread outwards in the middle coat and did not apparently cause ulceration of the mucosa. The other two patients mentioned had definite digestive symptoms, but ulceration was present.

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#### TREATMENT OF RECTAL PROLAPSE BY INJECTION.

WHILE the treatment of haemorrhoids by the injection of carbolic acid and hamamelis, or of other preparation, is well established as a surgical procedure, little or no attention appears to have been directed to this form of treatment for the cure of prolapse of the rectum. A considerable number of cases have now been treated by me, or under my supervision, in this manner, with satisfactory results. The following case, treated and reported by Dr. A. Briggs, my resident house-surgeon at the Eastern District Hospital, may be given as an example.

A man, aged 66, was admitted in November, 1926, complaining of pain, and a feeling of something coming down the back passage on defaecation, of ten years' duration. Examination revealed a rectal prolapse which protruded on straining for fully two inches beyond the anal margin. Patient was also suffering from chronic bronchitis and double inguinal bubonoele. Once a week for six weeks the wall of the prolapsed rectum was injected with carbolic acid and hamamelis, starting with a dose of 1 c.cm., and increasing to 2 c.cm. The patient was discharged at the end of December without prolapse. He reported in March, 1928, that the bowel had given no further trouble, and did not come down.

In this case, then, six injections were sufficient to remove a condition of ten years' standing, and it has not recurred for over a year, notwithstanding the patient's poor general condition and cough.

The treatment is carried out with even greater ease than the injection of haemorrhoids, since no speculum is required and, so far as one can judge, with less pain. Care should be taken to return the prolapse after injection, and it is generally well to give one or two final injections after the mass no longer comes down, using a speculum, if necessary.

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#### APPENDICITIS AND HEPATIC ABSCESS.

IN view of the case reported by Drs. W. A. Barnes and L. V. Pearson on March 10th (p. 390) the following details may deserve recording.

A married woman, aged 25, was sent to the Royal Lancaster Infirmary on December 28th, 1927, by my colleague Dr. E. Dockray, suffering from appendicitis.

I removed an inflamed and much swollen appendix through the usual paramedian incision. The patient ran a temperature for a few days and complained of epigastric distension, but otherwise made an uneventful recovery and was discharged on January 21st.

A few days after her return home Dr. Dockray was again called in and found her complaining of recurrent attacks of indefinite abdominal pain, which finally settled in the epigastrium. There was frequent hiccup, which lasted sometimes for hours. Her temperature ranged between 99° and 101° F., and the pulse between 84 and 120. I eventually saw her with him on February 4th, and it was decided to readmit her to hospital.

After admission she complained of localized pain and tenderness over the right lobe of the liver, which, however, did not appear to be enlarged. There was no abdominal distension and the spleen was normal; cholecystitis was suspected.

On February 8th I again operated, using Kocher's incision, and on opening the peritoneum came straight on to a single localized abscess in the liver substance, the size of a golf-ball. There were dense adhesions between the border of the liver and the stomach and transverse colon. There was no sign of any trouble in the

The pus having been evacuated, a rubber drainage tube and gauze packing were inserted, and the wound was closed. The patient made an uninterrupted recovery and left hospital, feeling quite well, on March 7th.

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## Reports of Societies.

### PORTAL CIRRHOSIS.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on March 16th, the president, Dr. T. T. O'Farrell, in the chair, Dr. V. M. Smyke read notes on a case of portal cirrhosis, and Dr. J. Laird demonstrated the specimens.

A woman, aged 56, was admitted to hospital in August, 1927, complaining of weakness and jaundice. She had been operated on two years previously for abdominal pain, and a small piece of liver had been removed for examination, the diagnosis being portal cirrhosis. The jaundice had commenced in the previous February. On admission the patient was rather deeply jaundiced and wasted; the hepatic facies was absent, and there was no history of vomiting. The liver extended two finger-breadths below the costal arch, and was slightly irregular on the surface; there was slight ascites. The urine contained bile, and the van den Bergh test gave a strong direct positive reaction, which was slightly delayed; the Wassermann reaction was negative. The spleen became slightly enlarged, and superficial distended veins appeared reaching from the groins to the umbilicus; the ascites remained slight, and the jaundice deepened, but the temperature remained normal except for occasional rises to 99° or 100° F. Death occurred in December. Clinically the case presented the appearance of the unclassified type of hepatic cirrhosis associated with enlarged spleen.

The liver was slightly atrophic, and when fixed weighed 40 oz. It had a well-developed "hobnail" appearance, and on section showed the typical appearance of a portal cirrhosis. Little fatty change was seen macroscopically, but the liver was deeply bile stained. Microscopical examination revealed the appearances commonly found in an advanced portal cirrhosis. In sections stained with Mallory's aniline blue the reticulo-endothelial cells were clearly seen, many of which contained bile. The spleen was slightly enlarged, and when fixed weighed 6 oz.

The President said that newly formed bile ducts were more commonly found in the other types of cirrhosis than in portal cirrhosis, and he wondered why in this case there had been bile retention; he had only met with it in one case, and that of genuine alcoholism. He suggested that in the present instance the pigment had been picked up by the Kupffer cells, and thought that it might be a disadvantage to remove the spleen in these cases.

Dr. A. R. Parsons said that this case seemed to combine the two types of cirrhosis—namely, the biliary and portal—and he regarded it as more like a case of the former. It made the differential diagnosis between these two types of cirrhosis still more difficult.

### Bacterial Agglutination.

Dr. J. W. Bigger read a paper on recent work on bacterial agglutination. He first dealt with the discovery of the phenomenon of agglutination and some of the early observations made on it. He explained Ehrlich's views on the relation of agglutinin to agglutigen, and pointed out the differences between major and minor agglutinogens as demonstrated by Castellani's absorption technique. He then reviewed Smith and Reagh's work on flagellar and somatic agglutinogens and agglutinins, and the discovery by Beyer and Reagh that flagellar agglutigen was thermolabile. Dr. Bigger's paper was chiefly concerned with the discovery by Weil and Felix of H and O types of culture, and the investigation by these workers, Sachs, Arkwright, Goyle, Bruce White, and others of the relation between the three types of culture (normal, smooth variant, and rough variant) and the three agglutinogens (H, O, and R). He showed that the normal type had two agglutinogens: H (heat labile and flocculating) and O (heat stable and granulating); the smooth variant only had O agglutigen, and the rough variant had a new heat-stable granulating agglutigen, R. Dr. Bigger next pointed out the importance of Andrews's discovery of the alternation of cultures of certain bacteria, particularly the *Salmonella bacilli*, as regards their H agglutinogens between the specific and group types. He concluded his paper with a consideration of Bruce White's work on the antigenic constituents of the members of the *Salmonella* group.



## Rebicus.

### HOWARD KELLY'S "GYNECOLOGY."

THE preface to the new work on *Gynecology*<sup>1</sup> by Professor HOWARD KELLY and a group of colleagues indicates that it is the swan song of the master whose name it bears. It begins, "The day's work is done, in the chiaroscuro of the evening I pen my last lines," and its closing words are, "My pleasant task is done; the shadows fall well aslant my page; it is almost time to draw the curtains and turn on the Great Light. To boon companions and travellers all—Vale!" A book that opens thus and bears the imprimatur of a revered name cannot be discussed as if it were one of the many medical treatises that come up for notice and soon pass out of mind. This contribution of Howard Kelly's is of the nature of a review of his experience in gynaecology by one who has served in the front line while it advanced from where he found it in the eighties to the much further forward position in which he leaves it forty years on. In his own words, "Not often does a man have a chance to write two books on the same subject at an interval of a generation, especially after such notable changes as the gynaecological field has witnessed."

If we were to try to give a general impression of this book we should describe it as an attempt to set out what has been done in the author's lifetime in gynaecology, particularly America's contribution and the position reached by the subject in the United States, with suggestions as to the direction which its further progress in that country is likely to take. Though it is not all from his own pen, this book is of him and his school, and out of its forty-nine chapters the master is responsible for eighteen, and no other single collaborator for more than three of the remainder; and throughout the work his influence is paramount. It covers the realm of gynaecology and even transgresses its frontiers, at any rate as marked out in this country, and is made up of a series of essays or tracts on the modern aspects of the subject, ranging from its anatomy, physiology, and pathology through its various therapeutic methods to its relations with endocrinology, psychiatry, and electrotherapy. Mention of some of the chapter headings will best illustrate their essay-like character. There is one on "Peritoneal tubal insufflation" (I. E. Rubin) and another on "Sacral anaesthesia"; one on "Adenomyoma," and another on "Endometriomata." "Protein therapy" and "Pneumoperitoneal roentgenography" have each a chapter, and two chapters of equal length and both profusely illustrated are given to hysterectomy—one by the abdominal and the other by the vaginal route. These examples will serve to show that space is not allotted to the subjects solely because of their importance in gynaecology, but rather because of recent work or recent tendencies that have called for special attention.

The series of four chapters devoted to prolapse and injuries of the pelvic floor may be singled out for the interesting review and beautiful illustrations they give of what surgery can do for these conditions. There is an anatomical chapter on the fascia and ligaments of the pelvis, another on laceration of the perineum, and two covering "cystocele and prolapsus" and "rectocele and enterocele." The Mayo operation for prolapsus is advocated, together with excision of the pouch of Douglas, in order to throw forwards the weight of the intestines in the erect position and relieve the rectum and posterior vaginal wall. There is an interesting chapter on menstruation, amenorrhoea, and dysmenorrhoea (Novak), in which the tendency to pay too much attention to anatomical defects is deplored, and a plea put forward that more consideration should be given to the study of physiology and the causes of disorders of function.

The whole book is of very great interest to us on this side of the Atlantic for the picture it gives of differences in practice and thought. Noteworthy features are the description of how a curetting may be done in the "office" and without anaesthesia, the greater emphasis that is laid on auxiliary examinations—blood investigations, basal

metabolism estimations, and suchlike—and even the much greater frequency in the United States of lumbosacral strain, which almost suggests that in that country there must be some inherent weakness of that pelvic joint in its womenkind. Even the variation in technical language is striking, when we read that dilatation and curettago is so common a procedure that "it is commonly docketed in our protocols simply under the initials 'D.' and 'C.'" In short, this work is certain of a welcome from Professor Howard Kelly's British colleagues, not only because it is his own review of the work of himself and his collaborators, but for the picture it gives of modern gynaecology as seen through the eyes of the best minds in the United States.

### PSYCHIATRY.

*Mental Disorders*,<sup>2</sup> by Dr. HUBERT J. NORMAN, is an eminently readable book. The author has departed from traditional procedure by relegating to a later portion of the book the psychological chapters which generally serve in most textbooks as an introduction to the study of mental disorders; but the arrangement is probably a sound one, for by according priority of position to the descriptions of the actual mental disorders the author ensures that the reader will approach the more theoretical parts with added interest.

This book is divided into two sections. In the first clinical aspects of psychiatry are dealt with, followed by an account of disorders associated with constitutional instability. Nothing of importance seems to have been omitted, even where the descriptions err on the side of undue brevity. The chapters on disorders associated with the psychoneuroses call for more comment. The classification of the psychoneuroses is a highly controversial subject, but by excluding Freud's classification altogether, Dr. Norman would seem to have carried his wish for avoidance of controversy a little too far. He seems out of sympathy with the Freudian interpretation of hysterical phenomena. He quotes Rosanoff as saying that the particular method of therapy is a matter of comparatively little importance in the cure of hysterical manifestations. This may be so, but the removal of the manifestations is not the same thing as radical cure of the disease. The amount of space devoted to a description of epilepsy and insanity seems insufficient; but on the whole these chapters contain much practical wisdom. Under the heading of symptomatic or associated disorders are grouped alcohol and drug addictions, mental disorders associated with bodily diseases and infections, and those associated with disease of the nervous system and with the epochs of life. The account given of these is satisfactory. In the chapter devoted to general paralysis we might perhaps have expected some reference to the view of Shaw Bolton.

Section Two is mainly concerned with a consideration of normal and abnormal psychology, and of the pathology of mental disorder. General treatment is also discussed, and the author has seen fit to include a chapter on "Clinical examples in life and literature." Legal considerations are fully stated. The grounds for establishing a defence under the McNaughten rules are given, and the main formula is accurately stated, but the alternative defence is not quite as Dr. Norman puts it before his readers. This, however, is a small matter. It is a book that may be safely recommended to the student and practitioner, and the author's easy style is not its least merit. Considerable expansion of the text would be advisable in any future editions.

### APPLIED BIOCHEMISTRY.

THE purpose of *Applied Biochemistry*,<sup>3</sup> by Professor MORSE of Philadelphia, is stated to be to weave the woof of biochemistry into the warp of medicine. It is said in the preface that each subject in the medical curriculum tends to grow steadily, and that, since the capacity of the medical

<sup>1</sup> *Gynecology*. By Howard A. Kelly, M.D., LL.D., and collaborators. New York and London: D. Appleton and Co. 1928. (Roy. 8vo, pp. xxxvi + 1043; 767 figures, 12 plates. 50s. net.)

<sup>2</sup> *Mental Disorders*. By Hubert J. Norman, M.B., Ch.B.Ed., D.P.M.Ed., and Glas. Edinburgh: E. and S. Livingstone. 1928. (Cr. 8vo, pp. xv + 463; 57 figures. 14s. net.)

<sup>3</sup> *Applied Biochemistry*. By Withrow Morse, Ph.D. Second edition, revised and reset with the co-operation of Joseph M. Looney, M.D. London: W. B. Saunders Company. 1927. (Med. 8vo, pp. 283; 270 figures. 32s. 6d. net.)

student is a more or less fixed quantity, it is necessary to make a careful selection so as to present to him or her only such portions of a special subject as are definitely related to medicine as a whole. This general aim is to be commended wholeheartedly, for biochemistry shows a tendency to develop as a specialized form of organic and physical chemistry and thus to become less and less intelligible to the medical student. Professor Morse, who in the preparation of this second edition has had the assistance of Dr. JOSEPH LOONEY, concentrated his attention on those problems of biochemistry which are of importance in the practice of medicine, and all who teach biochemistry to medical students will find the volume of great value and interest. Its perusal however, suggests certain doubts as to its suitability as a textbook of biochemistry for medical students themselves, at any rate for those who study in this country. The first obvious objection is to its size, for it contains nearly one thousand pages. This is due in part to the fact that directions for practical work are included in the body of the book, where details of some hundreds of exercises are given. In the second place, biochemistry has been interpreted in a wide sense, for the first hundred pages deal chiefly with physical chemistry. Hence the volume is considerably larger than is required by the ordinary medical student in this country who is studying biochemistry.

The book is profusely illustrated; the illustrations vary in value, for some are of quite simple chemical apparatus. A series of portraits of the leaders of biochemistry in America form an interesting feature of the book, but a somewhat curious effect is produced in places by the alternation of these portraits with illustrations of individuals suffering from various forms of deficiency disease. The general impression obtained from reading the book is that it is distinctly difficult to follow the main lines of description, partly because the text is broken up by descriptions of exercises and partly because the range of subjects dealt with has forced the authors to deal briefly with certain difficult points. This last feature is especially marked in the portion devoted to physical chemistry.

#### MALIGNANT FEVERS IN CHILDREN.

It is well known that side by side with mild or severe forms of various acute specific fevers there are malignant types which are terrible in their fatality, and yet give little or no *post-mortem* evidence as to how they differ from the ordinary forms of such diseases. Professor V. HUTINEL has collected a vast amount of clinical and pathological investigation in a volume devoted to the malignant syndrome in diseases of childhood,<sup>4</sup> in which he endeavours to deal with some of the problems of these curious maladies. It is especially in young children in hospitals that these malignant forms develop in the course of such generalized diseases as typhoid fever, scarlet fever, diphtheria, or in localized infections such as bronchitis, enterocolitis, or eczema. The clinical manifestations of "malignancy" appear to be various erythematous eruptions, vomiting, profound nervous depression with signs of circulatory disturbance, subnormal temperature, and death in coma. At necropsy the blood is found to be dark and thick, various organs are in a state of congestion with blood-stained effusions and fatty infiltration, but practically nothing else is found to correspond with the curious clinical condition. Professor Hutinel deals in some detail with the "malignant syndrome" as it appears in typhoid and scarlet fever, and then in a particularly good section he sums up his pathological and clinical experiences. He thinks that the phenomenon of anaphylaxis plays a part in many cases, and that streptococcal infection in a "sensitized" patient may explain some of the malignant forms. In a final section the hygienic measures necessary in a children's hospital to prevent the onset of the "malignant syndrome" are well discussed, since this is the only way in which such a fatal malady can be attacked. Professor Hutinel is well known as an exceptionally astute

observer, and these 300 pages of careful observations and cautious generalizations might well serve as a model for monographs of this type.

#### BLOOD GROUP DETERMINATION.

A SMALL monograph by Dr. SCHIFF<sup>5</sup> on the technique of blood group determination gives in a most concise and businesslike manner all the facts that are known about blood groups, with clear instructions for their investigation. Blood grouping is now fully recognized to possess great importance in relation not only to the therapeutics of blood transfusion, but also to anthropology and medico-legal work. There was need for a book such as this, in which the knowledge scattered in numerous periodicals is gathered together and made accessible. We are glad to note that Dr. Schiff does not regard as of much clinical importance the bogies that have been raised from time to time in the shape of groups additional to the usual four. For clinical purposes he recommends a relatively simple and rapid method of group determination. More elaborate methods are described for researchers and for medico-legal purposes; even the investigation of dried blood is included. The text includes a number of diagrams, some in colours. We can strongly recommend the work to those who are interested.

#### NOTES ON BOOKS.

PROFESSOR CH. ACHARD has again collected his clinical lectures at the Hôpital Beaujon for a third volume,<sup>6</sup> and the twenty articles which this book contains cover a wide range of subjects. Two lectures are devoted to pernicious anaemia, and some of the cases described have been carefully chosen to show how difficult the diagnosis may be in this disease, and how cautiously results must be estimated. A very instructive lecture is on the development of tuberculosis in the lungs of men who had been gassed in the war. Whereas in the early days after the war phthisis was rare as a sequel to gassing, it is now becoming increasingly common. Hodgkin's disease is well discussed, especially from the pathological point of view, under the name of malignant granulomatosis. The last lecture in the present series, however, is undoubtedly the best; it is entitled "Pharmaceutical specialties." Professor Achard carefully weighs up the advantages and disadvantages of what are called in this country "proprietary preparations," and he states deliberately that the harm they do outweighs the good. The volume contains some very good radiograms and other illustrations; it is well produced in the well-known "paper cover" style at a very moderate price.

*Les Bases Physiques de la Radiothérapie*<sup>7</sup> (the physics of radiotherapy), by JEAN DUBOST, is one of a series of short treatises on electrotherapeutics and allied subjects which are in course of publication under the direction of Dr. Duverné. It deals with x rays only, and stress is laid upon the point that, whilst superficial x-ray therapy is comparatively simple, deep x-ray therapy is dangerous, and especially so unless the qualified radiologist who directs it is well up in the scientific side of radiotherapy. The matter it contains is divided up into six chapters. After introducing his subject in a first chapter of generalities, the author continues with chapters on the production and the absorption of x rays. Filters and filtration are next considered, and, following a chapter on transformers, coils, and radiometry, and other methods of measuring the quantity of rays, the author concludes by contrasting superficial, deep, and semi-deep radiotherapy. It should be noted that the subject is approached entirely from the physicist's point of view.

The work on *Hypotension*<sup>8</sup> by Dr. ALFRED FRIEDLANDER, professor of medicine at the University of Cincinnati College of Medicine, forms volume xiii of Medicine Monographs, and is a reproduction in book form of the paper which appeared in the May issue of *Medicine*, and was abstracted in our *Epitome* of October 1st, 1927 (para. 281).

<sup>4</sup> *Die Technik der Blutgruppenuntersuchung*. Von Dr. Fritz Schiff. Berlin: J. Springer. (Extra Post 8vo, pp. vi + 66; 28 figures. R.M.6.)

<sup>5</sup> *Clinique Médicale de l'Hôpital Beaujon*. Par Ch. Achard. Troisième Série. Paris: Masson et Cie. 1928. (Med. 8vo, pp. 324; 24 figures. 32 fr. sans majoration.)

<sup>7</sup> *Les Bases Physiques de la Radiothérapie*. Par Jean Dubost. *Les Actualités Physiothérapiques*, II. Paris: Gautier-Villars et Cie. 1928. (Post 8vo, pp. 92; 50 figures. 10 fr.)

<sup>8</sup> *Hypotension*. By Alfred Friedlander. Medicine Monographs, Vol. XIII. London: Baillière, Tindall and Cox. 1927. (Roy. 8vo, pp. xvi + 193. 13s. 6d. net.)

<sup>6</sup> *Le Syndrome Malign dans les Maladies de l'Enfance*. Par V. Hutinel. Paris: Masson et Cie. 1928. (Med. 8vo, pp. xi + 305. 32 fr. sans majoration.)

# British Medical Journal.

SATURDAY, APRIL 14TH, 1928.

## THE FRACTURE PROBLEM.

THE discussion on the treatment of recent fractures by operation, which was held in the Section of Orthopaedics of the Royal Society of Medicine on April 3rd, once more ventilated a much vexed question. It was opened by Dr. Charles Scudder of Boston, Massachusetts, who is one of the leading authorities, if not the very first authority, on the subject of fractures in general. The treatment of fractures has always been an important part of surgery, although of late years it may have lost its attraction for some surgeons, whose interests have become locked up in the treatment of disease in the cavities of the body, and especially in the abdomen. It is to-day of greater importance than ever, and of growing importance, for, as we said when reviewing the last edition of Dr. Scudder's book on fractures,<sup>1</sup> the number of accidents involving injury to the skeleton has increased to an appalling total with the rapid increase of motor traffic, while such accidents occur, not, as in former times, mainly in the neighbourhood of cities and well-equipped hospitals, but in all parts of the country, wherever there are roads and motor cars to run upon them.

Dr. Scudder took a wide view of his subject, as, indeed, his experience and his scientific training impelled him to do. On the whole, he was inclined to favour a more frequent resort to open operation and adjustment of simple fractures than has lately found favour in this country, although he frankly stated that there were certain types of recent fracture, such as those of the neck of the thigh bone, which he and his colleagues in the fracture service of the Massachusetts General Hospital did not at present consider suitable for operation. He was inclined to place exact anatomical correction of fractures first, and to esteem it as the best means of ensuring good functional results. Sir Robert Jones, who followed him in the discussion, was in favour of less radical measures, and set a good functional result as the ideal to be aimed at, no matter what the anatomical end-result might be. As one of the advantages of open operation and metallic fixation Dr. Scudder claims quicker healing and a shorter period of fixation. Mr. Hey Groves, Mr. Fairbank, and some other speakers took a contrary view, maintaining that in their experience repair was delayed when plates or bands or screws were used. Dr. Scudder's eloquent plea in favour of living bone tissue and its right to be treated as a sensitive growing organ of physiological importance, and not as the mere material of a mechanical framework, is, we think, better respected by the non-operative than by the plating method of treatment.

The differences of opinion among some of the most skilful and most experienced surgeons as to the best method of treating any particular type of fracture are due not so much to personal idiosyncrasy as to lack of exact knowledge of results. If it could be shown authoritatively that a certain method was unquestionably the best, all surgeons would follow that method to the exclusion of others. In the United States and Canada the Fracture Committee of the American Medical

Association and the American College of Surgeons has laudably attempted to arrive at some such conclusion, but, as Dr. Scudder told his audience on April 3rd, their efforts were to a great extent frustrated by the imperfection of the records, even those of hospitals classed as belonging to grade A. Until a similar inquiry has been made in this country it is not possible to state whether our records are more satisfactory or not. Dr. Scudder's standard for a fracture specialist is a high one, and no doubt it is reached not only by himself, but by his colleagues of the fracture service of the Massachusetts General Hospital. He rightly postulated for such a surgeon wide and deep scientific knowledge and a delicacy of technique not less than that of an abdominal surgeon. He recognizes, as we all do, that the first treatment must as a rule be given by a general practitioner, and that as the quality of that treatment has a most important bearing on the later progress of the case, it must be appropriate and skilful. The definitive treatment should be undertaken by skilled specialists, who would use the best means available, whether these included open operation, plating, or more conservative methods. Assuming an adequate supply of skilled general practitioners able to give proper early treatment, is the supply of specialists and surgical teams adequate? We agree with Mr. Cochrane that it is of no use issuing instructions if the skilled staff and organization which is necessary to carry them out does not exist. In a recent annotation on some aspects of the matter<sup>2</sup> we once more directed attention to some of the crying needs of fracture treatment in our hospitals.

It is to be hoped that the important discussion that took place last week before the influential gathering which filled the Barnes Hall of the Royal Society of Medicine will bear fruit. Meanwhile, it might surely be wise to take a hint from our American colleagues, and try to ascertain the results of different methods of treatment as practised throughout the British Empire. We all know that good results are achieved by extension methods, by massage and manipulation, by followers of the teaching of Lucas-Championnière, by open reposition, and by plating. Mr. J. W. Dowden of Edinburgh has recorded good functional results from a non-restrictive method which encourages movement, even in compound fractures, and makes light of deformity. We want to be able to avail ourselves of the merits of this and every system, while rejecting their defects. To enable this to be done, we need a set of criteria by which the surgeon may judge what method to employ in any given case, and when to substitute one means for another. Above all, there is need of surgeons who are not only well skilled in the surgery of fractures, but keenly interested in this important work.

## DYSPHAGIA ASSOCIATED WITH ANAEMIA.

PROBLEMS in the domain of practical medicine are seldom capable of rapid and complete solution. Workers, necessarily limited to sections of so vast a field, cannot always see things as they really are and estimate their intrinsic worth, and progress may only be possible by enlarging their horizon. From this point of view the recent discussion in the *British Medical Journal* on the subject of dysphagia associated with anaemia is welcome as evidence of a renewed interest in its wider bearings. Since Brown Kelly and Paterson in separate communications drew attention to it in 1919 this clinical type of dysphagia has hardly

<sup>1</sup> *British Medical Journal*, March 10th, 1928, p. 396.

<sup>2</sup> *British Medical Journal*, January 21st, 1928, p. 107.

received the notice it deserves, and its discussion is still mainly confined to laryngologists. It may therefore be opportune to give a short survey of some aspects of the problem.

Its essential feature—a gradually increasing inability to swallow, occurring only in women—generally brings the patient under observation about middle age, when she is no longer able to swallow more than liquid food. Little is known of its early phase, as the patient is rarely seen on the threshold of her difficulty, which is usually of long standing, and upon this point further observations might well be forthcoming. Once established, though it may vary and be improved by passage of a bougie, it is rarely absent. The patient's general state long remains good, and, learning to model her life by the limitation of "a small swallow," she is able to carry on domestic duties until a late stage. She is frequently edentulous. In most cases glossitis is present, and the atrophic change in the mucosa, extending to the buccal cavity, pharynx, hypopharynx, and even to the upper part of the oesophagus, is limited to the food tract. Anaemia is a prominent symptom. Endoscopic examination reveals a characteristic departure from the normal. The rounded mucous folds of the deepest part of the hypopharynx, which permit an oesophagoscope to be passed with ease, are now thin tense bands that change direction or come into prominence as the tube seeks the opening. This is small and difficult to find, because it is often minute, even pinhole or a narrow slit. Once entered, however, it can be dilated to take a large-sized tube. The rigidity of the parts, retained even in deep anaesthesia, and the thinness of a mucosa very liable to crack, demand care to avoid making a false passage.

Interpretation of these changes has called forth considerable discussion. Brown Kelly and Paterson regard them as primarily due to pharyngo-oesophageal spasm, though it cannot be gainsaid that the altered mucosa may to some extent emphasize the difficulty. William Hill, who has done much to clarify our ideas of the anatomical relations of the lower pharynx and oesophagus, is unable to view it as an active contraction. The dysphagia he looks upon as pharyngeal, of the nature of a muscular paresis coexisting with lowered sensibility of the mucosa and an impaired reflex. This may well be the explanation in cases which permit the endoscope to enter without much effort, and perhaps belong to a different category. The recent suggestion of Hurst, who sees in it unrelaxation—achalasia—of the lowest part of the inferior constrictor, brings it into harmony with his well-known views on the nature of "cardiospasm." But it would be hard to maintain that spasm was at least not coexistent. The difficulty in such patients of passing a bougie, and the striking improvement often seen when it is successful, have a significance of their own. Dr. Hurst is, however, well able to argue his case for achalasia of the cardia as against cardiospasm, and the discussion in our correspondence column appears to have narrowed itself now to a debate on this point between himself and Dr. Brown Kelly.

Hitherto the type of anaemia has been regarded as in the main a diminution of the haemoglobin content, perhaps to be explained by the enforced restriction of food. Cameron, reporting lately on a group of Brown Kelly's cases, confirms this. Looking at it from the point of view of the physician, Hurst has drawn attention to a paper by Plummer and Vinson, reporting 69 cases of functional dysphagia, of which 37 had secondary anaemia and 12 splenomegaly. The patients recovered on the administration of iron and the passage

of a bougie. There is no mention of glossitis. Careful examinations in this country had failed to note enlarged spleen, but Hurst himself has recently observed four cases. Further investigation of this aspect of the problem is clearly desirable.

Finally, it is worth bearing in mind that malignant disease shows a striking tendency in women to involve the oral pharynx and hypopharynx, the area of the atrophic change in the mucosa, and this termination is no unusual event in the cases under consideration. In men, on the other hand, in whom this dysphagia is never seen, cancer is more common in the tongue and lower oesophagus. This striking contrast in sex incidence suggests the taking of a wider view of the whole problem. We are far from having heard the last word, and there is clearly a need here which begs for close co-operation between the laryngologist and the physician.

#### THE PULPLESS TOOTH.

In the *Journal* of March 31st (p. 548) we gave an account of a discussion on the pulpless tooth at a joint meeting of the Sections of Odontology, Electro-Therapeutics, and Pathology of the Royal Society of Medicine; in an earlier issue (January 28th, p. 135) we reported a paper by Mr. Arthur Bulleid on apical infection, read before the Odontological Section of the same Society; and last week (p. 589) we published a paper by Mr. A. P. Bertwistle dealing with the same subject. Perusal of these communications shows that the pulpless tooth has no real friends. The doctor asks, "What damage is it doing?" while the dentist seeks on the one hand a means of sterilization, and on the other hand a reliable clinical answer to the question, "Is it infecting the patient?" No one disputes its power for evil. Mr. Bertwistle gives an answer to the doctor's query in a series of interesting cases which are well worthy of study, and quotes Sir William Willcox to show how prevalent are "rheumatic" diseases due to pulpless teeth. There is a general agreement that the infecting agent is a streptococcus, but while the present confusion of nomenclature persists it is impossible to know whether *Streptococcus salivarius* of one author is to be regarded as identical with *Streptococcus longus* (non-haemolytic), or with *Streptococcus longus* var. *viridans* of another, or whether there is a definite differentiation. This is a point we hope the Streptococcus Committee will soon clear up. Mr. Bertwistle gives "tenderness on eating" as the most trustworthy clinical sign that a pulpless tooth is infecting the patient; but the experience of the dentist is that tenderness to pressure on the gum over the apex of the root is an even more delicate test than discomfort on biting or percussion, while there are cases in which not even this tenderness can be elicited. Radiography has not provided a full answer; no lesion may be demonstrable by x rays, and yet the tooth may be infecting the patient. There is, indeed, considerable controversy as to the meaning of the x-ray appearances observed round the apices of dead teeth. A radiolucent periapical area fading away through a less radiolucent area to normal bone has hitherto been regarded as a sign of open infection, and as showing a failure of local resistance. An area of sclerosed bone surrounding a radiolucent area or immediately around the pulpless tooth has been regarded as at least a better bar to infection and as showing some power of local resistance. These views are consonant with the generally accepted pathology of bone. They have, however, been vigorously challenged by Weston Price. This author concludes, as the result of both clinical and laboratory investigation into a large number of cases, that exactly the reverse is the case: the sclerotic area betokens danger, the fading radiolucent area betokens

active resistance. However this may be, Bulleid found germs in every granuloma he examined (the radiolucent periapical area is occupied either by a granuloma or by pus), and the net result is that any divergence from the normal shown by x rays must be considered as a danger signal; and even normal x-ray appearances are not a guarantee of safety. On the question of the sterilization of the pulpless tooth, the combined discussion at the Royal Society of Medicine is very illuminating. Pulpless teeth are divided into those already dead and infected, and those whose pulps the dentist kills, and which, *ex hypothesi*, are sterile *qua* the root canal. The first class may be sterilized, more or less, mechanically and by the use of germicides; the second class may be brought to a successful issue by aseptic treatment throughout; but so insistent are the dangers of infection in the work of dental surgery that no speaker was found to claim permanent success for either class. Pulpless teeth must always remain suspect. In the course of this discussion Dr. Murray Levick, for the Section of Electro-Therapeutics, vividly described the danger of applying ultra-violet rays to the mucous membrane, but reported good results from treatment of the gums by red rays. Ionic medication was referred to by one speaker only—Mr. Morphy (Section of Odontology). Whether, or under what conditions, an electric current can be passed through a devitalized tooth-root is a question which might well occupy the Section of Electro-Therapeutics, and many dentists, we understand, had hoped that an answer would be forthcoming in this joint discussion.

#### A SWEDISH SOCIAL EXPERIMENT IN TUBERCULOSIS.

WHILE most tuberculosis workers know something about the Framingham demonstration in the United States of America, it is probable that few are familiar with a somewhat similar experiment which was started in Sweden in 1904. In that year the then secretary of the Swedish National Association against Tuberculosis, Dr. B. Buhre, drew up a programme, according to part of which some poor parish, situated in a remote area with bad communications, inhabited by a comparatively stationary population, and afflicted with tuberculosis, was to be chosen for demonstrating the effects of a carefully organized campaign against this disease. A cottage hospital was to be provided, with accommodation not only for tuberculous patients, but also, in a separate part of the building, for children who were still quite healthy and who had been removed from tuberculous surroundings in their own homes. A tuberculosis officer, assisted by a special staff of nurses, was to live in this parish, devoting his time to examining as many as possible of the inhabitants, and to helping them to lead healthier lives and to rear a new generation which should be less afflicted by this disease. An account of this experiment has lately been published in *Acta Tuberculosea Scandinavica*<sup>1</sup> by Dr. G. Neander, the present secretary-general of the Swedish National Association against Tuberculosis, and for many years resident tuberculosis officer in the parish in question. This parish is in the district of Neder-Luleå, in the county of Norrbotten, in the extreme north of Sweden. A manifesto was issued which stated the objects of the experiment, and the inhabitants of the parish were invited to sign it. The first tuberculosis officer was appointed in January, 1906, and his wholesale examination of the inhabitants showed that 10.75 per cent. of the 1,498 persons examined were suffering from undoubted pulmonary tuberculosis, and 5.9 per cent. from suspicious signs of this disease. When, in March, 1908, Dr. Neander was appointed as

tuberculosis officer, he proceeded to examine 1,652 of the 1,860 inhabitants of the parish, finding undoubted pulmonary tuberculosis in 10.23 per cent., and suspicious signs of this disease in 4 per cent. Several of these suspects being found to be definitely tuberculous, the proportion of cases of undoubted pulmonary tuberculosis amounted to 12 per cent. of the total population examined. In an additional 2 per cent. there were signs of surgical tuberculosis. While space does not permit of even a brief reference to all the activities of this tuberculosis experiment or demonstration, it should be noted that an inquiry was simultaneously conducted into the incidence of bovine tuberculosis in the same parish, and, though there were many opportunities for infection of the cattle by tuberculous attendants, none of the 263 animals, belonging to forty-two herds, gave a positive reaction to tuberculin. It would therefore seem that the tuberculosis from which the inhabitants suffered was of human origin. In November, 1926, Dr. Neander again carried out a general inspection of the entire population, 1,834 persons being examined. The number of cases of pulmonary tuberculosis found in 1926 corresponded to 8 per cent. of the total population, as compared with 12 per cent. in 1908. With the addition of cases of surgical tuberculosis the total incidence of tuberculosis was 9.5 per cent. in 1926, as compared with 14 per cent. in 1908. A comparison of the tuberculosis death rate for the two five-year periods 1911-15 and 1921-25 showed that in the whole county of Norrbotten there was a decrease of 11 per cent., in the whole of the district of Neder-Luleå it was only 0.5 per cent., whereas in the experimental area it was 28 per cent. Dr. Neander disclaims any intention to assert categorically that this decrease was the result of the demonstration, but he suggests that there are good reasons for presuming that it was the principal cause of this decrease; and it was achieved at comparatively little cost.

#### THE PRODUCTION OF ALKALOIDS.

DR. T. A. HENRY,<sup>1</sup> in a recent address to the Society of Economic Biologists, pointed to some curious unsolved problems regarding alkaloids. The importance of these substances to mankind is obvious, for as a people we consume them by the ton in tea, coffee, and tobacco; they constitute our most valuable medicines, and their abuse in the form of morphine and cocaine is a serious social problem. The first alkaloid to be discovered—namely, morphine—was isolated more than a hundred years ago, and since then organic chemists have worked continuously at the isolation and analysis of these substances. Consequently a large amount of exact knowledge has been acquired regarding alkaloids. Hundreds have been discovered and the chemical constitution of the great majority has been determined, and finally the synthesis of a considerable number has been achieved. Nevertheless, no natural alkaloid has so far been replaced commercially by its synthetic equivalent, and therefore the organic chemist cannot yet claim to rival the plants in the efficiency of his manufacture of these chemicals. Moreover, the synthesis of the most important medicinal alkaloids, such as morphine, quinine, and cocaine, has not yet been achieved, nor has any synthetic product been discovered which is a full therapeutic equivalent of any of these drugs. Mankind is therefore still dependent on plants for its supply of alkaloids, and yet, strangely enough, we have no idea why the plant makes these valuable substances. Practically nothing is known regarding the part they play in the physiology of the plant. Dr. Henry recalled three explanations that have been advanced to account for the occurrence of alkaloids—namely: (1) that they are produced as protective agents; (2) that they are plastic products destined

<sup>1</sup> The "Halsan" Institute in Norrbotten. An Experiment on the Lines of Social Hygiene in the Far North of Sweden, organized by the Swedish National Association against Tuberculosis, together with a Study on the Dissemination of Tuberculosis in Sweden. By Gustaf Neander, M.D. From the *Acta Tuberculosea Scandinavica*. Translated by Greville Grove. Copenhagen: Levin and Munksgaard. 1928. (6½ x 10, pp. 127; 20 figures.)

<sup>1</sup> T. A. Henry: *The Annals of Applied Biology*, xiv, 532, 1927.



for further use by the plant; (3) that they are waste products. He showed that the first view was untenable, and that the balance of evidence was in favour of alkaloids being waste products. He mentioned in support of this view the fact that alkaloids are not as a rule found in quantity in seats of active metabolism, such as the leaves, except in short-lived plants, where other means of storage are not available; but that in perennial plants the usual source of alkaloids is the bark or the seed coats. If this view is indeed correct, and alkaloids are only accidental waste products stored by plants in any place where they are conveniently out of the way, then their intense and specific pharmacological actions become more mysterious than ever. The attempts to produce synthetic substitutes for natural alkaloids have been surprisingly unsuccessful. For example, organic chemists and pharmacologists all over the world have tried to obtain substitutes for cocaine. Many valuable drugs have been discovered, but none of those produced is a full substitute for cocaine as a local anaesthetic. The suggestion that these alkaloids, so hard to imitate, are merely accidental waste products tinges our disappointments with humiliation.

#### POSSIBLE DANGERS OF COD-LIVER OIL.

THE administration of emulsions of cod-liver oil to even quite young babies is a very widespread practice at the present day almost throughout the Western world. At some institutions and in some welfare centres almost every patient receives certain vitamins in this form, and it is generally assumed that even if definite deficiency disease is absent the employment of cod-liver oil is certainly prophylactic and can do no harm. During the past few years certain investigators have called attention to the possible dangers of cod-liver oil administration, and in the Scandinavian medical journal *Acta Paediatrica* a controversy has been in progress since 1926 between E. Agduhr and A. Höjer on this subject. In a recent issue<sup>1</sup> the former describes his latest work and replies to the criticisms of Höjer. Agduhr has shown that in animals on a basal diet cod-liver oil may produce a poisonous by-effect by producing changes in the musculature of the heart. Höjer maintained that these changes were due to overdosage with vitamin A only when B and C were deficient in the basal diet. Agduhr, in reply, brings forward evidence to show that vitamins B and C were well supplied in his experimental basal diet, and cites also some new work on rabbits in which, with a basal diet of hay, oats, and turnips, enriched by marmite and lemon juice, morphological and electro-cardiographic changes in the heart have been produced by doses of 1 to 5 c.cm. of cod-liver oil per kilo body weight. He considers Höjer's further criticisms in some detail, and concludes that the changes produced by overdosage with cod-liver oil have nothing to do with deficiency of the B and C vitamins, although the work is complicated by the fact that animals differ greatly in their susceptibility to the poisonous effects of cod-liver oil, and also because some animals show a greater resistance to these effects during the summer than during the winter months. Agduhr deals next with the problem of whether vitamin A is the cause of these poisonous effects on the organism. He quotes work by Takahashi in which animals were killed by poisonous doses of biosterin. Although the pathological effects were not completely identical with regard to fibrinous changes in the heart and fatty degeneration in the liver produced by overdosage with cod-liver oil, yet it is considered that the difference in the injuries observed is no greater than can be explained by the considerably more concentrated doses of poison given in Takahashi's experiments. Agduhr believes, therefore, that the vitamins of the oil, together possibly with other con-

stituents, may produce undesirable effects when taken in large doses over a long period. If the doses used for animals in the experiments are transferred directly on a basis of body weight to the human subject, very large amounts of cod-liver oil would have to be given to produce ill effects in babies. But, as Agduhr rightly points out, in the dog, for example, the actual maximum doses of drugs are often higher than in the human subject, and he quotes one recent case of a premature infant which died when 4 months old, in which the characteristic changes were present in the heart following a daily administration of two teaspoonfuls of cod-liver oil. This is a large dose at this age, but it is one which is not infrequently given by enthusiasts, and, in view of modern concentrated preparations of the vitamins of this oil, it seems necessary to call attention to the possibilities of harm from overdosage. The medical practitioner is very likely to receive his information on these vitamins from manufacturers' pamphlets, where the work of such investigators as Agduhr is not likely to receive mention. The subject is of sufficient importance to warrant further investigation.

#### WORLD POPULATION PROBLEMS.

MOST of the pressing social and economic questions of to-day are outgrowths from the central problem of population. In the sphere of domestic affairs housing and public health are notable examples, arising as they do from the urbanization which has more and more characterized our history for the past 150 years. In international affairs the old conception of foreign policy as being primarily concerned with prestige and territorial sovereignty no longer obscures the fact that commercial treaties, tariff barriers, and migration policies are the things that matter. Standards of living, adequacy of employment, social services, and public health are the criteria by which a nation is now judged, rather than the extent of its realms or the magnificence of its ruler. War is threatened or waged not for the dignity of a king, but to secure outlets for the energy of a people. The Disraelian division of England into "two worlds" may be applied to the whole globe. There are rich countries which have an adequate population and a superfluity of material wealth. There are poor countries in which, with over-population, hunger is a normal circumstance and famine an ever-present danger; in them housing is poor, the public health organization insufficient or absent, and disease widespread. There is no need to emphasize the dangerous instability that must arise when such sharply contrasting circumstances exist in a world in which improved communications, the free exchange of knowledge and news, and closer trade relations are making isolationist national policies impossible. There is at least the appearance of inequity, and this becomes a peril when, as in these present times, the "have nots" are conscious of the sharp differences between their position and that of the "haves." International problems of this nature are unfortunately often left to the frothy sentimentalists or to the hard-headed "practical" people who over-simplify the problem, confine themselves to the more obvious facts, and shirk the study of causes. Something has, however, been done to provide a rational scientific basis for discussion, and a valuable collection of material for study is now available in the *Proceedings of the World Population Conference*,<sup>1</sup> which contains reports of papers read at Geneva last summer. Sir Bernard Mallet, formerly Registrar-General for England and Wales, presided, and the conference included representatives (in the unofficial sense) of every important country and almost every branch of science. One of the aims of the conference was to bring the sociologists more into touch with the biologists, thus

<sup>1</sup> *Acta Paediatrica*, 1928, vol. vii, fasc. 3-4, p. 289.

<sup>1</sup> *Proceedings of the World Population Conference*. Edited by Mrs. Margaret Sanger. London: E. Arnold and Co. 1927. (Med. 8vo, pp. 383; 1 plate. 20s. net.)

broadening the basis of discussion and action. The immediate result was the setting up of a permanent union for the study of population, and for the work of organization this volume may well serve as a starting point. Among the British contributors to the proceedings at Geneva were Professor A. M. Carr-Saunders, whose subject was differential fertility; Dr. F. A. E. Crew, who discussed fertility and sterility in relation to population; Professor J. W. Gregory, who dealt in a supplementary paper with the principles of migration restriction; and Mr. E. J. Lidbetter, whose paper on heredity, disease, and pauperism recorded the results of some interesting research work in East London. Professor Raymond Pearl, of Johns Hopkins Hospital, U.S.A., contributed a tentative summary of the relations between birth rates, death rates, and the density of population, which he believed was applicable to populations of organisms ranging from bacteria to man. On the general side a notable address was that given by M. Albert Thomas on the problem of international migration and its control—a problem which has been brought into prominence by the restrictive policy pursued by the United States since 1920. With the subject-matter ranging from biology to international politics it would be idle to expect exhaustive treatment of any topic within the compass of one volume, but the various papers and discussions reported should at least provide a suggestive book of reference for those who wish to gain a broad conception of the whole problem. It will have served its main purpose, no doubt, if it inaugurates an attack from as many angles as possible on the population question.

#### B.M.A. SCHOLARSHIPS AND GRANTS.

THE Council of the British Medical Association is prepared to receive applications for an Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum, all being open to candidates capable of undertaking research in any subject (including State medicine) relating to the causation, prevention, or treatment of disease. Each scholarship is tenable for one year from October 1st, 1928, but the period may be extended by not more than two additional terms. Provided it does not interfere with his research work a scholar may at the same time hold a junior appointment at a university, medical school, or hospital. Applications for grants in aid of research of a similar scope will also be considered. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose to deal with problems directly related to practical medicine. Forms of application, which must be returned not later than Saturday, June 2nd, 1928, may be obtained, with other particulars, from the Medical Secretary of the Association, B.M.A. House, Tavistock Square, W.C.1.

#### BRITISH EMPIRE CANCER CAMPAIGN.

THE International Convention of the British Empire Cancer Campaign will be held in London from July 17th to the 20th, under the presidency of Sir John Bland-Sutton. The Convention will comprise six sections: Professor Lazarus-Barlow will preside over the section of pathology, and Sir Thomas Horder over that of diagnosis; the chairmen of the sections of medicine and surgery will be, respectively, Sir William Hale-White and Sir Charles Gordon-Watson; the section of radiology will have for its chairman Professor Sidney Russ, and that of statistics and public health will be presided over by Dr. F. E. Fremantle, M.P. General discussions are being arranged on the relative values of surgery and radiation in the treatment of cancer of the cervix uteri, rectum, buccal cavity, and breast; the etiology of cancer; and chemotherapy, with special reference to lead. The subjects for sectional discussion will

include the biological effects of radium and x rays; occupational cancer; the relations between clinical malignancy, histological characters, and response to treatment; diagnostic methods; the geographical and racial prevalence of cancer; the effects of radium and x rays on the blood, vascular, and lymphatic systems, with special reference to the treatment of malignant growths; and public action in regard to cancer. It is hoped to arrange for operations and demonstrations at various centres each afternoon during the meeting of the Convention. Inquiries may be addressed to Mr. Cecil Rowntree, chairman of the executive subcommittee, 9, Upper Brook Street, W.1.

THE KING has appointed Mr. Wilfred Trotter, M.S., F.R.C.S., to be Honorary Surgeon to His Majesty in the room of Sir Hugh Mallinson Rigby, K.C.V.O., whose appointment as Serjeant-Surgeon was announced in our issue of March 17th (p. 460). The King has also appointed Mr. T. P. Dunhill, C.M.G., to be Surgeon to His Majesty's Household in succession to Sir Hugh Rigby.

SIR MALCOLM WATSON, M.D., has been awarded the Founder's Medal for 1928 of the Asiatic Society of Bengal, in recognition of his antimalarial work in Malaya.

## Scotland.

### Medical Appointments to the King's Household in Scotland.

As announced briefly last week, four new medical appointments have been made to the King's Household in Scotland. Dr. Ashley W. Mackintosh, who has been appointed honorary physician, has been regius professor of medicine in the University of Aberdeen since 1912; Professor John Marnoch, C.V.O., and Professor John Fraser, M.D., who become honorary surgeons, hold respectively the regius chair of surgery in the University of Aberdeen and the regius chair of clinical surgery in the University of Edinburgh; while Dr. Arthur H. Sinclair, who has been appointed honorary surgeon oculist, is lecturer on diseases of the eye in Edinburgh University.

### Retirement of Professor Gulland from Edinburgh Royal Infirmary.

At a meeting of the board of managers of the Royal Infirmary of Edinburgh on April 2nd it was announced that Professor G. Lovell Gulland had retired from the Royal Infirmary as from March 31st. The managers passed a vote of thanks to him for his services to the institution, and appointed him an honorary consulting physician to the infirmary. The chairman said that Professor Gulland had graduated in 1886, and had acted as house-physician to the late Professor Sir Thomas Grainger Stewart. Six years later he had been elected an assistant physician, and after nineteen years of service in this capacity he became a physician with charge of wards. In 1915 he was elected to the chair of medicine in the University of Edinburgh, and he had continued to be an earnest and successful clinical worker, attaining a position as one of the leading authorities on diseases of the blood. His popularity as a teacher had been evidenced by the large number of students he attracted to his wards.

### Chairmanship of Scottish Board of Health.

The retirement of Mr. Ewan Macpherson from the chairmanship of the Scottish Board of Health is announced. He will be succeeded by Sir James Leishman, who was the first chairman of the National Health Insurance Commission for Scotland, and has been a member of the Scottish Board of Health since it was formed by the amalgamation of the Insurance Commission with the Local Government Board. Sir James Leishman is well known for his services to education. He was for several years a member of the Edinburgh School Board, and was convener of its Higher Education Committee when this committee took up the duty of developing continuation class work

in the city. In 1904 he was elected to the Edinburgh Town Council, and in 1909 he was appointed to the board of management of the College of Art. After 1910 he became treasurer of the City of Edinburgh, and held this post for several years. Since the introduction of the national health insurance scheme he has taken a very active part in its administration in Scotland.

#### Presentation to Dr. James Crockett.

Dr. James Crockett, who has retired from the post of medical superintendent of the Consumption Sanatorium of Scotland, Bridge of Weir, was on March 31st presented with a testimonial. In acknowledging the gift he said that tuberculosis, so far as Scotland was concerned, seemed to be a disappearing disease; he believed that in little more than a generation it would be a factor of relatively minor importance in the life of the nation, and would probably be as rare as typhus, leprosy, small-pox, or plague. Between 1912 and 1926 there had been a fall of 43 per cent. in the death rate from this disease. The climate of Scotland was often wrongly blamed for tuberculosis, but while in 1926 its death rate in Scotland had been 99 per 100,000, in Paris it was 301, in Madrid 293, in Manila 541, in Sofia 577, and in thirty Swiss cities 137. It was indeed somewhat difficult now to find a country where the death rate from this disease was lower than in Scotland. Other climates might be pleasanter, but few countries were healthier. With regard to the efficiency of treatment, in 1912 the Bridge of Weir Sanatorium had discharged 3 per cent. with the disease apparently arrested, 63 per cent. improved, while 34 per cent. were not improved or died. Compared with this, in 1926 40 per cent. of those discharged had the disease arrested, 34 per cent. were improved, and 26 per cent. were not improved or died. This might be due either to the fact that they were now dealing with a more hopeful type of the disease, or because the disease was changing its character and becoming more amenable to treatment. Tuberculosis was an index of social conditions, and when these were bad the death rate was high. Modern legislation had done more to bring about the fall in the death rate than anything contributed by medical discoveries. Legislative measures in this direction would prove investments with great capital appreciation.

## England and Wales.

#### Cancer Research by Medical Women.

At a meeting of the London Association of Medical Women's Federation on March 27th, at the House of the British Medical Association, with Miss Elizabeth Bolton, the president, in the chair, Miss M. Chadburn gave an account of the work undertaken by the Cancer Research Subcommittee since its formation in 1925, with special reference to radium treatment of uterine cancer, at the Royal Free Hospital, the South London Hospital for Women, the Elizabeth Garrett Anderson Hospital, and the New Sussex Hospital for Women, in co-operation with Dr. Hurdon. The need for concentrating the work for the most part in one centre was becoming more and more apparent. It had been estimated that £10,000 would suffice at first. Dr. Hurdon said that during the last few years radium had largely taken the place of surgery in the treatment of cancer occurring in accessible situations; dosage was now becoming standardized, and for the most part adequate doses were given. Unfortunately more than half of the patients presented themselves when the growth was already inoperable, usually six to nine months after symptoms had first been noticed. In the series of cases treated by the committee of the Women's Medical Federation only 15 per cent. were operable when first seen. A modification of the technique used by Heyman of Stockholm had been adopted, since on the whole his results over long periods seemed to be better than those of others. Many Continental clinics used this technique, though in France and Italy that of Regaud seemed to be more favoured. It was too early yet to make any claims for the final outcome of treatment in the cases under Dr. Hurdon's observation. Of 188 patients who started treatment between October, 1925, and March, 1928, there were 169 cases of

cancer of the cervix, 15 of cancer of the body, and 4 of cancer of the vagina or vulva. In March, 1928, 70 per cent. of these patients were still alive. Of those who were operable over 95 per cent. were living and were free from symptoms. Certain complications might occur after radium treatment, such as fistulae, rectal ulcer, or pain, tenesmus, and the passage of blood or mucus. These complications were happily rare; for example, fistulae attributable to radium had occurred in only two cases in the series under discussion. The following up of patients was most important; though it was very difficult to trace them, especially in London, only two had been lost sight of. Dr. Helen Chambers pointed out that the most suitable technique could only be determined after many years of trial, but the work of Professor S. Russ on experimental animals had been most helpful. He had inserted tubes of radium and then excised a piece of the tumour after varying intervals, testing the viability of the portion excised by transplanting it into another animal; in this way the range of effect, which was the most important factor, could be estimated. Dr. Chambers showed diagrams of the various methods used in different clinics, explaining that the method of inserting a tube into the cervix without placing other tubes in the vault of the vagina was ineffective. She emphasized the importance of distributing the tubes in view of the fact that the range of effect did not exceed half an inch. Soft rays had low penetrating power and caused local sloughing; hence the need for screening. The ideal aimed at was the disappearance of the growth with the minimum damage to healthy tissues; gamma rays appeared to be the most useful agent for this purpose. Professor Louise McLroy congratulated the association on the first piece of organized research undertaken by medical women as a group. She commented on the fact that patients in early stages often omitted to report their symptoms, which might be very slight—perhaps a little haemorrhage and no pain, even when the growth had reached the inoperable stage. For the last two years she had ceased to operate on cases of cancer of the cervix, and was using radium instead, with what appeared so far to be excellent results. It was important to disseminate the knowledge that non-operative treatment was available, since this might lead patients to seek advice earlier. Miss G. Dearnley said that the improvement in general health after radiotherapy was impressive. She had removed one uterus after treatment, and no trace of growth could be found even microscopically. Miss L. Martindale remarked that more beds were urgently required. It was often difficult to find room for patients to return to hospital for the requisite three doses.

#### Hallam Hospital, West Bromwich.

Some interesting references to recent developments in the hospital system were made at West Bromwich on the occasion of the formal opening, on March 30th, of the new administrative block, x-ray department, and nurses' home at the Hallam Hospital by Sir William Willcox. The reorganization and reconstruction of the hospital, which is controlled by the West Bromwich Board of Guardians, has been in progress since 1925, when the old workhouse infirmary was renamed and became, by consent of the Ministry of Health, a self-contained institution. The Rev. J. Scarlett, chairman of the guardians, who presided at the opening ceremony, described the changes which had been brought about in modernizing the buildings and equipment, and in securing the services of a visiting medical staff, of whom the members of the board were proud. Hallam Hospital, he said, was not intended in any way to enter into competition with the voluntary hospitals, which he hoped would never die, but the guardians were compelled to make provision for cases for which no accommodation could be found in the voluntary hospitals. Sir William Willcox congratulated the guardians on their broad-minded policy, saying they had done something which would occupy the attention of the country, the Government, and the nation as a whole. They had set a fine example to the governing bodies of similar institutions, and he anticipated that what had been done in West Bromwich would be followed by a similar advance in hospital reorganization throughout the country. The hospital was run on lines exactly parallel with the most advanced of modern voluntary hospitals. Sir William Willcox further expressed the view

that there was great need and ample room for both municipal and voluntary hospitals; he did not believe municipal hospitals should be in any way subservient to, or in any way less efficient than, voluntary hospitals. He concluded by pointing out the value of the Hallam Hospital as a centre of medical education and research. Dr. Douglas Stanley, visiting physician, referred to the extraordinary wholehearted co-operation the medical staff had received from the committee and board responsible for the hospital. The committee had given the staff almost everything they required. A vote of thanks to Sir William Wilcoxon was moved by the Mayor of West Bromwich and seconded by the Mayor of Wednesbury. Figures quoted in the souvenir booklet issued at the opening ceremony demonstrate the increasing use which has been made of the facilities offered by the hospital. The number of patients admitted rose from 2,304 in 1926 to 2,963 in 1927, and the number of operations performed from 120 in 1925 to 690 in 1926 and 924 in 1927.

#### Coroners' Inquests in London in 1927.

The number of deaths reported to London coroners in 1927 was 7,478, as against 6,934 in the previous year, but only 4,442 inquests were held, as against 5,143 in 1926. Of the inquests 82 per cent. necessitated *post-mortem* examinations. A verdict of murder was returned in 21 cases, of manslaughter in 6, of suicide in 611—an increase of 11 on the figure for the previous year. Four inquests were held in connexion with executions. Deaths from want of attention at birth decreased from 57 to 27. The number of people who met their death by accident was 1,916, as against 1,760 in 1926. Injuries accounted for 22 deaths, and there were 60 deaths by drowning, as compared with 50 in the previous year. A verdict of "death from natural causes" was returned in 1,610 cases, and there were 27 verdicts of "cause of death unknown." The inquests on newly born children decreased from 146 to 108 (61 males, 47 females); there were 7 verdicts of murder of the newly born, and in 35 cases it was decided that the child was stillborn. Excessive drinking accounted for 30 deaths, an increase of 2 over the previous year. The total cost to the London County Council of inquiries made by coroners and of inquests held in 1927 was £31,444.

## Correspondence.

### STREPTOCOCCI AND PUERPERAL SEPSIS.

SIR,—The recent letter to the *Times*, supporting the view that real research work into the origin, etc., of puerperal septicaemia is required, calls for the support of all workers on the subject.

In some recent work on antiseptics which we have been conducting in this laboratory one aspect of this question has been emphasized. The usual standard for antiseptics is the Rideal-Walker test, or a modification of it, using the *B. typhosus* as the standard organism. In our work we have shown that the action on different organisms, and different strains of the same organism, varies in a marked degree, and that an antiseptic which may be efficient for *B. typhosus* may be quite inefficient for other organisms.

'Garrod' showed that this selective action was marked in experiments with *B. coli* and streptococci in faeces. Our experiments have borne out these conclusions. To take one example only: lysol, which is largely used in obstetric work, is almost ineffective in its action on some strains of streptococci, taking fifteen minutes to kill in a dilution of 1 in 100 in ordinary saline or distilled water, whereas in albuminous fluids the lethal power is considerably reduced. —I am, etc.,

J. M. BEATTIE.

Bacteriological Department, City Laboratories and  
University School of Hygiene, Liverpool,  
April 7th.

### RADIATED ERGOSTEROL AS A DRESSING FOR WOUNDS.

SIR,—In continuation of my note "On irradiated ergosterol as a dressing for wounds," published in the *British Medical Journal* of March 3rd (p. 339), I have endeavoured,

with Mr. F. Young's help, to ascertain whether any gain in weight occurs when ergosterol is irradiated.

*The Effect of Radiation.*—A film of ergosterol, 15 to 16 mg., thinly spread on a glass plate, 65 sq. cm. in area, was weighed before and after exposure to the ultra-violet rays from a mercury vapour lamp at a distance of 14 in. for forty minutes. The gain in weight of such a film after radiation was about 7 per cent. A corresponding cholesterol film, radiated in the same way, showed very little gain.

*The Effect of Ozonization.*—An ergosterol film was also exposed to ozonized air at room temperature for four hours. The gain in weight after ozonization was about 7 to 10 per cent.—that is, rather more than the gain which follows radiation. A corresponding cholesterol film, after ozonization, under similar conditions, showed only a slight gain, which was slightly increased by a second ozonization.

Thus a marked difference in the capacity rapidly to absorb ozone is characteristic of the two different sterols. In the case of ergosterol a saturation point seems to be reached after radiation for from thirty to forty-five minutes, depending on the thickness of the film and the activity of the lamp. Further radiation under the conditions mentioned above gives very little additional increase in weight. This saturation point is reached less quickly on ozonization than on radiation, and a slight gain may be recorded on a second ozonization.

Very little loss in the weight gained has so far been noticed in the treated films after exposure to the air at room temperature in either case. This means that the adsorbed or added oxygen is not released at any appreciable speed under such conditions. A chemical examination with the starch potassium iodide colour test, previously described, shows that the capacity for oxidizing potassium iodide is associated with this gain in weight, which follows both radiation and ozonization.

Recent observations by Rosenheim, and also by Windhuyis, have established the fact that the formation of vitamin D occurs independently of, and in the absence of, oxygen. It seems probable, therefore, that, as Dr. Rosenheim has suggested to me, the oxidation of the potassium iodide in the starch colour test is due to a peroxide (or ozonide) of ergosterol, and not to vitamin D. The fact, however, that ergosterol gains in weight on radiation, and that it is, under certain conditions, freely converted into vitamin D, while cholesterol does not gain appreciably in weight, and does not yield any quantity of vitamin D when similarly treated, suggests that some relationship does exist between the capacity for peroxide formation and the capacity for conversion into vitamin D. This difference in behaviour must depend on a difference in the structural constitution of the two sterols. Whether the formation of the peroxide represents a preliminary or, as seems more likely, a terminal stage or is merely a side reaction in the process of vitamin D formation, and what the optimum conditions may be for obtaining the maximum yield of vitamin D, are not yet fully known.

Finally, it seems probable, in the light of these observations, that the action of radiated ergosterol on wounds and granulating surfaces, previously described, may be due to the peroxide or ozonide of ergosterol rather than to vitamin D. This point, however, opens up important possibilities which require further investigation.—I am, etc.,

C. J. BOYD.

Leicester, March 26th.

### GALL-BLADDER INFECTIONS.

SIR,—If his account is meant to include all cases which clinically show the signs and symptoms of chronic, recurrent inflammation of the gall-bladder, then I feel that Professor Wilkie, in your issue of March 24th (p. 481), has not quite accurately represented the bacteriological side of the matter when he only discusses a series of cases in which the great majority of which there was a primary intramural infection by streptococci, organisms of the coliform group occurring usually as secondary invaders. That low-grade intramural streptococcal infection is not uncommon there seems to be no doubt. Having recently examined histologically and bacteriologically some sixty gall-bladders removed from patients who, while in the physicians' care, were held to show every sign of chronic cholecystitis, I believe that just over one-third of them were of the streptococcal type which Professor Wilkie describes. The bile was sterile, but in eight what

appeared to be streptococci could be seen in the walls: in four of these positive streptococcal cultures were obtained, and the histological appearances of the remainder were similar, although no organisms could be grown.

On the other hand, my series contains also nineteen cases in which the gall-bladder wall, particularly the mucosa and the tissue subjacent to it, showed chronic inflammatory changes, possibly a little more active than those associated with a very chronic intramural infection, but entirely without histological evidence of old preliminary bacterial invasion deep in the wall. From these nineteen gall-bladders organisms of the coli-typhoid group were readily grown, two of them giving typical pure cultures of *B. typhosus*. It seems to be quite clear that intramural streptococcal cholecystitis is more common than was formerly realized, but I do not think that this fact provides a reason for describing as uncommon the type of case long recognized as due to direct primary infection of the gall-bladder and its contents by organisms of the coli-typhoid group, which may reach the biliary tracts via the blood stream and liver. Ascending infection of the bile ducts may on occasion occur, though the finding of coliform organisms, especially in the gall-bladder bile obtained by duodenal intubation, does not, of course, give any indication as to the origin of the infection, but simply shows its presence. Nevertheless, the material obtainable by duodenal intubation in the two types of cholecystitis is strikingly different, and may therefore help the decision as to whether biliary antiseptics and biliary drainage will be beneficial or whether surgery should be resorted to at once. In the intramural streptococcal type of cholecystitis nothing abnormal is found in the bile unless the process of stone formation has begun, in which case fragmentary cholesterol crystals are quite common. In the coli-typhoid infections the bile not only contains the infecting organism, but also much more epithelial debris from the biliary tracts, particles of solid bile pigment, and sometimes a few leucocytes. If the incidence of the purely intramural infections were as high in all patients showing clinical evidence of chronic infection of the gall-bladder as Professor Wilkie suggests, one would not, I think, so frequently see obvious improvement follow the administration of large doses of hexamine, which can affect only the contents of the gall-bladder and the mucosa.—I am, etc.,

London, S.W., April 3rd.

F. A. KNOTT.

#### TREATMENT OF ACUTE PNEUMONIA.

SIR,—I have read with much interest and pleasure Dr. Maidlow's letter (February 11th, p. 238). It was so practical, so full of common sense, and so different from many communications suggesting, often without sufficient trial, all sorts of new remedies for various diseases, which only too often dishearten the great bulk of the medical profession who try them. I have had a very long and varied experience both in hospital and private practice, and the outcome of all this practical investigation is much the same as Dr. Maidlow's—namely, disappointment, especially at the results obtained in pneumonia by the new methods of drug treatment. In the majority of such cases Nature will effect a cure with very little assistance if only given a fair chance, and this is nearly always given her by the experienced physician. What we find in practice is that Nature's efforts are often interfered with and destroyed by the too frequent visits, repeated examinations, and over-zealous physicking of the medical attendant. Doctors seem to forget that pneumonia is a specific fever in the great majority of instances, with a local manifestation, and will cure itself by a well-marked crisis in eight or nine days if not unduly interfered with. Nature's method of treating pneumonia should be applied to numberless other ailments, which will assuredly result favourably if only left alone and properly nursed. In nearly every medical journal we read of new suggestions and new remedies, which the experienced physician notes, but disregards, unless backed by the highest authority. Many of these articles express very divergent opinions on the same subjects, and thus tend to confuse instead of help. In no complaint is this difference of opinion more marked than in pneumonia.

Sir James Barr, in this month's *Practitioner*, rejects the use of oxygen in the treatment of pneumonia. He is right; it is a most expensive expedient, and I have never seen it of the least use. The need for it arises frequently from a distended right heart, and the right treatment is blood-letting. I have known the most remarkable results follow the latter expedient, whereas I have never seen oxygen give more than a very temporary relief. Dr. Maidlow advocates in the treatment of pneumonia many small remedies which certainly would add greatly to the comfort of the patient. In this connexion, except in the most debilitated patients, I recommend the use of a commode and not a bedpan; the latter always induces straining and unnecessary exertion, whereas the former causes a freer movement of the bowels, saves much discomfort, and is more cleanly. It is extraordinary how many complaints will yield to simple and common-sense remedies and healthy surroundings without resorting to the innumerable vaccines and serums and the hundred-and-one nauseous drugs, which generally do more harm than good. Our profession, through the recommendations of chemists, is rapidly losing touch with the writings and textbooks of our best authorities, and is getting under the spell of the treatment of every variety of diseased conditions by new vaccines and serums.

Dr. McCormick (March 3rd, p. 376) thinks that Dr. Maidlow's letter breathes the spirit of a bygone age. It does nothing of the kind; it mentions facts, not theories, and gives good reasons for the opinion he expresses. The physicians in the past gained their knowledge mainly from clinical research and experience. The young physicians of to-day base most of their opinions not at all upon clinical facts, but on x-ray observations and the reports of various bacteriological authorities and chemists. In the same issue Dr. Robert Hutchison writes (p. 335):

"It may be doubted whether ordinary bedside observation of the signs of disease is as good now as it was a generation or two ago. . . . There is, I believe, a real danger lest the increased use of laboratory tests, x-ray examinations, and other short cuts to diagnosis should lead to a neglect of the information to be obtained by the skilful use of the unaided senses, and to a comparative atrophy of these from disuse."

This is exactly what is taking place in the training and education of our young surgeons and physicians; they are being taught to rely too completely on the extraneous aids to diagnosis without closely examining the clinical features of disease; upon which all accurate information should be based in the first instance.—I am, etc.,

Omagh, March, 1928.

EDWARD THOMPSON, F.R.C.S.I.

#### THE NEW PORTRAIT OF JOHN HUNTER.

SIR,—The incomparable Oliver Goldsmith represents George Primrose, the eldest son of the Vicar of Wakefield, as asking his art-dealing cousin how to become a "cognoscento." Nothing more easy, says the cousin; first of all, you must always find fault.

This wonderful new portrait of Hunter is the most interesting we possess; for it shows him exactly as he lived and lectured, wart and all (*pace* the shade of Oliver Cromwell). But it has had to fight a hard battle ever since it appeared upon the wall of Christie's saleroom. At first the cognoscenti said it did not represent John Hunter; this denial has, however, been blown to the winds; and now Mr. C. F. Beadles comes forward and asserts that the painting is not by Gainsborough, and that its late owner, Mr. McCormick, "did not consider it worthy to be labelled as by that artist." I am sorry, for Mr. Beadles's sake, to have to state very plainly that this is an absolute misstatement of fact. On my table, as I write, is a 23-inch label which was screwed on to the frame when the picture was put up to auction:

"John Hunter, F.R.S., 1728-1793. Physiologist and Surgeon. By Thomas Gainsborough, R.A., b. 1727, d. 1788. (British School.)"

Mr. Martin alone knows why no notice was taken in Christie's catalogue of this tablet, and why the picture is there attributed to "Seton," a name which, of course, conveyed nothing to me. It now appears that this cabalistic word meant "John Thomas Seaton." It is, however, a pure surmise to attribute the portrait to this artist. To support his *nil admirari* attitude Mr. Beadles instances the neglect of the picture at the sale by the



expert dealers. Did they neglect it? And if they did, has Mr. Beadles forgotten the great Huntington picture trial of 1917? Here expert dealers had to refund over £20,000, the price they had obtained for "the most beautiful and attractive Romney" a great so-called expert swore he had ever seen. Next day the picture was dramatically and incontestably proved to be by Ozias Humphry! My friend the late Mr. Milner thought this portrait of Hunter might be by Bone. Mr. Martin and Mr. Beadles think it may be by "Seton"—I beg pardon, John Thomas Seaton; so that it is evident the greatest experts may differ. The late owner of the picture and I think it is by Gainsborough, and there for the present the matter may be left.—I am, etc.,

London, W., April 2nd.

G. BUCKSTON BUOWNE.

#### INJECTION TREATMENT OF VARICOSE VEINS.

SIR,—In a portion of Dr. Dewey's letter to the *British Medical Journal* (March 24th, p. 522) he asks me if I meant in my letter, published in your issue of March 10th, that in all cases of thrombosed varix there is no fear of clots getting into the general circulation.

There is great danger, and death occurs from clots breaking off and getting into the general circulation from thrombosed veins. This is, however, only to be looked for in disease coupled with infection of the vein. The production of a chemical thrombosis is brought about in quite a different way. Sclerosing injections—many of them are anticoagulants—destroy only the inner wall of the vein primarily; later a clot forms in the same way as it does in a ligatured vessel—that is, the destruction of the endothelium at the site of the ligature; at this point a thrombosis forms. If a ligatured vessel becomes the site of infection the thrombus may disorganize, soften, break down, and get into the general circulation as an embolus or emboli. In aseptic conditions no such thing takes place—emboli never form. Infection, therefore, must be considered as the *sine qua non* to the formation of emboli. With strict asepsis and in properly selected cases there is no fear whatever of producing emboli by the present methods used for the injection of varicose veins.

Dr. Douthwaite in the latter part of his letter (March 24th) speaks about the practice of putting patients suffering from spontaneous phlebitis to bed.

If the spontaneous cases are due to injections I find that patients do very well getting about, but in the case of severe reaction rest on a couch with the limb in the most comfortable position possible for a day or so is all that is necessary.—I am, etc.,

T. HENRY TREVES BARBER, M.D., B.Sc.

London, S.W.7, March 25th.

#### SMALL-POX AND "CASUALS."

SIR,—Dr. Duncan Forbes, medical officer of health for Brighton, in a letter to the *Times* of March 23rd, called attention to the spread of small-pox in the south-eastern counties, and said that "this spread is in great part due to the uncontrolled movements of tramps known to have been in contact with the disease." It is, of course, generally admitted that the tramp in the common lodging house is a far greater danger than one in the casual ward, where at least some sort of supervision is given. To state the problem is to suggest the remedies which can be applied by the Minister of Health under the great powers given him by the Poor Law Act, 1927, without waiting for any further Act of Parliament. It is possible that an Order or Regulation of the Minister will be needed to back up his circular.

In the provinces some 137 casual wards have been closed—mostly recently—by the Ministry and the local boards of guardians. In other words, 137 places where the tramp could go with comparative safety to the public have been taken away, and many tramps have been driven to sleep in common lodging houses, or in places where there is and can be no proper supervision. A large number of these wards should be reopened at once. The Minister has the power to do so under Section 69 of the above-mentioned Act. The Minister should issue to all boards of guardians

a circular of a far more effective nature than the circular of January 23rd, 1928 (*Journal*, January 28th, p. 154). The tramp should be examined by the doctor, not only before he goes out, but when he comes in. Otherwise during his two days' detention he will have plenty of time to infect other casuals, who will proceed on their journeys before the doctor makes the tardy inspection suggested by the Ministry of Health. "Contacts" should not only be "offered vaccination," but should be given some trifling inducement to submit to that operation, and told that if they remain during the necessary period they would be given decent food and accommodation, and not treated as casuals.

May I conclude with a special word as to the safety of London? Practically all the closed wards on the routes to London, at least within thirty or forty miles of the metropolis, should be opened. It should be so arranged as to distances that the destitute wayfarer will have no temptation to go to the common lodging house or "sleep rough." If at each casual ward two medical inspections are made, and the other precautions taken, the risk to London will be enormously reduced. By a wonderful oversight stone-breaking has been made one of the tasks for the metropolitan casual wards. A slight discussion on the subject took place in the House of Commons on March 15th. The object is, of course, to deter men from coming into these wards; but the effect is to keep men who may be infected with small-pox from coming into decent clean quarters, where infection would be promptly dealt with. What I have said as to the routes to London is applicable to other towns, and the folly of the London stone-breaking is also visible in some places in the provinces.—I am, etc.,

J. THEODORE DODD,  
Barrister-at-Law.

St. Leonards-on-Sea, March 27th.

P.S.—Since this was written a memorandum has been issued, but I have not yet had an opportunity of seeing it.

\*\* As stated last week (p. 609) the Minister of Health has extended the period during which casuals must be examined for a further three months. The circular announcing this decision recognized the danger of dispersing persons who had been exposed to infection when casual wards are closed owing to occurrences of small-pox. Mr. Dodd's suggestion applies, of course, to casual wards closed for other reasons. The circular reminds guardians that their powers do not extend to detention of persons who, although they may have been exposed to infectious disease, are not actually suffering from it, even though they decline to be vaccinated. On February 25th (p. 324) we gave details of the outbreak of small-pox in London, mainly in a Poor Law institution.—Ed. B.M.J.

#### EFFECT OF THE BIRTH RATE ON THE AVERAGE AGE AT DEATH.

SIR,—May I call attention to what appears to be an oversight in the popular appreciation of the increase in the average length of life? This is commonly taken to be synonymous with the average age at death, but really the two things are for distinct consideration. The average age at death in any year is easily estimated from statistics derived from death certification. Other factors affect the estimate of the length of life justly to be expected for each newborn child.

Generally, the increase of the average age at death is attributed alone to the decrease in the death rate, whereas it is really affected also by the decrease in the birth rate, which during quite a long period of years reduces the relative number of persons living at the lower ages, and so creates an elevation in the average age of the population and the average age at death.

The elevation of the average age of the whole population, or the relative increase in it of the older portion, or its ageing by reason of a lessening in the number of births, is making, or will presently make, a difference in the relative prominence of those activities which pertain to youth and age. Of itself it would seem to be a cause, during the period of its operation, of still further lessening the birth rate.—I am, etc.,

J. H. GARRETT, M.D., D.P.H.  
Cheltenham, March 28th.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

LAST week the House of Commons, before rising for Easter, read the National Health Insurance Bill a second time, sent it to a Standing Committee, and passed a money resolution attached to the bill. The House also debated rural housing and Poor Law relief. It will reassemble on April 17th.

### National Health Insurance Bill.

#### Debate on Second Reading.

On April 3rd Mr. CHAMBERLAIN moved the second reading of the National Health Insurance Bill. He said that this national health insurance scheme was a tremendous undertaking. Under it, to-day, some 16,000,000 people were insured in this country, each of them paying a weekly contribution, which individually amounted to only a few pence, but which, when added together, formed a tremendous aggregate of about £25,000,000 a year. In such a huge scheme it could not be wondered at if, from time to time, it was found capable of improvement. And if, all the time, there were constant demands for the simplification of its machinery. The bill was a further attempt at simplification of machinery, although it contained some improvements of substance. It was founded principally on a recommendation of the Royal Commission appointed in 1924, under the chairmanship of the late Lord Lawrence of Kingsgate. There was on the order paper a Labour amendment for the rejection of the bill, but Mr. Rhys Davies, who would move it, seemed to have found nothing to condemn or even criticize in the bill. The hon. member had, however, sought to found his motion for rejection on what the bill omitted. No doubt Mr. Davies was aware that the bill had been approved by the Consultative Council, and that the approved societies generally would be grievously disappointed if the bill did not become law.

Mr. Chamberlain then explained the bill in detail. The prolongation of Insurance Act would be abolished and a new scheme would be substituted, under which all the penalties for arrears of contribution incurred because a man was genuinely unable to find employment would be abolished. Clause 1 contained the largest concession to insured workers and the biggest simplification of machinery that had been introduced into the national health insurance scheme since its inception. Under the new arrangement for prolongation of insurance any genuinely unemployed person would be retained in insurance after having ceased to pay any contributions whatever for between two and a half and three years. That was a provision which would meet all the ordinary cases of unemployment likely to arise. Again, in the case of a man hitherto continuously insured for a period of ten years who, after reaching 60, fell out of employment, he would be kept in insurance year after year, providing that in each year he could show that during the preceding year he was available for, but unable to obtain work. This would prevent any man who had been in regular employment for a substantial period losing his old age pension because of any difficulty he might have in finding employment after he became 60 years of age. Referring to additional benefits, particularly dental and ophthalmic benefits, Mr. Chamberlain said that this was a very important matter. Its importance lay particularly in the fact that these treatments were largely preventive as well as curative in character, and that the large sums, amounting to about £4,000,000 a year, which were now being spent by the approved societies on dental and ophthalmic benefits might be expected in due course to bring their reward to the approved societies by the improvement in general health which they were calculated to produce. It was a striking fact that, while the administration of medical benefit was carefully safeguarded in the original Act, and conditions were laid down in the body of that Act for that administration, and the Ministry was given power to make regulations still further to elaborate those provisions, nothing of the kind was to be found in the original Act in regard to additional treatment benefits. That could not be wondered at, because those benefits had not then reached their present importance; but now that they had arrived at their present pitch of development it was very necessary that some similar care should be taken in regard to dental, ophthalmic, and other additional treatment benefits to see that the money was properly expended and to the best advantage of the insured people. In Clause 14 (3) the Minister was given power to make regulations governing the administration of any additional treatment benefit, and the general arrangement of services under which the treatment was to be provided. It was widely recognized in national health insurance circles that something of the kind was required. Taking dental benefit, for instance, the Consultative Council, recognizing how necessary it was that the approved societies should be able to command an adequate dental service at a reasonable price, recommended the establishment of a joint committee to deal with this matter. Accordingly, a committee composed equally of the dental and the approved societies, known as the Dental Service Committee, had been set up to regulate the conditions of the dental service, and the profession, and to ensure the proper working of the service. On the whole, the joint committee was to be congratulated on having worked with a considerable amount of success, but there had been this difficulty—that it was not a statutory body, that it had to work by persuasion, and could not work by authority. There had been a considerable amount of prejudice, and failure in some places to get the best service possible, on account of the lack of authority on the part of the Dental Benefit Joint Committee. One of the things which

he desired to do was to make regulations, under the clause to which he was referring, which would enable him to give that authority to the joint committee, to ensure that any decision that it came to should be made binding upon all the approved societies coming into the scheme.

Dr. VERNON DAVIES: And upon the dentists?

Mr. CHAMBERLAIN: Yes. They hoped to get a similar committee set up to deal with ophthalmic additional treatment benefit. Another matter on which it was necessary that he should have power to make regulations was in regard to dental clinics. Something appeared to have aroused a certain amount of confusion in connexion with this subject. Judging from his own correspondence, he was convinced that many members of the dental profession had altogether exaggerated what was in contemplation. He said at once that there was no intention of doing anything more at present than embarking on an experiment or two in order that they might thoroughly explore the advantages or disadvantages of the system of dental clinics. The argument in favour of the clinic was that where they got a dense population and could rely on a steady flow of patients, they could get, in a clinic, a standard of equipment and specialization among the staff which it would be unreasonable to expect from a single practising private dentist. He supposed that the argument against the clinic was that it was going to drive out the private practitioner and set up a monopoly. The matter had been discussed by the Dental Benefit Joint Committee, and they did not come to any conclusion except this—that they thought it very desirable that an experiment should be made, so that they might see whether the advantages outweighed the disadvantages, or vice versa. If the bill passed through Parliament, it was his intention to make regulations for the setting up of such experimental clinics, one or two, perhaps, in London. He repeated that in no circumstances could he contemplate abolishing the free choice of dentists. No one must be compelled to go to a clinic if he would rather go to a private practitioner. It would certainly be a condition of the acceptance, even of an experimental clinic, that there should be adequate representation of the profession on its management.

Dr. DAVIES: Are we to understand that the consent of the local dental profession will first of all be obtained before the clinic is established?

Mr. CHAMBERLAIN: No; I do not think I can give any assurance to that extent, certainly not at this stage. But I do not anticipate that we shall have any difficulty in selecting the most suitable place for an experiment of this kind, where we shall not arouse any violent feeling of hostility on the part of private practitioners in the neighbourhood. With regard to deposit contributors, under Clause 10 those people who, on account of bad health, could not get into an approved society, would be formed into a new section of deposit contributors, to be called the Insurance Section. They would be entitled, not only to the equivalent of their own contributions plus the State contributions, but they would be entitled to all normal statutory benefits given under the original Act. If in the committee stage, Mr. Chamberlain added, amendments were put forward with the object of improving the bill, they would receive most careful and sympathetic consideration from the Government.

Mr. Rhys DAVIES moved: "That this House, whilst prepared to welcome the National Health Insurance Bill, cannot

assent to the bill which fails to recognize, in the light of the necessity for making the scheme more national in character by establishing the right of entry to many persons now excluded, neglects to make better benefits possible by restoring the State contributions of which the National Health Insurance Fund has been deprived, and fails in many respects to carry out the recommendations of the Royal Commission." He said that it was a travesty to state that this bill was brought forward as a result of the recommendations of the Royal Commission. Out of 122 separate recommendations of the Commission the bill contained only 32. In fact, the bill was purely an administrative measure, and the big questions affecting the health of the 16,000,000 insured people of this country were left entirely untouched. He said he would like the Minister to explain what was meant by Clause 3, dealing with "medical charities," particularly in South Wales. He understood that some of those medical charities were doing excellent work, and he hoped he might be pardoned for a little suspicion that the medical profession were influencing the Minister of Health unduly in that respect.

Dr. FREMANTLE: Never.

Mr. DAVIES said that before they could consent to the abolition of these medical charities he thought they must secure evidence as to whether there was any abuse of the privileges granted them under the original Acts. The two most important recommendations of the Royal Commission related to the pooling of surpluses and to the abolition of insurance committees, and this bill touched neither. The Minister seemed to have avoided Clause 11. The Royal Commission was very emphatic that something more should be done in connexion with maternity benefit and the case of married women in general under the national health insurance scheme. Clause 11 did make the position of married women very much clearer, but it did not touch those issues raised by the Royal Commission—the terrible tragedy of maternal mortality in this country, about 3,000 women dying annually in childbirth. This bill did not touch that problem in the least. He wanted the Minister to safeguard the interests of the insured persons by making it compulsory on the approved society to include words to the effect that if the insured person failed to go to a clinic he could still choose his own dentist or optician. He had no criticism to offer on the clause relating to penalties except one. He hoped that the Minister, in dealing with penalties by regulation, would see that whatever penalties he inflicted on the administrators of approved societies and insured persons he would

inflict similar penalties on the medical practitioners, dentists, and opticians who might transgress the law. Some members of the medical profession were issuing medical certificates definitely with a view to increasing their panel practice, and as far as he knew there was no provision to deal with cases of that kind in this bill. If it was proposed to give the Insurance Committees ultimately the administration of some benefits which were to-day administered by approved societies the Minister of Health would find himself in a difficulty with the Consultative Council. If there had been any abuse at all in connexion with the administration of national health insurance he was convinced that it occurred under Section 26. What had been done had been done probably strictly within the wording of the section, but it had not been done very honourably. He supported the full repeal of that section. If any approved society wanted to do anything by way of clinical work or granting money towards charities or hospitals it ought to do it cleanly and above board. The Royal Commission recommended that the scope of maternity benefits should be extended to cover medical and midwifery services in addition to cash benefits. It would be interesting to learn why that provision had not been included in the bill. The Commission further recommended the extension of the scope of medical benefit in respect of dependants of insured persons in receipt of sickness or disablement benefit, to improve provisions at the time of pregnancy and childbirth, the provision of dental benefit as a normal benefit, and, above all, that the insured population should be entitled to specialist services as well as ordinary medical practitioner services. Were it not for the fact that the State grant had been reduced the majority of societies would have been able to pay for specialist services.

Sir KINGSLEY WOOD said the fact that there had been no provision made in the bill for specialist services had nothing to do with the Economy Act.

Mr. DAVIES said that the bill was a very small contribution to the problem of national health insurance. It did not assist in the solution of the health problems of the country. What about cancer and rheumatism? Nothing was done in the bill to deal with those diseases. When they compared the bill with the recommendations of the majority of the Royal Commission he thought that the Opposition were justified up to the bill in moving this amendment and carrying it to a division.

Mr. WHITELEY seconded the amendment.

Mr. WHITELEY seconded the amendment.

Dr. FREMANTLE said that there were certain points which naturally concerned very closely the medical and dental professions, and he wished to voice one or two of the feelings on those points. The medical profession generally would bless the bill, in certain parts strongly, and in other parts they would find it good in less degree. He wished to call attention to the fact that the dental profession were naturally very much concerned, but they would be partly reassured by the statement which the Minister had made that afternoon. He hoped that possibly the Parliamentary Secretary to the Ministry of Health might be able, in replying later, to give the further assurances that were required. He (Dr. Fremantle) could speak perhaps with greater conviction for the dentists, inasmuch as it was a friendly profession for which he had no direct responsibility, but he had this from the body representing the dental profession. There were three points which they hoped to see definitely established in the statement that afternoon. The first was that the insured person should have the same freedom of choice of his dentist as he enjoyed with regard to his medical adviser. He thought that the House had had a very definite categorical statement that would be satisfactory to the dental profession. The second point was that the acceptance of any agreement as to fees and conditions of service arrived at after free negotiation by representatives of approved societies on the one hand, and of the dentists on the other, should be subject to the approval of the Minister. The difficulty was that they met with collective bargaining everywhere. Unless the results of collective bargaining were made to hold with all parties concerned, especially with those who were less inclined or less able to carry out a bargain, the main object of collective bargaining fell to the ground. The third point was that there should be no lay interference with the professional discretion of the dentist in the treatment of his patient. Always the criticism by the professional men of the approved societies was that instead of simply confining themselves to administration the approved societies interfered with the actual professional treatment, which only a professional man was really able to control and to criticize.

Sir KINGSLEY WOOD here asked Dr. Fremantle to explain a little more what he meant.

Dr. FREEMANTLE said that he meant that the difficulty of any lay control of professional persons was that in these matters they did interfere with the actual professional side. It was for that reason that they had their supervising officers. The doctors were naturally very sensitive. He thought that was really the only reason why sometimes there was friction between the professional men and the approved societies. It was for that reason that one could not accept the amendment that the societies should be done away with and their duties raised the old original criticism that was levelled against the Insurance Bill. It was obvious that approved societies could not properly administer these medical matters. The Insurance Committees were formed in order that they might get a better idea of the benefits to be administered. It was quite true, also, that the Royal Commission suggested that the duties of the Insurance Committees should be distributed to the appropriate local authority. That proposal was not, as Mr. Rhyds Davies had said, to refer these duties to the approved societies. It was to break up these duties and distribute them to the appropriate local authorities. He supposed that the reason was quite clear.

The whole question of local government was now the subject of discussion by a Royal Commission, and they must wait for the result of that before they could see how the local authorities were going to be so arranged that they could properly have those duties placed upon them. When they got the whole subject of d up and put on an ordinary and ped to have this question of the future decided. He was quite sure that the

decided. He was quite sure that the functions of the Insurance Committees ought to be blended with those of the health authorities generally. One of the main criticisms of the insurance system was that, whereas it was largely introduced by Mr. Lloyd George as a measure for the prevention of sickness, it had failed in the prevention of sickness to a very large extent. The amount of sickness among insured persons remained very much the same, although he believed that the kind of treatment applied had curtailed each case of sickness to a considerable extent. The system certainly gave relief, but for prevention it was of very little advantage. One of the objects put forward in connexion with the original bill was definitely to link up the question of prevention and the question of sickness by making a special provision by which, when any particular area was found to be suffering from a very excessive amount of sickness in any one respect, steps could be taken at once to turn the whole services of the Insurance Act on to that particular area. That had been found to be impracticable. Why? Because the measure was introduced originally independent of the existing health organizations. This was a danger that they constantly had in that House. They seized upon a new idea; they introduced a new bill; they introduced a new scheme of organization, with a new set of committees or even of actual authorities, and a new set of officials all the way through, and they added to their burdens while diminishing certain others. They had to use the actual machinery they had, and to improve it. He thought that local authorities might be used as the central authority for administering medical benefit under this Act.

There was one special form of benefit which he was sorry was not provided for as an additional benefit. That was attendance in cases of maternity. The answer of the Parliamentary Secretary would be that maternity benefit was provided by a money payment to the mother, who was responsible for providing the midwife or having maternity services. The objections to it were fairly obvious. In too many cases the money was required so urgently for other purposes that it was not sufficiently used for the midwifery services that were so necessary. He was glad that a committee was to be set up to inquire into the training and supply of midwives. When that committee reported he had not the least doubt that it would show that for a long time the number of midwives in the more scattered parts of the country had been diminishing, and that there was an immense difficulty in getting women to go into that important service. They had to record at the present time the yearly loss of 3,000 to 4,000 mothers as the result of childbirth, and they must, therefore, take some action which would increase the midwifery services of the country. They would not be able to get a better service in this respect unless they could make the profession attractive to the type of educated girl who would want to fulfil these duties properly. It really came down to a pecuniary benefit, and he would like to see some provision introduced into the bill which would enable a fund to be set aside for the general purpose of improving the remuneration of midwives. He hoped that the preventive aspect of insurance might be always kept uppermost, and that, as they worked this system during the course of years, they might see in what way they could use this sum of £25,000,000 to £30,000,000 a year, not merely for the relief of trouble, but to preventable sickness and disease.

to 250,000, for the prevention of preventable sickness and disease. Mr. HAYPA, in supporting the amendment, urged that the bill should make provision for family medical benefits. This question was a very important one for many reasons. He did not have become a very important one for many reasons. He did not know whether, if all the surpluses accruing to the approved societies were pooled, they would provide a sum sufficient to give medical benefit to the dependants of insured persons. He wished to call attention to a question of administration. Approved societies sent a large number of those people on sickness benefit to the regional medical officers for examination. That was done in the interests of the benefit fund of the approved society, but the payment of the expenses incurred came from the administrative fund of the society. Such payments should be allowed to come from the benefit fund itself, because if they were to flow continually from the administrative account the administration was likely to be affected, and they would not get that efficient supervision which was desirable. He suggested, also, that there should be one all-inclusive scheme, amalgamating all the present social services, under separate departments. That would avoid constant piecemeal legislation.

the inherent right of every insured person. In the North of Ireland medical benefit was not given, and the result was very unsatisfactory. It was suggested by some societies that they ought to have the right to exclude members in Northern Ireland from participation in general valuation until Northern Ireland brought in a system of medical benefit. The view they put forward was that the clause was unfair to their members in the English and Scottish societies which had members in Northern Ireland. He hoped that the Minister of Health would consider that question. The overwhelming opinion expressed by the people concerned was against the abolition of Insurance Committees.

Mr. MORGAN JONES said there were in South Wales institutions known as miners' medical aid societies. There was a considerable measure of apprehension among them as to what precisely the Minister of Health sought to do through the medium of Clause 3 of the bill. These societies had existed for a very long time, and after some difficulty were recognized seventeen years ago at the passing of the original Act. He believed they had something around 40,000 members, and if they included dependants the number would exceed 100,000 for whom medical services of various kinds were being provided. But they had had to face opposition from the British Medical Association, and also, they claimed, from the Insurance Committees. These bodies operated very largely on co-operative lines. The objection came, he believed, generally from the British Medical Association—and there had been pretty severe and sustained fights on the issue—that these societies had a larger measure of lay control even than was found under the system of Insurance Committees. He did not want to develop an attack on the doctors generally in this matter, but he was entitled, in defence of his constituents, to submit a case in support of these societies. They drew a contrast between the treatment meted out to these medical aid societies and that meted out to private panel practitioners, and the contrast was one which induced them to believe that the scales were heavily weighted against these medical aid societies largely because they were subject to the ban of the British Medical Association.

Dr. DAWKINS STURTS said that members on his side of the House were all agreed that the bill, so far as it went, was desirable, but it did not go to anything like the extent they thought was called for in any amendment of the National Insurance Act. As a response to the recommendations of the Royal Commission the bill was seriously inadequate. The Minister of Health and his department were not primarily to blame for that. They found here, as in connexion with so many other matters, the hand of the Treasury, which prevented from being done so much that the House felt ought to be done. Economy in these days was necessary, and the Treasury must exercise restraint in many directions, but the health of the people was one direction in which any so-called economy was misplaced, and where true national economy was to provide adequately for health and prevention of disease. If the lowering of the State grant had not prevented the provision of specialist benefit, why was it that we had not got it, and that there was no early prospect of it? The present position in regard to specialist benefit for an insured person requiring a consultation or operative treatment was exactly the same as that of an uninsured person. Unless it was an urgent case, which would be admitted to the voluntary hospital immediately, he came on the hospital's waiting list, and had to take his turn, with the consequence that treatment was delayed beyond the time when it would be of the greatest advantage. A condition of affairs which left the insured person dependent on that source for specialist benefit was obviously unsatisfactory. Ordinary ailments could be dealt with by the general or panel practitioner. The more serious cases might require operative treatment, the very latest laboratory appliances, x-ray or light treatment, and other aids from which, at present, the insured person was shut out. Yet here we had a scheme which purported to be a national scheme for the provision of medical service for the insured persons who contributed to it, and surely the Royal Commission was right in pointing out that so long as specialist treatment was withheld the system was unsatisfactory and did not meet the needs and the rights of its members. The question was obviously linked up with the hospital question, which this bill did not tackle at all. The voluntary hospitals had repeatedly made requests for allocations from the insurance fund proportionate to the number of patients they treated, but all they had here was a permissive clause which would enable societies to make contributions to hospitals. Before the Economy Act was presented to the House certain approved societies did make contributions to hospitals, but since that Act had come in it had been difficult or impossible for them to do so. Now they were to be permitted to give donations to count as medical benefit; but that would not meet the case. Either an allocation of money per head or some other financial arrangement between the insurance fund and the voluntary hospitals would be necessary. It was desirable for two reasons: in the first place, in order that the insured persons should not, as now, get specialist treatment as a charity, and, secondly, in order that the voluntary hospitals, or even, as they expected might be the case soon, municipal hospitals, should be assisted to carry on the difficult task of finding the necessary funds. He commended Dr. Fremantle's suggestion that through the national health insurance organization means should be found for training and supplying more midwives than were at present available. The existing insurance scheme was not adequate in the matter of sickness benefit. While there was something to be said for the flat rate system, it would be found that almost all other countries had a higher rate of sickness benefit than we had. He was glad that the Minister of Health had relieved the minds of many members to a large extent by his statement about dental benefit. It was desirable that the Dental Joint Committee should be made a statutory body. It was very important, from the public point of view, as well as from the point of view of the dentists,

that there should be a free choice for patients, and he was glad that that privilege had been preserved. There was no doubt that if dental benefit were made an ordinary form of treatment, and if full dental benefit were given to all insured persons, the health of these persons would be very considerably improved. There were many diseases caused by bad teeth. A great deal of the rheumatic diseases, about which so much was heard in industrial life, and which produced a very heavy sickness rate with important economic complications, were really in form of chronic infection due to bad teeth. Therefore the expenditure on dental benefit was, in the long run, a very economical expenditure. The same applied to a lesser extent to the efficient treatment of the eyes. The supplying of proper glasses to people who suffered from eyestrain was very important. The fact should be emphasized that although the Royal Commission had recommended these additional benefits, and public opinion approved them, it was impossible to supply them without a restoration of the State grant which was given before the Economy Bill was passed into law. He very earnestly urged the Minister of Health to put up a stronger fight with the Treasury to ensure that economy was not practised on the health of the people. If this bill could not be sufficiently amended, he hoped another measure would soon be introduced, bringing in some of the more important provisions which the Royal Commission thought necessary. Many of them looked forward to the time when the normal task of an insurance medical practitioner would not be so much that of curing people as of examining them periodically, so that the earliest signs of disease could be detected. That comprehensive scheme could not be carried out until the extended benefits, now so much needed, were given. That, again, could not be brought about unless more money was brought into the scheme, which could only be done by a restoration of the proportion of the State grant which we had before the Economy Act was passed.

Sir H. CAUTLEY said that he viewed with great apprehension the steady increase in the amount paid out in sickness benefit all over the country. Unless some steps were taken to check this expenditure the whole scheme, sooner or later, would be jeopardized. The extensive unemployment of the last few years might account for some of this increase, but not altogether, because it happened that in the rural societies, where there had been no unemployment, the same symptoms existed. Probably it might be true that the increase of sickness benefit was greater in the large industrial centres which had been severely hit by unemployment. The scheme for the administration of sickness benefit rested entirely with the doctors, and the only control was the appointment of a medical referee. He did not think the system could be improved in that respect. The sole judge of when an insured person required medical service and should receive his certificate to get medical benefit must be the doctor, subject to the procedure relating to the medical referee. His suggestion to the Minister was that, if the doctor was entrusted with this responsible work, his position ought to be made, as far as possible, such that it did not conflict with his duty. He had, as his private patients, perhaps the man's wife and family, and if he lost that particular patient he lost the whole family. The same thing happened when a doctor had to certify the patient as being off benefit. His (Sir H. Cautley's) suggestion was that no one should be entitled to change his doctor without giving, say, three or four weeks' notice. In such cases as those to which he had referred, no doubt the fit of irritation would have worn off in a day or two, the person would have gone back to work feeling better, the whole thing would have blown over, and he would no longer have any desire to change his doctor. It had also been suggested to him that, in addition to notice, reasons should be required, but he did not approve of that. It would encroach on the free right of choice of doctor, in which he was a great believer. In the few societies with which he was directly concerned it had been found that in many cases where they had had to appoint a medical referee the patients had never gone to that medical referee at all, but had at once gone back to work. He asked the Parliamentary Secretary if the facts and information in his own office did not bear out the case he was making for this small alteration, and he hoped the Minister could see his way to make this reform, which was only common sense.

Dr. VERNON DAVIES said that the only way the Opposition could attack this bill was by making some obscure reference to a past raid on the insurance fund and by pointing out that the Minister of Health was very subservient to the Chancellor of the Exchequer. If that were true it increased his (Dr. Davies's) admiration for the Chancellor of the Exchequer if he had sufficient power to overawe or to guide the Minister of Health, because among the medical profession in this country the Minister of Health was not by any means regarded as a soft man. In fact, they found him rather difficult to deal with, and perhaps sometimes a little autocratic. With regard to the question of the medical aid societies or clubs, though he held no brief for the British Medical Association, he imagined that the objection it had maintained for a long time was that the system adopted by these societies put medical men under lay control. For some years now he believed the Association had taken certain steps to advise medical men not to apply for these appointments. What happened in these cases was that the medical man became the servant of a lay committee, who had power to dismiss him.

Mr. MORGAN JONES: Just as in the case of the medical officer of health.

Dr. DAVIES said that when they applied the Insurance Act to these medical aid societies they were in a different position at once, because the essential thing under the Insurance Act was that the patient must have freedom of choice of doctor, and he had not that choice in the case of the clubs. That was one of the great objections to the present system, but from all that he had heard he believed the standard of medical treatment which these medical aid societies had been able to give had been very high.



Personally, if he interpreted the clause rightly, he believed that the existing medical aid societies would not be interfered with, but he hoped that no new societies would be allowed to be formed. He did not agree with all that had been said on the question of maternity mortality. The greatest difficulty of all was not the lack of medical attendance or sufficient nursing attendance; it was the conditions under which the confinement took place which was the danger at the present time. A great move towards improving the condition of affairs would be to move such patients into a home, where they could be attended to by their own doctor and their own nurse. The essential thing in ophthalmic benefit was that the insured person should receive efficient and satisfactory advice, and the scheme which the British Medical Association had suggested to supply a sufficient number of trained doctors who would work at fees suitable for approved societies was the best way to deal with the subject. Ophthalmic clinics would be run by qualified men, who would give the best attendance and attention at the lowest price. He hoped that the Minister would not allow freedom of choice in that matter. An omission from the bill was in regard to the question of secrecy concerning venereal disease. The Minister knew that a guarantee or promise was made to panel practitioners that any information received in connexion with the treatment of venereal disease was to be held secret and inviolable. That guarantee or promise was made also to insured people, but now a judge in the High Court had decided that a panel practitioner could be compelled to disclose such information. The Minister ought to recognize this difficulty, and something should be put into this bill to meet it. He would ask the Minister to remember that there was a preventive as well as a curative side to national health insurance, and personally he had doubts as to whether the most economic way of getting rid of their surpluses was by establishing dental and ophthalmic benefits. At the ages when those benefits applied people as a rule were capable of full work, and could afford to pay the dentist and eye surgeon. More good would be done if instead of pushing their surpluses forward they pushed them backward, and did something to establish clinics for rheumatism, where they could get at the children and the young people after school age, when rheumatism was so dangerous, give sunbath treatment, and by other means help to establish a firm foundation of health at an early age, so that when they did enter industrial life they would be fitted for it in every way.

Mr. JOHN said that Clause 3 would abolish medical institutions. Speaking as one who had been connected with medical institutions for the last sixteen or seventeen years, he could not understand the reason for this. No complaints had been brought against these institutions, and they were subject to approval every year by the Insurance Committees. The medical institutions were really getting down to the fundamentals and objectives of the National Health Insurance Act itself, on the lines of attempting to co-ordinate the whole of the medical services. The benefits not only included what was contained in the regulations with regard to medical service, but the other benefits of the medical institutions. He was a member of a medical institution called the Mid-Rhondda Medical Aid Society, and in addition to the medical benefits contained in the regulations, such as proper aid and diagnosis of the complaint or disease, they had the use of the pathologists and second opinions with respect to expert specialist advice. Dr. Davies had been arguing for the right to increased benefits in the direction of pooling a certain proportion of funds for the payment of experts or specialists. That was not necessary with the medical institutions, which at present provided expert and specialist advice and special treatment. They also provided all the laboratory facilities, and dental and ophthalmic treatment and benefits. Everything necessary for the patient from the curative point of view was provided by the institution. Every member had a free choice of doctors. Every six months he could contract out of the scheme and go to the individual practitioner. Again, it was not true that the layman controlled the medical provision. He (Mr. Johns) had brought the qualifications of the medical institution before the House in order to appeal to the Minister not to dissolve these institutions.

Mr. A. GREENWOOD, supporting the rejection of the bill, said that the measure did not meet what was undoubtedly the national need. The existing system, within the limits laid down, would certainly be improved, but that system was not broad or large enough. The Minister ought to have turned his mind to the tremendous question of how to develop the health service to the maximum on its preventive side. The annual reports of the chief medical officers of the Ministry of Health and the Ministry of Education referred every year to the enormous amount of preventable disease which ultimately was found battenning on the health insurance fund. There was no more serious problem to-day than the standing disgrace of 3,000 deaths of mothers in childbirth, and the right hon. gentleman, if he had not been prepared to accept all the recommendations of the Royal Commission, should at least have ensured that the funds were available to deal with this great problem. The bill, however, left out one of the most important steps that ought to be taken in the extension of the national health insurance service.

Sir KINGSLEY WOOD, replying to the debate, said that all the leaders of the approved societies desired that the bill should have a speedy passage. But for the opposition of the approved societies it would be perfectly possible to put into operation the scheme of specialist services without bringing any additional funds into the national insurance system at all. No one had a right to say in that House that the specialist services were not being adopted on account of the Economy Act or of any question of finance. The Royal Commission went very carefully into the question of specialist services, and stated that if the approved societies would come to an agreement and pool their funds that scheme could be put into immediate operation without any further addition whatever, either by way of extra contributions or of

State assistance. To carry out the suggestion that medical treatment should be provided for the dependants of insured persons would mean bringing in altogether, including the people who were already in the scheme, a total of not fewer than 31,000,000 people, and the cost would be an additional £10,000,000 a year. He could assure the House that the Minister of Health would give very sympathetic consideration to any amendments moved in committee which were designed to improve the bill.

The amendment was rejected by 206 votes to 85, and the second reading was agreed to, the bill being committed to a standing committee.

On April 3rd Sir J. GILMOUR informed Mr. Stephen that he did not intend to abolish the Panel Committees appointed in connexion with the national health insurance scheme. The term of office of all Panel Committees in Scotland was extended by regulations till May 31st, 1929, and the Glasgow Panel Committee would, therefore, fall to be re-elected at that time.

#### Reorganization of Offices (Scotland) Bill.

In Standing Committee on the Reorganization of Offices (Scotland) Bill, on March 20th, an amendment to retain in existence the Scottish Board of Health was negatived by 27 votes to 18. The amendment was moved by Mr. JONSTON, who said there was no demand in Scotland for the abolition of the board system, and no resolution from any public authority had been produced in support of the change. Sir JOHN GILMOUR said there had been a number of complaints about delays in settling certain questions. In England the board system had been replaced by the departmental system. He himself had found the board system most inconvenient for carrying on the business of the country. He could not get from the chairman of the board in Edinburgh the direct and immediate advice which every other Minister could get from the head of his department in England. The abolition of the board would not prevent the interests in Scotland which were concerned with problems of health from direct consultation with the Department of Health. That department and the other new departments would continue to be in Edinburgh, as in the past, for as long as Parliament determined. Dr. SNYDES said the Board of Health was the most progressive Government department in Scotland or England, and its annual report was a model. Its activity in health matters, in supervising the health affairs of local authorities, and in the inspection of schools could not have been done so effectively by a single individual. At present the head of the medical department was on equal terms with the other members of the board, but if he was to be made merely a subordinate technical officer his work would suffer. Dr. ELLIOT said the principle of administrative concentration had proved sound, and the board system had fallen into considerable decay. The Act of 1919, which set up the board system, said that the board should at all times include two registered medical practitioners. That had not always been observed. They hoped in future to find in the department men competent to be technical heads. He saw no reason to suppose that the supply of officials from Scottish services would remain as great as in the past.

**Notification of Infectious Disease.**—On March 27th Mr. SHEPHERD asked the Minister of Health if he would consider the question of so amending the Infectious Disease (Notification) Acts that any case of suspected infectious disease would have to be reported without awaiting the results of a bacteriological examination, if such out awaiting the results of its early stages. Mr. CHAMBERLAIN said the negative. He added that the Acts in question did not require notification to be delayed pending the results of a bacteriological examination, and that notifications were frequently made solely as the result of clinical examination.

**Sanitation of Rural Districts.**—Answering Sir Robert Thomas, on March 28th, Sir KINGSLEY WOOD said that the sanitation of rural districts and the failure of some local authorities to exercise the appropriate powers under the Public Health Act of 1878 were the subjects engaging the attention of the Royal Commission on Local Government under Lord Onslow. The Ministry of Health awaited their recommendations, but could hold out no hope of Exchequer assistance towards such purely local obligations. He could not say when the report of the Royal Commission would be published.

**Small-pox.**—On April 3rd Sir KINGSLEY WOOD, replying to a question, said that during the thirteen weeks ended March 24th last 4,653 cases of small-pox had been notified in England and Wales. During that period approximately 100 Poor Law institutions had been invaded by the disease, and 16 cases had occurred in institutions certified under the Lunacy Acts or the Mental Deficiency Acts, but these institutions were only indirectly under the Minister of Health's control.

**Emission of Gases from Artificial Silk Works.**—On April 3rd Sir KINGSLEY WOOD informed Mr. R. Young that there had been cases of emission of unpleasant gases from some artificial silk works, but he was not aware of any injury to the health of residents in the neighbourhood of the works. The Minister of Health was having further investigation made.

**International Illumination Commission.**—On April 3rd Sir R. THOMAS asked the President of the Board of Trade if, in view of the importance of efficiency in artificial lighting, as affecting the eyesight of the nation, his department would be held in America the International Illumination Commission to be held in America in September. Sir P. CRUSSE-LISTER replied that his department would not be represented at the conference, but the Government would be represented through the Department of Scientific and



Industrial Research. Certain of the technical and industrial organizations concerned in the subject would also send representatives.

#### Notes in Brief.

On April 3rd Sir P. CUNLIFFE-LISTER told Lieutenant Commander Kenworthy that the inspection of crew spaces on British merchant vessels was one of the duties of the Board of Trade survey staff, which numbered 198 in all. Any defects discovered were notified to the owner or agent, with an intimation that if the defects were not remedied the space would have to be added to the tonnage of the ship, and that this procedure had the desired effect. It had been his experience that wherever defects had been brought to the notice of shipowners practically in every case they had been attended to.

The total amount of the invested funds of approved societies in connexion with the National Health Insurance Act at December 31st, 1927, was approximately £111,000,000.

## The Services.

### TERRITORIAL MEDICAL DINNER.

A REUNION DINNER, open to all past and present Territorial medical officers, including *à la suite* officers, will take place, under the auspices of the Territorial Army Medical Association, on May 11th, at 7.30 p.m., at the Connaught Rooms, Great Queen Street, W.C.2, with Major-General Sir Richard H. Luce, K.C.M.G., C.B., M.P., in the chair. Price of dinner, 12s., exclusive of wine. For tickets application should be made to the Secretary, Territorial Army Medical Officers Association, 36, Russell Square, W.C.1.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

THE Electors have awarded the George Herbert Hunt Travelling Scholarship, 1928, to Thomas Holmes Sellers, B.M., Oriel College, casualty surgical officer at the Middlesex Hospital.

At a congregation held on March 31st the following medical degrees were conferred:

B.M.—D. H. Brinton, Oliver H. Lister.

### UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examination indicated:

THOMAS M.B., B.S.—Pathology and Bacteriology; *Materia Medica, Pharmacology, and Pharmacy; Public Health; Medical Jurisprudence*; H. U. G. Harrison. Pathology and Bacteriology, *Materia Medica, Pharmacology, General Principles of Therapeutics, and Pharmacy; Public Health; Medical Jurisprudence*: A. R. D. Pattison, J. C. Arthur, M.Sc., A. Franklin, S. Adler, W. F. Cross, K. Daniels, A. Davis, S. M. Garstela, C. M. Gillis, Katherine M. Girling, C. E. Goldberg, R. W. T. Hall, J. G. Lawson, J. A. Lennox, D. C. Livingston, J. Maddison, W. Muir, J. H. Pool, J. K. H. Scott, J. W. M. Stevenson, J. B. Tilley, H. Wilcox, J. Wolfe.

\* First-class honours. † Second-class honours.

### ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary committee of the Royal College of Physicians was held at 5 p.m. on April 2nd.

The President, Sir John Rose Bradford, gave the annual presidential address and reviewed the work of the College. The number of Fellows was 385 and of members 916. Gifts of the portraits of past Fellows (Sir James Hople and Sir Percy Bassett-Smith) had been received. The President gave an account of the life and work of the following Fellows who had died during the year: Ernest Henry Starling, Henry Cook, Sir Horatio Bryan Donkin, Charles Wilberforce Daniels, Alexander Blackhall Morison, Amand Jules McConnell Ronth, Sir Percy William Bassett-Smith, Sir Dyce Duckworth, Sir Dawson Williams, Sir David Ferrier, Hugh James Moore Playfair, Henry Lawrence McKisack, and William Joseph Tyson.

Sir John Rose Bradford was re-elected President for the ensuing year.

The resignation of Sir Wilmot Heringham as representative of the College on the Senate of the University of London was accepted with much regret. It was decided not to fill the vacancy, as the new Senate of the University would shortly be appointed and the College would not be represented on it. The President was appointed as delegate to the commemoration of Harvey's discovery by the Academy of Medicine in Paris.

Mr. Vernon Joseph de Boissiere was declared to be no longer a Licentiate of the College, having been convicted in the High Court (Divorce Division) of adultery with a patient.

#### Diplomas.

The Diploma in Tropical Medicine and Hygiene was granted to the following forty-four candidates:

C. R. Amies, Mary N. Andrews, R. A. Dunlop, H. Fairbairn, M. M. Fikri, O. M. Francis, W. J. C. P. Grey, Alma B. Har, D. R. Jandial, B. M. Johns, R. S. Johnston, F. B. Jones, Margaret E. Lovett, Margaret M. McDowall, A. A. E. M. Magraby, R. C. Mahajan, M. V. Merchant, J. C. Milne, J. H. Oonvala, T. Parakkutti Ammal, J. R. Pierre, E. W. Rooco, J. D. Reynolds, Enid A. Robertson, G. I. Shaw, T. A. Sherwin, G. Sloan, Hilda M. Smith, A. E. M. Soliman, Grace M. L. Smmmerlayes, V. E. Whitman, N. J. Williams, C. H. Williams, H. M. Willoughby.

## Medical News.

THE KING has appointed Mr. Laurence George Brock, C.B., to be a Commissioner under the Mental Deficiency Act, 1913, to fill the vacancy caused by the retirement of Sir Frederick Willis.

THE next meeting of the Harveian Society of London will be held on Thursday, April 19th, at the Paddington Town Hall, at 8.30 p.m., when there will be a discussion on the treatment of ulcerative colitis from medical and surgical points of view. It will be opened by Dr. H. Letheby Tidy, followed by Mr. L. E. C. Norbury, Dr. E. Bellingham Smith, and Mr. C. P. G. Wakeley.

A MEETING of the Society of Medical Officers of Health will be held at the Guildhall, Bath, on April 20th, at 2.30 p.m., when there will be a discussion on causes of the decline in tuberculosis mortality. The opening speakers will be Sir Robert Philip, Dr. W. M. Willoughby, Professor E. L. Collis, and Professor M. Greenwood. Before the meeting the Mayor of Bath will entertain members of the society at luncheon. Those who intend to be present are asked to notify Dr. J. F. Blackett, M.O.H., Health Offices, Sawclose, Bath, not later than April 16th.

THE following additional appointments have been made to the staff of the Woolwich War Memorial Hospital: Obstetric surgeon, Mr. Harold Taylor, F.R.C.S.; senior anaesthetist, Dr. de Caux; anaesthetists, Dr. Moore Smith and Dr. Dyson. Dr. Cowie and Dr. Moore Smith have been elected to the medical committee of the hospital to represent the interests of the practitioners in the Woolwich district.

THE Health Organization of the League of Nations, following the policy adopted since 1926, has arranged a series of special study courses for medical practitioners who have specialized or who desire to specialize in malaria. Courses will be held this year in London from April 25th to June 13th, in Hamburg from May 7th to June 13th, in Paris from June 1st to July 13th, and in Rome from July 2nd to July 30th, the instruction being given in each case in the language of the country concerned. Details may be obtained from the Information Section of the League of Nations, 16, Northumberland Avenue, W.C.2.

FOLLOWING the establishment of an orthopaedic branch by the Melbourne Children's Hospital the committee is inviting applications for the position of medical superintendent; details will be found in our advertisement columns. A small experimental ward for orthopaedic work has been in existence for about two years, and its success has led the committee to undertake a larger scheme. The new buildings now in course of erection on a spacious site at Frankston, on the sea coast twenty-six miles from Melbourne, will have accommodation for 100 patients, provision being made for physiotherapy, hydrotherapy, and occupational therapy departments, a gymnasium, and school rooms. All the wards will be entirely open on one side to facilitate heliotherapy. It is expected that the new hospital will be ready for occupation about May, 1929.

A SOCIETY with the name of the London Jewish Hospital Medical Society has been constituted, with its headquarters at the London Jewish Hospital, Stepney Green, E.1.

THE KING has confirmed the appointment of Dr. Kenrick Stanton Wise (Surgeon General) to be an official member of the Legislative Council of Trinidad and Tobago, and of Dr. Arthur Hutton McShine to be an unofficial member.

Health and Empire, the journal of the British Social Hygiene Council, has embarked on its third year with the March number, published by Messrs. Constable and Co., at 2s. 6d. An editorial note explains that the council is anxious to extend the circulation of the journal, and the current issue includes material in easily understandable form intended for parents and others concerned with the education of youth.

THE League of Nations announces the publication of the *International Health Year-book, 1927*, the third annual volume, which contains reports on public health in twenty-seven countries in 1926. These countries include the leading member-States of the League, the United States of America, and the Soviet Republics. The first three sections of the work deal with demography, budgets, and health legislation respectively; the fourth is devoted to the preventive aspect of medicine, the fifth to its therapeutic side, and the sixth to general questions, such as the control of foodstuffs, water supply, and health insurance. Copies may be obtained from the League of Nations Publications Department, Geneva, the price being 16s. in paper wrappers, or 20s. in cloth.

A chair of tuberculosis, founded by the Conseil Général de la Seine, has just been established at the Faculté de Médecine of Paris, and Professor Léon Bernard has been appointed as its first occupant.



# A British Medical Association Lecture ON PRACTICAL APPLICATIONS OF RECENT VIEWS ON THE MENSTRUAL FUNCTION.

GIVEN TO THE SHEFFIELD DIVISION, DECEMBER 9TH, 1927,  
BY

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STRANGE beliefs about menstruation are very widespread, and this element of mystery seems, as Novak says, "to have inhibited intelligent efforts to study." It was taken for granted that the function was essentially a cleansing process, its purpose being to cleanse the blood of various impurities, a view still held to-day by not a few lay members of the community. One of the important practical applications of recent views on the menstrual function is the sweeping away of this atmosphere of superstition and speculation. During the last few years what may be described as a new "sexual physiology" has been written, and facts have come to light which prove that the human species in essential details shows but a variation of sex phenomena common to other members of the mammalian family—a variation designed to secure the maximum reproductive activity. This knowledge in due course must produce in the lay mind a more natural atmosphere with regard to everyday ideas about the menstrual function. When menstruation ceases during the years of active sexual life a woman, if not pregnant, still commonly believes herself to be retaining some noxious principle to the detriment of her health. Also many members of our own profession still regard the menstrual function as being nothing more than a preparation for pregnancy.

I need not describe at length the observations and experiments which have led to the modern conclusion that, in the human species, menstruation is a composite function involving two distinct factors. It is necessary, however, to state briefly the nature of the essential factors, as otherwise much of what follows may be difficult to comprehend.

## The Oestrous Cycle.

The time when physiological activity of the reproductive system occurs in mammals is called the sexual season, and during this period a series of cyclical phenomena take place known as "oestrous cycles." Each cycle is physiologically divided into four separate phases:

1. A period of sexual rest (amenorrhoea).
2. A period of growth and functional activity of the sexual organs (pro-oestrus).
3. A period of "heat," when fertilization is effected (oestrus).
4. A period of pregnancy or "pseudo-pregnancy" (met-oestrus).

Considerable variation occurs in different species with regard to the presence, absence, and duration of each of these various subsections of the oestrous cycle, and also with regard to the number of complete oestrous cycles in each sexual season. Breeding, artificial selection, and luxurious conditions can and do introduce great variation into the sexual cycles of most animals—a fact commonly utilized in certain breeds of domestic animals.

Haemorrhage from the genital tract in the case of different species occurs at two points of the oestrous cycle. In some, as the bitch, slight bleeding from the uterus is seen at the end of pro-oestrus due to extreme local hyperaemia of the sexual organs. In other types, as the cow, haemorrhage only occurs at the end of the pseudo-pregnancy, from necrosis and expulsion of a false decidua. In yet other animals—for example, sheep, mare, sow, and various rodents—no haemorrhage into the uterine cavity occurs at all, either during the stage of pro-oestrus congestion or during involution at the end of pseudo-pregnancy.

## Menstruation in the Human Female.

In the human female ovulation occurs from the thirteenth to the seventeenth days of the menstrual cycle, and from this point a state of pseudo-pregnancy exists until its

termination about the twenty-eighth day. Necrosis of the menstrual endometrium, or "decidua" as it should be called, then takes place and external haemorrhage begins. *Pari passu* with the completion of the pseudo-pregnancy a state of pro-oestrus develops, which also reaches its acme about the twenty-eighth day of the cycle, and persists during the expulsion or abortion of the pseudo-pregnancy. This is followed at the conclusion of the menstrual haemorrhage by a short oestral period—Nature's provision to promote fertilization of the next ovum to be liberated from a maturing Graafian follicle.

The menstrual discharge in the human species, therefore, normally contains blood as a result of two distinct factors—namely, that resulting from necrosis and abortion of the pseudo-pregnant decidua, and that due to pro-oestral hyperaemia. The blood is mixed with the secretion of the uterine glands liberated as the result of necrosis of the superficial or compact layer of the menstrual decidua. In all mammals activity of the uterine glands is a prominent feature of pro-oestrus, and the human species is no exception to the rule. The glands of the body and the cervix probably have, however, a very different function. The secretion of the corporeal glands is poured out only after necrosis of the endometrium has occurred. It contains excess of calcium, a ferment or "thrombolytin" which dissolves blood-clot, and apparently also a hormone which stimulates oestrus. The cervical glands, on the other hand, only produce mucus, and probably their function is to facilitate the passage of products from the corpus uteri to the vagina.

The glandular activity of the endometrium during the pro-oestral state is a very interesting phenomenon. It is more than possible that the high calcium content of the secretion is a provision of Nature for the needs of the developing ovum should fertilization occur, as is the case with the so-called "mare's milk" of ungulates. The other great function of the secretion is to dissolve and clear away the products of the unfertilized abortion or unwanted decidua if fertilization is not effected. This fact has a practical application to which I shall refer presently in connexion with the cause of menstrual pain. In the light of recent work upon ovulation and the corpus luteum, menstruation must be regarded as representing primarily the end of a pseudo-pregnant state resulting from the preceding ovulation. The unfertilized abortion is in addition complicated, and in a sense masked, by the very evident glandular activity, oedema, and hyperaemia of pro-oestrus, superimposed upon the primary phenomena in readiness for the next ovulation.

It is a provision of Nature to waste no time. Not only is anoestrus or the "rest" period in the human species completely abolished, but while the remains of the previous debacle are being cleared away the stage is being set for the next scene, which Nature trusts may be more successful. Appreciation of the fact that menstruation involves two functions in the sexual cycle, each serving a definite physiological process, but overlapping the other, throws light upon what otherwise is a difficult problem.

## "Oestrin" and "Ovarin."

The menstrual function has been studied during recent years from both these points of view. During the last twelve months references to the ovarian hormones, particularly the so-called "oestrin," have frequently appeared in the medical press. Now the recognition, isolation, and investigation of the physiological properties of oestrin is research associated with the pro-oestral and oestral factors of the sexual cycle. On the other hand, the clinical and experimental observations resulting from destruction or removal of the Graafian follicle or corpus luteum are concerned with the pseudo-pregnant aspect of menstruation.

The cause of pro-oestrus and oestrus is undoubtedly an accumulation in the tissues of the hormone oestrin demonstrated by Allen and Doisy in America and by Dickens, Dodds, and Wright in this country. This oestrus-producing hormone, although present in the liquor folliculi, is not confined to the follicle. It has also been demonstrated in ovarian tissue without follicles, in the human placenta, and in the secretion and tissues of the uterus. It has not, however, been found in the corpus luteum, and,

according to the recent experiments of A. S. Parkes, its production is also independent of ovarian follicular activity.

At the present time there appears to be rather a widespread opinion that the oestrus-producing hormone is all-important in the production of menstruation in the human species. Personally I am not prepared to admit that it is more than one factor. Oestrin will cause hyperaemia, development, and glandular activity of the uterus, but there is no evidence to show that it produces growth of the endometrial stroma which, when completed, constitutes the decidua. Decidual development requires the constant stimulus of another hormone of the ovary—"ovarin," present in both Graafian follicle and corpus luteum. Oestrin cannot be demonstrated in the corpus luteum, and yet, when this body is excised, necrosis of the endometrium with haemorrhage always occurs. It terminates the pseudo-pregnant state.

An interesting series of observations carried out in my department showed not only that destruction of the corpus luteum results in necrosis of the endometrium in from forty-eight to seventy-two hours, but that similar trauma to ripening Graafian follicles also produces a like effect. In other words, the integrity and development of the endometrium require the constant supply in the circulating blood of a hormone other than oestrin, and elaborated in both follicles and corpus luteum. If this supply is cut off for any reason, then the endometrium necroses at whatever stage of development it may be. The fact that menstruation occurs with necrosis of the endometrium within a few hours of excision of the corpus luteum appears to provide indisputable evidence of the independence of ovarin and oestrin. Both hormones are important for the economy of the individual and the maintenance of the species, but each serves a separate function.

The essential points, therefore, in the theory of menstruation which I am setting out are these: The menstrual function in the human female represents two things—

- (1) The abortion of a useless decidua of the pseudo-pregnancy corresponding to the preceding ovulation.
- (2) The acme of pro-oestrus to promote fertilization at the succeeding ovulation.

The abortion is the result of cutting off the supply of ovarin through death of the ovum and its corpus luteum. Pro-oestrus is caused by accumulation in the tissues and uterine glands of oestrin.

These views receive a practical application when the various pathological conditions associated with the menstrual function are considered. In view of the complexity of the function it is not surprising that anomalies of it are common; indeed, it would be strange were it not so. The establishment and regularity of the normal menstrual rhythm in health from puberty to the menopause is a very remarkable phenomenon, and when we take into consideration the changes in the sexual cycle which can artificially be produced in other members of the mammalian family by such factors as changed environment and feeding, it is only to be expected that the complications and complexities introduced by evolution and civilization will be reflected in variation from type.

#### "White Menstruation."

Such variation usually proceeds along progressive lines, but occasionally phenomena that are atavistic or reversionary are seen in the human species. It is important to remember that atavism can occur with regard to physiological function just as it does with anatomical structure. Two or three examples will make the point clear. The first is the phenomenon known as "white menstruation." Individuals are occasionally seen in whom the menstrual function is never exhibited on normal lines, in that no haemorrhage occurs, although the conformation and structure of the sexual organs present no abnormality. Such women experience the usual menstrual moulting attributable to the onset of the "negative phase" and the development of pro-oestrus; but the subsequent discharge consists of the secretion of the uterine glands only. There is no endometrial necrosis and no external haemorrhage. For in parallel we must study the sex cycle of a polyoestrous mammal such as the merino sheep, where the end of pseudo-pregnancy is not accompanied by tissue necrosis.

Minor degrees of the same atavistic type are not so uncommon. In these subjects the menstrual haemorrhage is very slight and may only be present for a few hours. On the other hand, the periods may be separated by what are apparently long intervals of amenorrhoea. Patients of this type commonly also suffer from severe menstrual pain caused by defective physiological function of the uterine secretion.

The important practical point is that ovulation is normal and therefore fertility is not impaired. Hence it is unwise ever to express an opinion upon the possibility of pregnancy in cases of apparent amenorrhoea without first making a very careful physical examination.

#### "Vicarious Menstruation."

Another interesting anomaly of somewhat similar type is the so-called "vicarious menstruation." The explanation of these interesting cases probably lies in an abnormal and excessive pro-oestral hyperaemia, associated with atavistic absence of endometrial necrosis. A parallel can be found in the corneal haemorrhage which occurs during the pro-oestrus of some rodents. On two occasions I have known haematemesis occur during the pro-oestral state of the domestic cat.

Another explanation of vicarious menstruation is an unbalanced action between the pseudo-pregnant abortion and the pro-oestral state. The local congestion and general vaso-dilatation produced by the activities of oestrin are normally relieved by the haemorrhage which ensues when the pseudo-pregnancy ends. If for various reasons, atavistic or otherwise, this physiological necrosis does not take place, the congestion is likely to be relieved by haemorrhage from other mucous surfaces. There is, I think, very little doubt that, although both factors of the menstrual phenomenon usually coincide, either may be suppressed independently of the other. If, for example, ovulation is defective, pseudo-pregnancy does not occur and the individual, incidentally, is sterile. On the other hand, oestrin may be produced in normal or even excessive amount, giving rise to an exaggerated pro-oestral state. In some cases of hyperthyroidism there is evidence of excessive oestral activity; but this by no means always coincides with increased fertility or even increased menstrual loss. In exophthalmic goitre, during the early stages, we know that menorrhagia is the rule, and can be explained by excessive pro-oestral congestion superimposed upon the menstrual abortion. In the later stages ovulation is suppressed, and although pro-oestrus and oestrus are often marked, amenorrhoea is commonly present.

When ovulation occurs without the development of oestrus, menstruation is rather scanty, but fertility is unimpaired. Such individuals are the subjects of sexual frigidity, and commonly dysmenorrhoea also.

The third and last example of atavism to which I shall call attention is the occasional passage of a large solid menstrual "clot" as the sole manifestation of the menstrual function. This phenomenon, which is normal in the case of some monkeys, is sometimes seen in the human species. I met with an example some years ago in the case of a girl of 19 who, from the age of 16, regularly at each period voided a solid rounded clot, which superficially resembled an early abortion. It was passed apparently without pain and was unaccompanied by any other discharge. I recently heard that this patient is now married and has been pregnant. It was interesting to note that after marriage the menstrual discharge assumed the normal character and no more clots were noticed.

#### Abnormal Uterine Haemorrhage.

The variations of the menstrual function which come most frequently under our notice are those concerned either with excessive or irregular haemorrhage, or with intense pain.

For many years we have been accustomed to group our cases of pathological uterine haemorrhage under one or two headings—namely, "menorrhagia" and "metrorrhagia." In the early days of gynaecological physiology and pathology this simple classification served a useful clinical purpose. It was undoubtedly crude and based upon clinical phenomena only, but it sufficed for the time. As knowledge

increased a revised nomenclature has gradually been evolved, and new terms have been introduced to denote the various clinical types of pathological haemorrhage.

Critically speaking, abnormal bleeding falls naturally into one of four groups: the menstrual "periods" are too frequent (epimenorrhoea), or they are too severe as measured by the blood lost (menorrhagia), or they are too prolonged (menostaxis), or the haemorrhage is quite irregular (metrostaxis).

Too frequent menstruation, or "epimenorrhoea," is the clinical manifestation of abnormal ovulation. The normal rhythm is, of course, an index of ovarian function in terms of follicular activity. Epimenorrhoea is commonly associated with ova of low vitality, and therefore is frequently combined with sterility. Not infrequently it is also a clinical symptom of abnormal bodily metabolism. Sterility without physical signs is often associated with a low basal metabolic ratio, and, if combined with epimenorrhoea, the basal metabolic ratio should be estimated. If reduced, improvement in the general bodily health and the administration of thyroid extract may remedy both conditions.

Care must be taken not to confuse epimenorrhoea with irregular uterine haemorrhage or metrostaxis. Any haemorrhage from the genital tract is commonly regarded by a woman as being a menstrual "period," normal or otherwise. When there is an apparent rhythm established, even with abnormal bleeding, a patient naturally comes to the conclusion that her "periods" are too frequent, and she expresses herself in these terms.

Now there are two periods of life when epimenorrhoea is common—so common, in fact, as almost to be physiological. One is at puberty and the other is at the menopause. At both these epochs a state of ovarian instability exists. At puberty the sexual organs have reached functional activity, due most probably to the development and repeated stimulation of oestrin. At the menopause a state of sexual instability exists owing to exhaustion of the supply of one or both of the ovarian hormones. It is interesting to observe, however, that the sexual instinct is often developed before puberty and, of course, commonly persists for many years after the menopause, pointing to the independence of the oestral phenomena in the menstrual function. At both puberty and the menopause, however, there is one factor in common—namely, the presence in the ovaries of ova of low vitality. In the one case it is due to immaturity, in the other to sexual old age. The occurrence of these ova of low vitality, observed in many animals, is, I believe, intimately associated with, and probably the cause of, the epimenorrhoea and metrostaxis of puberty and the menopause.

#### *Relation of Follicular and Lutein Cysts and Haematomata to Uterine Haemorrhage.*

I have already said that experimental destruction of maturing Graafian follicles produces necrosis of the developing endometrium. Now if such necrosis and haemorrhage can be produced by trauma it is reasonable to suppose that a similar condition of the endometrium will result from death of the Graafian follicle and cessation of its physiological activity. In ovaries that are examined both at puberty and the menopause, from patients in whom epimenorrhoea is a prominent symptom requiring treatment, evidence of abnormal ovulation is frequent. Such ovaries as I have examined contain many cystic follicles in which the epithelium is wanting; or haemorrhage has occurred leading to the production of follicular haematomata. Certain gross pathological conditions in which irregular menstruation is a common symptom—for example, uterine fibromyomata, backward displacements of the uterus, and pelvic inflammation of a chronic nature—commonly exhibit similar lesions in the ovaries. The abnormal haemorrhage and the sterility, which are often combined in these cases and which have previously been attributed to some hypothetical lesion, such as a coexisting "endometritis," owe their common origin to the presence of these dead follicles. The defective ovulation which initiates the train of events is not unlikely the result of circulatory changes in the ovaries produced by the pathological lesion present.

If this conception is correct—and there is certainly a considerable weight of clinical and pathological evidence to support it—the uterus is to be regarded only as the mirror of abnormal ovarian activity. In the past, I am afraid, it has suffered many assaults from being in bad company!

An important practical application based upon the connexion between abnormal ovulation and uterine haemorrhage is the position which ovarian surgery will occupy in the future in the therapy of uterine bleeding. The cystic ovary, or the ovary which contains haematomata, assumes a new importance in the light of these facts. Double oöphorectomy has, of course, long been condemned, but partial oöphorectomy, by removing diseased follicles or pathological corpora lutea, may well prove to be a useful application. Cystic follicles increase intraovarian tension and so interfere with subsequent ovulation. A vicious circle is indeed set up which tends to perpetuate irregular uterine bleeding and sterility. Follicular haematomata can be artificially produced in certain animals—for example, the cat—by the prevention of pregnancy through coitus with a vasectomized male. It seems possible, therefore, that anticonceptual measures in the human species may be followed by a like occurrence, and that the irregular menstruation which sometimes accompanies the practice has its explanation in this manner.

The circulation in the ovary is without doubt a very important factor in normal ovulation. When it is altered as the result of surgical trauma, prolapse of the ovary, the development of uterine or ovarian neoplasms, or pressure from inflammatory adhesions, ovulation is defective, and this is reflected clinically in the occurrence of irregular and protracted uterine bleeding. During operations upon the Fallopian tubes the greatest care should therefore be exercised not to interfere with the ovarian circulation. Furthermore, in the course of myomectomy for uterine fibromyomata, the ovaries should always be inspected and diseased follicles or corpora lutea excised.

A backward displacement of the uterus is always more serious if the ovaries are also prolapsed and their circulation affected. In fact, the existence of irregular uterine bleeding in association with a retroverted uterus may almost certainly be considered to be due to defective ovulation and the presence in the ovaries of pathological follicles. If this symptom is present there is a clear indication for surgical intervention—for example, ovarian suspension.

#### *Ovarian Grafting.*

Another practical application of somewhat similar nature is concerned with the value of ovarian grafts. Ovarian grafting is advocated in certain conditions, such as pelvic inflammatory disease, which involve the separation of both ovaries from their normal attachments, upon the assumption that the maintenance of the menstrual function is essential to the well-being of the individual.

Now if such a graft produces only follicles which reach a certain stage of maturity and then die, the resulting endometrial necrosis and accompanying uterine haemorrhage which represent the "menstrual period" are clearly only phenomena of doubtful value, beyond conferring a possible psychological benefit. Menstrual haemorrhage as such is not an essential to the body economy and well-being, beyond the fact that it may relieve the local and general congestion produced by the action of oestrin. The vasomotor "flushes" of the menopause appear to be caused by the unbalanced action of oestrin without local depletion. Sexual life is not commonly affected by total ablation of the ovaries, and there is therefore no necessity to graft ovarian tissue with the idea of conserving oestrins. There thus remains only the metabolic factor upon which to base the *raison d'être* of ovarian grafting. Since evidence is available which tends to prove that the cells of the ovarian stroma are responsible for the hormone which is an integral part of the "sex complex," it appears reasonable to suggest that only this tissue should be employed for the purpose of grafting. To insert deliberately into the tissues Graafian follicles, which in all probability will necrose before maturation owing to circulatory deficiencies, is to confer upon the patient a



## An Address

ON

## RINGWORM AND ITS TREATMENT.

DELIVERED BEFORE THE HENDON DIVISION OF THE BRITISH  
MEDICAL ASSOCIATION

BY

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## INTRODUCTORY.

In selecting ringworm as the subject for this lecture, which your Division has so greatly honoured me by asking me to deliver, I have been guided in my choice by experience that the recognition of ringworm is liable to prove a stumbling block to the practitioner, and that the difficulties of its successful treatment are apt to be so great as to render it almost a subject of reproach by the laity.

Ringworm is a common affection of the skin, due to a group of mould fungi, which may attack the glabrous skin, hairs, nails, and in rare instances, by extension, the mucous membranes, the clinical appearances of which differ according to the variety of fungus responsible, the site of the lesions, and the individual peculiarities of the skin affected.

## RINGWORM FUNGI.

The fungi, or hyphomycetes, of ringworm constitute an interesting group, which has been placed provisionally in the order of the Ascomycetes, and in the family of the Gymnosaceae. In the skin they grow anaerobically in the form of a network of mycelial threads or "hyphae," which constitute the vegetative part of the fungus. The hyphae break up into small sections, to which the name "spores" has been applied, which in turn become elongated into new hyphae, and so perpetuate the fungus. Other methods of reproduction occur if the fungus be grown anaerobically away from the skin. In culture, for example, reproduction takes place by chlamydo-spores, while in hanging drop preparations it takes place by endoconidia. Its true method of reproduction, however, is aerobic, when it proliferates by means of aerial hyphae with terminal and lateral buds.

For many years it has been known that ringworm is due to a number of different fungi, which are so closely allied and so similar in their microscopical appearances as to be almost indistinguishable, but are capable of differentiation by cultivation on certain artificial media. Certain of them are found only on the human skin, while a considerable number occur in lower animals, and in birds, from which they are transmissible to man. The fungi are transmitted directly by contact, or indirectly by infected combs, brushes, caps, clothes, bath mats, etc. It is even possible that the infection may take place by spores blown about in the atmosphere, as dried spores have been shown to be viable for more than a year, and might easily remain about rooms where infected persons had been.

## Pathogenic Action.

The fungi of ringworm have a double action on the skin: (1) a corrosive action on the epidermis, hairs, and nails, owing to the elimination by the fungus of a keratolytic ferment; and (2) an irritant action from their rapid growth and the toxic influence of the ferment, which results in inflammatory reactions, varying in degree from mild erythema to vesico-pustular or even granulomatous lesions. The degree of inflammation is dependent on the variety of the fungus—those of animal origin being specially virulent—and the susceptibility of the individual skin, which may be a natural peculiarity, or acquired as the result of some constitutional disturbance. As an example of the latter happening, I recently had a case of ringworm of the scalp in a child, in which the lesions were of the dry, scaly, slightly inflamed type; an attack of measles supervened, and the patches of ringworm became acutely inflamed, raised, and dotted over with vesico-pustules.

## Varieties of Fungi.

There are two main groups of ringworm fungi, known respectively as the Microspora and the Trichophyta.

1. *Microspora*.—In Great Britain there are four varieties of microspora which are of practical importance—namely, the *M. audouinii* (Gruby, 1843), *M. caninum vel lanosum* (Bodin), *M. felinum* (Colcott Fox and Blaxall). Of these the *M. audouinii* is by far the most common, and is responsible for at least 90 per cent. of all cases of ringworm of the scalp, and for a large number of those of the glabrous skin. It is a human ringworm, while the other three, as their names indicate, are of animal origin. It attacks the scalp in children, but rarely the adult scalp, as at puberty, for some reason so far unexplained, the scalp becomes an unsuitable soil for its growth, and, consequently, scalp ringworm in children, due to this fungus, tends to disappear spontaneously about the age of 14 years.

2. *Trichophyta*.—There are two main varieties of trichophyta which attack the human skin—namely (a) the *T. endothricae*, which are of human origin, and (b) the *T. ceto-endothricae*, which are transmitted from animals.

(a) In this country there are three principal varieties of *T. endothrix*, which are distinguished by presenting distinctive colours when grown on prop agar in the dark—namely: (1) *T. crateriforme*, a cream-coloured culture; (2) *T. sulphureum*, a yellow crateriform culture; and (3) *T. acuminatum*, a greyish-yellow acuminate culture.

(b) The *T. ceto-endothricae* form the largest group of the ringworm fungi, and most of them are of animal origin. They are responsible for the majority of cases of ringworm in adults. Of these the most common are: the *T. nircum* of cats and dogs; *T. equinum* of horses, sometimes found in the beard in man; *T. rosaceum* of fowls, in which it gives rise to the disease known as "white crest"; and *T. violaceum*, which has been recovered from suppurative ringworm of the beard, face, and scalp.

In addition there are several varieties of trichophyta of human origin, to which the name Epidermophyta has been given, such as the *E. inguinale* (Sahourand) and *E. rubrum* (Castellani). These are mainly responsible for ringworm of the crutch and axillae, and the eczematoid ringworm of the feet and hands.

## CLINICAL APPEARANCES.

## Glabrous Skin.

Any part of the glabrous skin may be attacked by ringworm, the lesions varying according to the fungus responsible and the type of skin affected. They may be scaly macules, irregular, ringed, or gyrate in shape, vesico-pustular patches, or occasionally granulomatous nodules, the more virulent lesions being usually of animal origin.

The intertriginous regions—namely, the crutch, axillae, beneath the breasts in stout women, and the interdigital spaces between the fingers and toes—may be the sites of a special variety of ringworm, which has been known variously as *tinca eruris*, *dhobie's itch*, or *eczematoid ringworm*. This variety, which came originally from the East, has increased enormously since the great war, as large numbers of the troops campaigning in the East were infected with it, brought it home, and spread it among the civil population. Its exact manner of transmission is uncertain, but it is probably most often conveyed indirectly by walking barefoot on infected floors, by bath mats, water-closet seats, etc. It is possible that in some cases the strong belief in India that the *dhobie*, or washerman, is responsible for its spread, by washing clothes in pools of stagnant, infected water, may not be ill founded. The objectionable habit of wearing trousers next the skin is a likely way of keeping up the infection, and in public schools it has been traced to boys wearing promiscuously one another's football shorts, or other garments.

In the crutch and axillae it gives rise to irregular patches with a well-defined, sometimes festooned, border, which may be scaly, or raised and dotted over with oozing papules or vesico-pustules—hence its old name "*eczema marginatum*" (Hebra).

On the feet and hands it occurs in three main types. (1) An aceto vesico-bullous type, generally known as

"eczematoid ringworm of the extremities," which attacks the interdigital clefts, and may spread on to the dorsum of the foot or the back of the hand in erythematous patches, which may be scaly, or dotted over with vesico-pustules, or may present a sharp edge, with detached, undermined skin. This type is often mistaken for acute eczema, and many cases formerly labelled dysidrosis belong to this category. (2) A chronic type, which may succeed the acute type, characterized by indefinite, scaly patches. (3) A thick scaly type, affecting the palms and soles, in which the horny layer is not only thickened but fissured. These patches are irregular in shape, with detached edges, beyond which may be an erythematous areola, and small vesico-pustules. Between the toes, especially between the fourth and fifth toes, the skin is apt to become white and sodden, like suede leather, and fissured in the folds. The nails may also be implicated, becoming discoloured, thickened, brittle, and raised up at the free border, owing to a thickening of the nail-bed. Subjective symptoms are not infrequent in connexion with it—such as itching, discomfort, and even pain from fissures, which may be so great as to interfere with walking.

The diagnosis of eczematoid ringworm may present great difficulty. In the extremities it has to be distinguished from "dysidrotic eczema," or even in some cases from a late syphilide, and cases are not infrequent which have been treated as eczema for years before their true nature was recognized. In doubtful cases a microscopical examination should always be made. With this object a scale should be detached at the growing edge of the lesion, or a covering of a vesicle removed, and placed with the deep side uppermost on a microscopical slide. A drop of liquor potassae should be added, a cover-slip applied, and the specimen examined with a high power. It may be necessary to make several preparations before a positive result is obtained, when the fungus can be detected as a network of mycelial threads among the epidermal cells.

#### Scalp.

The clinical appearances of ringworm of the scalp may be conveniently considered under three headings: (1) suppurative ringworm; (2) microsporon ringworm; and (3) endothrix ringworm.

1. *Suppurative Ringworm.*—Suppurative ringworms of the scalp are known as kerions, and are generally due to trichophytha of animal origin, though occasionally in children they may be caused by microspora. They may occur at any age, and constitute the majority of ringworms of the adult scalp. The lesions are boggy, phlegmonous raised patches, with a shiny, angry-looking surface, and a well-defined border, and are usually dotted over with small peri-follicular abscesses, from which ooze beads of sero-pus, and in the centre of which a loose stump may often be detected. On palpation they have a peculiar soft, fluctuating feeling, which leads the inexperienced to incise them in the expectation of finding pus, instead of which only a few drops of blood or serum exude. The suppuration is due to the inflammatory reaction of the scalp to the fungus itself, and not to a secondary infection with pus-coeci.

2. *Microsporon Ringworm.*—The microsporon is responsible for the familiar, mildly inflamed, scaly patches in children, in which the hairs are broken off short and form the characteristic ringworm stumps. In the infant, where the hairs are delicate, the patches may be definitely ringed, but in older children they are usually irregular in shape. The stumps are easily recognized, being thicker than the healthy hairs, and presenting a dirty white, opaque, or frosted appearance, due to a sheath of fungus around them. Recently a useful aid to the diagnosis has been furnished by the ultra-violet rays through a Wood's glass screen, as ringworm stumps become fluorescent under this light, and by this means not only patches of ringworm, but isolated infected hairs can be detected. As a rule the inflammation in this type of ringworm is mild, but occasionally, owing to some peculiarity of the scalp, on account of which it reacts more powerfully to the fungus, it may be so severe as to go on to suppuration. Should this happen, it is to the advantage of the patient, as the ringworm becomes self-curative.

3. *Endothrix Ringworm.*—Endothrix fungi are responsible for about 5 per cent. of the cases of scalp ringworm. The characteristic lesions produced by them are small, scaly, roundish patches, irregularly distributed over the scalp. In certain cases short stumps are present, but more often the affected hairs are broken off at the orifices of the follicles, forming plugs like comedones; hence the name "black-dot ringworm." These plugs are difficult to remove, except by a comedo expressor, or by detaching a scale covering an affected follicle, when the plug appears as a small spike on the under surface. Endothrix ringworm is generally of human origin. It is difficult to diagnose on account of the smallness of the patches and the shortness of the stumps, and is often mistaken for tinea, as the fungus has no tendency to spread at puberty.

#### TREATMENT.

Ringworm, being a local affection, is not amenable to any form of internal treatment. A number of experiments have been performed in connexion with the production of immunity to it in man and animals by the injection of vaccines, but these have only been partially successful in the case of suppurative ringworm of animal origin, and have not helped materially in the treatment of the disease.

#### Glabrous Skin.

The treatment of ringworm of the glabrous skin is as a rule a simple matter compared with that of the scalp. When the lesions are dry, scaly patches, or ringed lesions, the scales should be removed by scraping or by rasping with soap and water, and the patches painted daily with liniment of iodine, or with tincture of iodine, to which 10 per cent. acetic acid has been added. After about a week the iodine has usually destroyed the fungus. The cure may then be completed by rubbing the patches for a few days with a 2 per cent. salicylic acid and sulphur ointment. In delicate skins iodine may prove too irritating, and in such cases 3 to 6 per cent. benzoic and salicylic acid ointment may be substituted.

In suppurative ringworm painting with iodine, followed by the application, after a week, of a 4 per cent. ammoniated mercury ointment, will generally effect a cure in about ten days.

In ringworm of the crutch and axillae more active remedies are necessary. The affected parts should be scrubbed daily, or oftener, with hot water and soft soap to remove the crusts, scales, and discharges, and an ointment rubbed in containing either 5 per cent. oxidized pyrogallie acid, which, though effective, has the disadvantage of being dirty, or a 3 to 5 per cent. benzoic and salicylic acid ointment, a valuable combination which was suggested by Whitfield. When painful fissures are present about the inguinal regions they may be healed by painting with a 3 per cent. solution of silver nitrate in spirit, or with friar's balsam. By this treatment a cure is generally effected in two or three weeks, but, to prevent recurrences, it is advisable that the parts should be painted daily for about a fortnight with a 10 per cent. solution of tincture of iodine in 60 per cent. spirit. It is important also that the underclothing which has been worn previous to the cure of the disease should be destroyed or thoroughly disinfected.

The treatment of eczematoid ringworm of the extremities, especially of the feet, requires even greater energy to effect a cure. Before applying the above remedies any vesicles should be opened and scales and loose epidermis removed, and when the lesions are acutely inflamed and purulent the inflammation should first be reduced by boracic compresses, or by soaking the feet in boracic baths or in a solution of potassium permanganate. The most intractable type of all is the *interdigital variety*, with white, thickened skin between the toes. In such cases the feet should be soaked daily in salt water—wading in the sea in summer being a valuable substitute—to macerate the thickened skin and allow the remedies to penetrate. Of these the most useful are the salicylic acid and benzoic ointment, a saturated solution of salicylic acid in spirit, the continuous application between the toes of 4 per cent. salicylic plaster, or daily painting with a 3 per cent. silver nitrate solution. The socks should be of white or natural coloured

wool, and changed at least once daily, and an antiseptic powder dusted into the feet before they are put on. After the socks have been worn they should be soaked in a solution of lysol, or stored. The boots also should be disinfected by occasionally swabbing out the inside with a 1 in 20 solution of lysol, as it is possible for the fungus to remain growing on the sodden leather inside the boot, and to work its way through the sock and reinfect the foot.

#### Scalp.

The ease with which ringworm of the scalp is spread necessitates the isolation of cases as soon as they are recognized. As a preliminary to treatment the hair should be cut short with clippers, such as are used by barbers. This is preferable to shaving the scalp, as, when it is shaved, it is more difficult to distinguish the healthy from the diseased hairs. The scalp should then be covered with a closely fitting cap made of cotton or other light material, which should be continuously worn.

The treatment of ringworm of the scalp may be considered under the two headings of suppurative and non-suppurative ringworm.

(a) *Suppurative Ringworm.*—Pustular ringworm of the scalp is much more easily cured than the dry types, as the condition is self-curative, the suppuration leading to a destruction of the fungus. The treatment consists of keeping the scalp clean by the application of boracic compresses or of mild antiseptic ointments containing boric acid, salicylic acid, or ammoniated mercury. When the swelling and inflammation subside a red bald patch is left. As a rule the hair grows over it in about six months, and only in rare instances, where superficial ulceration has supervened, does permanent baldness result.

(b) *Non-suppurative Ringworm.*—The dry, scaly forms of ringworm of the scalp are the most intractable. The difficulty of curing them is a mechanical one and due to the impossibility of reaching the fungus in the depths of the follicle by medicaments applied to the surface. As an illustration of this I may cite a case of microsporon ringworm in which I had the head kept shaved and the patches painted daily with liniment of iodide until blistering occurred. When this was healed, hairs were epilated, planted on proof agar plates, and cultures obtained. This procedure was repeated three times in six months, and always with the same result. To cure these cases it is necessary that the diseased hairs should be completely shed. Unfortunately, epilation by forceps is useless, since, however carefully it may be done, certain of the stumps are bound to be broken off and part of the infected root left behind. By far the most effective and rapid method of getting rid of the diseased hairs is by the x rays, and it is the method generally adopted. Occasionally scalps are met with that react so strongly to almost any irritant application that the x rays may be unnecessary, or the scalp may be so sensitive that the fungus itself causes so much disturbance that the ringworm becomes cured spontaneously by the hairs falling out, leaving temporary bald patches, suggesting alopecia areata, but differing from the latter in that the patches are generally inflamed and present no typical "point-of-exclamation" hairs. In infants under a year old the use of the x rays is inadvisable, and a cure can generally be effected by suitable parasiticide applications, such as ointments of salicylic and benzoic acid, iodide of sulphur, etc., as the scalp and hairs in the infant are more delicate. About puberty also, in the case of microsporon infections, the employment of the x rays is unnecessary, and parasiticides will suffice to hasten the spontaneous cure which occurs at that time.

#### Parasiticide Treatment.

When the x rays are not available, or their use is undesirable, it is necessary to resort to some parasiticide application, of which there is a large choice. It may be said that the value of a parasiticide is directly dependent not so much on its caustic action, or its power of killing the fungus directly, as on the amount of inflammatory reaction, short of ulceration, it is capable of setting up. Of the numerous irritants and parasiticides which have

been employed the two which I have found to be most useful are croton oil and sodium chloride, both of which act indirectly by the acute reaction to which they give rise.

#### X-ray Treatment.

The x-ray treatment is more rapid than any other method, and has the advantage of being painless. In competent hands it can be done, as a rule, with absolute safety, not only as far as the skin is concerned, but without any deleterious effect on the health and growth of the child; and the fear which was at one time engendered in the public mind with regard to harmful effects of the treatment on the brain is without foundation. It is an operation, however, which is by no means easy, and necessitates not only a suitable x-ray system for the purpose, and a working knowledge of the mensuration and application of the x rays, but an intimate acquaintance with the disease and its management. Without this it is a highly dangerous procedure, and may lead not only to severe dermatitis, but to permanent baldness. The casual fashion in which it has so often been undertaken in the past by those either lacking in technical skill or in knowledge of the disease has led to the most disastrous results, and has too often brought a valuable treatment into disrepute.

The x rays act simply as a depilatory. They do not destroy the fungus, and a culture of ringworm may be made from hairs which have fallen out as a result of exposure to them.

I shall not attempt here to describe in detail the x-ray technique nor the apparatus most suitable for the purpose; these can best be demonstrated in the operating room. The procedure is, briefly, to expose the whole of the scalp once to what is known as a pastille dose of x rays, which is the maximum dose the skin can stand without harmful effect, and which is sufficient to cause the hair to fall out without so injuring the papillae and follicles as to prevent regrowth. To expose the whole scalp uniformly it is necessary to divide it up into five areas, which are irradiated serially by what is known as the Kienböck-Adams method. The time occupied in exposing the entire scalp varies according to the apparatus and the methods of the operator. At Charing Cross Hospital our average time is about three-quarters of an hour, and this includes not only the time taken in exposing the various areas, but also that occupied in placing the child in the different positions, and carefully fixing the head at the required distance from the anti-cathode of the tube. During the exposure it is essential that the head be kept still. As it is dangerous for the nurse or operator to attempt any form of restraint it may be necessary, when very young or restless children have to be rayed, to employ a special couch on which the child can be strapped, and the head fixed in the required position.

The x rays have no apparent effect on the scalp at the time of the exposure, nor are any marked sensory symptoms produced by them. Young children are sometimes frightened by the noise; on the other hand, they may as readily go to sleep during the exposure. A few hours after the exposure, especially since the introduction of powerful Coolidge tubes, the child may be a little out of sorts and sick, but the indisposition is transient, and there are no after-effects. About fourteen days after the exposure a slight erythema may appear, associated with itching, and in the next few days the hair begins to fall out, the defluvium generally being complete by the twenty-first day. Eight weeks later the hair begins to grow again as a fine down, and regrowth is complete in about six months. As a rule, it is advisable to irradiate the entire scalp, even when the disease appears to be confined to one or two areas, as it saves time in the end, for the infection is almost certain to spread to other parts in the interval between the exposure and the fall of the hair, necessitating a further exposure, which may be difficult to do without overlapping.

The chief risk of the treatment is the danger of over-exposure, followed by dermatitis and incomplete regrowth of the hair. With proper care and modern technique, however, this should be a rare occurrence.

At one time it was believed to be inadvisable to x-ray children under 3 years of age, before the fontanelles had closed. Further experience has shown that, provided the child can be kept still by the use of a specially designed

couch, on which the child is strapped, younger children, and even infants of twelve months, may be treated safely by the rays.

Before exposure to the  $x$  rays the hair should be cut short with clippers and the scalp washed. Should any acute inflammatory disturbance be present, such as impetigo from scratching or irritation from previous treatment with parasitocides, especially iodine, it should be dealt with previous to exposure to the rays. If this precaution be neglected and the exposure be made on an inflamed scalp, the irritation and itching present may lead to scratching, secondary inoculation of pus-coeci, and more or less severe impetigo. After the exposure a cotton cap should be fitted to the scalp and worn continuously, and every day a 1 per cent. ammoniated mercury ointment should be gently rubbed over the scalp. On the fourteenth day the scalp should be washed with a non-irritating soap, such as Castile soap, and the washing repeated daily until the hair has fallen out. When the desquvium is complete, about the twenty-first day, the child ceases to be infectious, and may return to school, a small brown skull-cap being worn until the hair grows. The after-treatment of the scalp, until the hair returns, consists in washing and massaging it daily with almond oil or weak horic ointment, to stimulate the circulation and so encourage the hair growth.

#### Depilation by Thallium Acetate.

The most recent method of depilating the scalp is by pure thallium acetate. Thirty years ago Sabourand

attempted to produce a depilation of the scalp by injecting a solution of thallium acetate, but the treatment was so unsuccessful that it was abandoned. Recently, as the result of the experiments of Buschke and others, its use has been revived. It is given by the mouth, in a dose of 8 to 8.5 mg. per kilogram of body weight, the drug being dissolved in sugar water, and given on an empty stomach. About ten days after its ingestion the hair begins to fall out, and the depilation is more or less complete by the nineteenth day. The infected stumps do not fall so readily as the healthy hairs, so that the epilation may have to be completed by extracting them with forceps, or by applying strips of adhesive plaster. During the time in which the desquvium is taking place the scalp should be painted daily with 5 per cent. tincture of iodine, and a 6 per cent. sulphur ointment rubbed in.

As the thallium acetate acts through the sympathetic nervous system, and may cause severe general disturbance in the child, associated with drowsiness, irritability, pains in the joints, and weakness in the legs—symptoms which develop about the eighth day—it is advisable that the child should be kept in bed.

This treatment is only suitable in the case of young children up to 4 or 5 years of age, as in older children the dose necessary to cause the depilation is too great for safety. The treatment is less satisfactory than the  $x$  rays, and, owing to the dangerous general symptoms associated with it, should be employed with the greatest caution.

## THE USES AND SOME ABUSES OF HYDROTHERAPY.

BY

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THERE is apt to be some mystification amongst practitioners as to the method which may underlie the madness which leads spa physicians to persuade their patients to be boiled, baked, or beaten, and induces these unfortunates to submit to these afflictions. Probably everyone is agreed that when a patient comes to a spa he benefits from the fact that he enjoys a change to a different climate, to a different environment, to different food, while he leaves his business and home worries behind him. Also he comes with the idea of having treatment, and therefore will do what he is told as to diet, exercise, and rest.

#### Hydrotherapy an Adjutant in the Cure of Disease.

With all these factors I do not propose to deal. My subject is, What do the waters do? Now at once we must admit that they do not do what they once were said to do. For example, it is recorded that at one time ladies came in large crowds for the cure at the bath in order to be relieved of the distressing malady of sterility. Nowadays, alas! this is no longer the case. Indeed, it was whispered not long ago that a sweet young thing had approached a most avowed physician, and asked demurely whether the ladies' douche was a suitable cure for the opposite condition. In those days spas were famous for the cure of the scurvy, the scrofula, and the gout—diseases which no doubt are still with us, but neither so common nor so picturesque in these degenerate days, when vitamins and soapuds have displaced the baron of beef and the strong waters.

Nevertheless, even to-day, if the credulous practitioner consults the guide to any spa and observes the table of contents, he finds two headings—indications for treatment, and contraindications for the same. The first occupies several pages, the second probably two lines—those with acute fevers who might infect the inhabitants, and those in the last stages of heart disease who might die, thereby adversely affecting the vital statistics of the famous health resort. The practitioner wonders how he still retains his livelihood, since a ticket costing a few shillings will bring practically all his patients within reach of cure, and yet we sometimes hear the spa physician complaining that he

cannot pay for the upkeep of his third Rolls-Royce. Naturally the practitioner knows that all these diseases are not cured by hydrotherapy, and is apt to class spas and all connected with them as quacks and know-alls, whose professions are closely in correlation with their ignorance. Yet this is not by any means fair to spas, and leads to a neglect of what can be done by physical means of treatment.

The confusion all arises from the pernicious habit, introduced by no less a person than Galen, of thinking in terms of diseases. Any really honest physician—I cannot here speak for surgeons—knows he never cured a disease in his life by this or that special means of treatment. On the other hand, he does know that by his general management of the patient, both from the physical and mental standpoint, he so improved the latter's power of adaptation to his environment that he recovered from the various subjective symptoms and objective disabilities which for the sake of convenience the medical profession have agreed to call this or that disease. Let us therefore get rid of the first great abuse of hydrotherapy, the idea that it cures any disease. We must realize that in its proper sphere it may be a useful adjutant to promoting the recovery of certain patients in virtue of what it does. If we wish to summarize this action we may include the effects of hydrotherapy under four heads: washing the patient within or without as the case may be; waste elimination—and if anyone should desire to change the spelling of waste I for one do not complain; alteration in the capillary circulation; and, fourthly, reflex effects from stimulation of the superficial nerve endings.

#### External Hydrotherapy.

Hydrotherapy may be administered externally or internally. Let us first consider the external application. In all seriousness I wish to lay stress on the word "wash." As we shall see in a moment, it is by elimination through the skin that hydrotherapists seek to bring about a large part of their results, and unless and until the skin is really clean adequate sweating cannot take place. It is doubtful if too much stress can be laid on the importance of the skin as an organ of elimination, and a very short experience of the maladies of middle life will convince anyone of the frequency with which the function of the skin is upset in one way or another. It is not so very long ago that every patient who came to a spa expected to be told that he was gouty, and what people expect they frequently get. Hence the old-time spa physician set up

for himself a little golden idol—the idol of uric acid. The patients were told that by means of the treatment which they underwent uric acid was expelled from every orifice of the body. It may be supposed that some sceptical patient demanded proof, and some physician fell to the temptation of a deception which, alas! is still alive among the less well informed outside and even inside the profession. It was found that at the beginning of treatment litmus paper laid on the skin turned red, while later it turned blue. What more simple? Elimination of uric acid—cure of gout? Nothing of the kind; simply washing the skin clean. If the sweat was really acid it would be a *post-mortem* phenomenon; the sweat is always alkaline, but the sebaceous detritus in a skin which does not habitually sweat freely is acid, and till that is removed the litmus paper will turn red. Having washed our patient we further proceed to make him sweat, and it is here that we may lay claim to real therapeutic results.

So far as Bath is concerned, shortly after the war Dr. Vincent Coates and the present writer managed to persuade some long-suffering ex-soldiers who were out of a job to come into hospital and submit to a fixed routine of diet and exercise. Drs. Pincent and Rayment, the bio-chemical experts in the University of Oxford, then carried out some investigations on the urine and sweat of these men, who were divided into two groups—one ingesting and bathing in mineral water only, and the other group using tap-water and producing sweat by other means. Quite definite differences were found in the excretion of calcium, sodium, and potassium ions, as well as in the distribution of the acid radicals.

So, as a result of well-authenticated and controlled experiment, we may say that the mineral water has a specific effect on excretion. Whether this is due to radio-activity, to the peculiar colloid content of the water, or to saline concentration in the water, we do not know, and the determination of these questions awaits further experiment. However, from the present standpoint this is of no great importance, since the experiments do advance the argument that it is by skin action that results are obtained.

The next effect of the external administration of water is on the capillary circulation. There is little enough exact knowledge about capillary circulation, but we recognize that at present we are only on the threshold of a very important field of investigation. It is known that only a comparatively small proportion of the capillary circulation is patent at any given time, and that changes in the relative patency profoundly modify not only the blood pressure as a whole, but also the local distribution of the circulation. The effects of capillary dilatation, therefore, which may be expected to ensue are relief to a labouring heart from reducing the resistance to be overcome, alteration in congested organs owing to the redistribution of the circulation, elimination of toxins by means of the sweat glands activated by the greater flow of blood through the skin capillaries, removal of locally deposited toxins, and softening of fibrous and scar tissue.

That reflex effects occur as a result of the stimulation of the end-organs in the skin and mucous membranes by means of the pressure and thermal effects of water is perfectly obvious to any observer, but the analysis of these from the neurological standpoint is extremely difficult and complex, and quite out of place in a paper such as this. Suffice to say that the rate and rhythm of the functions under the control of the medullary centres are profoundly modified, at least temporarily, while the general metabolic exchange is definitely altered.

We must next consider shortly by what means these results may be brought about. The effect will depend on the temperature and duration of the bath and on the pressure of the water. Baths may be cold, tepid, sub-thermal, thermal, and hypothermal.

The cold bath at less than 60° F. constricts the superficial capillaries, stimulates the nerve-endings, and causes reflex increase in the respiratory quotient and pulse rate. Diuresis is subsequently evoked, with consequent elimination of toxins, and the general metabolic exchange is increased.

The action of the tepid bath from 60° to 85° F. resembles that of the cold bath, but is of less intensity.

The subthermal bath from 85° to 98° F. is of significance

in so far as it approaches the temperature of thermal indifference (93° F.). At this point general metabolism is unaffected, and as peripheral stimuli on the circulation and nervous system are reduced to a minimum these baths are definitely sedative.

Thermal baths from 98° to 104° F. dilate the superficial capillaries and lower blood pressure temporarily. The general temperature of the body and of the circulating blood is raised. The effect on the neuro-muscular system is sedative, spasm is relaxed, and pain relieved. Elimination of toxins is greatly promoted by diaphoresis, both immediately and subsequently. The increase of body heat augments general metabolism.

Hyperthermal baths from 104° to 112° F. cause immediate constriction of the peripheral circulation, followed by dilatation. There is tonic effect on the neuro-muscular system if the duration is very short, but a marked sedative and even debilitating effect may ensue if immersion is prolonged. Elimination of toxins is promoted by diaphoresis, general metabolism is increased, and the body temperature is raised. Care must be taken in the administration of thermal and hyperthermal baths, since if too prolonged they may give rise to the condition known as thermal debility—an increasing weakness which may be of serious significance in patients with heart disease.

The pressure effects of baths are as follows:

1. General—in immersion baths. The effect of the general superficial pressure of a large volume of water on the body is to increase the rate of peripheral circulation in two ways: first, by mechanically emptying the superficial veins; and secondly, by reflexly increasing the rate of capillary flow.

2. Local—by douches. Douches may be stimulating or sedative according to their temperature and pressure. Affusion by a large volume of warm water at low pressure has a sedative effect, relaxing spasm and relieving pain and dilating superficial capillaries. High-pressure douches, especially if applied to a small area through a narrow jet, constrict the local capillaries and exert a powerful reflex stimulating effect on the neuro-muscular system and on the respiratory and vasomotor centres. It is unnecessary to point out that while such treatments are being given other methods, such as massage and electrotherapy, may be administered.

#### Internal Hydrotherapy.

Taken internally the water acts in the same way by washing and waste elimination.

Leaving aside those waters which claim a definite medicinal quality from their chemical content, such as sulphur, iron, or iodine, whose action belongs to pharmacology in its more restricted sense, the action on the stomach is mainly physical, flushing the organ with a warm non-irritating fluid, hastening the passage of its contents through the pylorus, diminishing secondary fermentation of carbohydrates, and cleansing the wall of the viscus, preparatory to the next meal. It probably causes temporary increase in the flow of hydrochloric acid and ferments, and has no aperient effect in the amounts usually prescribed.

In addition to their physical action in irrigating the tissues and promoting the removal of toxic material, these waters would seem to have peculiar properties in preventing the deposition of urates in the system. The ingestion of the water is rapidly followed by free diuresis, to which is largely due its value in gout and other conditions characterized by faulty elimination.

Administered by the rectum in the form of the Plombières douche the water acts as a cleansing agent, removing the faecal material by means of the first injection, and dissolving the mucus which may cling to the lining of the bowel by the second. This second injection may be made a useful vehicle for the administration of disinfectants, etc., in cases of bowel disease.

I think it is only right to say that in the wrongful administration of the Plombières douche lies one of the chief abuses of hydrotherapy. Only too frequently one meets patients who say, "I was at a spa two months ago and got such benefit from the Plombières treatment; but now I am as bad as ever, and I think I had better go back." This may be very gratifying to the spa, but not to the patient, and generally means that too much fluid has been injected at too great a pressure, thereby distending an already atonic colon. All that is ever needed for an efficient douche is 1½ to 2 pints from a height of



1½ to 2 feet. As a nasal, pharyngeal, or vaginal douche a bland mineral water may act as a valuable solvent of mucus, a cleansing agent, or as a vehicle for other medicaments.

So much for the use of hydrotherapeutic methods. The indications must be not for this or that disease. Let us get away from Galen and his classification of diseases and back to Hippocrates and the estimate of the total personality, bodily and mental, of our patients. When the doctor has arrived at a diagnosis, not that the patient is suffering from this or that disease, but that he requires a change of scene and occupation, elimination of poisons, or a redistribution of circulation, let him remember the possibilities of a spa and hydrotherapy. On the other hand, let him not expect results from hydrotherapy where these effects are not likely to help, for in this lies abuse of hydrotherapy. Obviously acute disease of any sort is not suited to such treatment, at least until the active stage of the disease has abated, and, above all, the submission of a case of acute rheumatism to hydrotherapy within three and probably six months of the attack is to be avoided. Where there is any cardiac affection which has not completely subsided I am prepared to say that these cases always do badly, and even cases which do not show any evidence of cardiac disease on their arrival at a spa may do so in the course of their treatment if sufficient time has not been allowed to elapse since the acute attack.

Finally, let us face the facts of hydrotherapy and realize what we can do with its aid, and confine ourselves within these limits. The worst abuse of hydrotherapy is the tendency to make a mystery of it, and to regard it in any way as a miraculous cure for any and every disease.

## OVARIAN SARCOMA IN A CHILD ASSOCIATED WITH SEXUAL PRECOCITY.

BY

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CERTAIN tumours of childhood are associated with striking general abnormalities. This is specially true of tumours of the gonads, adrenals, and pineal body, which may be associated with precocious sexual maturity. The number of recorded cases where the abnormality has been found in association with a tumour of the ovary is comparatively small. In these cases menstruation is established at such an early age as to be truly precocious, and there is also found enlargement of the mammae and the growth of pubic hair.

The explanation of the relation of the tumour to the general condition produced has led to considerable speculation. It is well established that the gonads have a direct influence on sexual development, and it is possible that the tumour may lead to an increased formation of the tissue which influences development—the changes produced are simply the expression of a true precocious puberty. Klemperer, who accepts the view that the interstitial cells of the gonads are essential for the normal development of the sexual characteristics, believes that those tumours associated with sexual precocity are sarcomas derived from the interstitial cells. If this opinion can be accepted, then hyperactivity of the tumour tissue might be adduced as the cause of the developmental anomalies noted.

The origin of ovarian tumours is somewhat obscure. They are generally met with during the period of sexual maturity, but are also occasionally seen in children. The incidence of malignant tumours of the ovary in children increases markedly during the second decade—that is, at and after puberty. Cases occurring in children under 10 years of age are remarkably rare.

The case recorded in this paper occurred in a child in her third year of life, and a malignant tumour of the right ovary was associated with sexual precocity. The tumour was subsequently removed and the patient remains well, with no apparent sign of recurrence two and a half years after operation.

The following is the history of the case.

The patient was stated to have been a perfectly healthy child since birth, presenting no abnormal symptoms whatever. When 2 years and 10 months old she had some vaginal haemorrhage lasting three days, and shortly after this a swelling was noticed in the abdomen.

When brought to hospital there was a well-marked abdominal tumour about the size of a cricket ball, firm, rounded, and freely mobile, rather to the right of the mid-line and below the umbilicus. The child was normal in weight and height, but it was noticed that there was distinct enlargement of both breasts, conforming to the adult female type, and in addition there was a marked development of the pubic hair.

Whilst under observation in the Children's Hospital she had a second vaginal haemorrhage, which occurred twenty-eight days after the previous period. In view of these symptoms a provisional diagnosis of an ovarian tumour was made; a radiogram proved negative, and cystoscopic examination showed that both kidneys were acting normally.

On August 26th, 1925, the abdomen was opened by a right paramedian rectus incision and a freely mobile tumour was found arising from the right ovary. It was free from adhesions, and there were no peritoneal or glandular metastases. The uterus appeared large for the child's age; the left tube and ovary were normal. The tumour and right Fallopian tube were removed intact and the wound closed. The child made a straightforward recovery from the operation.

The specimen was examined by Dr. A. E. Somerford.

### Pathological Report.

The tumour, which weighed 225 grams, was about the size of a cricket ball, and was rounded in form. There was no distinct capsule. It was practically a solid tumour, but on section there were some cystic areas of small size filled with altered blood. Microscopically the growth had the structure of a small rounded sarcoma in which there were numerous areas of haemorrhage. There were no remnants of ovarian tissue present.

### Subsequent History.

Since the operation the child has developed normally. The breasts have decreased in size, there has been no further menstruation, and the pubic hair has been lost. A recent examination two and a half years after operation has revealed no evidence of recurrence of the tumour, and no metastases could be discovered.

### Remarks.

The points of special interest in the case are the rarity of the condition and the early age at which the tumour was discovered, most other cases recorded occurring in older children.

The nature of the tumour was established pathologically as being a sarcoma, and it is interesting to note that the ovary itself could not be recognized either by the naked eye or by the microscope, being completely incorporated in the tumour.

After removal of the growth the condition of the child has returned to normal, and although the tumour was histologically malignant the subsequent history of the case has been satisfactory.

## THE CAUSE AND TREATMENT OF THE CRISIS IN LOBAR PNEUMONIA.\*

BY

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In South China and Hong-Kong quite 90 per cent. of the cases of lobar pneumonia are caused by the pneumococcus of Fraenkel. The crisis is not due to immunization, for if this were the cause the fall in temperature would be gradual as the immunity increased, and hence the curve would drop very slowly over a number of days. The drop in temperature is, however, sudden, often occurring within a few hours, and hence the cause cannot be explained in this way.

The pneumococcus grows very readily on blood agar, producing a characteristic green coloration; no other known organism can produce this particular green coloration on blood agar. Moreover, it is known that after a time the pneumococcus ceases to grow in the same medium, and it has been shown experimentally that this is due to the formation of hydrogen peroxide or some other peroxide, and that no other agent can produce the same identical colour.

Numerous experiments show that the pneumococcus

\* Modified by the author from a lecture delivered to the Hong-Kong Branch of the British Medical Association.

produces the gas oxygen, which acts favourably on its growth for a time; but when sufficient oxygen has been set free to benefit and make the "soil" more suitable for rapid growth the organism sets free oxygen in excess, which has been shown to be very detrimental to growth, so much so that the cocci die. There is a limit to the utility of oxygen, for beyond a certain strength it defeats the object for which the organism apparently produced it. When this point is reached in pneumonia the crisis is reached, and the temperature rapidly drops to normal or subnormal; in this way Nature provides its own cure. In experimental investigations the usual laboratory methods were used for the collection of the gas produced by these organisms, and without exception the gas was proved to be oxygen.

#### *Method of Administering Oxygen in Pneumonia.*

There is a very small point which is of great importance in the use of oxygen in pneumonia, and is the secret of the success which has followed my treatment of all pneumonia cases: the oxygen should be used warmed. In the past the use of oxygen has been the cause of more deaths in pneumonia than one cares to contemplate, simply because it was administered cold and not warmed to the required temperature; hence the lungs were chilled and the patient could not stand the shock. The oxygen should be heated by passing the gas through coiled Littré's tubes immersed in a water-bath kept at a temperature of about 120° F., the gas being passed through the tube at a slow rate, which is gauged by the comfort of the patient, who breathes quietly and does not complain of the "choking" feeling which occurs when the gas is administered too quickly. By keeping a thermometer in the tube it was found that the gas passing through at this very slow rate was about 99° F. when the water-bath registered 120° F. One thing to watch is the risk of sudden collapse when the crisis occurs; this can fortunately be avoided by the daily administration of pituitrin, 1/2 c.cm. being administered hypodermically morning and night, the heart action being safeguarded by the old-time proven remedy of digitalis administered from the onset of the disease; the omission of this has been responsible for the loss of many a case of pneumonia. Every clinician can verify the fact for himself that oxygen rapidly cures these cases, and every bacteriologist can satisfy himself that the pneumococcus alone among micro-organisms can produce the particular green coloration to which reference has been made.

That the foregoing method of administering oxygen is effective in the treatment of pneumonia is evident from the clinical observations recorded below. Among the Chinese the disease is more common in males than in females. As medical officer in charge of H.M. prisons in Hong-Kong and Li Chi Kok I have still to report my first female pneumonia patient, although it is quite a common disease among the male prisoners. My statistics show noticeable epidemics, when house after house was infected in Canton, and then would come a spell when for months not a single case of pneumonia would occur. The epidemics were most prevalent in May, June, and September. Persons such as police and coolies, who are exposed to weather changes, showed a marked preponderance of cases. Most patients had a previous history of similar attacks having occurred one, two, or three years before, which is a point of great interest. Most attacks occurred after the moist heat (humidity of over 95) so characteristic of South China; the majority of the patients were whisky drinkers.

#### *Clinical Observations.*

A rigor was the initial symptom in 65 per cent. of the cases, and 25 per cent. had a noticeable malar flush, often simulating typhoid fever; this latter disease was eliminated by laboratory methods and clinical findings.

Headache was a prominent feature in 29 per cent. of cases. Pain in the right side was complained of by 27 per cent., and pain on the left side by one patient.

In 84 per cent. of the cases the respirations at the first visit ranged between 40 and 47; in 16 per cent. of cases 27 to 34. Within six hours of commencing treatment in over 50 per cent. of cases the respirations had come down to somewhere in the region of 27. Within two days of treatment the respirations ranged between 16 and 20, and the patient was apparently well on the third day.

With three exceptions the temperature recorded when the patient was first seen was between 103° and 104° F. In one of

the three exceptions the temperature did not rise above 99° F., although the physical signs and symptoms were definitely those of lobar pneumonia; this patient had also a marked pleural effusion on the left side. In all cases in which oxygen was administered the same day for a quarter of an hour, every hour, passing the gas through a Littré's tube, the patient's temperature reached the normal within three days.

The following case, selected at random from over one hundred cases, is typical of all patients so treated:

A man, aged 48, when first seen had a temperature of 103.8° F.; the respirations were 40, the pulse 109, and the malar flush was marked. There was frontal headache, and pain on the right side of the chest which was said to be much increased by deep breathing. He wanted to cough, but was prevented by the pain. The urine was very dark, with a trace of albumin; the faeces were well formed, but had an offensive odour. He complained of slight thirst, but when water was given he refused it.

Oxygen was administered as previously described. Six hours later the temperature was 102° F., the respirations were 25, the pulse 85, and the headache had almost gone. The pain in the chest was much relieved; he was able to cough, but there was no sputum. The urine was not so dark, but contained albumin. The patient had not had any further rigors, though there had been some previously. Although breathing was still not as free and easy as normal, nevertheless the patient had a good sleep.

The next day at 10 a.m. the temperature was 102° F., the respirations 24, and the pulse 68. There was no pain in the chest, and no headache. The sputum was free and thick, but only suggestive of the "rusty" colour. The urine contained no albumin. He had passed faeces which were well formed and normal in colour. The typical physical signs of lobar pneumonia were disappearing, and fine crepitations were heard at the base.

On the third day at 4 p.m. the temperature was 98° F., the respirations 15, and the pulse 70. The sputum was diminishing, the urine was dark, but contained no albumin, and the patient had passed a normal motion.

Recovery was rapid and complete, the disease being apparently cured within three days, the patient getting up on the fourth day, and out on the sixth day. When last seen he was enjoying a swim.

The crisis appeared in most cases to occur during the night, when the patient was asleep. None of these patients felt weak or complained of any disability whatsoever, and they breathed rather freely all the time.

Oxygen does more than merely increase metabolism: it destroys disease.

## **DANGER OF INTRAVENOUS CALCIUM THERAPY.**

BY

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### **INTRODUCTION.**

CALCIUM has been given intravenously in the treatment of lead poisoning, infantile tetany, tuberculosis, Bright's disease, haemorrhage, heart disease, and in the pre-operative preparation of jaundiced patients. Cushny (1924) stated that calcium injected directly into the blood stream acted much like digitalis in that it accelerated and strengthened the heart beat in small doses, but in large doses it seemed to be poisonous, tending to bring the heart to a standstill. Brown, MacLachlan, and Simpson (1920) observed that doses of 1.25 grams of calcium lactate, given intravenously to infants suffering from tetany, resulted in drowsiness, dyspnoea, cyanosis, and sometimes collapse. Neumann (1920) reported favourable results in cases of haemorrhage and of acute and chronic diarrhoea from the intravenous injection of 5 to 10 c.cm. of a 10 per cent. solution of calcium chloride. Grove and Vines (1921) pointed out the value of the intramuscular injection of 100 minims of a 1 per cent. solution of calcium chloride in cases of haemorrhage. Walters (1921) reported the use of calcium chloride in 10 per cent. solution intravenously in the pre-operative preparation of jaundiced patients. The treatment was efficacious in producing a shortening of the blood-clotting time. This author stated that calcium in small doses, as 10 c.cm. of a 10 per cent. solution, might be given intravenously without harm.

In a further study of the action of calcium chloride given intravenously Walters and Bowler (1924) found that approximately twice the amount of the salt was required to raise the blood calcium of jaundiced dogs to the same level as that of normal dogs, and this in spite of the fact that the blood calcium content was practically the same in the jaundiced and normal dogs before and after

injection of a lethal dose, which suggested a calcium deficiency in the jaundiced animals that was not apparent. They noted that when the drug was administered intravenously to patients there resulted a quickening of the pulse rate and a sensation of heat over the entire body. They observed that this was the effect to which Herschelsolm and Maendll gave the name of "dynamic effect" of intravenous administration. The same phenomenon was seen by these latter authors to follow the injection of quinine, dextrose, hexamethylenetetramine, and urea; it proved transitory. At the same time, Walters and Bowler made comprehensive studies of the effects of intravenous injections of calcium chloride on the electro-cardiograms of dogs. A 10 per cent. aqueous solution of the salt was used and injected at the rate of 1 c.cm. per minute. The injection of toxic doses into the blood streams of dogs brought about various alterations in rate, disturbances of conduction, ectopic origins of impulse, and, when carried to a still further point of toxicity, disturbances of the fundamental co-ordination of the heart, and ventricular fibrillation, which was followed by death. Moderate doses caused only an alteration of the pulse rate; this occurred consistently at an early point in the injection, but was produced by smaller amounts of the solution in the normal than in the jaundiced dogs. After the maximal acceleration was reached there was a marked variation in rate, following which the initial maximum was rarely exceeded. Conduction disturbances appeared, marked by short recurring periods of heart block, and notched Q.R.S. complexes, which made their appearance more frequently as the continued injection assumed a more toxic effect. There next occurred an increase in the amplitude of the T wave with a gradual encroachment on the Q.R.S. complex, ventricular fibrillation, and death. The ectopic origin of impulses was demonstrated by the appearance of inverted T waves and periods of nodal rhythm. The rate at which the injection was given was of some importance because the concentration of calcium in the blood stream seemed to be a factor in the toxicity of any dose. In two instances following a rapid injection the calcium content of the blood taken from the heart immediately after death was twice that of the blood taken from the external jugular vein. The investigators ascribed the death following large doses of calcium to the occurrence of ventricular fibrillation rather than to a calcium rigor.

Singer (1921) reported the use of calcium intravenously (1 c.cm. of a 10 per cent. solution) associated with the administration of digitalis by the mouth in the treatment of cardiac diseases with oedema. The calcium increased the tone of the ventricles, effecting a slight rise of blood pressure, slowing the pulse, and causing an occasional diuresis. Calcium he believed to be "the whip and the rein" for digitalis.

Popescu-Inotesti (1925) was able to induce phenomena of sympathetic excitation—namely, tachycardia, hypertension, mydriasis, hyperglycaemia, and sometimes tachypnoea—by the intravenous injection of small doses of calcium (0.1 to 1 gram); the use of larger doses (1.5 to 4 grams) caused excitation of the parasympathetic with bradycardia, miosis, and bradypnoea. The hypertension in the first instance he believed to be due to direct stimulation of the muscular fibres of the vascular wall.

Seelig (1925), calling attention to the possible ill effects upon the heart and subcutaneous tissues of the intravenous injection of the 10 per cent. solution of calcium chloride, recommended in its stead a dose of 50 c.cm. of a 1 per cent. solution, which would not cause subcutaneous sloughing, and which, particularly when injected slowly, had little if any deleterious effect upon the heart.

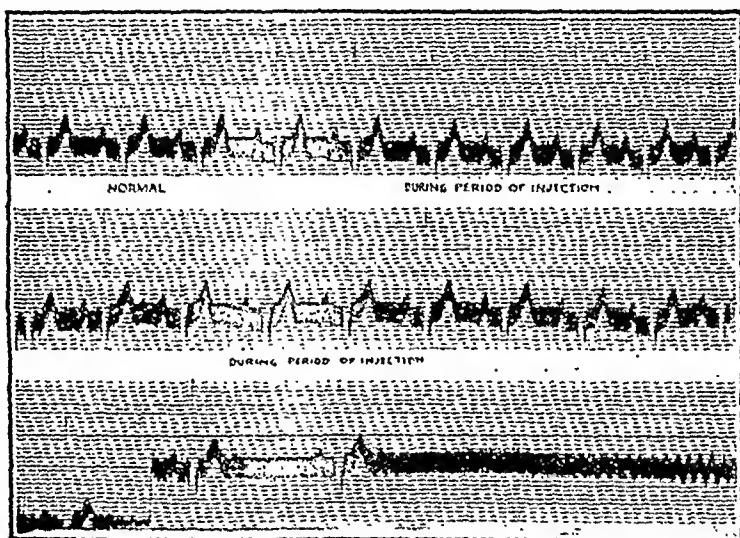
During the course of some experiments in our laboratory electro-cardiographic records were taken of the heart of man during and following calcium administration intravenously. The technique and results of these experiments are described below.

#### EXPERIMENTAL TECHNIQUE.

The solutions used for intravenous administration were 1 per cent. and 10 per cent. solutions of calcium chloride. These solutions were accurately prepared with chemically pure anhydrous calcium chloride and distilled water; they were sterilized by autoclaving. The skin of the subject's right arm in the region of the antecubital space was sterilized in each case with alcohol, and the injections were made into the median cubital vein. Needles and syringes were sterilized by boiling on each occasion, a 50 c.cm. syringe

being employed in the first experiment, when 50 c.cm. of a 1 per cent. solution of calcium chloride was injected, and a 10 c.cm. syringe in the second experiment, when 4 c.cm. of a 10 per cent. solution of calcium chloride was administered. The injections were given slowly. The author, a 135 lb. man, acted as the subject of the experiment in each instance.

During both experiments electro-cardiographic tracings were taken of the normal period, the period of injection, and, in the first experiment, the period after the in-



Electro-cardiogram (Lead 2) of the author's case, showing sino-auricular block occurring during intravenous calcium administration.

jection, the leads of the electro-cardiograph being in each case the right arm and left leg.

#### OBSERVATIONS.

In the first experiment, when 50 c.cm. of a 1 per cent. solution of calcium chloride was injected intravenously, an electro-cardiogram before, during, and for eight minutes after injection was taken. No subjective or objective symptoms beyond the normal were observed in the subject of experiment. The electro-cardiogram showed no changes from the normal during and following the injection other than a slight increase in the heart rate during the period in which the needle penetrated the skin.

The second experiment, in which 4 c.cm. of a 10 per cent. calcium chloride solution were injected intravenously, was more productive of results. When 2 c.cm. of the solution had been injected the subject experienced a sensation of warmth over the entire body, accompanied by slight headache and a feeling of fullness in the head. It was decided to continue the injection. Dizziness occurred during the period of injection of the second 2 c.cm., and this was closely followed in the course of the next three seconds by syncope, respiratory failure, upward deviation of the eyes, dilatation of the pupils, rigor of the masseters, and asphyxial extensor spasm and rigidity. The string of the electro-cardiograph at this time was seen to be standing still. The subject was taken away from the electrodes, placed in a supine position upon the floor, and artificial respiration instituted. An attempt was made to massage the heart through the abdominal wall and diaphragm at the

left costal margin. In the course of four or five minutes voluntary respiration was again established, the pupils contracted, and consciousness was regained. No residual effects were noted.

The examination of the electro-cardiogram during this period showed the normal cardiogram to be replaced by one in which the rate of the heart was reduced to one-half. No changes were to be seen in the P.Q.R. complex at the time of this change in the frequency. Each wave possessed its normal order, time relationship, and character. After this bradycardia had lasted for ten seconds it was replaced by a series of small waves, which were suggestive of vibration of the string. There is no evidence in the cardiogram that the ventricle was beating during this period. At the end of the curve, when the subject was removed from the electrodes, these small fibrillary waves were less frequent but of greater amplitude. There was as yet no evidence of the R wave of ventricular contraction. The tracing was that of a prolonged sino-auricular block.

#### COMMENT.

From these few observations it is not possible to reach any conclusions as to the effect of calcium upon the normal electro-cardiogram.

Whether the effects noted in the second experiment are evidences of vagal stimulation or a direct action upon the genetic nervous system of the heart independently of any extrinsic nervous supply it is impossible to state. The nature of the results obtained rendered it inadvisable to repeat the experiment following atropinization.

The disturbances of conduction noted are somewhat in accordance with those obtained by Walters and Bowler in the dog. I simply desire to call attention to the occurrence of cardiac disturbances of conduction as a result of intravenous calcium administration in a dosage that has been commonly used.

#### SUMMARY.

The intravenous use of 4 c.cm. of a 10 per cent. solution of calcium chloride is dangerous. The electro-cardiogram shows what we believe to be a sino-auricular heart-block.

To my chief, Professor J. W. Crane, and to Drs. Wand, Gordon, Kitchen, and Vine, I wish to acknowledge my gratitude for their help in the performance of this study.

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## A MIXED TUMOUR OF THE NASOPHARYNX.

BY

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*With a Pathological Report by*

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It is recorded by Sir StClair Thomson that "neither simple nor malignant neoplasms are found, except rarely, in the post-nasal space. The innocent growths are so uncommon that every new formation in this region should be looked on with suspicion." On the other hand, Sir William Milligan, opening a discussion on nasopharyngeal growths at the Laryngological and Otological Sections of the Royal Society of Medicine, stated that growths in the post-nasal space are not uncommon, but that their presence is frequently overlooked; and further, that the principal

varieties of new growths in this region are nasopharyngeal fibromata, angiomas, endotheliomas, carcinomas, and chondrosarcomata.

The report of the following case is therefore considered of interest because of the lack of references to similar cases in the English textbooks.

A boy, aged 7 years, was sent to St. Helens Hospital for the removal of adenoids; he suffered from frequent colds and nasal obstruction. On examination by anterior rhinoscopy nothing abnormal was found; posterior rhinoscopy was difficult, but the lower pole of a smooth greyish-pink tumour was seen partially filling the left nasopharynx; this mass did not bulge the soft palate of that side. By digital examination a firm sessile tumour, about the size of a small nut, was palpable, occupying the left side of the post-nasal space. The tumour did not bleed during examination, and appeared to spring from the lateral wall of the nasopharynx, between the left choana and the Eustachian orifice. There was no history of epistaxis or pain, and no evidence of involvement of the middle ear or of the neighbouring lymph glands.

A diagnosis of nasopharyngeal fibroma was made, and subsequently the tumour was removed with post-nasal forceps without undue haemorrhage. The child was examined three months later, when the nasopharynx appeared clear.

Professor Beattie kindly examined the specimen and made the following report:

This tissue consists of an area of irregular cartilage, an area of adenomatous tissue, the acini being lined by a high columnar epithelium (similar to the lining in the gland spaces of the ovary), and a cellular area mainly with round mononuclear cells. The section suggests a tumour of congenital origin from some abnormal structure.

Brown Kelly has classified a group of tumours occurring in the pharynx as follows: (1) teratomata, (2) teratoids, and (3) mixed tumours—"arising from cells at the junction of two types of epithelium. Some may assume mildly malignant characters." The tumour reported above belongs to the last class, and is more correctly called a blasto-teratoma; it is similar to tumours arising in the parotid, submaxillary region, lip, palate, orbit, and, as recently described, in the molar glands.

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## A METHOD OF TREATING FRACTURES OF THE CLAVICLE WITH DISPLACEMENT:

BY

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WIGAN.

PROBABLY the most commonly used method of treating simple fractures of the clavicle with displacement is either that originally described by Sayre, or the bandage devised by Doughton. One great disadvantage of the former method of fixation is the fact that the strapping used to support the elbow so often slips over the point of the olecranon process, allowing the arm to drop, with recurrence of the original displacement.

In an endeavour to avoid this difficulty the plaster is sometimes applied with the adhesive side next to the skin. This certainly prevents any slipping, but it does not allow of accurate adjustment, and also gives rise to much discomfort, often amounting to actual pain, particularly around the point of the elbow. This pain seems to be equally severe whether a slit for the olecranon process is made in the plaster or not. If, on the other hand, Douglas's method of bandaging is employed, the original disadvantage is again evident. The bandage as a whole tends to become loose, and the final turns round the elbow and over the opposite shoulder slip off the elbow and allow the arm to drop. The bandage may remain in good position during the day, but when the patient is in bed, and particularly if he is somewhat restless, as these patients usually are, the bandage will soon work loose. It is a common experience to find a patient with a fractured clavicle, which has been reduced and firmly bandaged on one day, returning next morning with the bandage loose and the deformity renewed.

To overcome these difficulties I have been using a modification of Sayre's method which has given great satisfaction. The method devised is as follows.

Two five-foot lengths of calico bandage are required. The first, as in Sayre's original method, is looped loosely round the affected arm as high up as possible, the loop being fastened with a safety-pin. The usual pad is placed in the axilla, the shoulder is pulled back as far as possible, and the bandage is carried across the back of the trunk, round across the chest, and pinned to itself just beyond the loop round the arm.



The second bandage, which should be at least six inches wide, is slit from one end for a little less than half its length, and is then applied to the injured arm in the form of a sling, with the two tails to the front, in the following manner. The uncut end of the bandage runs from the unaffected shoulder across the back to the elbow of the affected arm, which it supports, a pad of wool being placed between it and

the olecranon. The bandage is adjusted in such a way that the two tails originate an inch or so in front of the point of the elbow. These tails are then carried round opposite sides of the forearm, and are twisted together once or twice as near to the bend of the elbow as is possible. They are then carried forward as spirals in opposite directions round the forearm, thus crossing on the dorsal aspect of the middle of the forearm, and also at the front of the wrist, where they are again twisted together and carried on as one to the shoulder. The elbow is then drawn upwards, forwards, and inwards to the required position, and secured by tying the ends of the "sling" over the unaffected shoulder. The sling effect of the second bandage has been found to be very stable; the first loop of the tails round the forearm just beyond the elbow effectively prevents any slipping off the elbow.

The spiral round the forearm will be found to support the forearm comfortably in the usual position across the chest, and the combination of the two bandages and the axillary pad will supply the force necessary to carry the lateral fragment of the clavicle upwards, backwards, and laterally, which is so essential for a perfect result in these cases.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### VARICOSE VEINS IN THE BROAD LIGAMENTS.

I HAVE been repeatedly struck by the frequency with which enormous varicose veins of the pampiniform plexus occur, but I have been unable to find much written about them, and very little concerning their treatment. The questions naturally arise whether these varices are themselves the cause of abdominal and pelvic symptoms, and how they should be treated.

Most of the patients I have seen have complained of persistent pains of a dull aching character, and a weight in the pelvis; most of them also had vaginal discharge, which in some cases was gonococcal and in others gave pure cultures of *B. coli*. A few patients had been cured, with no benefit. On examination they complain of sharp pain on pressure in the fornices, similar to that of inflammatory adnexal disease; eventually the pain and discharge have demanded an exploratory operation.

Many of the patients have been under 35 years of age. The menstrual history is normal. An operation discloses no tubal disease, no adhesions, and no uterine displacements; the uterus is in some cases slightly enlarged, but there is present a huge black mass of varicose veins. In

all cases one condition has been very constant—namely, cystic enlargement of both ovaries. It seems unlikely that this cystic state of the ovaries is the cause of the pains, because the condition is often seen when operation is performed for other abnormalities.

We are faced with the following problems: a patient, aged, say, 35, comes with constant uterine discharge and pain, enlarged cystic ovaries, and this condition of varicose veins in the broad ligaments. What is the correct treatment? It seems unlikely that the discharge will cease unless the uterus is removed, which is scarcely justifiable at that age.

Again, should the cystic ovaries be removed? How should the varices be treated? What is to be done with a patient who has no uterine discharge, and whose only abnormalities are varices and cystic ovaries? I put these questions with the hope that experienced gynaecologists and surgeons will give us the benefit of their advice and practice; at present the subject appears to me very full of difficulties.

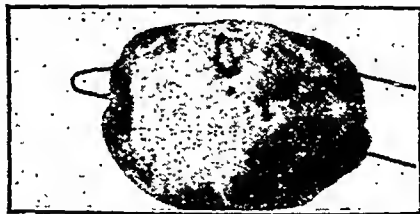
C. L. GRANTVILLE-CHAPMAN, F.R.C.S.I.,  
Surgeon, Grimsby and District Hospital.

#### FOREIGN BODY IN THE BLADDER CAUSING CALCULUS FORMATION.

FOLLOWING the case reported by Mr. Guy Chambers in the *Journal* of November 5th, 1927 (p. 827), in which a hairpin formed the nucleus of a vesical calculus, and Mr. A. Ralph Thompson's report of five cases of foreign bodies in the urinary bladder (January 14th, p. 51), details of another case should also prove of interest.

The patient, a woman aged 67, is suffering from secondary dementia following manic-depressive insanity, and shows marked amnesia. For some time she suffered from incontinence of urine, which appeared to be more of an inconvenience to others than to herself. At no time did she complain of any pain, nor, in fact, was any clinical history procurable from her. On vaginal examination she was found to have a large hard tumour bulging into the anterior wall of the vagina just behind the external orifice of the urethra; this suggested a stone, and the diagnosis was confirmed by the passage of a bladder sound. In view of the probable presence of a foreign body, I decided to remove the stone by the suprapubic route. When the bladder was opened the stone was found to be impacted over the internal urethral orifice, and to be fixed in this position by a hairpin, the free extremities of which were embedded in the bladder wall. The removal was difficult, the more so because the bladder wall was so friable that it would scarcely hold a stitch. The stone was about the size of a large egg; it weighed 123 grams, and was composed mainly of urates and phosphates.

As shown in the illustration, the offending hairpin traverses the stone in the longitudinal axis, and has evidently formed the nucleus around which the stone was



formed. The length of time taken by the stone to form may be guessed at from the patient's history. It may be assumed that the introduction of the hairpin occurred during a phase of mania, and that it therefore had been in the bladder for upwards of two years. It is extraordinary that the patient did not complain of pain and that the hairpin did not perforate the bladder, in view of the fact that both extremities were embedded in the wall.

There was some degree of cystitis present before the operation, but despite this the patient's condition three weeks after the operation is favourable, and she continues to improve.

I am obliged to the subcommittee of the hospital for permission to publish this case.

J. McFADZEAN,  
Colney Hatch Mental Hospital, N.11. M.B., Ch.B.Glas., F.R.C.S.Eng.



**DYSTOCIA ASSOCIATED WITH A VAGINAL BAND.**

THE following case appears to be worthy of record inasmuch as an occipito-posterior presentation in a primipara was complicated by a vaginal band.

In a primipara, aged 23, who had never previously had a vaginal examination, labour began in the morning; progress was slow, the pains being slight, and she was first examined in the afternoon. When making the first vaginal examination there appeared to be some fold of mucous membrane in the neighbourhood of the os, which admitted two fingers, the whole of the parts being soft. Seen again at 6 p.m. very little progress appeared to have been made, but the presentation was diagnosed as being occipito-posterior. At 8.30 the os had reached the size of a five-shilling piece, and the existence of a peculiar strand of mucous membrane had become more evident. Labour was progressing slowly, but the pains were not very strong, and the membranes had not broken. The patient was examined again at 10.30, when it was found that a finger could be hooked round what appeared to be a fleshy band lying up against the expanding os. The patient was put into the lithotomy position and anaesthetized, and a vaginal speculum was inserted. It was then found that a fleshy band extended from the caruncula to the posterior vaginal wall far back; it was about half an inch in thickness in its thinnest part. It was ligatured in two places and divided. Labour then progressed in the usual way, delivery being accomplished by turning the head and applying forceps.

The case derives special interest from the presence of the thick vaginal band; which would appear to be of the nature of a partly bifid vagina. I can find no reference to this condition in the textbooks.

Docking, Norfolk.

W. W. JEUDWINE, M.D.

**DELAYED INTRACRANIAL HAEMORRHAGE.**

THE following clinical details of a case of cerebral haemorrhage occurring several days after an accident seem to be worthy of record.

A girl, aged 2, while playing, fell and struck her head against the corner of a sideboard. She was stunned for a few moments, but quickly recovered, and her foster-mother, a careful woman, did not think medical advice necessary. There was a small bruise and abrasion on the forehead, but nothing else was detected. The child remained in apparently normal health until eighteen days later, when she stopped eating while having a hearty breakfast, clenched her teeth, and died within a minute. No other history of further symptoms, such as vomiting, headache, or drowsiness, could be elicited after careful questioning of those who had been in contact with the child.

A post-mortem examination revealed a bruise about one inch in diameter on the left temple; there was no fracture of the skull. Under the dura was found a considerable quantity of blood clot, probably about three ounces. The left frontal lobe of the brain showed a contusion corresponding with the position of the external bruise, and there was a similar contusion caused by "contrecoup" on the right occipital lobe. The subdural haemorrhage appeared to have come from the ruptured meningeal vessels over the frontal lobe contusion. There was no haemorrhage into the ventricles. The other organs of the body were normal, and no food was lodged in the air passages or gullet.

The points of interest in this case are: (1) the comparatively slight nature of the original injury and of the immediate symptoms; (2) the long latent period of apparently perfect health; (3) the sudden and unexpected death.

Worcester.

N. DUGGAN, M.B., F.R.C.S.

**SCORBUTIC SWELLING SIMULATING AN ACUTE BURSITIS.**

THE following case may be of interest to readers of the *Journal*. A woman, aged 25, sought relief for a swollen knee. She had a large pre-patellar swelling, the skin over which was thinned and glazed, suggesting an abscess on the point of rupture. Free fluctuation was present. The swelling was about the size of a large orange, and the patient stated that it had been causing her considerable pain since it started, two months before her visit to me.

I anaesthetized the part by means of a 2 per cent. solution of novocain, injected into the medial aspect of the thigh just above the knee. Using a 20 c.cm. syringe, I pushed a long needle into the swelling, penetrating the skin some three inches away from the swelling itself. On withdrawing the piston some blood began to flow into the barrel, and I realized that, instead of a pre-patellar abscess or bursitis, I was dealing with a sanguineous scorbutic swelling, scurvy being very prevalent amongst the natives in these parts. I removed nearly ten ounces of dark sanguineous fluid, and the patient derived great relief.

Sulenkama, South Africa.

R. L. PATERSON, M.B., Ch.B.

**Reports of Societies.****TUBERCULOSIS OF THE URINARY TRACT.**

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on March 30th, the president, Mr. ANDREW FULLERTON, in the chair, Mr. HENRY WADE read a paper on the surgical pathology of tuberculous disease of the urinary tract, and showed lantern slides.

Mr. Wade said that during a period of five years to 1926 he had had 57 cases of renal tuberculosis under his care; of these patients, 21 were males and 36 females, the average age of the males being 29 and that of the females 34 years. The average duration of their illness was two years and five months. The outstanding complaint in 49 cases was frequency of micturition. Tubercle bacilli were found in the urine in 26 cases. The importance of a preliminary x-ray examination of the entire urinary tract was emphasized, since this not infrequently revealed the presence of tuberculous disease in one kidney. Cystoscopic examinations were performed in every case; the average number of cystoscopic examinations was 1.6. In virtually every case the bladder capacity was found to be reduced, varying from 10 c.cm. to 300 c.cm., the average being 156 c.cm. The degree of the diminution of the bladder capacity was an approximate indication of the severity of the case, and the increase in the bladder capacity subsequent to operation was a very valuable indication of the improvement that had occurred. The presence of a "golf-hole" ureter was diagnostic of tuberculous disease in the kidney above. The earliest indication was a swelling of the mucous membrane with congestion and oedema. In every case bilateral ureteral catheterization was attempted and was achieved in the majority. Pyelograms were taken on both sides; the author had found no harmful results follow this practice. Where the catheter could only be passed for a few centimetres a ureterogram was taken. The pyelographic findings varied with the stage and type of the disease present. In the earlier type of case which had proceeded to cavity formation the outline of a normal pelvis and normal calyces was seen at one part with a filling defect from cavity formation communicating with the pelvis at another part; this appearance was diagnostic. The appearances seen in a ureterogram were also diagnostic where the ureter was involved; these were the irregular dilatation of the channel and its irregular outline. In an early case the amount of secretion from the diseased kidney might be greater than from the healthy side. In cases where the examination was difficult chromocystoscopy was of value, especially to indicate the situation of the orifices. In a very occasional case, where doubt still existed, certain methods of operative surgery had been recommended as an aid to diagnosis. Catheterization of the ureters through the open bladder was not advocated. Examination of the ureter through a gridiron incision in the loin was of value in certain cases. The treatment of tuberculous disease of the kidney advocated was nephrectomy where the disease was unilateral, since a spontaneous natural cure of renal tuberculosis did not occur. Of the 57 patients, 53 were operated on, 2 were found to be inoperable, and 2 declined operative treatment; 1 patient died in hospital from a cardiac thrombus. In 34 patients the wounds healed by primary union; their average stay in hospital was twenty-one days. Twelve patients left hospital with a small sinus still unhealed; 6 left with a larger sinus, the result of partial breaking down of the wound. In one case the wound entirely broke down, but completely healed five months subsequently. Every patient was re-examined on several occasions. A complete cure was obtained in 34 cases; 11 patients were improved, and 6 died after leaving hospital. Repeated cystoscopic examinations showed that, where tuberculous ulcers had been present on the surface of the bladder, these usually disappeared rapidly, first from the base and lateral walls, and later from its roof. Frequency of micturition might persist, being due to a chronic ulcer or to a localized interstitial cystitis; in three cases it was found to be due to persistent, non-

suppurative streptococcal cystitis. In the 6 patients who died after leaving hospital, death was due to dissemination of the tuberculous infection in 2 cases; 2 died from the continued activity of the unremoved infection, and 1 died three and a half years after the operation from anuria. He had completely recovered from the tuberculous infection, and the anuria was due to hydronephrosis originally produced when the bladder was in persistent systole prior to the operation. The sixth patient died from a primary adenocarcinoma of the liver four and a half years after the right kidney was removed for tuberculous disease. There were no signs or symptoms of disease of the urinary tract. Complete microscopical sections of the entire organ were made in the 53 kidneys removed.

The PRESIDENT said that ill health preceding tuberculous disease of the kidney was in a large number of cases entirely absent, and patients suffering from this disease usually only consulted a surgeon on account of frequency of micturition, which became so severe as to interfere with their work. The shadows which were found in the region of the kidney and ureter were pitfalls, and it was only by the ureteral catheter and pyelograms that it was possible to differentiate them, and to show that they had any relation to the kidney. Diminution of bladder capacity, which was a feature of cases of tuberculous of the kidney in the early stages, was also very important in the later stages. The presence of tubercles on the mucous membrane of the bladder was mentioned in textbooks, but his experience was that these were not often seen. Unilateral diuresis was one of the earliest and most important signs of tuberculous of the kidney.

Mr. A. A. McCONNELL referred to the necessity of very exhaustive preliminary examination in cases of tuberculous of the kidney, and said that in renal disease, if it was not possible to make a diagnosis before operation, it was very unlikely that one would be made subsequently. He himself did not use pyelograms, since he felt that the less manipulation of the kidney practised in tuberculous cases the better it would be for the patient. He had seen cases in which the bladder had been severely involved with tuberculous at the time of operation, and in which the ureters could only be found by the injection of indigo-carmin, though there had been no bladder symptoms whatsoever.

Mr. SEYON PRINGLE said that in his experience nearly 50 per cent. of late cases were obviously bilateral and inoperable, and he referred to the use of tuberculin in these cases. When it was difficult to make a diagnosis, convalescent treatment, after a course of tuberculin, rendered it possible to come to a more definite conclusion regarding operation.

Mr. L. G. GUNN thought that cases of bilateral tuberculous were not rare. In the last few months he had seen five cases, all of which, in his opinion, were inoperable. He considered it unwise to perform nephrectomy in cases in which there was any disease in the other kidney, or in any other part of the system, joint, bone, or lung. Tuberculin in a great many cases prolonged life, but nephrectomy was the ideal treatment for cases in which tuberculous disease was confined to one kidney, one ureter, and the bladder.

Mr. WADE, replying, said that he had never seen tuberculous nodules on the surface of the bladder, and agreed that more was learned in these cases before an operation than at one.

### SURGICAL CONDITIONS OF THE STOMACH.

At a meeting of the Liverpool Medical Institution on March 22nd, a joint paper by Mr. G. C. E. STIMPSON and Mr. D. R. OWEN entitled "Some surgical conditions of the stomach" was read.

After a brief reference to congenital conditions, the authors stated that certain simple conditions of the stomach gave rise to symptoms and x-ray appearances closely resembling those of ulcer or cancer. In one case in which the symptoms had lasted for eighteen months and the x-ray indications suggested gastric ulcer, a fish-bone was found in the lesser omentum; in another case a fibroma of the lesser curvature was present. Illustrations

were given of wasting associated with marked filling defects which was due to fibrosis, papillomata, or the pressure of tumours outside the stomach. In yet another case fibrosis in the line of traction of the omentum adherent to a hernial ring had involved the outer coats of the stomach, giving rise to an hour-glass condition without an ulcer. Phlegmonous gastritis was described, and lesser degrees of gastritis and duodenitis were mentioned as possible pre-ulcerative conditions. It was suggested that more prolonged treatment should be given to ordinary attacks of indigestion, and special attention should be paid to the teeth. If the condition resisted medical treatment or showed signs of recurrence further investigation was necessary, and in persons over the age of 45 such treatment should not be prolonged. A tendency in some families to ulcer was illustrated by three cases in one generation. As regards the relation of ulceration to cancer it was stated that in only three cases had such an etiology been detected. The various methods of surgical treatment of simple and hour-glass ulcer were considered and cases were described. A posterior gastro-enterostomy with infolding or excision of the ulcer was thought most suitable for ulcers near the pylorus. Kammerer's method of gastropasty had been employed for hour-glass contraction with no active ulcers. It was thought that when skilled assistance and nursing were available, partial gastrectomy for ulcers on the lesser curvature or situated posteriorly was the best operation, since unpleasant sequelae were rare and the operation was often less difficult than that of freeing a penetrating ulcer by means of excision, suture, and gastro-enterostomy. Reference was made to a case of hour-glass stomach with a meso-colic hernia. Two other cases were recorded as being related to meso-colic hernia; in one the apex of the duodenal-jejunal flexure was pressing through the meso-colon, and had formed a kind of diverticulum in the lesser sac, and in the other a one and a half inch posterior gastro-enterostomy was found to exist without there being any abdominal scar. In the latter case it was uncertain whether there had been an ulcer of the the jejunum, or a condition of the the stomach. In carcinoma the advanced nature of the cases when seen by the surgeon was cited as an argument against the prolonged medical treatment of indigestion in later life. In advanced cases, exploration, or even a palliative operation, was a serious matter, but was to be commended in view of the fact that the diagnosis was sometimes wrong and a growth amenable to surgery might be found. The survivors justified taking the risk in cases which appeared to be hopeless. One patient survived for twenty-two months after a gastro-enterostomy; another was alive and well seven years after gastro-gastrostomy and gastro-enterostomy for carcinoma, confirmed by sections of the gland. In another patient, who was rapidly going downhill, a four-inch malignant papilloma was found to be invaginating the stomach wall, and six other papillomata were present; a year later, however, the patient was still alive and grateful for the relief. It was stated that in early cases partial gastrectomy by Polya's method was used, the posterior abdominal glands being removed as completely as possible; several cases were recorded in which apparent cure had resulted. Only one case of sarcoma had been encountered; this occurred three months after partial gastrectomy and proved rapidly fatal.

### CYSTOSCOPY IN CARCINOMA OF THE CERVIX.

At a meeting of the North of England Obstetrical and Gynaecological Society at Liverpool on March 16th, Dr. A. A. GEMMELL (Liverpool) read a paper on cystoscopy in carcinoma of the cervix based on a study of 111 cases of this disease.

Dr. Gemmell described the method employed to determine clinically the operability of these cases, and showed how cystoscopy added "sight" to "touch" in estimating anterior extension. The appearances seen were described in their order of gravity as being: (1) bulging of the bladder floor; (2) circulatory changes; (3) transverse ridging; (4) oedema, diffuse or bullous; (5) desquamation; and (6) malignant invasion, ulcerative or hypertrophic.

Other changes, seen more rarely, were also mentioned. It was insisted that the lesions were not pathognomonic of carcinoma of the cervix, but were important when seen just behind the trigone. Dr. Gemmell mentioned that all his cases had been checked by pathological examination of the growths. In a few cases in which it had been possible to repeat cystoscopy the order of severity of appearances mentioned had been confirmed. The bladder symptoms of the patients had been investigated, and it was shown that in both operable and inoperable groups approximately 50 per cent. of patients had no urinary symptoms, while 30 per cent. complained of frequency. This was taken to indicate that bladder symptoms were no guide to the degree of bladder involvement. The bladder appearances in the operable cases (39) and in the inoperable (72) were described. Five cases, clinically classed as operable, but by cystoscopy classed as inoperable, were found on further investigation to be inoperable. Out of 7 borderline cases, 5 were submitted to operation only because the cystoscopic findings were favourable; the after-histories of these cases justified the intervention. It was concluded that early transverso ridging was the appearance which denoted the limit of operability. It was shown that the appearances of the ureteric orifices were no guide to the difficulties likely to be encountered in their dissection, and catheterization of the ureters was recommended for this purpose. A manoeuvre was described for proving that the bladder was not adherent to the cervix. Prior to the introduction of the cystoscope a volsellum forceps was attached to the cervix; while the retrotrigono was being inspected traction was put on these forceps. When there was no attachment between the cervix and the bladder the former was seen to slide behind the latter; where attachment was present the bladder became wrinkled. The pathology underlying the bladder appearances was discussed, and figures were quoted suggesting a connexion between the cystoscopic appearances and prognosis of duration of life of the patient.

The PRESIDENT commented from his personal experience on the value of cystoscopic examination as an aid to the diagnosis of operability in cases of carcinoma of the cervix. Mr. R. KENNON (Liverpool) alluded to the observation that with the cystoscope early adhesion to the bladder could be detected by following the movements of the cervix, reacting to the drag on a volsellum forceps. He added that so simple a sign should be of wide application and value. Transverso ridging and bullous oedema, if in the retrotrigonal area of the bladder, had a grave significance. Professor MILES PHILLIPS (Sheffield) said that he had found the cystoscope of great value in these cases, and agreed that the ridge and furrow appearance indicated that the limits of operability had been reached. Mr. F. A. G. JEANS (Liverpool) concurred in the view that the appearance of the ureteric orifices was no guide as to the condition of the ureters in relation to extension of the growth.

#### *Abdominal Haematoma.*

Dr. K. V. BAILEY (Manchester) described a case of haematoma of the abdominal wall. The patient, aged 50, was a swimming instructress. During a fit of coughing she suddenly felt a severe cutting pain in the lower abdomen localized to a small area in the suprapubic region. She had no nausea or vomiting, but there was acute tenderness localized to the area where the pain was felt. No abnormality could be detected in the pelvis. At an operation both recti muscles were found to be densely infiltrated with blood along the greater part of their length from the pubes to the umbilicus. The site of the rupture was found on the under surface of the right rectus muscle, three inches above the symphysis.

#### *An Uncommon Foetal Attitude.*

Dr. J. W. BURNS (Liverpool) described a case of pregnancy in which there was an unusual attitude of the child in the uterus prior to the onset of labour. The patient had had five normal labours. Throughout the present pregnancy there had been, from the thirtieth week onwards, a marked disposition on the part of the foetus to change its position frequently. At the thirty-ninth week it lay transversely, with the head in the right iliac fossa. External version was tried, but it was found impossible

to move the head out of the iliac fossa. Attempts to push the breech up towards the fundus resulted in the breech rotating forwards; it could be brought over to the right side, but returned to its original position at once. An x-ray examination showed the child lying with its head hyperextended, the thorax over the brim of the pelvis, and the arms behind the back. The trunk was extended, and the thighs were extended with the legs flexed at the knees, so that the feet approached the occiput. Delivery was by Caesarean section.

#### *Ovarian Sarcoma Accompanied by Metrorrhagia.*

Dr. A. GOUART (Leeds) described a case of sarcoma of ovary associated with metrorrhagia. The patient, who was 65 years old, had reached the menopause twenty years previously. There had been some irregular haemorrhage for six months before she consulted him. A hard movable mass was found lying in the pouch of Douglas; at the operation this proved to be a solid tumour of the ovary. There were no adhesions. The whole uterus, which was removed with its appendages, was definitely enlarged with thickened walls, and the endometrium was quite one-eighth of an inch in thickness. The ovarian tumour was yellowish-white in colour, with a brain-like appearance and some ill-defined yellowish portions. Microscopically it proved to be a spindle-celled sarcoma with a few mitotic figures. Sections of the uterus showed the endometrium with well-formed glands, which penetrated a considerable distance into the muscle. The special feature of the case was the irregular bleeding long after the menopause and the unusual condition of the endometrium, which suggested that possibly the tumour had produced some hormone activating the endometrium.

#### *Torsion of a Hydrosalpinx.*

Mr. A. LEYLAND ROBINSON (Liverpool) showed a specimen of torsion of a hydrosalpinx removed from a multiparous woman, aged 48, who was the mother of seventeen children, two of whom had been born before menstruation commenced. For twelve months she had complained of irregular and somewhat excessive menstrual bleeding, and for nine months had been subject to paroxysmal attacks of pain in the lower abdomen, chiefly on the right side; this pain, which was colicky in character, was increased by constipation and relieved by purgatives. On examination the patient was found to have a tender, fixed right appendage swelling. At the operation the left tube was found to be closed, and contained a small quantity of clear fluid; the right appendage was lightly adherent to the rectum and back of the uterus, and at first sight appeared to be a small twisted ovarian cyst. On closer examination, however, it was found that the ovary was quite separate from the tube and was not involved in the torsion; what had been taken for a cyst was the distal portion of the tube, closed and distended with extravasated blood. Mr. Leyland Robinson added that, although torsion of the tube was common when the latter formed a part of the pedicle of a twisted ovarian cyst, primary torsion of the tube proper was rare.

#### *Torsion during Pregnancy of a Fallopian Tube and Ovary.*

Mr. J. E. STACEY (Sheffield) showed a specimen of torsion of a tube and ovary during pregnancy. The patient, during the fourth month, was suddenly seized with an acute agonizing pain in the right iliac fossa and back, which came on while she was at rest. She vomited, but did not faint, and there was no vaginal bleeding. Bimanual examination revealed a tender swelling behind and to the right of the pregnant uterus. A diagnosis of combined intra- and extra-uterine pregnancy was made. At the operation the right tube was found to have undergone torsion through 360 degrees, carrying with it the broad ligament and ovary. The tube and ovary, the latter containing the corpus luteum of pregnancy, were removed. The pregnancy went to term. After reviewing the literature on the subject, Mr. Stacey remarked that only three previous cases of this condition had been reported as occurring during pregnancy, and that all went on to term after removal of the tube and ovary. This fact was of special interest in the present case in view of the fact that the corpus luteum of pregnancy was also removed.

## Reviens.

### FRENCH TEACHING IN PUBLIC HEALTH.

AN important treatise has recently occurred in the French public health world—the issue of two large volumes setting out the lectures on public health given at the Institute of Hygiene of the Paris Faculty of Medicine by some thirty-eight teachers, under the direction of Professor LÉON BERNARD, professor at the faculty and a technical adviser to the Health Ministry, and M. ROBERT DEBRÉ, assistant professor at the faculty and a physician of the Paris hospitals. The names of some of the writers are already well known in this country. Thus Professor Bernard, who writes most of the text on tuberculosis, represents France on the Health Section of the League of Nations; other familiar names are those of Professor E. Brumpt, who writes on relapsing and yellow fevers; M. H. Vallée, honorary director of the National Veterinary School at Alfort, whose collaboration is, unfortunately, limited to anthrax; Dr. Jules Renault, technical adviser to the Ministry of Health, who deals with the sanitary defence of land frontiers; Dr. Henry Pottevin, director of the Office International d'Hygiène Publique, who was the obvious person to write on international sanitary conventions; M. E. Saquépée, Médecin Inspecteur de l'Armée and professor at Val de Grâce Hospital, who writes on food poisoning; M. R. Sabouraud, who deals with ringworm; and M. E. Rolants, whose work on activated sludge is so well known, writes on sewage and trade wastes.

A considerable part of the volumes is from the pen of M. Ch. Dopter, who deals with general epidemiology and the prophylaxis of several of the individual diseases—bacillary and amoebic dysentery, pneumonia, influenza, diphtheria, and tetanus. His writing is marked throughout by clarity of style, simplicity of diction, and excellent arrangement of matter. An interesting point he brings out is the wholesome influence of the various constituents of pure wine (and especially the acids) in destroying typhoid bacilli; evidently any contamination of wine by typhoid sufferers or "carriers" is relatively harmless. White wine is even safer than red in this respect. As might be expected, the text on food is both full and adequate: the consumption of a large number of species of edible fungi in France is reflected in the section by M. H. Martel, director of the veterinary services of the Department of the Seine. The extent to which the collaboration of the veterinary profession has been sought is much to be commended. The French people, who at one time had a rooted objection to the use of any other than fresh meat, have been forced by economic changes to have recourse to frozen and chilled meat; they will obtain a good deal of comfort from reading the praise of chilled meat by M. Nicolas, director of the National Veterinary School at Alfort. There is much useful information to English hygienists in his section and in that on the preservation of food by cold, written by Dr. Lortat-Jacob, a vice-president of the French Cold Storage Association.

*Sans enfants aujourd'hui, plus de France demain!* Those arranging the course kept this aphorism well in the foreground, and adequate space is given to the baby and his protection. M. E. Lesné, physician to l'Hôpital Trousseau, writes ably and in considerable detail on the feeding of infants and very young children, and on the protection of healthy and unhealthy children. The safeguarding of motherhood receives adequate attention from the obstetrician Professor A. Couvelaire, but the consideration of school hygiene is tacked on to the section on the social hygiene of the infant, a paltry eighteen pages or so being devoted to this important subject.

For the text on the hygiene of occupation (283 pages), written by M. Marcel Frois, Inspector-General to the Ministry of Labour, M. M. Duvoir, an assistant professor and physician to the Paris hospitals, and M. E. Kohn-Abrest, director of the Paris laboratory of toxicology, it is difficult to find anything but praise; though some

slight repetition might perhaps have been avoided. The chapters on water (M. P. Diénert, the chief of the Paris water department), on sewage and trade wastes, and on housing (M. Edouard Arnaud, the chief Government architect) are quite equal in standard to the rest of the book, and the illustrations here are decidedly helpful. Two figures depict activated sludge installations at Davyhulme and Withington, when the air is blown into the sewage. M. Rolants is able to include a diagrammatic representation of a French installation (at Mesly) where the air is slapped into the sewage by paddles, as at Sheffield. Vital statistics are treated in a somewhat novel manner by M. Yves Biraud, chief statistician to l'Institut d'Hygiène, who by the use of diagrams makes his text much clearer to non-medical readers. Professor Bernard concludes with a very interesting chapter on the relation of the medical profession to public health.

The editors have certainly succeeded on the whole in presenting a course of uniform teaching with but very little repetition. Certain of the lectures, notably the one on the feeding of the infant, are set out in an admirable way, the separate divisions of the subject being adequately distinguished by cross-headings in the right-sized capitals, a feature of considerable value in a book which must largely serve as a work of reference. But the collaborators are apt to give scanty references; there are a few foot-notes to some of the sections, but no real attempt at a bibliography. These volumes bring out the well-known fact that the organization of public health in France is far behind that of this country, but they also show that as scientists and writers our French colleagues can rival the best of other nations.

### UROLOGY AND SYPHILOLOGY.

DR. C. H. CHETWOOD'S *Practice of Urology and Syphilology* has reached its fourth edition, a fact which by itself testifies to its popularity. In the new edition many alterations will be found, among others a change of publishers. As the author says in his preface, since the appearance of the preceding edition unmistakable progress has been made in urology. He is indeed of the opinion that the last five years have been more fruitful in innovations and discoveries than any corresponding period since his book first appeared. He cites, as examples, the introduction of new internal and local antiseptics, notably hexyl-resorcinol, acriflavine, and mercurochrome. Diagnostic methods, such as pyelography, have also been developed, and the use of diathermy as a means of treatment has extended. All these improvements receive adequate attention in the new edition.

In prostatic surgery the importance of pre-operative and post-operative treatment has received wider recognition; and the portions of the book dealing with these matters have been amplified. Dr. Chetwood, himself a pioneer in the method of treating contracture of the bladder neck, pays due attention to this important subject. However, he does not appear to be convinced that the various perurethral means of treating this disease are of necessity the treatment of choice. In his opinion open operation and division of the contracture by means of scissors gives better results in some cases. He therefore sounds a note of caution on the subject, giving it as his opinion that "the end-results following the different operations have been of variable success in the past, and must be observed over long periods to estimate correctly the comparative advantages of both open and closed operations." It is perhaps a pity that he has not given a description of the perurethral methods that have been introduced for the treatment of this condition, since many of his readers are unfamiliar with such instruments as the cautery punch, the diathermy punch, and Collings's diathermy knife.

The second part of the work is devoted, as before, to syphilology. Custom has ordained in the past that syphilology should be considered a branch of urology. In the future, perhaps, the association of urology and syphilology

<sup>1</sup> *Cours d'Hygiène*. Sous la direction de Léon Bernard et Robert Debré. Tome I et Tome II. Paris: Masson et Cie. (Sup. roy. 8vo, Tome I, pp. ix + 1247; illustrated. Tome II, pp. 811; illustrated. 160 fr.; sans majusculation.)

<sup>2</sup> *Practice of Urology and Syphilology*. By Charles H. Chetwood, M.D., LL.D., F.A.C.S. Fourth edition. London: Milford, Oxford University Press, 1928. (Med. 8vo, pp. xii + 873; 314 figures, 11 coloured plates. 42s. net.)

may be less intimate. At any rate there is a distinct disadvantage in including such a subject as syphilis of the central nervous system within the province of the urologist. But primarily Dr. Chetwood's book is a work on urology, and it is by the first rather than by the second part of it that it must be judged. On some future occasion the advisability of expanding the urological sections and eliminating those dealing with syphilis, other than syphilis of the genito-urinary tract, may be considered.

The book is well illustrated and contains many excellent coloured plates. It is seldom that an American author chooses an English firm as his publisher, and it is gratifying to know that when such a choice is made the results are excellent.

#### MEDICAL PROTOZOOLOGY.

*An Introduction to Medical Protozoology*<sup>1</sup> is a sequel to Lieut.-Colonel R. Knowles's *Lecture Notes in Medical Protozoology* of 1923—a much smaller volume now out of print. It is intended primarily for the author's own students in India, but he hopes it will be of use to laboratory workers in other parts of the world. He has drawn on Wenyon's *Protozoology* for much of his material, but his own volume had been planned and commenced before Wenyon's appeared. Other standard textbooks have also contributed their quota, and all are freely acknowledged by Colonel Knowles in his preface. The volume is divided into three parts—Part I (626 pages) dealing with systematic protozoology, Part II (144 pages) with laboratory methods, and Part III with literature. Part I is divided into nineteen "lectures" and Part II into seven "chapters"—a somewhat confusing nomenclature, particularly as the pagination is continuous throughout. The lectures—which must make note-taking in India a strenuous undertaking—consider all the groups of the protozoa parasitic in man and animals, together with the spirochaetes, rickettsia bodies, and the Chlamydozoa. Part II considers apparatus, microscopic technique, culture methods, dissection of insect hosts, and so on. The whole volume is excellently illustrated with text-figures and coloured plates, many of them original. That the volume is a valuable one there is no doubt, but its conception does not seem to be above criticism. It is admittedly more comprehensive than is necessary for a school textbook; it is hoped that this will increase its extramural circulation. As a volume of reference, however, it cannot take the place of Wenyon's classical production, although it has the advantage of being very much cheaper. Its value seems to lie mainly in the appeal it is bound to make to the advanced student of medical protozoology, an appeal which is strengthened by the detailed chapters on technique. It should also be a valuable textbook to the isolated worker in the tropics who requires a more comprehensive knowledge than is given in an ordinary course of lectures, but who does not wish to have the detailed information of the specialist.

#### VENOUS CONGESTION AND PERICARDIAL EFFUSION.

In a monograph entitled "Congestion types in circulatory disturbances"<sup>2</sup> Drs. HERBERT ELIAS and ADOLF FELLER of the Vienna school report a series of clinical, anatomical, and experimental observations undertaken to find some explanation for the variations in the clinical picture of venous congestion, with special reference to that associated with exudative pericarditis. According to their findings three stages of congestion may be recognized in pericarditis with effusion. (1) It begins with a rapid and great enlargement of the liver, slight cyanosis, no oedema at first, but later with ascites; when the patient takes to bed there is a transient facial oedema. (2) Cyanosis increases, and facial oedema returns and persists, the

liver grows in size, while pulmonary congestion is relatively slight. (3) Cyanosis becomes extreme and generalized oedema develops. Examination of hardened preparations from cases of pericarditis, artificial effusions in the cadaver, corrosion preparations, etc., leads to the conclusion that these three clinical stages correspond to anatomical stages of effusion. (1) A small effusion, which collects caudally in the caval portion of the pericardial sac, causes a conspicuous narrowing of the mouths of the liver veins in addition to a slight compression of the inferior vena cava; this compression is relieved in the recumbent position, as then the fluid lies more dorsally and towards the head, and may narrow the mouth of the superior vena cava. (2) A larger effusion greatly compresses the inferior cava and the lower auricular segment, and increases the narrowing of the liver veins. (3) A very large effusion under high pressure so compresses the right auricle that the walls come together; because of this obstruction the tributary veins are not narrowed but dilated.

The authors appear to have spent much time and labour on their thesis, which is well put together and well illustrated. Their conclusions, however, would have been more satisfactory had more direct clinical evidence been included—as, for example, measurements of the venous pressure in their patients during life.

#### LABORATORY MANUALS OF BACTERIOLOGY.

Dr. H. J. CONN, one of the joint authors of Conn's *Bacteriology*, has compiled a small handbook entitled *An Elementary Laboratory Guide in General Bacteriology*,<sup>3</sup> to be used in the practical bacteriology class. The eighteen exercises are well arranged to give instruction in the general methods which constitute the foundations of bacteriological technique, but they are not sufficiently comprehensive to cover the instruction given to medical students or students of public health. It is an excellent introduction to the principles of bacteriology.

The authors of the handbook *The Principles of Practical Bacteriology*<sup>4</sup> have addressed themselves to the growing company of non-medical scientific workers who wish to obtain some training in the science of bacteriology. The information provided could only be properly assimilated by a student actually performing these exercises, and if used as a manual for a practical class this little book might be useful. It is not suitable for the training of the medical student of bacteriology.

Judging from the punctuality of the appearance of new editions, of which there have been twenty-eight in the last thirty-eight years, *Bakteriologisches Taschenbuch*<sup>5</sup> is a favourite with the German-speaking medical student. It certainly has an astonishing amount of information crammed into its 166 pages, and its modest claim of "pocket-book" is well deserved, since it is not much larger than a pocket diary. There is a good index, and references are given to a fair number of original articles when new work is recorded.

Dr. MAX LEVINE, in his little book *An Introduction to Laboratory Technique in Bacteriology*,<sup>6</sup> describes seventy-six exercises to be performed by a student in the practical bacteriology class. These vary from the preparation of media to the agglutination test. Though the exercises are well chosen and adequately described, it is doubtful if the book in its present form is likely to be of use to the medical student of bacteriology, because it contains many exercises that would be of no interest to him, and omits others necessary for his training.

<sup>1</sup> *An Elementary Laboratory Guide in General Bacteriology*. By Harold J. Conn. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1927. (Med. 8vo, pp. ix + 165; 27 figures, 13s. 6d. net.)

<sup>2</sup> *The Principles of Practical Bacteriology*. By J. H. Johnston, M.Sc., and R. H. Simpson, M.D., M.R.C.P. London: J. and A. Churchill. 1927. (Cr. 8vo, pp. viii + 110. 6s.)

<sup>3</sup> *Bakteriologisches Taschenbuch*. Edited by Professor Dr. Otto Olsen. Twenty-eighth edition. Leipzig: C. Kabitzsch. 1927. (Pott 8vo, pp. viii + 166. R.M.3.20.)

<sup>4</sup> *An Introduction to Laboratory Technique in Bacteriology*. By Max Levine, Ph.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1927. (Cr. 8vo, pp. xii + 149. 5s. 6d. net.)

<sup>5</sup> *An Introduction to Medical Protozoology*. By Robert Knowles, Lieut.-Colonel I.M.S. Calcutta: Thacker, and Co. 1928. (Cr. 4to, 8d. net.)

<sup>6</sup> Von Herbert Elias and Adolf Feller. (Ed. + 2, pp. 232; 53 figures. R.M.24.)



## PSYCHIATRY FOR NURSES.

Dr. ARTHUR P. NOYES's *Textbook of Psychiatry*<sup>9</sup> represents the results of an experience of several years lecturing on psychiatry to students of Saint Elizabeths Hospital Training School for Nurses at Washington and to members of other training schools of nursing. There is a real demand for such a book as this, specially designed for the use of the nursing profession, for the ordinary textbooks on mental diseases are too technical and elaborate for nurses' use. Dr. Noyes gives a skillful presentation of his subject. He deals with the structure of the mind, mental mechanisms, and the nature and causes of mental disease in unequivocal phraseology, availing himself largely of the results of psycho-analytic teaching. The classification of mental diseases is discussed, and the psychoses are dealt with serially. The chapter on manic-depressive psychoses not only gives a clear picture of the various forms of this syndrome, but contains much wise practical advice. Dementia praecox is treated fully, and here again the nursing hints given are particularly valuable. An adequate account of the blood and cerebro-spinal fluid in cases of general paralysis supplements the description of the neurological and mental condition in that disease. There is a short chapter on mental deficiency. The care and management of the mental patient are discussed, and the relationship of nurse to patient is understandingly handled. Bibliographical references supplement each chapter, and in addition many books and pamphlets are quoted for the benefit of those who desire a more extended knowledge of psychiatric literature.

In *Nursing Mental and Nervous Diseases*<sup>10</sup> Dr. A. C. BUCKLEY has presented his subject along much the same lines as in his well-known book *The Basis of Psychiatry*. The method, so successfully employed in that book, of presenting the subject of mental disorders from the standpoint of general biology, serves here to provide the nurse with a clear understanding of the groundwork of her subject. Dr. Buckley remarks that among mental disorders there is a relatively large number which, medically considered, are in the same class as bodily illnesses, and that if this fact were more widely recognized the present-day artificial distinction between mental disease and bodily disease would disappear. He does not ignore, however, the distinctions that arise in the nursing of these two classes of illness, but stresses the very special attention that must be given to mental patients on account of the alteration of behaviour. Detailed instructions are given with regard to the special feeding procedures required in certain cases. The methods of promoting sleep are described, and much is said about the necessity for the elimination of waste products in these cases. There is a serviceable account of the various psychoses, and one section of the book is devoted to a description of the diseases of the nervous system. Special therapeutic methods are described at length; these include various hydrotherapeutic measures, all of which are fully illustrated. This book is a welcome addition to Lippincott's Nursing Manual Series.

## THE FAITH OF A SCIENTIST.

The first of the series of lectures provided for by the Halley Stewart Trust were given by Sir OLIVER LODGE in the year 1926, and have now been published in a book entitled *Science and Human Progress*.<sup>11</sup> It will be remembered that the object of the founder of the Trust was the encouragement of clear thinking in the realm of religion and education, as well as to encourage charitable enterprises beneficial to the community. Sir Oliver Lodge, in his opening lecture, began by assuming that the founder of the Trust designed that it should be "free and open and unhampered by restrictions such as may at any time become out of date—a living Trust, ready to be adapted

and utilized in accordance with the necessities of the time." This assumption, one obviously in keeping with the spirit of the foundation, has encouraged Sir Oliver Lodge in these six lectures to survey the whole universe and comment in philosophic vein on the aims and development of mankind, the relation between theology and science, the problem of survival after death, and other mysteries of our existence. In these territories, however, he only pauses for a moment, and he is soon off again to the recurring motive of every lecture—the invisible spirit population of the universe. On this subject he is often eloquent, as in the following passage (p. 61):

"Evidence is accumulating that humanity as a whole is not isolated in the universe, as it used to think it was, but that we are in close and affectionate touch with a higher order of beings, who realize our difficulties, help our struggles, and who, recognizing the vital importance of this earthly period of existence, are straining their faculties to the uttermost to step in wherever they are given the opportunity—not by force, not with any compulsion, but by permission, by good will, or in response to entreaty—so that, by co-operating with us, they can contribute to the advancement of the whole."

## NOTES ON BOOKS.

ALTHOUGH the medical profession has produced many poets, some of them numbered among the immortals, it is difficult to say offhand why this should be so, for there is no apparent connexion between poetry and medicine. Some, like Keats and Robert Bridges, may have entered our profession without any strong leaning towards its practice, and soon afterwards devoted themselves with single mind to the Muses. Others at the end of a busy week's work find recreation in the writing of verse as an escape from the hard realities of the medical life. Others, seeking an outlet for the gift of expression, weave medical thoughts and experiences into a metrical pattern. Among the third group a place could certainly be claimed by Mr. BISHOP HARMAN, even though the professional items in *To-day, and Other Verses*<sup>12</sup> are relatively few in number, and it would, we think, be more correct to say that at heart he belongs to the second. If the themes touched on in this daintily produced volume are here and there a little pedestrian, and better suited to prose than verse, the author's range of subject and metre is wide, his pen moves with enviable freedom in very diverse moods, while the sincerity of his feeling and his broad humanity can be felt on every page.

The growth of population in most European countries may be expected to lead to the exploitation of countries hitherto little known, and Mr. HENRY M. GREY, in an interesting account of a 1,500-miles trek on mule-back through the swamps and forests of Eastern Bolivia, describes that country as *The Land of To-morrow*.<sup>13</sup> Its natural resources are numerous. Gold, copper, tin, and petroleum occur in easily worked forms, while the rich earth readily grows cocoa, coffee, cereals, cotton, and tobacco. Tropical and subtropical fruits are plentiful, rubber grows wild, and, in parts, there is rich and abundant pasture for cattle. The disadvantages of the country are, however, numerous; the temperature in the localities visited ranged from 50° to 100° F. in the shade, but the author was there only in the cold season. He describes the climate in some places as "ideal." Dangerous wild animals are scarce, but the "minor horrors" appear to be abundant. Owing to the numerous swamps mosquitos abound, and malaria is common. Ticks, tarantulas, vampire bats, jiggers, "mosquito-worms," large black ants, and snakes—including the anaconda and boa-constrictor—were met with during the trek, and some rivers are infested with fishes which render bathing dangerous. In addition to the sting-ray, two fishes of particularly objectionable habits were noted: the *peraiia* delights in biting off the fingers, toes, or other projecting parts of the bather; while the *handeroo*, about one inch in length and no thicker than a match, may dart into any natural orifice of the body, whence it is difficult to dislodge. The rivers also abound in *jacares*, or small alligators. Bands of savages, armed with bows and arrows, spears and clubs, raid the dense forests, and are responsible for many murders and the brutal mutilation of travellers. The arrows and spears are poisoned with curare, which is prepared in secret by the chiefs and "medicine men." The author states frankly that he is not a naturalist, the object of his journey being to report on a rubber estate, and his comments on the prevalent diseases are naturally not of great scientific value. Although malaria is found in the vicinity of

<sup>9</sup> *A Textbook of Psychiatry*. By Arthur P. Noyes. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1927. (Demy 8vo, pp. xii + 333; 12 figures. 11s. net.)

<sup>10</sup> *Nursing Mental and Nervous Diseases*. By Albert Conlson Buckley, M.D. London: J. B. Lippincott Company. 1927. (5½ x 8½, pp. 312; 57 figures. 12s. 6d. net.)

<sup>11</sup> *Science and Human Progress*. By Sir Oliver Lodge. London: George Allen and Unwin, Ltd. 1927. (Post 8vo, pp. 187. 4s. 6d. net.)

<sup>12</sup> *To-day, and Other Verses*. By N. Bishop Harman, M.A., M.B., F.R.C.S. London: The Lindsey Press. 1928. (Cr. 8vo, pp. xii + 136. 5s.)

<sup>13</sup> *The Land of To-morrow*. By Henry M. Grey. London: H. F. and G. Witherby. 1927. (Demy 8vo, pp. 224; 6 plates, 1 map. 12s. 6d. net.)

the numerous swamps, enteric, cholera, and yellow fever are apparently unknown. Beri-beri is common, and the death rate from this disease varies from 2 to 50 per cent. according to the locality. The author himself contracted the disease, and attributed the cause to eating rice, as bread was rarely obtainable. Venereal diseases are said to be rife among the natives in the interior, having probably been introduced by European traders. A great drawback to the exploitation of this fertile country is lack of transport. The railway is gradually creeping north from the Argentine, but had made little progress at the time of the author's visit, the year of which is not stated, but it was shortly before the outbreak of the great war. Mules provided the chief means of transport, as the rivers, though numerous, are not navigable in the upper reaches, which alone flow through Eastern Bolivia. When the railway has extended beyond Santa Cruz, when roads suitable for wheeled traffic have been constructed, when the swamps have been drained, the rivers bridged, and the savage bands civilized, there awaits the planter and the miner a rich country. But before all its benefits can be realized there is work for the advisory expert in tropical hygiene.

*Black's Veterinary Dictionary*<sup>14</sup> is the inevitable companion to the same publishers' medical dictionary. It is modelled on the same plan, and is printed and published in a similar form. It provides a ready work of reference for all who own animals, and it should be a useful volume for those who practise human medicine. In straightforward, almost non-technical, language it explains all that the animal owner requires to know about the diseases which affect his stock, and it explains these on a rational basis—that is, anatomy and physiology precede the merbid discussions. It also provides a satisfactory manual of first aid for animal diseases, but it in no way attempts to make "every man his own veterinary surgeon"; rather it encourages the employment of skilled aid where necessary, and explains why and when this is required. Besides the purely practical part of the dictionary there are numerous fairly lengthy articles on genetics, diet and dietetics, parasites and parasitology (an article very fully illustrated with text-figures), and breeds of live stock (with numerous plates of typical animals). The book is edited by Mr. W. C. MILLER of the Royal (Dick) Veterinary College, Edinburgh, and the articles referred to above (among others) have been contributed by specialists in these branches. A volume such as this does much to explain the present standpoint of veterinary medicine, and to dispel the old idea—which still lingers here and there—that it is a purely empirical art. Those who use this work will realize that there is only one science of medicine, and that its application to animals is based on the same general principles as its application to man; the technique only differs. The price of the dictionary is remarkably low when one considers its size—over 1,000 pages and 400 illustrations—and the excellence of its production. It should accordingly prove of great value and importance, not only to the animal owner, but to the student and practitioner of human and veterinary medicine.

*Lee's Microtome's Vade-Mecum*<sup>15</sup> requires no introduction as the standard work on microscopical technique, and the ninth edition, edited by Professor BRONTÉ GATENBY and E. V. COWDRAY, will doubtless receive a very warm welcome. The embryological, psychological, protozoological, and entomological sections have been revised and enlarged, and new sections have been introduced. Special attention has been paid to the index, and, as in previous editions, the information is set out with exemplary clearness. It would be difficult to praise the book too highly.

*Immortality*,<sup>16</sup> the title of a small book in which this subject is philosophically treated by Dr. I. HARRIS, is of interest to all men. This is not the first time that a physician has expressed his views thereon; twenty-four years ago Sir William Osler gave at Harvard "The Ingersoll Lecture on the Immortality of Man," entitling this charming but short address "Science and immortality." Dr. Harris believes that science can provide the material for a creed which will act as a living pulsating force for all sections of the community.

The first issue of *Who's Who in the Nursing World* is intended to supply to the nursing profession and general public particulars of administrative and examining bodies, the nursing services, nursing associations, institutions and societies, nurse

training schools, clubs and journals, and a list of prominent persons in the nursing world, which will probably receive considerable additions in subsequent years. It should prove a useful work of reference. The only important omission we have detected is the absence of any mention of the hospitals of the Metropolitan Asylums Board among the London fever hospitals.

Those who have learnt to rely on the Union Castle Mail Steamship Company's *South and East African Year Book*<sup>17</sup> as a guide to any and every aspect of life, work, and transport in South and East Africa will welcome the appearance of the thirty-fourth issue at half the price of former years. The section on health and climate affords, as usual, information as to the facilities available for invalids. It is a pity that the recent suspension of the issue of permits for the entry of tuberculous patients into the Union—a matter of considerable importance—is not noted under this head at page 85 as well as under "Immigration" at page 191.

<sup>14</sup> *The South and East African Year Book and Guide*. Edited by A. Samler Brown, F.R.M.S., and G. Gordon Brown, F.R.G.S. Thirty-fourth edition. London: Sampson Low, Marston and Co., Ltd. 1923. (Cr. 8vo, pp. iv + 919; 32 maps. 2s. 6d.)

## PREPARATIONS AND APPLIANCES.

### A LOOP FOR MEASURING THE BLOOD COAGULATION TIME.

PROFESSOR O. S. GIBBS, M.B. (Dalhousie University, Nova Scotia), writes: In 1924 I described an instrument for the accurate and convenient measurement of the coagulation time of human blood.<sup>1</sup> This instrument consisted essentially of a 5 mm. platinum wire loop, on which is formed a bead of blood, which, on being warmed to body temperature by placing the instrument in a basin of warm water, runs freely on the wire, stopping, however, very sharply when clotting takes place. In order to form the bead of blood the loop was cut through in one place, which weakens it considerably, and thus renders it liable to be distorted on being used. Recently I have found that if in place of the actual gap a virtual gap is made by a small indentation in the wire at right angles to the plane of the loop, this functions equally well, and the loop is far stronger.

I have received several complaints that my results could not be confirmed. In every case the cause of the trouble has been the use of an improper loop, this being either too small or, more frequently, made of too thick wire, which should be No. 31 or No. 32 B.S.W.G. (usually the size supplied for chemical flame tests). Further experience with this method has confirmed my original results. For animal work reference may also be made to a second paper on this subject.<sup>2</sup>

This instrument is now obtainable from Messrs. C. F. Palmer, Myographic Works, Brixton, London, S.W.2.

### IRRADIATED ERGOSTEROL.

"Vigantol" is a preparation of irradiated ergosterol accurately standardized and prepared by I. G. Farbenindustrie A. G. (Pharmac. Dept., Bayer-Meister Lucius) and E. Merck of Darmstadt. It is sold in this country by H. R. Napp, Ltd. (3 and 4, Clements Inn, Kingsway, W.C.2). Irradiated ergosterol is believed to be identical with vitamin D, and the preparation is intended for the prevention and treatment of disturbances of bone formation. "Vigantol" is sold in liquid form (1 per cent. solution in oil; dose 5 to 10 drops daily), and in sugar and chocolate-coated tablets containing 2 and 4 mg. of irradiated ergosterol respectively. The vendors claim that the preparation has given excellent clinical results. It possesses a pleasant flavour, and the makers estimate that the 2 mg. tablet is equivalent in vitamin D content to more than a tablespoonful of cod-liver oil.

### DIMOL SNUFF.

The Dimol Laboratories, Ltd., have produced an insufflation powder for the prevention and relief of nasal catarrh. This antiseptic snuff is sold in glass tubes, and medical practitioners can procure ebonite containers in the shape of a miniature wine bottle, with a slip-on neck and movable cone controlled by means of a spring. In use the neck is removed, the bottle inverted and tapped on the back of the hand. The price of this little distributor is 2s. 6d., and refill tubes of the powder are supplied at 1s. each.

### AN EMERGENCY BRANDY FLASK.

Martell's brandy flask should prove a handy addition to the medical emergency bag. It has a patent cap, which dispenses with the need for a corkscrew and can be replaced as often as necessary. The flask itself is shaped to fit the pocket, and an aluminium drinking cup, reaching half-way up the container, gives some protection against breakage. The flasks, as sold, contain Martell's three star brandy.

<sup>1</sup> O. S. Gibbs: A Clinical Blood Coagulometer, *Quart. Journ. of Med.*, 1924, vol. 17, 312.

<sup>2</sup> O. S. Gibbs: *Journ. of Physiol.*, 1925, 1ix, 426.

<sup>14</sup> *Black's Veterinary Dictionary*. Edited by William C. Miller, M.R.C.V.S. London: A. and C. Black, Ltd. 1928. (Demy 8vo, pp. viii + 1081; illustrated. 21s. net.)

<sup>15</sup> *Bolles Lee's Microtome's Vade-Mecum*. Ninth edition, edited by J. Bronté Gatenby, Ph.D., D.Sc., etc., and E. V. Cowdray, Ph.D. London: J. and A. Churchill. 1928. (Demy 8vo, pp. x + 710; 3 figures. 30s.)

<sup>16</sup> *Immortality*. By I. Harris, M.D. London: Williams and Norgate. 1927. (Cr. 8vo, pp. vii + 68. 2s. 6d.)

<sup>17</sup> *Who's Who in the Nursing World*. London: The H. Edgar Smithers Publishing Company. 1928. (Fcap. 8vo, pp. xii + 229. 5s. net.)

## NATIONAL HEALTH INSURANCE IN SOUTH AFRICA.

### SOME PROBLEMS FOR SOLUTION.

THE Government of the Union of South Africa has appointed a Parliamentary Commission to inquire into and report upon the questions of old age pensions, insurance against sickness and unemployment, and for widows and orphans. The Commission has concluded its investigations with regard to old age pensions, and is now engaged on those relating to the other matters which have been referred to it. It is understood that these other matters are not to be dealt with piecemeal, but are to be combined in one scheme of national insurance. It is improbable, therefore, that any scheme evolved can become actually operative for at least four or five years, but even now suggestions are taking form, and a provisional bill embodying some of these suggestions is in process of drafting.

The medical profession in South Africa, and indeed the whole of the British Medical Association, is vitally concerned with such of these proposals as relate to national health insurance, and though it may be premature as yet to come to a decision on certain important details—for example, the amount of the remuneration to be asked for such services as the profession may render, or the nature of any machinery for the investigation of complaints—it is now becoming a matter of some urgency for the profession in South Africa to make up its mind on certain broad questions relating to the general nature of the scheme. Indeed, the Medical Association of South Africa (British Medical Association) has been asked, somewhat insistently, by the Parliamentary Commission to keep it informed as to professional opinion on many important points. Answers to these questions must be forthcoming within the next few months if they are effectually to influence the opinions of the members of the Commission and the nature of their report.

### GEOGRAPHICAL AND RACIAL DIFFICULTIES.

It is clear that conditions in South Africa differ radically from those in Great Britain, or indeed in any other country which has adopted a scheme of national health insurance, and that therefore no existing scheme for such insurance could be applied to South Africa without the most fundamental alterations.

South Africa is a country of vast extent with a relatively small population, only a small proportion of which is of pure European descent. Considerable tracts may still be described as unsettled or of a strictly colonial character. In the remainder industrialization has not proceeded very far. A few industries are concentrated in a small number of areas, and the great mass of labour is poorly paid, being mainly native or coloured. Certain of the existing industries, such as the railways and the mines, have already established schemes for medical attendance and sickness insurance of a far-reaching and practically compulsory character. There seems to be nothing in South Africa corresponding to the Poor Law medical arrangements in England, but there are a number of "district surgeons" whose duty it is to respond to medical calls from those unable to pay any fee, provided that certain formalities are complied with.

It is thus evident that perhaps the most fundamental question to be determined is the extent of the working population which the insurance scheme should cover. Shall it be for the urban population only, rural areas being excluded? And, if so, what is to be the definition of a rural area? Shall it be for whites only, or for whites and coloured—natives, Indians, and Malays being excluded? Shall it include or exclude those employments which have already established adequate schemes for medical benefit? What should be the limit of income under which employees are insured persons, and should such limit apply to manual workers as well as to others?

Unfortunately there are no easily available statistics which would assist judgement on these matters, and it is certain that an all-embracing insurance scheme would involve administrative difficulties of a formidable, but not necessarily insuperable, character. Nevertheless, on general

principles it is clear that any scheme of medical benefit which did not apply to rural areas, or to the coloured or native population, would be open to the objection that it would meet the needs of those who required it least to the exclusion of those who required it most. The political complications, too, which might arise from any such proposals are by no means negligible.

The problem of the sparsely populated areas is in any case difficult, but there are certainly two methods by which it might be dealt with. It would be possible to schedule certain regions as in the unsettled or pioneer stage, and therefore outside practicable medical provision. Other regions which have advanced beyond this stage, but in which the scattered population, and the great distances which a doctor must travel to render service, make insurance actuarially impracticable, might be provided for apart from the insurance scheme, but simultaneously therewith, by some form of subsidy to medical practitioners (there are several such forms possible), somewhat on the lines of the Highlands and Islands arrangements in Scotland. In districts not scheduled under one or other of these headings the ordinary insurance scheme would apply, with, of course, a mileage fund in addition to the common remuneration in certain areas. Alternatively, it might be possible to define, in this respect, the persons to whom the insurance medical benefit would apply as those living within  $x$  miles of a doctor—again, of course, with a mileage payment to those practitioners travelling beyond a certain distance (less than  $x$ ) to visit their insured patients. The main difficulty of the latter suggestion would be found in the migrations of insured persons and of practitioners; but, in case it be adopted, it is an urgent matter for the profession to determine the appropriate value of  $x$ .

### EXTENT OF INSURED POPULATION.

The coloured people, as distinct from the natives, are concentrated in the Cape Province, where they have the parliamentary franchise and exercise much political influence. It would seem almost impossible to exclude them from medical benefit. Administratively it would not be so difficult to exclude the natives; but if this were done much of the social and public health value of the whole scheme would be lost. It seems probable that the question of colour will be avoided by not mentioning it at all, but by giving special consideration to the position of low wage earners. Such a class would include not merely most of the natives and coloured people, but also many of the class known as "poor whites," preponderantly low-class Dutch. It will be remembered that in the national health insurance scheme of Great Britain special provision as to premium is made for low wage earners. Whereas, however, in Great Britain this class comprises an almost inconsiderable number of persons, in South Africa it would include a very large number of insured persons if there is to be no distinction of colour. This must profoundly affect the nature of any insurance scheme, and a suggestion for dealing with the situation so envisaged may be worth considering.

The suggestion is this: that the main general insurance scheme should be established nationally on such a minimum basis, both as regards contributions (whether from employer or employed) and as regards benefits, as would meet the needs of the great mass of low wage earners; and that upon this minimum should be superimposed a compulsory industrial insurance for each of those industries which are sufficiently large and sufficiently organized to permit of it. The minimum scheme would, of course, include medical benefit, and this would have to be as good and as full for one class of insured persons as for another. Provided that none fell below the minimum, both contributions and other benefits might well vary from industry to industry (or, by agreement, even between different classes of workers within an industry), according to the needs of the case. Those industries which fulfilled the necessary conditions might be scheduled in the parliamentary bill embodying the scheme, and the Minister of Public Health might be empowered to add to the schedule other industries as, in the course of time and natural development, they arrived at a suitable stage. Administration in such cases would be by industry—in the ordinary case by locality—but there would probably have to be a

certain amount of interlocking of administration, inasmuch as certain functions might well be performed by the local administration on behalf of the industrial organization, especially with respect to outlying members.

Such a scheme would allow of the continuance of some existing provisions for medical and other benefits already working fairly satisfactorily in connexion with the railways and some mines, though modifications in detail might be necessary to bring them into conformity with the general scheme. It would also permit of provision being made for medical advice and treatment to the dependants of employees where this is one of the benefits already provided, or in other suitable cases. In a highly industrialized country such a scheme would present great difficulties, but it would not be inappropriate for South Africa. There are probably only four industries in that country which could be immediately scheduled as carrying contributions and benefits above the national minimum—the railways, the mines, the building trade, and the distributing trades (mainly shop assistants and warehousemen). Between them these include the majority of those who would become insured persons.

Under any national health insurance scheme, or any such combination of national and industrial insurance as that suggested, the question of an income limit for employees to be included at once arises. In Great Britain the income limit is £250 a year, and this applies to non-manual workers only, there being no limit in the case of manual workers. In South Africa a tentative suggestion has been made that the income limit should be £400 a year, but representatives of the medical profession have declared that this is much too high, and have expressed the opinion that any income limit agreed upon should apply to the whole of the insured population. This appears to be both logically and socially right, and has been proposed by the British Medical Association for Great Britain. Here, however, it is declared to be administratively and industrially impossible to apply an income limit to weekly wage earners. The conditions in South Africa seem to offer a more favourable ground for the experiment, which would be of great value if successful. The lower income limit of £6, or at most £7, a week has been mentioned as an alternative to £400 a year. This is one of the points on which the profession should come to a speedy decision, and it is obvious that reliable statistics of employment at various rates would be most helpful.

#### SCOPE OF THE MEDICAL SERVICE.

In the circumstances of South Africa the determination of the scope of medical advice and treatment to be provided should prove a less difficult problem than that of the extent of the insured clientele. There are three considerations which together should go far towards influencing a decision on this point.

(1) Experience in Great Britain has shown that the restriction of medical services to those which in the best interests of the patient can properly be rendered by general practitioners as a class not only materially lessens the public health advantages of the whole scheme, but also requires the formulation of a large number of regulations or rules which complicate the scheme and annoy many of those who participate therein.

(2) The line of demarcation in South Africa between what are commonly regarded as general practitioner services and real specialist services is peculiarly difficult to draw, partly owing to lack of specialist facilities over large areas throwing more responsibility on the general practitioner, and partly owing to the stage in the development of specialism within the profession which has at present been reached even in the larger towns.

(3) In the main schemes for medical treatment on a contributory basis which are now in operation in South Africa it is usual to include all kinds of medical services, even full hospital provision.

It thus appears desirable and feasible that any health insurance system established in South Africa should from the beginning make the medical provision much more complete than in Great Britain; and the medical profession might well advise the Parliamentary Commission in this sense, even though it be recognized that financial considerations must also be a factor in the ultimate decision.

#### FURTHER PRACTICAL QUESTIONS.

If, then, a health insurance scheme be postulated which includes a large proportion of the working population and has regard to the requirements of the low wage earner, and in which various classes of medical practitioners may participate, there still remain several important questions relating to the form of contract and the methods of providing medical attendance; and these the medical profession may reasonably be asked to answer at an early date. Broadly, they may be stated as follows. Should the Government make a contract for medical services with the organized profession as a whole, or with the individual practitioner? Should all registered medical practitioners be free to take part in the work (the "panel system"), or should the service be staffed by selected practitioners only? Should advice and treatment be sought and given as far as possible on the lines of private practice, or should this be by means of specially established "clinics"?

In Great Britain the contract for service is made with each individual practitioner, though this, of course, does not in any way prevent the negotiations as to terms and conditions of service being conducted, on behalf of all practitioners concerned, by a central professional organization. In Japan, on the other hand, the agreement as to medical benefit under the insurance scheme is between the Government and the Japan Medical Practitioners' Association. It consists of thirty-five articles, and is signed by the president of the association and by the director of the Bureau of Social Affairs. Under this agreement the medical attendance on all insured persons is in the hands of the association (except where patients are placed in public hospitals), which has made itself responsible for providing, regulating, and supervising such attendance for the whole of the insured population. Such a contract as this necessitates the adoption of some methods of inspection and detailed control which would not be very congenial to those influenced by either British or Dutch professional traditions, and entails a responsibility for administrative detail which probably neither the British Medical Association nor the Medical Association of South Africa (British Medical Association) would readily undertake. Nevertheless, this arrangement is said to have worked well in Japan during the short period of two years during which it has been in operation, and to have proved so far satisfactory to the profession in that country. It is for the practitioners of South Africa to say whether it is attractive, or otherwise, to them.

#### SOME FUNDAMENTAL CONSIDERATIONS.

Two of the fundamental principles which the profession in Great Britain has found it essential to adopt and maintain in connexion with national health insurance are: (1) the right of every registered medical practitioner to take part in the service if he chooses to accept and abide by the prescribed conditions; (2) as complete a freedom of choice by insured person of doctor, and by doctor of patient, as circumstances allow.

It is held to be inequitable and unjust that when a Government makes communal provision for medical attendance on any considerable proportion of the population it should cut off so large a field of work from those who are legally qualified to practise therein and reserve it for the chosen few; and it is regarded as important to maintain the methods and traditions of established medical practice as far as possible, and to preserve that personal relationship between doctor and patient which is so valuable an aid to success in the treatment of disease and the maintenance of health. There is no reason why these principles should not apply to consultant and specialist practice as well as to that of the general practitioner, and they should hold good just as much in South Africa as in Great Britain. In South Africa, indeed, the setting-up of an insurance scheme would afford an opportunity of so applying these principles as to do away with certain undesirable features associated with the present system of selected "district surgeons" and medical officers of the railway service. There are, on the other hand, some possible administrative and financial advantages about a system of selected staffs; but it is not easy to suppose that the profession in South Africa will consider that these outweigh the considerations held to be so vital by the profession in Great Britain and elsewhere.



It is largely to preserve the desirable features of private and family practice, with its invaluable opportunities for the teaching of personal and domestic hygiene, that the medical profession in Great Britain has preferred the system of domiciliary and consulting-room work to that of the separately established central clinic as the ordinary method of giving medical attendance. The British Medical Association advocates these methods as being generally preferable even in consultant and specialist practice, though it is recognized that in certain areas and for particular purposes the establishment of such "centres" may be useful under suitable conditions.

The circumstances in South Africa differ from those in Great Britain, and make the determination of this question of the method of giving medical attendance under a health insurance scheme a matter of peculiar difficulty and importance. It might be easier in several respects (social as well as financial) to provide medical advice and treatment for Indians, Malays, natives, and coloured, perhaps for low-paid workers in general, at central clinics than in any other way. There are doctors in many towns who would desire to take part in a health insurance service, but who do not wish to cultivate practice among these classes of the population. Some of these doctors would, however, not object to giving sessional attendance at a clinic for such persons. This applies alike to general practitioners and to specialists.

It is highly undesirable that the profession should be divided into distinct classes, and that any excuse should be given for the statement that an inferior kind of medical attendance was provided for the native as compared with other insured persons. For this reason, among others, it may be found that some combination of clinic and domiciliary medical attendance may be judged suitable. In coming to a decision it is to be hoped that the Association in South Africa will in no case abandon without due cause the more customary and private methods of practice in connexion with insurance work, and that, if any limited system of clinics is established at all, the arrangements insisted upon will be such as to prevent the selection of a permanent staff of medical officers to do the clinic work to the exclusion of their fellows who may be similarly qualified. It is quite possible, even in clinics, to devise a system of sessional attendances which will spread the work as widely as possible over periods of time.

There is one further question as to method which the Medical Association of South Africa (British Medical Association) is asked to reply to: this is the method, as distinct from the amount, of remuneration. Shall it be by capitation, by case value, by items of attendance, by sessional fee, or even by salary? In this matter the experience and the full consideration of the point by the profession in Great Britain may be regarded as almost the determining factor. The opinion in Great Britain is practically unanimous. It is that ordinary medical attendance under an insurance scheme should be remunerated by capitation fees, and specialist attendance by fees per item of attendance. If, however, there is any attendance at central clinics this should be paid for by appropriate sessional fees. If after some time experience shows that particular kinds of attendance at individual clinics can be stabilized at a salary corresponding roughly to the sessional fees in the special instance, there would be no objection to the naming of a yearly salary for such attendance, provided this is open to revision.

#### THE TASK BEFORE THE SOUTH AFRICAN PROFESSION.

The Federal Council of the Medical Association of South Africa (British Medical Association) and the Branches of the Association throughout the Union are faced with a task of much difficulty, requiring both knowledge and judgement. It is unfortunate that the great majority of the members of the Association in that country have no knowledge whatever of the actual working of insurance practice. In so far as this weakness can be remedied by the experience of the members of the British Medical Association in Great Britain, this is freely at the disposal of those who have the main responsibility in South Africa. Already something has been done to make this available.

There is every reason to believe that with a united and

effective and alert Association in South Africa, and with an apparently sympathetic and reasonable Parliamentary Commission, there may be established in the Union of South Africa a scheme for affording medical advice and treatment of all kinds to employed persons unable to provide it adequately for themselves which shall be consistent with the interests of the medical profession and greatly to the advantage of individual and public health.

## SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

### Scholarships.

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum. These Scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State Medicine) relating to the causation, prevention, or treatment of disease. Each Scholarship is tenable for one year, commencing on October 1st, 1928. A Scholar may be reappointed for not more than two additional terms. A Scholar is not necessarily required to devote the whole of his or her time to the work of research, but may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his work as a Scholar.

### Grants.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the causation, treatment, or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

### Conditions of Award: Applications.

Applications for Scholarships and Grants must be made not later than Saturday, June 2nd, 1928, on the prescribed form, a copy of which will be supplied on application to the Medical Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated, to whom reference may be made.

## ROYAL MEDICAL BENEVOLENT FUND.

At a recent meeting of the committee sixty-one cases were considered and £1,057 voted to fifty-one applicants. Since the beginning of this year a total of £2,203 has been made in grants to urgent cases of distress. The following are short notes on a few of the cases helped.

Widow, aged 39, of M.B.Aberd. The husband died of cancer in December, 1927. He was just emerging from financial difficulties, having recently started a new practice, when he became ill and died of cancer a year and a half later. The practice was sold for £500, all of which went to pay his debts and the expenses of the illness. The widow has been left with a boy, aged 14, and a capital of only £45. Voted £24. The case was referred to the Guild for work to be obtained for the widow.

Widow, aged 54, of M.D.Camb. The husband died of cancer in December, 1927. He was just emerging from financial difficulties, having recently started a new practice, when he became ill and died of cancer a year and a half later. The practice was sold for £500, all of which went to pay his debts and the expenses of the illness. The widow has been left with a boy, aged 14, and a capital of only £45. Voted £24. The case was referred to the Guild for work to be obtained for the widow.

Daughter, aged 53, of M.B.C.S.Eng. has since the death of her father supported herself and her delicate sister by literary work. In 1925 she became ill from overwork. She has gradually sold all she had, and now she and her sister are living in lodgings, for which they pay £1 a week, including food for both. Voted £26.

Daughter, aged 65, of L.R.C.P.Ed. was working as a governess in Russia at the time of the revolution. She was forced to leave, and lost all her savings. She has returned to this country at an age when it is impossible to continue work. Her total income is only £60 a year. The Fund voted a further £26.

The demands for help increase and subscriptions are very urgently needed, and should be sent to the Honorary Treasurer, Sir Charters Symonds, 11, Chandos Street, Cavendish Square, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.



# British Medical Journal.

SATURDAY, APRIL 21ST, 1928.

## LONDON SEWAGE AND THE RIVER THAMES.

THE spending of a quarter of a million pounds on what is essentially a health measure is a matter of some moment, even in London, where big figures cease to arrest attention by reason of their familiarity; and when we learn that this expenditure is an instalment only in a proposal which may involve in its completion a scheme for dealing with a problem some twenty to fifty times the dimensions of that now attacked, the matter becomes of more than passing interest.

On February 23rd last the London County Council decided to embark on an outlay of £250,000 to install plant capable of dealing with quantities of sewage effluent of from five to ten million gallons a day. At the present time the volume of sewage effluent daily entering the Thames at Barking and Crossness, the Council's outfalls, is some 260 million gallons. "These streams form, in effect, tributaries of no inconsiderable size to the River Thames. Discharge from the outfalls is constant, and the effluents mix with the river and take part in its movement. A progressive passage of all the water in the river takes place in the direction of the sea, but, owing to the tide, such passage is not continuous in its direction. Owing to the oscillation of the tide, the progress of effluent seawards from the outfall is subject to reversal. A particle of effluent starting from one of the outfalls at the beginning of the ebb tide can only go a few miles down the river before it is met by the incoming flood tide. It is thereby carried back, although not back to the original point of departure. On the succeeding ebb it gets further down the river than before, only to be carried backwards by the next flood. The rate of curtailed progression continues until ultimately it reaches the sea. On the flood tide the movement of effluent in the first instance is up-river, and, in consequence, the condition of the river is affected throughout its course in its passage through London." What is the nature of this effluent affecting the condition of the river throughout its course in its passage through London? The sewage of London is subjected at the outfalls to sedimentation. "The precipitation operations at the outfalls result in the deposition of the cruder suspended matters in the sewage. The organic matters which have passed into solution flow out with the effluent and are the principal factors of pollution. The effluent also contains the lighter suspended matters which the disintegration of the grosser solids in the sewers has produced." The report from which we have quoted does not inform us of the extent to which these principal factors of pollution have affected the River Thames in its passage through London; but we are left to infer that a degree of pollution has been reached which it would be unsafe to permit to continue. "Experience has proved that the calls which are being made on the London main drainage system, and on the capacity of the river as the final place of disposal, have reached a point when further steps should be taken."

<sup>1</sup> Report of the Main Drainage Committee brought up to the London County Council on February 21st, 1928.

It is a tribute to the sagacity of the members of the London County Council that they have not waited until the evidence of the senses has forced a public recognition of conditions which could not be tolerated. And while, on the other hand, the Council has not moved precipitately, it appears not to have wasted the period of grace allowed it for deliberation. In addition to sustained consultation with its own past and present officers, visits of inspection to provincial authorities engaged in grappling with kindred but even more pressing problems, and the authorization of prolonged and practical scientific investigations, the Council has from time to time consulted the most eminent experts it could find to advise it in the stupendous undertakings which in the long run would obviously have to be faced. It is clear, from the different solutions of these problems that have been propounded, that the gain in knowledge has enormously contracted the scope of the Council's commitments, as it has simplified difficulties and economized resources. In 1890 it was foreseen that what is now recognized as the immediate duty of improving the methods of London sewage disposal would ultimately have to be discharged, but at that time it was regarded mainly as an engineering problem involving works far more costly than any which are contemplated to-day. Two eminent engineers, Sir Benjamin Baker and Sir Alexander Binnie, who had been consulted, reported in February, 1891. The course of action advocated by them, if and when the quantity and quality of effluent passing into the river became more than could be assimilated by the river without causing nuisance, was to move an outfall further down the river. Shell Haven was suggested as a possible site, and the engineers also expressed the opinion that if it were considered imperative to discharge the metropolitan sewage into the sea in its crude condition without any risk of injury to the estuaries of the Thames, the Blackwater, and the Crouch, then a project for an outfall sewer fifty-six miles long, from Crossness to the deep water of the ... would be found worthy of serious ... to the advance in knowledge of sewage purification, it is now seen that such colossal expenditure as would be involved in engineering undertakings of this magnitude is not only unnecessary, but would provide no real remedy. Whether discharged into the sea or into the estuary, sewage in such volume as that of London would necessarily have to be treated. Fortunately, after prolonged study of the ways of natural purification, methods of treatment have been evolved which entail no sacrifice of the costly plant already provided, and are applicable at the sites of the present outfalls.

The County Council has satisfied itself that what is known as the activated sludge method is applicable to the treatment of the effluent from the area it administers. Exhaustive investigation has shown that this effluent pollutes the Thames in course of its passage through London to a degree at which further steps for its improvement are imperative. The method which, after the fullest investigation, the Council has decided to apply provisionally, on a scale which can be regarded only as an instalment, involves no scrapping of the present inadequate methods of sewage treatment. It begins where the present treatment leaves off, and carries purification to an innocuous stage at which, without menace to the great health interests of the metropolis, the effluent may safely be discharged into the waters of the Thames. It is hoped that, as a result of the experience gained in proceeding by degrees instead of by a single comprehensive scheme, economies will be effected and, in respect of

operations on so vast a scale, the errors of inexperience avoided. Large as are the sums of money involved, the cost of treating London sewage is relatively low.

To London, clustered on the banks of the Thames, the preservation of the salubrity of the river is of the first importance. Since only the tidal waters are affected by the large volumes of effluent they receive, the problem of purification is a comparatively simple one—much simpler than that of the riparian authorities of the upper reaches, where effluents mingle with the potable waters which supply London. But although simple it is of first-rate importance. Nothing can be permitted which threatens the healthiness of the metropolis and its environs. The great waterway and spacious and unobstructed airway of the Thames estuary is doubtless one of the main environmental factors which have given London the enviable position in regard to health of which it is so justly proud; and the London County Council is to be congratulated on its watchfulness and prescience, its courage and faithful discharge of primary obligations, in the great enterprise on which it has so unostentatiously embarked.

### THE NATIONAL HEALTH INSURANCE BILL.

The National Health Insurance Bill was given a second reading by the House of Commons just before the Easter recess. This bill proposes to make changes in administration and in connexion with additional treatment benefits, the proposals being mainly based upon the less important recommendations of the Majority Report of the Royal Commission on Health Insurance. A summary of the provisions of the bill was given in our *Supplement* of March 17th last (p. 89), and a full report of the debate on the second reading will be found in the *Parliamentary Notes* in last week's *Journal* (p. 645). It is by no means easy to understand from the text of the bill itself the effect of its provisions; but a careful consideration of that text, of the official explanatory memorandum, of the debate on the second reading, supplemented by the notes of an interview between representatives of the Insurance Acts Committee and of the Ministry of Health, suggests that there is a real danger of our profession treating the matter too complaisantly. During the preparation of the bill, and, indeed, since its introduction, the Ministry of Health has stated that there is but little in the bill that affects the medical profession. It is true that with most of its clauses the profession is not directly or seriously concerned, but it may be found that certain sections of the bill raise once more questions of fundamental importance to the medical profession, and that there will be grave danger if some of these sections pass unamended.

With many of the provisions of the bill there will be hearty agreement. The considerable simplification with regard to contributions, arrears, and benefits effected by Clause 1 (and some others) should help towards a smoother working of a system, all parts of which have suffered from over-elaboration and lack of uniformity. The stoppage of the subterfuge by which new institutions, not otherwise qualified for recognition, have been brought into existence in South Wales through a misuse of the power of making "collective own arrangements," will be welcomed. The establishment of real insurance conditions for deposit contributors who are unable through ill health to join any approved society will remedy an obvious hardship. An increased control by the Ministry over the rules and maladministration of approved societies should tend to lessen gross abuse and injustice. The

establishment of two new classes of insured persons will not be objected to, since they are of the same type as those technically employed under a contract of service, though the extension of the insurance scheme to some 25,000 additional persons is not without its interest to medical practitioners.

It is those parts of the bill directly or indirectly affecting the provision and administration of additional treatment benefits which require the closest scrutiny, and which may be found to necessitate either important amendment or strong opposition. These are Clauses 4 and 14, the first schedule, and parts of the second and third schedules. It will be remembered that the most important and urgent of the recommendations of the Royal Commission was that the scope of medical benefit should be extended so as to include for all insured persons consultant and specialist services. The cost of such extension was estimated at about £1,250,000 a year, and was to be provided by a very limited pooling of future surpluses of approved societies. In the course of the debate on the second reading of the bill it was reiterated by several members of the Opposition that the absence of provision for a general specialist service was due to the effect of the Economy Act of 1926. There can be no sympathy with this statement in the minds of those who remember, or refresh their memory with regard to, the provisions of that measure and the debates thereon (see articles in the *British Medical Journal* of April 10th and 24th, 1926, pp. 663 and 750). Sir Kingsley Wood was correct when he said that "the fact that there had been no provision made in the bill for specialist services had nothing to do with the Economy Act. But for the opposition of the approved societies it would be perfectly possible to put into operation the scheme for specialist services without bringing any additional funds into the national insurance system at all." It is owing entirely to the shortsightedness and selfishness of the larger and more prosperous approved societies that such a scheme is not now in operation, or at least under discussion. In its absence the Ministry of Health naturally desires to make the most of whatever additional treatment benefits are possible for a certain number of insured persons. Such a patchwork system, however, can never be satisfactory either to the patient or to the medical profession or to the Ministry, and the conditions governing it require the closest scrutiny lest they should be contrary to the interests of the profession and prejudicial to the future development of national health services.

The proposals of the bill in this connexion may be described as follows: (1) to abolish, as an additional benefit "medical treatment and attendance for any person dependent upon the labour of a member"; (2) to add as a new additional benefit "payments to approved charitable institutions in respect of any treatment of members required for the prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit"; (3) to restate somewhat more accurately the remaining additional benefits; (4) to give power to the Minister of Health to make regulations "with respect to the administration of any additional benefit and with respect to the arrangements for the provision of any service towards the cost of which payment may be made by way of additional benefit"; (5) to define more clearly the nature of a "charitable institution" to which an approved society may make contributions; (6) to repeal the present requirement that additional benefits "which are in the nature of medical benefit" shall be administered by and through Insurance

Committees, and not by approved societies. The full effect of these amendments can be appreciated only if they are read together.

Requirements which it is essential for the profession to safeguard or secure are: (1) that there shall be no possibility of any approved society seeking to provide, administer, or control any medical service either directly or "by resorting to devices which are not conducive to good administration" (to quote the Ministry); (2) that there shall be no compulsory negotiating with any approved society or representatives of approved societies as to the terms and conditions on which medical advice and treatment will be given; (3) that there shall be free choice of specialist or consultant, and (to quote a phrase used by the Minister of Health, Mr. Chamberlain, during the second reading debate) that "no one must be compelled to go to a clinic if he would rather go to a private practitioner"; (4) that there shall be a suitable guarantee that a general specialist service shall be established as soon as possible, and that meanwhile any additional treatment benefit that becomes widespread shall be made statutory for all insured persons, and that in either case the service shall be administered by Insurance Committees or public bodies corresponding thereto, and not by approved societies.

It is clear that some of these requirements are not met by the bill as it stands. One or two phrases used by the Minister of Health in his speech on the second reading seem to make it doubtful whether he realizes exactly what the medical profession wishes or the importance it attaches thereto. The profession can never give away in the case of the consultant or specialist what it has secured for the general practitioner; and it is bound to have in mind the situation in which it would be placed if a Minister of Health entirely sympathetic to the wishes and ambitions of approved societies were to make regulations and to interpret Acts of Parliament. Both Mr. Chamberlain and Sir Kingsley Wood gave the undertaking that amendments put forward with the object of improving the bill would receive most careful and sympathetic consideration from the Government. With this in mind, no doubt the Insurance Acts Committee and other committees of the British Medical Association concerned will be able to obtain such explanations, assurances, and amendments as shall secure the aims of the profession.

#### THE WELFARE OF HOP-PICKERS.

DURING recent years the public has become increasingly interested in the welfare of those thousands of town dwellers who annually migrate, mainly from London and from the Black Country towns, to the hop fields of Kent, Worcestershire, and Herefordshire. These folk, who are mostly in humble circumstances, combine business with pleasure, and have for many years—even generations—regarded the picking of hops as a means of affording themselves, their children, and other people's children a three weeks' holiday in the country. Of the 25,597 acres of hop gardens in this country, 15,686 acres are situated in Kent, and into these spacious gardens of the Weald there debouch annually from the congested quarters of East London some 70,000 pickers, mainly women and children. No one will deny that the conditions under which these thousands of casual workers undertake their journeys to and from the hop fields have improved enormously during the past five years; those with a long experience of pickers' camps will further agree that, generally speaking, the conditions of camp life have reached a higher standard than existed before the war; and there is

agreement amongst local observers that the conduct of the hop-pickers and the general health of their children have altered considerably for the better during the last twenty years. There are visible signs, moreover, that the medical necessities of the hop-pickers are receiving more and more attention as each season comes round. But from a paper on the health of hop-pickers and the sanitation of hop-pickers' encampments, read by Dr. Alfred Greenwood, county medical officer for Kent, at a sessional meeting of the Royal Sanitary Institute held in Maidstone on April 13th, and from the discussion which followed the paper, we learn that, in the opinion of the county health authorities, there is need for still further improvement, both as regards the sanitation of camps and in the organization of medical services. Dr. Greenwood acknowledges that some camps are satisfactory in every way, and indeed we know of some Kentish hop-growers who have gone considerably further than the letter of the by-laws, and whose arrangements for their temporary employees are beyond all praise. In the majority of camps the present-day conditions are not essentially unsatisfactory, and they are improving; but the word "disgraceful" is not too strong to describe the insanitary conditions which have often been observed in certain other camps. Gross overcrowding, unsatisfactory and dangerous water supplies, and the neglect to make and maintain proper conservancy arrangements in hop-picking camps are grave defects which it is the duty of local authorities to prevent, not only in the interests of the hop-pickers, but in the public health interests also of the local inhabitants. We gather, however, that Dr. Greenwood is not satisfied that all the local authorities concerned make sufficient use of the machinery at hand for dealing with these matters, and he considers that some councils have in certain instances shown unmerited leniency when administering the existing by-laws. He suggests that the registration of encampments and the granting or withholding of annual licences would improve matters. From the point of view of public health administration this step probably would be helpful, provided registration were made applicable to all existing camps, and not merely to those that might be started in the future; and provided also that the local authorities—who would administer the licences—were not unduly lenient. What the economic and political results of compulsory registration upon the hop-growing industry would be is another question. In the meantime, we think it quite possible that more might be done to gain the support of the local branches of the National Farmers' Union, which can probably bring useful pressure to bear upon recalcitrant and backward farmers. The question of how best to co-ordinate the various voluntary medical organizations already in the hop gardens, and the encouragement of others where wanted, is certainly one ripe for consideration, and we have no doubt that the Ministry of Health would consider sympathetically any wish which local authorities might express regarding the formation of a joint committee to discuss the matter.

#### THE THERMO-CAUTERY FOR SEPTIC LESIONS.

THE thermo-cautery has been used in the treatment of a variety of lesions for many centuries. Hippocrates refers to a case of abdominal suppuration in which the discharge of pus ceased after cauterization, and Abulcasis, who died in 1013, and who wrote a summary of Islamic surgery which was regarded as a classic in the mediaeval schools of Europe, mentions more than forty uses of the cautery. Early in the nineteenth century "moxae," consisting of rods of specially prepared charcoal, which were ignited and then applied to the skin, were used in Paris and elsewhere as counter-irritants in the treatment of chronic abscesses, and even in chronic inflammations of the respiratory organs. Recently Professor Bier of Berlin has reintroduced the

use of the cautery into the treatment of suppurating lesions, and reports<sup>1</sup> the results obtained in 402 cases, a large proportion of which were very satisfactory. In all the cases treated since 1925 he has used a thermo-cautery designed by Hadenfeldt, which is heated by a mixture of air and benzoline under pressure inside a cautery point of aluminium bronze, as he has found this much more effective than other types. The technique employed in the treatment of large abscesses, including abscesses following trauma or abdominal operations, is as follows; minor lesions are not included in this series. The abscess is freely opened, as much necrotic tissue as possible is removed, and the whole is scraped with sharp spoons. The cavity is then cleansed of blood, pus, and detached granulation tissue, and is cauterized. It is desirable to have the cavity as free from blood as possible, either by working in a bloodless field or by carefully tying bleeding vessels. The wound is then closed without drainage, catgut sutures being used where necessary for deep structures, while for the skin edges a "corselet" dressing is employed; this is described by F. Bunge<sup>2</sup> as consisting of a strip of gauze attached to the skin on either side of the wound by some form of glue, preferably mastisol. The two edges of the wound are then brought into apposition and kept there by lacing a silk thread across and across over small dress hooks, previously sewn to the two strips of gauze. The immediate local result of cauterization is as a rule an acute reactionary inflammation with abundance of pus, often foul smelling; in spite of this, however, the pain is relieved, and much better scars, sometimes even linear in type, are obtained by this method than when drainage is employed. A brisk general reaction, with rise of temperature and sweating, is common. The method has also been adopted with good results in the treatment of suppurating joints, in several knee cases described the inner surface of the capsule was scraped and cauterized, care being taken to avoid the cartilage, and the wound then closed. In the treatment of necrosis of bone following trauma or osteomyelitis the results of cauterization have been no better than those obtained by other operative measures; for chronic bone abscesses, on the other hand, Bier considers this method superior. In suppurating tenosynovitis the inner surface of the tendon sheath has been cauterized, but how the results in these cases compare with those of other methods is still uncertain. Bier ascribes his results to the inflammatory reaction produced by the cautery, and considers that the effects attributed to the specific virtues of various fluids used to irrigate suppurating wounds are really due to an analogous inflammatory reaction induced by their irritant properties. Superficial scarification of the skin with the cautery as a counter-irritant he does not consider of much value. He gives, however, a preliminary account of a number of cases of generalized septic infection and pyæmia in which the focus of sepsis was more or less inaccessible, and which were therefore treated by cauterization at the "situs of election." For this purpose he reflected an area of skin and subcutaneous tissue the size of the palm of the hand or larger, generally near the costal margin, carefully applied the cautery to its deep surface and to the exposed surface of the subjacent musculature, and then sutured the wound again. As a result certain tissue constituents are disintegrated, and the beneficial effects recorded in a small proportion of these cases are thought to be due to the absorption of these disintegration products and the consequent general reaction, evidenced by the associated pyrexia and accelerated pulse rate. How this differs from the reaction produced by the various specific and non-specific agents recommended in recent years for a similar purpose is not stated. Since in nearly all the cases included in the last group the prognosis was

practically hopeless before the treatment was applied, it is not surprising that the mortality rate is high. Summarizing his conclusions, Professor Bier states that many details of technique still require elaboration before this method can be used with safety and to the best advantage in the treatment of the severer generalized forms of sepsis.

#### THE NATIONAL PHYSICAL LABORATORY.

THE report for 1927 of the National Physical Laboratory,<sup>1</sup> although it runs to 250 quarto pages, is the bare minutes of the many-sided work carried on at Teddington. The special investigations undertaken at the laboratory are generally of a kind which extend over a period of years, "creeping on from point to point," and even when they are completed, or a stage in them is completed, it is not into the annual report that the work goes, but in papers communicated to appropriate bodies. During 1926 and 1927 the number of official communications made by the staff of the laboratory to scientific societies or technical journals was 165, and besides these a large number of papers were contributed unofficially. The annual reports merely give a bird's-eye view of an almost bewildering activity carried on in six principal departments—namely, those of physics, electricity, metrology, engineering, aerodynamics, and metallurgy and metallurgical chemistry. The physics department alone has a staff of just upon a hundred. Much of the work done at the laboratory is routine testing. For example, half a million clinical thermometers were tested there last year; also 10,000 lenses and other optical instruments. Weights, balances, measures, chronometers, all kinds of instruments of precision, are verified. Again, the laboratory furnishes a standard for radiological apparatus; 41 radium preparations were examined during the year, including a few radium waters and the like, tested by the alpha-ray method. The samples of protective materials tested numbered only 19, as compared with more than 200 a couple of years ago, and 17 x-ray installations, including these of several of the principal London hospitals, were examined by the staff of the laboratory. A great deal of radiological work is proceeding, but it is directed at present mostly to the use of x-rays in the industrial sphere. Work is being done, however, on the measurement of x-ray intensity and dosage, for which a special ionization chamber, where the ionization is produced in a gas at high pressure, has been set up. High-voltage research is actively proceeding. Million-volt transformers are being or have been installed in a special high-voltage building, and we know that in various electrical institutions, including those concerned with radiology, very much is hoped from these experiments in high voltage. Illumination research is another matter to which the laboratory is paying attention. A comprehensive investigation is taking place into the effect of glare on visual acuity, the value of different systems of illumination for the carrying out of fine work, and a proper diffusing glass for street lighting. The acoustics of buildings is another field of operation. Very few public halls can be said to be perfect acoustically, but in this respect audiences suffer long and are kind. It is possible to remedy a good deal of the trouble in a defective building by ceiling canopies or linings and by the use on appropriate occasions of electrical amplifiers with loud-speaking projectors (as is done in the Great Hall of the British Medical Association House), but the elimination of the defect in many buildings can only be accomplished by structural alteration, which goes to prove the need for consulting an acoustical expert before a building is erected. Another piece of work carried out at the laboratory is the investigation of dental amalgams, both in regard to the

<sup>1</sup> *Medizinische Klinik*, February 16th, 1928, p. 201; February 17th, p. 245.

<sup>2</sup> *Ibid.*, p. 211.

<sup>1</sup> Published by H.M. Stationery Office, 7s. 6d. net.

structure of the alloys and the behaviour of the actual amalgams as used in dental practice. It has been suggested in Germany that there is a serious risk of mercury poisoning arising from the presence of amalgams in the mouth as dental fillings, and this is being checked at the laboratory by determining the loss of mercury by volatilization when a stream of air at the temperature of the mouth is aspirated over dental fillings. The tests are being made on teeth in which amalgam fillings have been inserted in the dental department of Guy's Hospital. Another piece of work is being carried out for the Food Investigation Board. This includes the devising of an instrument for recording the deposition of dew on fruit in cold storage. Another apparatus is a "spear" thermometer of the distant reading type for use in the investigation of temperatures in chilled meat transport, and yet another an oxygen analysis apparatus suitable for use in connexion with the gas storage of fruit. This brief review glances only at a few out of a thousand things that engage the ingenious brains at Teddington. The work done there covers the whole range of applied science, including, for example, wireless transmission, the theory and practice of flying, the methods of testing magnetic material, the measurement of colour, and innumerable other matters, all of which, some more directly and immediately than others, benefit the life of the community.

#### STERILIZATION OF THE FEEBLE-MINDED IN ALBERTA.

It is stated, on the authority of the Ottawa correspondent of the *Times*, that the Legislature of the Province of Alberta has passed the Sexual Sterilization Bill, which now awaits the assent of the Lieutenant-Governor. The Government is said to be assured on high legal authority that the bill is constitutionally sound, and, this being so, assent may be presumed; nevertheless, the Opposition threaten to test the validity of the measure in the courts. This is an interesting issue; but in any event it requires very little scientific knowledge or acumen to prophesy confidently that the results of the passage of the Act and its enforcement will be socially futile, if not harmful. It may, indeed, be doubted whether, in spite of the declaration of the Government, the Act will ever be really enforced; probably it will soon fall into desuetude, as in almost all those American States where similar legislation remains on the Statute Book. Scarcely any fact is more securely established than that it is only a small, almost negligible, minority of mentally defective persons who are the offspring of parents themselves certifiably mentally defective; so that the prevention of parenthood in the case of all such persons would have no marked effect upon the number of mentally defective children in the next generation. Under the Alberta bill it is only a limited number of mental defectives who could be dealt with in this way in any case. They are defectives who, being confined in mental hospitals, could, in the unanimous opinion of a board composed of two medical practitioners and two laymen, all specially appointed, be safely discharged if the danger of procreation were eliminated. Even if such a unanimous opinion were forthcoming, the patient may not be operated upon without his own consent, if he is capable of giving it, or, if incapable, without the consent of the husband, wife, parent, or guardian, as the case may be. Thus even if a number of these unfortunate persons should be induced to agree to sterilization as the price of their freedom—a choice with which it is cruel to confront them—it is clear that only a minority of a minority of the feeble-minded population will ever be subjected to the necessary surgical procedure. The Government contended that complete segregation was even more cruel. This is, of course, far from the truth, provided that a proper selection of cases for segregation is made and that the conditions of the institution or colony

in which they are placed are what they should be. It is now well established that a considerable proportion of mentally defective persons are not in fact socially defective, and may safely be left in the general community with only a small amount of supervision; and it is found that those who are mentally and socially defective to a degree requiring segregation are, as a rule, happier in their safeguarded surroundings than in a community to which they feel themselves unsuited. The Alberta experiment, if carried out, will be watched with interest, but experience has already proved that it is unnecessary and mistaken.

#### EXERCISE AS A THERAPEUTIC AGENT.

It is only a few weeks since we remarked on the increasing interest taken in Germany in the medical aspect of various sports and exercises.<sup>1</sup> Now from France there comes a warning, by Dr. Maurice Boigey,<sup>2</sup> against the haphazard prescribing of exercises for therapeutic purposes without due regard to the age and condition of the subject. He records three cases of death following such indiscriminate exercises. The first was a man, aged 57, plethoric and suffering from hypertension, who died suddenly after performing a series of movements while lying on his back. Much cyanosis was present, and necropsy revealed intense congestion of the great vessels at the base of the brain and a haemorrhage in the left third ventricle. Another man, 49 years old, slender and apparently healthy, was, however, suffering from compensated syphilitic aortic insufficiency; this being overlooked, he was advised to run quietly a few hundred metres every morning. During one of these runs he experienced a sudden feeling of suffocation, and died on reaching his home, after complaining of agonizing pain in the retrosternal and precordial regions. The third patient, a rather plethoric and hypertonic man of 59, was recommended to change his daily cold bath for a tepid one. Contrary to this advice, in the autumn he began sea bathing, and during the third bath he was attacked by sudden intense headache; he reached home with difficulty, and next day had all the symptoms of a right hemiplegia. It is well known that the vascular constriction caused by cold water at the moment of immersion produces a brief phase of hypertension, and that this is especially dangerous in persons nearing 60 who already have hypertension. In this connexion we may recall a note printed in our issue of August 28th, 1926 (p. 393), referring to Dr. Baudouin's elaborate instructions for sea bathers. Dr. Boigey agrees that exercise is a valuable therapeutic agent, but contends that the kind and the amount need judicious regulation. For sedentary, hypertonic, and plethoric individuals, those past the age of 50, and the subjects of latent or compensated heart disease, this form of treatment, he says, may be beneficial, but the movements should be carried out with the head in an upright position to avoid cerebral congestion, and they should not be too vigorous. It appears, then, that a little common sense—a quality in which the practitioners of our own country are not usually lacking—is as much needed in prescribing "physical jerks" as in other branches of therapeutics.

#### THE HOSPITAL PROBLEM IN VICTORIA.

THE hospital "problem," it appears, is causing no less concern in Australia than in this country, and the Victorian Government, in its search for enlightenment, some time ago delegated Professor R. J. A. Berry, dean of the Faculty of Medicine in the University of Melbourne, to undertake on its behalf a tour of investigation abroad. Professor Berry has now returned to Australia after visiting some 150 centres of medical education and treatment in Great Britain, Canada, and the United States, and

<sup>1</sup> *British Medical Journal*, March 3rd, 1928, p. 365.

<sup>2</sup> *Bulletin de l'Académie de Médecine*, February 21st, 1928.



has put forward a scheme for the creation of a great medical centre for Melbourne to co-ordinate and extend existing agencies. Addressing a recent meeting in that city, Professor Berry said the trend of affairs in hospitals, as in other departments of life, was towards the establishment of more complete and effective units. Modern progress made it a requirement that there should be a group of schools, hospitals, and institutes, all dovetailed into a general plan of education. In such centres all the knowledge now available to medical science could be brought to bear upon the treatment of disease and for the purpose of educating practitioners. They were not designed merely to serve a local need; the benefit of a medical discovery in Melbourne at once accrued even to people in Siberia, as well as to people in London and New York. For the creation of a Victorian health centre in Melbourne they required: (1) a university school of medical, dental, and allied sciences; (2) a university clinical hospital of 200 or 300 beds, which should be retained for post-graduate work and paying patients; (3) a general hospital of 500, 600, or 700 beds; (4) medical co-operation and the closest university association between these and all other metropolitan and leading provincial hospitals; and (5) one central guiding administration and administrator. Professor Berry said that everywhere, especially in Canada and the United States, he found medical schools and hospitals being removed from one site to another to give effect to centralization schemes. The advent of scientific medicine had given longer life to the present generation, and the medical centre movement, which was rapidly developing all over the civilized world, promised to give still longer life to the generations to come. It promoted the supply of more efficient doctors, nurses, and health workers, with a greater certainty of providing relief in disease. The extent to which conditions in Australia resemble those of this country are revealed in some of Professor Berry's remarks regarding the present position in Melbourne. He is anxious, like so many in this country, to see immediate provision made for the expansion of hospital accommodation; but, while a keen advocate of centralization, he thinks that the identity and autonomy of the existing hospitals should be preserved.

#### THE EVOLUTION OF A HEALTH DEPARTMENT.

THE Public Health Department of the State of Illinois, on the occasion of its jubilee last year, published a record<sup>1</sup> of the health of the State from the time of the first settlers to the present day. Little is known of the health conditions of the early Indian inhabitants. The first white settlers, French-Canadians, arrived in 1670. Their writings contain few references to health; they may be presumed to have been a healthy race. The British, who occupied the territory from 1763 to 1780, suffered severely from malaria and small-pox. In 1780, when the British fort was captured, American colonists began to settle in the State. As their numbers increased disease became prevalent and assumed menacing proportions. Malaria was the principal illness; it affected every member of the community, young and old alike. Typhoid fever, though present, was obscured by the dominating malaria. The cholera pandemics of the nineteenth century reached Illinois on more than one occasion, and small-pox was common. Since the establishment of the State Department of Public Health in 1877 malaria has almost disappeared, mainly as a result of the drainage of swamps. Typhoid, which rose as malaria fell, has yielded in its turn to improved sanitation, and small-pox, despite resistance to vaccination, has been brought under control. Hospitals and laboratory facilities have

been provided, and an efficient child welfare service has reduced the heavy mortality among infants and young children. The unavoidably incomplete vital statistics of the early years of the department's work render accurate comparisons difficult, but it may be noted that the average age at death has risen from 33 in the days of the settlers to 58 at the present time. Admitting that diminished activity on the part of the Indians may have concurred in some measure to this result, the fact remains that genuine health progress has been made, and the department, in the closing words of its report, may face the future with confidence.

#### DAYLIGHT IN BUILDINGS.

ONE of the most important problems of city life is the arrangement for lighting of the interior of buildings. There has been great improvement in artificial lighting of recent years, but the problem of daytime illumination is as yet unsolved. The value of space tends to crowding of building, and this causes obstruction to lighting, however large and well planned the windows may be. Worse still are the effects of increasing height of buildings: houses that were formerly well-lighted are now overshadowed and their interiors are gloomy. The Department of Scientific and Industrial Research has turned its attention to this problem. In a paper on *Penetration of Daylight and Sunlight into Buildings* (London: H.M. Stationery Office, price 1s.) the present state of our knowledge is set out, and there is a promise of speedy inquiry into the hitherto uninvestigated questions that arise thereon. The lighting of a room is good or bad in proportion to the unobstructed sky area visible at the working or floor area. Where little or no sky is visible, as in a room on the ground floor of a well area, then the lighting is bad. Where a full sky is seen, as from a top floor room of an unobstructed house, the lighting is good. These conditions can be measured. The outside daylight on an average dull day is taken at 250 foot-candles, and it is found that the minimum interior lighting—the "grumble point" (that is, the point at which reasonable people will complain of poor light)—is 1 foot-candle. That means that all positions in the room which have a "sill-ratio" of less than 0.4 per cent. will be unsatisfactory. The chart of the area of a room which has visible sky can be plotted out and the ratio ascertained. Among other matters consideration is given to the effect of whitening the obstructing walls. This device is found to be of advantage so long as the whiteness is fresh, but in a city of smoke and grime the benefit is short-lived.

THE spring meeting of the British Orthopaedic Association will be held in Paris on Friday and Saturday, April 27th and 28th.

WE regret to announce that Mr. John Stephen McArdle, professor of surgery at University College, Dublin, and senior surgeon to St. Vincent's Hospital, died at the age of 69 on April 14th, after a long illness.

PROFESSOR G. ELLIOT SMITH, M.D., F.R.S., will deliver the Huxley Memorial Lecture at the Royal College of Science, South Kensington, on Friday, May 4th. The title of his lecture is "Conversion in Science."

THE formation of a Masonic Lodge in connexion with the British Medical Association is now being considered by a small committee. All Masons who may be interested are invited to apply for information to Dr. Hubert C. Bristowe, The Cottage, Wrington, near Bristol.

<sup>1</sup> *The Rise and Fall of Disease in Illinois*. By Isaac D. Rawlings, M.S., M.D., in collaboration with William A. Evans, M.D., D.P.H., Gottfried Koehler, M.D., and Baxter K. Richardson, A.B. In two parts. Illinois: State Department of Health, 1927. (Sup. roy. 8vo, pp. 432; illustrated.)

# NINETY-SIXTH ANNUAL MEETING of the British Medical Association, CARDIFF, 1928.



TOWER OF CARDIFF  
CITY HALL.

AFTER an interval of forty-three years the British Medical Association will hold its Annual Meeting in Cardiff this summer under the presidency of Sir Ewen Maclean, M.D., F.R.C.P., Professor of Obstetrics and Gynaecology in the Welsh National School of Medicine, who will deliver his address to the Association on the evening of Tuesday, July 24th. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 20th. The names of the officers of the eighteen Scientific Sections were published in the *Supplement* of March 3rd, together with an outline of the provisional programme; further details will be announced from time to time as the arrangements for the work of the Annual Meeting take final shape. On the last day of the meeting (Saturday, July 28th) there will be excursions to places of interest in the neighbourhood. We publish below the third of a series of historical and descriptive articles on the city and its medical institutions, written for the occasion by Dr. Donald Paterson. The first appeared on December 3rd, 1927, and the second on January 28th, 1928.

## THE MEDICAL INSTITUTIONS OF CARDIFF.

THE earliest hospital in Cardiff of which record has been preserved was the Hospital of St. Mary Magdalen. Its dedication suggests that it was in origin a leper house or leper hospital, probably established in the fourteenth century, or perhaps earlier, to cope with leprosy then prevalent. By the year 1400 the institution, which had been founded and governed by the burgesses and commonalty of the town of Cardiff, with twenty-four beds "for leprous, poor, and feeble folk," had long been ruinous and derelict. Its lands, the "Manor of the Spital," as it appears in records, had fallen in value, and the decline of leprosy having deprived it of its appeal for the alms of the charitable, it vanished entirely. It is worthy of note that on the same site, at the commencement of Newport Road, more than four centuries later the first infirmary building, which became later part of the medical school, was erected.

### ROYAL INFIRMARY.

The rapid growth of the town made the problem of hospital treatment in the early part of the nineteenth century a very pressing one. The infirmary was founded in 1837, and though it has several times changed its name, like a street in a French town, it has remained true to the policy of embracing within its own walls, as far as possible, the various activities of hospital treatment demanded by the advance of medicine. With the exception of the hospital for seamen at the docks, the medical work of the town has centred, until recent years, in this institution. The original building—which was erected for

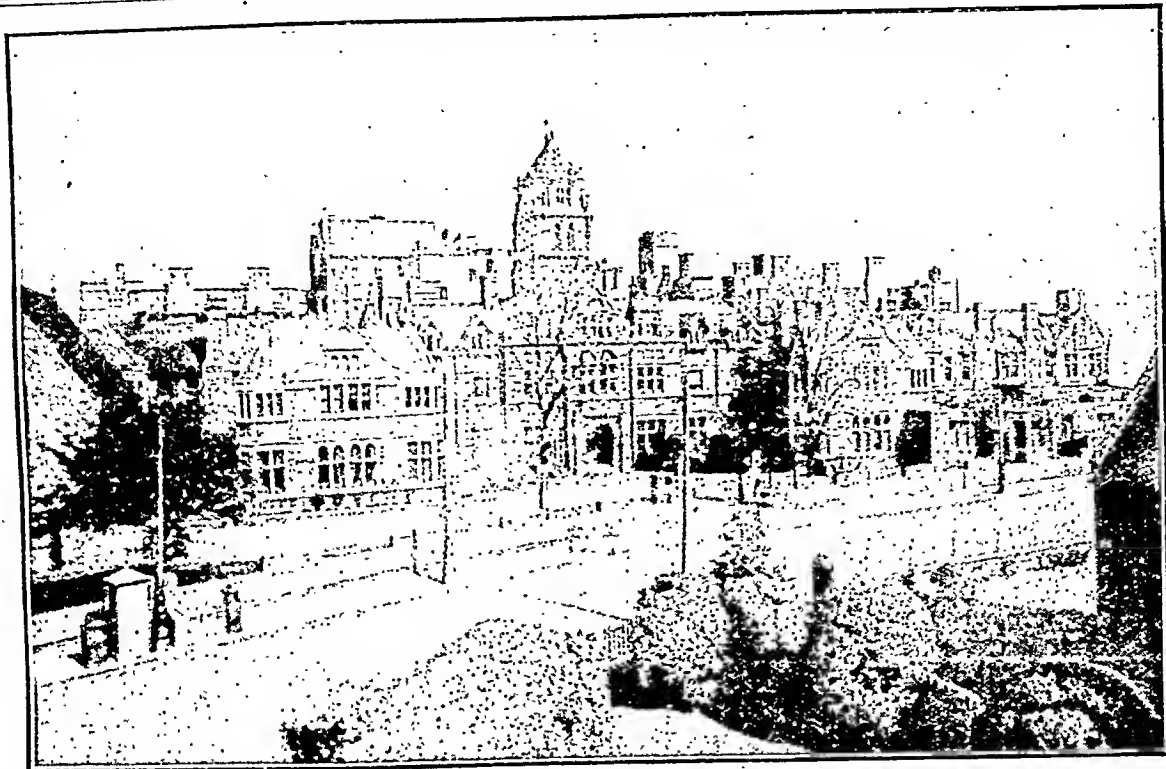
£3,550 at the sole expense of Mr. Daniel Jones of Beaupré, a solicitor of Cardiff, whose benefactions exceeded the sum of £10,000—provided for the accommodation of ten male and ten female patients. It was not without its early difficulties, for in five years we find the committee complaining of "damp walls, smoky chimneys, dry-rot in the skirting boards, imperfect pipes, and inadequate drainage." In 1866 it was enlarged by the addition of wings.

The infirmary was transferred in 1883 to a new building arranged on the pavilion system on the present site, regarded at the time as ample for years to come, but which before long proved to be insufficient. Necessary extensions soon covered the remainder of the site, and this had to be supplemented by adding a further story to the existing buildings. In spite of the difficulties imposed by a somewhat crowded site the demands of the ever-increasing work have always been met, and it is now one of the best-equipped hospitals in the country, with a record of excellent work. A new central



*Infirmary, Cardiff, Glamorganshire.*

out-patient hall, with suites of rooms for the various departments, was opened in 1908 by the late Sir William Osler, and, during the war additional buildings, at a cost of £35,000, were in course of erection. Provision has since been made for maternity work; to the extent of thirty-one beds and twenty-five cots, by the conversion of several houses on the opposite side of the road. The casualty department has been much enlarged, and the completion of the medical school and the introduction of clinical teaching made



THE ROYAL INFIRMARY, CARDIFF.

rearrangement imperative. The fine medical laboratory provided by the Rockefeller Foundation trustees is the latest acquisition. The main hospital now contains 380 beds, and considerable relief is afforded by a convalescent home of fifty-four beds, four miles outside the city.

Its nursing school has established a well-earned reputation. Instruction is highly organized, and its preliminary training school in Anthony House has long been a notable feature.

#### ROYAL HAMADRYAD SEAMEN'S HOSPITAL.

The rise of Cardiff as a port soon made necessary the provision of hospital accommodation for the seamen of many nationalities frequenting it. Accordingly the old 21-ton frigate H.M.S. *Hamadryad* was lent by the Admiralty at the time wooden hulls were being discarded. It was fitted up as a hospital with sixty beds, and opened in 1866, its main financial support being derived from a voluntary levy of 2s. per 100 tons register on all ships using the port. Moored in a creek or pill, and afloat during high spring tides, it served its purpose for forty years, and, in spite of being unsuitable in many ways, did excellent and successful work. Low ceilings made the wards difficult to ventilate, and in the operation theatre, lit by gas, the proceedings were liable to be interrupted by phosgene gas formed by decomposition of the chloroform vapour in the flame. This phenomenon was first described in this country in a paper based on observations made on board the old ship.

When the year of the Diamond Jubilee came it was decided to celebrate it by raising a fund to erect a permanent hospital. Besides giving a site the late Marquess of Bute, who took a personal interest in the proposal, made provision for its completion and equipment, and it was opened in 1907. The site, though suitable as regards position—it was washed by the tide, reminding the patient of his native element—was otherwise a difficult one to deal with. To provide foundations piers of concrete had to be carried down through nineteen feet of soft clay to the hard gravel—a very costly proceeding, which entailed placing the wards one over the other on three floors. It has three main wards of sixteen beds, each with a two-bed ward adjoining. The medical superintendent's house is separate from the hospital, but connected with it by a covered corridor. The building and equipment cost £30,000.

#### CITY MENTAL HOSPITAL.

This institution, of which the city is justly proud, has been a pioneer of modern ideas in the treatment of mental disease. Recognizing that psychiatry in this country will make little progress until voluntary clinics are established such as exist abroad, an endeavour has been made to advance by effecting a compromise between the real psychiatric clinic and the ordinary mental hospital. Situated three and a half miles from Cardiff, the hospital was opened in 1908 with immediate provision of 750 beds and administrative provision for 1,250. A chemical research laboratory has been organized, with a specialist staff; the original pathology laboratory has been greatly extended, and equipment for diagnosis and treatment such as is found in a modern general hospital has been installed. An out-patient department for the early psychoses and psychoneuroses, at the Royal Infirmary, has been conducted weekly for eight years from the Mental Hospital, and this is continued in the belief that the establishment of the necessary indoor clinic in psychiatry as part of, though not in contiguity with, the infirmary buildings is bound to be realized in time. The chemical research laboratory, started in 1910, was one of the earliest of the kind in a mental hospital in this country, and has published much valuable work. The successful effort to get Government recognition of research in mental hospitals by way of State aid owes much to the initiation of the Cardiff City Mental Hospital. A pioneer step as far as England and Wales is concerned—and probably the most drastic of the kind in this country as a whole—was the replacement of the system of male nursing by that of female nursing. With exception of three male wards the entire hospital is staffed by female nurses with, in some wards, a male for subordinate duties. The whole work of nursing is controlled by the matron, male supervising authority being abolished.

#### PRINCE OF WALES' HOSPITAL FOR LIMBLESS AND CRIPPLES.

This was opened in 1917, in the first place to deal with the limbless casualties of the war. It is now a general orthopaedic hospital supported by contributions, subscriptions, and endowment. It provides fifty beds and an out-patient department, and is very well equipped. Its work, which is ever extending, is thoroughly representative of modern orthopaedic surgery.

## UNION HOSPITAL.

The first hospital under the Poor Law in Cardiff was built in 1872. It has been enlarged repeatedly since, and now contains 300 beds for "acute sick"—not including the sick beds provided in the poor-house. It is being developed on modern lines, with a consultant staff. Many patients unable to enter the voluntary hospital on account of a large waiting list now seek admission here. Its work continues to expand so much that it has been decided to remove to a new building of 400 beds, with ample provision for expansion, about to be erected on a site on the confines of the city.

WELSH NATIONAL  
SCHOOL OF MEDICINE.

The School of Medicine was established in 1893 as part of the University College of South Wales and Monmouthshire, one of the constituent colleges of the University of Wales. It owed its inception largely to the advocacy of Dr. W. T. Edwards, President of the British Medical Association at the Cardiff Meeting in 1885, who took an active part in the early movement for higher education in the Principality. It was formally opened by Sir Richard Quain, the President of the General Medical Council. In addition to the early subjects of the medical curriculum it made provision for the teaching of anatomy, physiology, materia medica, and pharmacology, the clinical subjects of the fourth and fifth years being taken elsewhere. The School met with well-deserved success, and at the present time many of its students occupy distinguished positions on the staff of hospitals in London and elsewhere. Efforts were made from time to time to extend its scope, and in 1909 an increased grant from the Treasury led to a chair of pathology being founded. When the Haldane Royal Com-

mission on University Education in Wales was appointed it reviewed the whole position, and in its report in 1918 recommended that the School be completed, and that the departments of medicine and surgery be organized on the hospital unit system. The authorities of the Royal Infirmary having undertaken to make provision for those units within the hospital, the Treasury and other bodies agreed to furnish the necessary funds, and in 1921 the Welsh National School of Medicine, as it now became, was established with a full curriculum.

In the matter of buildings the School owes much to the munificence of Sir William James Thomas, Bt. His splendid gifts comprise the fine physiology block erected on the Newport Road, and the new building for the department of public health and school of preventive medicine completed a year ago—a group for which it would be difficult to find an equal in this country.

In 1924 the trustees of the Rockefeller Foundation made a grant of £14,000 to aid the medical unit. It covers the cost of a

laboratory in the Royal Infirmary for the department of medicine, the building of which was finished in 1927.

The controversy which has been waged between the University College and the University over the administration of the School since its completion has lately reached a settlement by way of compromise. It provides for the preliminary subjects remaining with the College, the clinical departments being made a separate school controlled by the University, and a special arrangement for anatomy and physiology. Whether such a solution is well adapted to deal with the growing complexity of medical education is a question upon which opinions may reasonably differ.



THE OLD "HAMADRYAD" HOSPITAL SHIP.

## THE SOUTH AFRICAN MEDICAL CONGRESS.

[FROM OUR CORRESPONDENT IN PRETORIA.]

The first Annual Scientific Meeting of the Medical Association of South Africa (B.M.A.) was held in Bloemfontein during the week commencing March 12th. This was the twenty-second South African Medical Congress, but the first since the profession in South Africa had been organized into a single united association affiliated with the British Medical Association. Owing to the central situation of Bloemfontein, the attendance of members was very good. This central situation in the Union makes it most convenient for congresses and conferences of all kinds. So often are these held in Bloemfontein that it has come to be known as the City of Conferences. It is the capital of a province the size of England, but with a population of only one million—200,000 Europeans and 800,000 natives. Bloemfontein was the capital of the old Free State Republic, and at the time of union of the provinces in 1910 the city, along with Capetown and Pretoria, made a bid for becoming the capital of the Union. Eventually the honours were divided; Capetown in the south, with its handsome houses of parliament, became the legislative capital, Pretoria in the north became the administrative capital, while Bloemfontein became the judicial capital.

The congress was officially opened by Mr. Justice Jacob de Villiers, judge of appeal in the Raadsaal. In an admirably framed address he gave first expression to a

feeling which pervaded all the proceedings: the duty of the profession to educate and guide the public so that a healthy nation might be produced.

*The Papers.*

That the profession is alive to this duty was demonstrated by the presidential address of Dr. C. Hugh Bidwell, who spoke on the subject of practical eugenics. In the previous congress at Pretoria Dr. Sanders, in the presidential address, had taken as his theme the text, "Every child has the right to be well born." Dr. Bidwell followed up this theme, and in an interesting and controversial paper showed how the general public could assist in this worthy object. In his opinion sterilization of feeble-minded and mentally deficient persons should be legalized as soon as public opinion could be educated up to it. Voluntary limitation of families he justified where there were recognized medical reasons, to secure adequate intervals between births, where paternal wages did not allow of further increase in the family, or where hereditary defects might possibly be transmitted. The State must decide that persons receiving public assistance should not have unlimited families. Should persons debarred by the State yet produce children they must be submitted to enforced segregation or sterilization.

Dr. E. G. Dru Drury opened the section of medicine and mental hygiene with a paper on the theory and practice of inhibition. This contained much valuable matter served up in an attractive and racy manner. Other useful

papers in this section were on repression, ankylostomiasis, hay fever, and action of extract of solanum pseudo-capsicum; but the outstanding contribution was a lecture on dental sepsis in its relation to general pathology by Sir Frank Colyer of the Royal Dental Hospital, London. His lecture, which was listened to with close attention, was illustrated by admirable lantern slides, the more remarkable in that many of them were from photographs taken years ago when x-ray photography was still in its infancy.

The opening paper in the surgical section was read by Professor Saint of Capetown University, on abdominal emergencies. This paper was of particular interest to the general practitioner in South Africa, on whom it is often incumbent to carry through an emergency abdominal case owing to the impossibility in many areas of obtaining assistance or transport. Fortunately difficult surgery is not usually involved, particularly if limited to life-saving measures. For an opening paper this was considerably shorter than the average, but it raised so many interesting points that a long and valuable discussion was evoked. Conditions in South Africa make it necessary for a large proportion of the profession to be able to do its own surgery. Interest in surgical matters is, therefore, always great, and shows itself in well-attended meetings and large numbers of papers on surgical matters at congresses. This was again the case at the present congress.

The public health section was opened with a paper which dealt with the medical practitioner's place in the local government and health administration of South Africa, read by Dr. Cluver. This continued the theme of Mr. Justice de Villiers. After a description of the organization of local government in South Africa some local problems were discussed, and some of the fields indicated in which the counsels of the profession were necessary for the successful development of the growing nation. There was considerable discussion on the various points raised in this paper. Dr. Brackenbury warned the members of the profession of the necessity for equipping themselves with preventive knowledge so as to be able to supply needed advice. Clinics and similar institutions for combating disease were growing up all round, and unless doctors co-operated with such bodies they were liable to be deprived of legitimate work. Other contributions in this section were a bio-sociological survey of the colour problem in South Africa by Dr. Hay Michel, who speaks with considerable authority on the subject; an instructive account and demonstration of the Schick and Dick tests and prophylactic inoculation against diphtheria and scarlet fever by Dr. Pratt Johnson; a paper on bacterial filtrates in the treatment of bacterial infections by Dr. G. Buchanan; and an address on bacteriophage in the prevention and treatment of experimental plague by Dr. J. H. Harvey Pirie.

Dr. Bruce-Bays opened the section of obstetrics and gynaecology with a paper entitled "The doctor, the midwife, and the patient," and Dr. F. B. Mudd the special subjects section with an account of anaesthesia in general and the general practitioner in particular.

#### *Distinguished Visitors.*

Only four visitors from outside South Africa attended congress. They were Dr. H. B. Brackenbury, Chairman of the Council of the British Medical Association; Sir Frank Colyer of the Royal Dental Hospital, London; Dr. H. B. Densham of Stockton-on-Tees; and Dr. C. D. Hatrick of New Barnet. These distinguished members of the parent Association were officially welcomed by Mr. Justice de Villiers when he opened the congress. At the same time he voiced the extreme regret and disappointment felt by all that the American colleagues who had contemplated attending this congress, under the auspices of the American College of Surgeons, had been unavoidably prevented from doing so. Very valuable services were rendered to the Association by Dr. Brackenbury, who came to attend the first annual general meeting of the Medical Association of South Africa as the official representative of the parent Association in Great Britain. His visit was made at considerable sacrifice to himself, and was very hurried. On the occasions when he addressed congress he spoke with the authority of useful experience, which is invaluable to an infant association such as the South African body. Sir

Frank Colyer's contribution to the medical section, which has already been referred to, was one of the outstanding features in congress, and is likely to influence profoundly the attitude of medical men in South Africa towards the matter of dental sepsis.

#### *Entertainments.*

The joint honorary secretaries of the local committee were three Bloemfontein ladies—Drs. Alico Cox, Marion Thomson, and Louisa Tomory. This probably accounted for the undoubted success of the social side of congress. Dancing was provided on three nights. After the presidential address on the first afternoon, Dr. and Mrs. Bidwell were at home in the Raadzaal grounds, and that night the mayoral reception was held in the town hall. On the Wednesday afternoon the Administrator's garden party was held in the Prince's Rose Garden—a garden which was laid down in 1925 to commemorate the visit of the Prince of Wales, and which has become one of the showplaces of Bloemfontein. On the remaining afternoons tennis, bowls, and other forms of amusement were provided at the Ramblers' Club. The entertainment was sufficiently varied to suit all tastes, and on the dance nights the few not so inclined played sedate bridge or attended theatrical performances.

#### *Trades Exhibition.*

The extensive exhibition of drugs and clinical appliances was housed in the Reitz Saal of the Grey University College. It was opened on the first morning by Dr. S. M. de Kock, vice-president of congress. All the well-known firms were represented. There were exhibits by Allen and Hainburys, Hind Brothers, Tacuber and Corssen, Potersen Ltd., H. K. Mulford, the Surgical Manufacturing Company of Johannesburg, Oppenheimer and Son, and Associated Proprietary Agencies.

## *Scotland.*

#### *Regius Professor of Physiology at Aberdeen.*

THE KING has appointed John James Rickard Macleod, D.Sc., LL.D., M.B., F.R.S., to be regius professor of physiology in the University of Aberdeen in place of Professor J. A. MacWilliam (resigned). Since 1918 Professor Macleod has held the chair of physiology in the Faculty of Medicine of the University of Toronto. After graduating in medicine at Aberdeen in 1898, he became demonstrator of physiology and lecturer in biochemistry at the London Hospital, and was Mackinnon Research Scholar of the Royal Society. From 1903 to 1918 he was professor of physiology in the Western Reserve University, Cleveland, Ohio. He was president of the American Physiological Society in 1922, and in the following year was elected F.R.S. and received jointly with Dr. F. G. Banting the Nobel Prize in medicine. In 1925 he was president of the Royal Canadian Institute, and he is an honorary Fellow or corresponding member of many medical and scientific bodies in Europe and America. He is the author of important works on physiology and biochemistry, more particularly in relation to carbohydrate metabolism and the introduction of insulin into therapeutics. The earliest accounts of the pioneer work on insulin by Macleod, Banting, and Best that appeared in this country were published in the *British Medical Journal* of July 22nd and September 9th, 1922; and on November 4th of the same year Professor Macleod contributed to our columns a general statement of the physiological and therapeutic effects of insulin. He will take up his new duties next autumn.

#### *Edinburgh Corporation and Venereal Disease.*

A public meeting was held in the Usher Hall, Edinburgh, on April 11th, under the auspices of the National Council of Women, in support of the Edinburgh Corporation's bill for compulsory powers in connexion with the treatment of venereal diseases. The Countess of Cassilis presided over a large attendance. Three of the members of Parliament for the city, Sir Patrick Ford, Sir Samuel Chapman, and Dr. Drummond Shiels, were present on the platform and spoke in support of the bill, while apologies for absence were intimated from Mr. William Graham, M.P., and Mr.



Jan MacIntyre, M.P., who expressed themselves as strongly in favour of the measure. Sir Patriek Ford commended the efforts which were being made in Edinburgh for the purpose of trying to stamp out the disastrous evils which might attend the diseases with which the bill proposed to deal. He said that he believed the modern medical view held that with proper repressive steps this disease could be almost stamped out in about ten years. He considered that the opponents of the bill were rash in doing anything to prevent a reasonable experiment being made in the carrying out of proper repressive measures. The matter had nothing whatever to do with party politics, as might be gathered from the fact that all shades of political opinion were represented among the Edinburgh members of Parliament, who were strong in support of the bill. He considered that there had been a great deal of hysterical talk and writing against this bill, but his personal opinion was that it did not go far enough, and that venereal disease should be made notifiable, just like diphtheria and other infectious diseases. The bill had been almost too much whittled down, he considered, on the ground that it was an infringement of the liberty of the subject; there should be no liberty to spread disease and disaster among one's fellow citizens. He said that the intimation of the Secretary of State for Scotland that the Government Whips would not be put on for the division on the bill in the House of Commons was a point gained, because the opinion of the House would now be free and untrammelled. Dr. Robert Forgan, executive medical officer for Lanarkshire, said that no one was going to suffer as the result of this bill if it became law, but everyone would benefit. The Edinburgh Branch of the British Medical Association had passed a resolution supporting the bill, and in the West of Scotland too there was a strong body of opinion in favour of compulsory treatment. He suggested that it would be greatly to the credit of Edinburgh if the city were the first in Scotland to take this important step forward. Dr. Laura Sandeman also spoke in favour of the bill. Dr. Drummond Shiels said that many people had been misled and prejudiced against the bill because the case had not been properly stated to them, but he believed that there had never been any forward step in medicine or public health without similar opposition. He was sure that the action of the Edinburgh Corporation would receive due recognition in future and more enlightened ages. The opponents of the bill talked about the liberty of the subject, but it was already part of the law of the land that there was no liberty of the subject to spread disease. Sir Samuel Chapman said that he wished to see the whole question thrashed out by an impartial committee of the House of Commons, and he would vote for the second reading of the bill because he believed this question should be thoroughly ventilated.

#### New Edinburgh Medical Appointment.

The Lord Provost's Committee of Edinburgh Town Council, at a meeting of the council held on April 5th, recommended that a new appointment of medical adviser to the corporation should be created to include the duties of casualty surgeon, medical referee, and medical officer for all departments of the corporation, with exception of the public health department; that the salary for the appointment be fixed at £500 per annum, and that Dr. Douglas Kerr be appointed to the office. An amendment was proposed to the effect that the recently appointed professor of forensic medicine in the University of Edinburgh should be elected to the office of casualty surgeon, and that Dr. Douglas Kerr should be retained as general medical adviser to the corporation to carry out the other duties. On a vote being taken, Dr. Douglas Kerr was appointed by the council to conduct all the duties of the post.

#### Hospital Co-operation in the West of Scotland.

A committee has been appointed for the western area of the Scottish Regional Committee of the British Hospitals Association to explore the needs of the area and consider the possibilities of co-operation. It is proposed to investigate not only the possibility of co-operation among the voluntary hospitals themselves, but also of co-operation

between the voluntary hospitals and the statutory authorities. In some of the municipal hospitals, it is stated, there are many empty beds, while the voluntary hospitals have long waiting lists. The appointment of the committee arises from a decision to institute an inquiry taken by the Regional Committee last October. At the meeting at which the committee was appointed it was stated that there are in the area 58 hospitals with 4,433 beds; of this total 16 hospitals in Glasgow have 2,547 beds, the remainder being spread over the ten counties which make up the rest of the area.

## Ireland.

#### The Late Dr. H. L. McKisack.

THE obituary notice of Dr. Henry Lawrence McKisack, consulting physician to the Royal Victoria Hospital, Belfast, which appeared in the *British Medical Journal* of April 7th, mentioned that he served as president of the Ulster Branch of the British Medical Association in 1914-15; this, however, was by no means the only office held by him in the Association. Dr. McKisack was a member of the North of Ireland Branch Council in 1896, in 1899, and again in 1902, and was for a year vice-president of the Branch. In 1903 he was elected to the Ulster Branch Council, and was re-elected in 1908, after serving for a year as Chairman of the Belfast Division. When the British Medical Association held its Annual Meeting at Belfast in 1909 he acted as local honorary general secretary, and in the following year he held office as vice-president of the Section of Medicine. He was a member of the Central Council of the Association in 1908-09, and in the latter year was elected to the Irish Committee.

#### Proposed Memorial.

Steps have been taken by an influential group of colleagues in Belfast to establish a permanent memorial to Dr. McKisack, who was not only a wise physician, but was beloved by all who knew him. A circular letter has accordingly been issued in order that his many friends, both lay and medical, may be given an opportunity to associate themselves with the project. It is suggested that subscriptions should be limited to a maximum of two guineas, that the subscribers should at a later date decide what form the memorial should take, and that it should be associated with the Royal Victoria Hospital, Belfast, to which he rendered such long and useful service. Subscriptions may be sent to Mr. Edwin D. Hill (Head Office, Northern Bank, Belfast) or Mr. Stanley Ferguson (Head Office, Ulster Bank, Belfast), who are acting as honorary treasurers, or to any of the signatories to the appeal: Dr. William Calwell, Dr. C. K. Darnell, Professor Andrew Fullerton, Dr. James Graham, Sir Thomas Houston, Professor R. J. Johnstone, Mr. T. S. Kirk, Professor J. A. Lindsay, Professor J. E. MacIlwaine, Dr. Robert Marshall, Dr. J. C. Rankin, Dr. Robert Reid, Professor W. W. D. Thomson, and Mr. Malcolm Brice Smith.

#### Irish Free State Medical Register.

Dr. Denis Coffey, President of the Irish Free State Medical Council, in a published statement mentioned that the Medical Register for the Irish Free State will come into operation on May 26th next. This matter was referred to in the *Journal* of April 7th (p. 605). All medical practitioners at present entered on the *Medical Register* of the General Medical Council and resident in the Free State will automatically be entered on the new Register without fee. Practitioners whose names are entered on the general *Medical Register*, but who are resident outside the Free State, will be eligible for registration without fee in the Free State Register, provided they make application within one month of the date of the establishment of the Register—that is, between April 26th and May 26th. The agreement included in the schedule to the Act provided that every medical practitioner practising in the Free State must be on the Free State Register, and cannot legally practise unless so registered. The agreement also

provided that the powers of the General Medical Council will continue as before, subject to the law of local registration for practitioners living in the Free State. The General Medical Council, said Dr. Coffey, remains, and people when they are qualified can register with the General Medical Council, but if they wish to practise in the Free State they must have their names entered on the Free State Register, even though they are entered on the general Medical Register. Dr. Coffey expressed the opinion that it would be wise for all young medical practitioners qualifying in Southern Ireland after the establishment of the Free State Register to have their names entered on both registers—the general Medical Register and the Free State Register. He added that the Free State Medical Council had now completed most of its preparatory work, and it is understood that the first Free State Medical Register is likely to be published soon after January 1st, 1929, and reissued thereafter every year. Applications for registration should be sent to the Medical Registration Council, Room 123, Customs House, Dublin.

#### Food Preservatives in the Free State.

The draft regulations regarding the use of preservatives in food issued by the Irish Free State Minister for Local Government and Public Health under his statutory powers make the sanitary authority and officers of local authorities responsible for the enforcement of the regulations. A person who exposes or offers for sale by retail any article which contains any preservative must label the article or exhibit a notice in a conspicuous place, so as to be easily readable by the customer. No person may sell cream which contains any thickening substance, and no person may sell any article for use as a preservative of, or colouring matter for, any article of food if such use would be contrary to the regulations. Any officer authorized by the Minister and any officer of the sanitary authority acting in the execution of these regulations is empowered to enter premises where articles to which these regulations apply are prepared, packed, labelled, or stored. He may take samples, and, if so required, make reasonable payment. If an article is sold within the district of the authority contrary to the regulations, the authority or officer can, in addition to taking proceedings against the seller, take proceedings against any previous seller of the article, and the sale by the previous seller will be deemed to have taken place within the district of the authority. Subject to any directions given by the Revenue Commissioners, after consultation with the Minister, the customs and excise officers will have power to take samples of consignments of imported articles to which these regulations apply, and to send them to the State chemist for analysis. The certificate of the State chemist or the public analyst of the result of the chemical examination of a sample will be sufficient evidence, unless the defendant requires that the person who made the examination be called as a witness. These regulations will not apply to any article intended to be exported or re-exported, or for use as ship's stores.

## England and Wales.

#### The National League for Health and Maternity.

THE report of the National League for Health, Maternity, and Child Welfare for 1927 gives ample evidence of the wide range of useful activities carried on by the seven national societies federated under this title for co-ordination and mutual assistance, each retaining its autonomy. The league arranged in 1927 a series of lectures to various organizations of women and girls, circulated a film on physical education, sold no fewer than 360,000 copies of its publications, administered the Tired Mothers' Holiday Fund, and controlled and financed three convalescent homes for infants and young children. On the educational side the National Association for the Prevention of Infant Mortality continued the important task of providing, by means of lecture courses, advanced and

elementary instruction for health visitors, nurses, midwives, and others, and arranged two series of lectures on the hygiene of married life intended for educated parents. In addition, efforts were made by research, discussion, and propaganda to advance the objects of the association. The report of the Association of Infant Welfare and Maternity Centres expresses regret at the slow growth in 1927, this being due largely to the failure of centres under municipal control to secure affiliation. Nevertheless, satisfactory progress is being made in the work of the 1,200 centres already linked with the association. The report states that centres are now frequented alike by the working classes, though not by the poorest, by the artisan class, and by various grades of middle-class mothers, but that there is a growing desire among the comparatively well-to-do mothers for centres of their own, supported entirely by payment. One such centre has been established in Chelsea, and another is being organized in a rural district. The work of the league has been hampered by financial difficulties, and although some benefit is gained from the considerable profit on the sale of publications, further assistance is needed to ensure more adequate provision for the programme which is contemplated.

#### Central Midwives Board.

At a meeting of the Central Midwives Board for England and Wales on April 4th Sir Francis Champneys was re-elected chairman, and it was announced that Mr. Victor Bonney and Dr. Vincent Dickinson had been re-elected to the Board by the Royal College of Surgeons and the Society of Apothecaries respectively. In reply to a letter from the Ministry of Health it was decided to inform the Minister that the Board is in agreement with him as to the desirability of an inquiry into the training of midwives and the conditions under which they are practising, and that two members of the Board will be willing to serve upon any committee which he may appoint in this connexion. The Board hopes that the Minister will, at the same time, bear in mind the importance of mobilizing all the best available forces in investigating the problem of maternal mortality. A letter was read from the Ministry enclosing a copy of one from the General Medical Council, and requesting the Board's observations on the resolution adopted by the Executive Committee of the Council regarding the memorandum on administration of drugs by midwives. Reference to this resolution was made in the *Supplement* of March 31st (p. 109). It was agreed that a reply, as drafted by the chairman and approved by the Board, be sent to the Minister. In response to letters from the medical officers of health for Gloucestershire and Liverpool the following resolutions were adopted:

That in the Board's opinion a midwife has, like a doctor, the right to refuse to book a case which she does not desire to attend, and that this right would be properly exercised when the midwife has reason to believe that the patient will refuse to permit the necessary examinations to be made or to carry out the midwife's proper instructions. The Board's opinion, of course, does not extend to cases where attendance may be demanded on humanitarian grounds, or in respect of which the midwife, as regards attendance, owes a duty to some other body, person, or authority responsible for the provision of an adequate midwifery service. The midwife is quite at liberty to consult the local supervising authority in any doubt. Under these circumstances the Board sees no necessity to consult with the Ministry of Health with regard to the opinion in question.

With regard to the definition of "abortion," if the Board finds that the present definition is misunderstood, it will reconsider it at the next revision of the rules.

The following resolutions were adopted in reply to a communication from the honorary secretary of the Council of British Ophthalmologists:

1. That in the existing rules of the Board it is stated that it is desirable that, whenever possible, arrangements should be made for pupil midwives to visit ophthalmic hospitals or the ophthalmic departments of general hospitals for the purpose of gaining direct experience of ophthalmia neonatorum.

2. That as soon as sufficient centres for the treatment of ophthalmia neonatorum are established, the Board will take into consideration the question of making the attendance of pupil midwives at such centres compulsory.

3. That as regards the "recognition" of ophthalmia neonatorum, the Board does not expect midwives to diagnose disease of any kind, but to observe and report "any abnormality" (Rule E 20). In the case of affections of the eyes, it requires the

midwife to summon medical help in all cases of "inflammation of or discharge from the eyes, however slight" (Rule E 21 (5)).

It was agreed that the following note be added to Rule E 21, and that the Minister of Health be asked to approve the addition:

"The foregoing lists are not exhaustive and do not include all cases in which medical help should be summoned."

According to Rule E 20, "any abnormality" requires medical help. The instances in Rule E 21 refer to some of the most striking and important abnormalities.

#### Lunacy Returns for London.

The total number of insane persons for whose accommodation the London County Council was responsible on January 1st last, according to a return presented to the Council, was 20,147, an increase of 340 during the year. Of this number, 19,715 were accommodated in the London county mental hospitals, and all but 1,400 of the total number provided for were rate-aided cases. In addition to these patients, for whom the London County Council is directly responsible, there were 132 insane persons resident in Poor Law guardians' institutions in London, 104 boarded out by the guardians among relatives and friends, and 4,640 harmless chronic patients accommodated in the Metropolitan Asylums Board's institutions. The number in this last category, which excludes cases dealt with under the Mental Deficiency Acts, is the lowest recorded since 1890. The total number of insane persons chargeable to parishes and unions in the county of London and to the county itself at the beginning of the year was 23,620, as compared with 23,474 in 1926.

## Correspondence.

### TREATMENT OF GASTRIC AND DUODENAL ULCERATION.

SIR,—I have read the communications by Professor MacLean in the last number of the *British Medical Journal* (p. 619) and in the *Lancet* of January 7th with very great interest, for, like many surgeons, I have long held that the treatment of ulcers of the stomach and duodenum by operation is at best a crude and temporary method, which ought to be replaced by medical measures.

The administration of large doses of alkali would seem to be the most rational method of treatment, for my experience has been that with gastric ulcer the acid is in the upper limits of normal, and is considerably raised with pyloric and duodenal ulcers. I have also frequently shown that the occurrence of gastro-jejunal ulceration is almost entirely dependent upon the presence of a high acidity, and hence is practically only found with pyloric and duodenal ulcers and in the male sex. The question, however, is whether under modern conditions of civilized life the administration of large doses of alkali can produce so permanent a cure that a patient is able to return to his work and to live on a normal diet. Up to the present time physicians and surgeons have both produced a large amount of evidence to show that certain ulcers can be so treated with satisfaction, whereas others will require operative intervention, and the differences of opinion which have arisen have centred rather round the question of what is the definition of a gastric ulcer.

The choice of treatment has been most ably discussed in a recent paper of Dr. Izod Bennett in the *Journal* of February 4th (p. 168), a paper which should be read by everybody interested in the subject of gastro-duodenal ulceration; but in this paper the variation in definition is made evident, for Dr. Bennett mentions two groups which ought to be treated surgically, and four others which probably will require surgical treatment. He goes on to say, however, that the remainder probably form 80 per cent. of the total, whereas to most surgeons there is little or no remainder, and therefore we are inclined to say that all cases of chronic gastric ulcer should be treated surgically. The 80 per cent. of Dr. Bennett either do not come to us because they are relieved by medical treatment, or, if seen by us, are diagnosed rather as acute

ulcers or erosions. Professor MacLean, on the other hand, claims that those ulcers which we should all group as chronic are cured by alkaline treatment, and it is important to consider the value of these claims. As Professor MacLean admits in the correspondence following his first article, the alkaline method is not new: in fact, his treatment is almost identical with that taught me by the late Dr. F. J. Smith when I was his student in 1903. Hence there has been plenty of time for it to have been adequately tried, and up to the present no large series of figures has ever been published showing a high percentage of satisfactory results.

Professor MacLean states that his results are based on five years' experience of this method, and it is possible that he has obtained lasting cures thereby, but he produces no convincing evidence that such is the case. In his present paper he quotes at length four cases, every one of which has only been treated for four months or less, and in his previous paper in January only one had come under treatment for a period of longer than a year. Now if there is one point in the symptoms of chronic ulcer which has been appreciated by surgeons, it is that there is a definite periodicity, and that many patients may remain absolutely free from symptoms without any treatment whatever for periods up to six months or a year. Hence it is wholly incorrect to state that because these patients have remained well since the alkaline treatment was instituted they were permanently cured. Moreover, the continuation of such medical treatment is associated with very considerable danger. Since Professor MacLean's paper was published there have come under my care four cases in which the so-called "MacLean treatment" has been carried out in the larger London hospitals without any relief, and when I operated upon them they were found to have inoperable carcinoma. It is only begging the question to say that chronic ulcers do not become carcinomatous, an opinion with which many—including myself—do not agree. The fact remains that many conditions diagnosed as ulcer become or are carcinomatous.

That the danger of perforation and hæmorrhage is not overcome by alkaline treatment has long been realized, and my experience has been in exact accord with that of Sir Berkeley Moynihan—namely, that the majority of cases upon which I operate have undergone many courses of such medical treatment, only to have a recurrence, often with dangerous symptoms. As against this, one has to consider what are the results which are to be obtained by surgical treatment. In an article now in the press, which I have written for the *Nelson Surgery*, I have investigated all my cases of ulcer that have been operated upon up to date; these number some 1,200, and the results show that between 80 and 90 per cent. of them are cured, but the investigation of a series of cases varying from one to fifteen years is very difficult to estimate with accuracy. From this point of view the statistical inquiry concerning cases operated upon from 1920 to 1924 which is being carried out by the British Medical Association will be of very great value, and it is to be hoped that it will institute a similar investigation of the value of medical treatment. The analysis of my own cases for this report has been much more laborious than I had anticipated, and hence I have only completed up to date the group of pyloric ulcers, but these show that 86.5 per cent. of the total are cured, or, eliminating three cases that have been lost sight of, 90.6 per cent. are cured.

Unfortunately some dispute has fallen upon the surgical methods by reason of some curious figures which have been published, as in Mr. Pannett's paper in your last issue (p. 623). There is no doubt that the immediate mortality and the incidence of complications are inversely proportional to the technical skill of the operator, and therefore it is not fair to accept Mr. Pannett's statement that the mortality for gastro-enterostomy is from 4 to 5 per cent. In my earlier cases the mortality was between 2 and 3 per cent. for simple gastro-enterostomy, but in my last series of 150 cases there has been no death. In the same way errors of technique, such as the use of Murphy's button or of silk sutures, greatly increase the incidence of gastro-jejunal ulcer. I have frequently shown that, taking all ulcers, the incidence of this complication is 1.8 per cent., while for duodenal ulcers it is about 3 per cent.

It is also curious to note that Mr. Pannett states that "the liability to haemorrhage from a gastric, but particularly a duodenal, ulcer is about as great after an operation as before." This statement is difficult to accept. I have shown that in my own series haemorrhage occurs with duodenal ulcer in about 25 per cent. of the cases. I have never known a duodenal ulcer persist after a well-performed gastro-enterostomy, and every case of haemorrhage that has occurred after an operation has been due to a gastro-jejunal ulcer—that is, it occurs in 2 per cent., or less, of the total. With the growing demand for operative treatment and the increase in the number of smaller hospitals these operations have unavoidably to be carried out by those whose opportunities for performing them occur but seldom, and since with us all experience does much to decrease both the mortality and the frequency of after-complications, the results so obtained must of necessity be relatively poor; but it is unjust to blame the operative measures for such complications. The results of carefully performed operations are based upon large series of figures, and at present no evidence has been produced that they can be equalled by medical treatment.—I am, etc.,

London, W.1, April 16th.

A. J. WALTON.

### THE HEALING OF PERFORATED ULCERS.

SIR,—Mr. Pannett, in his interesting address, states that probably about 50 per cent. of perforated gastro-duodenal ulcers are cured by simple suture. I am inclined to think that the percentage is considerably more. For many years I did not do primary gastro-enterostomy in these cases, but told the patients to return in about six weeks for the anastomosis to be made. In nearly all there were still signs of ulceration or thickening.

At last a man was not readmitted until three months after the perforation. I opened the abdomen intending to do a posterior gastro-jejunostomy, but could find nothing to warrant it. There was no trace of ulcer, thickening, or pyloric stenosis. The only sign of the previous condition was the patch of gastro-hepatic omentum which had been fixed over the line of suture. The abdomen was closed and the patient was discharged in three weeks, looking and feeling quite well. He was told to come back if he had any trouble, but has not done so.

Since then I have done very few second operations in these cases.—I am, etc.,

Lancaster, April 16th.

A. S. BARLING.

### THE EXPECTANT MOTHER.

SIR,—In view of Dr. Barford's plea in the *Journal* of March 31st (p. 571) for further efforts on the part of local authorities, I think the experience of the Bristol Royal Infirmary may prove of interest.

In 1919 an ante-natal clinic was established in connexion with the maternity department of this institution and became an immediate success. I need not enlarge upon the great benefits it has conferred on the patients, or the importance of the teaching facilities to the medical students (attendance is compulsory) and pupil midwives. There is, in addition, an infant welfare centre and post-natal clinic conducted by specialists. During last year 1,400 new patients were seen and practically all of them attended regularly; 1,200 were treated during their confinement by the Royal Infirmary—700 in the wards and 500 in the district. The remaining 200 were accounted for by premature labours, removal from Bristol, and about 120 "consultation cases" from private doctors and municipal clinics.

As the total birth rate registered by the city authorities is below 7,000 it will be seen that the Royal Infirmary deals with about one-fifth of the expectant mothers of Bristol at this clinic. Dr. Lily Baker has been appointed special assistant physician in charge of the ante-natal work.

I approached the local authorities in hopes of getting some help in this important work, but was met with a blank refusal for two years. I then applied direct to the Ministry of Health, who were most courteous and helpful, and sent Dame Janet Campbell to look into the situation. She expressed the opinion that we ought to get "a good

annual grant and a capital sum to start off with." Letters to that effect are in the possession of the secretary to the Royal Infirmary.

After much delay I again approached the local authorities and was asked to explain the situation to a meeting of the health committee. At the end of a long discussion it was proposed that the health authorities should pay £200 per annum and close one of their own clinics, which cost that amount annually, sending these cases to the Royal Infirmary. This very feeble offer was accepted as being better than nothing. The infirmary clinic is held three days a week, and if the municipal rate of salary of £1 1s. per clinic was paid to Dr. Baker it would leave about £40 a year towards the Royal Infirmary in its ante-natal work. Dr. Baker generously offered to hand over the salary to the treasurer of the Royal Infirmary.

To my surprise, when the agreement came to be signed it was made a condition that the town council should have a member placed on the Royal Infirmary committee, and that the municipal patients should not be seen by students. The infirmary committee did not see their way to accept these conditions, and the offer lapsed. I understand from Professor Rayner that exactly the same thing happened at the Bristol General Hospital, where some 800 cases are dealt with annually.

While I know that the municipal clinics are most efficiently and carefully run, and are doing excellent work, I feel sure that everyone will agree that ante-natal clinics at teaching hospitals, where it is possible to send the patients to cardiac, dental, and other clinics, are at any rate equally efficient, and equally deserving of help and support. I then applied once more to the Ministry of Health, pointing out that the Royal Infirmary and General Hospital together saw one-third of the expectant mothers of Bristol, many of the cases being "consultations." I received a most sympathetic letter, which showed that the local health authorities were the cause of our receiving no help in spite of the strong recommendations of the Ministry in London.

In view of my experience I feel that Dr. Barford is unlikely to see his excellent suggestion carried out when local authorities can disregard the advice of the Ministry of Health, unless he is so fortunate as to have an enlightened health committee to deal with, as in the case of Cardiff, where, I am told by Professor Maclean, about £2,000 a year is received by the Cardiff Royal Infirmary to enable them to do their best for the maternity work among the poor of the city.—I am, etc.,

R. S. S. STATHAM, M.D., Ch.M.,  
Honorary Gynaecologist, Bristol Royal Infirmary.

April 4th.

### TREATMENT OF ACUTE PNEUMONIA.

SIR,—As one who has also read with pleasure the letters of Dr. Mallow and Dr. Thompson, I wish to record my belief that the sentiments which the writers express are shared by the majority of medical practitioners, and in this district at any rate the practice is on the lines which Dr. Thompson advocates.

It is in pneumonia more than in any other disease that the physician is called into consultation, and so gets many opportunities of seeing what form of treatment is being carried out.

I find very little use being made of oxygen, or powerful or nauseous drugs or vaccines or serums. In nine cases out of ten the doctor avoids disturbing the patient for purposes of examination, having once made his diagnosis. As for the discomfort of the bed-pan, it is now quite common to find that no special anxiety is felt about the bowels acting at all during the height of the fever.

Yet satisfactory as it is to stand by whilst Nature performs her cure, I think we are all alive to the possibility that one of these days some remedy will be forthcoming which will reduce the present mortality of pneumonia, and I fail to see how any remedy or preventive can be proved unless someone is prepared to try it. A spirit of enterprise tempered with caution and an honest endeavour to do no harm should not be discouraged.—I am, etc.,

Birmingham, April 14th.

LEONARD G. J. MACEY.

## GLAND GRAFTING AND INHERITANCE.

SIR,—If Dr. Norman Haire will carefully reperuse my letter in the *Journal* of March 31st (p. 570), he will, I think, realize the non-justification of his statement in the following issue (p. 610) that I had "written under a complete misapprehension of the nature of the various testicle-grafting operations." The main purport of my letter was to suggest that, even if either of the two suppositions of Dr. Voronoff and his followers—that the "new testicular material replaces or reinforces the physiological action of the animal's own testis"—be true, the fact does not constitute evidence of the transmission of acquired characters. Incidentally, I pointed out that if the *modus operandi* be the first of the two hypotheses advanced, the fertilizing agents, wherewith the rejuvenated hull Jacky sired nine calves must have had their origin in the imported gland tissue. If, as Dr. Haire says, this is not the case, then clearly the alternative hypothesis of Dr. Voronoff and his school—that the foreign gland replaces the physiological action of the animal's own gland—must be ruled out of court, and there remains as explanation of the alleged inheritance phenomena a mere tonic effect upon the latter of the introduced glandular tissue.—I am, etc.,

CHARLES M. BEADNELL,  
Surgeon Rear-Admiral, R.N.

Aberystwyth, April 8th.

ACHALASIA OF THE CARDIA (SO-CALLED  
CARDIOSPASM).

SIR,—I have no hope of persuading Dr. Brown Kelly of the error of his views, but his last letter (April 7th, p. 610) so seriously misstates the evidence in favour of achalasia and against cardiospasm that it calls for a reply.

It is not clear what he can mean by cardiospasm, as he denies the existence of a cardiac sphincter. But whereas the greater part of the oesophagus always has a potential lumen, the lowest inch, which constitutes its intra-abdominal portion, is closed and forms a physiological sphincter, as can be easily seen with the *x* rays, and as Dr. Brown Kelly apparently realizes when he speaks of a "cardiac canal." That this represents an anatomical sphincter has been demonstrated by Poulton, myself, and others.

The inflammation and subsequent degeneration of Auerbach's plexus found by Stokes and Rake, and more recently by Cameron, must result in failure of the sphincter to react to stimuli. The sphincter cannot, therefore, perform its normal function of relaxation nor its rarely exercised power of contraction; it consequently remains closed—that is, in its normal position of rest. This, with secondary dilatation of the oesophagus, is what occurs in animals when the vagi are divided. The changes found by Cameron in Dr. Brown Kelly's fatal cases are obviously incompatible with his theory of spasm.

In the vast majority of cases reported both in England and abroad no hypertrophy of the sphincter was present. In a severe case of mine in which the patient was cured by longitudinal incision of the sphincter, Mr. R. P. Rowlands, who operated, was astonished at the extraordinary tenuity of the muscle, and he demonstrated to all who were present the absence of any spasm in the closed sphincter, which was over an inch in length and extended from the opening in the diaphragm to the stomach. I expect that the exceptional cases in which hypertrophy is found represent those mentioned in my last letter (March 24th, p. 521), in which secondary temporary spasm occurs as a result of the accompanying oesophagitis in the earlier stages, before the degeneration of Auerbach's plexus is complete.

When spasm is present considerable resistance is felt to the passage of the mercury tube, which is tightly gripped when it eventually enters the stomach, exactly corresponding with what occurs in anal spasm—a most appropriate comparison. This is in striking contrast with the complete absence of resistance and gripping noted by all observers in uncomplicated cases, and in the rare cases with temporary spasm when the latter is overcome as a result of treating the oesophagitis.

Dr. Brown Kelly apparently regards the forced passage of a rigid oesophagoscope in the recumbent position under

an anæsthetic as a more natural method of examination than allowing a flexible mercury tube to be dropped by the patient himself through his sphincter. As a matter of fact, the mercury tube closely approximates to what happens under natural conditions, because the closed sphincter gives way when the column of food in the oesophagus exceeds a height of about eight inches, closing again as soon as the eight-inch level is reached. It is in this way that nutrition is maintained. The weight of the mercury tube is about the same as that of the column of food in the dilated oesophagus. On the other hand, it is difficult to pass a rigid instrument past the angle formed by the sphincter with the rest of the oesophagus, particularly when the latter is so dilated that its lower extremity is actually below the entrance to the sphincter. It was for this reason I introduced the mercury tube to replace rigid bougies, which could only be passed with great difficulty. I have no doubt that Dr. Brown Kelly has mistaken the spasm of the diaphragm caused by the pressure of his instrument for spasm of the cardiac sphincter, which is actually within the abdomen and not within the thorax. Many of the earlier oesophagoscopists recognized that the spasm was diaphragmatic, and actually regarded this as the cause of the condition.—I am, etc.,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest,  
April 9th.

## THROMBO-PHLEBITIS MIGRANS.

SIR,—I read with great interest in your issue of April 7th (p. 586) the account given by Professor Moorhead and Dr. Abrahamson of a condition which they call "thrombo-phlebitis migrans." The authors say they can throw no light on the etiology, though they state that the method of spread suggests forcibly the presence of a blood infection.

I might mention that in an essay on "influenza in general practice," written in 1925, I drew attention to the commonly observed occurrence of venous thrombosis in practice ever since "influenza" returned in 1918. In the same place I described the pulmonary and mesenteric phenomena now mentioned by Drs. Moorhead and Abrahamson, and showed that the former were often wrongly diagnosed as "pneumonia" and "pleurisy," and the latter were often confused with appendicitis and intestinal obstruction. I attributed the pulmonary symptoms to infarction and the abdominal to mesenteric embolism. Further, I noted that cerebral, coronary, and renal (nephritis and haematuria) embolism were often associated with influenzal attacks, or occurred during influenzal seasons. It is true that thrombosis in peripheral veins was not seen in all my cases, but I assumed that there must have been thrombosis somewhere in these cases. The process must be the same, and it is only a matter of accident where the thrombosis occurs. In some of my cases of pulmonary infarction (or thrombosis) jaundice and intense anaemia were observed; both these phenomena strongly suggested the presence of a haemolytic streptococcus.

As jaundice and anaemia were often seen in cases of influenza with no sign of thrombosis, it was natural to suppose that the thrombotic cases were related to influenza. In fact an initial diagnosis of influenza was made in most of the thrombotic cases. A chronological study over ten years of these thrombotic and embolic cases settled the matter beyond doubt. The fact that they almost invariably occurred when the influenza curves rose, and were rarely seen when influenza became scarce, seemed conclusive evidence of the importance of influenza in the production of venous thrombosis and embolism. In the ten years 1918-27 there have only been three (1920, 1921, and 1925) without an epidemic; it is not to be wondered, therefore, that venous thrombosis is fairly common. Yet I believe the symptoms produced by it are often not appreciated by those unacquainted with epidemiological happenings.

It is of interest to note that Dr. Whittingdale of Sherborne, Dorset, reported seeing in general practice in the twelve months prior to March, 1926, a large number of cases of phlebitis of the lower limbs with a "large proportion of pulmonary infarcts," and, in one case,



"multiple cerebral emboli." Dr. Whittingdale, like myself, looked upon the pulmonary and cerebral complications as being due to embolism. Drs. Moorhead and Abrahamson are at pains to show that embolism was not present in their cases. Most of the pulmonary cases I have seen have come on rapidly with acute chest pain, pleural rub, and the spitting of characteristic blood-spit, and were certainly instances of pulmonary embolism. Many of them, further, have occurred in close chronological proximity to cases of pulmonary embolism after operation, confinement, etc.

I have seen a very large number of these pulmonary mesenteric, cerebral, and renal thromboses (or embolisms) in the last ten years, so many, indeed, that I wrote in 1926 an essay with the title "The infective factor in embolism"; this has not been published, but most of the points now raised by Drs. Moorhead and Abrahamson appear in it. I would suggest that thrombo-phlebitis migrans as described by the latter is not unconnected with the influenza which every panel doctor knows only too well to be constantly with us.—I am, etc.,

ARMORSE W. OWEN, M.D., B.S. Lond.

Aberdare, April 7th.

#### THE CAUSES OF ALCOHOLIC INEBRIETY.

SIR,—The interesting discussion on this subject which was reported in your issue of April 7th (p. 594) leads us to give some details of the experience obtained here. Obviously the essential cause of inebriety is the actual drinking of alcoholic beverages. Never to have taken alcohol in any shape means never to have come under the primary cause. No total abstainer ever becomes alcoholic. Then follow a large number of causes: heredity, habit, stress and strain, a psychomotor stimulus to obtain a euphoric affective tone, the assuaging of conflict, and the attainment of freedom of expression for repressed forces.

From a survey of the many hundreds of patients who have passed through the two institutions of the Norwood Sanatorium—Beckenham and Rendlesham—it is clear that heredity is a decided cause, not a mere conjecture. It is this hereditary influence, "the inborn soil ready for the seed," which has given rise to the rather exaggerated belief that "the alcoholic is, before he even touches a drop, an abnormal person." Persons with an alcoholic parentage should remain total abstainers, if they would remain free from danger. But it is another hereditary factor that also appears again and again—namely, that which is popularly called the "nervous" or "unstable" type of individual. Here again total abstinence is the dictate of "safety first."

Habit undoubtedly, together with ease of access, plays a large part in many a downfall. But there have been quite an appreciable number in whom heredity and habit seemed to be absent as causal factors. These have been those who have had recourse to alcohol "as a drug to overcome stress and strain, or to drown distress and pain"—in short, for its narcotic action. It is here also that the psychomotor stimulus to obtain a euphoric affective tone is so powerful, and, once started, the desire for more may become overpowering. A man—a weak man, and often a lazy one—takes alcohol because it does seem really to assuage conflict, and to allow him to perform those repressed actions with "a clear conscience."

In the methods of treatment adopted the first aim should be to rid the inebriate of all alcohol; the second to bring him back, as far as possible, into a healthy state of mind and body, and then to re-educate his will to a higher plane of living. It is here that treatment away from friends and business has in so many cases proved permanently successful.

Investigation is still being carried out as to any histological and chemical changes in the blood of the inebriate, and it is possible that results may indicate further causal factors and improved lines of treatment.—We are, etc.,

A. W. GEORGE.

GEORGE F. VINCENT.

Beckenham Park, April 13th.

<sup>1</sup> *Lancet*, 1926, vol. i, p. 575.

#### THE ELECTION TO THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

SIR,—Every year, almost contemporaneously with the advent of the cuckoo, I am assailed by letters soliciting my vote for one or other of the candidates for election to the Council.

These may be divided into four categories: (1) From a Fellow that I know well about a Fellow that I know well; (2) from a Fellow that I know slightly about a Fellow that I know well; (3) from a Fellow that I know well about a Fellow that I know slightly; (4) from a Fellow that I know slightly or not at all about a Fellow that I know slightly or not at all.

Most of them are typewritten, but many have appended to them, by way of signature, a hieroglyphic which can only be decoded by reference to the printed address and the *Medical Directory*. This is perhaps not surprising if, as would sometimes appear to be the case, the writer is circularizing all the Fellows of the College.

Apart from occasional references to the advantages which would, in the writer's opinion, accrue from the presence of a provincial surgeon or of a specialist on the Council, the tenor of these letters is peculiarly consistent. It is to the effect that the Fellow in question is an excellent surgeon, is an admirable teacher, is consumed by a passion to spend his days in sitting on committees, and would be an ornament to any society of which he might be elected a member. I am prepared to believe that in every case these statements are wholly true, but I doubt if they have ever affected the result of an election in any appreciable degree. It is obvious, for instance, that letters in the first two categories are supererogatory, and it is unlikely that a letter in the last would induce a conscientious voter to reconsider a course of action upon which he had already decided. I believe, therefore, that this output of propaganda is to all intents and purposes valueless, and I am convinced that it would be more dignified to conduct the election without it.

I would like to add that it is not many years since the electorato of Chicago was approached by similar methods. But when it was discovered that canvassing by post had little or no effect its place was taken by the throwing of bombs into the houses of the opposing candidate or candidates. American methods have before now been known to permeate this effete Continent, and if this one succeeds in doing so I shudder to think what life may be like in Harley Street in a few years from now.—I am, etc.,

London, April 13th.

IVOR BACK.

#### TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—In reply to a letter of Dr. J. Curtis Webb in the *British Medical Journal* of December 3rd, 1927 (p. 1053), referring to the treatment of enlarged prostate by x rays, I would like to say that I have had a similar satisfactory experience. If he will refer to the *Australian Medical Journal* of May, 1911 (pp. 214-18), and of December, 1912 (pp. 817-18), he will find reports by me on a series of cases so treated.

For two years or more, up to the time I left Ballarat, no prostatectomies were performed at the Ballarat General Hospital, all cases of enlarged prostate being referred to the x-ray department for treatment, so successful were the results of x-ray treatment.

Since starting in Melbourne after the war I have had several cases, and all have been relieved. The last case astonished me. The patient was over 70 years of age, with large calculi in the lower end of both ureters. He declined operation, but was so much relieved by the treatment that he was able to discard his catheter, that had become absolutely necessary to him, and left for the country, where he lived. His health was greatly improved. Since then I have not heard of him.

Why this method of treatment is not more universally employed I cannot understand, as relatively small doses only are necessary to achieve the desired result. (I give about one-fifth or a quarter of a unit skin dose or less, twice a week, at 100 kilovolts through a 4 mm.

aluminium filter, the patient sitting on a special chair with a tube under it.) As a rule relief begins on the tenth day after the first raying. If no improvement is manifest in a fortnight operation can be performed without the treatment in any way complicating it. I found that patients over 60 years of age give the quickest results, but with more penetrating radiations I should think the treatment would be equally effective in younger patients.

It is interesting to note that my early successes were achieved with a 12-in. coil, one milliamperes of current, and a 6-in. spark gap through a filter of one only millimetre thickness of aluminium or glass.—I am, etc.,

Melbourne, Feb. 14th.

CHAS. E. DENNIS, O.B.E., M.D.

#### DELAYED NOTIFICATION OF TUBERCULOSIS.

SIR,—Much has recently been spoken and written regarding the late notification of cases of tuberculosis, and statistics have been published indicating that in the county of London an average of 47 per cent. of cases of tuberculosis die either unnotified or within three months of notification.

I have attempted to throw light on the subject by looking into the figures for the borough of Lewisham, and have to report as follows:

During 1927 there were 175 deaths from pulmonary tuberculosis and 20 from other forms of tuberculosis in the borough—a total of 195. Of this number 37 cases of pulmonary tuberculosis and 20 cases of non-pulmonary tuberculosis were either unnotified or notified within three months of death—a total of 29 per cent.; that is to say, nearly a third of the deaths were notified late or not at all. Going into detail, I find that of the 20 non-pulmonary cases 14 died from tuberculous meningitis, 2 from acute peritonitis, and 4 from tuberculosis of other regions, none of the 20 having been ill for three months prior to death. Of the 37 pulmonary cases 31 were notified within three months of death, while 6 died unnotified. Of the 31 dying within three months of notification 12 died from acute phthisis (3 of them suddenly), 7 had never previously attended a doctor, 3 were strangers, having only recently removed to the borough, and 4 were wrongly diagnosed—1 as bronchitis and emphysema, 1 as bronchitis and asthma, 1 as pleural effusion (sudden death), and 1 as a wasting child (died from military tuberculosis). Five had been ill and had attended a doctor—2 for six months, 1 for a year, 1 for two years, and 1 for forty-five years. Of the 6 unnotified cases 1 had been notified three years previously, had left the borough, and then returned without the knowledge of the authority, 1 died from a sudden haemorrhage, 1 was diagnosed at the necropsy, 1 was not previously diagnosed, and 2 had been under doctors for three months and many years respectively.

Thus of the 57 cases, only 7 could reasonably have been notified at an earlier date, bringing down the figures from 29 per cent. to 3.5 per cent. It would be interesting to know whether these figures tally with those of other districts.—I am, etc.,

ROSE JORDAN, M.D., D.P.H.,  
Tuberculosis Officer for Lewisham.

Catford, S.E., April 3rd.

#### THE "CURE" OF PULMONARY TUBERCULOSIS.

SIR,—There appear to be three distinct lines of action in Dr. W. M. Crofton's method of treating pulmonary tuberculosis: (1) tuberculin therapy, (2) vaccine treatment of so-called secondary infection, and (3) the use of iodine.

It is only in respect of Dr. Crofton's use of tuberculin that the following remarks are offered. H.T.S. (human type tubercle bacillus solution) is stated to contain 1 mg. of dissolved tubercle bacilli in each cubic centimetre. The bacilli are dissolved in benzoyl chloride. "The largest dose of this solution required is .01 mg." (I quote from Dr. Crofton's book). If this figure refers to the weight of dissolved tubercle bacilli it indicates that Dr. Crofton works with quantities of bacillary substance under a maximum of 0.01 mg.; if the figure refers to the solution itself it indicates a very much smaller quantity. In either case there is here a crucial departure from Koch's method, in which the greatest importance is attached to high dosage, and in which the maximum both with T.R. and B.E. is 20 mg. solid bacillary substance—a dose two thousand times greater than the maximum dose of 0.01 mg. mentioned above. Koch himself states that "at the

beginning of immunization such small doses are given (0.002 mg. T.R.: 0.0025 mg. B.E.) that no immunity worth speaking of is to be expected, and that first when one arrives at larger doses of 1/2 to 1 mg. unmistakable evidences of immunization present themselves." Again, "in the immunization of the sound and the treatment of the sick it all comes to the use of as large doses as possible." And in his last pronouncement, made in 1909 in the preface to the third edition of Bandelier and Roepke's textbook, he expressly declared "that it is beside the purpose to stand still with the minimum doses which are often employed, one must not forget that it is a matter of active immunization, and that it can only be advantageous for the sick if not too small a degree of immunity is reached."

Another important point is Dr. Crofton's departure from Koch's classical method of comminution of the bacilli in favour of the application of benzoyl chloride as a solvent. This interesting method, which was first developed some twenty years ago by Deycke in his search for a solvent or activator of nastin, the leprosy tuberculin, may or may not be an improvement on Koch; it would be interesting to have the results of comparative experiments. But the only evidence on this point which Dr. Crofton offers is that "the clinical results with tubercle bacilli dissolved in benzoyl chloride have been so satisfactory."

Considering the dosage employed, the complexity of the treatment, and the complexity of the problem, one feels that some further body of evidence will require to be produced in favour of these two important departures from Koch's classical methods to entitle them to preferential consideration.—I am, etc.,

Wandsworth, S.W., April 7th.

ROBERT CARSWELL.

SIR,—The letters of Drs. Crofton and Weatherhead are interesting as showing that the subject of tuberculin is still alive and that work is being done. Neither writer distinguishes between the two great classes of pulmonary tuberculosis victims; it is on this vital point that many investigators stumble. The first class includes cases in which the disease is acquired in infancy or early childhood, and the second those in which it is acquired after puberty. Patients who have survived after an early infection which may have shown itself as a bronchitis, pneumonia, marasmus, or retarded growth are benefited by injections of bovine tuberculin (P.T.O.), and after puberty by Koch's "old tuberculin."

Patients infected after puberty recover, if the disease is not too far advanced, when removed from the source of infection. If circumstances do not permit removal an increased resistance may be obtained by weekly injections of Koch's "old tuberculin." Observations on this subject are of doubtful value when the date and source of the infection are not ascertained. I think the following instances are worthy of record. Two families of children under my care remained more or less stationary while receiving weekly injections of tuberculin, the younger ones taking P.T.O. and the older ones O.T. At my suggestion the mothers submitted themselves for injections; both were substantial heavy women in the early forties. One two-hundredth of a cubic centimetre of Koch's "old tuberculin" gave in each mother a profound reaction, and sloughing at the site of the injection, which ended in improvement in both families. Though I have seen definite cures in advanced cases, I have also encountered disasters; my best results occur when the source of the infection has been more or less definitely ascertained and, if necessary, treated.—I am, etc.,

Buxton, April 8th.

R. CRAWNSHAW HOLT.

#### THE HAEMORRHAGIC DIATHESIS.

SIR,—Dr. H. L. Tidy, in his interesting and enlightening article on the haemorrhagic diathesis (April 7th, p. 583), considers it impossible to say whether the reduction in platelets precedes the increase of haemorrhages or vice versa, and mentions Forster's case in which, although the haemorrhages ceased spontaneously, there was no rise in platelets until three days later. May it not be that all

the platelets produced by the marrow became adherent to defects in the capillary endothelium, and that until these defects required no more platelets, no increase would appear in the blood? So long as the platelets were being massed as fast as they were made, the microscope would not show any appreciable increase, and because haemorrhages had ceased it does not follow that no further massing of platelets was necessary. Then again, in Foerster's patient the marrow might have been taxed to the point of exhaustion just at the time of cessation of haemorrhage, and three days were necessary for recovery. Had Foerster given his patient an injection of some solution to destroy the platelets just after the spontaneous cessation of the bleeding he might have found that the haemorrhages recurred. If, however, they did not reappear, then he might conclude that the platelets did not bring about the cessation of haemorrhages.—I am, etc.,  
Yelverton, South Devon, April 8th.

R. DAVIS, M.D.

#### CLINICAL OPPORTUNITY FOR MIDWIFERY.

Sir,—In recent discussions on maternity problems the point of view of two quite important people has not emerged. I refer to the maternity patient and her husband. In this village working men consider it a point of honour to provide their wives with a doctor's services at confinement, hoping thereby to secure for them greater alleviation, and perhaps a more speedy and secure delivery. The accoucheur whose bag contains the chloroform bottle will always retain a considerable part of ordinary midwifery practice. But the medical student's clinical experience is lessened because midwifery opportunities are given to C.M.B. candidates who desire the qualification, but do not intend to practise.

If more opportunity for the medical student is desirable, a stricter rationing of clinical material is surely necessary.—I am, etc.,

Peppard Common, Oxon, April 2nd.

E. L. CARLING.

### Medico-Legal.

#### STANDARDS OF SOBRIETY: MORE MAGISTERIAL DICTA.

A FURTHER case illustrative of the difficulty of obtaining any clear legal definition of what constitutes drunkenness was heard in the Marylebone police court on April 16th, when a man was charged with being drunk in charge of a motor car. The divisional police surgeon gave details of his examination, and stated that he formed the opinion that the man was drunk; he admitted, however, on cross-examination, that if this had been an ordinary case of a person charged with drunkenness he would have said that he was sober. The magistrate, Mr. Bingley, thereupon remarked, "Well, that is the end of this case." The police surgeon said the man's incapacity depended on what he was charged with doing, and Mr. Bingley replied, "You are totally wrong. That is not the law." When the witness stated, "A doctor has no means of determining whether a man is drunk unless he is considering the particular thing the man was doing, or failed to do," the magistrate said, "If that is so you need not bother about all these tests." Giving his decision, Mr. Bingley said that the law used the expression "drunk," and in a case before the superior court the Lord Chief Justice stated that "drunk meant drunk." All he (the magistrate) had to do was to be satisfied that the man charged before him was or was not drunk. It might be advisable that the law should be altered. All sorts of phrases could be imagined to describe that culpable condition, but the law as it stood said "drunk." The doctor had said at the end that he thought the man was too drunk to drive a car; but that was not the law. It had nothing to do with the doctor whether the man was in charge of a car or was lying in the street; the sole question was whether he was drunk. In view of the doctor's evidence he was not satisfied beyond all reasonable doubt that the charge had been proved, and the accused would be discharged. A similar view was recently expressed, also at Marylebone (reported in the *Journal* of March 31st, p. 573), by another magistrate, Mr. Hay Halkett, in a case of the same kind.

#### HUSBAND'S RESPONSIBILITY FOR WIFE'S TREATMENT.

AT Common Law a wife can pledge her husband's credit for necessities suitable to the position he allows her to assume, and his Honour Judge J. W. McCarthy, in the Harrogate County Court, has recently held that treatment received by a wife in the private ward of a hospital comes within the category of a necessary where the husband is a man well able to afford to pay for it. The defendant was Mr. Norman Hudson of The Gables, Pannal, a landowner and a member of the Bramham Moor Hunt, and he refused to pay for his wife's treatment for scarlet fever in a private ward at the Harrogate, Knaresborough, and Wetherby Joint Isolation Hospital. Mrs. Hudson was placed in a private ward at her own request, and when the matron showed her a letter in which her husband repudiated liability shortly after her admission, she observed: "It is just like him. I am his wife, and he will have to pay. He is a well-to-do man." The defendant was a most unsatisfactory witness on the relevant evidence as to his means, but ultimately he had to admit that he hunted twice a week, kept a large stable, owned a large car, and was co-owner with his brother of a large amount of land in the neighbourhood of Harrogate. From these facts it appeared evident to the judge that treatment during illness in a private ward of a public hospital rather than in one of the public wards at the expense of the rates was a necessary suitable to the wife's position in life. His Honour found it difficult to express in measured terms his opinion of the conduct of a sporting landowner trying to force his ailing wife into a public ward of a hospital rather than pay six guineas a week for accommodation and treatment suitable to her station and habits in life.

#### Obituary.

RICHARD LANE JOYNT, O.B.E., M.D., F.R.C.S.I.,  
Surgeon to the Meath Hospital, Dublin.

WE much regret to announce the death, on April 4th, from pneumonia of Mr. Richard Lane Joynt, the distinguished Dublin surgeon. A native of Limerick, he received his early medical education at Trinity College, Dublin, obtaining the diploma L.M. in 1889, and graduating M.B., B.Ch., B.A.O. in the following year; he proceeded M.D. in 1892, and obtained the Fellowship of the Royal College of Surgeons of Ireland in 1894. Election to the surgical staff of the Meath Hospital and County Dublin Infirmary followed, and at the time of his death Mr. Lane Joynt was senior surgeon to that institution. He was a member of the Council of the Royal College of Surgeons, and had been for some years one of its examiners in surgery. During the war he served in the Royal Army Medical Corps with the rank of lieutenant-colonel, and for his war services, more especially in connexion with orthopaedics, he received the O.B.E.

We are indebted to Sir THOMAS MYLES, F.R.C.S.I., his lifelong friend, for the following appreciation of the man and his work.

By the death of Mr. Richard Lane Joynt the surgical profession has lost one of its most remarkable personalities. To the general public he was merely a surgeon of repute, discharging quietly and efficiently his daily work in a large clinical hospital, the Meath, and amongst his private patients. Within the surgical profession itself he was much better known, and the respect and admiration felt for his remarkable talents were both intense and profound. He was indeed a remarkable personality. To a thorough knowledge of his profession he added a most intimate acquaintance with the technicalities of almost every kind of handicraft. He was a metallurgist and mechanician of a very high order, and possessed extraordinary skill in the manipulation of the tools of craftsmen who work in wood and metals. This skill and knowledge were ever at the disposal of his friends and colleagues, and many of the most successful results in the treatment of grave injuries in the Dublin hospitals were due to apparatus, often quite original in design, not merely suggested by him, but actually made with his own hands in his own workshop. During the great war his capacity and aptitude in this

branch of surgery was brought under the notice of the Imperial Government, and he was gazetted a lieutenant-colonel in the R.A.M.C. and appointed general inspector of orthopaedic factories in Great Britain and Ireland. Sir Robert Jones, the great orthopaedic specialist, who was principal medical officer in charge of the maimed victims of the war, soon learned to appreciate the rare gifts of his subordinate, and set him the task of designing apparatus, often of the most complicated character, to meet the very diverse demands which the tragedies of the war had produced. Many maimed victims of the war who have lost more than one limb have had their lives made tolerable and their capacity for useful work increased a hundredfold by the apparatus designed, and in many cases actually made with his own hands, by this modest Irish surgeon who has just passed from us. At an earlier stage in his life he was one of the pioneers in x-ray work, and, like too many of these pioneers, paid a terrible price for his enthusiasm. Before its dangers were known, and the means for guarding against them had been developed, he was attacked in the hands, and for many years suffered agonies which he bore with his characteristic uncomplaining fortitude.

Apart from his professional and mechanical skill, he was a scholar of wide range and taste. He possessed an acute intelligence and a retentive memory, and this, with the extraordinary catholicity of his taste and studies, made him a most interesting and delightful companion. English literature had in him a most fervent worshipper. The works of Shakespeare, Goldsmith, and Sheridan were to him a constant inspiration. Intensely interested in Irish archaeology, he was a mine of information on place-names and other points of interest in his native land, which he knew from end to end as few indeed know it. Outside his professional work he was a daring and experienced yachtsman, and nothing gave him more pleasure than to leave his work behind for a month or so in the summer and sail away in one of the many boats he owned to explore the Scottish lochs, or the bays of the south and west coast of Ireland, or the sunny shores of France.

He was a member of the Council of the Royal College of Surgeons of Ireland, and for many years one of its examiners in surgery. Had he wished it, his many friends would have gladly elected him vice-president, but his modesty forbade his acceptance of the responsibilities of such an office. As a clinical teacher he was immensely popular with his students, and by his colleagues in the Menth Hospital and by his brother surgeons everywhere his memory will be held very dear.

F. B. WILLMER PHILLIPS, M.A., M.D., D.P.H.,  
Medical Officer of Health, Bedford; Consulting Physician,  
Bedford County Hospital.

WE regret to announce the death, which took place suddenly on March 23rd, of Dr. Willmer Phillips, medical officer of health for Bedford since 1905, and honorary consulting physician to the Bedford County Hospital.

Francis Barclay Willmer Phillips was born at Brighton in 1853, and entered as an undergraduate at Balliol College while Jowett was Master. He received his medical education at Guy's Hospital, and obtained the diploma M.R.C.S.Eng. in 1883, graduating M.A., M.B.Oxon. and B.Sc.Lond. two years later, and proceeding to the degree of M.D.Oxon. in 1889. In 1902 he obtained the D.P.H.Camb. Soon after qualifying he successively held appointments as resident obstetric surgeon at Guy's Hospital, assistant medical officer at the Eastern Smallpox and Fever Hospital, London, and as resident clinical assistant at the East London Hospital for Children; and about forty years ago commenced practice in Bedford, taking a prominent part in the evolution of the County Hospital there.

In 1905 he succeeded the late Dr. C. E. Prior as medical officer of health, and in 1914 received a full-time appointment in that office, with the additional duties of medical officer of schools and police surgeon. Later he became also medical officer of the infant welfare centre and medical superintendent of the isolation hospital. During the war, when there was a very large concentration of

troops at Bedford, he acted in close co-operation with the military authorities, served as an officer in the local volunteer training corps, and acted as medical officer to Bedford Prison during the absence of the holder of that post.

In the affairs of his profession Dr. Phillips played a considerable part. He was a member of the Royal Sanitary Institute and a Fellow of the Royal Institute of Public Health, and in the British Medical Association served as a member of the South Midlands Branch Council in the period 1896-97. His main interests otherwise were scientific and cultural; he was a keen classical scholar, and at the same time was devoted throughout his life to mathematical and biological studies, yet found opportunities in his later years to extend his knowledge in the fields of palaeontology and Russian literature. For many years he was associated with the Mathematical Association, the London Mathematical Society, and the Bedford Arts Club. The interment was at Hove. At a funeral service held earlier in St. Paul's Church, Bedford, there were present the Mayor and Corporation in state, representatives of almost every civic department and of many other organizations, and a large number of members of the medical profession, the British Medical Association being represented by Dr. E. R. Fasnacht.

#### CHISHOLM WILLIAMS, F.R.C.S.Ed.,

Formerly Electrotherapist, West London Hospital.

WE regret to announce the death, which took place suddenly at Finchley on April 10th, of Mr. Chisholm Williams, one of the earliest in this country to foresee and develop the medical uses of x rays, and one who, like many of those pioneers, suffered gravely from the effects of handling this then dangerous medium. George Chisholm Waldemar Williams began his professional career as a student at St. Thomas's Hospital, and obtained the diplomas L.S.A. in 1891 and M.R.C.S., L.R.C.P. in 1892. In 1898 he obtained the F.R.C.S.Ed. From his earliest days as a practitioner he was keenly interested in the application of electricity to medical practice, and devoted his spare time to experimental work. In 1895, seven weeks after Professor Roentgen had announced the discovery of the rays which were named after him at the time, Chisholm Williams succeeded in repeating the original experiments, and in making an x-ray photograph of his own fingers. Thereafter his devotion to the development of this discovery was unbroken, and he gave particular attention to the employment of the rays in the treatment of tuberculosis and cancer with a considerable degree of success. He was appointed surgeon to the City Orthopaedic Hospital, London, in 1894, and gave his services to that institution for some fourteen years. From 1903 to 1908 he was in charge of the x-ray department of the West London Hospital, and lecturer in radiology to the West London Post-Graduate College. In 1906 he joined the staff of St. John's Hospital for Skin Diseases.

From 1916 to 1919 he served with the R.A.M.C. in the rank of captain as electrotherapist to the Eastern Command Depot. It was at this period that the evil effects of the years of exposure to x rays, at a time when neither the need for nor the means of protection were known, became fully apparent. The condition of his hands had been severely aggravated by contact with septic cases during his war service, and a prolonged series of operations became necessary; after years of suffering the whole of one hand and two fingers of the other were amputated. As a result he was forced gradually to relinquish all active work. It was only last year that his services to science and his sufferings in its cause obtained recognition. In June, 1927, he received from the hands of the Duke of Connaught, at the prize-giving ceremony in connexion with the St. Thomas's Hospital Medical School, the bronze medallion of the Carnegie Hero Fund, the highest award of that body, given "for heroic endeavour to save human life," together with a cheque for the first instalment of a pension awarded him by the Fund. A few weeks later he was granted a Civil List pension in recognition of his self-sacrificing and devoted services in the application of x rays to the diagnosis and treatment of disease.

## THE LATE DR. A. E. NORBURN.

A COLLEAGUE sends us some further personal details about the late Dr. Albert Edward Norburn of Bath, of whom a short obituary notice appeared on December 17th, 1927. After graduating, Dr. Norburn acted as surgeon in the Union Steamship Company, and the large number of voyages he made between this country and South Africa proved of great benefit to his health; he secured many life-long friends, and his clear judgement and strong personality won for him the confidence of all. When he settled later in Bath he quickly established a large practice. His numerous activities then and during the war told adversely upon his health, and he was several times obliged to take long periods of rest. Mention has previously been made of his services to the Bath and Bristol Division; it will also be recalled that in connexion with the Annual Meeting at Bath in 1925 he was closely concerned in the work of preparing and arranging the admirable *Book of Bath*, written specially for that meeting. Besides taking a prominent part in this editorial work he contributed the chapters on "Present-day Bath" and "Later ecclesiastical history." The book was considered one of the best and most complete of its kind ever issued. Last autumn Dr. Norburn went on a visit to Italy, and appeared to have benefited much in health, but a fortnight after his return home he became ill with appendicitis and died early in December. The large attendance at the funeral service testified to the esteem in which he was held by his colleagues, patients, and friends. Dr. Norburn was unmarried.

Dr. RICHARD WILSON MULLOCK, who died in a nursing home at Norwich on March 23rd, in his fifty-third year, spent the greater part of his professional life at Southwold, Suffolk, where he was one of the best known among local practitioners. He received his medical education at Trinity College, Dublin, graduating M.B., B.Ch., B.A.O. in 1900, and proceeding M.D. in 1902. After obtaining his first degree he took part in the war in South Africa, serving as civil surgeon with the Royal West Kent Regiment. Subsequently he commenced practice in Southwold, where he was an active worker in connexion with the local hospitals. He was honorary medical officer to Southwold Cottage Hospital, medical officer to St. Felix School, honorary medical referee to the British Hospital for Incurables, Streatham, and held also a number of other appointments. The work of the British Red Cross attracted him, and he devoted much time and energy, as commandant of the Southwold V.A.D., to its activities. During the war, in addition to maintaining his instructional work with the V.A.D., he acted as chief medical officer at a temporary hospital established at Henham Hall, and to the heavy strain imposed upon him by these labours, added to the work of his practice and at the civil hospital, is attributed the illness which ultimately caused his death. Dr. Mullock was a member of the Medical Officers of Schools Association and of the British Medical Association. In the latter body he served as chairman of the North Suffolk Division in 1922, and was president-elect of the Suffolk Branch when he died. His widespread professional activities did not leave much time for other public affairs. He was for three years a member of Southwold Town Council, being elected in 1905, but on completing his term of office did not seek re-election. In Freemasonry he took a considerable interest. During recent years shooting was his chief recreation, but in his student days he was a keen oarsman and rowed for his college. Dr. F. W. BURTON-FANNING writes: Suffolk has again sustained an irreparable loss in the death of Dr. Richard Mullock of Southwold. Four years ago he had a severe attack of pneumonia, and although he returned to full work, it is probable that his health was never wholly restored. Two months ago he was found to be suffering from a hopeless malady, but he continued to work until he was forced to give in. He had won a remarkable position for himself in the district, and his large practice allowed him little rest. But, perhaps his best work was done at the Southwold Cottage Hospital. To serve this institution he had trained himself in operative surgery and in

radiology, and for many years his beds were kept full with patients sent for operation from the surrounding districts. He devoted himself heart and soul to the hospital, and its welfare was his chief hobby. Dr. Mullock was not passed fit for service abroad during the late war, but no one could have done more useful work than he did as chief medical officer to Henham Hall Hospital and as commandant of the Red Cross branch. The town of Southwold gave evidence at his funeral of the estimation in which he was held both as a friend and as a doctor. His grave in the cemetery is overlooked by the hospital, where he has left such a blank. Equally loved by his patients and by his colleagues, he was to have been president of the Suffolk Branch of the British Medical Association this summer, and he had busied himself with preparations for the meeting at Southwold. He leaves a widow and two sons and a daughter, for whom the greatest sympathy is felt.

Dr. CAVENDISH FLETCHER, who died on March 3rd, at the age of 45, obtained his medical education at the Westminster Hospital, graduating M.B., B.S.Lond. in 1906, and obtaining the diplomas M.R.C.S., L.R.C.P. in the same year. After qualifying he served for a time as house-physician at the Westminster Hospital, and later as assistant medical officer at the County Asylum at Leek. Subsequently he was appointed resident pathologist at the Royal Southern Hospital, Liverpool, so beginning that work in connexion with clinical pathology with which his name is most closely associated. In 1908 he joined the staff of the Laboratories of Pathology and Public Health in Harlow Street, and for the past eight years was director of that institution. He was also honorary pathologist to the King Edward Memorial Hospital, Baling. A colleague writes: By the death of Cavendish Fletcher clinical pathology has lost one of its ablest exponents. Engrossed in its pursuit, his sole preoccupation was with its advancement and with the perfecting of its technique. While a thorough master of all the present manifold ramifications of pathology he excelled especially as a morbid histologist, and his verdict on the interpretation of histological features was seldom falsified by the subsequent history of the patient. Much of the intense labour which he devoted to technical problems will never be known to the world, but those whose privilege it was to have him as a colleague and co-worker gained immense help from him. He leaves a widow and one son and one daughter, with whom much sympathy is felt.

Dr. JOHN ARCHIBALD CAMPBELL, who died in Glasgow on April 6th, was a native of Inverness-shire, but spent the greater part of his life in Glasgow, where he received his medical education at the Anderson College of Medicine, obtaining in 1900 the diplomas L.R.C.P., L.R.C.S.Ed., and L.R.F.P.S.Glas. Throughout his professional career he devoted himself to teaching and to bacteriology, and for nearly thirty years was connect Royal Infirmary. Until 1914 he was assistant bacteriologist and in that year he was appointed bacteriologist, a position he held at the time of his death. He was also lecturer on bacteriology in St. Mungo's College. At an earlier period he served on the staff of the Anderson College of Medicine, where he was for ten years, as senior demonstrator in anatomy, associated with the late Professor A. M. Buchanan, and for a time he was pathologist to the Ministry of Pensions Hospital at Bellahouston. He acted in a consultative capacity for a number of local authorities in the West of Scotland. Dr. Campbell, who was regarded as one of the pioneers in the use of vaccines, was a member of the Glasgow Medico-Chirurgical Society. A former colleague, Dr. ELIZABETH F. BUTLER, writes: As one who for many years worked with Dr. Campbell in the bacteriological laboratory of the Glasgow Royal Infirmary, I should like to testify to one aspect of his character and activities which I had exceptional opportunities for observing. I refer to his eager willingness to give his time, his labour, and his kindly consideration to all in need who came to claim them. It might be a student going up for



an examination; a doctor in difficulty over a case, a penniless invalid wanting a vaccine, a "rusty" practitioner from the wilds requiring to "brush up" his bacteriology—to each and all he gave his time, his thought, his work, with an air of cheerfulness which made it utterly impossible for the recipient to suspect that he was trespassing on another's magnanimity. There must be many to-day in the four corners of the earth who ponder these things with feelings of very grateful recollection.

Dr. ALFRED THOMAS TUCKER WISE, who died suddenly in a London nursing home on March 23rd, was born in 1847 and spent his early manhood in the Royal Navy, from which he retired in 1871 to enter the medical profession, beginning his studies at St. Mary's Hospital, London, and pursuing them later in Brussels and Geneva. In 1876 he obtained the diploma M.R.C.S.Eng. and graduated M.D.Brussels; a year later he obtained the L.R.C.P.Lond., and in 1891 the Swiss Federal Diploma in Medicine. Soon after qualifying he held resident appointments at St. Mary's Hospital, and was in practice for a short time in London. The development of a keen interest in tuberculosis and its treatment, however, led him to undertake specialized work in Switzerland, and after spending some time in the Engadine he settled down in practice in Montreux, where he remained for many years. During the war he was medical superintendent of the Devon County Sanatorium, Hawksmoor, South Devon, and afterwards he retired from active work. At one time he served for a period as visiting physician to the Infirmary for Consumption, Margaret Street, London. He was for many years a member of the British Medical Association. On retiring Dr. Wise took up his residence at Strete, near Dartmouth, spending the winters in Montreux, where, two years ago, he had a paralytic stroke from which he never fully recovered.

Dr. THOMAS AUGUSTUS DAVIDSON, who died in a nursing home in Belfast on March 28th, as the result of injuries received in a tramcar accident, was one of the best known medical practitioners in the city. He obtained the diplomas L.R.C.P., L.R.C.S.Ed., and L.R.F.P.S.Glasg. in 1887, and soon afterwards commenced practice in Belfast, where, apart from the interruption caused by the war, he spent the remainder of his life, taking a considerable part in professional affairs, notably in connexion with health insurance. Although well over military age he volunteered for service during the great war, and after acting as a civilian medical officer in Belfast received a commission as captain in the R.A.M.C., holding various appointments in Liverpool and being for a time in charge of the military hospital at Seaforth. On demobilization in 1919 he resumed practice in Belfast, and also served as a medical referee under the Ministry of Pensions. In addition to his professional activities Dr. Davidson had a keen interest in social and sporting affairs. He had travelled extensively on the Continent and in the Mediterranean, and was a keen student of languages; he took considerable interest also in Masonry. As a young man he gained prominence as a sprinter and as a racing cyclist; in his later years he was a keen motorist. Deep sympathy is felt for Dr. Davidson's two sisters, who were his constant companions.

Major CECIL HENRY ELMES, C.B.E., V.D., died of double pneumonia in Sunny Bank Hospital, Cannes, on March 26th, aged 55. He was educated at Edinburgh, where he graduated as M.B. and Ch.B. in 1900. Immediately after he served as a civil surgeon in the South African war. After practising at Tynbridge Wells for a time he went to Calcutta, where he was surgeon to the Royal Calcutta Turf Club, and also to the Calcutta Scottish, a volunteer regiment. During the war he entered Government service, and after serving as residency surgeon in Kashino in 1916-17, was appointed port health officer of Calcutta, a post which he held till his retirement in 1923. He then settled at Cannes, where he went in for yachting. In 1907 he married Katherine Tyson, who survives him.

The following well-known foreign medical men have recently died: Dr. K. V. HOON, professor of ophthalmology at Budapest, aged 68; Dr. JOSÉ MORENO, professor of therapeutics at Buenos Aires; Dr. LEONOLDO RIZZO, professor of clinical surgery at Naples; Dr. RICARDO BOTRY, an eminent oto-rhino-laryngologist, of Barcelona, aged 78; Professor CARLO FREDERL, director of the Instituto of Medical Pathology at Pisa, aged 76; Dr. MIRANDE, editor of the *Journal de Médecine et de Chirurgie Pratiques*; Dr. A. ANTIEAUME, secretary of the French Medico-Legal Society and author of a work on kleptomania and numerous other subjects connected with psychiatry and medical jurisprudence; and Dr. AUGUST SZEKELY, professor of infectious diseases and director of the Pasteur Hospital at Budapest.

## Universities and Colleges.

### UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

DIPLOMAS IN PUBLIC HEALTH, HYGIENE, AND TROPICAL MEDICINE AND HYGIENE (Part I).—B. J. Aiwani, M. S. Batra, \*C. F. Brockington, Bertha M. Butters, R. C. Dineen, I. K. Gayid, Margaret A. Glas, N. Gupta, \*G. A. Mossli, Joan H. Morton, R. A. W. Proctor, Effie S. Stephen, J. N. Vasudeva, Donella A. F. Watsoo, Dorothy Watterson, P. C. Wickromosingho, \*K. C. Yeo.

\* Distinguished.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on April 12th, when the President, Sir Berkeley Moynihan, was in the chair.

The best thanks of the Council were given to Dr. William Hunter for presenting to the Museum his collection of specious illustrating diseases and disorders of blood-forming tissues.

#### Jacksonian Prize.

No award was made for the Jacksonian Prize for 1927. The subject for the Jacksonian Prize for 1929 is "The pathology, diagnosis, and surgical treatment of diseases of the salivary glands."

#### John Hunter Medal.

The John Hunter Medal in bronze, with the triennial prize of £50, was awarded to Mr. Victor Ewings Negus, M.S., F.R.C.S., for his investigations into the comparative anatomy and physiology of the larynx and the anatomy of the bronchi in their relation to surgery.

#### Election to Fellowship.

The following Members of twenty years' standing were elected to the Fellowship: Charles Thurstan Holland, Ch.M., and Lieut.-General Sir Matthew Henry Gregory Fell, K.C.B., C.M.G., Director-General A.M.S.

#### Primary Fellowship Examinations in Oversea Dominions.

A letter was read from Dr. Primrose reporting the approval by the Executive Committee of the Canadian Medical Association of the revised scheme for conducting Primary Fellowship Examinations in Canada, and conveying the thanks of the committee for the very efficient and generous provisions made.

#### Revised Scheme for Primary Fellowship Examination to be held in Canada.

1. The Canadian Medical Association to be appointed the authority in Canada representing the Royal College of Surgeons in connexion with the proposed examination, and to be responsible for the arrangements to be made in Canada to enable the examiners of the College to conduct the examination in that country.

2. The Council of the Royal College of Surgeons at Toronto at the end of the year to select the secretary of the examination, and to determine the number of eligible candidates to be examined by the College to warrant the holding of an examination in Canada.

3. Two examiners in anatomy and two examiners in physiology, who shall be present or past members of the Board of Examiners in Anatomy and Physiology for the Fellowship, to be sent by the College from England.

4. A professor of anatomy and a professor of physiology, or such other persons as may be nominated, to be appointed by the College from names submitted by the Canadian Medical Association to act as assessors to the examiners.

5. The examination, written and viva voce, of each candidate in each subject to be conducted by two English examiners and one Canadian assessor.

6. The Canadian Medical Association to be invited to appoint suitable persons to act as assessors to the examiners in Canada, and the viva voce examination as soon after as convenient.

7. The examination to be held by the Board of Examiners in Anatomy and Physiology for the Fellowship at the Royal College of Surgeons in England, on the arrival of the examiners in Canada, and the viva voce examination as soon after as convenient.

8. The results of the examination to be determined and announced by the Board of Examiners in Anatomy and Physiology for the Fellowship at the Royal College of Surgeons in England, in such other way as may be thought desirable.

Paragraph 11 recites the ordinary regulations for the examination. A letter was read from Mr. A. L. Kenny, honorary secretary and treasurer of the College of Surgeons of Australasia (which includes

New Zealand), reporting that the Council of the College of Surgeons of Australasia most strongly approve and most earnestly hope to have put into practice at the earliest possible moment the proposal to provide for the Primary Examination for the Fellowship of the Royal College of Surgeons of England being held in States of the Commonwealth of Australia and in the Dominion of New Zealand, and stating that any assistance it may be in the power of their College to give in furtherance of that proposal will be most fully and willingly given. The matter was referred to a committee for consideration.

#### Hallett Prize.

The Council being desirous of showing appreciation of the services of Sir Frederic G. Hallett, O.B.E., in connexion with the examinations for the Fellowship and the Licence in Dental Surgery from 1877 to 1927, and Sir F. Hallett having expressed a wish that the personal gift which it was proposed to make to him should take the form of the endowment of a prize to bear his name, it was agreed that stock be purchased by the Treasurers of the College on behalf of Sir F. Hallett, and that they be authorized to reinvest the fund at any time if thought desirable; and that the interest from the fund so established be expended on a prize called the Hallett Prize, to be awarded under such regulations as the Council may from time to time determine.

#### Regulations.

The Hallett Prize shall be open to candidates admitted for the first time to the primary examination in anatomy and physiology for the Fellowship conducted by the Board of Examiners in this country.

The prize at each examination shall consist of a sum of five guineas with a certificate of the award of the prize.

The prize shall be awarded to the eligible candidate, if any, obtaining the highest marks, who shall have reached a standard considered by the examiners sufficiently high to justify the award of the prize.

If two or more candidates are found to have reached the required standard and to have been allotted the same number of marks, the highest obtained by any eligible candidate, it shall be open to the examiners to take such steps as they may think desirable to enable them to adjudicate in the matter.

#### ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the monthly business meeting of the President and Fellows, held on April 13th, the following members nominated on January 5th—Robert Wallace Nesbitt, M.B., and O'Donel Thoruley Dodwell Browne, M.B.—were duly elected Fellows of the College.

Frederick John Ryan, L.R.C.P. and S.T., was stated to have completed the examination for the Diploma in Public Health of the Royal College.

The following candidates, having passed the Final Conjoint Examination in Medicine, Surgery, and Midwifery, were formally admitted by the President to the Licences in Medicine and Midwifery of the College: G. F. A. Condon, P. Daly, E. P. Mahood, F. L. G. Malone, R. J. McCloskey, J. F. Power, P. B. Walsh.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons reassembled on April 17th, when the Army and Air Force Annual Bill was passed through committee and read a third time after a debate on the retention of the death penalty for cowardice. On April 18th the House went into committee on the Equal Franchise Bill. The Edinburgh Corporation Bill, which asks Parliament to grant that corporation further powers for dealing with venereal disease, was set down for second reading on April 19th. The Government had agreed not to put its Whips on in opposition to the bill, a course which had previously been threatened, but a group of members, as well as outside organizations, issued appeals to members of Parliament to oppose the measure. On the previous day the Conservative Health and Housing Committee was summoned to hear the bill expounded by Sir Patrick Ford, an Edinburgh member.

#### Venereal Disease Clinics in Scotland.

On April 17th Sir J. GUMOUR, replying to Mr. Buchanan, said that the number of towns in Scotland with a census population of 10,000 or over and without a public clinic for dealing with venereal diseases was twenty-six, of which seven had a population of 20,000 or over. These burghs, in order of population, were: Clydebank, Falkirk, Airdrie, Rutherglen, Dumbarton, Port Glasgow, Inverness, Musselburgh, Hawick, Renfrew, Saltcoats, Peterhead, Galashiels, Johnstone, Alloa, Kirkcaldy, Barhead, Montrose, Buckhaven, Methil, and Innerleven, Rothesay, Dunoon, Cowdenbeath, Lochgelly, Fraserburgh, Boness, and Gourock. In three of these burghs—Falkirk, Inverness, and Rutherglen—provision for a venereal disease clinic was in course of being made, or under active consideration. Four of these burghs—Airdrie, Port Glasgow, Musselburgh, and Gourock—were so conveniently situated for the clinics of adjacent larger towns as not to require independent provision. The remaining nineteen burghs were served to a greater or a less extent by the nearest available clinics of other towns. In eleven of these burghs the Scottish Board of Health had not thought the question of providing a local clinic to be sufficiently urgent to call for pressure by them upon the local authorities, having regard to the facilities available in neighbouring towns. In the case of the remaining eight burghs—Clydebank, Dumbarton, Hawick and Galashiels, Peterhead and Fraserburgh, Saltcoats, and Kirkcaldy—the question

of establishing a burgh clinic or a joint clinic had been considered by the responsible local authority, and remained open. The development of the schemes in all areas was being carefully watched and reviewed by the Board.

#### Tetra-ethyl Lead in Motor Spirit.

On April 17th the House of Commons considered the Petroleum (Amendment) Bill on the report stage. Clause 4 of this bill authorizes the making of regulations concerning classes of petroleum likely to be dangerous or injurious to health. To this clause Mr. HANNE moved an amendment giving the Home Secretary power to prohibit the sale or use of petroleum spirit which he might, by order, declare to be so dangerous or injurious to health that precautions for the protection of persons employed or engaged in handling or using such petroleum spirit were impracticable. He said that the amendment referred to tetra-ethyl lead in petrol.

Sir W. JOYNSON-HICKS said he would accept the amendment. Tetra-ethyl lead in petrol was now the subject of an inquiry, and if the Home Secretary should, as a result, declare that this particular spirit was injurious to health, the amendment would usefully come in.

The amendment was agreed to. The report stage of the bill was completed, and the bill was read a third time.

A copy of the report of the American Commission on the use of tetra-ethyl lead in motor spirit will be placed in the library of the House of Commons.

#### Pensions.

Answering Dr. Drummond Shiels, on April 3rd, Major TAYNOR said he was not aware of deep resentment among panel practitioners at the scant courtesy with which their certificates and opinions were regarded by the Ministry of Pensions. It was certainly incorrect to say that the supposed reduction in the necessity for hospital accommodation in Scotland was due to the fact that many ex-service men were being refused treatment which they required.

Major TAYNOR told Mr. Bowerman, on April 5th, that the closing of the Ministry of Pensions clinic at Camberwell was not contemplated. The clinic at Bulging Street, Westminster, had, however, special facilities for surgical treatment not available elsewhere, and in their own interests certain cases living in other parts of London were on occasion summoned to it.

**National Insurance: Mileage and Drug Costs.**—Answering questions put on April 4th by Sir Robert Thomas, Sir KINGSLEY WOOD said there was no special contribution per head among insured persons towards the cost of mileage and drugs. The amount available for meeting this cost was 3s. 3d. per insured person in each county, but as the total expenditure on mileage and drugs in Wales exceeded that amount, the Act authorized payment out of the National Health Insurance Fund (England) to the Welsh National Health Insurance Fund to meet the excess expenditure. It had never been considered necessary that the Association of Welsh Insurance Committees should be represented as such on the Medical and Pharmaceutical Committees, which were charged with apportioning among Insurance Committees the sums available to defray the cost of medical treatment and drugs in England and Wales. There were Welsh representatives on the committees.

**Eye Diseases in the Navy.**—Asked by Sir Robert Thomas to explain the fact that in 1922, of 1,726 invalided out of the navy, 336 were on account of diseases of the eye, Colonel HEADLAM said that 345 of these cases were due to congenital deformities—long sight, short sight, and astigmatism. Five men were invalided for defective colour vision, three for injuries, three for cataract, and the rest for chronic inflammatory or degenerative conditions. No special inquiry seemed necessary. It was in consequence of the more frequent and rigorous examinations after a man had joined the service that latent errors of vision were detected.

**Third Party Indemnity Insurance.**—On April 17th Mr. ATKINSON introduced a bill to provide for third party indemnity insurance. He said the bill provided that it should be the duty of an insurance company, in so far as they were liable for third party claims, to pay those claims direct to the injured person. The bill was read a first time.

#### Notes in Brief.

At the end of February, 1927, 102,864 houses were under construction in England and Wales, and 125,611 had been authorized but not started under the Acts of 1923 and 1924.

Mr. AMERY, replying to a question on April 17th, said that seventy-one cases of dysentery had occurred among the prisoners in the Sinarango Prison Camp, Malaita, and there had been eight deaths. Seven cases were still under treatment on April 2nd.

Sir KINGSLEY WOOD states that measures are being taken to prevent floods from the Thames in the county of London in accordance with the report of the recent committee.

Sir KINGSLEY WOOD informed Mr. Kelly, on April 17th, that inquiries were proceeding into the effects of artificial silk manufacture on the health of the people resident in the neighbourhood of such factories.

The reports of the Government Inspector of Mines for Cornwall show that the health conditions of Cornish tin mines are generally satisfactory and have improved of recent years. The health conditions at Cornish china clay works are good, and no cases of disease due to the conditions of employment have come to the notice of the inspector.

## The Services.

### INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant, London, on Wednesday, June 20th, at 7.15 p.m., under the chairmanship of Major-General Sir R. Havelock Charles, Bt., G.C.V.O., K.C.S.I. Price of dinner tickets, 16s. 6d. to subscribers and £2 to non-subscribers. Further particulars may be obtained from the joint honorary secretary, Major Sir Thomas Carey Evans, M.C., I.M.S.(ret.), 31, Wimpole Street.

### AUXILIARY R.A.M.C. FUNDS.

THE annual meeting of the members of the Auxiliary R.A.M.C. Funds will be held at 2.30 p.m. on April 27th, at 11, Chandos Street, Cavendish Square, W., when the annual report and financial statement for the year ended December 31st, 1927, will be presented, and the officers and committee for the current year elected.

### DEATHS IN THE SERVICES.

Lieut.-Colonel Andrew Watson Cook Young, I.M.S.(ret.), died in a nursing home at Aberdeen on February 7th, shortly before his fifty-second birthday and just a week after his retirement was gazetted. He was born on February 25th, 1876, and educated at Aberdeen, where he graduated as M.B. and Ch.B. in 1898, and also took the D.P.H. in 1899. In 1906 he took the London Diploma in Tropical Medicine, with distinction. Entering the I.M.S. as lieutenant on January 29th, 1901, he got a brevet lieutenant-colonelcy for his services in the war on June 3rd, 1916, and became substantive lieutenant-colonel on July 29th, 1920, retiring on January 29th last. All his service was spent in military employ, except for a few years before the war, when he was medical officer of health for New Delhi. He served in the Tibet campaign of 1903-4, when he took part in the operations round Gyantse, and in the march to Lhasa, was severely wounded, and received the medal with a clasp. This wound was received from the sword of a lama while Young was assisting a brother officer. It was a head wound, which nearly killed him, and for it he received a permanent wound pension. In the recent great war he served in Russia in 1914, Gallipoli 1915, Egypt and Mesopotamia 1916-17, was mentioned in dispatches in the *London Gazette* of October 19th, 1916, and gained a brevet lieutenant-colonelcy. Young was a well-known sportsman, in his earlier years a keen polo player, and since the war had gone in for racing, at which he had been successful in winning many trophies, notably the blue riband of military racing, the Lucknow Army Cup, in 1919. He was a fine type of the now extinct regimental medical officer, popular with both officers and men.

Captain William Haig Ferguson, M.C., R.A.M.C., died in a nursing home in Edinburgh on March 5th, aged 37. He was the elder son of Dr. J. Haig Ferguson of Edinburgh, his maternal grandfather being the famous Edinburgh surgeon the late Sir Patrick Heron Watson. He was born on January 11th, 1891, and educated at Cambridge, where he took the degree of B.A. in 1913, and at Edinburgh, where he graduated M.B. and Ch.B. in 1916. Immediately afterwards he took a commission in the Special Reserve of the R.A.M.C., and on April 3rd, 1916, became lieutenant in the R.A.M.C. He was promoted to temporary captain on June 1st, 1918, and confirmed in that rank from October 3rd, 1919. He served in the recent great war, was mentioned in dispatches in the *London Gazette* of January 12th, 1918, and received the Military Cross on September 16th, 1918.

Surgeon Lieut.-Colonel Alexander Minto, R.A.M.C.(ret.), died in London on January 3rd, a few days before his 85th birthday. He was born at Kennethmont on January 13th, 1843, and educated at Aberdeen, where he graduated as M.B. and Ch.B. in 1864. Entering the army as assistant surgeon on March 31st, 1864, he became surgeon major after twelve years' service, and retired on July 16th, 1890. He served in the Ashanti campaign of 1873-74, and in the Afghan war of 1878-80, receiving the medals for these two campaigns. His surname was originally Minty; he changed it by deed poll to Minto in 1872. In the old regimental days he served as assistant surgeon in the 90th Foot, now the 2nd Battalion of the Scottish Rifles, and in the Rifle Brigade.

Surgeon Commander John St. John Murphy, R.N.(ret.), of Bournemouth, died at Cairo of pneumonia on February 22nd. He was educated at Queen's College, Cork, and in the Edinburgh Extramural School, and took the Scottish triple qualification in 1897. After filling the posts of resident surgeon of Cork North Infirmary and of assistant medical officer at the West Riding Asylum, Wakefield, he entered the navy as surgeon, became surgeon commander on February 26th, 1904, and retired after the war.

## Medical News.

THE annual conversazione of the West London Medico-Chirurgical Society will be held at the Kensington Town Hall at 8 p.m. on Friday, June 15th. At 8.30 o'clock the Cavendish Lecture will be given by Dr. Reilher of Lyons on "The thornpoutic, preventive, and social value of heliotherapy in surgical tuberculosis."

THE next social evening of the Royal Society of Medicine has been arranged for Monday, May 7th, at 1, Wimpole Street. The guests will be received by the President and Lady Berry at 8.30 o'clock, and at 9.15 Mr. P. B. Tustin will give an illustrated address entitled "Milk—from cow to consumer."

AT the meeting of the Medico-Legal Society to be held at 11, Chandos Street, Cavendish Square, W., on Thursday, April 26th, at 8.30 p.m., a paper will be read by Dr. John Glinister, jun., on hair, considered medico-legally, which will be followed by a discussion. The meeting on May 24th will take the form of an exhibition of specimens of medico-legal (not solely pathological) interest.

AT the meeting of the Illuminating Engineering Society to be held in the lecture theatre of the Home Office Industrial Museum (Horseferry Road, Westminster, S.W.) on Tuesday, April 24th, an informal discussion on "Daylight, artificial light, and artificial daylight: their merits and drawbacks," will begin at 6.30 p.m. Copies of the introductory paper may be obtained from the honorary secretary, Mr. J. S. Dow, 32, Victoria Street, S.W.1.

AN announcement appears in our advertisement pages of a course of lectures on pathological research in its relation to medicine, to be given at the Institute of Pathology and Research, St. Mary's Hospital, London. The course opens with a lecture by Sir Almonroth Wright, principal of the Institute, on April 26th, and closes on June 14th. The lectures are free to members of the profession and medical students.

A SESSIONAL meeting of the Royal Sanitary Institute will be held in the Guildhall, Worcester, on Friday and Saturday, April 27th and 28th. On the first day the chair will be taken at 4 p.m. by Professor A. Bostock Hill, when there will be a discussion on river pollution, followed by a second discussion, to be introduced by Dr. Mabyn Wood, on infant mortality in Worcester from 1895 to 1925. On the second day, after a discussion on the Worcester activated sludge plant, a visit will be made to the sewage works. At a further sessional meeting, to be held at the Guildhall, Preston, on Saturday, May 5th, a discussion will be opened on the present position of the milk supply, by Professor F. E. Wynne. The chair will be taken at 10 a.m. by Dr. R. Veitch Clark. In the afternoon visits will be made to several points of interest, including the new tuberculosis hospital, in the neighbourhood.

THE Fellowship of Medicine and Post-graduate Medical Association announces that in addition to a number of special courses already in progress a special course at the Maudsley Hospital will begin on April 30th and continue for one month; it will consist of lectures and clinical instruction in psychological medicine. Full particulars may be obtained from the secretary, Fellowship of Medicine, 1, Wimpole Street, W.1, who will also provide information concerning the general course of work, which continues throughout the year, and consists of attendance at the ordinary practice of some forty or fifty London hospitals associated with the Fellowship.

THE Royal Institute of Public Health has made arrangements for a post-graduate course of lectures on judicial evidence, forensic medicine and toxicology, medico-legal pathology, and crime and insanity to be given in London during May, June, and July. The various subjects may be taken separately or as a whole. Further particulars can be obtained from the Institute, 37, Russell Square, W.C.1.

SIR JOHN BLAND-SUTTON, Bt., presided at the quarterly meeting of the Grand Council of the British Empire Cancer Campaign held on April 16th. The Council recorded its profound regret at the death of its chairman, Lord Cave. On the recommendation of the Scientific Advisory Committee the Council approved the following grants: £200 for one year to Dr. Louis Cassidy, to be applied through the new National Cancer Campaign (Ireland); £300 for one year to Mr. Harold Burrows, working at the Cancer Hospital, London; £300 to Mr. C. F. W. Illingworth for one year for work to be carried out at Edinburgh University, and £1,000 for the ensuing year for work to be carried out under the supervision of Mr. F. C. Pybus, at Newcastle-on-Tyne. On the recommendation of the Executive Committee the Council also granted a sum of £400 to St. Mark's Hospital, City Road, and £100 to the Medical Society of London towards expenses incurred in the preparation and publication of statistical investigations. The Council received reports from the various committees in

charge of the preparations for the International Conference on Cancer, which, as announced in our last issue (p. 640), is to be held next July in London. Already forty acceptances have been received from foreign representatives, and over one hundred delegates have been nominated by universities, medical schools, and scientific and medical societies of the British Isles and the Dominions overseas.

THE Management Committee of King Edward's Hospital Fund for London, acting on behalf of the General Council of the Fund, have passed a resolution expressing deep regret at the death of Lord Cave. In paying tribute to his many services to the voluntary hospitals the resolution recalls that he was chairman of the special committee of inquiry set up by the Minister of Health during the crisis of 1921, when many of the voluntary hospitals were threatened with bankruptcy.

SIR VIVIAN HENDERSON, M.P., Parliamentary Under Secretary to the Home Office, on March 25th discussed with a deputation from the Council of Industrial Medicine the projected Factories Bill. He gave an assurance that the points of detail raised would receive sympathetic consideration in drafting the measure, and stated that it was not the intention of the Home Office that medical officers connected with industrial undertakings should be excluded as such from becoming "appointed doctors" for the purposes of the Act, and that every encouragement would be given to the appointment of medical officers by individual firms for the general supervision of the health, safety, and welfare of their workers.

THE minutes of the evidence taken by the Royal Commission on Local Government are being published from time to time as the inquiry proceeds, and Part X, which has now appeared and which is obtainable from H.M. Stationery Office at 6s. net, contains evidence given by a number of witnesses on behalf of the Rural District Councils Association and the County Councils Association. The Commission is now engaged on the second part of its inquiry, the task being to investigate the relations between the various types of local authority, and generally to make recommendations as to their constitution, areas, and functions. In its first report the Commission dealt with the constitution and extension of county boroughs.

THE Hospital Saving Association, which now has 425,000 subscribing members, has inaugurated a campaign to increase its membership to 500,000, and is inviting employers to assist by forming business or factory groups, while householders may arrange for domestic servants to join as individual members. The association does not ask for contributions from employers, funds being obtained by a small levy on working-class subscribers, and in return it meets any hospital charges which its members or their dependants may be called upon to pay in respect of treatment. Particulars may be obtained from the chairman, Viscount Hambleden, 77, Cambridge Terrace, W.2.

UNDER the auspices of the Royal Institute of Public Health a tour for medical practitioners has been arranged from May 19th to 28th, the places to be visited being Paris, Vichy, and Aix-les-Bains, while extensions are possible to the sanatoriums of Switzerland and to the Italian Riviera. In each place important medical institutions will be visited: in Paris these include the Salpêtrière, the Hôpital de la Pitié, Laennec, Necker, the Val de Grâce medical military school, the Cochin Hospital, and the Faculty of Medicine of the University of Paris. Leading members of the medical profession in France will meet the party. Further information may be obtained from Dr. T. N. Kelynaek, 37, Russell Square, W.C.1.

MR. GEOFFREY KEYNES has prepared *A Bibliography of the Works of William Harvey*, with eight collotypes and numerous facsimiles in line. The volume will be published by the Cambridge University Press in a limited edition of 300 copies, to celebrate the tercentenary of the publication of Harvey's first and greatest work, *De Motu Cordis*.

UNDER the presidency of Professor Rossetti of Lausanne the first International Congress on Light, from the physical, biological, and therapeutical points of view, will be held at Lausanne and Leysin from September 4th to 7th; at the same time there will be celebrated the twenty-fifth anniversary of the special work in this connexion by Dr. Rollier. The subjects to be dealt with at the congress will be announced later, and further information may be obtained from Dr. G. Murray Levick, 73, Harley Street, W.1.

THE ninth international congress against alcoholism will be held at Antwerp from August 20th to 25th. Further information can be obtained from the World Prohibition Federation, Lawson House, 190, Vauxhall Bridge Road, S.W.1.

THE fourth congress of Oriental medical practitioners, under the patronage of the Government of Prussia, will be held at Prague on May 27th.

THE sixth conference of the International Union against Tuberculosis will be held in Rome from September 25th to 27th, 1928. The subjects of discussion will be: filterable elements of the tubercle virus, the diagnosis of infantile tuberculosis, and the organization of tuberculosis prophylaxis in rural districts. Conferences on special subjects will also be held.

THE tenth congress of the association of the French-speaking medical profession of North America will be held at Quebec, under the presidency of Dr. Dagneau, from September 5th to 7th, when there will be discussions on puerperal fever and diphtheria. The meeting will coincide with the celebration of the twenty-fifth anniversary of the foundation of the association.

THE Dutch Industrial Exhibition, which will be held at Rotterdam from June 1st to September 15th, will include a section of industrial pathology and hygiene, which has been organized by a committee under the presidency of Dr. Josephus Jitta. Further information can be obtained from Dr. J. Sanders, Heemradsingel 240, Rotterdam.

A COLLECTION of articles upon the physical and medical aspects of ultra-violet ray therapy appears in a supplement to *Nature* this week (April 21st). They include papers on the physical basis of light therapy, by Professor F. L. Hopwood; on the biological action of ultra-violet rays, by Professor Leonard Hill; on the physiological action of ultra-violet radiation, by Dr. W. Kerr Russell; on ultra-violet radiation for domestic use, by Professor S. Russ; and on medical aspects of "artificial sunlight" in private houses, by Dr. P. R. Peacock.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### RADICAL CURE OF HERPES GENITALIS.

REPLYING to Dr. D. S. Pattanay's inquiry (April 14th, p. 650), "O. S." writes: Having been a sufferer in boyhood from a recurring herpes of the glands and prepuce, associated with a tight foreskin, the attacks being accompanied at times with herpes labialis and general symptoms, may I suggest that in addition to rigid cleanliness with a weak sulphur-lanolin ointment locally, investigation be made of the influence of a food factor in the causation? In my own case sugar invariably precipitated an attack.

### CONSERVATIVE TREATMENT OF ENLARGED TONSILS.

"A. B." asks for the formula of a paste or application used at intervals of two or three weeks by some laryngologists for reducing the size of chronic enlarged tonsils in adults who dread operation.

\* \* \* In a letter published in the *British Medical Journal* of September 17th, 1927 (p. 516), Sir James Dundas-Grant spoke favourably of an application consisting of iodine 5 grains, acetic ether (acid-free) 2 fluid drachms, and glycerin up to 1 ounce; the paint to be well shaken and brushed into the tonsils. The acetic ether appears to carry the iodine into the depths of the tonsillar



crypts. Sir James Dundas-Grant also referred to thymol water as a useful prophylactic gargle, and recommended the clearing away of caseous masses filling the tonsillar crypts by means of a fine dental syringe, with the point bent at a right angle, charged with hydrogen peroxide (equal parts of the ten volume solution and warm water).

#### PAROXYSMAL ORYZA.

"W. M. M.," in reply to "F. D. J.'s" question about the treatment of paroxysmal mucous nasal discharge, suggests the administration of calcium and parathyroid extract, or thyroid extract.

Dr. LINDLEY SEWELL (Manchester) offers the following recommendations: (1) A fruit and vegetable diet, including milk, eggs, meat, and fowl. (2) Taking some calcium preparation for a considerable time and with regularity. (3) Painting the middle turbinate and middle meatal region of the nose with 3 per cent. silver nitrate solution once a week for five or six times. (4) A change of residence to some seaside place, such as Weston-super-Mare or Grange, where mudflats are left at low tide. (5) A careful search for any possible source of irritation, such as fowls, feather beds or pillows, dogs, cats, new paint.

#### INCOME TAX.

##### Replacement of Car and Instruments, etc.

"W. T. C.," bought a Morris Cowley car in 1923 for £250 and in 1927 sold it for £40, buying a Morris Oxford car for £215. What claims should he make, and what is the position with regard to expenditure on books and instruments?

\* \* As regards the car he should claim obsolescence allowance, as a professional expense of the year 1927, as follows: £180 (or rather, the exact cost in 1927 of a Morris Cowley car of similar type to the one replaced) less £40, say £140; also depreciation allowance for 1927-28, £215 at 15 per cent. = £32. The position with regard to books and instruments is that expenditure on their replacement is admissible, but the cost of improvement, as compared with the original value of the old article, must be excluded. There is the further difficulty that until the old instrument or book is definitely "scrapped" the new one represents an addition and not a renewal; if the former is useless it is obviously advisable from the income tax standpoint to get rid of it altogether, and thereby avoid a possible objection to the claim.

##### Motor Car Transaction.

"G. W. M.," bought an 11-h.p. car in 1922 for £330 and sold it in January, 1927, for £65, when he bought a shop-coiled 14-h.p. car for £443. In the last two years he has had 15 per cent. on £40 depreciation allowance for the old car—say £12 in all.

\* \* Obsolescence allowance, £330-£65 = £265, as an expense of the year 1927. Depreciation allowance for 1927-28, 15 per cent. on £410 = £66.

#### LETTERS, NOTES, ETC.

##### LECTURERS ON SOCIAL HYGIENE.

Dr. A. H. HARKNESS (honorary medical secretary, British Social Hygiene Council) writes: Owing to the numerous calls the British Social Hygiene Council is in need of the services of additional medical men: (1) Those who would be willing to leave London and to undertake from three to ten days' lecturing with public health films in the provinces; (2) those with experience in popular speaking willing to address general industrial audiences on problems of social hygiene in London and the Home Counties area. Full particulars are given in an advertisement in this week's issue.

##### TREATMENT OF PNEUMONIA.

Dr. J. W. DUNCAN (Birmingham) refers to Dr. D. Hennessy's letter on the treatment of pneumonia by polyvalent antistreptococcal serum (March 31st, p. 572), and reports six cases, three of which were treated with antistreptococcal serum and vaccine and recovered, while the three other patients died. He adds that there is nothing sensational in the use of the serum; the temperature, as a rule, does not fall, but there is no crash at the crisis. His point is that injections of serum, followed by small doses of vaccines, seem to be very beneficial in these cases.

##### THE PULPLESS TOOTH.

Mr. A. P. BERTWISTLE writes: I thank you for your references (at p. 637 of the Journal) to my paper on "The role of dead and infected teeth in autogenous infections." There are, however, two pulpless teeth are the cause of 70 per cent. of I stated that the most important sign on clinching the jaws and on percussion, not "on eating."

##### STARTING POINTS FOR A TUBERCULOSIS CAMPAIGN.

Dr. GORDON TIPPETT (London, S.E.) suggests that as a preliminary to a general campaign to stamp out tuberculosis it is necessary to determine the following points: Is food infection by tubercle bacilli harmful, and, if so, why is it not prevented? Does not exposure of food lead to contamination by human tubercle bacilli? Is any case ever too early for treatment? Some further

lost (he says) is required to prove definitely the presence of living tubercle bacilli in the body. Some bacteriological procedure is necessary so as to make it clear whether the treatment has been successful or otherwise, since physical examination may be misleading. Dr. Tippet considers that such a criterion of cure is essential, because otherwise it is impossible to be sure that any form of treatment is effective. He adds that the examination of sputum for tubercle bacilli should only be undertaken by a bacteriologist, who should be a fully qualified medical practitioner, and should report on conditions other than the mere presence or absence of these bacilli.

##### SURVIVAL OF QUADRUPLETS.

Dr. KENNETH J. FRANKLIN (Pharmaceutical Laboratory, Oxford) writes: The following extract from Henley Register (Diocesan Transcripts) has been shown to me by Mr. C. R. Oldham of Oriel College, and, in view of the rarity of survival of quadruplets, I am sending it on to you. It may also suggest to the curious a possible source of further information on such subjects. The entry in the register is:

"Cath. Pnlocha, aged 36, died in childbed, with four children born alive, bur. 16 Feb. 1799."

##### FIVE GENERATIONS ATTENDED BY ONE DOCTOR.

Dr. L. J. HOOD (Melbourne, Australia) asks whether any other medical practitioner has had what he considers the unique experience of attending five generations in the one family. Dr. Hood writes: The great-great-grandmother is now aged 90, and has been a patient of mine for nine years. Her married daughter and granddaughter have both been under my care for some years. The great-granddaughter was married last year, and is now the mother of a bonny boy, both of whom I attended.

##### THE GORILLA AT HOME.

LIEUT.-COLONEL CLAYTON LANE, I.M.S. (ret.), referring to "Notes on the gorilla," a recent article in the *Proceedings of the Zoological Society* by Dr. Neville A. Dyce Sharp, West African Medical Service, writes: "The varied opportunities for adding to knowledge in unexpected ways which fall to officers in our medical services abroad is illustrated from West Africa. In the Mamfe division of the Cameroons the gorilla is hunted and eaten by man, and attacks man at sight. Not a few hunters owe their lives merely to the remote position of the gorilla's thumbs, so that from his uncertain grip a man may wriggle. Such unfortunate manners make it no light task to observe the creature's habits, but Dyce Sharp's information and observations warrant the following statements regarding gorillas and chimpanzees. In that locality the chimpanzee is a timid, monogamous, widely distributed herd animal, both sexes making small untidy holes, like storks' nests, 30 ft. to 50 ft. up in the trees. The gorilla is a fierce, polygamous, family animal, living on steep terraces 1,200 ft. to 5,000 ft. above sea-level, and together with his four to six wives and their children, and perhaps an elder son not yet thrust out to fend for himself, patrolling an area of twenty to forty square miles. The head of the family is not arboreal, but makes for himself, of stout bent saplings, branches, twigs, and leaves, a luxurious bed on the ground, perhaps 9 ft. across and 12 in. to 18 in. deep, as nearly resembling a spring mattress as the materials permit. It is said by the natives that the 'old man' allot to each wife her own tree fork, where she builds, as he does from material within arm's reach, a bed 3 ft. or 4 ft. in diameter. Dyce Sharp has repeatedly verified the fact that the head of the family, reclining at ease against the tree trunk adjacent to which his bed is built, can watch the arboreal nest of every wife. No bed is used for more than one night. The gorilla, though fond of grubs and caterpillars, is essentially a vegetarian, eating mainly the growing points and stems of a sugarcane-like sotaman, and that in prodigious quantity, as will be clear from the estimate that the amount of undigested faecal residue beside, but not on, the bed of a single male was estimated at 25 lb. to 30 lb. It is interesting to speculate on the feelings of a human being who daily lost the equivalent of 2 stone between bed and breakfast. The day's life, particularly for the head of the family, must be little else than a strenuous search for food, the making of a bed and of a toilet, and the perpetuation of the species. But this routine may be abruptly terminated by the violent irruption of a stranger—some new-grown male who purposes, through a grim and bloody fight, to appropriate the harem and feeding grounds of the gorilla in possession."

##### NEW LIGHTING LAWS FOR MOTORISTS.

FOR the convenience of motor owners and drivers the Automobile Association is issuing a booklet epitomizing the various changes in the law relating to lights on vehicles. In addition to the Road Transport Lighting Act, which comes into operation on April 22nd, there are certain changes which are to be the subject of regulations issued under that Act, and immediately these regulations are issued the A. A. booklet will be available, free of charge, to any motorist on application by postcard to the Secretary, Automobile Association, Faum House, New Coventry Street, W.1.

##### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 53, 56, 57, 58, and 59 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 54 and 55. A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 136.



## An Address ON THE CAUSES OF THE DECLINE IN TUBERCULOSIS MORTALITY.\*

BY  
SIR ROBERT PHILIP, M.D., LL.D.,

PROFESSOR OF TUBERCULOSIS IN THE UNIVERSITY OF EDINBURGH;  
PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

LET me crave indulgence for the introduction of a brief personal reference which has bearing on the significance of our discussion to-day. While tuberculosis has been known from all times it has, during the past fifty years, assumed a new aspect. Throughout the latter period we have come to realize, as never before, what we are up against. It so happens that my medical history covers that period of fifty years almost to a day. During the first four years, as an undergraduate in medicine, one became familiar with the general helplessness and hopelessness of medicine in respect of tuberculous disease. Pathology had revealed much regarding the morbid anatomy of tubercle, but little regarding the natural history of the disease. Diagnosis was limited to pronounced cases; prognosis was, for the most part, pessimistic; and treatment empirical. Tuberculosis remained, as I ventured to call it in my graduation thesis, the opprobrium of medicine.

Although the old-time conception of its infective character had already received scientific confirmation in the seventies by the prolonged investigations of Villemin, it was in 1882-83 that bacteriology demonstrated, once for all, the causal organism. I remember vividly the repercussion of Koch's pronouncement. To those of us who were working in laboratory at the time it called for pause. Microscopical work on other lines was arrested in favour of a consideration of the new clinim.

### *Fresh Horizon.*

It was the coming of that event at that particular moment which determined the interest of a lifetime—an interest as fresh to-day as when it was kindled. Combined laboratory and clinical observation compelled one gradually to the conclusion that the attitude of medicine to tuberculosis was wrong. Attention had been concentrated on end-results, and these especially in the lung. The physician waited until the disease presented itself in aggravated form.

The basal fact of infection having been accepted, it seemed clear that the principles which governed the detection and control of other infections might be applied to tuberculosis, and, especially, that in place of waiting until the effects of the tubercle bacillus were eloquent—often evident to the man in the street—our aim should be to search for the earliest manifestations of infection and probe into conditions which conduced to grosser disease. It was study of the nature of the infection and of the essential cause of death in tuberculosis which led to the proposal for special centres of observation and the establishment, in 1887, of the tuberculosis dispensary.

The circumstances were thought-compelling. Why was the prognosis commonly so unfavourable? Why did most of the patients die? Why were the cases under treatment so largely those of advanced disease? What was the natural history of the disease? Why, and how, was the infection contracted of which those cases were the final fruit? Why was the disease undetected at the earlier stages? Answers to these questions were gradually evolved. It emerged that the advanced stage constituted but the last scene in the long drama of infection. It became evident that the earlier stages of infection must be sought for. The infection must be traced to its source and the commencing stigmata of disease determined. Observations on those lines led to the conception of tuberculosis as a household disease and, presently, to the systematic examination of the household group and of the home itself and other environmental conditions. Thus came to be instituted the examination of contacts and domiciliary visitation.

\* Introductory to a discussion at a meeting of the Society of Medical Officers of Health held at Bath, April 20th, 1928.

Gradually the problem extended. Tuberculous infection was seen to be widespread throughout civilized communities. For the most part it was contracted in childhood. Varying degree of resistance to the infection was offered by different individuals. The resultant of the infection depended on the amount of the infecting dose and its repetition, and on the resistance offered by the individual. The degree of resistance was influenced greatly by environment—interpreting that term in a wide sense—and to some extent by racial quality. In consequence of this the outward manifestations of the infection differed much in character and degree.

All this meant a revision of the medical outlook. Attention had to be directed: (1) towards the detection of the infection at the earliest possible moment; (2) towards detubercularization of the tubercularized individual as speedily and thoroughly as might be; (3) towards the elimination, or at least progressive lessening, of environmental conditions which fostered the advance of infection by lowering individual resistance; (4) towards securing sufficient duration of efficient treatment in presence of pronounced disease; (5) towards the limitation of the spread of infection from advanced cases.

### *Evolution of the Tuberculosis Scheme.*

In order to meet the different issues there evolved progressively the several elements in what is now described as the tuberculosis scheme, generally applied throughout the land. In so far as it has really met the issues and been efficiently handled the machinery has proved serviceable. If experience has shown that the quality and temper of the machine, as erected in different areas, have not always been equal, nor the standard of the personnel in charge, that is only what was to be expected.

### *Specialized Training.*

Time is improving both the machinery and the personnel. The purposes and hang of its different parts are becoming better understood; the training of the officers in charge is being progressively adapted to the needs. Thus, at the University of Edinburgh the undergraduate in medicine has a course of thirty meetings on tuberculosis. The course is practical and compulsory, and tuberculosis is included among the subjects for the final examination in medicine. Candidates for the Diploma in Public Health attend a further course of twenty meetings, and the subject forms part of the examination for the diploma.

The Departmental Committee on Tuberculosis recognized and enforced the need for special training and experience in dealing with the disease. It seems singularly inopportune that, just when the machinery is getting into motion throughout the country, the proposal has been made to replace the specialized staff by officers in the public health service who happen to have time, but may have little experience of or interest in the complex problems. The issues involved are critical. It is not good policy to swap horses in crossing the ford.

### *Decline of Mortality: Accelerating Drop.*

Turning to the subject more definitely before us to-day, the title of the discussion assumes that there has been a decline in mortality. One wonders whether the extent of the decline is quite realized. Judging by loose statements in the press, it is clear that there is need to emphasize its remarkable extent.

The graphs showing the decline in mortality from tuberculosis in Scotland from 1871 up to the present date tell their own story. The remarkable decline has been continuous throughout the period. This is, however, not all. Closer examination reveals that the rate of decline has been an accelerating one. This is evidenced by the sharp downward trend of the line of mortality. Had there been no increasing rate of drop throughout the period the downward trend of the curve would have been less steep. As the Registrar-General for England (Annual Report for 1920) says:

"Not only is the absolute fall (of mortality) greater, but, as compared with the lower level of mortality prevalent at the present day, the relative fall is very much greater than would have

resulted from an equal absolute fall at an earlier period, had it ever occurred.

"The uniformity of the average annual decrement of mortality represents an ever-increasing acceleration of the rate of fall, when measured in proportion to the total extent of mortality remaining."

The acceleration of the drop of the death rate of all tuberculosis for England and Scotland respectively is illustrated in Tables I and II. The numbers on the tables are five-yearly means, centring on the year selected. If, in the case of England, we compare successively the death rate of each of the years 1881, 1891, 1901, 1911, and 1921 with that of ten years before, the 1881 death rate in England shows a drop of 14 per cent., the 1891 death rate a drop of 15 per cent., the 1901 death rate a drop of 19 per cent., the 1911 death rate a drop of 21 per cent., and the 1921 death rate a drop of 20 per cent.

The corresponding figures for Scotland are: the 1881 death rate shows a drop of 17 per cent., that of 1891 a drop of 21 per cent., that of 1901 a drop of 9 per cent., that of 1911 a drop of 21 per cent., and that of 1921 a drop of 31 per cent.

The figures from Ireland (as shown in Table III) are similarly instructive.

#### *In Excess of Decline from Other Causes.*

All very well, says the critic; but the decline in tuberculosis mortality is in line with the drop in the general death rate, of which it is but part expression.

This is not so. The accelerating drop in the tuberculosis death rate exceeds greatly the drop in mortality from all diseases throughout the same period. The extent to which the decline in the death rate from tuberculosis (all tuberculosis, pulmonary tuberculosis) has exceeded that from all diseases is illustrated likewise in Tables I, II, and III.

If we take the last complete decennium, 1911-1921, the drop in the all tuberculosis death rate in Scotland (Table II) amounted to 31 per cent., and the drop in the pulmonary tuberculosis death rate to 27 per cent., as against a drop of 7 per cent. in the death rate from all diseases. Taking the entire period of fifty years, the death rate from tuberculosis was reduced by two-thirds, while that from all diseases was reduced by rather less

than one-half; or, viewed in another way (Table IV), while in 1871 the deaths from all tuberculosis constituted 16.8 per cent. of deaths from all diseases, in 1921 the deaths from all tuberculosis constituted only 9 per cent. of the deaths from all diseases. And, similarly, while in 1871 the deaths from pulmonary tuberculosis constituted 11.8 per cent. of deaths from all diseases, in 1921 they constituted only 6.2 per cent. of the deaths from all diseases.

The next point that occurs to one is, How does the decline in mortality from tuberculosis stand in relation to mortality from other groups of killing diseases? The facts are so well known to you that detailed statistics are unnecessary. Broadly speaking, if we compare (Table V, Scotland) the mortality of 1891 (mean of three years round 1891) with the mortality of 1921 (mean of three years round 1921), we find, that, of a total annual saving of life in respect of all causes of death of 557 per 100,000 of the population, the decline in tuberculosis mortality is responsible for a saving of 126. Compared with this, the group of heart diseases shows a negligible saving only, while kidney and vascular diseases show an actual increase of mortality, and cancer a marked increase.

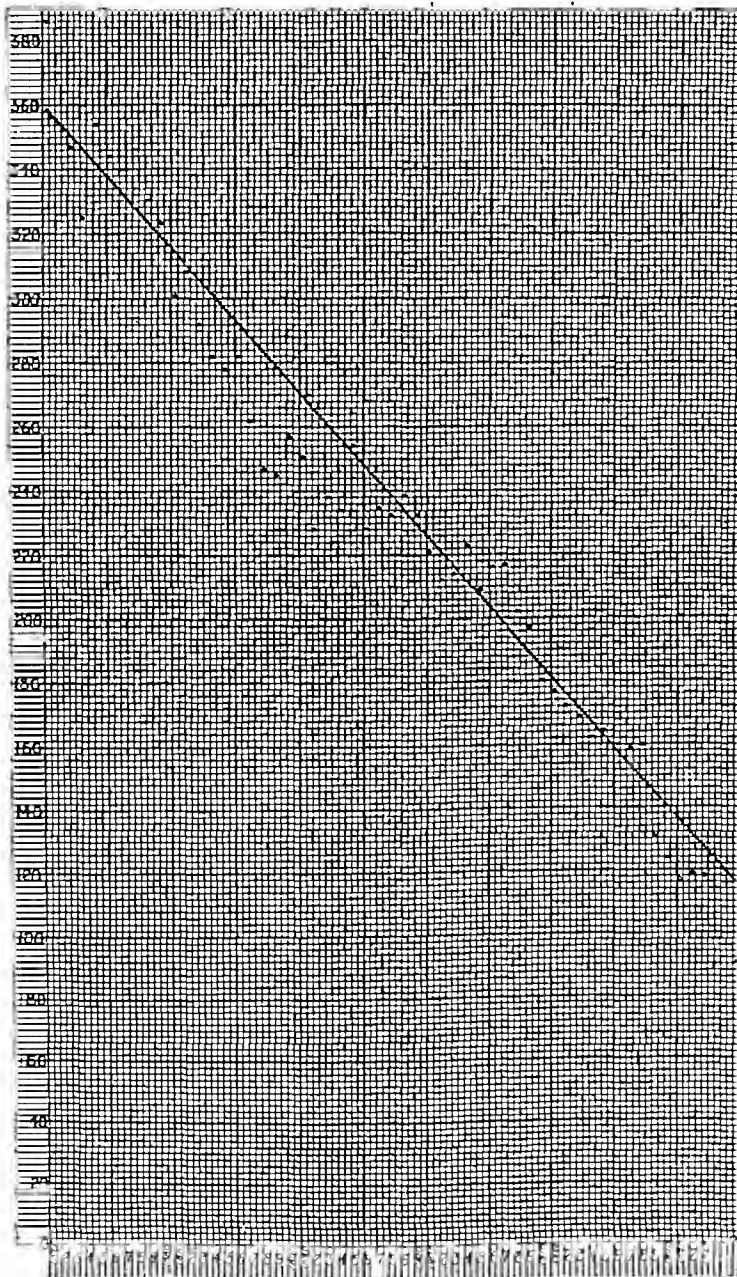
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#### *Not Uniform Throughout the World.*

A comparison of the mortality from tuberculosis in Great Britain with that of other countries is instructive. The mortality records in different lands vary much, and the decline in the death rate is correspondingly various. If we take Paris, as representing France, and Vienna, as representing Austria, attention is at once arrested by the high death rate from tuberculosis prevailing in these old centres of civilization. Incidentally, these high figures are illuminating in view of the suggestion frequently made that diminution in mortality from tuberculosis throughout the world is the result of an advancing immunization of civilized populations against the disease. In Paris prior to the war the death rate ran about 400 per 100,000, and in Vienna apparently about the same number. After the war France began to look into the matter, and during the past few years there has been gradually instituted an anti-

FIG. 1.—SCOTLAND.

#### *TUBERCULOSIS — DEATH RATES — 1871 to 1923.*



tuberculosis movement. In 1921 the death rate for Paris was 286 per 100,000. In 1920 the death rate for Vienna, where medical endeavour was much disorganized, was reported as 405 per 100,000.

Taking the several arrondissements (districts) of Paris, M. Henri Sellier, of the Office Public d'Hygiène Sociale du Département de la Seine (Rapport présenté au Conseil Général de la Seine, Décembre, 1927), indicates that considerable differences are beginning to show themselves in the mortality rates, and that these differences are referable to the differences in respect of antituberculosis activity.

The variation in death rate, and the amount of its recent decrease (or increase) in the several arrondissements is illustrated in the chart of Paris (p. 705) prepared by M. Marcel Moine, statistician to the Comité National.

A similar observation has been published by Professor Courmont in relation to the city of Lyons, where antituberculosis measures have been applied for some twenty years.

Of countries which hold a conspicuous place in respect of concerted effort against tuberculosis we may take as an example from Europe (apart from Great Britain) Denmark, and from outside Europe the United States.

In Denmark an intensive campaign has been maintained for some twenty-five years, with large contributions on the part of the Government. In 1801 the tuberculosis mortality of Denmark was 210 per 100,000, and in 1922 it was 95 per 100,000. Professor Knud Faber of Copenhagen, whose judgement is worthy of high consideration, states that at the present time Denmark has the lowest death rate from tuberculosis in Europe, and traces this decline to the highly concerted effort directed against the infection.

Taking New York as typical of American antituberculosis work, for the initiation of which the late Dr. Hermann Biggs was especially responsible; the figures are striking. Thus, in 1907, at the commencement of a special effort to

FIG. 2.—SCOTLAND.

TUBERCULOSIS—AGE DEATH RATES.

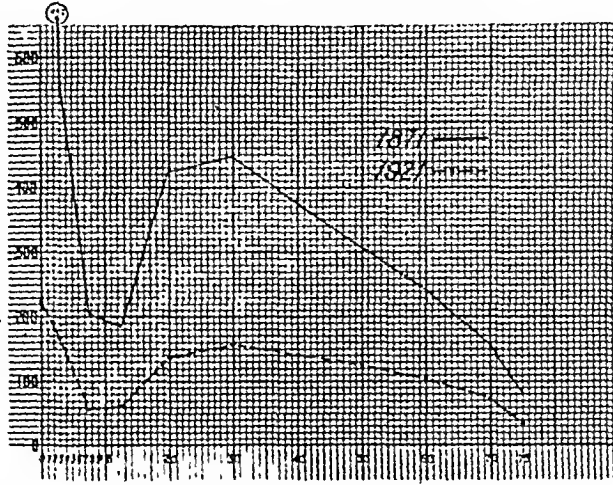


TABLE I.—ENGLAND AND WALES.

Deaths from All Causes, from Tuberculosis, and from Pulmonary Tuberculosis.

(Numbers are five-yearly means centring on the year named.)

Year.	All Causes.	Tuberculosis.		Pulmonary Tuberculosis.		
	Both Sexes.	Both Sexes.	Males.	Females.	Both Sexes.	Males.
<i>Number of Deaths.</i>						
1871	521,984	69,593	35,739	33,851	52,764	26,425
1881	517,293	68,617	35,760	32,857	49,156	25,099
1891	559,634	65,246	35,022	30,224	45,315	24,335
1901	554,276	59,302	33,062	26,240	41,424	23,619
1911	504,195	51,668	28,666	23,001	37,364	21,158
1921	472,108	43,023	23,154	19,866	33,659	18,294
<i>Death Rates per 100,000 of Population.</i>						
1871	2,210	306	323	290	232	239
1881	1,992	264	283	247	189	199
1891	1,930	225	249	202	156	173
1901	1,704	182	210	156	128	150
1911	1,398	143	164	123	104	121
1921	1,246	114	128	100	89	101
<i>Comparison with 1871 (=100).</i>						
1871	100	100	100	100	100	100
1881	90	86	88	85	81	83
1891	87	74	77	70	67	72
1901	77	59	65	54	55	63
1911	63	47	51	42	45	51
1921	56	37	40	34	38	42
<i>Percentage Decrease of Death Rate—Decennial.</i>						
1871-1881	10	14	12	15	19	17
1881-1891	3	15	12	18	17	13
1891-1901	12	19	16	23	18	13
1901-1911	18	21	22	21	19	19
1911-1921	11	20	22	19	14	17

TABLE II.—SCOTLAND.

Deaths from All Causes, from Tuberculosis, and from Pulmonary Tuberculosis.

(Numbers are five-yearly means centring on the year named.)

Year.	All Causes.	Tuberculosis.		Pulmonary Tuberculosis.		
	Both Sexes.	Both Sexes.	Males.	Females.	Both Sexes.	Males.
<i>Number of Deaths.</i>						
1871	75,498	12,533	6,111	6,422	8,755	4,029
1881	74,271	11,612	5,587	6,025	8,112	3,713
1891	78,206	9,855	4,858	4,997	7,161	3,426
1901	79,188	10,601	5,073	4,928	6,910	3,439
1911	72,808	8,416	4,315	4,151	5,454	2,761
1921	69,145	5,942	3,025	2,917	4,091	2,066
<i>Rates per 100,000.</i>						
1871	2,247	373	381	366	261	252
1881	1,988	311	310	311	217	206
1891	1,943	245	250	240	178	176
1901	1,771	224	233	214	155	158
1911	1,529	178	187	169	115	120
1921	1,416	122	129	115	84	88
<i>Comparison with 1871.</i>						
1871	100	100	100	100	100	100
1881	88	83	81	85	83	82
1891	86	65	66	66	68	70
1901	79	63	61	58	59	63
1911	63	48	49	46	44	48
1921	63	33	34	31	32	35
<i>Percentage Decrease of Rate—Decennial.</i>						
1871-1881	12	17	19	15	17	18
1881-1891	2	21	19	23	18	15
1891-1901	9	9	7	11	13	10
1901-1911	14	21	20	21	26	24
1911-1921	7	31	31	32	27	27

TABLE III.—IRELAND.

Deaths from All Causes, from Tuberculosis, and from Pulmonary Tuberculosis.

(Numbers are five-yearly means centring on the year named.)

Year.	All Causes.	Tuberculosis.			Pulmonary Tuberculosis.		
	Both Sexes.	Both Sexes.	Males.	Females.	Both Sexes.	Males.	Females.
Number of Deaths.							
1871	92,647	13,673	6,775	6,193	10,234	4,910	5,291
1881	96,552	13,864	6,550	7,224	10,561	4,831	5,680
1891	85,521	12,787	6,199	6,633	10,016	4,688	5,328
1901	80,292	12,407	6,109	6,238	9,613	4,633	4,930
1911	73,845	9,811	4,879	4,932	7,593	3,754	3,812
1921	66,867	7,318	3, 89	3,829	5,689	2,671	3,618
Rates per 100,000.							
1871	1,712	253	257	249	189	187	191
1881	1,836	27	260	275	204	193	215
1891	1,818	272	253	283	213	202	223
1901	1,801	278	278	279	216	213	218
1911	1,632	223	223	224	173	171	175
1921	1,536	163	158	178	131	121	141
Comparison with 1871.							
1871	100	100	100	100	100	100	100
1881	109	106	101	110	108	103	113
1891	106	108	102	112	113	108	117
1901	105	110	108	112	114	114	114
1911	93	88	87	93	92	91	92
1921	90	66	61	71	69	65	74
Percentage Increase or Decrease of Rate—Decennial.							
1871-1881	+9	+6	+1	+10	+8	+3	+13
1881-1891	-3	+2	+1	+3	+4	+5	+4
1891-1901	-1	+2	+6	0	+1	+5	-2
1901-1911	-7	-20	-20	-20	-20	-20	-20
1911-1921	-9	-25	-29	-21	-21	-29	-19

TABLE IV.—ENGLAND AND SCOTLAND.

Death Rates from All Causes, from Tuberculosis, and from Pulmonary Tuberculosis.

(Based on five-yearly means centring on the year named.)

Year.	Death Rate per 1,000 from All Causes.		Death Rate per 100,000.				Deaths per cent. of Deaths from All Causes.			
			Tuberculosis.		Pulmonary Tuberculosis.		Tuberculosis.		Pulmonary Tuberculosis.	
	Eng.-I.-I.	Scot-land.	Eng-land.	Scot-land.	Eng-land.	Scot-land.	Eng-land.	Scot-land.	Eng-land.	Scot-land.
1871	22.10	22.47	306	373	232	261	13.9	16.8	10.5	11.8
1881	19.22	19.88	264	311	189	217	13.3	16.1	9.5	11.2
1891	19.30	19.43	225	215	156	178	11.7	11.8	8.1	8.6
1901	17.01	17.71	182	224	128	155	10.7	12.5	7.5	8.7
1911	13.98	15.29	143	178	104	115	10.2	11.8	7.4	7.6
1921	12.46	14.16	114	122	89	84	9.1	9.0	7.1	6.2

co-ordinate antituberculosis activities, more particularly by a combination of the institutions concerned with the dispensary control of tuberculosis, the tuberculosis death rate was 238 per 100,000. In 1921, notwithstanding an increase in population of a million and a half, the death rate from tuberculosis stood at 106 per 100,000.

From the cities and counties in Great Britain various illustrations might be cited. For the present purpose one will suffice. The administrative county of Lancaster, with

TABLE V.—ENGLAND AND SCOTLAND.

Saving of Life per 100,000 of Population, 1891-1921 (3-yearly means).

	All Ages.	-1	1-	5-	10-	15-	25-	35-	45-	55-	65-	75-
<i>England and Wales—</i>												
All causes ... ..	723	8,935	1,483	192	89	153	318	587	837	1,328	2,122	3,330
Pulmonary tuber- culosis	70	65	21	15	22	52	126	166	141	109	66	19
Other tuber- culosis	45	818	155	27	11	2	2	2	1	+2	+3	+7
Respiratory dis- orders	203	1,750	349	21	6	17	46	120	265	737	90	1,147
All other causes	405	6,121	958	129	50	87	144	293	433	491	1,691	2,171
<i>Scotland—</i>												
All causes ... ..	557	3,981	1,218	293	178	252	357	493	662	870	1,154	1,352
Pulmonary tuber- culosis	97	65	33	33	58	155	175	151	96	66	48	18
Other tuber- culosis	29	362	114	40	16	+2	+4	+4	+8	+8	+7	—
Respiratory dis- orders	148	933	193	29	15	22	37	110	252	442	156	551
All other causes	283	2,621	878	191	89	117	148	236	322	366	498	783

a population of nearly two million, has, by common agreement, one of the most comprehensive schemes, with whole-time consultant tuberculosis officers. The following table compares ten years pre-war, when there was no complete tuberculosis scheme, with nine years post-war, when the tuberculosis scheme was more developed.

Year.	Pulmonary Tuber- culosis Death Rate per 100,000 of Population.	Average Death Rate.	Year.	Pulmonary Tuber- culosis Death Rate per 100,000 of Population.	Average Death Rate.
Pre-war.			Post-war.		
1905	85	86	1919	80	70
1906	85		1920	76	
1907	91		1921	73	
1908	85		1922	77	
1909	89		1923	70	
1910	80		1924	68	
1911	88		1925	67	
1912	85		1926	64	
1913	82		1927	61	
1914	87				

These examples might be multiplied. Enough has been cited to support the view that, where special anti-tuberculosis work is undertaken, results follow, and that, conversely, in proportion as a *laissez-faire* policy is pursued, little happens. Taking the map of the world, it seems fair to say that the more striking decline in mortality from tuberculosis is to be found in those countries where co-ordinated measures against tuberculosis have been continuously applied throughout a sufficiently prolonged period. Where there is no marked decline one may pretty surely predicate the absence or slackness of concerted effort.

A further interesting comparison is to be found between urban and rural districts. It is frequently stated that tuberculosis is a disease of cities and that country areas are relatively exempt. This is doubtless true for the most part. Referring to the point, however, a recent writer in the *American Review of Tuberculosis* (October, 1927, p. 535) says that, while it was true at the beginning of the century, "there is now evidence that in rural New York (State) the mortality from tuberculosis has since 1920 been in excess of the urban mortality, and that this excess has increased year by year"; and with reference to the same point, the editor of that review says, "We are justified in the assumption that the antituberculosis campaign, immeasurably better carried on in the cities, is beginning to tell, is therefore fundamentally sound and effective, and must be organized to more purpose in the

country." In keeping with this are the present high mortality rates recorded from the islands of Scotland in comparison with those of the country as a whole.

Interpretation of Decline: Contributory Factors.

The facts relating to the decline in mortality are very remarkable. How, then, are they to be interpreted? What has caused the decline? In seeking to formulate an answer, let me put it to you that it is likely that there have been numerous contributory factors. We shall all agree that every influence which has made for the physiological welfare of the community has played its part in the reduction of the tuberculosis death rate as of the general mortality rate.

There can be no doubt that the wave of awakened interest in sanitary matters, which commenced in Britain some eighty years ago and resulted in the appointment of the Royal Commission of 1869, was a primary factor of first importance. The report of that Commission in 1871, and the establishment of the Local Government Board, meant a practical awakening throughout the land. The powerful wash of the wave is well illustrated by the remarkable words of Lord Beaconsfield at Manchester in 1872: "After all, the first consideration of a Minister should be the health of the people." It is noteworthy that the great statesman looked beyond disease to the goal of health.

Another significant influence has been the general education of the people during the past fifty years. This has meant a wide diffusion of knowledge hitherto restricted to a limited portion of the community. Alongside of this we note the various movements for the betterment of housing and working conditions, the associated rise of the standard of living, better wages and better supplies, and the regulation of working hours, with greater facilities for regulated rest and open-air activity.

Among measures directed particularly towards the maintenance of health should be included the National Health Insurance Act and the medical examination of school children. The health interests of the insured portion of the community were placed more definitely in the hands of the general body of the medical profession, and the child was submitted at an important stage of his development to the trained medical eye of the school officer. With this should be linked the more recent direction of attention to problems of maternity and child welfare. By these several avenues it has been possible to approach and anticipate the beginnings of disease in a way previously impossible.

Those influences—and the brief catalogue might be extended—have tended to increase communal vitality and to limit the tendency to, and the ravages of, disease. They have been the cause of the gratifying drop in the general death rate of the country, urban and rural, and in the mortality rate registrable in special groups and areas. It is impossible to emphasize overmuch the sanitary advantages which have accrued from the establishment throughout the country of a uniform co-ordinated health service composed of highly trained graduates in medicine, under the inspiration of, and responsible to, a

department of the State, which in turn functions and directs in obedience to the demand of enlightened public opinion.

Those wide influences, which have been reflected in the reduction of the general mortality bill of the country, have no less certainly played their part in the decline of tuberculosis mortality. The more the natural history of tuberculosis is comprehended, the more freely will their value be admitted. No serious worker in tuberculosis will fail to give them their proper place.

Specialized Direction of Effort.

None the less, the student of tuberculosis cannot but believe that those general influences would not have brought us to the fortunate position in which we stand to-day, apart from the more definite direction and concentration of effort towards the special problem of tuberculosis. Indeed, this concentration of study with regard to an infection whose blighting properties may be traced

from the cradle to old age has actually impelled many of the advances in hygiene which our generation has witnessed. The tracing of tuberculous infection to the home, and the determination of its early manifestations in the child and of its presence in other contacts, the recognition of prejudicial influences in certain occupations, the revelation by the sanatorium of the marvellous influence of open air and sunlight, have widened the horizon of preventive medicine. The recognition and application of those principles has led to progress in other fields beyond tuberculosis.

In an address urging the establishment

of sanatoriums at the first British Congress of Tuberculosis in 1901 I ventured to say:

"It seems to me that we are on the threshold of a still wider development in the application of the open-air principle. In our treatment of disease we want to realize more fully that the action of pure fresh air is directly curative. In the adaptation of the system to other medical conditions there seems to exist the potential of successes comparable to, if not so striking in character as, those obtained in surgery through the adoption of aseptic measures."

Only the other day Professor G. M. Robertson of the Royal Edinburgh Hospital for Mental and Nervous Diseases, in pleading in his annual report for a larger outlook on mental disease, says:

"How comparable is this new psychiatric crusade to the successful campaign against tuberculosis. . . . Forty years ago patients were sent to hospitals with cavities in their lungs and in the last stages of the disease. Arrangements were therefore made to discover the disease at an earlier and more hopeful stage; out-patient clinics and dispensaries were instituted; finally, the family and the home came under review for early and preventive treatment. Let psychiatrists go and do likewise, and may they be as successful."

The forward march of preventive medicine during the past fifty years, in which members of this society have had an honourable place, has led to numerous triumphs. These have been achieved by many means—sometimes by the application of general physiological principles which, in proportion to success in application, negative disease,

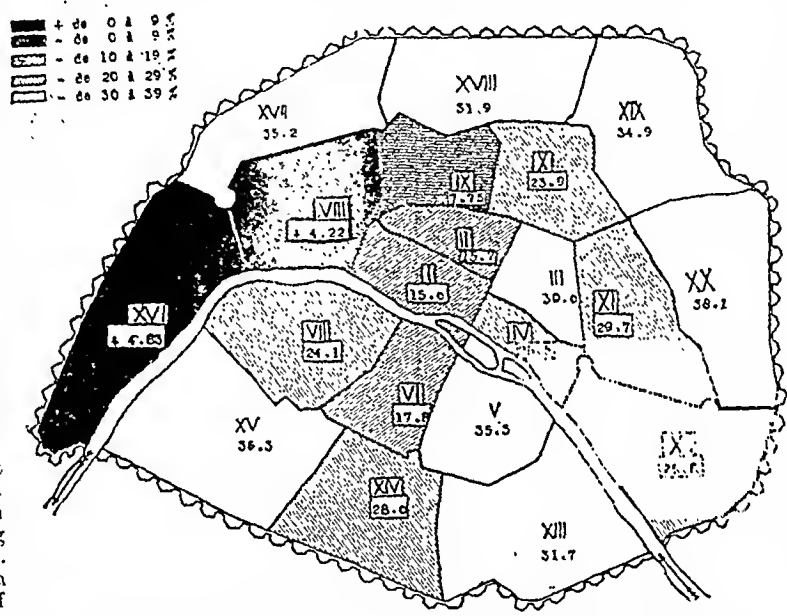


FIG. 3.—Decline of annual mean death rate from pulmonary tuberculosis in the various districts of Paris between the periods 1909-13 and 1919-23.



sometimes by specialized determination of effort towards particular issues. In relation to tuberculosis both lines of approach have tended towards the decline of mortality.

#### *A Tubercle-free Herd.*

My view regarding the control of tuberculosis in the human species is in keeping with the lines on which the farmer can establish and maintain a tubercle-free herd. When the Tuberculosis Trust of Scotland resolved to form such a herd procedure took two directions: (1) towards the elimination of infection within and the exclusion of risk of fresh infection from without; (2) towards the maintenance of the herd under completely physiological conditions of environment. The first requirement was met by the institution of careful antituberculosis measures and application of tuberculin tests, and the second by scrupulous regard to air, sunlight, space, nutrition, cleanliness, and the education of farm and dairy hands. Incidentally, it may interest members of the society to know that the young immature stock (prior to milking age) passed the whole of last summer—wet though it was—and the whole of this winter—cold and stormy as it has been—on a hill pasture at an elevation of 800 to 1,000 feet, in the open air, day and night, without one case of sickness. We began operations five years ago, and for the last three years the entire stock, numbering 109, has stood the rigid tests imposed by the chief veterinary inspector of the city.

In handling the more complex problem of tuberculosis in man, medicine has in view both sides of the shield: first, the limitation (exclusion?) of infection; second, increase of resistance. The tuberculosis scheme, as built up in this country, rests largely on these foundations. On the one hand, every fact in the natural history of the infection comes to have value, along with facts from comparative study of other endemic and epidemic diseases. On the other hand, the great physiological principles which preventive medicine has known how to harness and hitch to her wagon on other roads have been adapted to the problem of tuberculosis, and have been expanded by the convincing lesson of the sanatorium and open-air school.

#### *Scientific Patience.*

For the appraisalment of results patience is necessary—scientific patience. It is essential to remember that tuberculosis differs from other infective diseases in respect of duration and of clinical expression. It is a disease of a lifetime—it may be from infancy to old age—and its protean manifestations change with the seven ages of man. Assuming that our antituberculosis measures are sound, we cannot expect the entire effects to be registered quickly. The gains can be gradual only, with acceleration of the pace as time goes on. More marked reduction is likely to be evident at certain ages in relation to certain aspects of intensive activity. That is pretty much what we are finding—a postponement of death, a saving of life in childhood and in early adult life.

The Registrar-General for Scotland, Dr. J. C. Dunlop, to whom I am indebted for invaluable co-operation on the statistical side, has drawn my attention to the remarkable fact (Table V) that, out of a total saving of life in Scotland between the ages of 15 and 35 during the year 1921, as compared with 1891 (three-year mean), more than half was due to reduction in mortality from pulmonary tuberculosis.

To me, as a fairly seasoned hand, the outcome appears satisfactory. In so complex a situation it is hazardous to attach rigidly cause to effect. Rather than try to credit the result to this or that particular factor it is, in my opinion, more just and sound to admit that there have been numerous contributory factors. The continuous decline in mortality, the recent acceleration of that rate of decline, and the displacement of tuberculosis from chief place in the list of killing diseases, have been due to a combination of influences and activities which have found practical expression in the tuberculosis schemes of the country. To this it should be added that, when all is said and done from the side of medicine, another factor of governing importance must not be lost sight of—namely, the determination of the nation to face the issue, cost what it may.

## THE TREATMENT OF ACUTE APPENDICITIS.\*

BY

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In a consideration of the treatment of acute appendicitis it is relevant to point out that the number of deaths from this disease in England and Wales has not diminished during the past fifteen years, yet it is certain that the proportion of favourable cases—that is, the early cases—that are submitted to operation is much higher now than it was fifteen years ago, and also it is fair to assume that the improvement in operative technique during the same period must have helped to reduce the case mortality.

It may be suggested, therefore, that the maintained national mortality rate is due to an increase in the number of cases—an actual increase or an increased recognition of the disease. An examination of the annual statistical reports of the Manchester Royal Infirmary shows a steady and substantial increase in the number of these cases during the last fifteen years, but during the same period at this hospital the case mortality of the disease has fallen to such an extent that the gross number of deaths per annum at the end of the period is much less than it was at the beginning. Thus in the practice of one of the largest general hospitals in the country a steady increase in the number of cases during the past fifteen years synchronizes with a substantial fall in the actual number of deaths from this disease, and, that being the case, the maintained national mortality rate of acute appendicitis ought to be a matter of concern to the surgeon, particularly if he is also a teacher of surgery.

The foregoing remarks are based on the following statistics.

#### *Acute Appendicitis and Perityphilitis in England and Wales.* (From the Registrar-General's Returns.)

Average annual number of deaths per million persons during the four years ending 1914=70.

Average annual number of deaths per million persons during the four years ending 1926=72.

#### *Manchester Royal Infirmary.*

(a) In the three years ending 1915 the average annual number of admissions of acute appendicitis = 550, or 5.4 per cent. of the total admissions to hospital.

Average annual number of deaths from acute appendicitis in same years=69.

(b) In the three years ending 1926 the average annual number of admissions of acute appendicitis=830, or 7.6 per cent. of the total admissions to hospital.

Average annual number of deaths from acute appendicitis in same years=48.

#### POLICY OF IMMEDIATE OPERATION.

An account of the treatment of acute appendicitis cannot ignore the divergence of opinion among surgeons on the policy of immediate operation in all cases irrespective of the duration and pathological development of the disease. Surgeons in this and in all other countries in which appendicitis is prevalent agree in advocating removal of the appendix in all cases in which the disease is still limited to the appendix, before perforation or before the onset of a local or spreading peritonitis, and no one with any experience of abdominal surgery, I think, would venture to criticize this policy. It may be asserted with confidence that there is no more beneficent operation in surgery than the removal of a gangrenous or tightly distended appendix whilst this is still intact. So, too, at the other end of the scale, when a case is seen for the first time late in the course of the disease, and on the one hand there is clearly an abscess, or on the other hand the disease is manifestly subsiding without suppuration, no one would dispute the propriety of operation for evacuation of the abscess in the one or of a policy of masterly inactivity in the other. But it is in between these two stages that the surgeon first encounters the great majority of his cases; in this large group peritoneal infection has taken place which may be localized or diffuse, and even if

\* A paper read before the Manchester Surgical Society on December 6th, 1927.

localized the intensity of the infection varies considerably according to the type of appendicular lesion. It is in the treatment of cases in this group that there is some difference of opinion: though it is probably correct to say that the great majority of surgeons advocate immediate operation, and that those who advise postponement of the operation are decidedly in the minority.

The advocates of postponement, amongst whom are Sherren,<sup>1</sup> McNeill Love,<sup>2</sup> and some of the surgeons of St. Thomas's Hospital, advise that in those cases of acute appendicitis which come under the notice of the surgeon only after perforation and the onset of peritonitis, local or spreading, no operation should be performed until the patient's response to careful non-operative treatment in hospital or nursing home has been observed; that approximately in two out of three such cases the disease either will subside entirely or will terminate in a well-localized abscess which may be safely and simply evacuated after the acute phase has passed; and that those cases in which, after a period of one to three days, the disease appears to be extending, the operation can be carried out without more risk to life than obtains when the operation is carried out at once. In all those cases in which the disease subsides without operation, appendicectomy is carried out as soon as it appears wise to do so. In support of this policy of delay is urged: (1) that the mortality rate in this large group as a whole is reduced; (2) that the incidence of post-operative complications is substantially reduced; (3) that the period of illness and disability is shorter and less trying to the patient.

My own opinion in this matter is largely influenced by the experience of a recent series of 245 consecutive cases of acute appendicitis, all of which have been under my care and have been closely observed by me. No cases which were manifestly settling down at the time I first saw them have been included in this series. In 52 of these the operation was postponed, and it should be said that in selecting these at the time of the first examination I chose them from the large group of local peritonitis cases, and in no case was operation deferred for spreading or diffuse peritonitis. All of them were treated in hospital or nursing home. The results in these 52 can be grouped in three classes:

A.—Twenty-eight settled down completely within one to two weeks. All but 3 had appendicectomy performed a few weeks after settling down. There were no deaths and no complications. There is no doubt in my mind that many of these cases scored heavily by this policy.

B.—Twelve cases terminated in the formation of a local abscess which required operation for drainage; in 8 of them it was impossible to remove the appendix, but of these all save one submitted to appendicectomy a few weeks later. There were no deaths and no serious complications in this group, though the healing of the drainage track occupied four to six weeks in three of them.

C.—Twelve cases required operation during the acute stage after periods of delay varying from one to four days. There were 3 deaths; of these, 2 were due to intestinal obstruction, which in one case was present at the time of operation and was the reason for the operation, and in the other it developed three weeks after the operation when the patient was ready for discharge from hospital; one death was ascribed to acute toxæmia a few hours after operation; in this case the operation was not performed by me, but as I advised delay in this case, and two days later advised operation, it is right to include it. Of the 9 cases that recovered the appendix was removed in 8. In one of them the condition of the patient unquestionably became much worse during the period of delay, owing to toxæmia from a progressive abscess and to associated ileus. He was only retrieved by operation for evacuation of the abscess and mobilization of the terminal ileum, followed by assiduous after-treatment.

In 193 cases (approximately four-fifths of the whole series) the operation was performed without delay after the first examination irrespective of the duration or stage of the disease. These may be grouped into the following types.

#### GROUP A.—Appendix not Perforated (65 Cases).

Many of these cases were instances of gangrenous appendicitis, and several yielded a history that covered more than two days—the conventional duration of the pre-perforative stage.

There was one death from pulmonary embolism eleven days after operation, in a stout woman of alcoholic habits.

Complications.—One patient developed panophthalmitis twenty-eight days after operation; two weeks after operation, when apparently well, he was allowed to get up; the temperature rose the same night and assumed a septicaemic type for the next four weeks. The eye was eventually removed. In the notes on the operation made by me the same day it is stated that the appendix, a high retrocolic one, was entirely gangrenous, and

during extraction some leakage of its contents was unavoidable; the wound suppurated a little. There was one case of minor pulmonary embolism. In 6 cases there was a mild degree of wound suppuration. There were no cases of post-operative pneumonia.

#### GROUP B.—Local Peritonitis (84 Cases).

The cases in this group had pus in the peritoneal cavity around the appendix, usually associated with perforation of the appendix, but in several there was no visible perforation.

There were two deaths, one from intestinal obstruction that began six days after operation for pelvic peritonitis—a case with a history of only twenty-six hours' illness before operation. The other death was from septicaemia (? portal pyaemia) eight weeks after operation and two weeks after discharge from hospital. This man was in good condition when discharged home, but there was a clean sinus in the wound; his home surroundings were very bad, and the dressing was done by his aged wife.

Complications.—There were 7 cases of post-operative pneumonia (4 of these were in children under 12 and all except one were on the right side). One patient had intestinal obstruction, subacute, and recovered without operation. There was one case of pelvic abscess requiring drainage by the rectum fourteen days after operation, and there was one case of subphrenic abscess.

#### GROUP C.—Spreading or Diffuse Peritonitis (31 Cases).

The condition was always associated with a visible perforation in the appendix or with a leaking appendicular abscess. In the former type the history in 17 cases did not exceed forty-eight hours; in the latter type the history clearly fell into two phases—the first phase of moderate pain and vomiting, often not causing total incapacity, and the second phase, beginning two to four days later, marked by sudden onset of very severe pain and more or less collapse. Only 2 cases could be classed as having general peritonitis, and these account for 2 of the deaths.

There were 4 deaths in this group, as follows: One case of ileus and secondary haemorrhage of undetermined origin despite post-mortem examination—case of general peritonitis. One case of general peritonitis four days after operation—case of general peritonitis at operation; post-mortem examination. One patient died under the anaesthetic—ethor convulsions. The fourth death was that of a patient with ileus plus pulmonary oedema superimposed on chronic bronchitis and emphysema. After admission of this patient to the home the operation was delayed for twelve hours because of his bad general condition; in addition to chronic bronchitis he was very fat and heavily addicted to alcohol. His condition appeared to be worse, locally and generally, after twelve hours, and I regarded his chance of recovery as very small with or without operation, but as slightly higher with operation.

Complications.—One case of acute intestinal obstruction seven days after operation; the patient recovered after enterostomy. One case of pelvic abscess requiring drainage by the rectum. One case of subphrenic abscess drained two and a half months after operation. Four cases of pneumonia of the lower lung—on the right side in three and bilateral in one. Two cases of breakdown of wound with extrusion of bowel on to the abdominal wall on the seventh and eleventh days respectively. Both were associated with severe wound infection and persistent cough. Both recovered after re-suture and support of the abdominal wall by adhesive strapping.

#### GROUP D.—Abscess (13 Cases).

This group consisted of patients with a history of seven to fourteen days' illness. There were no deaths. The appendix was removed in 4 cases only. The one complication was in a patient with a minor type of pulmonary embolism.

The summarized results in the whole series is as follows:

245 consecutive cases with 10 deaths, or mortality rate of 4 per cent.

193 cases were operated upon at once with 7 deaths, or mortality rate of 3.6 per cent. All these, except those admitted in the terminal abscess stage, had the appendix removed.

52 cases had their operation postponed with 3 deaths, or mortality rate of 5.7 per cent.

In 27 of these operation had to be performed during the acute stage or because of abscess, and in 9 the appendix was not removed.

It may be that it is misleading to compare these two mortality rates, for the cases operated upon at once include 62 in which the appendix had not perforated and in which there was no marked degree of local peritonitis, whilst all the deferred ones presented clinical evidence of local peritonitis; on the other hand, the deferred cases do not include the more severe types, for in no case was the operation postponed in diffuse or widespread peritonitis. Remove the non-perforated cases altogether and the mortality rates are 4.6 and 5.7 per cent. for immediate and deferred cases respectively.

In attempting to measure the value of the policy of delay I attach more importance to consideration of the features of the more severe cases in each group. Of the 7 patients who died in the immediate class, in 3 the duration of the illness before operation did not exceed thirty hours; 2 of these had perforated and had pelvic peritonitis, and I think it very doubtful if the advocates of delay after perforation would have elected to practise the method in

such early and severe cases; one (death from pulmonary embolism) had not perforated, and is therefore irrelevant in this argument. Of the 4 remaining deaths, one, a youth in relatively good condition, died of ether convulsions during the operation, and the 3 others presented at the operation such widespread peritonitis, coupled in 2 with a very unfavourable general condition, that there is not the slightest ground for thinking that delay would have altered the issue in any ease. As already stated, in one of them a delay of twelve hours was made on account of the patient's unsuitability for anything but imperative surgery. Now of the 3 deaths in the unsuccessfully delayed cases, one died of acute intestinal obstruction during convalescence, and his death cannot, in my opinion, be attributed to the delay in operating; but in the matter of the 2 other deaths I felt at the time that their prospects of recovery had been reduced by waiting. Then of the 9 who recovered after a delayed operation done in the acute stage, one at least ran a much greater risk than he would have done if he had been operated upon when first seen. Deterioration of the patient undergoing non-operative treatment for appendicular peritonitis is not merely due to extension of the peritonitis or an increase in size of the abscess, but often is the outcome of ileus caused by implication of the lower ileum in the walls of the abscess cavity, and to the resulting inflammatory infiltration of the bowel wall.

Of the 115 cases with local or diffuse peritonitis which were operated upon at once the majority of these made rapid recoveries (70 of them were soundly healed within two and three weeks), and all without exception had the appendix removed. It seems highly improbable that the delayed method would, if it had been employed in all of these, have given results nearly so good. I am therefore opposed to the policy of delaying operation in all those cases of acute appendicitis in which perforation and peritonitis, local or diffused, has occurred. I think any policy based on a sharp distinction between the periods before and after perforation is unsound. Some of the worst cases in which operation is urgently required are those that begin with perforation; I have operated upon several such cases within four to six hours of the first symptom and found a large perforation, whilst in the less acute types it is frequently not possible to determine with precision whether perforation has or has not occurred—particularly so in pelvic cases. So, too, any policy based on the duration of the disease—that is, a policy which lays down that cases seen within the first forty-eight hours should be operated upon at once, but that in those seen after the second day and up to the fifth or sixth day the operation should be delayed—is ill founded; observations on operations, if correlated with the history of the case, will show that time and pathological progress do not keep pace. In my belief some of the third-day cases are those in which the immediate operation is most essential, in view of the pathological conditions revealed at operation, and, in the hands of an experienced operator, the great majority of such cases do very well. To hold these opinions is not to believe that every case of acute appendicitis should be operated upon at once simply because the disease is regarded as active. It is certain that a considerable proportion of cases, even after the occurrence of peritoneal infection, will subside under proper treatment without operation, and that if we were able to pick out these cases we might in many of them defer the operation, with great advantage to the patient, to a quiescent period. But to make this distinction in all it is necessary to keep the patient under observation for one to three days, and most surgeons feel that the advantages to the patient who does settle after this period are outweighed by the increased risk to the patient who does not. However, I believe it is possible to exercise discrimination in some without adding to the risk of the others.

After all, the tendency in the past twenty years has been to put the operation for acute appendicitis almost on the same footing in the matter of urgency as the operations for acute intestinal obstruction and perforated gastric ulcer, and in 10 per cent., or possibly 20 per cent., of the appendicitis cases this is correct. But is it right on that account to abandon all effort at discrimination in regard to the 80 per cent., especially in view of the commonness

of the disease and the consequence that the operative work must therefore at times be performed by those whose training and experience do not fit them to undertake such an important and serious operation? In seeking a basis for this discrimination, though I have argued that it is unwise to attempt a hard-and-fast division into classes according to lapse of time or occurrence of perforation I think we may from our clinical experience and observations at operations recognize certain types in which it is safer, and in other ways better for the patient, that immediate operation should not be undertaken. Such for example, as the following.

1. The patient who presents a firm hard mass in the right iliac fossa, in the right loin, or over the fore part of the iliac crest; the mass is ill defined at its edges, is often extensive, and is free from marked tenderness. The history shows a duration of four to eight days, and during much of this time the patient has had insufficient or no treatment; he has been out of bed and possibly at work. Such a case will commonly subside entirely under proper treatment; much less frequently the mass will slowly resolve itself into a well shut off abscess, which can be easily and safely opened. An immediate operation in such a case is likely to prove difficult and unsatisfactory to the surgeon, and the convalescence following it will be protracted and troublesome. Furthermore, an operation performed as an emergency in this type of case will now and again disclose a mistake in the diagnosis—a mistake which may involve the surgeon in an operation for which neither he nor the patient is suitably prepared.

2. The patient in an earlier stage of the disease, with a history of two to four days' illness not marked by a severe onset, who presents an area of well-localized muscular rigidity, without extreme tenderness, over the appendicular site. His temperature is raised, his pulse moderately accelerated; the increase of both is often accentuated when first seen by recent transit to hospital or home. Such a patient is by no means always best dealt with by immediate operation, and the following circumstances should be regarded as indicating a temporizing policy in this type:

- (a) Retrocolic position of appendix as shown by position of rigid area and of maximum tenderness.
- (b) Condition of patient unfavourable for an abdominal operation without a period of observation and preparation by reason of stoutness, chronic bronchitis, especially if there is much emphysema, alcoholic habits, and senility.
- (c) History of many attacks of approximately equal severity in the few years preceding this attack.
- (d) An environment unfavourable for a serious abdominal operation and for the necessary after-care of the patient.

On the other hand, a patient of healthy type who presents localized but well-marked rigidity accompanied by extreme tenderness, and whose history indicates a severe onset or a severe exacerbation since onset, should generally be operated upon without delay. So, too, evidence of a pelvic position of the appendix or of spreading peritonitis is strong ground for the performance of an immediate operation.

Finally, I would suggest that in those cases in which the disease is allowed to subside without operation it is wise to allow an interval of three to eight weeks before undertaking appendicectomy; a long duration of the process of settling down demands a long interval before appendicectomy.

#### TECHNIQUE OF THE OPERATION.

**Incision.**—There is no incision that can be called the best of the three—the gridiron (McBurney's), the Battle, and the paramedian—which are in common use. I prefer the paramedian in most cases. I particularly employ it in cases of diffuse peritonitis and of pelvic peritonitis, and if in such cases drainage of the peritoneal cavity is required it can be satisfactorily employed through this incision without making an additional stab wound. The tube should be made to pass through a slit in the rectus muscle so as to allow this structure to fall back into its natural position. In the case of suppurative peritonitis localized in the right iliac fossa this incision may be objected to on the ground that the operation crosses the

# SOME NOTES ON DIAGNOSIS.

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peritoneum to reach the infected field: as a matter of fact, an approach to an infected area which at the outset allows the boundaries of this area to be determined and maintained by suitable packing is often better than an approach which conducts at once to the centre of the affected area. The McBurney incision is well established and its advantages well realized. In easy cases it is admirable, but the clean removal of a pelvic or a high retrocolic appendix may present considerable difficulty through this incision; so, too, the exposure of the pelvis in cases of pelvic peritonitis is inferior to that obtained either by the pararectus or Battle's incision. Incision for drainage of an abscess should be made as small as is compatible with good access, and in such a position as to afford the most direct route to the abscess cavity. Pelvic abscesses which are pressing down on to the anterior wall of the rectum should be opened through the rectum in either sex.

In the performance of the operation, after the protection of uninfected areas of the peritoneum and as far as possible of the edges of the wound, and the gentle wiping away of any pus that may be present, the location of the appendix is determined. The extraction of an unperforated but friable or even gangrenous appendix without rupturing it or allowing the slightest leakage of its contents is by far the most important step in the operation for acute appendicitis in its preperforative stage; if the appendix is firmly embedded in a retrocolic or pelvic position it is generally better to remove it by first dividing its base, invaginating the caecal stump, and then dividing the appendicular attachments from base to tip. For this procedure a free exposure is required. The intact removal of a gangrenous but unperforated appendix is followed by a recovery indistinguishable from that following a quiet appendicectomy, but rupture of such an appendix during removal is likely to have a serious sequel during the period of recovery, though the association is easily overlooked. In cases of pelvic peritonitis, particularly the type in which the pus is confined to the right posterior quarter of the pelvis by the terminal ileum and its mesentery, which together overlie the appendix and surrounding pus like a hood, it is important after removal of the pus and appendix to set the ileum free from the fibrinous adhesions that bind it to the post-pelvic wall. The condition of the ileum must also be carefully inspected; in the presence of a foul-smelling abscess around a gangrenous appendix the ileum may be intensely hyperaemic and its walls swollen and rigid and here and there covered by plates of necrotic lymph; bowel so affected is often contracted and flattened. Such a state apparently indicates an absolute incapacity of the bowel to transmit its contents, but rarely is it necessary to do more than insist on a rational plan of after-treatment. There is no need to short-circuit the bowel or to perform enterostomy, but for the next forty-eight hours or more the patient should receive practically the whole of his fluid requirements by means of the subcutaneous injection of saline solution—by mouth only a minimum quantity of water to allay thirst should be allowed. After forty-eight hours gradually increasing quantities of water may be allowed as the subcutaneous supply is withdrawn. In widespread peritonitis this plan of after-treatment is also of the greatest value.

In regard to drainage of the peritoneum, the tendency of the majority of surgeons to employ drainage less and less has been a feature of the surgery of acute appendicitis during the post-war period; and it would seem that the results on the whole amply justify this tendency. Space forbids me to say more than that dispensation with drainage should depend, not on boldness of spirit, but on good technique in the performance of the operation. This subject has been ably dealt with by St. Leger Brockman<sup>2</sup> in a recent Hunterian Lecture.

## After-Treatment in Cases of Pelvic and Diffuse Peritonitis.

(a) The amount of water allowed by mouth should be severely restricted during the first forty-eight hours because of the functional impairment of the lower small intestine; fluid must be given freely, but by rectal or subcutaneous routes—by the latter more particularly when the ileum is known to be badly damaged.

(b) Purgatives should not be given; a simple enema every day or on alternate days will suffice to empty the colon of its contents.

(c) Abdominal distension, griping pains, and vomiting of intestinal contents on the third to fifth days are often due to failure to realize the importance of measures (a) and (b). In the presence of these symptoms stomach lavage should always be tried before contemplating operation. If operation proves to be necessary, then enterostomy, by a self-closing method above the highest inflamed loop of small intestine, is probably the best measure.

(d) Lastly, beware of the patient who has a persistent cough and a badly infected wound—as sometimes follows operation for a virulent and widespread peritonitis; if the sutures are seen to be cutting deep slits in the skin, then the wound edges should be firmly approximated by adhesive strapping (this is laced across the wound so that the plaster is not removed for dressings). Timely resort to this device will prevent a catastrophe.

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# SOME NOTES ON DIAGNOSIS.\*

BY

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WHEN invited to read a paper at this meeting I recognized an opportunity for discussing some rather unconventional views on diagnosis—views which in one form and another I have held since my student days, and which have by no means been dispelled by the great additions made to medical knowledge during the intervening years.

Diagnosis is our first object when seeing a fresh case. Our patients demand a diagnosis, and our teachers have ever impressed on us the prime importance of making one, while from time to time an eminent authority deplores the lack of diagnostic accuracy in some widely read journal in a way which would seem to imply that an accurate diagnosis is possible in every case. In hospital diagnosis is at its easiest. The cases are mostly advanced examples of well-marked disease, and the means and methods of exhaustive investigation are at hand. Yet difficult cases are seen; and, in my younger days, a fairly regular attendance in the *post-mortem* room revealed much that had not been anticipated—just as it so often does on the operating table—and I early learned that the most confident diagnostician is seldom the most reliable.

It is well to recognize our limitations as well as our advances. Unless a case is trivial or transient or obvious, we are at once in difficulties. The clinical pathologist, the radiographer, and the expert specialist often help us to a conclusion, but we are perhaps as often left in doubt. The same may be said of the general consultant, whose knowledge, experience, and authority, though of signal value in confirming an opinion already reached, or in bolstering up our ignorance, too often fail to carry us much further. Still, we may generally trust the man who is not afraid to say he does not know; when he thinks he does know he is generally right. But the pronouncements of the pundit who courts the reputation of being able to diagnose every case are necessarily unreliable; the fact being that, up to the present time, a diagnosis that is more than a guess is, at the stage of the disease when it would be most helpful, often quite impossible.

## The Relative Value of Clinical Methods.

The aspect and demeanour of the patient are sometimes so characteristic that a diagnosis can be made at a glance. No one can mistake the tabetic, the Parkinsonian, or the fully developed case of Graves's disease. The history of the patient's complaints and sensations can hardly be too carefully elicited, for the key to the trouble

\* An abridged version of a paper delivered before the Tunbridge Wells Division of the British Medical Association.

is often found here, while the family history and collateral evidence may be of equal value. Still, it is upon evidence obtained through the trained senses that one must depend in all but obvious cases. I propose to offer a few words on the kind of help which each of the senses provides, and in so doing it will serve my purpose best to begin with those which help us least and keep the most important to the end.

Taste hardly counts, though it is historically associated with the diagnosis of diabetes; and, while the olfactory senso may be conclusive, as in alcoholism, ozæna, acetonaemia, and *B. coli* abscess, its scope is strictly limited. Touch and hearing run a close race, though hearing wins easily if we include what is learned from the preliminary inquiry, and from the character of the patient's voice and utterance. In physical examination these two often help each other out, as in the tuning of a thrill and a murmur, and in the feeling of resistance which accompanies the percussion note of apical consolidation and pleural effusion. But percussion generally depends on the sense of hearing alone, and the ability to detect slight differences of sound varies very much in different individuals. I never believed that it was possible to map out the stomach by percussion, and the advent of the x-ray meal has put it largely out of court. Most misleading is the percussion of adjacent gas-filled viscera. A few weeks ago I tapped with two coins over the epigastric and adjacent areas, while a colleague moved his stethoscope about, and pronounced the stomach to be greatly dilated. But a stomach tube failed to bring off any gas, and an hour or two later the coils of an enormously distended small intestine were found to fill this area, indeed the whole of the anterior segment of the abdomen. The only thing certain about percussion of adjacent hollow viscera is that the results are uncertain. To a lesser extent, for the possibilities are less egregious, I have always held as suspect the percussion line of the left border of the heart. Very different outlines are made by equally capable observers of the same case, and I have frequently found that the radiogram is smaller than the area mapped out by percussion.

Auscultation, of course, yields invaluable information as to both lungs and heart, but it is well to bear in mind what erroneous doctrines have been taught through many decades, not because the auscultation was at fault, but because the deductions were founded on theories which have proved to be erroneous. It need not have taken about a hundred years to find out that a systolic mitral murmur was often quite harmless. Possibly the most unequivocally useful information rendered by the stethoscope is connected with the recognition of the foetal heart beat.

Coming to the tactile sense alone, and using the term in its widest significance, so as to include recognition of tenderness, heat, cold, resistance, and fluctuation, we find an immense amount of information available. Texture, irregularity of surface, foreign bodies, crepitus; the examination of the pulse and the heart; aneurysm; fremitus and friction; and the exploration of the throat and pelvic organs, carry us far. And the reflexes are probably destined to carry us much further than is as yet generally recognized.

If I have run rapidly through some points connected with the diagnostic value of what we may almost call the minor senses, it has been mainly for the purpose of bringing into contrast the overwhelming importance of the sense of sight. It has been very largely in proportion to the degree in which different divisions of clinical knowledge have been brought within the range of vision that our powers of diagnosis have increased, and, fortunately, the range is being continually extended. The general glance, which, as already mentioned, may be diagnostic, is much more often suggestive. Pallor and cyanosis, obesity and cachexia, facial expression, lameness, and similar features, give us leads which are generally true. The distortions of surface produced by fractures, dislocations, tumours, and hernia are, of course, obvious. Beyond this the skin and the tongue and the throat can be seen unaided; sputa and excreta can be inspected, and urine tested. For the rest we must rely upon instruments, and while the use of almost

all instruments requires practice, the interpretation of the results requires more, and invariably lags behind. Probably in all cases interpretation will ever be liable to revision and extension. What should we know of pyrexia without the clinical thermometer? Yet while a glance at a temperature chart, along with its record of pulse and respiration, may be in itself diagnostic, who will say that we are at the end of the knowledge which this simple, little instrument may bring? It is only quite recently that the characteristic charts of lymphadenoma and rat-bite fever have been recognized.

What would be our knowledge of the diseases of the eye and of the nervous system without the ophthalmoscope? And what should we know of the larynx if it could not be seen? What would our general knowledge of disease be without the revelations of the microscope, with its histological pathology, its blood counts, and the intricacies of bacteriology? Without transillumination a filled antrum is a sealed book, and the new knowledge of heart disease depends essentially on visible tracings.

The cavities of the body in the immediate vicinity of the orifices have for long been explored by means of specula, but the ingenious applications of electric light which provide us with cystoscopes and sigmoidoscopes, and with appliances by means of which the mucosa of the stomach and other remote internal surfaces are being brought into view, are matters of yesterday. The advent of x rays soon brought the accurate diagnosis of fractures and dislocations, and the localization of foreign bodies; the sockets of the teeth, the pituitary fossa, and the contents of the thorax were brought into the available field later; and while the exploration of the gastro-intestinal tract by means of barium meal and enema seem to have been long enough with us, the discovery of lipiodol and similar substances has recently added the bronchi, pulmonary cavities, the gall-bladder, the pelvis of the kidney, and the ramifications of sinus and fistula to the internal regions explorable by sight. The objection is sometimes raised that skiagrams may give misleading information. But this applies to all diagnostic methods, and skiagrams, like electro-cardiograms, may need expert elucidation. In obscure cases the experts themselves may be puzzled. None of the new methods has reached its zenith, and interpretation, as already stated, necessarily lags behind observation.

It is not without purpose that I have emphasized the paramount value of vision in diagnosis; it is not without purpose that I pass on to a few observations about the skin.

#### *Disease Manifestations in the Skin.*

Those parts of the body which are most open to easy and complete examination by sight and by touch ought to be those about which we know most, and in which changes due to treatment, general and local, should be most obvious. If such an area is also that most accessible to microscopic investigation, general and bacteriological, surely every facility exists for obtaining full knowledge of its physiology, its pathology, the diagnosis of its diseases, and their successful treatment. Yet if there is one part of the body which seems more puzzling than the rest, both as to diagnosis and as to treatment, I feel sure that a good many of us would think of the skin.

The experts who gather at the meetings of the dermatological societies often exhibit rarities and curiosities, and one may often notice the words "Case for diagnosis" on the agenda. Truly the skin is a humiliating structure. The limitations of our knowledge as to the essential nature of a lesion, and of its etiology, progress, and treatment, are here so obvious that it is not easy to deceive either ourselves or our patients; and many have said or thought that we know less about the skin than about almost any other system. Yet it may well be that, as should surely be the case, we do know more about the skin than about any other part; and that our ignorance of the invisible organs and systems may still be as profound as was our ignorance of the diseases of the fundus oculi before the days of the ophthalmoscope. There are but few skin diseases concerning which our knowledge may be said to be complete. One such is scabies; the cause is clear, the lesions are characteristic, and the treatment is known and is curative.



With the syphilides the case is different; the ultimate cause is known, but why should the lesions be so strangely varied? Why, again, should the ubiquitous staphylococcus have so pronounced an attraction for the skin of the adolescent? And if endocrine instability is evoked, why should it select its unfortunate victims so capriciously? Of many well-known skin diseases we really know nothing as to the essential nature or cause. Of individual lesions we know that vesicles and pustules arise from very different causes—local irritation and infection, certain drugs, small-pox, and so on; but, except in the case of burns, trauma, and local infection, we know nothing of the reason.

Transient anomalies seem, if possible, to be even more bewildering. How strange are the characteristic rashes of the exanthemata, each with its distribution and its period of incidence and decline; and perhaps still more curious are the pallors, flushings, and sweatings from emotional causes, each being part of an immediate response to purely psychic influences involving widespread nervous endocrine and circulatory adaptations in many parts of the body, but of which the skin reactions are alone in evidence. What effect does emotion have over other secretions? We know something of occasional renal response, and a good deal about tears. Emotion may cause profuse weeping or may dry up tears. What effect may it have on the gastric and biliary secretions? Doubtless profound effects, of which emotional vomiting, appetite juice, and the suggestive comments accompanying a carminative prescription are mere hints. What is the meaning of the muddy pallor with brownish wandering patches seen on the face in seasickness and in other conditions in which bile regurgitates? We see these things on the skin, but what is the liver—that immense organ which works in silence and in darkness—doing? All we can say is that we don't know. At a recent operation in which the liver was exposed I noticed little blisters which came and went and wandered, raising the capsule as they moved. What was going on within the recesses of the organ? We talk glibly about the liver being "out of order," but we do not know what is happening, and extreme cirrhosis, which had never even been suspected, may be discovered in the *post-mortem* room. One might dilate similarly upon other organs which, like the liver, work in silence and out of sight.

It is on the skin that we do see what is actually going on, and it is here that we may best gauge the extent of our knowledge and of our ignorance; and, surely, the balance is heavily weighted on the side of ignorance. And do not the grey, brown, black, and strawberry furs, and the enrious wandering rashes of the tongue, and the little ulcers and haemorrhages on the gums and on the cornea, point in the same direction? Doubtless analogous pallors, flushings, swellings, furs, ephemeral ulcers, and desquamations occur with equal frequency in unseen areas, and accompany and perhaps account for symptoms for which we have daily to invent mythical reasons.

#### What Constitutes a Diagnosis?

In discussing any question it is well to know what we are talking about. Which of us, asked to define the word "diagnosis," could supply a definition acceptable to all? In the first volume of the *James Mackenzie Institute Reports* (1922) there is a paper on the results of a collective investigation which had "the primary object of determining in what proportion of the cases met with in general practice it is possible to arrive at a diagnosis," and the first difficulty encountered was that no satisfactory definition of the word could be found. After much debate the following was framed: "The recognition in the patient of a known disease from the symptoms which are characteristic of it." If we agree to include signs under the term symptoms, as Mackenzie always did, the definition will satisfy most of us. But the difficulty which was next experienced in separating what may be fairly called "known diseases" from among "the maze of symptoms and so-called diseases in which medicine is becoming lost" was a real one, and one which we shall all do well to bear in mind. Space forbids more than the briefest epitome of the paper. A classification wide enough to embrace all cases was evolved; the "known" (diagnosable) diseases were divided into five classes according to whether the

cause was known, surmisable, or frankly unknown, while end-results, such as the valvular lesions, and secondary diseases, such as cystitis, each received a separate compartment. Of the 784 consecutive cases investigated a "diagnosis" was made in only 28 per cent., while in 22 per cent. a partial or provisional diagnosis was allowed. But just half of the cases examined did not present the symptoms characteristic of a "known disease," and were consequently scheduled as "undiagnosable." Some of these cases were simple ephemeral complaints; some were isolated symptoms, such as unexplained headache, insomnia, tinnitus, and so on. Many were examples of groups of disjointed symptoms such as we often meet with and which bring discredit on the profession, because one doctor attaches one label and another another.

"We endeavoured," says the paper, "to divide the undiagnosable class into groups—for example, intestinal toxæmia, neurasthenia, dyspepsia, etc. It might be better not to employ such terms at all, as they are apt to give an unconscious bias in favour of one theory over another. The undiagnosable cases," it concludes, "are apt to cause despair to the general practitioner, but if they are viewed rightly they present him with an invaluable field of study which is really open to him alone."

The reason why the field is "open to the general practitioner and to him alone" is that he is the only man who has the opportunity of following up his cases from month to month and from year to year. By patient observation, record, and study Mackenzie differentiated the cardiac arrhythmias, which had at first caused him "despair," and real knowledge of heart disease dates from these researches. It was only while engaged in general practice that he was able to follow up his cases as he did. But he was alone in his feelings of despair; his contemporaries were satisfied with theories now known to be erroneous.

Turning to the mass of ailments which still are "undiagnosable," how many of us are there that recognize them as such? Are they really apt to afflict us with despair? Are we not prone to think that we hold the key to the bulk of these anomalies? Did we not, thirty years ago, ascribe countless ills to "uric acid"? Was there not a time—not long gone by—when the "up-to-date" practitioner had a vaccine for almost everything? That "blood pressure" should ever have been a popular "diagnosis" seems almost as strange as the queer idea that everything could be "Coned." These things may have had their day, but many of us become obsessed by the new or revived ideas as they come along, and perhaps it is the word "toxæmia" that is now on top of the wave. Toxæmia may be obvious, or probable, or problematical, but the relegation of its origin to the colon is often no more than a guess, even when faecal analysis seems to point that way.

The colon has had a long innings, but the early canonical axiom, "Cut it out and cast it from thee," has disappeared, while the more recent advice, based on high transpontine authority, "Grease it and leave it alone," is disregarded. Sour milk had a look in some twenty years ago, and fizzled out. Possibly *acidophilus* may share a similar fate. To "change the flora" may prove as difficult as to "disinfect." But we are on firmer ground when the escape of organisms can be proved. Rowlands<sup>1</sup> has shown that the intestinal wall of rats fed on a full vitamin B diet was more than twice as thick and firmly knit as in the case of the controls; and in the few cases where he tried the treatment he found that urine which was teeming with *B. coli* "soon became sterile when the patient was placed upon a concentrated vitamin B diet." May not the well-nourished intestinal wall also prevent the absorption of toxins?

The vitamins have removed several obscure diseases from the region of bewildered speculation into the very front rank of diagnosable diseases—that is, into the small but ever-enlarging class in which the cause is definitely known. But the work by which these results have been secured has not come from the general practitioner. In endocrine disease also the best work has come from the laboratories and the schools; and, though the practitioner has by therapeutic experiment discovered various forms of sub-thyroidism, and done hopeful work with parathyroid and perhaps with other hormones, his blunderbuss work—generally the result of commercial suggestion—has been terrible. I sometimes wonder how many blunderbuss

preparations would produce any result at all if the thyroid element was cut out.

If therapeutic experiment along toxicæmic, endocrine, and similar lines can be called "investigation," we general practitioners are doing our duty nobly. But I see little of the patient laborious research to which Mackenzie devoted his life—these two kinds of inquiry lie poles asunder. Mackenzie's standard is too high for most of us; we lack the insight, even if we possessed the energy.

Is there not, however, some midway line along which we may all hope to do a little real, and possibly useful, work? There may be many; but anyone who forms the habit of taking short notes—if only of cases which are obscure or which possess some points of special interest—finds in the course of a few years that a fund of material has accumulated some of which will certainly throw light on his subsequent reading and experience. Much useful work which, among other results, helps to elucidate diagnostic problems, depends essentially on the existence of some such store. Further, if we keep our eyes open we all occasionally come across cases—or possibly cases in series—of obvious illness which, after careful investigation, are not found to conform to any known disease or even label. Such cases ought to be recorded. The work is seldom wasted, nor is it without reward.

A curious comment on the line of thought I have been pursuing is that, while a store of notes, such as I have referred to, has served me in good stead when impelled to deal with such matters as cardiac murmurs,<sup>2</sup> or the effects of opium on Cheyne-Stokes breathing and cardiac asthma,<sup>3</sup> it has been the cases I have recorded as undiagnosable which have been noticed in quarters never anticipated, and have brought me unexpected recognition. A case of sudden death in a subject who had never shown cardiac symptoms, but which proved to have been due to the rupture of an aneurysm of the ventricle,<sup>4</sup> has, I learn, been used by certain teachers in both hemispheres as an example of this (happily) undiagnosable condition; while a series of large spleens, recorded in the early nineties, presenting anomalous symptoms and occurring in three generations,<sup>5</sup> is quoted as the initial link in the chain which led to the differentiation of acholuric jaundice,<sup>6</sup> now a "known disease" with very characteristic features. These are examples of the fact that records which seem useless or lost may prove to be what some other observer is looking for, and that crumbs scattered on the waters may return to us after many days.

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## VOLVULUS OF THE SIGMOID.\*

BY

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**VOLVULUS** is a comparatively rare primary cause of intestinal obstruction in this country, though in some parts of Russia and Eastern Europe it forms approximately one-third of all the cases of intestinal obstruction, while many of the cases recorded in English literature concern Indian subjects.

Rokitansky described three forms of volvulus: (1) rotation of the bowel on its mesenteric axis; (2) rotation of the bowel on its longitudinal axis; and (3) the intertwining of two coils of intestine. By far the commonest of these, so far as the sigmoid colon is concerned, is the first, and it is to this variety that I shall confine my attention.

As far back as 1878 Leichtenstern clearly described the anatomical conditions necessary for the production of this form of volvulus. These are a long mesentery with a narrow attachment to the abdominal wall. Clearly the length of the mesentery is a developmental question, and the same is probably true of the narrowness of its attachment.

\* A paper read to the Lancashire and Cheshire Branch of the British Medical Association.

Many writers have stressed the influence of chronic constipation in producing hypertrophy and dilatation of the sigmoid and in setting up chronic inflammatory changes in the meso-sigmoid leading to contraction of this structure. These changes are especially seen near the attachment of the meso-sigmoid to the abdominal wall, and lead to narrowing in this region. It is much more probable that the constipation so frequently present is the result of the anatomical peculiarities—namely, the omega loop arrangement of the sigmoid colon, which is looked upon by some authors as a mild form of idiopathic dilatation of the colon. The changes in the meso-sigmoid consist of fibrous bands on the peritoneal surface and not of fibrous changes in the structure itself, and probably result from plastic peritonitis set up by repeated attacks of partial strangulation. We shall see later on that these attacks often occur before the final acute attack takes place.

To sum up, the anatomical factors necessary are a long meso-sigmoid with a narrow attachment to the abdominal wall. Both of these may be congenital—that is, a condition of meso-sigmoid with, in some cases, an exaggeration of the normal V-shaped attachment of the mesentery. The narrowing of the base of the mesentery may be increased by repeated attacks of partial strangulation leading to the formation of fibrous bands on the base of the meso-sigmoid.

When these factors are present an attack of volvulus may be precipitated in various ways. Undoubtedly, constipation, by loading the bowel, may so increase its weight that the loop falls into the pelvis and the root of the mesentery becomes twisted. The resulting obstruction produces a distension of the bowel and the twist becomes increased. Finally, the circulation is obstructed and still further distension follows, and the picture becomes complete. In many cases the exciting cause is a powerful aperient taken to relieve the constipation. Sometimes an acute attack is produced by violent physical exertion, the movements of the abdominal wall pressing on a loaded and enlarged sigmoid and twisting it on its mesenteric axis.

It is a significant fact that volvulus is commoner in men than women owing to the stronger abdominal wall in this sex, together with the smaller capacity of the pelvis. In one of my patients the final acute attack which brought him to operation resulted from the exertion of mowing his lawn, followed by an aperient which was necessitated by several days' constipation.

Diet may have some effect, and it is said that a vegetarian diet, with its large residue, is liable to produce volvulus. Possibly this factor accounts to some extent for the geographical distribution of the condition.

## CLINICAL SYMPTOMS.

The usual mental picture of forms of volvulus is that of an extremely acute intestinal obstruction with rapid and excessive distension of the abdomen and early onset of peritonitis. This is the description which is presented in Keen's *System of Surgery*, and also by Treves and Barnard, though both the latter writers comment on the fact that vomiting is an inconspicuous feature at the onset and may be entirely absent. Both these writers state that visible peristalsis is very rarely seen.

While there can be no doubt that the final attack which leads to operation or death is of this type, it is becoming increasingly recognized that long before this takes place there may be symptoms of a more chronic and recurrent type. Fernström<sup>1</sup> discusses this aspect of the condition very thoroughly, and differentiates clearly between acute and chronic forms. In many of the acute cases an investigation of the previous history will reveal the fact that the patient has suffered from vague colicky abdominal pain from time to time, often associated with diarrhoea and offensive stools. The attacks are often terminated by the passage of a large quantity of flatus or a very large stool. In one of my patients, a man of 52 years, there was history, dating back six months, of attacks of abdominal colic with constipation. These were usually brought to a end by a dose of salts, which produced a copious evacuation of motion and flatus.

The chronic symptoms, which are probably due to slight twists rectified spontaneously, therefore resolve themselves

into attacks of abdominal colic coinciding with constipation, followed by relief with a copious stool and the passage of a large quantity of flatus. Any one of these attacks may terminate in an acute volvulus, and it seems probable that the determining factor is the circulation in the affected loop. So long as the twist is not sufficient to interfere with this there is a chance of spontaneous untwisting. The importance of this factor is illustrated by the varying way in which an acute attack supervenes. In most cases the onset is quick, but in some it is much more gradual.

Many years ago I had under my care in the Booth Hall Infirmary a mentally deficient man, aged 35 years. My attention was called to him by the attendant because he was complaining of abdominal pain. I found him not urgently ill, with a moderately distended abdomen and very evident visible peristalsis of the large bowel type all over the abdomen. His condition was not serious, and I watched him for some days before I operated. At operation there was an enormous volvulus of the sigmoid without any strangulation, and I successfully excised the sigmoid loop in two stages by Mikulicz's method. Visible peristalsis was also a well-marked feature in the case I mentioned previously.

That the progress of the final attack may be slow when strangulation is absent is also supported by the case of a mentally deficient male, aged 22 years, reported by Edward Milton Foote.<sup>2</sup> The first symptom was abdominal distension, noticed by an orderly, and operation was undertaken three days later because of increasing distension and visible peristalsis.

A much more striking example was recorded by Maurice Richardson.<sup>3</sup>

The patient, a man aged 47, congenitally deaf and dumb, had suffered from severe attacks of abdominal pain with constipation for five years. The attack which led to operation was precipitated by a dose of castor oil, and for a month after the onset there was no passage of motion. The abdominal distension gradually increased, until at the time of operation it was very great, and was accompanied by visible peristalsis. There was no vomiting. Although the attack had lasted so long there was no gangrene, but the affected loop was dark in colour. The bowel was aspirated, untwisted, and fixed in position. The volvulus recurred five months later, and was then resected successfully.

X-ray examination in patients suffering from symptoms of chronic volvulus may be of great value. A barium enema will show the greatly enlarged sigmoid loop. On two occasions I have operated in cases of this type and have successfully removed the sigmoid loop. In one this resulted in a complete cure of the symptoms, but the other patient still suffers from constipation and abdominal pain.

#### TREATMENT.

The treatment of acute volvulus is entirely surgical. Little is to be gained by wasting time with enemata, and purgatives only make conditions worse. When the loop is viable it is often possible to evacuate it by a tube pushed up from the anus guided by a hand in the abdomen. The twist is then easily undone, and, so far as that attack is concerned, the patient is cured. Many attempts have been made to prevent future twists by fixing the sigmoid to the abdominal wall or by plecting the mesentery. All of these are liable to be followed by recurrence. Indeed, one might almost say that recurrence is the rule.

There can be no doubt that the ideal treatment is resection of the sigmoid loop. This is always essential when the bowel is too damaged to recover, and I believe it is the right treatment in all cases. I have employed it in all four acute cases I have had to deal with. One patient, with a gangrenous sigmoid, died from prolapse of the small gut alongside the double-ended colostomy I had made. This happened on the fifth day, and up to that time the patient had been very well. The accident was certainly due to an error in technique. The other three patients, in all of whom gangrene was absent, recovered. The method I adopted in all four cases was immediate resection of the affected loop with a double-ended colostomy. Later an end-to-end anastomosis was made in two of these patients. The third saved me the trouble by re-establishing her intestinal canal spontaneously. This two-stage operation has seemed to me to be safer than an immediate end-to-end union. There is no doubt that immediate anastomosis gives a much cleaner and pleasanter result, and it may be, as Mr. Morley points out, that there is not the same accumulation and distension in the colon

above the volvulus as there is in cases of carcinomatous obstruction, and therefore not the same risk with immediate anastomosis as there is in these latter cases.

Finally, it is sometimes possible to recognize the presence of intermittent symptoms from chronic volvulus. When this is so, and the diagnosis is confirmed by the x-ray appearances, it seems justifiable to excise the sigmoid loop, as I have done on two occasions.

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## THE PRESERVATION OF YELLOW FEVER VIRUS

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THE study of yellow fever has recently been greatly facilitated by the important discovery (Stokes, Bauer, and Hudson, 1928) that the common rhesus monkey (*Macacus rhesus*) is very susceptible to this infection. Hitherto the necessity of using human volunteers for any experiments has prevented a very systematic study of the disease, and therefore the value of this discovery cannot be overestimated.

Unfortunately the cost of sending monkeys from India to the West Coast of Africa, and the transportation in Europe, is very considerable, as the double journey involves a very high mortality. One of us (A. W. S.) found the mortality of monkeys sent to West Africa was such that their average cost came to nearly four times that in London. Apart from financial considerations, the study of the yellow fever virus can be conducted far more readily in countries where the natural carrier of the infection is absent. Experiments in localities where *Aedes aegypti* may be present involve keeping all infected animals under mosquito netting to prevent the chance of their being bitten by any mosquito and possibly starting an epidemic. Consequently infected monkeys in such localities are always a potential source of danger to the community and involve continual attention. In temperate countries these difficulties do not arise, as even in the presence of *Aedes* the temperature conditions are such that the mosquitos could never become infective. The development of the virus in the intermediate host is extremely slow and uncertain at a temperature of 22° C., and the optimum temperature seems to be in the neighbourhood of 28° C. Consequently the disease is restricted definitely to countries where such conditions prevail, and has never become endemic in temperate zones.

Hitherto the study of the disease has been confined to the regions in which it occurs, unlike the majority of human infections, which can now be investigated in the main laboratories of Europe and America, for although the French Yellow Fever Commission (Marchoux, Salimbeni, and Simond), 1903, carried infected mosquitos back to Paris from Brazil, no method of maintaining the virus was then known.

Considering the evidence in support of the view that yellow fever is caused by a filterable virus, it seemed of interest to see whether the virus could maintain its vitality when frozen, in the same way as many other filterable viruses, and accordingly an attempt was made to transport infected material in this manner.

The strain of virus employed was isolated from a case of yellow fever in a young Syrian at Dakar (Mathis, Sellards, and Laigret, 1928). This patient suffered from a mild attack, characterized by two febrile periods separated by a short intermission. The conjunctivae were slightly jaundiced and congested, and the urine contained a trace of albumin. On the seventh day of the disease, just before convalescence, the patient showed signs of collapse, with marked cardiac symptoms. Twenty hours after the commencement of the fever sixteen mosquitos (*Aedes*

(aegypti) were fed on the patient, and at the same time 4 c.cm. of blood were collected and inoculated into a rhesus monkey. Two days later this animal had a slight fever and was found dead on the eighth day after the inoculation. At the necropsy a slight jaundice was observed, and also lesions resembling those of yellow fever. The blood and a suspension of liver were inoculated into two young guinea-pigs, which remained healthy, thus excluding the presence of *Leptospira icteroides*.

Twenty-four days after feeding on the patient the mosquitoes were allowed to feed on a rhesus monkey, which showed a sharp rise in temperature after an incubation period of three days, and succumbed to a typical attack of yellow fever two and a half days later. Another monkey was also infected by this same batch of mosquitoes.

This strain was maintained in monkeys, either by the bites of infected mosquitoes or by direct passage, for a period of nearly three months, all the animals showing the characteristic symptoms of the disease. Shortly before leaving Africa one of these monkeys was killed at the height of the infection, and some of its blood, and also pieces of liver, were collected in sterile tubes, which were then carefully sealed to exclude air, and at once frozen in a mixture of ice and salt. The sealed tubes, in metal containers, were kept frozen during the journey to London—a period of twelve days—and on arrival were inoculated into two rhesus monkeys.

The first monkey, inoculated with an emulsion of the liver, showed a rise of temperature after an incubation period of four days, and was found dead on the morning of the seventh day. Its temperature chart (Fig. 1) is reproduced herewith, and

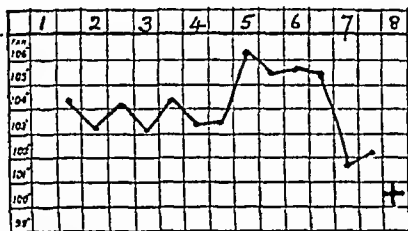


FIG. 1.—Temperature chart of rhesus monkey inoculated with a suspension of frozen liver from a case of yellow fever. The animal was found dead on the morning of the eighth day.

it will be noticed that on the day preceding death the temperature was subnormal, a common feature of the disease in monkeys. On the last day of the disease the animal showed symptoms of jaundice, which were particularly well marked in the ears and face. At necropsy the subcutaneous fat, and especially that around the pericardium, was intensely yellow. The liver was mottled and pale, and showed marked signs of fatty degeneration. The stomach contained a quantity of the characteristic coffee ground material.

The second monkey was inoculated intraperitoneally with the frozen blood, and as it showed no rise of temperature on the fourth day it was reinoculated with infected liver material from another monkey. The following day it showed a rise in temperature, but in view of the subsequent course of the disease, as shown in the accompanying chart (Fig. 2), it is

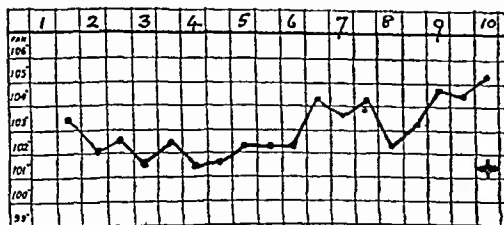


FIG. 2.—Temperature chart of rhesus monkey inoculated with frozen blood from a case of yellow fever, and reinoculated on the fifth day with infected liver material. The animal was killed on the tenth day.

somewhat doubtful whether this first rise was the result of the blood inoculation or not. Four days after being inoculated with the infected liver emulsion the temperature showed a distinct rise, which continued the following day, when the animal was killed. At necropsy the only obvious features of the disease were slight jaundice in the subcutaneous fat, fatty degeneration of the liver, and slight inflammation of the lining of the stomach. Subinoculation into another monkey, however, produced a typical and fatal attack of yellow fever. Cultures for *Leptospira* on Noguchi-Wenyon medium, blood agar slopes, and Fletcher's medium, all gave negative results.

It is evident, therefore, that the yellow fever virus can maintain its virulence when frozen for at least twelve days, and possibly much longer, a property which will be of considerable assistance in preserving the virus and further studies on the nature of the infection.

We should like to express our thanks to Dr. C. M. Wenyon, F.R.S., for providing us with accommodation, and also for much valuable assistance.

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## A FATAL CASE OF POISONING BY A NON-ARSENICAL WEED-KILLER.

BY

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IN the following case of poisoning by a weed-killer the effects were so profound and so rapidly fatal that an account of the clinical course would seem to be of general interest. The weed-killer taken consisted of 75 per cent. tar acids emulsified with soap; it was dark in colour, had a strong smell of tar, and formed a milky emulsion in water. The makers reported that both lysol and this weed-killer consisted of carbolic acid, soap, and water, lysol containing 50 per cent. and the weed-killer 75 per cent. carbolic acid, while the proportion of soap in lysol was larger. They also stated that the symptoms of poisoning produced by the weed-killer would be similar to those of carbolic acid or lysol poisoning.

Commercial cresylic acid, so-called liquid carbolic acid, consists of 35 per cent. orthocresol, 40 per cent. metacresol, and 25 per cent. paracresol. The effects produced by the cresols are identical with those of phenol; metacresol is the least poisonous, and paracresol the most poisonous (see *British Pharmaceutical Codex*, p. 369). In cases of poisoning by cresol the treatment for carbolic acid should be employed (*ibid.*, p. 370). Taylor, in *Medical Jurisprudence*, describes as comparatively innocuous a substance consisting of 20 per cent. cresylic acid with neutral hydrocarbon oil and resin soap; it is a dark-coloured liquid, mildly antiseptic. One instance of poisoning by it is reported in detail by Dr. Pinner, who states that the effects are not fatal.

The clinical details of the case are as follows.

The maximum amount which could have been swallowed was just over 2 fluid ounces (56.763 grams). To test the accuracy of this statement the average contents of a series of unopened tins were compared with the contents of the tin from which the poison had been taken. The patient, a well-built man, aged 32, had always enjoyed fairly good health, but had recently been greatly worried by the death of his wife. Somewhere about 10 a.m. on August 21st, 1927, he took the poison, and about 10.40 a neighbour found him lying in bed; he was groaning, but quite conscious, and refused a cup of tea. He did not complain of pain and had not vomited. When I saw him, at 11 a.m., he was comatose; there was no corneal reflex and his breathing was stertorous. He was markedly cyanosed, and his pulse was fast and almost imperceptible. His skin was cold and clammy, and he was sweating profusely. In his breath a strong smell of tar was detected, similar to that of a liquid contained in a glass by his side and in a tin of weed-killer also in the room. Careful examination revealed no sign of corrosion of the lips, tongue, mouth, or pharynx.

He was removed to hospital, and about 11.20 was receiving treatment. The stomach was washed out, and the returning fluid, milky in appearance, had a strong smell of tar; it contained no foodstuffs. After repeated wash-outs white of egg was put into the stomach, and in view of his cyanotic condition oxygen was given; atropine sulphate was also injected hypodermically. He rapidly went downhill and died about 11.40 without regaining consciousness. There were no signs of corrosion of the lips, mouth, tongue, or pharynx.

The necropsy revealed no signs of any abnormality save an old pleurisy in the left side. The stomach and oesophagus were removed and the contents sent for analytical examination. Careful examination of both stomach and oesophagus showed not the slightest sign of corrosion or excretion. The stomach contained no food, only some turbid fluid with a strong smell of tar.

The report of the analyst stated:

"The contents of the stomach smelt of phenols or tar acids and the distillate gave a strong reaction for them. No cyanides

or hydrocyanic acid were present. No mercury, lead, copper, arsenic, or tin were present. No alkaloidal poison could be detected."

In view of the assertion by Pinner as to the relative harmlessness of cresylic acid, and of the statement of the makers of the weed-killer that the toxic action of this substance would be similar to that of carbolic acid and lysol, it seems that in this case, at all events, the toxic effects were not those usually seen in a case of carbolic or lysol poisoning. The symptoms were those of a poison acting on the nervous system—the so-called narcotic action of carbolic acid and its homologues—and this action was probably due to the paracresol. It is evident that emulsified preparations of the tar acids (carbolic homologues) are not necessarily corrosive; if a 75 per cent. emulsion is tested on the lip or tongue the effect is simply a temporary smarting, whereas carbolic or lysol produces burns on even hard skin.

#### Conclusions.

My object in reporting this case is threefold:

1. To show that cresol or cresylic acid is not the innocuous substance described by Pinner, at all events when taken in a concentrated form as an emulsion on an empty stomach. Under these conditions, when the toxic cresols are present, the rapid absorption of the poison by the stomach has a profound and fatal effect on the nervous system.
2. To suggest that a substance which can have so rapid and fatal a result should be included in either Part 1 or Part 2 of the Schedule of Poisons. At present it can be sold over the counter by any person, provided it is contained in a closed vessel distinctly labelled poisonous, with the name and address of the seller and a notice of the special purpose for which it is intended.
3. To urge that more attention should be paid in textbooks to the toxic action of the cresols on the nervous system. Attention seems to be focused mainly on the corrosive action. This is true of carbolic acid, and of lysol to a lesser degree, but when we deal with the cresols (cresylic acid), the corrosive action is negligible, while the toxic effects on the nervous system are profound.

### ERYTHEMA NODOSUM AND ACUTE ENDOCARDITIS FOLLOWING TONSILLITIS:

RECOVERY AFTER TREATMENT WITH ANTISTREPTOCOCCUS  
SERUM.

BY

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LIVERPOOL.

THE following case seems of sufficient clinical interest to record.

On January 20th I was called to see a girl, aged 22, suffering from acute follicular tonsillitis. A swab taken for diphtheria proved negative, and the patient was given a sodium salicylate mixture. Defervescence with amelioration of symptoms occurred, and by the fifth day the temperature was normal and the throat much better. The next morning, however, the patient was worse, and the temperature had risen abruptly to 102° F. The face was flushed, she was sweating profusely, and she complained of painful spots on the legs, pains in her joints, dyspnoea, and palpitation on moving. Examination of the legs revealed a crop of large, roundish, raised, tense swellings, of the whole thickness of the skin, along the anterior borders of both tibiae. Bright red, glossy, and extremely tender to the touch, they presented the typical eruption of erythema nodosum. The right knee, right ankle, and left wrist were painful, but not swollen. The precordial impulse was increased, the first sound at the apex was roughened, and the second pulmonary sound accentuated. I recalled the association of erythema nodosum with true rheumatism, and accordingly increased the salicylate dose to 20 grains every three hours, combined with sodium bicarbonate. A sedative lotion was also prescribed for the legs. The urine was febrile, and contained a little albumin. During the next few days the temperature ranged between 101° and 103.6° F., and fresh crops of erythematous swellings kept appearing on the legs and thighs. There was now at the apex a soft, blowing, systolic murmur, conducted into the axilla, the second pulmonary sound remained definitely accentuated, and an appreciable increase in the transverse area of cardiac dullness could be detected. There were no rigors, the spleen was not enlarged, and the lungs were clear. Severe pain continued in the joints, and now affected also those of the fingers of both hands, but no arthritis developed. The

salicylates, however, did not influence the temperature nor relieve the joint pains.

On the fifth day following the onset of the erythema nodosum and the endocarditis the patient was still very ill, with no sign of improvement. The temperature was 103° F., and the pulse 120; she was still dyspnoeic, and a fresh crop of swellings had appeared that morning on the right leg. That afternoon I injected 25 c.cm. of polyvalent antistreptococcus serum well under the skin of the flank. The result was almost dramatic. By the next morning the temperature had dropped to 99.6° F., and the pulse to 90; the joint pains had gone, the tension in the erythematous swellings was relieved, and the dyspnoea was much better. From that day no fresh crops of erythema nodosum appeared, and those already present, even the new ones of the previous day, disappeared in five days. On the third day after the injection some peritonsillar inflammation developed (until then the throat had been much better), and the temperature rose from 98.8° to 100° F. I injected a further 10 c.cm. of the serum, and twelve hours later the throat had improved and the temperature was normal. The temperature and pulse have now remained normal for a fortnight, no acute symptoms have recurred, and the girl feels much better. At the time of writing she is being kept in bed a little longer for her mitral condition.

I am aware that the connexion of erythema nodosum with rheumatism, although long debated, is not proved, but there were justifiable grounds in this case for associating the two conditions—namely, the initial tonsillitis, the joint pains, and the endocarditis. In spite of this, however, large doses of the salicylate had no effect. It is well known that tonsillitis can be an etiological factor in acute endocarditis, and, judging from the remarkable effect of the antistreptococcus serum in this case, it is possible that the tonsillitis ushered in a train of streptococcal developments, producing not only the endocarditis, but also the erythema nodosum. The etiology of the latter is still not decided, although Rosenow claims to have isolated a bacillus with coccoid forms. I am convinced that the serum had a decided beneficial effect on the erythema nodosum in my case, and, this being so, there may be here a point of etiological significance in connexion with his theory.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### DIAGNOSIS OF "PLEURAL SHOCK" FROM COCAINE POISONING.

THE differential diagnosis of acute cocaine poisoning and "pleural shock" may be a very difficult matter, as the following report of a case shows.

A dental mechanic was readmitted to Winsley Sanatorium on March 16th, 1928, and, owing to constant bleeding, it was decided to perform artificial pneumothorax, though this was not otherwise required. I ordered a 1/4 grain of morphine to be injected half an hour before the operation, and the patient seemed unduly anxious to know what drug had been employed. When I came for the operation he asked me what local anaesthetic was used, and I told him epinephrine, each cubic centimetre of which contains epinephrine 0.0005 gram, and cocaine hydrochloride 0.02 gram. I thought the question a professional one and treated it as such. He made no comment. The injection of 1 c.cm. was given with the usual small syringe with its corresponding needle, and I "felt" the pleura; since the patient was nervous I paid particular notice to the effect of this, but he did not feel the prick. Wishing to wait for five minutes and to take his mind off the artificial pneumothorax, I talked about the war, in which he had been gassed and had suffered from neurasthenia. He suddenly became faint, and cried out "I am going"; he was at first quite limp and looked like a corpse, then there followed a spasm, the face was drawn to one side with marked stiffening of the left sterno-cleido-mastoid muscle, reminding me of the classical picture of torticollis in the textbooks. The teeth were clenched and grinding, the respirations rapid, the pulse could not be felt at the wrists, and there were only very feeble indistinct heart sounds. I thought the condition was delayed pleural shock. I administered strychnine grain 1/60 on empirical grounds, and after half an hour the whole attack was over. In the afternoon he was much better and told me he had an idiosyncrasy to cocaine; this I verified subsequently.

In his introduction to *Forensic Medicine* Dr. Burridge gives the symptoms of cocaine poisoning as—

"If a poisonous dose has been absorbed the person becomes pale, feels faint, and may fall to the ground. Convulsions followed by unconsciousness may occur. The pupils are dilated and insensible to light. The pulse may be uncountable at first. On recovery the patient complains of diminished sensibility of the hands, etc. In several cases epileptiform convulsions have occurred, followed by death in a few minutes";



and Dr. Clive Rivière the symptoms of pleural shock as—

"The symptoms have appeared as a rule with great suddenness at the moment when the needle is entering or leaving the pleural space. More rarely they come on after an interval of fifteen to twenty minutes, or even after some hours. In a typical case the patient develops a sudden pallor, loses consciousness, and soon becomes cyanosed. The pulse and respiration become irregular, the pupil large, and clonic and tonic spasms of the limbs ensue, or these occur only on the side of the pleural reflex or in isolated muscles. Some patients cry out at the onset."

This indicates the lines of differentiation. There was obviously no question of gas embolus.

Unless the bleeding is excessive I shall not again try to induce an artificial pneumothorax in this patient, and I shall not use a local anaesthetic. I have seen slight pleural shocks in other cases, and a very slight cocaine attack on one occasion. I should appreciate the opinion of experts.

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### OMENTAL CYST IN AN INGUINAL HERNIA.

THE following case seems worthy of record for its interest in regard to diagnosis.

A swelling of the left side of the scrotum about the size of a walnut appeared in an infant 6 weeks old. The swelling gradually increased in size, but had remained always easily and completely reducible until three weeks before his admission to hospital at the age of 1½ years. The child was then playing on the floor when he screamed suddenly and was unable to get up by himself. The mother noticed a slight fullness in the left groin immediately above the swollen scrotum, and found that she could not now reduce the scrotal swelling. From that time until admission the fullness of the groin continued, but did not increase in size, and the mother was able to reduce the scrotal swelling only slightly. The bowels had been regular. The smooth oval swelling was about the size of a small coconut; it was fluctuant, translucent, and dull on percussion; the scrotal skin moved freely over the swelling. It was easily collapsible on pressure, being reducible by about two-thirds. There was a little increase in the size and tension of the swelling on straining, and the slight fullness of left groin immediately above the scrotum was not reducible.

**Diagnosis.**—The obvious collection of fluid in the scrotum suggests abdomen. Its ready reducibility into the patent form suggested the presence of fluid in a ns is sometimes seen in the ascitic or in ascites from other causes, but there was no nodular thickening of the tunica vaginalis detectable, nor was there any general abdominal swelling or shifting dullness in the flanks.

**Operation.**—The left inguinal canal was opened through a left inguinal incision, and the spermatic cord appeared to be more bulky than normal. On incising the large hernial sac a second sac was found within it containing clear dark, yellowish fluid. This sac was readily drawn up into the wound from the scrotum, and, downward traction being made upon it, the walls of the sac were easily drawn down, sliding smoothly through the inguinal incision, and the contained fluid continued to gush downwards from within the abdomen. Traction was continued until the whole sac had been delivered from the abdomen; it was roughly the size of a large coconut, and contained 15 to 20 ounces of fluid. There was a smaller sac, loculated from the main sac in its upper right part, which contained about 2½ ounces of fluid. A small accessory spleen was present on the left wall of the sac near its upper limit. On further investigation of the relations of the large cyst which had thus been delivered through the hernial sac, it was found to be an omental cyst arising from the left border of the great omentum, the lower portion of which had formed the sole contents of the patent, greatly distended processus vaginalis. The cyst was tied and removed by its pedicle at its emergence from the abdominal cavity; the peritoneal hernial sac was also transfixed, tied, and removed, and the gap closed by stitching the conjoint tendon to Poupart's ligament in front of the spermatic cord. The child made an uninterrupted recovery.

I am indebted to Mr. Morley, who operated on the patient, for permission to publish these notes.

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### SCARLET FEVER: REINFECTION FROM EMPYEMA.

THE following case, in which the patient had two distinct attacks of scarlet fever within three months, seems worthy of record.

A boy, aged 6 years, was admitted to hospital on November 8th, 1927, with typical scarlatina of septic type, accompanied by marked dyspnoea. There was a history of six days' previous illness. On admission he had a very marked scarlatinal rash with severe sore throat and typical tongue. Temperature 102° F., pulse 146,

respirations 44. He was given 500,000 units of scarlatinal anti-streptococcus serum. There was marked dullness over the back of the right lower lobe extending to the mid-axillary line, marked dyspnoea, and slight cough. Four ounces of semi-purulent fluid were withdrawn. A further aspiration was attempted the next day without result. Meanwhile, the patient had become cyanosed the rash was not fading, and sores were appearing around the mouth and nares. A further 500,000 units of serum were given. By November 11th the dullness was quite "stonewall," and bronchial breathing was heard in the upper lobe. Streptococci were found in the effusion which had been removed. The rash faded on November 12th. On the following day a further five ounces of definite pus were removed from the chest, and thoracotomy was decided upon. A left otorrhoea made its appearance. Resection of a rib freed a large quantity of sero-purulent discharge. Desquamation commenced on November 17th. By this time the patient had become very septic; the pneumonia had cleared up, but he was obviously only just holding his own. Hypodermic injections of camphor in oil and rectal injections of glucose were resorted to.

A temporary improvement in the general condition began on November 21st, but was checked two days later by the appearance of enlarged cervical glands on both sides with increase of nasal and nasal discharge. About this time the empyema cavity showed evidence of "pocketing," and irrigation with enol was tried.

It was not until December 5th that any marked improvement took place, but by the end of the month the boy was well enough to run about the grounds on fine days. There was a slight bead of discharge from the sinus on the dressing each morning.

On February 1st the boy complained of sore throat and vomited three times. The temperature went up to 102° F., and a typical scarlatinal rash developed by evening, with slight pharyngitis and a strawberry tongue. A sudden increase of thin watery discharge from the empyema sinus was noticed, and in this discharge were found staphylococcus aureus and haemolytic streptococci. The amount of discharge increased until February 6th, and by the 28th haemolytic streptococci were absent. The rash had gone by the 6th. Desquamation commenced on the 11th. The boy was discharged on March 9th perfectly well, with a small discharging sinus to be dressed by his private doctor.

In this case it would appear that the acquired immunity from the first attack was soon lost, and that the boy actually reinfected himself from the haemolytic streptococci in his own empyema.

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### RENAL ABSCESS FOLLOWING GONORRHOEA.

THE occurrence of renal abscess as a complication of gonorrhoea is sufficiently rare to justify the publication of the following note of a case.

A sailor, aged 19, was admitted to the British Military Hospital, Shanghai, on February 2nd, with a purulent urethral discharge containing gonococci. He was put to bed on milk diet, and given irrigations of potassium permanganate (1 in 8,000) twice daily. Eight days later he had a temperature of 99.4° F., and complained of pain in the left lumbar region. His urine was acid and contained much pus with intracellular gonococci, no other organisms being seen. He was given urotropine in 10-grain doses three times a day. On February 19th he was given an injection of 1,000 million gonococci, with little or no reaction. Further injections of 2,000 million and 3,000 million were given on February 22nd and 24th, with almost similarly negative results. Bladder irrigation with 1 in 8,000 oxymercure of mercury was also prescribed. Pyrexia continued in the region of 101° F. On February 25th a swelling was found in the left lumbar region, with pain and rigidity on pressure. A diagnosis of renal abscess was made and the patient transferred to the General Hospital, where facilities for operation were available.

On March 3rd, under ether anaesthesia, the usual kidney incision was made. This exposed to view a large fluctuating kidney, from which about a quart of cream-coloured pus was evacuated. A large rubber drain was inserted and the wound was closed.

Bacteriological examination of the pus revealed gonococci, and cultivation on blood agar remained sterile, indicating the absence of secondary infection.

The patient's temperature returned to normal within two days, and convalescence was uneventful. Vaccines and urethral irrigations were again employed.

This case merits attention, I think, from three aspects: (1) the rarity of renal abscess as a complication of gonorrhoea; (2) the absence of secondary infection; (3) the question of the pathology. Did the infection reach the kidney by way of the lymphatics, or were the ureteric valves rendered so incompetent by the cystitis as to allow the gonococcus admission that way?

For permission to publish this case I am indebted to Colonel S. Pallant, R.A.M.C., and Dr. F. M. Neild (Admiralty surgeon and agent).

J. K. G. WAX, M.R.C.S., L.R.C.P.,  
Shanghai. Surgeon Lieutenant, R.N.

## Reports of Societies.

### BASAL METABOLISM.

At a meeting of the Aberdeen Medico-Chirurgical Society on April 5th, the president, Dr. THOMAS FRASER, in the chair, a paper was read by Dr. ALEXANDER LYALL on basal metabolism in clinical medicine.

Dr. Lyall indicated that estimation of basal metabolism had been of great value to the physiologist in the investigation of nutritional problems long before any use had been made of the method clinically. He outlined the methods in use for the estimation of basal metabolism, referring shortly to the method of direct calorimetry, which, he said, was too complicated for clinical work, and proceeded to a description of the method in general use where the basal metabolic rate could be calculated from the collection of expired air under standard conditions. The patient had to be perfectly at rest mentally and physically, and post-absorptive—that is, having taken no food for fifteen hours previously. The data necessary were the height and weight of the patient, the total volume of expired air over a known experimental period, the respiratory quotient, and oxygen consumption during the time of estimation. Under suitable conditions uniformity of results was achieved by this method. In one mild case of exophthalmic goitre, where the estimation had been carried out four times at three-monthly periods, the oxygen consumption on these occasions had been 254 c.c.m., 251 c.c.m., 255 c.c.m., and 258 c.c.m. per minute, with the respiratory quotient about 0.82 on each occasion. Dr. Lyall pointed out that the experimental error in the method was about *plus* or *minus* 8 per cent., but he believed the error tended always to be towards the upper side. Thus a basal metabolic rate of *plus* 10 per cent. was within normal limits, but a basal metabolic rate of *minus* 5 per cent. showed a degree of reduction upon which one was entitled to place diagnostic importance. A series of 45 cases of exophthalmic goitre had been investigated once or repeatedly by this method. The basal metabolic rate was increased from 15 to 50 per cent. in 14 cases, from 50 to 60 per cent. in 22 cases, and to above 60 per cent. over normal in 9 cases. The highest rates were *plus* 87 per cent., *plus* 97 per cent., *plus* 100 per cent., and *plus* 105 per cent. Three of these four severe cases had auricular fibrillation. The patient with the highest rate was a typical case of the fulminant type of the disease. Generally speaking, the group of cases classed as mild by estimation of basal metabolism were those likely to become good civil lives within a reasonably short period of medical treatment alone. The cases in the group of moderate severity were likely to stand operation well if there was no other contraindication. The group with basal rates above *plus* 60 per cent. made poor surgical risks. The speaker enumerated the additional factors which should be taken into account in considering the operative risk: (1) There should be no organic heart disease; (2) the blood urea should be below 50 mg. per 100 c.c.m.; (3) the patient should have already regained half the previous loss in weight; (4) the blood pressure should not vary further from normal than 140 mm. Hg systolic and 70 mm. Hg diastolic; (5) the patient should have already regained self-control in fair measure. In nine of the cases in which glucose tolerance tests had been carried out the blood sugar curves showed inability to deal properly with glucose. The condition should not be confused with true diabetes, although in this series three cases of diabetes mellitus occurred. Eleven cases of myxoedema were investigated, the basal metabolic rate varying from *minus* 3 per cent. to *minus* 42 per cent., the average reduction being 14 per cent. In four of these cases previous exophthalmic goitre had been present, and the time factor in the change from hyperthyroidic symptoms to hypothyroidic was discussed. A series of cases of toxic adenoma of the thyroid and simple adenoma had shown that the basal metabolic rate was raised in the former group of cases, but not in the latter. In puberty goitre the basal metabolic rate was not increased. The estimation had not been found of value in the diagnosis of malignancy of the thyroid gland. In summing up

shortly Dr. Lyall said that the estimation of basal metabolism was of value in the diagnosis of the less pronounced degrees of thyroid dysfunction. In his opinion it would give help in prognosis and indicate the line of treatment in established cases, and would be of value in the control of treatment, especially by x rays.

### DYSPIUITARISM.

At a meeting of the Section of Neurology of the Royal Society of Medicine, held on April 19th at the West End Hospital for Diseases of the Nervous System, Drs. C. WORTER-DROUGHT and B. W. CROWHURST ANCHER showed jointly a case of dyspituitarism occurring in a boy, aged 15.

The patient, who was normal at birth, was said to have begun to sit up and cut his teeth at the usual ages, but did not walk until nearly 3 years old. After this he increased rapidly in stature, and became much fatter than the average child of his age. He went to school at the age of 5, but made no progress; he never learned to read or write, but showed some interest in mechanical things. His general behaviour was always good. During the last year he had been unable to get about very well, owing to weakness of the legs. The appetite was always very large, and the boy was unusually fond of sweets. Thirst was within normal limits. Though there were frequent attacks of vomiting at night, sleep was fairly good; there was no trouble with headaches, and the sight and hearing were normal. Sexual development was late. His present height was over six feet, and his weight 19st. 8lb. There was pronounced general obesity with fairly uniform distribution of the fat. There was slight differentiation of the shoulder and pelvic girdles, but no padding in the supraclavicular regions or on the dorsum of the hands. The hair in the pubic region was scanty and conformed to the male distribution. The skin was normal in texture, and covered with a slight growth of fine hair. Muscular power was relatively weak. The forehead was full and prominent, the jaws large, the palate arched, and the upper teeth projected beyond the lower. The temperature was invariably subnormal and the pulse rate averaged 90; the functions of all the cranial nerves were normal, and there were no disturbances of sensation or co-ordination. The motor power in the upper limbs was fair, but below normal. The two hands were constantly held together in a position of flexion at the wrist, full extension at the metacarpo-phalangeal joints, hyperextension at the interphalangeal joints, and approximation of the tips of the fingers to each other. The lower limbs appeared to be normal, except that in standing the knees were held close together and the feet were separated. The abdominal reflexes were brisk and equal, and the other reflexes normal. The gait was slow and awkward, with the knees close together, and the feet separated. At an x-ray examination the sella turcica was found to be rather small, but scarcely outside the normal limits. The frontal sinuses were unusually large and the lower jaws big and prominent. The epiphyses of the wrist were normal, but those of the fingers had united. It was added that the mental age of the boy, according to the Stanford modification of the Binet-Simon scale, was between 6 and 8, though for questions involving simple matters of conduct it might be placed at the higher of the two levels. His intelligence quotient was about fifty.

### Charcot's Arthropathy of Both Wrists.

Dr. Worter-Drought also showed a case of Charcot's arthropathy of both wrists occurring in a painter, aged 50, who had complained of swelling of the right wrist since 1918. The onset was gradual without pain, and about a year later the left wrist became slightly affected. The clinical details were as follows.

The right wrist was irregularly enlarged and much deformed. On the dorsum, towards the ulnar side, there was a large swelling containing some fluid with bony thickening beneath; a similar, but smaller, swelling was situated on the radial side of the joint. The enlargements were not painful or tender. Flexion and lateral movement at the joint was moderate, and extension was very limited. X-ray examination showed total disorganization of the joint, the carpus having almost entirely disappeared, the lower ends of the radius and ulna being dislocated dorsally on the bases of the metacarpal bones. The left wrist was considerably swollen, especially towards the ulnar side, and was deformed. An x-ray photograph showed an early stage of Charcot's arthropathy, with little bone damage. The metacarpo-phalangeal joints of the left index and middle finger were also swollen and enlarged, but freely movable. The right pupil was larger than the left, and neither reacted to light, though each responded to accommodation-convergence tests. The other cranial nerves were normal. There was some ulnar and tendo-Achillis analgesia; the knee-jerks were present, the right being slightly brisker than the left; arm-jerks, abdominal reflexes, and ankle-jerks were normal; the plantar response was flexor, and no definite inco-ordination was detected. There was no history of syphilis, but the Wassermann reaction was positive, and the colloidal gold test showed a curve of the luetic type.

Dr. Worter-Drought said that during the past three years the patient had been treated with courses of novarsenobillon intravenously and bismuth intramuscularly. The neurological signs at the right wrist and metacarpo-phalangeal joints had remained unaltered, but the left wrist had slowly become worse.

## Rebels.

### HEREDITY.

To those who were young in the days of the Homeric battles of the Mendelians and biometricians, the perusal of such a straightforward and impartial account of the present state of opinion as Dr. Crew's *Organic Inheritance in Man*<sup>1</sup> is particularly interesting. The smoke of the battle has long ago been dissipated, and, alas! the two protagonists, Bateson and Weldon, are gone. Like most issues hotly contested between scientific men of genius, the decision has not been wholly in favour of either. If, like a boxing match, a decision were to be given "on points," no doubt the Mendelians would have it. Not only in intellectual suggestiveness, but even in the utilitarian field the investigations which sprang from the rediscovery of Mendel's work have been more fruitful than those which were promoted by the school which was at first directly hostile to the Mendelians. But it is not less true that in the field of human inheritance the splendid work of Karl Pearson and his pupils and associates—among whom the late Edward Nettleship was not the least—has demonstrated that the contempt of the earlier Mendelians for the methods of Galton and his followers was unwarranted. Dr. Crew is of opinion that the name of Thomas Hunt Morgan "will surely be added to those of the immortals of science. He does not merely stand on the shoulders of Mendel; seeing further, he has sprung therefrom to conquer a province of his own;" and a large part of this volume is devoted to an exposition of the work of Professor Morgan, based upon an intensive study of the fruit fly, *Drosophila melanogaster*.

Dr. Crew (whose book has grown out of a course of lectures intended for medical men) has taken considerable pains to make the subject clear, and has, we think, succeeded. The difficulties are of two kinds. In the first place, although geneticists often used to speak lightly of "mathematicians," to understand the possible numerical sortings-out of factors when the number of units is more than one or two really requires a grasp of the ideas of that particular branch of mathematics which rejoices in the formidable name of "combinatory analysis." In the second place, any visualization of the chromosome theory compels the reader to brush up his acquaintance with a part of cellular physiology that is not very easy to follow. Chapters II to IV of Dr. Crew's book will therefore make some demands upon the reader's attention. It might, perhaps, have been worth pointing out that the number of possible combinations of chromosomes in the zygote is the sum of the binomial coefficients (56 in the third line of the table is a misprint for 64) of  $(A+B)^n$ —that is,  $2^n$ —and to illustrate by symbolic multiplication, as well as by mere diagrams, how the frequencies of the various combinations are reached. The remaining chapters, dealing with co-sanguinity, inheritance in man, and disease resistance and immunity, are easier reading—the cynic will perhaps say because our detailed knowledge of these matters is so much less than what we know about the genetics of *Drosophila melanogaster*. But these chapters are very clearly and interestingly written, and contain very few instances of the dogmatism which is so common in writings upon human inheritance. We have only noted a few instances which struck us as in need of modification. We think that the remarks on the inheritance of left-handedness are too summary, and that the psychological complexity of this particular problem should be noticed. The remark that "the grandson of long-lived grandparents is by far the better 'risk' for an insurance company than is one of short-lived ancestry" is more dogmatic than any published evidence known to us warrants. Similarly, the statement that "there is no doubt that the principal determinant of longevity is heredity, and the average duration of life of a population cannot be modified at all profoundly by any sort of improvement in State medicine," is only true if we define the word "profoundly" in some special way.

These, however, and a few other similar dicta, do not detract from the general merit of the book, which we strongly recommend to the medical reader as a careful introduction to the subject.

The book is agreeably prefaced by a biography of the distinguished Birmingham physician William Withering, in whose honour the lectureship Dr. Crew held was founded.

### CHEMICAL PROPERTIES AND PHARMACOLOGICAL ACTION.

Drs. L. HUGONENQ and G. FLORENCE in their book *Principes de Pharmacodynamie*<sup>2</sup> have courageously attacked the difficult problem of the relation between chemical constitution and pharmacological action of drugs. The general purpose of the book is set out thus in the preface:

"The technique of physiological investigation is daily becoming more perfect; our knowledge of molecular architecture is continuously increasing and becoming more accurate; and finally, physical chemistry will doubtless bring forward all sorts of new conceptions which will illuminate the way. When all these synergic factors have produced their full effect pharmacodynamie will be a biological science, still developing, but based on solid foundations. The book is a miniature and imperfect representation of one of the first stages of this evolution, a period that is of the highest interest, as is the commencement of any subject which is destined to increase and perhaps, fated to play an important role. For, after all, surely the essential object of medical science is to relieve pain and, when possible, to heal the sick. It requires courage to pronounce this truth which is so often veiled from those workers, otherwise admirable, who are better equipped to describe than to fight disease."

The intentions of the authors deserve, therefore, the highest praise, but the task they have attempted is one of uncommon difficulty. Anyone who attempts to correlate chemical constitution and pharmacological action is faced with a vast mass of material of very varying accuracy. Here and there definite correlations occur between some structural or physico-chemical property of compounds and the intensity of the action that they produce on living tissues, but such correlations are exceptional cases scattered among innumerable unco-ordinated details.

Fränkel's *Arznei*<sup>3</sup> was noticed in our issue of May 14. It is a most exhaustive work on the subject. That encyclopaedic volume is an example of Teutonic industry, but it is essentially a work of reference, and gives no general view of the problems dealt with. The authors of the present work have kept their material within manageable limits and have produced a readable volume. They describe clearly important examples of drugs in which some recognizable connexion is apparent between chemical structure and pharmacological action. A few of the problems the authors deal with are as follows: Drugs acting on the various types of nerve endings—namely, sensory nerve endings, endings of medullated nerves and autonomic nerve endings, narcotics, antipyretics, and such specific remedies as the organic compounds of mercury, arsenic, antimony, and bismuth, and the antiseptic dyes.

The book is particularly interesting because it gives a fairly full account of the important researches in chemotherapy that have been carried out by French workers, of whom Fournieu is one of the best known. The significance of this work is apt to be overlooked, because the great majority of reference books are in German, and these tend to emphasize the work published in their own language. The volume concludes with two short but interesting chapters on war gases and anti-gas measures. The authors remark, however, that this information is out of date, because all the gases described have already been superseded by others whose composition is secret.

The authors deserve praise for their endeavour to give a coherent presentation of the difficult subject that they have chosen, but it cannot be said that they have succeeded in throwing much new light on the problems they discuss. The reason for this is that our present knowledge is unfortunately inadequate to permit of any important generalizations regarding the relation between chemical properties and pharmacological action.

<sup>2</sup> *Principes de Pharmacodynamie*. Par L. Hugoneng et G. Florence. Paris: Masson et Cie. 1928. (Med. 8vo, pp. viii + 391; illustrated. 40 fr. sans majoration.)

<sup>1</sup> *Organic Inheritance in Man*. By F. A. E. Crew, M.D., D.Sc., Ph.D. Edinburgh and London. Oliver and Boyd. 1927. (5½ x 9, pp. ix + 214; 37 figures, 1 plate. 12s. 6d. net.)

## THORACOSCOPY.

No doubt exists as to the value of endoscopy as applied to the bladder, stomach, and bronchial tubes, and it remains to be shown whether the method can be usefully applied to the pleura and peritoneal cavities. That it is feasible in the case of the pleura has been proved by Jacobaeus, who has successfully used it in his operation of division of pleural adhesions, and surgeons will welcome two excellent works on the subject—the *Atlas Thoracoscopicon*<sup>3</sup> of Dr. Felix Cova and the textbook and atlas of laparo- and thoracoscopy<sup>4</sup> by Dr. Roger Kohnsch—in which the technique of the method is described and the appearances seen in various diseases depicted.

Dr. Cova's work is purely an atlas, with brief explanatory notes on the illustrations. Of the latter it is impossible to speak too highly; the drawing and colouring are very fine, and the plates are sufficiently numerous—fifty in number—to give a good idea of the value of the method as an accessory means of diagnosis and in controlling operative procedures. Several plates exhibit the operation of Jacobaeus, and every detail of the procedure can be followed as if the operation were being conducted on the surface of the body. The descriptions of the plates (as well as the preface) are in Italian, German, and English.

Dr. Kohnsch's work has a different scope; it deals with the peritoneum as well as the pleura, and gives full details of the technique of the operations, their indications and complications, with fifteen coloured plates in illustration of the lesions; further, it enters into considerable detail relating to the pathological anatomy of the lesions brought into view, in their several stages. How far it will be considered justifiable to resort to laparoscopy as a substitute for exploratory laparotomy is at present doubtful; the former is the less serious operation, but the latter enables the organs to be handled as well as seen—a great advantage.

The two books referred to will assist the surgeon in forming an opinion on the possibilities of these new procedures.

## SANITARY LAW AND PRACTICE.

ROBERTSON and PORTER'S *Sanitary Law and Practice*<sup>5</sup> has in its sixth edition been added to, amended, and, where necessary, rewritten to keep pace with the changes of the last seven years. It now takes in the Sanitary Officers Order of 1926, the Memorandum on the duties of Medical Officers of Health of 1925, and the Public Health Smoke Abatement Act of 1926, which omits the word "black" as qualifying smoke in respect of which nuisance may be held to occur. It deals with the Public Health Act of 1925, and the various regulations as to meat and foods, including the Preservatives Regulations of 1925, which have come into operation since the fifth edition was published. The Tuberculosis Order of 1925 is likewise quoted. The Milk and Dairies Amendment Act of 1922, with the Act which it brought into operation, and relevant Orders, and the corresponding Acts and Orders for Scotland, are all duly set forth. The Housing Act of 1925 is presented and explained. The work in its present form contains sections on central and local health administration, on offensive trades and slaughter-houses, on the dairy by-laws, on infectious disease and its notification, and on tuberculosis. It treats competently of water supplies, sewage disposal, and housing. The subject of welfare is effectively presented, the mother, the infant, and the school child being dealt with in order. The concluding item is the Public Health Infectious Diseases Regulations of 1927. The work is therefore well up to date, and can once more be recommended to the student of public health as an ample and trustworthy guide.

<sup>3</sup> *Atlas Thoracoscopicon*. Del Dr. Felix Cova. Milano: Sperling and Kasper. 1928. (Roy. 4to; 50 plates. £1 7s. 6d.)

<sup>4</sup> *Lehrbuch und Atlas der Laparo- und Thorakoskopie*. Von Dr. Roger Kohnsch. Lehmanns medizinische Lehrbücher, Band ix. München: J. F. Lehmann. 1927. (Roy. 8vo, pp. 73; 15 plates. M.10.)

<sup>5</sup> *Sanitary Law and Practice*. By W. Robertson, M.D., Glas., D.P.H., F.R.C.P.Ed., and Charles Porter, M.D., B.Sc., M.R.C.P.Ed. Sixth edition, revised and enlarged. London: The Sanitary Publishing Company, Ltd. 1928. (Demy 8vo, pp. xix + 815; 51 figures. 21s. 9d. post free.)

## MEDICINE AS SHOWN IN ART.

Dr. CABANÈS has collected and published much material of an interesting and curious nature in connexion with the history of medicine and medical men; and out of his extensive store of knowledge has now brought to our notice the representations of disease in painting and sculpture in a copiously illustrated work entitled *Esculape chez les Artistes*.<sup>6</sup> Contesting the notion that science and art are incompatible, he recalls that great artists, such as Leonardo da Vinci and Michaelangelo, made very careful studies of anatomy in order to render their masterpieces more accurate, whereas Raphael's representation, in the famous picture of the Transfiguration, of a child in a fit with the museles of a developed athlete, is an example of an error which might have been avoided. Dr. Cabanès then refers to Pasteur and Chareot as artistic spirits, quoting Paul Richer's dictum that a work of art is the translation of an idea into material language.

The morbid conditions reproduced in pictures and sculpture are considered in successive chapters, the first dealing with facial affections, such as rhinophyma, asymmetry, paralysis, spasm, and one of leishmaniasis on an ancient Peruvian vase of the period of the Incas. Various dwarfs, pygmies, and court jesters are copiously reproduced, and the chapter on the great historical epidemics is rich in illustrations of bubonic plague and its great patron saint, St. Roch, drawn from the author's private collection. Leprosy also is well represented, and the picture of St. Antony tormented by the Devil, after Matthias Grunewald (1515), is reproduced, with a note about the nature of the lesions shown—syphilis, leprosy, plague, or, as the author follows J. K. Huysmans in believing, gangrenous ergotism. In the chapter on hysteria and hysteroc epilepsy, which Chareot and Paul Richer and Meige so thoroughly explored, the author points out that demonic possession was hysteria, and gives an account, with illustrations, of the well-known dancing mania of St. Guy. The phenomena of insanity and epilepsy are graphically depicted; then representations of surgery from the time of the siege of Troy are dealt with; and in the section on pathology in art urologists and dentists find a place. In an appendix on the thyroid gland Professor van Leersum's recent article in *Janus* on this subject is laid under acknowledged contribution.

This pleasantly written monograph provides a most useful store of information, which those interested in the history of disease will do well to consult.

## NOTES ON BOOKS.

As a change from the encyclopaedic catalogues of symptoms which the American medical author seems to delight in inflicting upon the reviewer, it is refreshing to meet with Dr. FRANCIS W. PALFREY's book on *The Specialties in General Practice*.<sup>7</sup> Dr. Palfrey has compiled his book in collaboration with professors and instructors at the medical school of Harvard University. Its production is justified in the preface by the obvious truism that "the total of medical knowledge has become so large that it is beyond the capacity of any one man to have a complete command of the whole in all its branches." A less trite argument is that "books on special subjects are, for the most part, written from the point of view of the specialist," often laying emphasis on rare conditions and operative procedures which are of subsidiary interest to the general practitioner. Dr. Palfrey has kept his contributors well in hand; they have summarized sanely the knowledge which the general practitioner should possess in the specialties, and have rightly avoided controversial discussion. Thus few people could object to the preface on the delicate subject of sexual hygiene with which Dr. Dellinger Barney opens his section on genito-urinary surgery. Dr. H. C. Solomon will have on his side many experienced general practitioners when he says that the prevailing idea that small doses of alcohol are helpful in the cure of alcoholism is probably incorrect. Dr. J. R. Toubert's proposition that extension of the mother's thighs diminishes the risk of rupture of the perineum may be

<sup>6</sup> *Esculape chez les Artistes*. Par Dr. Cabanès. Paris: Le François. 1928. (5½ x 7½, pp. 403; 198 figures. 15 fr.)

<sup>7</sup> *The Specialties in General Practice*. Compiled by Francis W. Palfrey, M.D., in collaboration with various authors. Philadelphia and London: W. B. Saunders Company. 1927. (6 x 9½, pp. 748. 30s. net.)



correct, but seems inconsistent with the presumably natural squatting position in parturition. The book is a readable summary of useful knowledge.

*Fighters of Fate: A Story of Men and Women who Have Achieved Greatly Despite the Handicap of the Great White Plague* is the title of a book by Dr. J. A. MYERS, Associate Professor of Preventive Medicine in the University of Minnesota, who sketches the life stories of twenty-four persons prominent in very different walks of life in order to encourage the victims of tuberculosis by showing how much can be done by others similarly stricken. The female representative is Elizabeth Barrett Browning, and among the twenty-three men Schiller, Bichat, Laennec, Keats, E. L. Trudeau, Lawrason Brown, and McDougald McLean represent the medical profession. Nicolo Paganini and Frederic Chopin stand for music, Aubrey Beardsley for pictorial art, Cecil Rhodes for statesmanship, St. Francis of Assisi for the Church, and Dostoevsky, Leigh Hunt, Artemus Ward, and others for literature. Rather curiously R. L. Stevenson is only mentioned incidentally as a patient of Dr. E. L. Trudeau, but Dr. Myers has wisely disarmed any criticism by frankly admitting his difficulty in choosing those to include. Some of the people he describes are fortunately alive, such as Dr. Lawrason Brown, Mr. Albert Edward Wiggam, who, it is delightful to hear, "plays nine holes of golf every day" and "lectures even before such medical groups as the clinical staff of the Mayo Clinic," and Will Irwin, an American author, a list of whose works is thoughtfully appended. Tuberculosis has been credited with causing mental exaltation—for example, Chopin is said to have been thus enabled to compose some of his masterpieces—but Dr. Myers considers a more trustworthy explanation is that the enforced physical inactivity provides more opportunity for mental work and output.

*\*Fighters of Fate: A Story of Men and Women who Have Achieved Greatly Despite the Handicap of the Great White Plague.* By J. Arthur Myers. With an introduction by Charles H. Mayo. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1927. (Cr. 8vo, pp. xix + 318. 13s. 6d. net.)

## Nova et Vetera.

### VILLEMIN—PIONEER.

#### A CHAPTER IN THE HISTORY OF TUBERCULOSIS.

The hundredth anniversary of the birth of Villemin was celebrated recently in Paris. He it was who convinced a large proportion, if not the majority, of the leaders of French medical thought that tuberculosis was a specific communicable disease, and through them many of the physicians and pathologists of other countries, though it needed the demonstration by Koch of the tubercle bacillus to clinch the matter and convince everybody. It may seem strange to-day that the fact should ever have been in doubt, and it is not easy fully to realize the state of confusion that existed about pulmonary consumption in the middle of the last century. The prevailing belief among the public was that it was inherited, and the current opinion in the medical profession was that it was due to a diathesis. In the Mediterranean countries there were traces of a popular belief, shared by some members of the medical profession, that it was contagious. This was sufficiently well known in France to cause experiments to be made, but these yielded negative or ambiguous results. In 1843 Klencke claimed to have produced generalized tuberculosis by injections into the jugular of certain cells he identified as tuberculous, but he failed to impress German medical opinion.

Villemin's early work was received in a critical spirit by his own countrymen. It was deemed revolutionary, as, indeed, events proved that it was. He was helped to form his views about tubercle by the study of disease in animals. He found analogies between tuberculosis and glanders, which Gohier in 1813 had proved to be contagious and inoculable from horse to horse, and Roger in 1842 to be transmissible from horse to man. Villemin had observed how glanders spread in the regimental stables, and he made use of the analogy when he wrote, "We cannot escape from the idea that in the production of phthisis the barrack is for the soldier what the regimental stable is for the horse in the production of glanders." Again, he observed that the poor man's cow feeding by the roadside escaped tuberculosis, whereas in some big dairy

farms nearly every cow succumbed. He studied his subject with great energy for years, and found many more facts of human and animal pathology all converging to the same conclusion, but he encountered also many difficulties, including the circumstance, emphasized by Laennec, that phthisis did not habitually spread in poor families living under the worst conditions, and the opinion of Virchow, whose influence was then dominant, that "caseous pneumonia" was not tuberculous.

Villemin was in no hurry to publish, but his first essay, which appeared in 1861, showed the direction in which his mind was working. It was not until December 5th, 1865, that he brought before the Académie de Médecine in Paris his conclusion that tuberculosis was a virulent specific disease. The thesis rather took the academicians' breath away, but after considering the matter for nearly a year it was seen that its consequences were too big to warrant any decision, except after experiment and ample discussion. Accordingly in October, 1866, a committee of some of the most distinguished French pathologists of the day was appointed. Its report, presented by Colin a year later, showed that its members were sitting on the fence; they confirmed the accuracy of Villemin's work, but were not prepared to reject the theory that tuberculosis might occur spontaneously. There ensued a debate which, as is the way of the Academy when it is interested, dragged on until the long vacation of the ensuing year. Colin's report was then accepted and the essential part of Villemin's contentions thus approved. Meanwhile he had assembled his observations and arguments in a book which was widely read, and he had won some powerful supporters; among the pathologists perhaps the most influential was Cornil.

Laennec had maintained what was called the "unity of phthisis," a view, as has been said, afterwards attacked by Virchow. But Laennec and the majority of the clinicians who followed him were impressed by the fact that there was little evidence of the transmission of phthisis from one adult to another. Professor Bezaucou, who delivered the principal speech at the celebration, called attention to the fact that when Villemin first promulgated his theory infantile tuberculosis was little understood. It was now realized, Bezaucou said, that it was necessary to consider separately the problem in the child and in the adult. The fact that the infant's organism was very sensitive to tuberculous infection dominated the whole pathological story. In the adult, with his more resistant organism, though infection might occur and was always to be feared, "the danger is rather in the re-awakening of a tuberculosis of infancy which had become latent"; consequently the problem was the study of the reasons why the latent tuberculosis was re-awakened rather than to discover the causes of contagion. Had Villemin been aware of this he would have had less difficulty in convincing the clinicians of his day.

There was a considerable body of opinion against him in France, Germany, and England, among pathologists as well as clinicians. It is indeed strange that so many should have blundered in their experiments and in the interpretation of them. It was, perhaps, because bacteriology was in its infancy; the fact that microbes bred true was not fully assimilated, nor the need for precautions to prevent contamination thoroughly grasped. As this new department of science developed not a few of its votaries began to make tentative experiments with tuberculous products, until Koch, the most famous of Villemin's followers, by the happy thought of the solid culture medium, and by working out a new technique, discovered the tubercle bacillus in 1881 and convinced all.

Villemin was the son of a small farmer in the Vosges, and hoped to become the village schoolmaster, but he was conscripted. His colonel sent him to study medicine at Strasbourg, and he entered the military service of the French army; quite early in life he became professor in the army medical school at Val de Grâce. He was elected a member of the Académie de Médecine in 1874; eighteen years later he became its vice-president. Professor Achard, the present general secretary of the Académie, said, during the celebration, that he would certainly have become its president but for his early death, which occurred in 1892.

D. W.



# British Medical Journal.

SATURDAY, APRIL 28TH, 1928.

## THE DECLINE OF TUBERCULOSIS.

SIR ROBERT PHILIP, in his recent address at Bath to the Society of Medical Officers of Health, printed in our opening pages this week, has turned his attention to the causes of the decrease in tuberculosis mortality. That a great decline in the mortality from the disease has occurred and is occurring in this country is matter of common knowledge. It may be readily confirmed by a comparison of the tuberculosis death rate in the middle period of last century with the happier conditions of the present day. The rate of decline has followed, on the whole, a fairly uniform course, except in so far as it may be held to have been accelerated during recent years. Tuberculosis is a disease which is prevalent in animals, from which it may be passed to man; it is capable also of being transmitted directly from man to man under certain conditions. In the human subject it usually runs a somewhat protracted course. . . . in its early non-infective stages, . . . to diagnose, to the infective lesions of its terminal phases, which are too gross to escape observation. Under such conditions it is scarcely to be expected that the variation of any single factor could have produced the progressive fall. The question of the causes which have been at work is one of considerable complexity. Tuberculosis, however, has been to Sir Robert Philip the interest of a lifetime, and he is therefore well fitted to speak with authority on the causes of its decline.

The antituberculosis campaign which developed in this country soon after 1911, aided by the funds made available by sanatorium benefit under the national insurance scheme, and by the moneys then voted by Parliament for the construction of institutions for the treatment of tuberculosis, was inspired in great measure by the linked dispensary and sanatorium system which Sir Robert Philip had established in the city of Edinburgh. He properly ascribes to this class of work a share in the credit for the reduction in the incidence of the disease, though he does not lay such exclusive stress upon it as some who have elsewhere carried on schemes modelled upon his example. Recognizing that the downward course of the tuberculosis death rate had begun long before any formal antituberculosis regime had been instituted, he seeks his solution in those causes which began to operate as a result of the movement which followed the Royal Commission of 1869. An awakened interest in sanitary matters, an improvement in the educational standards of the people, a diffusion of general and special knowledge among classes previously excluded, a betterment of housing and working conditions, higher wages, shorter hours, better feeding, the open-air life—all these contributory factors have, in his view, increased communal vitality and tended to curb the ravages of the disease.

It is probable, too, that many of these contributory factors have acted also in a direct manner by cutting across the path of infection and reducing the frequency of the opportunities for the transmission of the virus to children at young ages. The path of infection between bovine animals and man is being closed, as a result of recent milk legislation, by the sale of milk from tuberculin-tested herds, and by the Tuberculosis Order of 1925. But these specific factors, valuable

as they are, were preceded, and are still being reinforced, by that group of causes which, taken together, make up what is known as the social uplift: an influence which has, with some few exceptions, been ranged on the side of health—unconsciously hygienic during the ages when medicine itself was ignorant, consciously hygienic at the present day, when medicine, owing to its notable advances, is able to contribute in such an effective manner to the welfare of the community.

It is true that medicine in the case of tuberculosis has not yet evolved a generally accepted specific prophylactic. It is possibly true that some part of the treatment of tuberculosis as now carried out is uneconomic, when cases come under notice too late to be cured, so that expense is incurred in the protracted treatment of those who can never regain their working capacity. Even if it were so, the linked antituberculosis system is well justified of its works, for the treatment of the obviously sick is not the sole or the principal object which it serves. The tuberculous infection is followed back into the homes of the people; early associated cases are discovered and put on treatment; the pre-tuberculous are shepherded along the paths which lead to health; defective environmental conditions are rectified; and an unobtrusive, but potent, antituberculosis propaganda is set on foot, precisely in the places and among the people by whom it is most required.

Sir Robert Philip, in a personal reference with which his address begins, touches on the work of Villemin. A note on this pioneer in the study of tuberculosis which appears elsewhere in this issue (p. 720) will be read with mingled interest and regret by many who had frequent occasion, during his lifetime and tenure of office, to delight in the cogent and graceful pen of Sir Dawson Williams. In this note, written a few weeks before his death, our late Editor refers to the critical spirit in which Villemin's early work was received, and tells how the French Academy of Medicine sat firmly on the fence when presented by Villemin with an essay in which he showed tuberculosis to be a virulent specific disease. The lives of medical pioneers have too often fallen in unpleasant places. Harvey, when he discovered the circulation of the blood, lost much of his practice. Jenner's *Enquiry* was rejected by the Royal Society. Lister encountered hostility and opposition for many years. Sir Robert Philip, living in a more enlightened age, has had better fortune. His election to the Presidency of the British Medical Association, the position which he now adorns, is not only a mark of the personal esteem in which he is held by the profession, but also a recognition of the distinguished part he has played in the movement for the control of tuberculosis, of which, as he says with characteristic moderation in the closing paragraph of his address, the outcome appears satisfactory.

## THE ANAEMIA OF MALIGNANT DISEASE.

THAT anaemia is often associated with malignant disease, especially with cancer in its later stages, is a common observation. This anaemia may be of any degree of severity, and in the severer degrees may form a picture almost indistinguishable from that of pernicious anaemia, and in some cases may form so prominent a symptom as to dominate the clinical picture. This condition has been discussed and carefully analysed by Dr. David Eisen.<sup>1</sup> He finds that in

<sup>1</sup> Anaemia as a Predominating Symptom in Malignant Disease. David Eisen, M.B.Tor. *The Canadian Medical Association Journal*, vol. xvii, No. 12, p. 1506.

cases in which the anaemia constitutes a predominant symptom in malignant disease the patients' complaints may largely be referable to the anaemia, and that measures tending to its relief may sometimes result in considerable temporary improvement. He divides this class of patients into three groups, according to the relative predominance of the anaemia over the other associated symptoms. In the first group are comprised patients who present a marked anaemia of the primary type, accompanied occasionally by other symptoms of primary pernicious anaemia, but with no definite evidence of malignant disease. In this group the malignant disease present is usually cancer of the stomach, and many writers have commented on the occasional resemblance of the blood picture in this condition to that of pernicious anaemia. In the second group are included patients who present a clinical syndrome sufficiently characteristic of malignant disease to cause its presence to be suspected, but not definitely established, and in whom the associated anaemia overshadows the remaining symptoms. The third group is composed of patients who present definite evidence of malignant disease—usually of the gastro-intestinal tract—and in whom the symptoms are largely due to the accompanying anaemia.

As a typical example of the first group Dr. Eisen records the history of a man, aged 59, who was considered to be a case of pernicious anaemia even during treatment in hospital. It was only on his second admission to hospital that evidence of gastric retention was obtained, and x-ray examination then showed advanced carcinoma of the mid portion of the stomach, the patient dying two weeks later after a palliative operation. Necropsy revealed the stomach to be infiltrated by a firm colloid-like tumour undergoing ulceration, which microscopic examination showed to be an adenocarcinoma infiltrating the entire stomach wall and extending into the serosa. Dr. Eisen contends that the diagnosis of pernicious anaemia made on the first admission would seem justifiable in the presence of achylia, dorsal sclerosis, and marked anaemia of a primary type in a well-nourished man with a virtually negative roentgenogram and absence of evidences of external haemorrhage. Moreover, this diagnosis was strengthened by the apparent improvement after hospitalization.

That malignant disease, especially of the stomach, simulates pernicious anaemia has long been recognized. Minot and other writers, though admitting the association of a pronounced haemolytic anaemia of the primary type with malignant disease, will not admit that it constitutes the causative factor of this anaemia, especially in cases in which the severity of the anaemia appears to be out of proportion to the extent of the lesion. Minot, however, suggests that the pernicious anaemia may in some way predispose to the development of the malignant disease. Several writers—Sounenfeld, Naegeli, Hirschfeld, and Zadek—record cases in which cancer of the stomach has developed during the course of pernicious anaemia. Although it cannot be denied that the simultaneous presence of malignant disease and pernicious anaemia may be a mere coincidence, Dr. Eisen will not accept this as an explanation of all cases of malignant disease with a pernicious anaemia syndrome. It would be difficult on this basis, he contends, to explain why the great majority of the cases of malignant disease which offer difficulty in differential diagnosis from pernicious anaemia are cases of cancer of the stomach, in which the anaemia is usually severe. Much more

definite clinico-pathological evidence is needed to support the view that pernicious anaemia offers a specific predilection for the occurrence of malignant changes in the stomach. Further, it cannot with certainty be proved in any case that cancer of the stomach became superimposed upon pernicious anaemia, as gastric carcinoma may notoriously be present for a long time without presenting any characteristic symptoms. A typical case of the second group is also recorded in which the anaemia was the outstanding feature and appears to have been the actual cause of death. The comparatively high colour index, the extreme anaemia with leucopenia and relative lymphocytosis, in the absence of evidence of external haemorrhage suggested the diagnosis of pernicious anaemia early in the disease, and the *post-mortem* findings of increased pigment deposits in the viscera support this view. Haemolytic anaemia associated with malignant disease appears to be uncommon. The close resemblance to pernicious anaemia of the two cases cited suggests an etiological relationship for the anaemia. Whether, however, the achlorhydria played an etiological or an adjuvant role in the production of the anaemia, or whether all the phenomena were caused by a circulating toxin, is difficult to state. An illustration of the third type of patient is provided by the case of a housewife, aged 62, in whom the palliative effects of transfusion were demonstrated. This probably results from stimulation of the haematopoietic system, and may be expected to occur in cases of malignant disease with symptoms mainly referable to the anaemia. The possibility of haemolysis after transfusion cannot be ignored, as mentioned by Ewing, who considers that it is due to a toxic action on the transfused blood by haemolysins engendered by the absorption of necrosing tumour tissue, to which the patient's own blood appears resistant. It is not at all clear why such pronounced anaemia should occur in certain patients with malignant disease; probably several factors are at work, including persistent haemorrhage, impaired nutrition, absorption of necrosing tissue, and occasionally haemolysis. Aplasia of the bone marrow, except as secondary to chronic haemorrhage, does not appear to present any definite relationship to the malignant process.

To whichever of these three clinical groups the patient belongs he may expect to obtain considerable alleviation of his symptoms from the adoption of measures directed to the relief of the anaemia, chief amongst which stands blood transfusion. The danger of haemolysis of the donor's blood, however, should be kept in mind, and tests for this possibility should always be made beforehand.

#### GENERAL PRACTITIONERS AND THE DAWSON WILLIAMS MEMORIAL FUND.

IN our issue of March 17th (p. 461) we published the first list of supporters of a memorial to Sir Dawson Williams. The project began in January as a Testimonial Fund in recognition of the great services rendered to medical science and the medical profession by Sir Dawson Williams during the thirty years he served as Editor of the *British Medical Journal*. His sudden death on February 27th, less than six weeks after retirement from the editorship, prevented his many friends and admirers throughout the profession from making this public acknowledgement of their esteem and regard during his lifetime, but the Executive Committee decided, very rightly, that what had been done should be continued with the object of establishing a worthy memorial to a great benefactor of British medicine. Its

form will be decided upon, in due course, when the subscribers have been consulted. In the meanwhile we are asked to make it known that the Fund is still open, and that further contributions, small or large, will be welcomed, in order that the memorial may be widely representative of every branch of professional work and study, and not least of the great body of general practitioners, whose interests Sir Dawson Williams had ever at heart from beginning to end of his editorship. The fullest participation in this project by those whom he so often spoke of as "the working doctors of the country" would be more than fitting; indeed, without it this memorial, whatever the sum raised, would be inadequate. Many general practitioners have already subscribed generously, but the response will, we hope, soon be even more widespread. The names of all contributors will be acknowledged in these columns. Cheques should be made payable to Sir St. Clair Thomson, who is acting as Treasurer of the Fund, and sent to 64, Wimpole Street, London, W.1, and the envelopes marked "Dawson Williams Memorial."

#### NEW LIGHT ON YELLOW FEVER.

THE study of yellow fever has been greatly advanced by two recent discoveries, which throw a new light on the nature of the virus and incidentally furnish additional evidence that *Leptospira icteroides* Noguera is not the causative organism of this disease. Since 1925 the West African Yellow Fever Commission of the Rockefeller Foundation, with headquarters at Lagos, has been studying numerous sporadic cases of yellow fever in Nigeria and the Gold Coast, and a recent report<sup>1</sup> by the late Professor Adrian Stokes (who died from the disease), in conjunction with Drs. Bauer and Hudson, contains the first definite record of the transmission of this infection to laboratory animals. The common rhesus monkey, *Macacus rhesus*, and also, to a lesser degree, the Indian crowned monkey, *M. sinicus*, are found to be very susceptible to the disease, which may be transmitted either by the bites of infected mosquitos or by the inoculation of blood from a yellow fever patient. Curiously enough, the local monkeys, and even chimpanzees, were found to be immune, as well as all the ordinary laboratory animals. The disease has been carried thirty times from monkey to monkey by the inoculation of infected blood or serum, with fatal results in every case except one, when the animal recovered and was subsequently immune. In addition, twenty-two monkeys were infected by transmitting the disease from one animal to another by the bites of infected mosquitos (*Stegomyia fasciata*). Mosquitos invariably became infective when fed on infected monkeys during the first or second day of fever, and after an incubation period of not more than sixteen days remained infective as long as they lived. One mosquito produced fatal infections in two monkeys when it was fed to them eighty-five and ninety-one days respectively after feeding on an infected animal. Fortunately, the infection does not seem to be transmitted to the offspring, as large numbers of mosquitos reared from eggs laid by infected females were fed on a monkey with negative results. The course of the disease in monkeys is similar to that in human beings, and the pathological changes, including the *post-mortem* appearances and morbid histology, closely agree with those described as typical of yellow fever. In an attempt to isolate the causative organism cultures were made of infected blood in various media, including those used for leptospirae, and also the tissues of infected animals were carefully examined, but in no case was any organism found that could be regarded as the etiological factor. Moreover, guinea-pigs, which are extremely susceptible to infection with *Leptospira icteroides*,

were quite unaffected by the inoculation of material from yellow fever cases. Independent investigators have shown that *L. icteroides* is serologically identical with *L. icterohaemorrhagiae*, and it is now almost certain that the organism described by Noguera as the cause of yellow fever must have been obtained from cases of Weil's disease, or possibly from patients with a double infection. In our present issue (p. 713) we publish an article by A. W. Sellards and E. Hindle advancing knowledge of the disease a stage further. Working with a strain of yellow fever isolated in Senegal, they were able to confirm the fact that rhesus monkeys are very susceptible to the disease. They then made experiments on the nature of the virus, and found that, like vaccinia, rabies, distemper, and many other diseases caused by filterable viruses, the infective agent is unaffected by cold, and if frozen will maintain its virulence for at least twelve days. It appears probable, therefore, that yellow fever belongs to the group of diseases caused by filterable viruses, and experiments have shown that the virus in the blood can pass through Berkefeld filters V and N, but not through a Berkefeld W. The preservation of the frozen virus affords a simple method of transporting the infection, and as a susceptible animal is now available the disease can in future be studied in regions where the natural transmitting agent, *Stegomyia fasciata*, is absent, and there is no danger of the infection being spread by stray mosquitos. Although it is a little early to assume that the New World is now free from yellow fever, no cases have been recorded since the eradication of the endemic centres in Brazil by means of anti-mosquito campaigns. In West Africa, on the other hand, epidemics of increasing severity have occurred in recent years, and this region still remains a potential source of danger to all tropical countries in which the transmitting mosquito is present.

#### FRACTURED CLAVICLE.

A BROKEN collarbone is such a common injury on the road, in the hunting field, or the recreation ground, and its routine treatment has led to such satisfactory functional results, that there may seem little scope for improvement. Nevertheless it cannot be denied that, except by operation and the introduction of foreign bodies, exact anatomical restoration is very rarely attained. It is generally admitted that such operations should be reserved for very exceptional cases, and we are often left to content ourselves with a result which involves some displacement of fragments and consequent deformity, however slight it may be. Last week (p. 664) we published an article by Mr. Milroy in which he describes a modification of the method of treatment by bandaging which he has found more satisfactory than the ordinary routine proceeding. The use of adhesive strapping instead of bandaging has been advocated by some surgeons of late years, but we do not remember to have seen a report of the effects of its use in a large series of cases, until the appearance of a paper in the *Journal of the American Medical Association* by Dr. Earle Conwell of Alabama.<sup>1</sup> His ninety-two cases, which were all treated during four and a half years in the Employees' Hospital in Fairfield, Alabama, seem to have included more severe injuries than usual, for nineteen of them were complicated by injury to the shoulder-joint and four by injury to the sterno-clavicular joint, which, with nine cases of marked overlapping or displacement, seem all to have been treated by traction and abduction and external rotation while recumbent. Dr. Conwell does not say how many cases were treated with adhesive strapping from the beginning, nor does he give any records of comparative measurements of the injured and sound clavicles

<sup>1</sup> Stokes, Bauer, and Hudson: Experimental Transmission of Yellow Fever to Laboratory Animals. *Amer. Journ. of Trop. Med.*, vol. 8, No. 2, March, 1928.

<sup>1</sup> Fractures of the Clavicle: A simple fixation dressing, with a summary of the treatment and results attained in ninety-two cases. By H. Earle Conwell, M.D. *Journ. Amer. Med. Assoc.*, March 17th, 1928, p. 838.

by which some estimate of the success of the treatment might be formed. With such a wealth of material as the Tennessee Coal, Iron, and Railroad Company appears to provide, it may be hoped that at a future time Dr. Conwell will provide us with exact and valuable data as to these injuries and their anatomical results. The method recommended requires the provision of four strips of adhesive material each four feet long and four inches wide, one large axillary pad, and one small pad of felt to protect the site of fracture. One of these strips is designed to pull back the shoulder, one to pull down the ends of the fragments, another to lift up the elbow and shoulder, and the last to pull the elbow into the side, and thus lever the outer fragment outwards. It will thus be seen that the principles on which the dressing is applied are familiar. Dr. Conwell no doubt rightly concludes that no hearable ambulatory treatment can be trusted to correct cases of severe overlapping of fragments. The method which he has described is worth a trial.

#### EUROPEAN VITAL STATISTICS.

THE importance of vital statistics as the basis for any intelligent system of public health administration is now well recognized, and it is therefore somewhat surprising to learn, from a paper on vital registration in Europe which Major P. Grauville Edge read before the Royal Statistical Society on April 17th, that not only are there countries in which the collection and classification of information of this nature is still on a restricted scale, but also that in some countries, while there are admirable "paper" systems, these systems are not effectively administered. Moreover, in his investigations Major Edge has found wide divergences in practice between one country and another in such matters, for example, as the registration of stillbirths, the methods of death certification, and, most important of all, in the classification of causes of death. It is obviously most unsatisfactory for purposes of comparison that in Belgium, France, Czechoslovakia, Hungary, Germany, and in the rural areas of Scandinavian countries, the declaration of the cause of death may be made by non-medical persons. Variations in nomenclature are very considerable; the detailed international list, which has been in existence for nearly thirty years, is used only in England and Wales, Scotland, Ireland, Czechoslovakia, Holland, Germany, and the United States. In two of those countries, however, as already mentioned, definition by non-medical persons of causes of death vitiates the value of the final figures. Four European countries use the abridged list only, and a number use special nomenclatures. No uniformity exists in methods of collecting data. The practice in certain countries of having statistical summaries completed by local authorities as the basis for the national returns means, in Major Edge's words, that "technical operations requiring specialized knowledge may be carried out by people lacking either medical qualifications or the statistical training necessary to the task." Many further examples could be quoted from this source to show that extreme caution must be exercised in any attempt to compare the vital statistics of any two or more European countries; the completely conscientious statistician who desires to employ such comparisons will be forced, indeed, to begin by comparing the relative national systems, and that is no light task. Apart from the difficulty arising from differences, however, the known deficiencies in some cases rob the national figures of much of their potential value. In Great Britain the position appears to be more satisfactory than elsewhere, and Major Edge believes there is more danger of the central statistical authorities attempting to do too much than of their task suffering from neglect or bad organization. He suggested that some of the official statisticians seek to get more from statistical returns than these returns can fairly be expected to yield,

and stated that some of the proposals for improved classification which he had seen seemed to postulate in central offices a greater ability to determine accurately what caused a death than was possessed by a certifying practitioner. Many doctors will no doubt sympathize with the sentiment which Major Edge expressed in his closing remark, that "there is even a danger that, if the central authorities take too much upon themselves, medical practitioners may pay even less attention than they do at present to the official publications."

#### THE "PRODUCERS' BUDGET."

WHEN Mr. Churchill took control of the nation's finances his reputation for vision, administrative capacity, and political courage created a general expectation that his Chancellorship would prove memorable for its permanent effect on our financial policies. In his progress towards achievement on the grand scale Mr. Churchill has been impeded by the clogging weight of debt redemptions and readjustments, by the reduction in receipts which inevitably follows a reduction in the general price level, and lastly, by the upheaval and trade dislocation which followed the general strike, the prolonged effects of which raised an exasperating obstacle in the path to those large financial reforms which Mr. Churchill has now outlined. It is obvious that the Government's proposals will be subjected to criticism from many quarters, but they are evidently the result of long and careful study, and in the main appear to be wisely directed to the urgent necessity for removing the heavy pressure of local rates on the basic industries. In his Budget speech Mr. Churchill devoted more time to an explanation of the proposals for debt redemption than is usually given to that topic. The minor features of the fiscal changes will excite little opposition or enthusiasm. The additional taxes—6d. each on mechanical lighters, 33½ per cent. *ad valorem* on imported buttons "not already attached," and an additional 6d. per gallon on British wine—are not likely to arouse much indignation, nor is the hoped-for drop of one farthing in the retail price of sugar as a result of a slight reduction in the sugar tax likely to be very warmly acclaimed by British housewives. The increase in the children's allowance for income tax is welcome; to those taxpayers whose income is assessed to any considerable extent at the standard rate the additional relief afforded will be £9 8s. in respect of two or £18 12s. in the case of four children. Incidentally, one result of the change will be to raise appreciably the effective limit of assessment to tax in the case of parents as distinct from other taxpayers—a development which Mr. Churchill humorously referred to as "another application of our general policy of helping the producer." The chief interest, however, in the proposals centres round what is obviously the preliminary announcement of a bold policy for the removal of one of the serious handicaps under which the older British industries are labouring to-day—the pressure of local rates on unremunerative businesses. Mr. Churchill stated the facts concisely and graphically, and made it clear that a vicious circle has been created in many industrial localities, unemployment causing higher rates, which in their turn lead to the shutting down of additional works, more unemployment, and still higher local expenditure. The details, so far as they were disclosed, it is not possible to discuss at this stage. It is evident that Mr. Churchill anticipated, and was prepared to deal with, criticism that performance was to follow next year, and not at an earlier date. We confess that his defence for such a postponement appears sound. The problem can be stated briefly, but any satisfactory solution must take into account so many factors of a very complex situation that the fullest possible preparation and discussion of the detailed proposals are essential if success is to be achieved. The principle of forming a fund to start the new scheme before it can be put

into operation is unusual, to say the least, in dealing with this type of problem, though its application to insurance schemes will be familiar. On this point the Chancellor has shown his courage; for the sake of the soundness of the scheme he is willing to give a temporary advantage to his critics. As with so many otherwise beneficial schemes, this proposal has its disadvantage in the necessity for providing large sums which can only be raised by taxation, and Mr. Churchill has fallen back on the consumers of petrol to supply him with ammunition for his fight on behalf of our basic industries. Presumably he has been led into this step by the low level of recent prices as compared with those of a year or two ago, and, in the case of heavy lorry consumption, by the apprehension that the growing competition with the railways is leading to an uneconomic competition for heavy traffic. We are disposed to think that a *prima facie* case has been made out for the proposals in principle, but a considered view of the arguments against it has not yet been developed, and undoubtedly on points of detail further information and discussion are essential. For instance, the proposed exemptions from the duty are restricted to oil used afloat in the fishing fleets, bunker oil, and light oil used in agricultural tractors. Doubtless there will be many other claims for similar privileges, and we trust that among them the case of the medical practitioner will not be overlooked. He is a "producer" of essential services to the community—vital services literally as well as figuratively—and as such can fairly claim that he should not be seriously penalized by a producers' Budget. We are inclined to doubt whether the Chancellor has sufficiently taken into account the very great extent to which light cars are used for professional and business purposes in circumstances in which an increase in running costs by taxation would impose an unfair burden on the taxpayer.

#### INCOME-TAX RETURNS FOR 1928-29.

Most of our readers will already have received from the local inspector of taxes the form for the declaration of income on the basis of which income tax will be paid for 1928-29. The issue appears in general to have been made at an earlier date than usual, and in most cases the declaration required will probably appear more formidable than ever. We understand that the fundamental reason for these changes is the desire to avoid the troublesome multiplication of requests for declarations which in the past have been a source of very natural annoyance to those taxpayers who, as in the case of some medical men, hold an appointment or an office the income from which falls within the jurisdiction of different authorities. Whether this desire is alone responsible for the promptitude with which the forms were sent out at the opening of the new financial year we do not know, but presumably, if it should lead to speeding up of the official labours, earlier application for the amount due, and earlier payment of the tax, the Treasury would derive additional satisfaction from the new departure. It is, of course, clear that if a single statement is to be accepted it must be made in sufficient detail to enable the separate items of taxable income to be correctly assessed. We have not apparently yet reached the stage at which the authorities are prepared to assess the whole liability of a taxpayer from one office; that would clearly be the most convenient arrangement from the taxpayer's point of view, and perhaps the unification of his declaration is a step in that direction. Where there is income liable to direct assessment it may be regarded as falling either under Schedule D or under Schedule E—the latter dealing with the earnings of employment. Hitherto the authorities have supplied one form of declaration for each schedule; this year two alternative forms are in use in each case. It would seem that where the income of the particular taxpayer is thought to be

fairly simple to declare, then the declaration required—No. 11A or 12A—is restricted to a single statement of total income, together, of course, with the completion of any claims to relief in respect of children, life assurance, etc. Where, however, the income is complicated, and particularly where liability to super-tax may exist, the form of declaration—No. 11 or No. 12—has been expanded to provide, *inter alia*, for the separation of the assessable portion of the income from that which is taxed by deduction or dealt with under Schedules A and B. If this fundamental distinction be borne in mind the form will be less puzzling than it may appear to be at first sight. The severance of the assessable income from the remainder has no doubt been effected partly because of the position with regard to super-tax. For 1928-29 separate super-tax returns will apparently be required, but from 1929-30 onwards the intention is that the income-tax declarations shall serve the purpose of the super-tax, or rather of the "surtax," to give it the name it will then bear, as well as of the ordinary income tax. Unfortunately for the achievement of complete simplicity, assessable income is measured for income-tax purposes by the amount of the income of the previous year, whereas income taxed by deduction is regarded as income of the year of receipt. Bearing this in mind, and also the fact that super-tax is chargeable on the amount of income liable to income tax for the previous financial year, it will be realized that the maintenance of a line of division between the two classes of income for each year will assist the taxpayer in seeing how the amount liable for super-tax has been calculated from his declarations—for example, that amount for the year 1929-30 will be the aggregate of the assessed income for 1927-28 plus the other miscellaneous income for 1928-29. In this connexion we may perhaps point out the advisability of retaining a copy of the declaration made; duplicate forms for the purpose can be obtained by application to the inspector of taxes. The authorities have stated very definitely their desire for one complete return only, and any medical man receiving a second form—for example, in respect of some appointment or owing to a change of address—should return it uncompleted except for the insertion of particulars as to the address, etc., from which his full declaration has been made.

#### DEATH OF DR. J. A. MACDONALD.

We have to announce with sorrow the death, at Taunton, after some months of progressive ill health, of Dr. J. A. Macdonald, LL.D., one of the most popular and most respected leaders of the British Medical Association during the past quarter of a century. Dr. Macdonald became Chairman of Representative Meetings in 1906, retiring in 1909, and then held office as Chairman of Council for the unprecedented period of ten years. Since 1920 he had been Chairman of the Journal Committee, and a staunch friend of this *Journal* it would be impossible to imagine. He visited on behalf of the Association the Australian and New Zealand and some of the Far Eastern Branches in 1914, and went on a similar errand to South Africa six years later. He had been a direct representative of the profession on the General Medical Council since 1911, and for a considerable period was a member of its Executive Committee. Notwithstanding the heavy claims upon a general practitioner in single-handed country practice, he thus found time through many eventful years to give unsparingly of his best to his profession. Whenever the British Medical Association needed exceptional services, demanding sound judgement, devotion to the interests of the Association, and a commanding personality, it called on Dr. Macdonald, and never in vain. We hope to publish a memoir, with personal appreciations and a portrait, in our next issue.



## AN OFFICIAL VISIT TO SOUTH AFRICA.

BY

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CHAIRMAN OF COUNCIL, BRITISH MEDICAL ASSOCIATION.

IN September last the Federal Council of the Medical Association of South Africa (British Medical Association) wrote asking the Council of the British Medical Association to send representatives to the twenty-second South African Medical Congress to be held at Bloemfontein in the week beginning March 12th, 1928. The particular occasion was not merely the twenty-second Congress, but also the first annual scientific and first annual general meeting of the Medical Association of South Africa (British Medical Association), which had been formed a year previously by the amalgamation of existing, and sometimes conflicting, medical organizations, largely through the efforts of Dr. Alfred Cox during his visit to South Africa from November, 1926, to April, 1927. It was felt that official representation of the parent Association on this occasion would help to consolidate the position that had with some difficulty been achieved, and would be an effective demonstration of the bond which now intimately unites the Association in South Africa with the British Medical Association. It would, of course, have been delightful if the Medical Secretary himself could again have been the ambassador, but it was impossible to spare him from the Central Office. It was hoped that the President of the Association (Sir Robert Philip) and Sir Robert Bolam might be able to undertake the service, but, this also being found impossible, the Council of the Association ultimately asked its present Chairman to perform this duty as its representative. It was ascertained that certain other members of the Association of suitable status and experience would be in Africa during March, and, at the request of the Council, Sir Frank Colyer, Dr. H. B. Denham, and Dr. C. D. Hatrick consented to attend the Bloemfontein meeting as official delegates of the Association.

My wife and I left England by the *Edinburgh Castle* on February 10th, arriving at Capetown early on February 27th. Our return journey was by the *Windsor Castle*, which sailed from Capetown on the evening of March 23rd. We were thus barely twenty-six days in South Africa, a time too short to see and do all that was desirable, but long enough, with everyone conspiring to make the period as full as possible, to enable us to gather some vivid impressions, to realize generally the conditions of life and medical practice, to grasp a number of interesting problems, and to experience abundant kindness and hospitality from all with whom we came in contact. We were unfortunately unable to visit Rhodesia, or any of the larger towns in the Cape Provinces, such as Port Elizabeth and East London; but we travelled, I suppose, more than 3,000 miles by train and some 1,000 by car. We spent some five days in Capetown, eight days in Johannesburg, more than five days in Bloemfontein, and four in Durban. From Capetown we visited Simonstown, the naval station, and, indeed, the whole of the Cape peninsula, certainly one of the beauty spots of the world; also Stellenbosch, which has been called the Oxford of South Africa, and which is, at all events, a very pleasant little place, with a large number of fine schools and educational institutions, and the seat of the largest purely Dutch university of the country. From Johannesburg we spent some time in Pretoria, a finely situated town of great beauty, and, of course, the administrative capital of the Union.

From the moment of our arrival at Capetown, where we were met by Drs. Leipoldt, Impey, and Marais, till Drs. Pearson and Drummond saw us off from Durban—even till Dr. Jones-Phillipson, and Dr. Leipoldt again, bade us farewell at Capetown dock—our way was made easy for us by the facts that a full and very enjoyable programme had been arranged, and quite a large number of doctors and others readily sacrificed time, work, and energy on our behalf to a degree which was really embarrassing. This was true in a superlative degree of Dr. Orenstein during our stay at Johannesburg. All this not merely enabled us to visit many interesting places and to experience many

delightful features of life in South Africa, but afforded me time and opportunity to meet individually or collectively medical men and women in all branches of the profession—in the Government medical service, in the railway service, in the service of the mines, naval surgeons, research workers, medical officers of health, members of hospital staffs, specialists in various classes of practice, and general practitioners, both urban and rural, as well as the president and some of the members of the Colonial Medical Council. Such personal converse I found most useful in helping me to appreciate the conditions, difficulties, and advantages of medical practice in South Africa. In addition I was able to address the council of the Cape Western Branch, presided over by Mr. Lindsay Sandes; the council of the Natal Coastal Branch, at the invitation of Dr. J. Drummond; the executive committee of the Johannesburg Division of the South Transvaal Branch, presided over by Dr. Harvey Pirie; two general meetings of the profession—one at Johannesburg and one at Durban—as well as the Annual General Meeting of the Association at Bloemfontein. I was also privileged to attend two meetings of the Federal Council, and to speak at two of the sectional scientific meetings of the Congress on subjects which were largely concerned with private practitioners in relation to questions of public health.

The variety of topics on which one was asked to express an opinion, and the variety of circumstances in which one was asked for individual advice, at these interviews and meetings were considerable. Beyond a few internal Association questions, such as the desirability of forming Divisions in certain areas, and the best method of securing a really representative gathering at the Annual Meetings, the two main broad matters with which there seemed to be most concern medico-politically were the position of hospitals and hospital staffs and the establishment of a national health insurance scheme. These are familiar problems in Great Britain, and, though there are many differences in South Africa which have very seriously to be taken into account, the points for determination are similar to those which have had to be decided by the Association and profession here. The latter of the two subjects was the one on which I was particularly requested to address several of the meetings referred to above, and my personal and intimate experience of matters connected therewith probably enabled me to be of some service. In connexion with these and similar matters it seemed desirable that I should attempt to acquire some further knowledge of the general political situation and movements of opinion, and of the method of administration of hospitals and other public health institutions. While at Johannesburg I was fortunate enough to be shown over the very fine and practically effective Medical Research Institute, of which Sir Spencer Lister is the director; to see the Miners' Phthisis Bureau and the work of Dr. Irvine and his colleagues, which has had such gratifying success; to visit, under the guidance of Dr. R. P. Mackenzie, the large General Hospital, whose newly opened operating theatres and x-ray rooms must surely, at the moment, be at least equal to anything of the kind to be found elsewhere; to be conducted over various compounds for native miners and miners' hospitals by Dr. Orenstein, the superintendent of the health and sanitary department of Rand Mines; and to see something of the Union Department of Public Health at Pretoria, of which Sir Edward Thornton is the medical head. At Capetown I had some talk with several politicians and civil servants of influence, and was asked to attend a special meeting of the Parliamentary Commission dealing with the questions of old age pensions and national insurance. This is a small body of members of Parliament, presided over by Mr. Pinaar, a member of the Government, which is now considering the establishment of a scheme of national health insurance. Its secretary is Mr. Collic, an eminent civil servant, and an acknowledgement is due to him of his courteous and painstaking way of dealing with the profession in South Africa in this matter. He was kind enough to come to Bloemfontein to attend one of the meetings of the Federal Council there and explain the position, and to come to the *Windsor Castle* just before its departure and say a word of farewell to us.

The actual Congress to which I and my three colleagues were the official delegates of the British Medical Association was held at Bloemfontein from March 12th to 17th. The president was Dr. Bidwell, the vice-president Dr. de Kock, and the joint honorary secretaries Drs. Alico Cox, Marion Thomson, and Louisa Tomory. To all of these, as well as to the other four members of the Executive Committee, the thanks of everybody concerned are due, for the Congress was a great success. To this all the members of the local profession and their ladies contributed, and they were greatly helped by the Mayor of Bloemfontein, the Administrator of the Orange Free State, the authorities of the Grey University College, and others. The attendance was good, especially as the nucleus of resident members was so small. The sections were all interesting, and some of the papers exceedingly valuable. The entertainments were all of them wonderfully well organized, and all of them enjoyable. The excursions were not many—mainly to neighbouring farms, for Bloemfontein, though a pleasant town, is not the centre of specially beautiful or picturesque surroundings—but one excursion to Glen Agricultural College, situated on the Modder River just sixteen miles out, was particularly interesting. The trades exhibition was opened by Dr. de Kock, and was in every way successful.

The opening ceremony in the Raadzaal was brilliant, Dr. Orenstein, as president of the Federal Council, was at first in the chair, and his remarks were both appropriate and effective. They were addressed to members of the Association as a timely reminder of their duty. The formal opening was announced by the Honourable Mr. Justico de Villiers in an admirable speech, reminding the whole medical profession of its duties to the public, and Dr. Bidwell's presidential address on practical enginics, though decidedly controversial, was an effective reminder to the public that it, too, had great responsibilities in relation to national health. These speeches are reported fully in the *Journal of the Medical Association of South Africa* (British Medical Association) of March 24th. So also is Dr. Drury's unusual and brilliant paper on inhibition, with which the section of medicine and mental hygiene was opened. It is well worth reading. Other papers and discussions particularly worthy of note were concerned with abdominal emergencies (Professor Saint), the action of solanum pseudocapsicum (Dr. Heiman), hay fever (Dr. H. Pirie), the Schick and Dick tests (Dr. Pratt Johnston), bacterial filtrates (Dr. G. Buchanan), and dental sepsis in relation to general pathology (Sir Frank Colyer). The last-named paper was illustrated by some remarkable photographic slides, and certainly made a great impression on those who heard it. Sir Spencer Lister showed a very interesting film concerned with bilharzia. All the papers, however, were judged well worthy of attention and consideration. At the annual banquet Dr. Orenstein and I had the honour of replying to the toast of "The Associations," proposed by Dr. Dreyer, but the feature of this dinner was an extraordinarily entertaining speech by Mr. Lindsay Sandes in proposing the toast of "The Allied Professions."

Looking back upon all these experiences I have the impression of an amazing country of great attraction and enormous possibilities, of a medical profession with high attainment and reasonable prosperity, of an Association united, active, and influential, led by men of great ability, of sound judgement, public spirited, and zealous. There are, no doubt, a few areas in which both unity and activity will need a delicate fostering. There are some difficulties, both of internal organization and of external relationships with communal services and Governmental proposals, but it is the tackling of such difficulties which keeps an association alive and healthy and growing. Clearly the work of Dr. Alfred Cox and of those who with him helped to found the United Medical Association of South Africa was well done, and under leadership like the present will endure and fructify. Among a number of able leaders I shall, I think, be forgiven for saying that the remarkable but diverse personalities of Dr. Orenstein, the president of the Federal Council, and Dr. Leipoldt, the organizing secretary, are an invaluable asset.

I am told that the action of the Council of the British

Medical Association in sending its Chairman to South Africa and appointing delegates to the Congress in Bloemfontein is greatly appreciated, and that what we have been able to do has been of some service. I should like to be permitted to add that the fact that my wife accompanied me has not, I think, been without its public value, for in missions such as this social reinforcement is an aid to success, and the wives of practitioners in South Africa have, I find, at least as much influence as those at home. I believe that the Association here, as well as my wife and I personally, would like to thank all those who so kindly helped and entertained us as representing the Association, and especially Dr. and Mrs. Bidwell and Dr. and Mrs. Drummond, with whom we had the great pleasure of staying in Bloemfontein and in Durban.

## Scotland.

### Glasgow Corporation Venereal Diseases Bill.

A DRAFT bill to provide for the prevention, notification, and treatment of venereal disease was considered on April 12th by the Glasgow Corporation and adopted; the bill seeks further powers of a compulsory nature in dealing with venereal disease. It proposes to make patients responsible for continuing under treatment by a registered medical practitioner as long as they are deemed to be in an infective condition. One clause requires notification to the medical officer of health of persons who default under treatment, the medical practitioner to be responsible for notifying the case. Powers are asked for the medical officer of health to take action in the case of wilful default by requesting the affected persons to resume treatment, and in the event of failure to comply by prosecuting them or removing them to hospital on the order of a sheriff, magistrate, or justice. The bill has also clauses requiring the parents of children suffering from congenital syphilis and ophthalmia neonatorum to submit themselves for examination and, if need be, treatment. Provision is made for the appointment of a medical referee by the Scottish Board of Health to whom aggrieved persons may be referred. The bill is more drastic than the Edinburgh Corporation Bill recently rejected by Parliament. It was pointed out in the corporation's discussion on the Glasgow bill that the necessity for compulsory treatment was being forced on every local authority, and that there were 100,000 sufferers from this disease in Glasgow, of whom at least 75 per cent. were innocent cases. It was suggested that money might much more profitably be spent upon its cure than, as large amounts are being spent at the present time, on the treatment of tuberculosis. A resolution to proceed with the bill was supported by a large majority of the corporation.

### The Edinburgh Chair of Forensic Medicine.

Professor Sydney Smith delivered his inaugural lecture in the chair of forensic medicine at Edinburgh University on April 20th. Principal Sir J. Alfred Ewing, who presided, referred to the great abilities possessed by the late Professor Harvey Littlejohn, and extended a welcome to Professor Sydney Smith, of whose work in Egypt since 1915 he spoke in high terms. The new professor dealt with the position in this country in regard to expert medical evidence in law courts and the training of experts in forensic medicine, saying that at the present day, in nearly every case of crime against the person, medical evidence might be the ultimate dictum which proved the guilt or innocence of the accused person. The subject was thus not to be approached lightly or without due training. Opinions must stand against cross-examination, and authority, which was once of great importance, was a diminishing quantity, so that no opinion could now carry weight unless it rested on something more substantial than authority. Expert evidence based on demonstrable facts was being utilized to a greater extent in every trial of importance in the country, and judicial authorities now demanded a high standard of professional knowledge from the experts. It was important that the medical expert should be in close contact with the investigating authority. In many parts of

the Continent the medico-legal expert with a well-equipped laboratory formed an essential part of the machine for investigation, and it was of great value to the police that they should be able to obtain scientific co-operation when they required it. In England it had been considered to be more efficient and less expensive to employ specialists in different scientific subjects from outside as they were required. This had much to commend it, but those experienced in these subjects knew well that a large amount of information was lost in certain cases. He believed that the time had arrived when an effort should be made to supply medical men trained in forensic medicine to fill the positions of police surgeons, coroners, etc., and that, to facilitate such training, the whole of the medico-legal work of a district should be concentrated in one central place. These conditions were found in Germany and France, and, in fact, in nearly every country except our own. In Egypt, the country with which the lecturer was most familiar, attached to the office of *procureur-général* there were laboratories and scientific equipment, with a personnel of medical officers—pathologists, chemists, x-ray and photographic experts—all of whom were whole-time Government officials. In this laboratory about 800 examinations of viscera for poisons and about 5,000 samples of narcotic drugs had been investigated last year. If these examinations had been made on an individual basis the cost would have been about £45,000, whereas the total cost of the whole section was less than £10,000 per year for more than 10,000 individual examinations and reports. The saving was thus seen to be relatively enormous. Such institutes might well be inaugurated in this country, with a status similar to that which had been accorded to the practice of hygiene.

#### East Fortune Sanatorium.

In the fifth annual report Dr. Charles Cameron, medical superintendent of the joint sanatorium for the south-eastern counties of Scotland at East Fortune, states that the sanatorium for a period in the past year was, for the first time, fully occupied. The demand for accommodation was, however, met except as regards the needs of children, where a certain amount of difficulty was present. The numbers of patients admitted from the contributing counties during the year were: from Midlothian 54, West Lothian 61, Peebles 9, East Lothian 37, Berwick 27, Roxburgh 15, and Selkirk 15. During the year in all 284 patients had been admitted and 252 discharged. Of those admitted, 126 suffered from tuberculosis of the lungs, and in all these cases the disease had been present for a long time before they came to the sanatorium. A large number of cases suffered from disease of the spine or of the joints; many of these had already been treated at hospitals, and afterwards passed to the local authority for sanatorium treatment. A large number required prolonged treatment, and it is suggested that admission for this type of case should be sought at an earlier stage. Of the male patients treated up to the present time for disease of the lungs and chest glands, 204 were much improved, 251 improved, 41 stationary, 373 worse, and 282 died; while among women patients 227 were much improved, 226 improved, 118 stationary, 489 worse, and 92 died. There had been no deaths in children, and 393 were much improved.

#### Prolongation of Age in Scotland.

An address on the question, "Is the health of the nation improving?" was delivered by Dr. William Robertson, medical officer of health for Edinburgh, to the Edinburgh Rotary Club on April 12th. The lecturer said that in 1861 Edinburgh had 170,000 inhabitants, with an annual death rate of 23.1 per 1,000 of the population, while last year the population was over 424,000, with an annual death rate of 14.5. More people were now living to a ripe old age than formerly. Last year, between the ages of 56 and 65 there were 931 deaths, and among those over 75 years of age there were 1,186 deaths, while between the ages of 15 and 45 only 883 persons died. It was becoming increasingly important that attention should be paid to the child population of the cities, because the birth rate had seriously declined. In 1861 the birth rate was 33.4 per 1,000 of the population, while at present it stood about 18.7.

While, however, infantile mortalities of 130 per 1,000 births were commonly encountered over fifty years ago, the death rate among infants had now been reduced to 83 per 1,000 births. Too many C3 people had been bred in the country in the past, but it was expected that a new generation of persons resistant to disease might in future be seen, so that several years would be added to the life span of every individual. If reliance were placed upon vital statistics, it seemed likely that the expectation of life, when the year 2000 A.D. arrived, might, on an average, amount to 82 years. At the present time it was between 58 and 60 years.

## Ireland.

#### Report of the Free State Commission on Clean Milk.

THE report of the Free State Interdepartmental Committee on Clean Milk, which has now been published, recommends the adoption of the "accredited herd" system in operation in the United States of America, and among other recommendations it is suggested that all milk vendors in county boroughs and urban districts should be licensed annually by the sanitary authority personally and in respect of the premises used by them for trade purposes. In the event of refusal of a licence a right of appeal to the district court might be given. The definition of milk should include buttermilk, skimmed milk, and separated milk; bottling should be undertaken only on registered premises, and the bottles used for milk should be of standard size and be stamped with the measure of their capacity. The sale of objectionable articles in the same shop as milk should be forbidden. The committee considers that a dairy employee should be made liable (in place of his employer) for an offence under the dairy regulations, if it is proved that he has deliberately neglected to use conveniences provided for the protection of the purity of milk. Provision for small loans to individual borrowers for the purpose of improving their cowsheds is recommended. Administrative action to have the Bovine Tuberculosis Order, 1926, extended to include "any cow showing clinical signs of tuberculosis and excreting tubercle bacilli" is urged. The use for human food of milk from cows suffering from specified conditions should, it is suggested, be restricted. Diphtheria in dairy employees should be included in the Public Health (Pneumonia, Malaria, Dysentery, etc.) Regulations, 1919. It is advised that a revision of the Dairies, Cowsheds, and Milkshops Order, 1908, be undertaken, with special regard to inspection of cattle, the grooming of cows, the lighting, floor construction, and drainage of cowsheds, the washing and sterilization of utensils, the wearing of clean overalls, and the observance of personal cleanliness. Urban authorities should be empowered to follow the cattle from their districts when sent to summer grazing outside, and the milk supply of urban districts should be controlled by systematic bacteriological examination. The committee feels that in view of the competition of other countries it is essential that the cattle and dairy products exported from the Free State should be of the highest standard and free from all suspicion of disease, but regards the problem, however, as one of perplexing difficulty. Complete eradication from the herds would be the ideal solution, but in view of the enormous expense that would be involved the question must be approached with due regard to the resources likely to be available. From evidence submitted it was thought probable that Irish stocks generally had a comparatively low percentage of infected animals, and that many of the small herds may be entirely free. The introduction of a system of graded milk is recommended, and it is thought that two grades should suffice at first: "Grade A (tuberculin tested)" and "Grade A." The sale of pasteurized milk should be permitted only in accordance with defined conditions, and persons employed in the production of graded and pasteurized milk should be medically certified. The proposals in regard to graded milk, which must be produced by a tubercle-free herd, if adopted, would have an important effect in the eradication of tuberculosis in cows, and it is recommended that milk producers should be encouraged to work towards this end by the provision of free tuberculin

testing by the Government until their herds are clear from the disease. Section 4 of the Infections Disease (Prevention) Act, 1890, should be amended to permit of the suspension of the sale of milk on epidemiological evidence, the requirement of a justice's warrant should be dispensed with, and compensation should be allowed in a case of unjustifiable suspension. There should be a penalty for selling dirty milk, and the cancellation of the vendor's licence should follow three convictions.

## England and Wales.

### Maternal Mortality: Proposed Committee of Investigation.

A scheme for the initiation of a systematic investigation of all maternal deaths and of all cases of puerperal fever, with a view to ascertaining more exactly the actual causes which lead to maternal mortality, is outlined in a circular (No. 888) addressed by the Ministry of Health to the authorities responsible for maternity and child welfare schemes in England. The circular reiterates the concern which the Minister feels because of the continued high level of maternal mortality, and directs attention to the report by Dame Janet Campbell, issued under the title of *The Protection of Motherhood*, which was reviewed on December 24th and 31st, 1927 (pp. 1198 and 1235), expressing the opinion that much remains to be done in certain areas to improve the maternity service. Reference is then made to Circular 517, issued in June, 1924, in which the importance of investigation of the kind now contemplated was emphasized, and it is suggested that the fact that the proposal then made has been adopted in very few areas is due to the failure of local authorities to appreciate the practical value of such inquiries. The Minister, therefore, explains that his object is to obtain a mass of information, hitherto not available, as to the causes of death in a large number of cases of maternal mortality, and mentions that the British Medical Association has expressed general approval of the objects. The responsibility for the investigations, it is suggested, should be undertaken by a medical officer of health of experience in these matters who is not himself engaged in private local practice. It is the Minister's intention to set up a representative Maternal Mortality Committee, somewhat on the lines of the Cancer Committee, which will be invited, among other duties, to draw up a questionnaire as a basis for the investigation, to collate and classify the information received from this and other sources, to formulate conclusions from this information, to indicate desirable lines of further research, and to advise what action can be taken to bring about a progressive reduction of maternal mortality. He hopes that it will be found possible to commence the inquiry at an early date, and to furnish reports, covering the results of the previous three months, to the Ministry of Health at the end of each quarter. The circular concludes by stating that to obtain results of any value the co-operation of medical practitioners, the maternity and child welfare authorities, and the Ministry is required, and that the Minister is counting upon the support of the local authorities in this effort to reduce one of the saddest features of our social life.

### A Post-Graduate Course for Midwives.

A post-graduate course for midwives—the first of the kind to be held in the West of England—was held at Plymouth from April 16th to 20th inclusive, the arrangements being made by Dr. A. T. Nankivell, medical officer of health. The course was open to all midwives of Devon and Cornwall, whether practising or not, the fee being half a crown. The Mayor of Plymouth (Mr. W. H. J. Priest) welcomed those who participated and expressed the hope that such a conference would become an annual event, so that problems could be freely discussed and modern methods assimilated. The course consisted of a series of five lectures: Dr. Nankivell spoke on how the State helps the midwife; venereal diseases were dealt with by the venereal diseases medical officer (Dr. Kettlerell), and lectures on ante-natal work and the expectant mother were given by the maternity and child welfare medical officers (Dr. M. Smellie and Dr. Mildred

Thynne). Visits were made to the various ante-natal clinics and infant consultation centres in the borough, the light clinic, and the venereal diseases clinic. There were sixty-four entrants, and fifty-eight of these obtained a certificate. In addition to the lectures there were many informal talks between midwives and medical officers, which proved valuable in promoting the interchange of ideas.

## Correspondence.

### TREATMENT OF GASTRIC AND DUODENAL ULCERATION.

SIR,—To quote actual figures in a communication dealing with a clinical problem, where scientific precision in measurement is not possible, where results are so often to be gauged only by subjective sensations, where so many factors are not within the control of the observer, sometimes tends to obscure rather than clarify the outlook.

Mr. A. J. Walton (April 21st, p. 688) objects to my estimate of the mortality of gastro-jejunostomy. His record of 150 cases without a death could only be attained by a superb operator. But however skilful a surgeon may be, certain factors beyond his control may play their part and vitiate his results: pulmonary embolism, the insufflation of a plug of mucus down the trachea, exposure to external infection after operation, may all occur. Nevertheless, Mr. Walton's results must mean that he is scrupulously careful over minor details. Possibly it is attention to the hygiene of the mouth, possibly some quite small point of technique, or it may be great care in the selection of cases to which his success is attributable. A minute description of his operative procedure from his own pen might throw some light on this question.

Mr. Walton has also been fortunate in his experience not to have seen a duodenal ulcer persist after a well-performed gastro-jejunostomy. Such persistence has been recorded, among others, by Sir John Bland-Sutton, Sir Berkeley Moynihan, von Haberer, M. Friedmann, A. Troell, E. Klein, and myself. Two recent cases may be briefly described.

*Case 1.*—A male, aged 49. Gastro-jejunostomy for duodenal ulcer was performed on October 5th, 1924, at another hospital. Symptoms returned and a gastro-colic fistula formed. A second operation was performed on February 20th, 1928. A well-placed, adequate gastro-jejunostomy was present, a gastro-jejunal ulcer opening into the colon, a scar on the front wall of the pylorus, and an open ulcer on the posterior wall of the duodenum, the floor of which was formed by the pancreas.

*Case 2.*—A woman, aged 52. Gastro-jejunostomy was performed by myself in 1924 for duodenal ulcer. She had relief for nearly a year and then a return of symptoms. At a second operation, on March 26th, 1928, the anastomotic opening was well placed, of adequate size, and functioning. Three ulcers were found to be present: (1) on the lesser curvature of the stomach, (2) on the front wall of the first part of the duodenum, (3) on the posterior wall of the second part of the duodenum.

As for the liability of hæmorrhage occurring despite a gastro-jejunostomy for the cure of a duodenal ulcer, my statement was based upon the careful records of J. Holbaum. Other observers also have noted the fact that such hæmorrhages may occur, though the figure given may be less.

If Mr. Walton would perform a series of partial duodenectomies for duodenal ulcer and compare them with a like series of gastro-jejunostomies, using the same standard of cure, he would find that the excision operation gave the considerably better results I recorded in my paper.—I am, etc.,

London, W., April 21st.

CHARLES A. PANNETT.

### GASTRIC SECRETION OF NEUTRAL CHLORIDE.

SIR,—The two papers on the above subject by Professor MacLean and his colleagues have now appeared. However, I do think that it is worth while reverting to the two pieces of work by Hausman, Day, and Clifton, and by Campbell, Baird, and Hern, that I mentioned in my previous letter (March 17th, p. 469), because, in spite of Dr. Goodhart's doubts, they do seem to me to have a bearing on this subject, and they have evidently been missed by Professor MacLean in his review of the literature.

In the first place it is clear that if the data on which Hausman, Day, and Clifton make their calculations are

correct there must be an addition of chloride to the stomach other than that supplied by the gastric juice, saliva, or by means of regurgitation from the duodenum.

In the second place Campbell, Baird, and Hern's experiment on caso M. B. in the *Guy's Hospital Reports*, vol. 74, p. 34, Fig. 5 (1924), shows that apparent neutralization of the gastric contents took place even though all the fluid in the duodenum was being removed by suction. The fact that this latter fluid was bile-stained, while the gastric contents contained no bile, shows that actually no regurgitation did take place.

There are two ways of accounting for this finding: (1) that the stomach was supplied with chloride apart from the gastric HCl, as was suggested by Hausman's calculation, or (2) that the pyloric mucous membrane itself produced alkali which neutralized the acid. It is true that the authors favour the latter view; but it is worth seeing where it leads us to by calculating the state of affairs in the gastric contents at the end of this experiment—that is, at one hour thirty-seven minutes. Taking the true or active HCl as the average of the total and free acids (as recommended by them in Appendix 2) we find that 100 c.cm. of gastric contents were equivalent to 17 c.cm. N/10NaOH, and contained 0.06 gram Cl. Similarly, there was 0.29 gram Cl as total chloride, and the mineral chloride was the difference—namely, 0.23 gram Cl; 0.343 gram  $\text{Na}_2\text{CO}_3$  would have been required to produce this mineral chloride from the gastric HCl. We will assume, with Hansman, that pure gastric juice (containing 0.5 per cent. HCl or 0.486 gram per cent. Cl) was being secreted by the stomach at this point, and that this and the alkali required to neutralize it were the only fluids present, while the fluid of the meal had been passed into the duodenum. Then the alkali must have diluted the gastric juice in the ratio of 29 to 48.6—that is, 59.6 c.cm. were diluted up to 100 c.cm., which means that the neutralizing alkali containing 0.343 gram  $\text{Na}_2\text{CO}_3$  was contained in 40.4 c.cm. of fluid, so that the stomach secreted a juice containing 0.85 per cent.  $\text{Na}_2\text{CO}_3$ . This is well above the highest estimate given for the alkali of the pancreatic juice, which surely is a *reductio ad absurdum*. Further, it is very unlikely at this time either that the gastric juice was really up to full strength, or that if it were there was not some dilution of it with the fluid of the meal, since starch had only been absent for seven and a half minutes. Either of these factors would tend to still further concentration of this hypothetical neutralizing fluid.

Turning now to the state of affairs in the duodenum, the authors found that the concentration of Cl was actually greater than in the stomach. It is difficult to see any other reason for this than that some absorption of fluid was taking place. Apart from this, the duodenal contents only varied from the stomach contents by the addition of bile and by the addition of further alkali, so that the free HCl had now disappeared. Calculation shows that 0.09 gram  $\text{Na}_2\text{CO}_3$  would be required to neutralize the remaining HCl (containing 0.06 gram Cl) in 100 c.cm. of gastric contents. Assuming that this was provided entirely by the pancreatic juice of 0.7 per cent. concentration, it would mean that 100 c.cm. of gastric juice would only require 13 c.cm. for its neutralization. Something extra might be allowed owing to the fact that the duodenal contents were probably actually alkaline; but it is impossible to imagine in this case that the stomach provided 40 c.cm. of a very strong alkaline fluid, and the pancreatic juice about one-third of this amount. One would wonder that the alkaline function of the pancreas had been developed at all if this state of affairs was at all common.

We are thus left with Hansman, Day, and Clifton's explanation, that the stomach was receiving a store of mineral chloride, as the more reasonable explanation of Campbell, Baird, and Hern's experiment.

Finally, this explanation, which surely must imply a secretion of sodium chloride by the gastric mucous membrane, is compatible with the high chloride in the duodenum found by Campbell, Baird, and Hern. I do not see how otherwise this is to be explained, apart from the impossible neutralization hypothesis detailed above.—I am, etc.,

London, W., April 19th.

E. P. POULTON.

## STREPTOCOCCI AND PUERPERAL SEPSIS.

SIR,—Professor Beattie's letter in your issue of April 14th (p. 642) raises questions of considerable theoretical and practical interest. He states that recent work conducted in his laboratory has shown that the action of antiseptics on different organisms varies in a marked degree, and that an antiseptic which may be efficient for *B. typhosus* may be quite inefficient for other organisms.

This statement affords important and valuable confirmation of a generalization published from this department by Professor Dreyer, Mr. S. G. Kriegler, and myself many years ago, and communicated to the Pathological Society of Great Britain and Ireland at its meeting in July, 1910.<sup>1</sup> Further detail of the work was elaborated and carried out by Kriegler under our direction, and was published by him in 1911.<sup>2</sup> In his paper comment was made as to the value of the Rideal-Walker test, to which Professor Beattie refers as the "usual standard."

In our work the conclusion emerged quite clearly that a test of a single organism, or group of organisms, with any given antiseptic against carbolic acid affords no criterion whatever as to the value of that antiseptic against other organisms or groups of organisms. I quote the following from Kriegler's "conclusions":

"... it is not possible to conclude that because a particular antiseptic is very active against a particular variety of micro-organism, it will necessarily be active against another micro-organism of a different variety."

It is satisfactory to learn that this important problem is again receiving attention in the work which is being done in the University of Liverpool.—I am, etc.,

E. W. AINLEY WALKER.

Sir William Dunn School of Pathology,  
Oxford, April 19th.

## THE FRACTURE PROBLEM.

SIR,—In your issue of April 14th (p. 636), in reference to the Fracture Committee of the American Medical Association and American College of Surgeons, it is stated that "until a similar inquiry has been made in this country it is not possible to state whether our methods are more satisfactory or not." The writer seems to have overlooked the fact that a committee was appointed by the British Medical Association in 1910, and the report of that committee was in due course published in the *British Medical Journal* (1912, vol. ii, p. 1505). Although the report is now sixteen years old, I venture to think that it contains much information of value, and that its conclusions are in the main still valid.

One important truth in particular was demonstrated by the investigations of the committee, and that is, the importance of securing a good anatomical result. While it is true that in some instances a good functional result may be obtained in spite of a bad anatomical result, such a happy issue is the exception, not the rule. This was summed up in conclusion No. vii of the report, which states: "Although the functional result may be good with an indifferent anatomical result, the most certain way to obtain a good functional result is to secure a good anatomical result."

The teaching that a good functional result is the ideal to be aimed at, no matter what the anatomical end-result may be, is fallacious and misleading. The ideal to be aimed at is a good anatomical result, and a good functional result will follow.

In many cases it is impossible to obtain a good anatomical result except by operative measures, and it is of interest to note that in paragraph vi of the Fractures Committee report it is stated that "In nearly all ago groups operative cases show a higher percentage of good results than non-operative cases."

As regards treatment by massage, I was one of the members of the committee who visited Paris to investigate the results of that treatment by the methods of Lucas-Championnière. It is not an exaggeration to say that we were profoundly disappointed at the results shown to us. I am quite aware that the expression "treatment by

<sup>1</sup> *Journ. Path. and Bact.*, 1911, vol. xv, p. 133.

<sup>2</sup> *Centralbl. f. Bakt., Parasit., und Infect.*, 1911, Band 59, s. 481.



massage" now means something very different from the methods used ten years ago; nevertheless, current views as to what exactly massage means are very conflicting. So far as the long bones are concerned, massage without immobilization is not a satisfactory method of treatment. The conclusion of the Fractures Committee on this matter was as follows:

"No method, whether non-operative or operative, which does not definitely promise a good anatomical result should be accepted as the method of choice. For this reason mobilization and massage by themselves have not been found to secure a high percentage of good results."

—I am, etc.,

London, W.1, April 17th.

HERBERT J. PATERSON.

\*\* We had not overlooked the Association's Report on Fractures of sixteen years ago, but on consideration we did not refer to it, because it did not seem to be relevant to the problem under discussion. If Mr. Paterson will read again the passage he criticizes he will find that it runs: "Until a similar inquiry has been made in this country it is not possible to state whether our records are more satisfactory or not"—meaning the way in which they are kept, as the context shows.

#### DEAD AND INFECTED TEETH.

SIR,—I am a little surprised that Mr. A. P. Bertwistle's admirable and exceedingly important article on dead and infected teeth has, so far as can be judged from your correspondence column, not attracted much attention. The role of dental infection in the production of innumerable metastatic bacterial diseases has long been recognized, thanks to the pioneer work of Dr. William Hunter. And yet there can be no doubt as to the general attitude of scepticism held by medical men as to the efficacy of eradicating dental disease in the treatment of these conditions: it is amply supported by the clinical experience of hordes of patients who have been edentulated without obvious benefit. Mr. Bertwistle rightly points out that it is the wrong type of dental infection that is looked for in such cases. It is not the case with profuse pyorrhoea; nor—and here I am in strong agreement with Mr. Bertwistle—is it always the case in which radiograms show rarefaction about the roots.

The stopping of teeth in which the pulp cavity has been infected is a surgical heresy, and I would like to put forward the suggestion that it is the duty of the medical profession to discountenance the procedure.—I am, etc.,

London, W., April 23rd.

C. JENNINGS MARSHALL.

#### THE TYPE OF TUBERCULOUS LESIONS IN BONES AND JOINTS.

SIR,—The article by Dr. Cobbett on the type of tubercle bacillus in tuberculous lesions in bones and joints in your issue of April 14th (p. 626) is of interest in many directions, not the least being the focusing of attention upon the practical importance of the parts played by two types of tubercle bacilli in the production of extra-pulmonary lesions in the human body.

Workers in sanatoriums and tuberculosis officers are privileged in their knowledge of families, and many children of their tuberculous adult patients pass, in course of time, through their hands. As a purely clinical observation one knows that the human type bacillus is the probable infecting organism in a majority of the cases of non-pulmonary tuberculosis seen in these children, and it is surprising in how many cases (apart from one's actual knowledge of phthisical parents) one can get a history of contact with infected adults. It is not altogether a case, as some seem to think, of a different bacillus producing a different form of disease; both can produce exactly the same clinical type of disease. It is rather a case of the different susceptibilities of tissues to a generic infection at different ages, and our knowledge on this point is vague.

The cow must be viewed in a reasoned perspective. So must the tuberculous adult (including the sufferer from lupus, whose capacity for damage is often entirely overlooked by those who treat him), and the public, unfortunately, is being educated to mistrust the former more than the latter.

The question of the relation of the numbers of tubercle bacilli in the discharge from tuberculous joints to the prognosis is of interest.

Late in November, 1925, a man 56 years of age was admitted to East Fortune Sanatorium, suffering from tuberculous disease of his right sacro-iliac joint. The history was of fairly short duration, and he died early in February of the following year. I have never known a tuberculous patient to suffer such pain as he experienced, and his course was one of progressive emaciation and asthenia. In January I obtained from a swelling on the posterior aspect of the joint some blood-stained fluid, which contained multitudes of small particles of tuberculous granulation tissue, in which tubercle bacilli were present in enormous numbers.

This patient's death was from disease of his joint. There were no complications, and, in fact, no other clinically detectable areas of disease.—I am, etc.,

East Fortune, East Lothian, April 14th.

C. CAMERON.

SIR,—Dr. Louis Cobbett's article should do much to correct the erroneous view held by so many people as to the relative importance of the human and bovine type of tubercle bacillus in bone and joint lesions.

In this connexion I should like to draw attention to an investigation<sup>1</sup> which Drs. Edington and Guest of Sheffield University kindly made at my request. They determined the type of organism in 38 of my bone and joint cases. Of these 7 were in the age group 0-5 years; 12 in the age group 5-10 years; 14 in the age group 10-16 years; 5 were adults. Only 2 cases, both in the age group 10-16 years, were infected with the bovine type of organism; thus the figures show that only 6 per cent. of cases in the age group 0-16 years were so infected.

When comparing this low percentage of bovine infection as found in Sheffield with the much higher figures given by other observers, especially in Scotland, Edington points out that this seems to have some relation, first, to the small amount of milk consumed in Sheffield, and secondly, to the lower incidence of tuberculosis in cows as evidenced by the small number of infected milk samples found in Sheffield compared with those in other areas—for example, Edinburgh.

These points are brought out in the following table:

	Edinburgh.	Sheffield.
Percentage of bovine infection in bone tubercle in children ...	26.3*	6.0
Pints of milk consumed per head per day ...	0.42	0.27
Percentage of mixed milk samples found to contain tubercle bacilli ...	20.0†	7.5

\* Griffith, 1916.

—I am, etc.,

C. LEE PATTISON, M.B.,  
Medical Superintendent, King Edward VII  
Hospital, and Surgical Tuberculosis  
Officer, Sheffield.

April 20th.

#### EARLY DETECTION OF TUBERCLE BACILLI.

SIR,—To the excellent suggestions made by Sir James Dundas-Grant in your issue of April 14th (p. 627) I would add an examination of the faeces. Frequently where there is no sputum expectorated much is swallowed. If it contains tubercle bacilli these will be found in the faeces. Tubercle bacilli in the faeces, provided food containing tubercle bacilli is not being eaten, is almost pathognomonic of pulmonary tuberculosis. There is for practical purposes no difficulty in this examination, and I have found it of great clinical value. The tubercle bacillus is the only acid-fast and alcohol-fast bacillus likely to occur in the faeces. The bacillus may occur in great numbers when there is little or no sputum, and this probably explains the tuberculous rectal fistula which may precede the obvious manifestations of pulmonary tuberculosis by two or three years.—I am, etc.,

F. G. CHANDLER, M.D., F.R.C.P.

London, N.W.1, April 17th.

#### EFFICACY OF TUBERCULIN THERAPY.

SIR,—Dr. Weatherhead (April 7th, p. 611) very rightly emphasizes the necessity of a control series in adjudging the efficacy of treatment in tuberculosis, but his implication that such investigations have gone to prove that tuberculin is useless calls for challenge.

Kremser chose 110 patients expectorating tubercle bacilli, treating 55 with tuberculin; they were not selected,

<sup>1</sup> Study of tubercle bacilli isolated from cases of surgical tuberculosis (chiefly bone and joint) in the Sheffield area, by J. W. Edington and D. Guest: *Journ. of Hygiene*, vol. xxv, No. 1, February 27th, 1926.

but were placed in the groups alternately as they were admitted. Of those treated with tuberculin, 22, or 40 per cent., lost their bacilli; of those treated without tuberculin, 16, or 29 per cent. Such an investigation would appear to fulfil the requirements specified by Professor Karl Pearson. Trudeau found that incipient cases did well with or without tuberculin; of moderately advanced cases 27 per cent. were cured and 55 per cent. arrested when treated with tuberculin; of cases not treated with tuberculin 6 per cent. were cured and 51 per cent. arrested. Turban found that of 86 patients whose sputum contained tubercle bacilli, and who were treated with tuberculin, 52.3 per cent. were capable of work one to seven years after discharge from sanatorium; whereas of 241 whose sputum contained bacilli and were not treated with tuberculin, only 39.4 per cent. gave a similar result. Ritter similarly ascertained the working capacity of patients one to four years after discharge from sanatorium. His figures are as follows:

Treated—	Percentage of Patients at Work.		
	Stage I.	Stage II.	Stage III.
(1) With tuberculin	95	82	50
(2) Without tuberculin	72	57	22

Lawrason Brown, working with large series of cases at Saranac covering a space of fifteen years, finds a small but definite and constant bias in favour of the tuberculin-treated cases, especially those with moderately advanced disease; he uses only small doses of tuberculin.

The investigation at Midhurst, referred to by Dr. Weatherhead, is frequently quoted as being definitely and conclusively condemnatory of tuberculin; from a study of the actual figures it is a little difficult to see how such definite conclusions can be drawn. Thus, with regard to loss of tubercle bacilli from the sputum, the figures during 1911-13, the tuberculin era, were 22 per cent. In 1908-11, without tuberculin, the figures were 15 per cent. Dr. Bardswell, in his conclusions, dismisses this difference as insignificant, but in any case it certainly does not appear to be damning. He however, proceeds to suggest that even this small advantage cannot be attributed to tuberculin, the improved results being due to the fact that patients were kept under treatment for a longer period during 1911-13. A study of the actual figures discloses that the length of stay in the sanatorium during 1908-11 varied from 14.4 to 20.2 weeks, the average being about 18 weeks. From 1911-13 the stay varied from 16.8 to 24.7 weeks, the average being about 19.5 weeks. It seems unlikely that this extra period could seriously have affected the results. Dr. Bardswell further suggests that the improvement of figures in 1911-13 is due, not to tuberculin, but to the introduction of the Ellermann and Erlandsen method of staining for tubercle bacilli. He suggests that, since tubercle bacilli can by this method be demonstrated in early cases, these swell the favourable figures. It is difficult to see how this factor seriously influences the statistics; in the first place, there is no general agreement among tuberculosis experts that the method of Ellermann and Erlandsen is so manifestly superior to the older method; secondly, even if one allows the superiority of the method, it would "cut both ways," in that it would make it equally difficult for a patient to pass out with his sputum labelled bacilli-free. Last there should still be any bias in favour of the tuberculin-treated cases, Professor Karl Pearson suggests that "perhaps the cases admitted during those years were of an unusually favourable type."

Nine Midhurst patients who were discharged bacilli-free continued with tuberculin treatment. Of these, 6 continued bacilli-free and the remainder kept well. Of 30 similar cases who did not continue with tuberculin, only 12 kept bacilli-free, 5 relapsed, and 1 died. Dr. Bardswell appears to have been largely influenced in his unfavourable opinion on tuberculin by bad results obtained in 10 particular cases, which he quotes in full. It seems exceedingly doubtful, from a study of these cases, whether tuberculin had anything at all to do with the unfavourable results. With his dictum that tuberculin is incapable of turning an unfavourable case into a favourable one, one must, unfortunately, agree; it is not a "cure," any more than diet or fresh air is a cure—it is merely a favourable factor. The figures quoted, and many others besides, show that tuberculin

therapy stands by the permanency of its results in cases with a certain degree of natural resistance. There is too much tendency among tuberculosis experts to take a light and easy view of the favourable case "who will do equally well with any kind of treatment—or lack of it." If these favourable cases can be permanently arrested and saved from relapse, is not the work worth doing, and economically sounder than the elaboration of brilliant surgical operations for the temporary salvation of desperate cases?

Everything goes to show that the sanatorium system is indispensable, but inadequate. There is strong evidence that the results of the system could be made more lasting by the reintroduction of tuberculin therapy in the sanatoriums and the continuation of tuberculin therapy by means of a dispensary system after discharge. That such treatment of ambulatory patients is practicable with safety and efficacy has been demonstrated beyond doubt by Cmae Wilkinson in this country, by Gillespie in Ireland, by Miller in New York, and other workers. It may be added that the work of Cmae Wilkinson not only shows the safety of tuberculin therapy in ambulatory patients, but also the safety of maximum doses. No others, at any rate in this country, have seriously tested the possibilities of the system of high dosage. The results at Midhurst might have been conclusively in favour of tuberculin if treatment had been pushed to the point of high dosage.—I am, etc.,

T. WARWICK PRESTON, M.D., M.R.C.P.

London, W., April 13th.

#### BLOOD GROUP PERCENTAGES.

SIR,—In your issue of March 31st (p. 546) Dr. Altounyan of Aleppo contributes an analysis of blood group percentages for Arabs, Armenians, and Jews, and remarks that they "represent well-defined unmixed racial groups." Here we have again the familiar confusion between "race" and nation or people.

The Jews, by their own accounts, have proselytized freely both before and after the dispersion, and the Armenians, by reason of their geographical position and vicissitudes, can hardly have kept their Hittite germ-plasm intact, if that in its origin were racially pure. The Arabs are notoriously a racial mixture.

Dr. Altounyan also mentions the Kurds as a folk "about whom, ethnologically, little is known." On the contrary, it is well known that the Western Kurds are a blonde, dolichocephalic folk, speaking an Aryan dialect, and are therefore probably an outlier of the Nordic race—inhabiting, I may add, a plateau with climatic conditions of low rainfall, a dry summer, and a bright frosty winter. These conditions, I pointed out years ago, closely resemble those in which the Nordic type was evolved, and therefore may account for these people maintaining their racial traits, despite their isolation. To the east the Kurds fade off into the broad-headed types of the Asia Minor highlands.

If blood groupings could be definitely correlated to the primary races of mankind, a series of fascinating problems would forthwith arise, particularly in the matter of respective morbid proclivities and reactions to environment.—I am, etc.,

J. STEWART MACKINTOSH, M.D.,  
M.R.C.S., L.R.C.P.

Hamstead, April 14th.

#### TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—In relation to the letter of Dr. Dennis in your issue of April 21st (p. 691) regarding the treatment of enlarged prostate by x-rays, I would like to call the attention of the profession to the great value of static electric treatment for this trouble. I would suggest that a combination of the two treatments might relieve many a case that now finds its way to the operating table.

The static treatment has proved its value for many years. It must be a quarter of a century since Dr. Snow of New York first discovered its wonderful value in reducing the size of, and relieving the symptoms proceeding from, an enlarged prostate. This treatment is simple and painless, and free from all danger. It is a wonder to me that so few medical men seem to know the value of static electric treatment in this and many other complaints.

The *sine qua non* of successful treatment is that the static machine must be sufficiently powerful. The small machines in use by the unqualified electricians are absolutely useless.

—I am, etc.,

London, W., April 21st.

ROLF CREASTY.

### THE EXPECTANT MOTHER.

SIR,—I have read with interest Dr. Statham's comments on this matter in your last issue (p. 689) in reply to my letter of March 31st (p. 571). Dr. Statham appears to be unfortunate in having in Bristol such an unprogressive council to deal with; and as one who has served for some years on municipal and county council bodies, he will, I am sure, permit me to give him a gentle lead.

At the next city council election in Bristol Dr. Statham should be a candidate, and if he runs his election on natal treatment, now that women have so many votes, he will no doubt be elected and then will be on the highway to obtain that which appears to have been so sadly neglected by the Bristol council. The method to adopt is to speak freely on the matter in open council if he is refused what is wanted in committee, and if he is a man persistent and determined in character, he will find the other members will give way, and the battle will be won; and the more shame brought upon the authority, the more will Dr. Statham be respected and admired.—I am, etc.,

Chichester, April 22nd.

ARTHUR M. BARFORD.

### THE ELECTION TO THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

SIR,—My old friend Mr. Ivor Back is pleased to be facetious. I cannot but think that if a letter is written to a Fellow one knows, advocating a candidate, in many cases this candidate will get a vote which he might not otherwise have received. If I write to my friend Ivor Back and ask him to vote for Jones, he may have a spare vote and is not quite certain whether he will give it to Jones or Smith, but as I have suggested Jones, especially if he values my opinion, he will give his vote to Jones; and if Mr. Back was going to vote for Jones I have done no harm in writing to him. On the other hand, I consider it an impertinence to write to a Fellow one does not know, so that I should strike out from Mr. Ivor Back's list Nos. 2 and 4.—I am, etc.,

London, W., April 23rd.

ERNEST CLARKE.

## Obituary.

L. R. OSWALD, M.B., C.M., F.R.F.P.S.,

Honorary Consulting Physician, late Physician-Superintendent, Glasgow Royal Mental Hospital.

We regret to record the death, on March 24th, of Dr. L. R. Oswald, who was for many years physician superintendent of the Glasgow Royal Mental Hospital, Gartnavel, and lecturer on psychological medicine in the University of Glasgow.

Lancel Rose Oswald was born on October 4th, 1861, at Blinkhony, Markinch, Fife, and spent his early youth and schooldays there. He had not the opportunities enjoyed by many other boys of his time, and it was not until after he had come to Glasgow that he decided to take up the study of medicine. Before entering the medical school of Glasgow University he had worked in an apothecary's shop, both in Markinch and in Glasgow, and during a great part of his undergraduate career he continued to assist the apothecary. His life was no easy one; he worked hard, both day and night; he had few holidays, yet nevertheless he completed his medical career with honours, and gained the Brunton Memorial Scholarship as the most distinguished graduate of his year (1888). Previously he had obtained a bursary for distinction in the first two professional examinations, and a prize for excellence in clinical medicine.

In 1888 he was appointed house-physician to Sir William T. Gairdner in the Western Infirmary, Glasgow, and held this position for a year. Dr. Yellowlees asked Sir William Gairdner to recommend a man of promise, and

without hesitation Dr. Oswald's name was suggested, so in 1889 he was appointed a junior physician at the Glasgow Royal Asylum. Following this appointment he obtained the diploma of the Medico-Psychological Association. Later he was awarded the Foulis Travelling Scholarship, and visited and studied at the laboratories of Wernicke at Breslau, Flechsig at Leipzig, and Pick at Prague, submitting the results of his research to the trustees of the scholarship. In 1895 he spent four months in the United States of America studying the system of asylum administration there, and paying particular attention to mental disorder as it affected the negro. In the same year he was appointed superintendent of the Glasgow District Asylum at Gartloch. He was responsible for the organization of that institution, and its up-to-dateness to-day is the result of his great foresight. While there he was responsible for recommending the employment of women nurses in the male wards, and exercised a great influence in raising the status of the asylum nurse. Gartloch Asylum was the first mental hospital to build a separate nurses' home for its nurses, and that was provided on his recommendation.

Dr. Oswald succeeded Dr. Yellowlees as physician superintendent of the Glasgow Royal Mental Hospital, Gartnavel, in 1901, and in 1904 was appointed lecturer in psychological medicine at the University of Glasgow. Four years later he was successful in establishing, in connexion with the Western Infirmary of Glasgow, a department for mental and nervous diseases, and was appointed consulting physician. About the same time he was among those who were particularly interested in organizing the Western Asylum's Research Institute, which has done excellent work, and attends to the needs of over 6,000 patients. He held many other appointments. At the Annual Meeting in Liverpool of the British Medical Association in 1912 he was president of the Section of Neurology and Psychological Medicine; he was president of the West of Scotland Medical Association; he served on a Royal Commission to report on the mental condition of the school children of Glasgow; and he interested himself in all movements having to do with the care and betterment of the mentally afflicted.

These are the bare facts of his career. The man himself was an outstanding personality. He was brought up in a hard school, he worked indefatigably throughout his career, and he demanded a high standard from those who worked with him. There were times when he may have been thought unduly hard and impatient, but this was soon forgotten when it was realized that everything was done and said for the best interests of his colleagues and his patients. He had acute clinical insight, and his ability to sum up a situation quickly and clearly was unrivalled. His method of eliciting the facts was almost judicial in its thoroughness, and although this cross-examining style did cause an element of uneasiness, yet it was tactfully done, and never left any resentment. It is not too much to say that his whole life was bound up in the institution which he served so faithfully for a period of twenty years, until his retirement, from ill health, in June, 1921. His heart was in his work. At all hours of the day and night he might be seen going round his wards, talking with his patients, discussing what was best to do for them, and keeping in the closest possible touch with them. They depended on him, and many will ever be grateful to him. He was not easily approachable, but he made many friends, and all admitted to his friendship were charmed by his broad understanding, his sense of duty, and his sterling worth. When off duty he was a most entertaining conversationalist, always had a fund of reminiscences and stories at his command, and enlivened any company.

As a lecturer he was able to put his knowledge forth in a clear, coherent manner. He gripped his audience, and his clinical demonstrations particularly were characterized by great force and lucidity. It was unfortunate that he did not contribute more to medical literature, as he had a happy mode of expression, and his mind was so keen, clear, and well ordered that he was able to sum up his experience in a most instructive manner. His time, however, was fully occupied. There was no department of the institution that he did not know about, he took an interest in everything that went on, and, in consequence, he handed

down to his successor a well-organized institution, which had improved and developed greatly during the time he acted as its superintendent. His advice as a consultant was widely sought and valued.

His period of ill health came on suddenly. He was stricken down while still active, and to a man of his keenness and aggressiveness a long-drawn-out, protracted illness of the type from which he suffered tried his patience to an extreme degree. He bore it with great fortitude; he continued to the last to take an interest in everything pertaining to the institution which he had served so loyally, and he was always willing to give advice and help in an ungrudging spirit.

D. K. H.

#### JOHN STEPHEN McARDLE, M.Ch.R.U.I., F.R.C.S.I.,

Professor of Surgery, University College, Dublin; Senior Surgeon, St. Vincent's Hospital, Dublin.

It was with much regret that we had to announce briefly last week the death of Mr. John Stephen McArdle, who died in Dublin on April 14th, at the age of 69, after a long illness. His death will be mourned not only by his professional confreres and a wide circle of friends, but by many poor people who had the benefit of his surgical gifts during his forty years' connexion, as surgeon, with St. Vincent's Hospital.

He was born in Dundalk in 1859, and throughout his life his interest in his native town and in the affairs of his school and collegio never waned. After a brilliant medical course as a student of the Catholic University, he obtained the diploma L.R.C.S.I. in 1879, and was appointed house-surgeon to St. Vincent's Hospital, becoming staff-surgeon two years later. In 1880 he became demonstrator of anatomy at the Cecilia Street Medical School, and obtained the licence of the Royal College of Physicians of Ireland and the licence in midwifery. Four years later, in 1884, he was elected a Fellow of the Royal College of Surgeons of Ireland, and later became a member of the council of that body. In 1900 he was appointed professor of surgery to the Catholic University, as it was then. Other positions held by Mr. McArdle were those of senior surgeon and lecturer on surgery at St. Vincent's Hospital since 1886; surgeon to St. Patrick's College, Maynooth; examiner in surgery to the old Royal University of Ireland (of which he was elected a Fellow in 1903); and consulting surgeon, Children's Hospital, Temple Street, and National Maternity Hospital, Holles Street, Dublin. At the time of his death he was president of the Irish Medical Association and a Fellow of the Royal Academy of Medicine in Ireland. He was also a member of the Senate of the National University of Ireland and of the Governing Body of Dublin University College, in which he had been professor of surgery since 1910. Despite the extent of his practice and the many calls on his time, he was the author of a number of important works on surgery.

Mr. McArdle was a man of a most genial disposition—a kindly and charitable character. By virtue of his eminence in his profession—an eminence not confined to his native country—he was always able to command and obtain large fees from many of the patients who were indebted to his great skill, but he devoted a very large part of his time to gratuitous service to the poor, particularly as visiting surgeon to St. Vincent's Hospital, and the full extent of his services in this connexion will never be known.

His principal recreations were farming and shooting, and one of his greatest pleasures in life was to retire to his charming residence at Ballyteague, in county Wicklow, after a period of arduous work, and there enjoy the rest and quiet of that beautiful mountain retreat. A close friend of the late Mr. John E. Redmond, he was a neighbour of the late parliamentary leader at his home at Aughavanna. Although he did not appear on the public platform, he not infrequently gave, by interview and by his pen, support to the claim for full recognition of Ireland's national rights. He was also an enthusiastic supporter of all branches of sport. During recent years he took a very keen interest in the transport problem in Ireland, and was president of the Irish Motorists' Association. Among the last public acts of his life was the part he took during the British coal strike in 1926 in organizing

a big scheme for the conveyance of fuel to the city for distribution among the poor, whose plight on the occasion was serious. He was twice married, his widow being a daughter of the late Mr. Michael Nugent.

#### CHARLES GREENE CUMSTON, M.D.,

Past President, International Congress of the History of Medicine.

By the death of Dr. C. G. Cumston at Chamby-sur-Montreux, on April 14th, England loses a good friend and the medical profession throughout the world one who did much to promote international good feeling. Born at Boston in 1868, he was educated at Vevey in the Institut Sillig. He graduated M.D. at the University of Geneva in 1893 on the presentation of a thesis on a subject investigated in the laboratory of Professor d'Espine, and acted for a short time as assistant to Dr. Kummer, who was then surgeon to the Butini Hospital. He married a Genevese lady, with whom he led a very happy life, for she was in full sympathy with all her husband's plans and aspirations. He then returned to Boston and specialized in surgery and gynaecology, becoming attached to several hospitals in the neighbourhood of the city. There he practised for more than twenty years, and his work was recognized by his fellow countrymen, by whom he was elected a vice-president of the American Association of Obstetrics and Gynecology. He returned to Geneva just before the war, was elected a member of the Medical Society there, and became a privat-docent in the Faculty of Medicine. He relinquished the practice of his profession and occupied himself at first in making abstracts from French and Swiss journals for the press of the United States. Larger interests soon prevailed, and he became lecturer on the history of medicine and medical philosophy in the University of Geneva. In this position he quickly justified his appointment. He filled with dignity and success the office of president at the fifth meeting of the International Congress of the History of Medicine in 1925, and in the following year he published *An Introduction to the History of Medicine*, which was well illustrated with portraits from his own collection, showing the great interest he had always taken in medical iconography.

Of late years, writes Sir D'Arcy Power, it was Dr. Cumston's practice to spend some weeks of the early summer in London accompanied by Madame Cumston, and he was thus able to keep himself in touch with his numerous friends and to spend much time at the Royal Society of Medicine, where his sympathies had been early enlisted by Sir John Macalister. He was perhaps seen at his best at his pleasant flat in the Rue Bellôt at Geneva, where he welcomed numerous visitors of every nationality with that friendly hospitality which showed that he had not forgotten the Boston tradition, for at his table there was good talk as well as good meat and drink. Nor were the wives of his friends forgotten; Madame Cumston was as hospitably inclined as her husband. He leaves no children.

Dr. F. G. CROOKSHANK sends the following tribute:

It is with great regret and a real sense of loss that many medical men in London will learn of the recent death of Dr. Charles Greene Cumston, who, though not the holder of any British qualification, was nevertheless a Fellow of the Royal Society of Medicine, and a staunch admirer of the Royal College of Physicians. At Geneva he accumulated a most excellent library concerning the history of medicine, and a really fine and beautiful collection of portraits—for the most part fine engravings and etchings—of the historic heroes of medicine. He took a lively interest in the medical life of Geneva, participating in its social side and developing the activities of the Medical Society, founding, in pious memory of two of his revered masters, the Julliard-Revillod lectures, given annually by some foreign member of the medical profession. Here too, in 1925, he had the great pleasure of presiding, in his own genial and kindly way, at the fifth Congress of the International Society of the History of Medicine. Latterly his health had somewhat failed, but several years ago he embraced eagerly the suggestion made to him by a friend that he should write in English a history of medicine, and

it was at once arranged that the volume should be included in the series known, under the editorship of Mr. Ogden, as the *History of Civilization*. The book appeared in 1926, and has already achieved marked popularity and general success. By it Cunnison's name will undoubtedly be remembered, and it is characteristic of the man. There have been, and are, many historians of medicine with greater technical equipment; there are others who are greater scholars, or who have made greater contributions to special departments of historical knowledge; but Cunnison's book is a wide and generous survey of the subject, made by a man who had practised long and successfully as physician and as surgeon, and from whom nothing human was remote or alien. In fact, just as it may be said that one of his most successful "occasional papers" was a little essay, written in French, concerning "notre sympathique confrère François Rabelais," so there was much of Rabelais in Cunnison. Not that he was Rabelaisian in the sense in which the Englishman in the street understands the term, but that, like Rabelais, an Hippocratic physician by nature and by training, and, like him too, not without experience in a speciality that reveals a great deal of what is weakest—and sometimes much of what is strangest—in human nature, and with a wide knowledge of men and things, he became a great and kind-hearted observer and critic of life—impulsive and prejudiced, tolerant and wise, philosophical and genial, caustic and kind-hearted, and above all sympathetic to everything but what is mean and despicable. And it is perhaps not altogether fanciful to trace some resemblance between two portraits now before the writer—one, a copy of the famous Geneva likeness of Rabelais; the other, a recent crayon drawing by a Genevese artist of "notre sympathique confrère," Charles Greene Cunnison.

We regret to record the death, on April 12th, of Mr. EDGAR WILLIAM WILLETT, for many years anaesthetist to St. Bartholomew's Hospital. He was born in 1856 at Brighton, where his father, Henry Willett, was well known as a collector and antiquarian. He was educated at Wellington and New College, Oxford, graduating B.A. with first-class honours in natural science in 1879, M.A. and M.B. in 1885, and M.D. in 1904. His medical studies were pursued at St. Bartholomew's Hospital, where his cousin, Alfred Willett, had lately been promoted full surgeon. After qualification Edgar Willett was appointed house-surgeon to Sir William Savory, and in 1888 he obtained the F.R.C.S.Eng. diploma with the intention of practising as a surgeon. He served for a few years on the surgical staff of the Metropolitan Hospital and of the Belgrave Hospital for Children, but becoming interested in anaesthetics he took up that branch of the profession, and was appointed anaesthetist to St. Bartholomew's Hospital. As an anaesthetist Edgar Willett was careful rather than brilliant, but no patient ever suffered any mishap in his hands from any lack of attention. In 1905 he was elected president of the Society of Anaesthetists. He resigned his appointment at St. Bartholomew's about twenty years ago and went to live in the country, but on the outbreak of the war he volunteered for service and was appointed to the Croydon General Hospital, of which he became registrar, with the temporary rank of major, R.A.M.C. On the termination of his service he retired to his house in Sussex, near Forest Row. He had a very quiet, retiring, not to say shy disposition, and consequently never had a very large circle of acquaintances, but his friends knew him as one of the kindest hearted of men, very hospitable, and ever ready to do a good turn. He enjoyed country life and was a fair golfer and shot, and ranked above the average as a croquet player, but failing health prevented him from enjoying his pursuits to the full.

We regret to announce the death of Lieut.-Colonel W. I. THOMPSON, D.S.O., which took place at Omagh, co. Tyrone, on April 12th, after a prolonged and severe illness. William Irwin Thompson received his medical education at Trinity College, Dublin, where he began his studies after serving throughout the South African war as a trooper. He

graduated M.B., B.Ch., B.A.O.Dub. in 1905, and in the same year obtained the diploma L.M. Subsequently he joined the Royal Army Medical Corps, serving at home and in India, and in 1914 was attached as medical officer to the 5th Dragoon Guards. He proceeded with that regiment to France at the outbreak of the European war, and had the ill fortune to be taken prisoner within a few weeks of landing. For eleven months he was detained as a prisoner of war, and in that period suffered considerable privation, from the effects of which he never fully recovered. On his return to England he was employed for a time in training recruits, but before the end of 1915 he embarked for France for a second time to take command of the 65th Field Ambulance. His services were recognized by the award of the D.S.O., and he was several times mentioned in dispatches. After the war he was again employed in India for several years, but in 1925 he was appointed to the Connaught Hospital, Aldershot, where he served until ill health caused his retirement. Colonel Thompson had a close family association with the medical profession. His brother was Major-General Sir Harry Thompson, K.C.M.G., A.M.S., who died in June, 1925, and whose health also was undermined by experience as a prisoner in Germany in the early years of the war. Colonel Thompson was the nephew and son-in-law of Dr. E. C. Thompson of Omagh, a former president of the Tyrone Division of the Ulster Branch of the British Medical Association. He is survived by his widow and a young son and daughter. He was interred at Portrush with military honours, detachments of his own corps and of the Royal Inniskilling Fusiliers being present.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

### The Budget.

ON April 24th Mr. CHURCHILL introduced the Budget in the House of Commons. He proposed a duty of 4d. a gallon on petrol and light oils, including kerosene and turpentine, but regretted that he could not accompany it by any reduction in the horse-power tax on motors. The rate of income tax is unchanged, but the abatement for a first child is raised to £60 and for subsequent children to £50, to be allowed from the year of birth. The duty on imported unrefined sugar is reduced by 4d. per lb. Duties are imposed on lighters used in lieu of matches and on imported buttons. Mr. Churchill sketched out a great scheme of rating relief, to come into force in October, 1929. By this agricultural land will be relieved of all rates, and productive enterprises employing manual labour, together with railways, canals, and docks, will be relieved of three-fourths of the rates. The Government is establishing a fund wherewith to pay contributions to local authorities to make up for these rate reductions, contingent on the passage of a Valuation Assessment Bill after the Budget and a Local Government Bill next winter. Mr. Churchill said the latter would carry out overdue reforms in local government, and would substitute a system of block grants, quinquennially revised, for the present system of Government aid to health services and other local services. Education and police would not be included in this. For certain purposes of local government, including Poor Law and highways, wider administrative areas were needed and would be proposed. Mr. Churchill announced that in the past three years the number of officials in the civil departments had been reduced by 7,000, and that a further scheme had been prepared to suppress 11,000 more posts in five years. The defence departments were also to be examined with a view to retrenchment of staffs.

On the subsequent days this week the House of Commons continued a general discussion on the Budget. On April 23rd the House of Commons completed the committee stage of the Equal Franchise Bill, and read the Local Authorities (Emergency Powers) Bill a third time.

### Edinburgh Corporation Bill, 1928 (Venereal Diseases).

#### Second Reading Refused.

ON April 19th the House of Commons refused, by 156 to 93, to give a second reading to the Edinburgh Corporation Bill.

Mr. PETHICK-LAWRENCE moved the rejection of the bill, and said that, though a private bill, it raised issues of fundamental national importance. He said the bill would not operate more speedily to get rid of venereal disease in the country. Experience and a common-sense view of human nature convinced him that the reverse would be the case. The promoters of the bill had circulated a memorandum in which they offered to make considerable



amendments, removing the overt means whereby compulsion could be brought about. He suggested that was because they realized there were latent means whereby they could carry out their will. The promoters of the bill said it was necessary to have compulsion to catch defaulters. They had large numbers of people coming voluntarily for treatment, but before cure was completely effected a certain number defaulted. The promoters said that if they could introduce the principle of compulsion they could oblige those who came for treatment to continue coming till the cure was complete. They were mistaken. They could not graft compulsion on to the voluntary system. Under the bill there would be two classes of patients—the voluntary and the compulsory. Did the House doubt that the volunteers would be reduced in number? Those who came would perhaps have to submit, if they came to a clinic, to such a doctor as was prescribed for them, and would have to continue treatment till a cure was effected. Could the medical men in the House say whether any two medical men would agree when a cure was effected? Further, in every form of treatment there was risk and danger, and if unfortunate events occurred fewer patients would offer themselves voluntarily. At what stage would they offer themselves? Of 19,000 volunteers over 4,000 had been found not to be subject to the disease at all; but if people knew they were to be subject to a long course of treatment under compulsion they would postpone coming till the time when some of the most important opportunities for dealing with the complaint had gone. The well-to-do would consult their own practitioners, and their cases would not be notified, as there was no compulsory notification under the bill. The poor only would be dealt with, and would be informed against by the medical officer of health or by a medical practitioner. Was the practitioner to get his information from anyone who chose to assert that he or she had been infected by the person in question? That surely was preposterous. Or was the medical practitioner to get it from his personal observation in hospital or clinic? That was going to have a deleterious effect on the coming voluntarily of men and women to be treated in hospitals and clinics. The coming of mothers to pre-natal clinics would be gravely affected. The Edinburgh Corporation had issued a statement showing that in the five years from 1922 to 1926 defaulters fell from 44 per cent. to 29 per cent. of those under treatment, and this figure included those who were dead and such as seamen who could not continue the treatment. New South Wales, where compulsory treatment had been in existence some time, had only succeeded in bringing back 25 per cent. of those who defaulted. A medical conference on venereal disease in Melbourne in 1922 had passed a resolution that in its opinion there was no evidence that the compulsory venereal disease measures had resulted in any reduction of congenital venereal infections.

Dr. GRHAM LITTLE said he supported the rejection of the bill for medical reasons. For twenty-six years he had been head of two hospital departments in London where the treatment of these diseases was part of the clinic he conducted. He had sat under both Hutchinson and Fournier. The latter had now proved to be more correct in his view on length of treatment, and more prolonged treatment was now the rule for both venereal diseases. There was common ground even among medical men that early treatment was of essential importance in both diseases. The prospect of ultimate cure increased in proportion to the earliness of the treatment. It was therefore more important to get a new case than to go on treating an old one, and the Edinburgh Corporation had missed the significance of the treatment of syphilis in the importance they attached to the question of defaulters. The Trevelthick Committee in 1923 made a tentative suggestion that special measures might be necessary to deal with defaulters, but also said that default was not so serious a menace to public health as the statistics would imply. Default was decreasing, and the whole incidence of both diseases was rapidly diminishing in this country under the voluntary methods instituted in 1916. Medical opinion was overwhelmingly against compulsion. The experts on the Royal Commission in 1916 were the very flower of the profession, and their report was in favour of voluntary, secret, confidential treatment. The British Medical Association issued in 1923 a special circular to its 30,000 members, and the response was overwhelmingly against the introduction of compulsory notification of venereal diseases. Yet compulsory notification was a less serious infringement of liberty than compulsory treatment. The Trevelthick Committee, which reported in 1923, consisted largely of eminent doctors who did not know syphilis or gonorrhoea from personal medical experience, but they did support the view that compulsory measures were unlikely to secure early treatment. The Edinburgh Corporation stated that the Edinburgh Division of the British Medical Association had voted in favour of the bill. He was told that out of 1,500 persons practising medicine in Edinburgh some 60 attended, and the vote was a majority one. The vast majority of the medical profession must be opposed to compulsion, which threatened the sacredness of the professional secret. The medical officer of health for Edinburgh, who was the protagonist of the bill, suggested that the corporation was not relying on doctors, but would obtain information from a crowd of "competent officials attached to public health departments." Dr. Little presumed these officials would be asked to go round inquiring into the venereal history of the neighbourhood. He would not like to be one of those officials. Specific fevers were compulsorily notifiable, but they ran a well-defined course, which ceased at a given time, which was well recognized. The infectivity of syphilis and gonorrhoea was subject to no standard. The Trevelthick report had said: "In the present state of knowledge there is no standard of non-infectivity or cure generally accepted by the medical profession, and until this has been attained it is difficult to see how any system involving notification and compulsory measures of treatment could be applied." That was absolutely true at the present moment. The reliance to be placed on the new test and the new treatment had been greatly over-

estimated by my opinion. The test—a physiological, not a chemical one—was very difficult to apply. Detention had been ostensibly abandoned by the corporation, but he had been told by a protagonist for the corporation that they did not attach much importance to relinquishing the detention clause because they thought they could get all they wanted by the application of Section 7 of the Public Health Act, by which cases of infectious disease could be detained until infectivity was over. The bill still contemplated detention for periods which varied enormously, detention resting upon a certificate given by any medical practitioner. It was impossible at present to expect that the general profession throughout the country would be in a position to give certificates of that kind which would be of any value. The tests and the treatment for this disease required wide and highly specialized experience, and teamwork by many experts. A case presenting itself at a hospital was turned over to half a dozen people, who would go into it carefully before making any report. Was that possible anywhere in general practice? Yet they were to rely upon a certificate given by any medical practitioner, and on the treatment given by any general practitioner. Yet the modern specialized treatment was very dangerous except in highly skilled hands. He had had three dentists from salvarsan in his own personal practice. To compel persons by law to submit to these risks was an impossible proposition in the present state of medical science. Certificates given under these conditions would be largely valueless. The defaulter knew he was not cured, but the patient who was told he was cured was a source of danger to himself and the public. They could not get a system of compulsion unless it were universal. They could not confine it to Edinburgh, nor, as the Edinburgh Corporation proposed, to five years. A great success had been made of the voluntary clinics, and to destroy them by panic legislation would be a disaster.

Sir PATRICK FORD, in opening for the bill, said the mover and seconder of the motion for rejection had stated their case moderately. Edinburgh had one of the finest medical schools, with the latest methods and information, and was not going to be guided by more antiquated ways of looking at these problems. The bill had nothing to do with moral or social problems, but was to stamp out disease, and sought compulsion to deal with a residue of cases which for some years had remained steadily between 800 and 1,000—centres of infection which were going about as dangers to the neighbourhood and the country. The promoters of the bill did not suggest that voluntary work should cease, but that more power was needed to deal with a case which might be recklessly vicious and was entirely recalcitrant. He did not think the bill interfered with liberty more than any of the regulations under the Public Health Act. The opinion of the Edinburgh medical officer of health and of the officers who dealt with these cases deserved consideration. It was that the great work which was done voluntarily was to a large extent undermined by the fact that recalcitrant cases could not be dealt with. That was why they asked for these powers. There was a danger when these infected people handled food. They were a menace to society. The promoters were ready to accept an amendment deleting Clause 3 (3) of the bill (see *Supplement*, February 25th, p. 66, for wording of this clause). But Sir Patrick was willing to admit that the same power still remained to public authorities as a last recourse, by Section 54 of the Public Health (Scotland) Act, 1897, which gave power, on a magistrate's warrant, to remove a contagious case who would not submit, and have him segregated. There was no compulsory notification, no compulsory examination, or compulsory treatment. No doctor could forcibly examine any patient, man or woman; and no patient who was taken, even in the last resource, to a hospital, could be forced to take any medicine, to suffer any injections, or to have any physical treatment. The medical officer was not entitled to net on any information except from a doctor, unless he took reasonable steps to make sure. No responsible medical officer would do these things in a light-hearted manner, and if the information laid proved to be false no action for damages would lie. The safeguards were sufficient. The Royal Commission of 1916 had said: "The application of compulsion to cases in which there is no sense of responsibility, where no restraint is thought of, and where contagion is in its most active and virulent form, can be defended on strong public grounds." The Commission had gone on to say: "It is possible that the situation may be modified when these facilities have been in operation for some time, and the question of notification should then be further considered." The facilities were there, and public opinion in Edinburgh was in favour of carrying out some such proposals as the present. The views laid down by the Royal Commission had been fulfilled so far as Edinburgh was concerned. The whole weight of opinion of the local authorities in Scotland was in favour of the bill. Women's organizations in Edinburgh supported the bill, which Sir Patrick Ford asked the House to send to a committee so that its preamble could be proved.

Dr. SALZEN said he proposed to submit additional practical considerations why the House should reject the bill. It would be easy to evade its provisions by moving to another district or by giving a false name and address. People in Edinburgh who opposed the bill proposed to induce each person who applied to the clinic in future to decline to give any name other than a pseudonym. In isolation for small-pox a man was merely kept in hospital for a limited period, and, if he chose, could refuse treatment and medicine. The bill, however, proposed that persons affected with syphilis should be compulsorily treated. The method was by injection of highly toxic substances, salvarsan, or one of the later derivatives. He himself, if he had the misfortune to become infected with the disease in his professional work, would eagerly avail himself of the treatment, but would know he was accepting a great risk. Death resulted from this treatment in a considerable number of cases every year in this country. Every few weeks the medical papers reported cases of

grave accident following the treatment, and a terrible disease, known as acute yellow atrophy of the liver, followed not infrequently. Many doctors of high standing believed the old method of treatment was as effective in the long run. Apparently, by the operation of this bill one particular method of treatment, and that alone, was to be enforced, and if a patient declined that method, and demanded treatment by the older method, he was not only to be refused it, but punished for demanding it. That was an entirely new principle in British law.

Dr. FREEMANTLE intervened and asked where that provision came in the bill.

Dr. SALTER said a patient had to submit to treatment prescribed by the medical officer. That was the implication of the clause dealing with the subject. He asked the Secretary for Scotland whether, if a man suffered injury or death as the result of treatment compulsorily applied against his will, that man would not have a claim for damages either against the doctor who gave the treatment or against the institution of which the doctor was an official. Officials of the Edinburgh Corporation had met the Parliamentary Medical Committee and had supplied figures showing that in 1922 the percentage of defaulters to all persons presenting themselves was 18; in 1923, 15; in 1924, 12; in 1925, 13; in 1926, 12, and he had been told that in 1927 it was 11. That showed that the present voluntary method was effective in spite of the fact that, as he was told, the Edinburgh Corporation had only one official who followed up these defaulting cases. Before introducing such drastic proposals as the bill further efforts should be undertaken on voluntary lines, with more effective medical persuasion and an increased number of followers up. The experiment of compulsion had been made in many countries, but not hitherto in Great Britain. Dr. Salter declared that a man suffering from venereal disease who attended one of these clinics regularly might be infectious, and might remain infectious for many months, and go on spreading infection amongst the population. The bill did not propose to deal with that man, but it proposed to deal with another man who might not be infectious at all, but had simply not followed up his treatment for as long as the medical officer thought he ought to have done. He added that he would not support a bill for segregating persons suffering from venereal disease till they were declared cured. It would be ineffectual. The bill before the House would drive venereal disease underground, and there was a risk that it would increase it.

Dr. DAVIDSON SHIELS, supporting the bill, said that it was designed to fill a gap in the Infectious Diseases Acts, under which the country had possessed compulsory powers since 1889. Venereal diseases had not been brought under these Acts because till recent years their responsibility for disastrous after-effects was not realized, their specific causes were unknown, and there was no certainty of a cure. However, high medical and legal authority believed that venereal diseases could come under the operation of the Infectious Diseases Acts, and certain parts of the Edinburgh bill were identical with provisions of those Acts. With venereal disease, except in very few cases, no institutional treatment was required; the treatment might be prolonged for two years, and the patient was able during treatment to carry on his ordinary employment. Therefore the bill had been introduced because it was necessary to modify the procedure of the Infectious Diseases Acts. The Royal Commission could not recommend compulsory methods in 1916, when there were no treatment centres and comparatively few doctors were familiar with the modern technique, but that Commission envisaged a time when compulsion might be applied. The Trevelthyn Committee outlined something like the experiment proposed in the bill. The only serious argument against the bill was that it would hamper voluntary treatment and drive the disease underground. People who were most dogmatic on this question had no personal association with the treatment of the disease. Venereal disease officers, medical officers of health, and members of public health committees took another view. He was not aware that any venereal disease officer or any medical officer of health in Scotland had suggested that the proposals in this bill would harm the operation of the voluntary system. The voluntary system could go on perfectly and be supplanted by the compulsory parts of the bill, which would only be used for a small number of people. Dr. Salter and Dr. Little had spoken about terrible risks to the patient. They referred to the state of things ten years ago, and their statements were not true to-day. There had only been one death following injection in Edinburgh since 1917. Such cases were now few and far between.

Dr. SALTER, intervening, said the medical press had recently stated that over thirty such deaths had occurred.

Dr. SHIELS said he spoke of experience in Scotland. The risk was comparable to that of people dying when they had teeth drawn or in hospitals while undergoing an operation. The treatment was now so safe that a public authority was justified in using the methods proposed in the bill. Members who were medical men knew that if there was potential danger in the treatment there was absolute certainty of grave danger awaiting these people if they were not treated. Edinburgh had done everything possible to make the voluntary system a success. The Edinburgh authorities considered that the pledge of secrecy could not be easily observed if a man was sent to men in the circumstances in which most of them were placed. The men were carefully followed up by letter, and, if necessary, by calls in suitable circumstances. Edinburgh had done full justice to the voluntary system, but had many people who, careless of the danger to themselves and to other people, refused to accept treatment. Were the corporation to go on indefinitely with a system which was like pouring water into a sieve? Last year they spent over £20,000 on treatment of the disease. The estimates of the Board of Health for the treatment of this disease

in Scotland showed that £62,000 would be required next year. The local authorities had to make a contribution which raised the total to over £87,000. In the whole of Britain they were spending over £300,000 to provide free treatment and skilled specialists with a view to stamping out the disease as a part of preventive medicine. The doctor's ideal was preventive medicine, and he looked forward to a time when he would not be curing disease, but, instead, would be keeping people well. Our general hospitals, our Poor Law hospitals, our asylums, our prisons, were largely filled with the end-products of this disease recorded under the names of different conditions. The expert of the Ministry of Health on this subject, at the recent Imperial Conference at Wembley, estimated that the treatment of venereal disease at the present time saved £50,000 a year in asylum expenses, and, if treatment could do that on only one aspect of the end-results of this disease, what would entire prevention achieve? Compulsion and early treatment would prevent many of these late developments and release many beds in our ordinary hospitals. Medical officers of health and venereal disease officers denied that compulsion would drive the disease underground and send people to quacks. His experience, which was confirmed by all clinical officers, was that the great bulk of the patients were eager to get well and gave no trouble at all. Under the new provisions these people would not be affected by the knowledge that compulsion would be used on others of a different mentality. The people who defaulted did not come to the clinic because they were weak-minded or frivolous or utterly careless and irresponsible. If compulsion brought any change in the voluntary attendance it would have a good effect. At present the public did not sufficiently realize the seriousness of venereal disease, and the fact that there were no compulsory powers in connexion with it impressed on the public mind the idea that venereal diseases were not so serious. With regard to treatment by quacks, it had been illegal and a serious offence since 1917 for any unqualified person to treat venereal disease. Dr. Shiels said he was surprised at the action of some women's associations against the bill, and at the unscrupulous use made of the name of Josephine Butler. To say that the bill was analogous to the Contagious Diseases Acts of the middle of the last century was an insult to the citizens of Edinburgh. In modern days prostitutes did not form a large percentage of the patients. If they became infected they were eager, for obvious reasons, to get cured. Women's societies who objected to the bill might seriously consider the case of the innocent children, of whom between 200 and 300 attended the Edinburgh clinics—children who should have been born healthy, but who had been condemned to suffer the stigma of this disease. The bill did not abolish class distinctions, but all types of people attended the clinics, people of all social grades. The compulsory methods in Europe had only been used against prostitution, and had no reference to the system suggested in the bill. In Germany, however, a system had been introduced a few weeks ago on the lines of the bill. In Toronto a similar system was working, and less than 2 per cent. of prosecutions was needed to make it effective. He himself had investigated the system in all the States of Australia, and had a special interview with the director of medical services in Melbourne on the subject. They were perfectly satisfied with the system, and there had never been any demand for doing away with it. Dr. Shiels understood that the Government opposed the bill because it was local and not general. The Scottish Board of Health had more than once spoke of the need for compulsory measures. The English Ministry of Health, however, had always seemed to have a curious prejudice against any legislation on the subject. There was nothing in the private bill argument, because much of the general public health legislation had been built up by local experiment. Even the Infectious Diseases Act of 1889 was in operation in Edinburgh for ten years before it became a general Act. Compulsory notification of tuberculosis was in force in many towns before it became general.

Sir JOHN GILMOUR said that as the Minister responsible for public health in Scotland he approached the bill without technical knowledge, but feeling that it deserved the closest consideration by the country and the House. He regretted that he would have to advise the House to reject it. He did so after careful consideration with his advisers. Letters and communications had been cited from the Board of Health which referred to the possibility arising of using compulsion, but these communications had been made before the issue of the most recent reports on the problem. Venereal disease was a scourge, and they must make as great progress as possible towards eliminating it, but the measure of progress must always be in proportion to, and not in advance of, the volume of public opinion in support of it. The Board of Health recognized the skill with which the Edinburgh Corporation, as others throughout Scotland, had endeavoured to deal with this problem. Cases such as those cited of the deliberate infection of children rightly aroused the indignation of those who had to deal with the problem, but he asked the House whether, if compulsion were authorized, these cases could be more easily dealt with than now. The Trevelthyn Committee had said: "It has been suggested by some that in order to secure unbroken attendance of patients at clinics a modified form of notification supported by appropriate compulsory measures should be applied to those who have once attended the clinics . . . but in our view such a system would be more likely at the present time to deter than encourage attendance, and it seems difficult to justify the imposition of a penalty on those who have come for treatment while leaving untouched those who have made no effort to seek treatment." Sir John submitted that was a condition which this bill would propose to carry out. On those grounds he was compelled to say to the House that he did not think they would be wise to proceed with it.

Sir BASIL PETO asked why Sir John Gilmour implied that the bill dealt only with those attending clinics and left out all who did not attend.

Sir JOHN said it seemed obvious that unless they also had compulsory notification that would be the result. He pointed out that the Corporation of Glasgow was bringing forward proposals on different lines.

Mr. KIRKWOOD asked whether Sir John would support the Glasgow bill. (The draft of this bill proposes compulsory notification of venereal diseases.)

Sir JOHN GILMOUR: Sufficient for the day is the evil thereof. Concluding, he declared that under the voluntary system great progress had been made. The experiment proposed was bound to have effect on areas far outside that in which it was made, and if it failed, or partially failed, would have reactions which many could not foresee. He was compelled with regret to ask the House to reject the measure.

Dr. FREMANTLE said the House had that day seen the medical profession divided because of its honesty and determination to tackle difficult questions. The medical members had certain grounds in common. One was a realization of the intense seriousness of the evil they were trying to treat. The public was insufficiently aware of the seriousness of the position. The Royal Commission of 1916 had concluded that one person in ten of the whole population of our large cities was infected with syphilis, one of the great killing diseases. Gonorrhoea, one of the great crippling diseases, was equally or more prevalent. It was true that by the voluntary system the number of defaulters had been reduced, and he hoped it would continue to be reduced; but did any impartial man or woman imagine that any voluntary system was going to secure the treatment of those who were recalcitrant? The Government and those who opposed the bill were content that nothing should be done for these people. The medical profession was unanimous that the main basis of the treatment of the disease, and still more the measures of prevention, must be voluntary. All statistics from other countries were incomparable because under this bill they meant to keep the voluntary system. He had seen that system working in Edinburgh. Ten years ago it was almost taboo to mention these subjects and difficult to get anyone to appear for treatment. Now they saw the cases pouring in, sitting side by side in the general clinic, and anxious to continue their treatment. They knew its effects, they knew that confidence would be respected, that the secrecy was as absolute as it could be made. They gave their names and addresses that their treatment might be continued and a record produced if they lapsed for a time and came back. That record was confidential. One medical officer was responsible for keeping it under lock and key. The officer knew that certain people continued treatment while others refused it. At present the ones who refused, after a short space of time infected people right and left. It was often found that the wives and children who came in were all infected. The doctor knew that the man was continuing to spread the infection, and at the present time could do nothing to compel that man to continue treatment. The man's wife could do nothing, although she was being infected, to prevent more infected children being bred. The Edinburgh Corporation said, "We want to deal with that case." That was the case for the bill. The medical officer now had information through the cases of friends or relatives who came for treatment, and wrote privately to the man concerned. In many cases he could get the man to come for treatment, but a certain number would not come. This bill would enable him to say, "You must forward me a certificate that you are being treated." It was not compulsory for the man to come to the clinic even if he was poor. There were poor men's doctors to whom he could go and from whom he would get a certificate.

Dr. SALTER asked what would happen if the applicants for treatment refused to give either their names or addresses.

Dr. FREMANTLE said they would not be treated, but that would not happen. The success of this bill depended on administration and personal contact, and because the medical officers who dealt with this subject knew how to get at the people by wise means it would be a success. The measure of compulsion was kept in the background in dealing with infectious diseases at the present time. Practically no one refused to be taken to an isolation hospital, but there was the power of compulsion behind. He supported the bill as an experiment. Applications from other authorities would have to be considered on their merits.

Mr. ERNEST BROWN, an Edinburgh member, denied that there was a unanimous public opinion in Edinburgh in favour of the bill. He had refused to back it, but could not say whether his electors were for or against it. The issues raised in Clause 3 had never been discussed in public in Edinburgh. It was not a bill that should go before the Private Bill Committee.

Sir SAMUEL CHAPMAN, another Edinburgh member, said he was a sponsor of the bill, but not at present a supporter. He desired to see it sent to a select committee.

Mr. STEWART, as a member of the Lunacy Board, argued for the voluntary system. If the country decided in favour of compulsion it should be a general system.

Lady ASTOR said they had found that compulsion would not do away with this disease. The Contagious Diseases Acts, instead of doing away with disease, only increased it. Only under the voluntary system had they a chance of getting at the men and women victims. There was only one way whereby they could protect the children—by a single moral standard. In Australia the defaulters, under compulsion, had never been below 75 per cent. She gave figures showing that in Bradford, which had the powers now asked for by Edinburgh, the number of babies affected with gonorrhoeal blindness had increased since compulsory treatment was introduced. The bill was impracticable, and if any women were in favour of it that was because they did not understand it. No bill would create more disturbance in the country

than this was likely to arouse. If the bill passed it would fall more heavily on the women than on the men.

Mr. WILLIAM GRAHAM said that in preparing the bill the Edinburgh Corporation recognized that it involved a more than local issue. At the end of ten years' experience they were satisfied the case for second reading could be established. The State provided 75 per cent. of the expenditure on venereal disease clinics, and the interest of the taxpayers was to see that there was not some inherent weakness in the system which undermined a good deal of the work done. Scottish local authorities in their representative assemblies, such as the Convention of Burghs, had in recent years passed resolutions urging that some sort of compulsion was needed, and the Scottish Board of Health had in reports from 1922 alluded to the possible consideration of compulsion. The subject had been fully considered by the Edinburgh Corporation. Only two members of the corporation had dissented. In Edinburgh the voluntary system had been pursued to the utmost limit, but a list of defaulters remained, which over the last five years ran from 850 to 1,000 people, over whom the corporation had no real power to compel them to continue treatment. The lady almoner had visited a large number of cases, and was satisfied that Edinburgh had now reached a point at which this defaulting class was steady or fixed. He submitted that a case had been made out for investigation by a select committee, and that a great corporation should be allowed a chance to experiment, even by exceptional methods.

Mr. SCRYMGEOUR read a statement from Dr. Burgess, medical officer for Dundee, who said: "Our experience is such as to suggest that further powers are necessary. I find that during the last four years an average of only 36 per cent. of the patients who ceased to attend our centres did so because they were certified cured, and of the remaining 64 per cent. a very small proportion were transferred to other centres." The doctor favoured some compulsory measures, making it a legal duty on the medical practitioner to notify the disease. Dr. Burgess also held that before costly measures were introduced facilities for free treatment of all infected persons must be available to every person. Facilities must not only be of the nature of clinics for out-patients, but also of wards for in-patients.

As stated above, the second reading of the bill was refused by 156 to 93. Dr. Drummond Shiels told for the bill and Dr. Graham Little against it. Members voting against the second reading included Dr. Vernon Davies, Dr. Walter Elliot, Sir Richard Luce, and Dr. Alfred Salter.

#### National Health Insurance Bill.

A standing committee of the House of Commons commenced, on April 24th, to consider the National Health Insurance Bill. On the first clause, making amendments regarding continuous insurance, contributions by voluntary contributors, and arrears, Mr. JOHNSON proposed that after the extended period an insured person should continue to be treated as such for a further period of five years.

Mr. CHAMBERLAIN said that when he first saw this amendment he was disposed to regard it as a joke. An insured person was now entitled to one year nine months of free insurance when unemployed, and, if genuinely unable to get work, to another year, which might be further prolonged if he had been ill.

Labour members of the committee argued that special extension was required for men in the coal-mining areas, and pointed out that some trade unions retained unemployed members on the books for as long as seven years.

Mr. HARVEY pointed out that after one year nine months the unemployed man was only entitled under the original Act to cash benefits subject to a reduction, but under the Prolongation of Benefits Act, a temporary measure, he was now kept in insurance and entitled to medical benefit so long as he was unemployed. There was nothing ludicrous in proposing to make that provision permanent.

Mr. RHYNS DAVIES commented that a subsequent section provided that an insured person, of 60, if unemployed after ten years in continuous insurance, was to be treated as an insured person for five years so as to preserve his pension rights. Sir KINGSLEY WOOD said that provision was inserted at the special request of the trade union representatives on the Consultative Council. Mr. RHYNS DAVIES said that when it suited the Government policy the Government actuary could always put his hand on a few millions.

Dr. DRUMMOND SHIELS said there was no doubt that after a period of unemployment in this country men were not physically fit, and were specially liable to illness and death.

Mr. CHAMBERLAIN said that the subsection keeping persons over 60 in the scheme did not entitle them to sickness or disablement benefit. Members who supported the amendment advanced arguments which, carried to their logical conclusion, meant that all insured persons' rights should be secured in perpetuity. The representatives of the trade unions on the Consultative Council had come to the conclusion that in this clause they had got all they could reasonably expect. Under the bill, if at any time during the period of two and three-quarter years the unemployed man could get out week's work, he would start all over again. It must not be thought that even medical benefit meant no expense to the societies. People left out of the bill as it stood were only those permanently unemployable and therefore not suitable subjects for insurance.

Mr. RHYNS DAVIES remarked that the number of persons who had come into the old age pensions contributory scheme had been less than was anticipated, and there would be a surplus which he desired to retain for the benefit of insured persons.

The amendment was defeated by 18 to 15.

Mr. RHYNS DAVIES proposed that at the expiration of extended

benefit the unemployed contributor should be entitled to become, within the next year, a voluntary contributor.

Sir KINGSLEY WOOD pointed out that regulations under the 1924 Act permitted the Minister to make regulations regarding the length of time allowed for such an option. It would be better to leave this power of regulation to the Minister, who would give careful consideration to the point raised by Mr. RHYDS DAVIES. The amendment was withdrawn.

On the proposal that Clause 1 be added to the bill, Mr. RHYDS DAVIES said the clause was an improvement on the provisions of the Prolongation of Benefits Act. Nevertheless, the approved societies had been called upon to bear a burden, the result of unemployment, which really should have been carried by others. On top of that the Economy Bill had prevented the Minister from propounding the improvements in national health insurance which should have been made.

Clause 1 was added to the bill by 18 to 16.

On Clause 2 Mr. BROAD moved an amendment to the provisions for the payment of benefit to insured persons in hospitals, sanatoriums, and other institutions. The bill proposed that the money should be paid by weekly instalments. Mr. Broad argued that it would be more valuable as a lump sum on convalescence.

Mr. CHAMBERLAIN said the bill followed the recommendation of the Royal Commission, which had been approved by the Consultative Council.

Mr. RHYDS DAVIES said the Consultative Council could only express its opinion on issues submitted to it by the Minister.

Mr. CHAMBERLAIN said the Council was free to ask for anything to be referred to it, and the request was never refused. He promised to consider at a later stage the matter raised by Mr. Broad.

The committee then adjourned till April 26th.

In a reply to Sir Robert Thomas, on April 18th, Sir KINGSLEY WOOD said the average cost of drugs and appliances per insured person in 1927 in the areas of Welsh Insurance Committees was approximately 29.5d., and in the areas of English Insurance Committees 35.1d. The lower cost per head in Wales might be due to the large number of persons in the Principality who received treatment for minor complaints.

Sir COOPER RAWSON asked the Minister of Health whether his attention had been called to the report of the East Sussex Insurance Committee with regard to a case in Hove, in which it was alleged that a panel doctor was visited by a regional medical officer of the Ministry, who criticized his methods of prescribing, and that subsequently the doctor was threatened with action on the part of the Ministry unless he prescribed medicines of a cheaper character. Sir Cooper asked what was the reason for such an interference with the jurisdiction and authority of the Panel Committee.

Mr. CHAMBERLAIN said his attention had been called to the case, and he was considering the report of the East Sussex Insurance Committee. The visit of the regional officer was directed to ascertain, in accordance with the Medical Benefit Regulations, whether the case should be referred to the Panel Committee. The warning to the doctor indicated that in certain circumstances such a reference might have to be made.

Answering Captain FRASER, on April 19th, Mr. CHAMBERLAIN said that in the National Health Insurance Bill now before the House provision was made for the inclusion in the list of additional benefits of a new benefit under which approved societies would be able to make payments towards the cost of massage and electrotherapeutic treatment of their members in approved institutions. Captain FRASER asked whether massage would be a direct additional benefit or given indirectly through institutions. Mr. CHAMBERLAIN said it took the form of a new benefit, and power was given to make contributions towards its cost.

In an answer to Mr. Hardie, on April 19th, Mr. CHAMBERLAIN said he would watch with interest the experiments being made in the provision of treatment in clinics for persons suffering from rheumatism, but the Government did not intend itself to set up such clinics.

#### Foot-and-Mouth Disease.

Mr. HURD, on April 19th, suggested that Mr. Guinness should issue a regulation that in all future importations of meat from the Argentine or elsewhere the head, including the tongue, and the feet must be attached to the carcass, as the lesions which indicated foot-and-mouth disease were most apparent in those parts. Mr. Guinness said the suggested regulation would not be effective in preventing the importation of possibly infective carcasses. Animals might be killed when in the incubative stages of the disease before they developed lesions, and their carcasses did not show recognizable signs of the disease. To prevent carcasses of animals which had been killed when in the incubative stages of the disease from being imported into Britain, the Ministry of Agriculture had requested the South American Governments not only to prohibit the export to Britain of all carcasses of infected animals, but also of any animals which had been in immediate contact with them; and laws had been passed by those Governments to give effect to the Ministry's suggestions. He was confident that those laws would be effectively enforced and that they would afford a greater protection than would the regulation suggested by Mr. Hurd.

Mr. GUINNESS, replying to Mr. Hurd, on April 23rd, said that out of 91 outbreaks of foot-and-mouth disease confirmed this year in 29 cases the disease originated in pigs, but 25 of these were traced to infection from other outbreaks. Of the remaining 4 cases, in only 2 was there any evidence that infection might have been contracted by the pigs coming into contact with butchers' waste containing meat scraps of foreign or English origin, but there was

no proof that this was the source of infection. The Foot-and-Mouth Disease (Boiling of Animal Foodstuffs) Order, as amended in February last, not only made it an offence to bring any meat, bones, offal, etc., into contact with animals, or to feed them to animals, until the materials had been boiled, but also made it an offence to permit animals to come into contact with the materials until the latter had been boiled. Mr. Guinness further stated that the possibility of infection of foot-and-mouth disease in chilled carcasses had been demonstrated by the Foot-and-Mouth Disease Research Committee. The Boiling of Animal Foodstuffs Order of 1927 was designed to prevent any infection which might be introduced in this way from reaching animals in this country. He was not prepared to give instructions for the systematic testing of carcasses to prove the existence of a contingency which had been admitted and had been provided against. The Orders requiring the destruction of hay and straw used as packing for imported goods and the sterilization of meat wrappings before being brought into contact with animals were calculated to be an effective safeguard against the introduction of foot-and-mouth disease by any such materials which might be contaminated by the virus. The enforcement of these Orders was a duty of the local authorities. Nineteen prosecutions under these Orders by the local authorities had been notified to his department, resulting in thirteen convictions.

#### Sanitary Conditions in Hop-picking Camps.

On April 19th Dr. VERNON DAVIES asked the Minister of Health if his attention had been drawn to a recent address by the county medical officer of health for Kent referring to the sanitary conditions of some hop-picking camps, and the administration of certain rural district councils in connexion therewith; and what proceedings, if any, he proposed to take to remedy these conditions.

Mr. CHAMBERLAIN said this address and a report made by the medical officer of health were receiving consideration. He had no power to compel a local authority either to adopt or to enforce by-laws on this subject, but had represented to the local authorities the importance of their administrative functions in this matter. If necessary, he would continue to do so.

Dr. DAVIES asked whether, if Mr. Chamberlain's powers were insufficient to deal with the local authorities concerned, he would seek further powers in order to deal with them. Mr. CHAMBERLAIN said that depended on other considerations.

Sir KINGSLEY WOOD, on April 23rd, told Mr. Briant that though there had been an improvement in recent years he could not say that the Minister of Health was satisfied with the conditions existing in the hop fields. The reports of officers of his department, and there appeared no sufficient reason. The whole question was receiving compulsory registration of camps would ulties.

#### Registration (Births, Marriages, and Deaths) Bill.

On April 20th Captain GUNSTON moved the second reading of the Registration (Births, Marriages, and Deaths) Bill, which provided that on an office of superintendent registrar, registrar of marriages, or registrar of births and deaths becoming vacant the Registrar-General might declare the office a salaried one and see that the successor to the office received a proper salary, on a scale approved by the Treasury. The bill allowed the officers to act over a larger area, and authorized the Minister of Health to increase the fees up to 50 per cent. It also proposed to extend to all births and stillbirths the provision whereby, under the Act of 1874, if the informant removed after the time of the birth and before registration, he could go to the registrar in the area to which he removed. Captain Gunston remarked that modern conditions did not lead to increased fees for registrars of births and deaths. The aggregate of births and deaths had fallen from 39 per 1,000 in 1913 to 29 per 1,000 in 1927.

Mr. GEOFFREY PETO seconded the motion for second reading.

Mr. SCURR moved the rejection of the bill, objecting that it should have been brought in as a Government measure.

Sir KINGSLEY WOOD said every Minister of Health in recent years had been made acutely aware of the dissatisfaction among registration officers. The average total of fees per registration district was now £137 per annum, and the system bled out no promise of promotion.

Dr. FREMANTLE defended the introduction of the measure as a private member's bill. By the same method two years ago they secured the Midwives and Maternity Homes Act; last year the Nursing Homes Registration Act and the Mental Deficiency Act. Two years ago also they had passed a measure for improvement of the registration of births and deaths. This bill was connected with the last proposal. In theory the bill proposed to transfer registration from a local to a national service, but the period of transition might be very long. The power of the Registrar-General to make regulations under the bill would be subject to the approval of the Minister of Health, in whose hands the appointments would be. Social services, especially in public health, depended largely on the facts got together by the registration system of the country. The whole of vital statistics depended on it, and statistical research was based on it. The Eugenics Education Society had issued a letter in support of the bill.

Dr. VERNON DAVIES said it would be impossible to make this a whole-time service. The work of a registrar of births and deaths was almost entirely notification of facts. The records of these went in course of time to the Registrar-General, in whose office all the important work was done. Work on vital statistics had to be centralized. To increase the registration districts to



100,000 inhabitants would be impracticable, and so the service could not be a full-time one throughout the country. The building of hospitals and maternity homes had considerable effect on fees, of which Dr. Davies gave examples.

After further discussion the bill was read a second time and sent to a standing committee.

#### Protection of Dogs Bill.

Sir ROBERT GOWEN moved, on April 20th, that the Protection of Dogs Bill be read a second time. He said he had secured a second reading for a similar bill a year ago. Members from almost every constituency had assured correspondents that they would vote for the second reading this year.

Lieutenant-Commander KENWORTHY, in seconding, said he had introduced bills to prevent all living creatures being used for vivisection. He asked the House to give a second reading to the bill. Any necessary safeguards desired by the more reasonable members of the medical profession could be put in in committee.

Dr. GRAHAM LITTLE said the dog was necessary for certain experiments as it was most like the human being in its internal organs and many other parts of its body, more so than the pig. "At this point the House adjourned without any question being put, the hour of adjournment having been reached with the discussion uncompleted."

On April 19th the Marriages (Prohibited Degrees of Relationship) Bill was read a second time.

## The Services.

### DEATHS IN THE SERVICES.

Major John Drew Moir, R.A.M.C. (ret.), died in London on March 26th, aged 66. He was born in Australia, at Victoria, on September 7th, 1861, and educated at Aberdeen, where he graduated as M.B. and C.M. in 1883. Entering the R.A.M.C. as surgeon on January 31st, 1885, he became major after twelve years' service, and retired on January 30th, 1905. He was employed, when on the retired list, in Fort Efford and Matley districts from 1907 to 1913. He served in the Sudan campaign of 1885-86, in the Egyptian Frontier Field Force, was present in the action at Ginnis, and received the Egyptian medal and the Khedive's bronze star. He also served in the South African war from 1899 to 1902, in charge of the Princess Christian Hospital and of the 11th Brigade Field Hospital. He took part in operations in Natal and in the Transvaal, when he shared in the relief of Ladysmith, and was present in the actions of Spion Kop, Vaal Krantz, Tugela Heights, Pieter's Hill, and Laing's Nek. He was three times mentioned in dispatches, in Sir Redvers Buller's dispatches of March 30th, June 19th, and November 9th, 1900, and in the *London Gazette* of February 8th, 1901, and received the Queen's medal with six clasps and the King's medal with two clasps. After his retirement he was in the Reserve of Officers, and when the recent great war began rejoined for duty on August 5th, 1914. During the war he served as president of recruiting boards in London, and afterwards as D.A.D.M.S., and was again mentioned in dispatches; and later as president of the pensions boards for South London.

Lieut.-Colonel William Henry Burke, Bombay Medical Service (ret.), died at Lansdowne, Bath, on February 29th, aged 69. He was born on November 5th, 1858, the son of the Rev. Thomas James Burke of Shepton Mallet, Somerset, and educated at Trinity College, Dublin, where he graduated as B.A. in 1881, M.B. and B.Ch. in 1882, and took the D.P.H. in 1883. After studying also at Vienna he entered the I.M.S. as surgeon on September 30th, 1882, became lieutenant-colonel after twenty years' service, and retired on January 1st, 1910. He served in the Burma war in 1886-87, was mentioned in dispatches in G.G.O. No. 561 of 1887, and received the medal with a clasp. Most of his service was spent in civil employ in the Bombay Presidency, where, for some years before his retirement, he was civil surgeon of Poona, surgeon to the Sassoon Hospital there, and superintendent of the Poona Medical School. After his retirement he rejoined for service in the great war, and served in the Indian hospitals at Brockenhurst and Brighton.

Lieut.-Colonel Edwin William Reilly, Madras Medical Service (ret.), died at Llandudno on December 21st, aged 68. He was born on September 29th, 1859, the son of Edwin Reilly, medical assistant, of Calcutta, and educated in Calcutta and in Edinburgh, where he took the L.R.C.P. and S. in 1881. Entering the I.M.S. as surgeon on April 1st, 1882, he became lieutenant-colonel after twenty years' service, and retired on July 18th, 1907. After retirement he rejoined for service in the great war, and was for some time medical officer of the hospital for officers at Worsley Hall, near Manchester. He served in the

Burma campaign of 1886-88, when he took part in the operations of the 2nd Brigade, was present in the actions at Kyaukse and Sabanalath, and received the medal with two clasps. Most of his service was passed in civil employ in the small province of Berar, now amalgamated with the Central Provinces.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

#### UNIVERSITY COLLEGE.

Among the public lectures arranged at University College, London, to take place during the current term is a course of three on "The pharmacological evidence for current methods of treatment," to be given by Dr. J. H. Burn; the first lecture will be on Tuesday, May 1st, and the others on the two following days, all at 5 p.m. A series of three lectures on "Anatomy and the problem of behaviour" will be given by Dr. G. E. Coghill of the Wistar Institute, Philadelphia, at 5 p.m. on May 7th, 8th, and 10th. Professor L. J. Henderson of Harvard is to give six lectures, his subject being "Blood: a study in general physiology"; these lectures will be given on Tuesday, Thursday, and Friday in two successive weeks at 5 p.m., the first being on May 15th. On Friday, June 1st, at 5.30 p.m., Professor Spearman will speak on "The psychologist in the school." All these lectures are open to the public without fee or ticket.

### UNIVERSITY OF GLASGOW.

The following degrees were conferred on April 21st:

M.D.—Muriel J. Brown, 'W. C. Harvey, 'W. A. Horne, 'W. Brown, J. W. Graham, 'W. Napier, D. O. Taylor.  
Ch.M.—D. R. E. Roberts.  
M.B., Ch.B.—J. S. M. Robertson, 'D. Fraser, 'H. H. Moyes, 'D. R. Millikan, 'Constance D. Roberts, J. Aitchison, T. R. Baird, T. Barrowman, C. Black, R. Brown, D. H. W. Cameron, J. M. Carnovsky, W. Craig, Mabel E. Cruickshank, A. F. R. Dewar, W. M. Dickson, Katherine M. Douglas, S. K. Drainer, W. Duncan, R. Duan, J. G. Dyer, T. Dymock, O. R. Gibson, L. P. Gray, A. Henderson, J. Hinds, Elizabeth C. M. Jack, J. C. Kane, J. G. Kirk, L. Lamont, H. Leslie, P. L. B. Loreat, Isabella K. A. Macdonald, Janet . . . . . , 'Arlene, Margaret I. McGill, A. I. . . . . , 'C. McPherson, A. H. W. . . . . , 'Montgomery, T. Y. Muir, J. F. . . . . , 'L. Pirrie, J. J. Reddick, J. F. . . . . , 'Robertson, J. L. D. Rod, J. M. . . . . , 'C. Taylor, W. S. Thomson, J. B. . . . .

\* With high commendation. † With commendation.  
‡ With honours.

... .. were also presented to the successful ... .. H. S. Rauken, V.C., Memorial Prize of £5, awarded to the student who obtained the highest marks in the subject of pathology in the professional examinations held in the year 1927, and the Macleod Gold Medal for surgery to J. F. Heggie; the Macleod Medal in surgery to Margaret W. Thomas; the Asher Asher Gold Medal for laryngology and rhinology to S. J. Scott.

### CONJOINT BOARD IN SCOTLAND.

The following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—T. Gilchrist, H. T. Chapman, Agnes Donaldson, A. P. J. C. Chitty, J. T. Erskine, J. E. Mulholland, R. D. Jones, S. K. Kapur, N. A. P. de Souza, H. A. Shakerley, J. Leibman, W. Wallace, M. R. Ramjohn, S. N. Chopra, J. P. Logan, J. Lees, L. M. Davies, Eileen M. Cane, N. Macleod, W. Allan, A. J. de Villiers, A. H. P. Amos, R. D. Buckner, A. El-Sayed Ali Ammar, C. B. Goodwin, T. Kelarkar, H. L. Cohen, C. E. Vaz, B. Singh. *Médecine*: N. S. Fraser, A. Jacorovitch, N. W. Lalag, H. W. A. Marshall, H. M. C. Silva, F. E. L. Stewart. *Surgery*: W. D. Alvis, J. Campbell, H. Gunavathana, H. Lazarus, M. Rifkin, C. K. Row, B. Schulman, O. Stern. *Midwifery*: C. Aibade, A. J. E. Almada, W. D. Alvis, A. H. F. Arnott, J. Campbell, A. M. Fraser, H. Gunavathana, A. Jacorovitch, K. Kanakasabapathy, N. W. Laing, H. Lazarus, Mary E. J. Magoo, A. H. O'Brien, B. Schulman, F. E. L. Stewart, Mary E. J. Magoo, A. H. O'Brien, B. Schulman, F. E. L. Stewart.  
H  
J  
Y  
W  
I. W. Spence, E. C. Thomas.

### SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

SURGERY.—G. E. Bent, A. E. D'Abreu, D. Jacobson, D. K. Reynolds, J. O. B. Shirley, A. E. Vasser.  
MEDICINE.—H. B. Baker, H. T. Ince, H. T. Rylance, W. Ziv.  
FORENSIC MEDICINE.—B. Elliott, J. H. Johnston, N. H. Kettlewell, E. A. Lipkin.  
MIDWIFERY.—A. E. Gibbs, C. C. F. White.

The diploma of the Society has been granted to Messrs. B. Elliott, H. T. Ince, D. Jacobson, D. K. Reynolds, H. T. Rylance, and I. O. B. Shirley.



## Medical News.

SIR BERKELEY MOYNIHAN, Bt., P.R.C.S., will preside at the first annual dinner and meeting of members of the University of London Medical Graduates Society at the Laugham Hotel, Portland Place, at 7.15 for 7.30 p.m., on Tuesday, May 8th. Any medical graduate of the University of London can join the society by sending a life subscription of £1 to the honorary treasurer, Mr. W. McAdam Eccles, M.S., 124, Harley Street, W.1.

FOUR Gresham Lectures on the need of change and the medical aspects of the health resorts of England and Wales will be delivered by Sir Robert Armstrong-Jones, M.D., at Gresham College, Bastughall Street, E.C. (three minutes' walk from the Bank Station), on May 1st, 2nd, 3rd, and 4th, at 6 p.m. Admission is free to the public.

SURGEON COMMANDER S. F. DUDLEY, R.N., will open a discussion on the problem of diphtheria control in crowded institutions at a meeting of the Naval, Military, and Air Force Hygiene Group of the Society of Medical Officers of Health on Thursday, May 3rd, at the house of the society, 1, Upper Montague Street, Russell Square, W.C., at 5 p.m.; medical practitioners interested in the subject are invited to attend.

THE Royal Society of Arts, John Street, Adelphi, W.C., has arranged two lectures for Wednesday, May 2nd and May 9th, at 8 p.m. The first will be by Mr. William Taylor on standardization in apparatus for science teaching, and the second by Captain R. W. Lane on the sterilization of milk.

A CONFERENCE, organized by the Society of Chemical Industry in co-operation with its London section and chemical engineering group and the Institution of Chemical Engineers, will be held in London from May 11th to May 15th. It has been arranged as a practical reply to a friendly challenge by the Earl of Balfour, who recently expressed his apprehensions regarding the ability of British chemists to apply scientific knowledge to industry. An interesting series of discussions has been arranged dealing with such important subjects as the economic utilization of coal, water, and air. Fuel problems are, of course, receiving an increasing amount of attention; questions relating to water supply are of great consequence to industry; the fixation of nitrogen from the air and the production of fertilizers therefrom is perhaps the greatest contribution yet made by science to agriculture. Members of the conference will have an opportunity of visiting the Rothamsted Experimental Station. The feature of greatest general interest will probably be the address to be given by Sir Alfred Mond, president of the British Science Guild, on scientific research as applied to industry.

THE Council of the Derby Medical Society has arranged a course of post-graduate lectures on applied physiology to be given at the Derbyshire Royal Infirmary by Dr. W. Langdon Brown, at 3.15 p.m., on Wednesday afternoons from May 2nd to June 6th, both inclusive. The lectures are designed to show the bearing of recent advances in physiology on the clinical work of general practice. Particulars may be obtained from Dr. G. E. Kidman, 134, Osaston Road, Derby.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that there will be two demonstrations next week, both taking place on Tuesday, May 1st, one at 1 p.m., by Mr. Goulden, at the Royal London Ophthalmic Hospital, and another at 3 p.m., by Dr. H. C. H. Bull, at the Royal Waterloo Hospital; both are open to all members of the medical profession without fee. The special course in psychological medicine at the Maudsley Hospital, as already announced, begins on Monday, April 30th, and on the same day there begins a month's course in dermatology at the St. John's Hospital, Leicester Square. Practical pathological demonstrations will be arranged if desired. Four special courses are due to begin on May 7th, occupying periods of varying duration; they are in diseases of infants, for a fortnight, occupying each afternoon; diseases of the throat, nose, and ear, occupying all day for three weeks; a course at the Central London Ophthalmic Hospital for four weeks, occupying each afternoon; and one in neurology at the National Hospital, Queen Square, lasting for two months. Full particulars and copies of all special course syllabuses may be obtained from the secretary, Fellowship of Medicine, 1, Wimpole Street, W.1., who will also supply information concerning the general course of work, which continues throughout the year.

IN connexion with the University of Liverpool Clinical School ante-natal clinics will be held at the Royal Infirmary on Monday and Thursday mornings at 10.30, and at the Maternity Hospital on each morning, except Saturdays and Sundays, at 11.30. The fee is £2 2s. for three months' attendance.

THE 300th anniversary of the birth of Marcello Malpighi, the founder of histology, was celebrated at Bologna on March 10th.

THE Lord Lieutenant of Berkshire, Mr. J. H. Benyon, will open the new operation theatres of the Royal Berkshire Hospital, Reading, on Tuesday next, May 1st, at 12.15 p.m.

THE Right Hon. W. Ormsby-Gore, M.P., Under Secretary of State for the Colonies, has been appointed a trustee of the Belt Memorial Fellowships for Medical Research in place of the late Sir Arthur Shipley.

A PRELIMINARY meeting of the Committee of Inquiry appointed by the Government to examine the questions raised by the use of tetra-ethyl lead in motor spirit was held on April 20th, when the existing information regarding lead ethyl petrol was considered and the question of procedure discussed. The next meeting of the committee will be held in Room 61, second floor, H.M. Office of Works, St. James's Park, S.W.1, at 11 a.m. on Monday, April 30th, and evidence will then be taken from the Air Ministry and the Anglo-American Oil Company. The proceedings will be open to the public. The duty of the committee is to ascertain whether the use of ethyl petrol is in any way dangerous to health, and any persons wishing to give evidence on this question should communicate with the secretary of the committee, Ministry of Health, Whitehall, S.W.1. The names of the members of the committee were given in the *Journal* of April 7th (p. 615) in a report of the discussion which took place in the House of Lords on March 29th, when Lord Gage announced its composition and described the scope of its investigations.

A TABLET has been erected in St. Mary's Church, Whitechurch, Oxon, in memory of the late Sir Rickman Godlee.

THE Treasury has made an Order under the Finance Act, 1926, exempting from key industry duty anhydrous hydrocyanic acid; lactic acid, which satisfies the requirements of the *British Pharmacopoeia*; metalehydo; methyl chloride; R. potassium chlorate; and syntbalin.

WITH the April issue of the *British Journal of Inebriety* a quarter of a century of publication is completed. The Society for the Study of Inebriety was founded in 1884, and the first number of its *Proceedings* appeared in July of that year. It was continued quarterly until the session 1901-2, when the proceedings were published in a single volume and the *British Journal of Inebriety* appeared for the first time. The present issue contains appreciative notes by Sir Arthur Newsholme, Sir William Wilcox, Mr. C. J. Bond, Sir William Collins, Dame Mary Sebarlieb, Mr. McAdam Eccles, and many others.

To mark the completion of its fortieth year the *Nursing Mirror and Midwives Journal*, which first appeared in 1888 as a supplement to the *Hospital*, publishes its current issue as a special "birthday number."

THE following appointments have recently been made in foreign faculties of medicine: Dr. A. Schmincke of Tübingen, professor of pathology at Heidelberg; Dr. Wilhelm von Gazen of Göttingen, professor of surgery at Rostock; Dr. Eduard Rehn of Düsseldorf, professor of surgery at Freiburg; Dr. Novoa Santos of Santiago, professor of medical pathology at Madrid.

THE International Labour Office has issued a further set of pamphlets forming part of a series which, when complete, will constitute the *Encyclopaedia of Industrial Health*. Eighty-seven parts have already appeared, and the seven now issued deal with the bakery trade; bleaching; breathing apparatus, respirators, and gas masks; cadmium, carbon bisulphide; carbon tetrachloride; cobalt. Each subject is dealt with in its relation to hygiene, pathology, and social welfare. The entire series will ultimately be published in volume form.

AN interesting account of the existing medical organization in Peking is embodied in a *Medical Guide* issued by the National Medical Association of China on the occasion of its seventh biennial conference there early this year. It is intended ultimately to expand the *Guide* into a complete medical directory for China. The present issue contains lists of medical institutions and of Chinese physicians; with descriptions of the public health organization and teaching institutions in Peking. In spite of the political and financial difficulties progress is being made in the provision of treatment and of educational facilities. There exists at least the framework of a public health service, and the Government maintains at Peking a National Epidemic Prevention Bureau, erected, perhaps with a subtle sense of humour, on a site adjacent to the Temple of Heaven. It appears that the hospitals and teaching institutions in the main are still largely dependent upon non-Chinese support; the Peking Central Hospital, which opened in 1918, is said to be the first general hospital established and conducted by Chinese practitioners on modern lines.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 9861, 9862, 9863, and 9864** (internal exchange, four lines).

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Racillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### OBESITY AFTER CHILDBIRTH.

"C. F." asks for suggestions for the treatment of a young married lady, aged 21, with a baby 10 months old, who has got very fat since the birth of her child, having increased about 21 lb. Her height is about 5 ft. 2 in. Dieting has been tried. There is no sign of hypothyroidism.

#### CREAKING IN THE JOINTS.

"H. S." asks: What is the significance of tendoney to creaking in the joints, without other signs or symptoms, developing at the age of 30? What is the significance when this is associated with slight thickening of synovial edge of joints, with some aching and tiredness in all joints (chiefly large) after movement?

#### DERMATITIS AFTER ULTRA-VIOLET RADIATION.

"W. A. K." asks for suggestions for the treatment of a mild dermatitis of the face—especially nose—in a lady, aged 25. The condition followed a course of ultra-violet radiation nine months ago. Being in an overheated room causes conspicuous and unsightly red areas to appear. Sodative lotions, ointments, and hazeline preparations have failed to effect any improvement.

#### INCOME TAX.

"A. S. B." has been building up a practice *de novo* and asks for information on various points, the nature of which will be seen from the replies.

\* \* (1) The return for 1928-29 should be made on the amount of the gross income of 1927-28, less the expenses incurred in that year. (2) The amount to be claimed for the accommodation, surgery, and use of waiting room provided by his parents is the amount reasonably paid; if no payment was made no deduction is due. (3) The same applies to the services given in keeping the rooms in order, etc. (4) Books are like instruments, in that only replacements are allowed. (5) The subscriptions stated seem to us to be allowable.

#### Salary with House, etc.

"C. L. P." holds a resident hospital appointment with salary, plus house, rates, fuel, and light.

\* \* He is taxable on the salary only, but should bear in mind that the position as regards income tax would be otherwise if his appointment were for a fixed amount, subject to deductions for house, etc., though the total advantages of his appointment might be the same.

#### Motor Car Transaction.

"C. R. D." bought a 15.1-h.p. car in February, 1923, for £863, and sold it in March, 1928, for £125, when he bought an 11.8-h.p. car for £650. What can he claim?

\* \* (1) As a claim to obsolescence allowance the amount is £650-£125=£525. We assume that the occasional private use is negligible; if it is not, some deduction should be made on that account. (2) Depreciation allowance due is 15 per cent. on £650 for the year 1928-29. "C. R. D." does not state the date to which he makes up his year's accounts; the obsolescence allowance has to be treated as one of the year's expenses, and if his accounts are made up to December 31st it will not affect his liability until 1929-30, but if he has been taking March 31st or April 5th as the closing date, then the financial year affected will be 1928-29.

### LETTERS, NOTES, ETC.

#### FIVE GENERATIONS ATTENDED BY ONE DOCTOR.

IN our last issue (p. 700) Dr. J. J. Hood asked whether any other medical practitioner had had the experience of attending five generations in one family. Mr. E. B. TURNER (London) writes: I have attended five generations in two families, and in one of them the fifth individual (a girl) is now about 14½ years old, so that (with luck) I might even run to a sixth!

COLONEL A. N. FLEMING, A.M.S. (ret.) (Edinburgh), writes: I can quote the case of the late Dr. Gibson of Campbelltown, Argyllshire. About forty years ago my great-grandmother died and before her death my sister had two children. Dr. Gibson had been the family doctor for many years, and at some time or another attended all the individuals concerned. Dr. Gibson had another claim to fame: not only did he live to be nearly 100 years of age, but actually continued in active practice till he was well over 90.

#### THE FORGOTTEN SWAB.

DR. N. J. LETTERS (Sydney) writes: The second of the cases recorded in Dr. Segar's interesting memorandum on swabs left within the abdomen (January 21st, 1928, p. 95) is not absolutely unique. In Willard Bartlett's *After Treatment of Surgical Patients* (C. V. Mosby Company, St. Louis, 1920), vol. 1, p. 179, I find the following: "A colleague requested me to explore one of his patients for a very ill-defined symptom-complex, which had followed an operation on the pelvic viscera. We were both surprised, and my colleague greatly embarrassed, by finding a very large gauze pad tightly encapsulated between intestinal coils. The interesting thing about this case, and the reason for quoting it, is that it exemplifies in no uncertain way Nature's method of spontaneous relief, which must be rather frequently afforded such patients. There was no mistaking the fact that one corner of the thick gauze pad was drawn out and twisted into a conical mass, of which the distal six or eight centimetres were smeared with faeces. Upon further inspection of the wound we found that this gauze cone had been withdrawn from an opening in the intestine, into the lumen of . . . was gradually being drawn by peristalsis . . . in the course of time, the newly formed . . . lay would have been emptied and its walls collapsed; then, had the foreign body not obstructed the intestine, it would have eventually been passed out through the anus, and quite possibly never been noted at all by the patient."

#### BACK TO SIR THOMAS BROWNE.

"N. 3" writes: I see that the old dispute about the inheritance of acquired characteristics has been raised once again, though not with asperity, in your columns. On this matter some of us are willing, with Omar, to leave the Wise to wrangle. But when such questions crop up I am reminded of the sayings of a physician of long ago. Sir Thomas Browne was well aware of the "sturdy doubts and boisterous objections, wherewith the unphilosophy of our knowledge too noisily acquainteth us." "I remember (he says) a Doctor in Physick of Italy, who could not perfectly believe the immortality of the soul, because Galen seemed to make a doubt thereof. . . . The whole Creation is a mystery, and particularly that of man. . . . In our study of Anatomy there is a mass of mysterious Philosophy." We may not be able in these times to follow the author of *Religio Medici* through all his curious speculations, but it is interesting to recall some of his musings on the problems of life. "The world," says Sir Thomas Browne, "was made to be inhabited by beasts, but studied and contented by man: 'tis the debt we owe unto God, and the homage we pay for not being beasts; without this the world is still as though it had not been." Nature he defines "not with the Schooles, the principle of motion and rest, but, that straight and regular line, that settled and constant course the wisdom of God hath ordained the notions of his creatures, according to their several kinds. . . . Now this course of Nature God seldom alters or perverts, but like an excellent Artist hath so contrived his worke, that with the selfe same instruments without a new creation hee may effect his ob-scurest designs." And again, introducing an odd train of thought, he makes this profound remark: "There is no liberty for causes to operate in a loose and straggling way, nor any effect whatever but hath its warrant from some universall or superiour cause." Elsewhere, in the *Garden of Cyrus*, he observes that "The Aequivoall production of things under undiscerned principles, makes a large part of generation, though they seem to hold a wide univocacy in their set and certain Originals. . . . All things began in order, so shall they end, and so shall they begin again." From a literary point of view these last two sentences are in striking contrast. I prefer the second.

#### SOUTH AFRICAN MEDICAL CONGRESS.

THE South African Medical Congress, limited should have been included in the list of the first annual scientific Association of South Africa (S.M.A.), and in our issue of April 21st (p. 684).

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 51, 52, 53, 56, and 57 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 54 and 55.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 179.

# An Address ON INTRINSIC CANCER OF THE LARYNX, OPERATED ON BY LARYNGO-FISSURE: IMMEDIATE AND ULTIMATE RESULTS.\*

BY  
SIR ST. CLAIR THOMSON, M.D.,  
F.R.C.P., F.R.C.S.

## INTRODUCTION.

To be your guest of honour on this important occasion—the fiftieth anniversary of the foundation of the first and most important society in America devoted to the specialty—is a pleasure and a dignity I deeply esteem. In preparing a communication for this Association I have done my best to make it worthy of your acceptance by seeing that it was comprehensive and complete. It includes every case of intrinsic cancer I have treated by laryngo-fissure; the after-history has, fortunately, been available in every instance, and nothing has been extenuated or set down in malice prepense. This record is the result of over twenty-eight years' experience in carrying on the pioneer work of Butlin and Semon.† It embraces my earliest efforts as well as the results of more mature knowledge and technique. It therefore, I hope, carries the lessons both of early anxieties and of increased experience. It is the largest personal record which has, so far as I know, been contributed to the subject. Although none of us is quite free from bias, I venture to claim that the work is sincere.

## LARYNGO-FISSURE: A DEFINITION.

Laryngo-fissure is an inadequate expression to describe the operation I practise: Fissure of the larynx, or splitting the thyroid cartilage, or thyrotomy, should only be a term employed to indicate the route of approach. I also employ this route for a simple exploratory examination of the larynx. We may continue with the term "laryngo-fissure" in this sense; but students will start with mistaken ideas if they think that it still means simply "splitting the thyroid cartilage and taking out a vocal cord." The operation I practise means excising a mass which contains in its centre the whole cord, and includes the anterior commissure in front, part of the arytenoid behind, the ventricular band above, and the subglottic area below. This excision goes deeply enough to include the perichondrium lining the thyroid cartilage and, occasionally, that on the inner side of the cricoid ring. As the greater part of one thyroid ala is also excised (to obtain freer access and secure better healing) it will be seen that a so-called "fissure" really means a partial laryngectomy. Operations for malignant disease should be designed to meet variable conditions, the main object being to obtain a full-face view of the whole extent of the disease so as to remove it, with a satisfactory margin of healthy tissue in all directions, while securing the safety of the patient and avoiding unnecessary mutilation.

## CLINICAL MATERIAL.

I have operated, through a laryngo-fissure, on 70 cases of intrinsic cancer of the larynx.

TABLE I.—Cases Operated upon by Laryngo-fissure (1900-1923).

	No. of Cases.	Private Cases.	Hospital Cases.	Age Limits.
Male ... ..	63	56	7	40-80
Female ... ..	7	4	3	35-58
Total ... ..	70	60	10	

## Proportion of Male and Female Cases.

Looking at Table I we notice the large preponderance of males and of cases in private practice. Hospital patients

\* Read, by invitation, before the American Laryngological Association at its semi-centennial meeting in Washington on May 1st, 1923.  
† For the cases recognized early and promptly operated upon by those best qualified to do so, the methods taught by Mr. Butlin have yielded results which may well be ranked among the chief triumphs of modern surgery" (D. Bryson Delavan, American Laryngological Association 26th Meeting, 1904, p. 167).

are only less numerous for the simple reason that the ignorant and uneducated do not present themselves early for what they regard as a trifling huskiness, or, if they do, will not accept advice until the lesion has so far advanced that complete laryngectomy is the only possibility.

## Age Distribution.

In the next table (II) we note the incidence of my 70 cases according to sex and decade.

TABLE II.—Incidence, according to Age and Sex, of 70 Cases of Intrinsic Cancer of the Larynx.

Ages:	21-30.	31-40.	41-50.	51-60.	61-70.	Over 70.	Over 80.
Male ... ..	0	2	14	28	13	5	1
Female ... ..	0	3	2	2	0	0	0
Total (both sexes)	0	5	16	30	13	5	1

Here it is noticed that cancer of the larynx is not unknown between 30 and 40 years of age (of course, cases at much earlier ages have been recorded); that, in men, it may occur in advanced life; and that it appears to be most frequent with them in the sixth decade of life. With regard to the females in my list (7) the numbers are, perhaps, too small to justify many conclusions; but it is at least noteworthy that, with them, cancer would appear to be met with earlier in life and to be rarer after 60. All these women were non-smokers and abstainers.

## Early Experiences.

All these 70 cases were operated on through a laryngo-fissure. The first case was twenty-eight years ago, in 1900, when I followed the technique I had learned at first hand from Butlin and Semon. It included the injection of morphine, the insertion of Hahn's tube, the curcetting of the wound after piecemeal removal of visible disease, the abandonment of the tracheotomy tube at the conclusion of the operation, and the return of the patient to bed "with the head on a low pillow." As always happens when looking back on the road of surgical progress, one wonders at so many successes.

## RESULTS.

### Alive and Free from Disease.

My results are displayed in the following tables. The first shows that, of 34 patients alive to-day, 32 have survived periods varying from three to nineteen years from the date of operation.

TABLE III.—Thirty-four Cases of Intrinsic Cancer of the Larynx Alive and Well, Without Recurrence, after Laryngo-fissure.

Case No.	Age at Operation.	Sex.	Present Age.	Period since Laryngo-fissure.	Case No.	Age at Operation.	Sex.	Present Age.	Period since Laryngo-fissure.
6	59	M.	78	19 years.	45	35	F.	42	7½ years.
11	48½	M.	64½	16 "	47	60	M.	67	7 "
18	65	M.	78	13½ "	50	53	M.	53½	4½ "
21	66½	M.	80	12½ "	52	40	M.	45	6 "
22	59	M.	72	12½ years; 11 since second operation.	53	58	M.	64	6 "
26	46	F.	57½	11½ years since first cord; 4½ since second cord.	54	58	M.	64	5½ "
27	57½	M.	69	11½ years.	55	47	M.	55	5½ "
29	47½	M.	59	11½ "	56	80	M.	83½	5½ "
31	50	M.	61	11 "	58	79	M.	81	5 "
32	53	M.	64	11 "	59	52	M.	57	5 "
33	67	M.	78	11 "	61	45½	F.	55	4½ "
35	60	M.	70	10 "	62	58	M.	61	2½ "
38	49	F.	50	9½ "	63	55	M.	55½	3½ "
41	33	F.	41½	8½ years since laryngo-fissure; 7½ years since partial laryngectomy.	64	74	M.	77	2½ "
42	48	M.	55½	8½ years	65	54	M.	57	3 "
44	58	M.	66	8½ "	66	62	M.	65	3 "
					69	55	M.	56	4 months.
					70	62	M.	62	2 "

Two cases are too recent to support any claim for prolonged cure, but their inclusion serves to illustrate other points.

#### Female Cases.

In this table the vitality of the females may be noted. Five out of seven are alive at periods varying from four and a half to eleven and a half years afterwards, although two of them have had to be treated for a recurrence. In Table IV it will be seen that the two other females in my collection (Nos. 12 and 35) survived fourteen and a half and nearly four years, to die, without any recurrence, of influenza and cerebral haemorrhage.

#### Healthy, Useful, and Prolonged After-History.

Attention might be directed to the advanced age of many of the survivors, to their health and vigour, and to the social well-being secured by having conserved a useful voice. No. 11 is a Canadian, sent to me sixteen years ago by Dr. Birkett, whose diagnosis was confirmed by you, Mr. President, clinically, and by Dr. Jonathan Wright from the biopsy. No. 18 is an active shipbuilder in Scotland. No. 21, in his eightieth year, writes that he still cycles. No. 31 is an admiral; he is devoted to social work and can address meetings in the open air. Four are physicians in active practice (Nos. 52, 59, 63, and 66). Two are lawyers who conduct large affairs (Nos. 47 and 55). A clergyman is able to preach twice on Sunday (No. 44). A schoolmaster retains his post (No. 50). A gentleman, aged 67 when operated on, is now 78 (No. 33). Three years ago he passed safely through the operation for enlarged prostate. This year he celebrated his golden wedding and made a speech which was audible at a dinner he gave to 120 of his employees. No. 56 is a retired judge who follows the hounds on horseback, five and a half years after his operation and in his eighty-sixth year.

#### Deaths from Other Causes.

Of the 73 patients 18 have died from other causes, without recurrence (Table IV). Of these, it will be noticed that 13 had lived a minimum period of three years with-

TABLE IV.—Eighteen Deaths from Other Causes, Without Recurrence.

Case No.	Age at Operation.	Age at Death.	Period after Operation.	Cause of Death when Ascertainable.
2	49	50½	1½ years	Laryngitis.
3	48	58	10 "	Tubercle.
5	54	61	7 "	Unknown (hospital patient, inspected 2 years before death and found sound).
8	58	61½	3½ "	Aneurysm.
9	68	74	6 "	Bronchitis.
10	55	60-2 63	5-7 8 "	Pneumonia (an Indian subject).
12	53 (F.)	67½	14½ "	Influenza.
17	69	75	5½ "	Cerebral haemorrhage.
23	68	76½	8½ "	Urinary toxæmia.
25	72	84	12 "	Heart failure.
28	48	49	11 months	Developed pleuro-pneumonia with fetid empyema 1 month later. Operation: good recovery.*
30	63	65	1½ years	Angina pectoris.
34	75	85½	10½ "	Heart failure.
35	58½ (F.)	62	3½ "	Cerebral haemorrhage.
36A	70	74	4 "	Unknown.
37	69½	78	9 "	Heart failure; arterio-sclerosis.
40	56	55	50 hours	Operative (haemorrhage, morphia, pneumonia).
51	42	42	4 days	Operative (rupture of oesophagus).

\* No details obtainable, but Logan Turner found no signs of recurrence two months before death.

out any recurrence, while 3 of them died ten or more years after operation. (The two "operative deaths" will be considered later.)

\* Shown before the Royal Society of Medicine, November 4th, 1927. See *Proc. Roy. Soc. Med.*, December, 1927, *Laryng. Sec.*, p. 1.

#### Deaths from Malignant Disease Elsewhere, Without Recurrence.

If time permitted it would be interesting to study in detail the seven cases in the next table—that of death from carcinoma elsewhere, without local return of the disease (Table V). In two of them (Nos. 15 and 57) the virulence of the cancer must have been very intense for glands in the neck were invaded within four and six months, and the patients were dead within seven and eleven months, although the larynx in each case was free from recurrence.

In contrast to these cases are Nos. 39 and 7, in which the glands did not develop until four and seven years after operation.

In Case 1 (the first I ever operated on) I watched the larynx remaining free, while a cancerous growth developed on the lingual tonsil on the opposite side.

Case 13 shows how a patient can remain free of disease, in excellent voice and vigour, for eleven years and then die of malignant disease so remote from the larynx as the gall-bladder and liver.

TABLE V.—Seven Deaths from Later Development of Malignant Disease Elsewhere, the Larynx Remaining Free.

Case No.	Age at Operation.	Time of Onset after Operation.	Age at Death.	Time Elapsed since Operation till Death.
1	47	Malignant disease at base of tongue opposite side, started 1½ years after operation. Larynx filled up 3 to 7 months after operation. Laryngectomy after 9 months, but no cancer growth found in excised larynx (7 syphilis).	50	3 years.
7	43	Diffuse malignant disease in glands of neck 7 years later.	51	7½ years.
13	58	Death from malignant disease in abdomen, found at operation too extensive for removal.	69	11 years.
15	52	Infiltration of glands of neck within 4 months.	52½	7 months.
39	64	Glands in neck.	68½	4½ years.
43	54	Mediastinal glands (x-ray findings).	57	3 years.
57	39	Glands in neck within 6 months.	39½	11 months.

#### Deaths from Local Recurrence.

We now come to the local recurrences. There were only 11, all males. It will be noticed in Table VI that in 8 of these the recurrence took place within the first year. This supports Semon's dictum that a recurrence generally takes place within the first twelve months. Personally I feel little anxiety if the third month passes without any suspicious symptoms.

TABLE VI.—Eleven Deaths from Local Recurrence.

Case No.	Onset after Fissure.	Period till Death after Fissure.
4	8 months	20 months and 12 months after total laryngectomy.
11A	7 4 to 6 months	29 months.
14	3 years	3 years (second laryngo-fissure; death from idiosyncrasy to heroin).
16	2 months	5 months.
19	3 years	4½ years.
20	3 months	1 year.
24	1 month suspicion, and certain in 4 months; tracheotomy at end of 5 months	15 months.
46	2 months (declined laryngectomy)	11 months.
48	2½ years	4½ years.
49	2 months	7 months.
67	2 months	4 months.

These early relapses should not be regarded as a "recurrence of disease." We are more likely to advance the subject if we frankly regard them rather as "incomplete removals," and then investigate why the operation was a failure, or why the case was unsuitable for this type of operation.

The other three re-growths developed three years after the laryngo-fissure. Case 14 was in a very alcoholic subject. The lesion occupied the anterior two-thirds of the right

cord, invaded the commissure, and descended into the subglottic space. Here I was a little doubtful of having secured sufficient margin, and the pathologist was unable to report a good circumference of healthy tissue. The patient returned to India (and to his alcohol and tobacco), was there inspected and passed from time to time, and returned exactly three years afterwards with a recurrence at the anterior extremity of both cords and in the subglottic space below the anterior commissure. At the second laryngofissure it was seen that the re-growth had originated in this area. His death from heroin (recorded under "operative deaths") was particularly disappointing, as the pathologist's report encouraged the hope that the second removal had been complete.

No. 19 was a case of long-standing hoarseness, in which a large growth was almost entirely located in the subglottic region, and required the exposure of the inner surface of the cricoid. The pathologist reported on the removed mass that "the growth has reached to the line of excision at two margins." Yet three clear and active years passed before there was any suspicion of re-growth. This occurred so stealthily in the subglottic area that, when it declared itself, the disease was too advanced for further operation.

No. 48 was a similar case, but more promising. The disease left each extremity of the cord free, but descended on the inner surface to below the level of the cord. Excision, to eye and touch, appeared to be satisfactory, but the pathologist reported "there cannot be much margin of safety posteriorly." The patient was regularly inspected, and remained quite free for three years, when the disease returned on the same side. Laryngectomy was recommended, but declined; he had radium treatment elsewhere, and died one and a half years after the return had been diagnosed. He, like Case 14, indulged freely in whisky and tobacco, both before and after laryngofissure.

In all these three cases it was the subglottic situation which thwarted success.

#### Operative Deaths.

Of the 74 laryngo-fissures performed on 70 patients (2 of the 70 having been operated on for a local recurrence and 2 requiring a supplementary laryngo-fissure) 2 have died within forty-eight hours of the operation. The first case, No. 14, has already been referred to in Table VI. He was successfully operated on in 1913. After three years' absence in India he returned with a local recurrence; a second laryngo-fissure passed off without untoward incident in 1916, but he died forty-eight hours later with drowsiness, contracted pupils, and complete suppression of urine. There was no unusual bleeding at the operation, but a small haemorrhage took place twenty-four hours after. During my absence he was given half a grain of heroin, in three doses of one-sixth of a grain, within twenty-four hours. One of these doses had not been ordered; yet half a grain was not a large dose. A tracheotomy tube had, fortunately, been left in after operation. Death appeared to be due to an idiosyncrasy for heroin in a very alcoholic subject.

The second case, No. 40, had suffered from syphilis of the larynx for four years before a subglottic intrinsic cancer developed. There was much bleeding at the operation and again within two hours. Through a misunderstanding more morphine was given than was intended—namely, three-quarters of a grain—and he died with symptoms of septic pneumonia within forty-eight hours of operation. A tracheotomy tube had been left *in situ*, on account of the free bleeding at the operation, the subglottic extension of the disease, and the syphilitic basis.

A third case, No. 51, died on the fourth day from rupture of the oesophagus, due to post-anaesthetic vomiting.

The last was a very rare accident, not connected directly with the operation. The other two occurred in very unpromising subjects, one being certainly syphilitic and both of them alcoholic. Still, I think death would have been avoided if no soporific had been given. I now refuse to give an opiate of any kind before or after operation, and I forbid all "dopes" before anaesthesia (mixed, local and general). Accepting these 3 cases as operative deaths, this would give a death rate of 4 per cent.—a very

different figure from that recorded by the pioneers of this subject, and from that still existing in the few statistics which are rarely published.

If permitted to delete case No. 51 (rupture of the oesophagus) I have had no operative death since case No. 40. This sequence of 30 cases without a disaster encourages me to give it as my opinion that if a laryngo-fissure is carried out with the precautions and care I insist on, in regard to haemorrhage and the descent of blood into the bronchi, then it should be an operation free from any danger, except those incidental to all operations.

#### Lasting Cure.

We need not revive barren discussions as to how long after operation a patient may be regarded as permanently cured of cancer.

With few exceptions, all patients are in middle or advanced life. To ensure a comfortable and a vocal existence for ten to twenty years to 12 men who have passed their forty-seventh to sixty-seventh year (as in the first 12 cases of Table III); to operate on men of 79 and 80 years of age (Nos. 58 and 56), and to show them healthy and vigorous five years afterwards; and to restore doctors, lawyers, clergymen, and schoolmasters to their calling, are surely sufficient evidence to claim this method as securing permanent cures.

You, Mr. President, when addressing this Association on this same subject twenty-four years ago, said that "statistics based on alleged cures of less than three years' duration are worthless."

A scrutiny of the tables I have submitted will show that 63 patients are eligible on this basis, and that 48 of them were alive and well, and free from recurrence at the end of three years.† This lasting cure of 76 per cent. has been obtained without restricting oneself to particularly promising cases. As the indications for laryngo-fissure have not yet been quite established—beyond that of being a suitable operation for many cases of intrinsic cancer—I thought it right to try it in various intralaryngeal manifestations of the disease. Although this may have impaired the statistical results, it has enabled me to form some clear conclusions as to the indications and limitations of the laryngo-fissure route for the eradication of intrinsic cancer of the larynx. These will be embodied in a forthcoming publication.

#### CONCLUSIONS.

I trust that the evidence I have submitted justifies the conclusions I have now formulated for some years. This latest and largest record satisfies me that if intrinsic cancer of the larynx is diagnosed early it is best operated on by laryngo-fissure—an operation which should be free from danger to life and followed by an adequate voice and a lasting cure. The only necessities for this consummation are early diagnosis and meticulous care in operative precaution and procedure.‡ By educating the public to pay prompt regard to persistent hoarseness, and by teaching the profession to appreciate the niceties and necessities of early diagnosis, the number of laryngo-fissures and the proportion of lasting cures will steadily increase, while the need for laryngectomy will as progressively diminish.

In other regions of the body there may be better remedies than surgery can supply. In intrinsic cancer of the larynx other, simpler and surer, remedies no doubt will one day be discovered; but, at present, there is no better way than surgery and the laryngo-fissure route. By this we can secure results which have not been surpassed in the treatment of cancer in any other internal region of the body.

#### REFERENCE.

1 D. Bryson Delavan: *Trans. Amer. Laryng. Assoc.*, 26, 1904, p. 155.

\* "The results of indiscriminate operation have been so bad that their records are unobtainable because suppressed" (D. Bryson Delavan, loc. cit.).

† These figures are arrived at by deducting from my 70 cases the 2 recent cases (69 and 70), the 3 who died of other diseases before the three years were completed (2, 28, and 30), and the 2 operative deaths (40 and 51). This leaves 63 cases on which to formulate results. On the other side of the balance sheet are the 32 three-year survivors in Table I; the 13 who died of other diseases after a lapse of three years (Table IV); and the 3 cases which succumbed to malignant disease in other parts of the body, four and a quarter, seven and a half, and eleven years after laryngo-fissure (Table V). These, added together, show 43 who had passed the three-year limit.

‡ Mistakes hardly short of criminal have occurred in laryngeal operations done by inexperienced men working with absolutely no trained helpers (D. Bryson Delavan, loc. cit.).



## ANASTOMOSES BETWEEN THE RECURRENT LARYNGEAL AND PHRENIC NERVES.

*The Condition of the Intrinsic Muscles and Nerves of the Larynx of a Rhesus Monkey more than Three Years, and Two Years, after Operation.*

BY

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(With Special Plate.)

### *The Operations.*

**Right Side.**—Recurrent laryngeal-phrenic end-to-side anastomosis performed three years and four months before death. A longitudinal incision was made in the middle of the phrenic nerve; the divided distal end of the recurrent laryngeal nerve was inveigled into the slit in the phrenic nerve and fixed by one stitch of the finest catgut. On direct examination of the larynx the right vocal cord was seen to be paralysed.

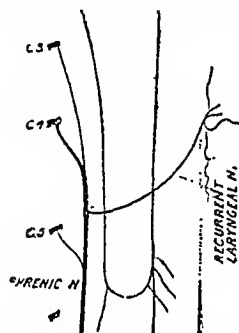


FIG. 1.—Rhesus monkey. Recurrent laryngeal-phrenic anastomosis end-to-side. (Small median incision made in middle of phrenic trunk.)

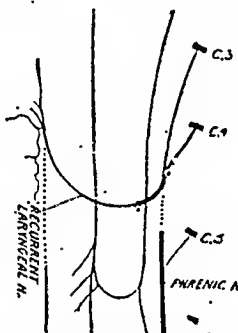


FIG. 2.—Rhesus monkey. Recurrent laryngeal-phrenic end-to-end anastomosis. No anastomosis of distal part of phrenic to any other nerve.

**Left Side.**—Recurrent laryngeal-phrenic end-to-end anastomosis performed two years before death. The cut ends of the two nerves were brought together by one stitch of the finest silk (Van Horn, arterial). On direct examination of the larynx the left cord was seen to be paralysed, while the right cord was moving normally. The distal end of the divided phrenic nerve was not anastomosed to any other nerve.

### *Result of the Experimental Operations.*

(A) **The Vocal Cords.**—Six months after the operation on the right side the right vocal cord was moving synchronously with the left. Six months after the operation on the left side the left vocal cord showed a wider abduction movement than the right. It must be remembered that on the left side the recurrent laryngeal nerve had been attached to the whole phrenic nerve. Thus while the excursion of the right cord, following end-to-side anastomosis, was approximately normal, the excursion of the left cord following end-to-end anastomosis was greater than normal. One week before the death of the monkey Sir David Ferrier, Professor Cushing, and Dr. Dalo saw the movements of these vocal cords through the direct laryngoscope, and the greater movement of the left vocal cord was still evident. The movement of the vocal cords was filmed,<sup>1</sup> and the wider abduction excursion of the left cord was demonstrated in the film.

(B) **The Diaphragm.**—It was obvious on inspection of the abdominal wall that the right half of the diaphragm was contracting while the left half was paralysed. Professor Elliot Smith, Dr. Beattie, and Mr. Melville examined the movements of the diaphragm by means of the radiographic screen.<sup>2</sup> Their report states that all parts of the right half of the diaphragm were contracting equally and

well, and that there is no contraction of any part of the left half of the diaphragm, the cupola moving upwards and downwards with respiration. After the left half of the diaphragm was paralysed it was noticed that the monkey never regained the power of moving and jumping rapidly about the large cage in which he was confined. At no time did this monkey suffer either from stridor and difficulty in breathing, or from paradoxical movement of the vocal cords.

### *Necropsy.*

(A) **The Diaphragm.**—The right half of the muscle of the diaphragm was thick, firm in texture, red in colour, and of normal appearance. The left half of the muscle of the diaphragm was thin, light pink in colour, and flabby in texture. Joining the left phrenic nerve in the thorax (below the site of section) was a small nerve which arose from the brachial plexus. This root of the left phrenic nerve was not seen at the operation. The left phrenic nerve below the site of division was smaller than the right phrenic nerve.

### DESCRIPTION OF PHOTOMICROGRAPHS ON PLATE.

**Note.**—The right recurrent laryngeal nerve was divided and the distal end anastomosed with the phrenic nerve three years and four months before the death of the monkey. The left recurrent laryngeal nerve was divided and the distal end anastomosed with the phrenic nerve two years before the death of the monkey.

FIG. 1.—Left crico-arytenoides posterior muscle ( $\times 850$ ). Note the transverse striation of the muscle. Cajal stain.

FIG. 2.—Right crico-arytenoides posterior muscle ( $\times 850$ ). Note the transverse striation of the muscle. Cajal stain.

FIG. 3.—Left crico-arytenoides posterior muscle ( $\times 400$ ). Note the red organs and nerve fibres. Cajal stain.

FIG. 4.—Right crico-arytenoides posterior muscle ( $\times 350$ ). Note the perfection of the end organ on the side of the striated muscle fibre, also the nerve fibres. Cajal stain.

FIG. 5.—Left crico-arytenoides posterior muscle ( $\times 400$ ). Note regenerated bundles of nerve fibres in muscle. Cajal stain.

FIG. 6.—Right crico-arytenoides posterior muscle ( $\times 400$ ). Note regenerated bundles of nerve fibres in muscle. Cajal stain.

FIG. 7.—Left crico-arytenoides lateralis muscle ( $\times 850$ ). Note the transverse striation. Cajal stain.

FIG. 8.—Right crico-arytenoides lateralis muscle ( $\times 850$ ). Note the transverse striation. Cajal stain.

FIG. 9.—Left thyro-arytenoides muscle ( $\times 850$ ). Note the transverse striation. Cajal stain.

FIG. 10.—Right thyro-arytenoides muscle ( $\times 850$ ). Note the transverse striation. Cajal stain.

FIG. 11.—Arytenoides muscle ( $\times 850$ ). Note the transverse striation. Cajal stain.

FIG. 12.—Left recurrent laryngeal nerve ( $\times 850$ ). Note regeneration of axis cylinders. Cajal stain.

FIG. 13.—Right recurrent laryngeal nerve ( $\times 1,000$ ). Hardened in Muller's fluid and stained by the Weigert and Sirocco methods. Reticular appearances (neuro-keratin) in the medullary sheaths. The axis cylinders are coloured as well as the neuro-keratin network. "There is reason to believe that the apparent reticular structure is due to the way the myelene constituents have undergone coagulation and separation under the influence of the hardening reagent." The nerve has regenerated.

(B) **The Larynx.**—The intrinsic muscles on both sides were dissected and separately placed in hardening fluid. The small nerve going to each muscle was demonstrated, and as each muscle was defined a portion of the nerve was passing to it was divided. Thus each small muscle was placed in the hardening fluid with a portion of its nerve attached. Each of the muscles appeared to be plump, normal in appearance, and red in colour.

(C) **The recurrent laryngeal and phrenic nerves** were also preserved.

### *Remarks on Striated Muscle.*

On examining the microscopic sections of the intrinsic muscles of the larynx the pattern of the striation is seen to vary. It is hardly to be supposed that the striation of the different muscles is essentially different. The authorities agree that the microscopical appearances of muscle in contraction are not the same as when relaxation is present; indeed, Starling states that in contraction there is an apparent reversal of the situation of the light and dark stripes. According to Engelmann the isotropic (singly refracting) part diminishes in volume in contraction, while the anisotropic (doubly refracting) part increases. The real meaning of striation is unknown. This is not essential to contraction, for unstriated muscle contracts. The main difference between the two classes of muscle is that the

LIONEL COLLEDGE AND SIR C. BALLANCE: ANASTOMOSES BETWEEN THE RECURRENT  
LARYNGEAL AND PHRENIC NERVES.

425



FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.



FIG. 5.



FIG. 6.



FIG. 7.



FIG. 8.

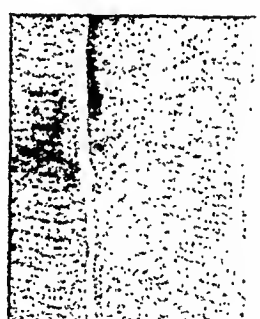


FIG. 9.



FIG. 10.

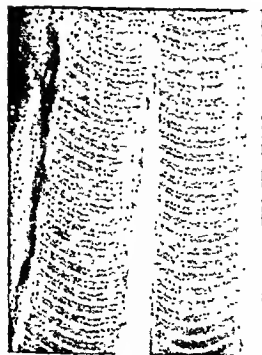


FIG. 11.



FIG. 12.

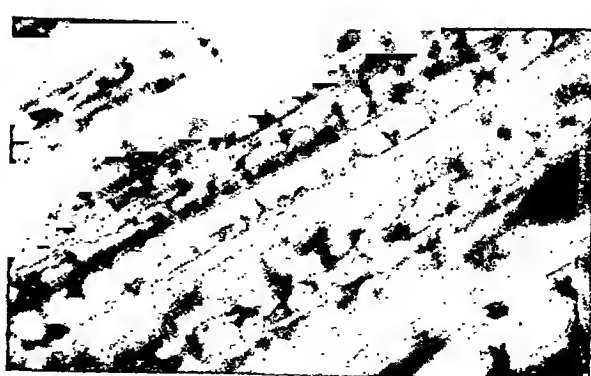


FIG. 13.

LIONEL COLLEDGE AND SIR C. BALLANCE: ANASTOMOSES BETWEEN THE RECURRENT  
LARYNGEAL AND PHRENIC NERVES.

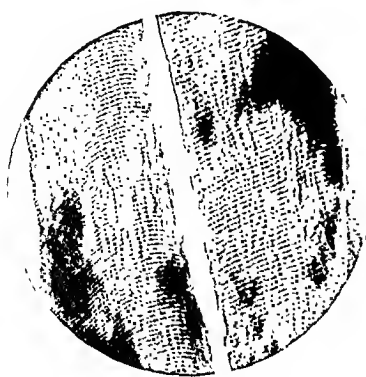


FIG. 14.

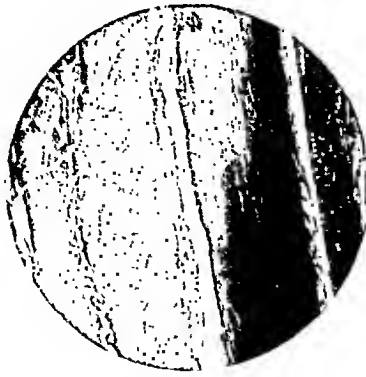


FIG. 15

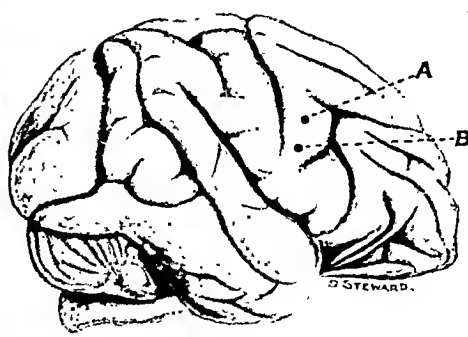


FIG. 15.

A. WATT, R. C. J. MEYER, AND A. CAMPBELL: OPERATION FOR PITUITARY TUMOUR. (See p. 746.)



FIG. A.—Showing position of the tumour.

SYDNEY SMITH: IDENTIFICATION FROM A FINGER-TIP REMOVED BY A BITE. (See p. 757.)

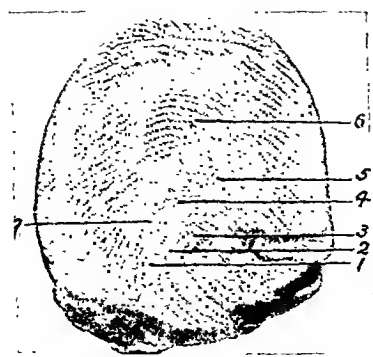


FIG. 1.—Tip of finger removed by bite.



FIG. 2.—Finger-print of right index finger of accused.

typical cross striated muscle fibre is dependent on the impulses from the central nervous system to set it into activity.

### The Stimulation of the Cortex Cerebri.

Before the monkey was killed the right cerebral cortex was stimulated with the faradic current, a Sherrington single electrode being employed for the purpose (see Fig. 16).

### DESCRIPTION OF PHOTOMICROGRAPHS ON PLATE.

Fig. 14.—Photomicrograph of muscle bundles in right half of diaphragm ( $\times 700$ ). Three years and four months after recurrent laryngeal-phrenic end-to-side nerve anastomosis: showing that this method of operation has left no permanent effect on this half of the diaphragm.

Fig. 15.—Photomicrograph of muscle bundles in left half of diaphragm ( $\times 350$ ). Two years after recurrent laryngeal-phrenic end-to-end nerve anastomosis. The distal end of the phrenic nerve was not anastomosed to any other nerve. No transverse striation is shown in the photograph. On examining many other sections faint striation of a muscle bundle was occasionally seen, and this perhaps was due to the fact revealed at the autopsy that below the point of resection of the phrenic nerve a small nerve from the brachial plexus joined the phrenic nerve in the thorax.

Fig. 16.—Drawing of right half of brain of the monkey (natural size). A, Faradic stimulation of the cortex at this point caused elevation of the upper lip on the left side. B, Stimulation of the cortex at B caused abduction of the vocal cords. Unfortunately the point of the cortex at which the maximal adduction movement of the vocal cords occurred was not marked. It was in front of the area which on stimulation caused abduction of the vocal cords. The adduction movement was much stronger than the abduction movement, which was distinct from the abduction movement associated with the respiratory rhythm.

The cortical areas stimulated correspond to those originally defined by Semon and Horsley. The interest of the cerebral stimulations carried out by us is that the nerve impulses passed along the phrenic nerve, then through the phrenic-recurrent laryngeal end-to-end anastomosis to the recurrent laryngeal nerve and intrinsic laryngeal muscles.

Semon and Horsley<sup>1</sup> showed that unilateral stimulation invariably produces bilateral effect. They at first thought that there was no abduction centre in the brain cortex, but they demonstrated that direct excitation of the accessory nucleus in the medulla always evoked abduction of the vocal cords. They found no difficulty in evoking complete bilateral adduction movement of the vocal cords by stimulating an appropriate area of the cerebral cortex. If the stimulation is prolonged the "besoin de respirer" overcomes the influence of the artificial stimulus and evokes a powerful abduction movement of the vocal cords. They explained these diverse effects in this way: Phonation (that is, adduction) is a purposive or volitional act, while abduction is essentially related to the so-called automatic processes of organic life—that is, abduction serves inspiration.

In the later paper these authors show that there is a definite area on the cortex of the brain, stimulation of which causes abduction of the vocal cords. They point out that Krause (1878) was the first to localize the phonatory area in the cortex of the dog's brain. Ferrier, however, had previously reported that excitation of a certain cortical area in the dog elicited barking. Risien Russell<sup>4</sup> described separate areas of the cortex of the brain in which excitation evoked the movements of abduction and adduction of the vocal cords. Risien Russell also separated the abductor from the adductor nerve bundles in the recurrent laryngeal nerve—the abductor fibres being situated on the inner side of the nerve, while the adduction fibres are on the outer side. Stimulation of the abductor fibres produced unilateral abduction movement only, while division of the abductor fibres caused atrophy of the corresponding abductor muscle. We have been unable to separate the abductor nerve bundle in the way described by Risien Russell.

### Operation in Man.

It would appear that the proper operation to perform in man in cases of paralysis of a vocal cord is recurrent laryngeal-phrenic nerve end-to-side anastomosis. This has been successful in the one case in which this operation has been carried out.<sup>5</sup> Independent of the cases in man in which by stab or gunshot wound, or during an operation, the recurrent laryngeal nerve has been divided, and in which an immediate anastomosis should be effected, we are of opinion that if a vocal cord (or cords) has been paral-

ysed for three months with no sign of improvement in the condition, a recurrent laryngeal-phrenic nerve anastomosis should be forthwith carried out.

*Note.*—Figures showing regeneration of the phrenic and recurrent laryngeal nerves after similar anastomoses had been effected were published in the *British Medical Journal*, March 26th, 1927 (see Figs. 5 and 6 in plate facing p. 555).

The experimental nerve anastomoses were carried out at the National Institute for Research, Mount Vernon, Hampstead. The microscopic specimens and photomicrographs were prepared by Miss Glascock and Mr. Stewart at the Royal College of Surgeons.

### REFERENCES.

- <sup>1</sup> See *British Medical Journal*, March 26th and April 2nd, 1927. <sup>2</sup> *Ibid.*, April 2nd, 1927. <sup>3</sup> *British Medical Journal*, 1889, and *Trans. Roy. Soc.*, 1890, B. <sup>4</sup> *British Medical Journal*, 1922, and *Proc. Roy. Soc.*, 1855. <sup>5</sup> *British Medical Journal*, July 30th, 1927, p. 158.

## OPERATION FOR PITUITARY TUMOUR.

### REPORT OF A CASE.

BY

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AND

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(With Special Plate.)

A EUROPEAN, aged 23 years, complained that during the last five or six years his left eye had been noticeably weaker than the right. In November, 1926, he suffered from severe headaches when reading for an examination. In February, 1927, when marking the register, he found that when he thought the pen was touching the book it was actually about an inch away from it; he was unable to see with the left eye alone. There was no complaint of headache, no vertigo, and no vomiting. At the beginning of April Dr. Meyer was consulted, and the patient was sent into hospital for investigation under Dr. Andrew Watt.

The previous history showed that the patient had fallen off a horse in 1918; but though unconscious for some time he suffered no other ill effects. In 1919 he had influenza. In 1920 he was hit over the left eye by a cricket ball. There is no family history of nervous or eye trouble, and the father, mother, brothers, and sisters are all well. He smokes ten to fifteen cigarettes daily and is a total abstainer. His condition on admission to hospital was recorded as follows.

The patient is a well-built, healthy looking individual, about 5 ft. 8 in. tall. There is no abnormality in his gait and the grips of both hands are normal. There is no tremor; the motor functions and the various reflexes are normal, as is sensation. The bowels are regular and the appetite is good; there is no frequency of micturition, and urine analysis reveals nothing abnormal. The heart and lungs are sound, and the Wassermann reaction is negative.

Examination of the cranial nerves shows the sense of smell to be normal; vision is impaired, pupils react to light and accommodation, there is no ocular paresis, no nystagmus, and no strabismus. There is no anaesthesia of the face or scalp. The functions of the seventh nerve are normal, and there is no impairment of taste. The movements of the tongue and swallowing are normal. The basal metabolic rate is normal.

Blood sugar before glucose meal (200 grams)	0.11 per cent.
" " 30 minutes after glucose meal ...	0.16 "
" " 60 " " " " " " " " " "	0.14 "
" " 90 " " " " " " " " " "	0.13 "
" " 120 " " " " " " " " " "	0.14 "

Sugar was not found in the urine before the glucose meal, but a trace was present two hours after. The cerebro-spinal fluid was under a pressure of 250 mm. water. The globulin was not in excess of the normal, and the sugar percentage was 0.03. The sodium chloride figure was 720 mg. per 100 c.cm. No characteristic curve was obtained with gold solution. A cell count yielded a total of two lymphocytes per c.mm.

A blood count taken on June 18th was as follows: haemoglobin 95 per cent.; colour index 0.98; red cells 5,810,000; leucocytes 8,000; polymorphonuclears 52 per cent.; large mononuclears 2 per cent.; lymphocytes 46 per cent. The red cells showed slight anisocytosis with a very moderate degree of polychromasia.

The patient was referred to Dr. Campbell for examination of the ear, nose, and throat, and for the vestibular tests. Both drumheads were retracted, and he could hear a whisper at over 16 feet on both sides. Tuning-fork tests were normal. There was no spontaneous nystagmus, no spontaneous past-pointing, and

no inco-ordination; the body balance tests gave normal reactions, and diadokokinesia was present.

#### Vestibular Tests:

Turning to right gave an after nystagmus to left lasting 25 seconds.

Turning to left gave an after nystagmus to right lasting 35 seconds.

Turning to right past-points 6 inches to right with left arm.

Turning to right past-points 4 inches to right with right arm.

Turning to left past-points 10 inches to left with right arm.

Turning to left past-points 6 inches to left with left arm.

Cold syringing the left ear at 68° F. elicited a rotary nystagmus to the right in 45 seconds and past-pointing to left with both arms. Cold syringing the right ear at 68° F. elicited a rotary nystagmus to the left in 25 seconds and past-pointing to right with both arms. It was concluded that a supratentorial lesion was present.

#### OPERATION NOTES BY DR. CAMPBELL.

The diagnosis of a pituitary tumour was established and confirmed by beautiful stereoscopic films taken by Dr. Andrew Watt. The eye tests indicated pressure on the chiasma, perhaps more on the left than on the right side. This finding was corroborated by the vestibular tests. (For skiagram see Fig. A in special plate.)

On June 13th, 1927, under rectal anaesthesia, given by Dr. F. B. Mudd, a submucous resection of the nasal septum was performed in the usual way after removal of both middle turbinates and a slice of the right inferior turbinate which happened to be in the way. The nasal mucous membrane was sprayed with 1 ounce of 10 per cent. cocaine and adrenaline solution twenty minutes before operation. The anterior wall of the sphenoidal sinuses was thin and easily removed. The sphenoidal sinuses came into view, and a rounded tumour was found to occupy the upper part of the cavities. (See Fig. 1.) There was no septum between

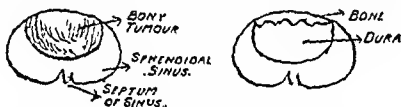


FIG. 1.

the sinuses, but there were one or two spicules of bone which indicated its site.

A small piece of bone was removed from the most dependent part of the tumour by means of a gouge, and the rest of the tumour was uncapped with suitable forceps. There was little bleeding. The mucous membrane of the sphenoidal sinus was removed.

The result at this stage was that the tumour covered by dura was occupying the upper half, or almost half, of the sphenoidal sinuses. On removal of the very thin bone there was no dropping downwards of the tumour. A syringe introduced into the growth did not draw liquid, but gave the impression that the tumour was solid. No packing was introduced into the sphenoidal sinus. The only communication to the nose was through the sphenoidal ostia. The muco-periosteum covering the anterior wall of the sphenoidal sinuses had been reflected intact. A large piece of the nasal cartilage was slipped back between the septal flaps, and each side of the nose was packed with a glove finger into which gauze had been introduced, so as to keep the septal flaps lightly together. The operation lasted one and a half hours. After leaving the theatre there was some respiratory difficulty, and the patient did not come round for six hours.

On the following day there was a suspicion of an acute appendicitis, but this pain was probably due to the rectal ether. The nasal packing was removed in twenty-four hours. A mild antiseptic spray was used for another twenty-four hours, after which the nose was gently irrigated with saline solution thrice daily. The recovery from the first stage of the operation was uneventful. In a week he was up and walking about the ward. No improvement in eye symptoms followed at this stage.

On June 27th, under open ether anaesthesia and cocaine spray to the nasal mucous membrane, the operative field was reopened through the nasal septum. It was noticed that a large part of the cartilage which had been replaced had been absorbed. The sphenoidal sinuses were easily

entered. The tumour had not descended, and the whole sinus and dura were covered with granulations, which bled considerably. There was no difficulty in making a crucial incision of the dura, though the growth was probably also incised in the attempt. No descent of tumour was observed during the operation, and there was no suggestion that the growth was anything but solid. There was no escape of any liquid other than blood; bleeding after incision of the dura was easily controlled. The operative field was closed by bringing the septal flaps together without any packing in the sphenoidal sinus; fingers were again utilized to keep the flaps in apposition. Towards evening the patient was rational and appeared to be doing well. On the following day, though he had passed a good night, he did not seem quite rational. He was able to recognize the surgeon and nurses, but answered "Yes" to all questions and nothing else; by the evening he failed to recognize anyone. The temperature rose to 102° F., and we feared that meningeal symptoms were commencing, though there was no other indication of this.

On June 29th he woke up perfectly rational and rapidly improved, with a gradual drop in the temperature, which became normal on June 30th. After this he gave us no anxiety; he was allowed to get up a little on the eighth day after the second operation, by which time he was conscious of improvement in his eyesight. He was discharged from hospital on July 12th.

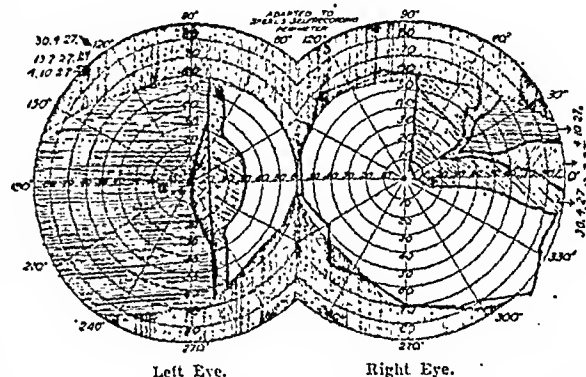


FIG. 2.—Visual fields, showing condition at dates before and after operation. Left vision—fingers at 2 metres; 25 mm. white. Right vision—6/5; 5 mm. white.

It was thought that a decompression by two stages was a safer procedure than by one operation. No thought of any attempt to remove the tumour was entertained. It is, however, possible that if the tumour descends and fills up the sphenoidal sinuses so that further decompression is not possible, then we may with greater safety remove the anterior muco-periosteal wall of the sphenoidal sinuses, leaving the posterior edge of the nasal septum *in situ*, and thus expose the tumour mass through windows which will remain permanently open. The tumour itself may then be attacked surgically or made to shrink by electro-coagulation.

The main danger of the trans-sphenoidal route is sepsis, laying bare the field of operation to invasion by organisms from a possibly septic nose or nasopharynx.

An attempt to remove the tumour at the first operation would probably, almost certainly, have resulted in infection of the intracranial structures and death; whereas by gradual stages, and as the occasion demands, this three-stage removal has much to recommend it from the point of view of safety. No attempt was made even to remove a small piece of tumour for the microscope because of the possibility of infection. No purpose would be served by an accurate knowledge of the pathology of the tumour. If it were found to be malignant nothing could be done, and if it proved to be innocent we could still do nothing more for the present. It is possible that in the descent of the tumour it may become strangulated by the narrow bony neck through which it must pass; this will not occur until the sphenoidal sinus is completely filled.

The fields taken by Dr. Meyer on October 4th, compared



with the fields before operation, show a considerable improvement in the patient's eyesight, especially in the right eye. There is a small perforation in the nasal septum, and there are a few adhesions between the septum and the lateral nasal wall. The anterior walls of the sphenoidal sinuses are easily inspected. There is no evidence of sepsis in the nose.

The patient was first seen in April, 1927, examined thoroughly and treated by surgical operation in June, and reported on after examination on October 4th.

#### NOTES BY DR. R. C. J. MEYER.

Objective examination showed no abnormality as regards the outward appearances, motility, and pupils; the Wernicke pupil reaction was demonstrated later. The fundus was healthy, but there was slight hypermetropic astigmatism; the subsequent wearing of glasses stopped all headaches. Right vision = 6/6, J.I. Left vision = hand reflex centrally, but fingers at 3 metres nasally. This called for examination of fields, the broad results of which are indicated in the diagrams. Fig. 3, A (right eye),

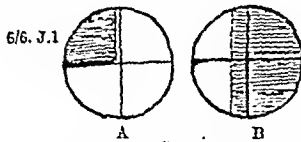


FIG. 3.

shows the right upper outer quadrant lost; the patient was quite unconscious of right quadrant loss of field until examination demonstrated it to him. In Fig. 3, B (left eye), the temporal hemianopia is seen to cross the vertical middle by about 15 degrees. The patient was quite conscious of loss of vision of left eye, which drove him to seek medical aid.

The examination suggested the presence of a pituitary tumour involving the left side much more than the right, but later on under portion of chiasma. I handed the case over to the physician, radiologist, and surgeon, but the patient could only come for observation (May 28th).

Two operations were performed—ono on June 13th and the other on June 27th. On July 13th, at the request of the surgeon, fields were again taken (there being no change in any other condition of the eyes). The right upper quadrant scotoma had now diminished to a smaller sector. (See Fig. 4, A.) The left scotoma had also diminished. (See Fig. 4, B.)

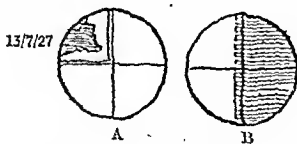


FIG. 4.

On September 1st a friend stated that the patient was "quite better," which meant, at any rate, a decided improvement. (N.B.—Patient lives in the country and over a hundred miles away.)

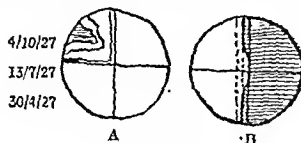


FIG. 5.

On October 4th the patient unexpectedly arrived for examination. This showed the right scotoma to be still further diminished. The left scotoma was also diminished somewhat. Right vision = 6/5, J.I. Patient does not feel the scotoma, and this does not exist for luminous objects at all now. Certainly a most striking improvement. (See Fig. 5, A.) The left disc shows great pallor of nasal side—that is, atrophy is showing actually at the disc. (See Fig. 5, B.)

## THE AFFINITIES BETWEEN RHEUMATISM AND TUBERCULOSIS.

BY

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TUBERCULOSIS connotes the morbid changes caused by living tubercle bacilli in the living tissues of man and animals. As the tissues react they present lesions of endless variety in degree, kind, and time. The outstanding and characteristic lesion is the tubercle with its epithelioid and giant cells, but there are also lesions as acute as those of septicaemia or pyaemia, and, on the other hand, as chronic as those of chronic rheumatism. Indeed, it seems likely that many so-called "rheumatic" affections, which do not yield to antirheumatic treatment, are really manifestations of chronic tuberculosis. Even joint affections accompanied by pain and swelling may be tuberculous in nature.

The brilliant investigations of Liebermeister, with the help of his new acetic acid-antiformin method, seem to establish the frequency of chronic inflammation free from any tubercles as a distinct and even independent lesion of tuberculosis. These chronic inflammatory lesions are, indeed, often the end-results both of acute lesions and of true histological tubercle, but Liebermeister holds that they may be independent of either of these lesions and are common in many organs and parts. They have been overlooked because death does not occur in this chronic stage, and there is no chance of seeing them. Such lesions may be the *fons et origo* of the multifarious disturbances of function occurring in the early stages of chronic tuberculosis. The lesions are the most chronic that occur in tuberculosis, and cause mainly mild and transient symptoms. Thus it may be impossible after a long lapse of time to trace them to their true cause or fix the time of their occurrence. Living tubercle bacilli may be found in these chronic lesions, and evidence supports the view that these quiescent lesions may be reactivated. These lesions are most common in the secondary stage of chronic tuberculosis, when tubercle bacilli, in small numbers, more or less isolated, and certainly not in clumps or masses, are circulating in the blood, before tertiary disease occurs in the apex of the lung. Amongst other manifestations, tuberculosis may cause lesions suggesting rheumatism of joints with painful swellings, in some cases with erythema nodosum, in others with erythematous, pains also in muscles and in one or more joints; pains in the chest without signs of pleurisy, pains in the neck and in the eyes or head, disturbance of the heart's rate and rhythm—even pains in nerves (sciatica). Liebermeister has demonstrated the presence of these chronic inflammatory lesions notably in lymphatic glands, serous membranes, even in the meninges, in the lungs, liver, kidney, spleen, veins, skin, eyes, and larynx. May not these lesions be responsible for the various symptoms that may and do occur and pass away in the early stages of chronic tuberculosis, and especially of chronic apical tuberculosis?

For the most part these lesions elude us, and we can only bring them to light by means of tuberculin. Twenty years ago I suggested the possible existence of these lesions because doses of tuberculin excited pains in various organs and parts in a manner that seemed to indicate a focal reaction. For many years I have observed pains in special muscles and joints, time after time in the same part after each dose—in the hip, or knee, or little finger, or thumb, or heel; in the back or shoulder; in bones or muscles, such as severe cramps in the calves of the legs; pains also in the epigastrium, doubling up the patient after each dose, and even boring or lancinating or cutting pains in the shoulder radiating down the arm, or deep pain in the chest. There are strange individual idiosyncrasies, because in the same patient, after injections of tuberculin, the same parts are apt to suffer, though the site of injection varies. These pains, in fact, may be related to chronic inflammatory lesions and may be really focal reactions. One has great opportunities of studying these pains, their varieties and situations, after injections of tuberculin. Naturally there is no other way of investigating them.

Moreover, as a rule these chronic inflammatory lesions can only be investigated with the help of subcutaneous injections of tuberculin. But it does happen, fortunately, that these chronic inflammatory lesions of the early stage of tuberculosis may rarely disclose themselves beyond all doubt or cavil when they occur in structures visible to the naked eye, notably in the skin and structures of the eye and even in the larynx. The so-called pre-tuberculous laryngitis may be of this nature.

I know that my old teacher Radcliffe Crocker would not admit that there was any connexion between erythema nodosum and tuberculosis, while S. Mackenzie stated that erythema nodosum is frequently, if not generally, an expression of rheumatism. I may be skating on thin ice if I say that in my limited experience I have not once seen erythema nodosum apart from tuberculosis. All cases have reacted severely to tuberculin, and no case has had any relation to rheumatism. However, identity of lesion does not signify identity of cause. Histologically the lesions of erythema nodosum cannot be distinguished from rheumatic lesions of the skin, but Liebermeister has shown that such lesions may be caused by tubercle bacilli. At present I am bound to believe that erythema nodosum is a tuberculous lesion. Without tuberculin I could not have held any but the general opinion. I first pointed out the relation of erythema nodosum to tuberculosis in 1902, and since then all my evidence strengthens this view.

But, because its lesions are visible and cause unpleasant symptoms, the eye provides the best field for examining the remarkable affinities between chronic forms of tuberculosis and the so-called rheumatic affections which are attributed to chills or other indeterminate causes. For the last thirty years ophthalmologists have been at issue upon the "rheumatic" affections of the eye. The usual lesions in question are conjunctivitis, iritis, episcleritis, and scleritis.

In his great textbook (1926) Sir John Parsons writes that "rheumatism and gout are the chief causes of episcleritis and scleritis"; "most commonly there has been marked rheumatism." Later he says, "When tubercle is suspected injections of tuberculin may be employed." I say that tuberculin is the only means of settling the diagnosis. Unfortunately I have seen only three cases of episcleritis, because this uncommon disease does not come to a tuberculin dispensary, as tuberculosis is not suspected. In these cases tuberculin has not only established the diagnosis, but as the cardinal remedy, has rapidly brought about extraordinary improvement even in the course of a few weeks. All the pain, tenderness, and discomfort have abated, and photophobia has vanished. One of these cases had been diagnosed several years ago as "rheumatism of the head," and the two worst cases had been under treatment for years without any real improvement. Since tuberculin treatment has been adopted the eyes have assumed a normal appearance and the patients have no symptoms. But prolonged treatment will be necessary before it can be stated with any confidence that there will not be recurrence of the trouble.

Iritis is a common lesion in syphilis, and may arise from septic infection—sometimes secondary to carious and foul teeth—but tuberculosis may also cause iritis. Infection directly from the air is conceivable, but evidence points rather to infection by the blood current. Since removal of the eye has been advocated, it is very important to distinguish between a direct infection from the outside, when a lesion might be acute and progressive, and haematogenous infection, when the lesion would be chronic and circumscribed.

Again, early diagnosis requires the use of tuberculin, and since the lesion is generally chronic, tuberculin also offers the best hope of arresting the disease and preventing its recurrence. Sir John Parsons says that tuberculin "often fails to ameliorate the condition." I cannot presume to criticize such an authority without evidence, as I have not had an opportunity of treating a case of iritis, but reasoning from experiences in other cases I am inclined to think that failure such as this great authority has observed may be due not to the tuberculin, but to the administrator. Tuberculin treatment must be carried out by an expert with his own hands, and it must not be used merely to check

the disease temporarily, but to such a degree and in such doses that recurrence of the disease is prevented.

My chief experience has been with the common tuberculous lesion of the eye—"chronic conjunctivitis"—either as superficial ulcers or small granulomata and translucent cockscomb-like projecting masses. These conditions are often tuberculous; they occur in a tuberculous family; they all react to tuberculin, and, in my limited experience, always clear up under tuberculin in large doses—not less than 0.8 c.cm. or 1 c.cm. or more. But again success depends upon the skill of the operator, just as much as in the surgical treatment of glaucoma or cataract. Accordingly I am bound to hold the view that these eye lesions, like other lesions, belong to the secondary stage of tuberculosis. It is not enough to say "tuberculin may be used," because there is no other remedy that can consistently do so much real good.

These atypical lesions of tuberculous origin have a special interest. They have been called "rheumatic" because they do not conform to the histological or clinical picture of tuberculosis. There are no giant cells and no signs of caseation. They are mild, transient, and tend to recur. Both in the skin and eye they may pass away and never return, but without specific treatment, and even with it, recurrence at long or short intervals of time is common. They may be accompanied by swellings in joints and pains, and therefore may be designated "rheumatic." They are like the secondaries of syphilis which occur in the secondary stage and tend to heal. They bear this outstanding feature—that they occur only in mild forms of tuberculosis when slowly progressive or even occult lesions exist in the bronchial lymphatic structures. Thus they may be the obvious pacemakers for the common chronic disease—chronic phthisis—which subsequently fixes upon the apex of the lung. Tuberculosis may not be the exclusive cause of these chronic inflammatory states, but certainly the symptom-complex hitherto associated with "rheumatism" may be the effect of tuberculosis.

Thus certain diseases of the eye and skin, hitherto called "rheumatic," are really chronic forms of tuberculosis which, like serofula, lack entirely the character of a typical histological tubercle. Ophthalmologists have brilliantly illuminated this interesting chapter upon the affinities of rheumatism and tuberculosis; little wonder, seeing that these lesions in the eye in the secondary state of tuberculosis are essentially vascular and can be seen directly by the eye. Thus, after many years of controversy, ophthalmologists have furnished clinical, anatomical, and experimental proof that, at any rate in the eye, atypical lesions of a chronic inflammatory nature, without either giant cells or caseous changes, may be truly tuberculous.

If, then, these atypical bacilli, and can be seen, why may not similar mild tuberculous lesions occur in other vascular structures that are out of sight, and cause those disturbances of function which express themselves in an endless array of vague, various, and vagrant symptoms in so many organs and parts of the body during the secondary stage of tuberculosis? Thus the hitherto multifarious functional disturbances of the early stage of tuberculosis may possibly be traced to an anatomical lesion of delicate vessels caused by tubercle bacilli—few in numbers and perhaps attenuated in virulence. Like the lesions of serofula, of episcleritis, of chronic conjunctivitis, and even of erythema nodosum, there may be vascular tuberculides, mild and even transient, in many organs and regions of the body.

These widely scattered tuberculides do not obtrude themselves, and may escape detection. The more one uses tuberculin for purposes of diagnosis, the more one may become impressed with the idea that lesions may be responsible for these erratic symptoms of early and mild tuberculosis. When these mild and obscure symptoms occur in the early stage of tuberculosis, the use of tuberculin in diagnosis is safe and certain and has no rival. Such obscure symptoms and aberrant lesions may be easily overlooked or misinterpreted. But any serious student of tuberculosis, trained in the use of these scientific methods, may find tuberculosis in strange places and in unfamiliar forms. Special knowledge may enable him to "mark

down," accurately and precisely, these masked forms of tuberculosis in the eye, in the nose, in the larynx, and even in internal organs and systems, at a time when diagnosis is otherwise extremely difficult and treatment relatively easy. Certainly in such cases the effects of tuberculin used as a remedy by an expert are often magical in suddenness and completeness.

General hospitals, and some special hospitals, might help earnest students and suffering humanity by establishing a special ward and an out-patient department for the study of chronic tuberculosis in both its common and erratic forms.

## ENDOCRINE IMBALANCE AND ITS RELATION TO CHRONIC ARTHRITIS.\*

BY

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THE views and opinions of the ancient authorities before the days of cellular pathology and bacteriology are of distinct interest in the light of our present knowledge. Hippocrates laid down the axiom that "Gout never occurred in women until the menses had ceased." Trousseau<sup>1</sup> and Charcot<sup>2</sup> believed that chronic articular rheumatism was associated with the beginning and end of menstruation and with pregnancy. Orde,<sup>3</sup> in 1879, suggested that there was evidence to show that there was some relationship between uterine disorders and rheumatoid arthritis—such as severe arthritis with dysmenorrhoea and arthritic paroxysms coincident with menstruation—views with which I am in full accord.

At all these stages in a woman's life considerable strain is being thrown on the endocrine glands. These glands begin to assert themselves in early foetal life, and as they have no function in respect of external relation, their secretions must be entirely occupied with internal regulation, so that from the first any endocrine defect must disturb the balance. In childhood the endocrine system retards maturity to give time for further development, and utilizes glands such as the thyroid, subsequently katabolic in action, in the service of active growth. As puberty advances, the retarding gland—the thymus—atrophies, and the katabolic glands, like the thyroid, take on their own action. During pregnancy all the endocrine glands are working at full capacity, though some are antagonistic to each other. This continues during lactation, whilst at the climacteric the ovarian hormone disappears and more work is thrown on the thyroid, which itself is on the down grade.

There are two groups of endocrine glands:

1. Parasympathetic or extended vagus—anabolic in action—the cell-islets in the pancreas, and the parathyroids.

2. The sympathetic—katabolic in action—adrenals, thyroid, and pituitary.

The rhythm of life largely depends on the fluctuating balance between these two.

All the ductless glands, especially those co-operating with the sympathetic nervous system, participate in the development of sexual characters, the thyroid and possibly the post-pituitary tipping the balance towards femininity, the adrenal cortex and the anterior pituitary towards virilism. Thus the thyroid shows increased activity at puberty, the catamenia, marriage, and pregnancy, and undergoes partial involution at the climacteric.

There is a close association between the gonads and the pituitary: neither appears to be able to get on and develop without the help of the other. The internal secretion of the ovary stimulates the secretion of pituitrin, and the development of a corpus luteum in pregnancy checks this process on behalf of the foetus until the time for the uterus to contract and for the milk to flow.

Llewellyn<sup>4</sup> first drew attention to the association of the endocrines and chronic rheumatism, especially of the chronic villus type occurring in women at the menopause, expressing views which have been corroborated by Ribierre,<sup>5</sup> Rosen,<sup>6</sup> H. K. Thompson,<sup>7</sup> Cecil and Archer,<sup>8</sup>

and many others. At a discussion on climacteric arthritis<sup>9</sup> the subject was considered under the wider term of "hypoglandular arthritis." It was pointed out that this condition of joints was by no means confined to women at the climacteric, but that it was seen in young women due to thyro-pituitary failure. Cumberbatch concluded that there is a type of arthritis closely associated with, if not entirely due to, disturbance of the endocrine function of the ovary, and gave the following reasons for these conclusions.

1. Some of the cases occurred in young women in whom the menstrual function was being established. They developed arthritis of the rheumatoid type and amenorrhoea occurred. There was no evident primary focus of infection. The application of diathermy to the interior of the pelvis brought the arthritis to an end and menstruation returned.

2. Other cases occurred in women at the other end of menstrual life. In many the climacteric commenced at an early date and menstruation ceased. In these, again, there was no evident primary focus of infection. The application of diathermy usually arrested the arthritis and menstruation recommenced, in the cases in which the onset of the climacteric was premature.

Robinson considered that arthritis is directly or indirectly due to inactivity of the corpora lutea of the ovary. This inactivity may occur at any time after puberty, and may or may not be associated with absence of menstruation. Heating the ovary by diathermy increases the activity of the ovarian function.

Returning to the view of Trousseau and Charcot that chronic arthritis is a disease associated with the commencement and cessation of menstruation and also with pregnancy, I have seen quite a number of young girls in their teens in whom the start of menstruation had been delayed, or who had had one or two periods and then stopped. They were large, fat, well-developed girls, who complained of pains in joints and muscles.

One girl, aged 12½, had for six months complained of pain in her right knee; she was listless, had never menstruated, and had all the appearances of thyro-pituitary deficiency. X rays showed a small rarefied area just beneath the articular face of the cartilage of the tibia. Her tonsils were found to be septic, and removal was advised; this was carried out, and thyroid in small doses was also given. This case did not begin to improve until six months after the enucleation, when she started to menstruate, pain ceased, and she resumed her previous activity. Her mother suffered from chronic villus arthritis of the menopause.

In another case the patient's mother suffered from Raynaud's disease, which was not of a severe type. This girl was very much like the previous case in appearance; she was over-developed, was affected by amenorrhoea, and the rheumatic condition was more in the nature of a fibrositis of the creeter muscles of the spine, though there was some doubt as to the condition of the dorsal vertebrae as seen with x rays. When I first saw this patient she had had her tonsils enucleated about fourteen days previously and was in a markedly hyperthyroidic state, with rapid pulse, muscular tremor, and thyroid gland slightly enlarged.

Crammer<sup>10</sup> remarks that "it is well known that acute infections are sometimes followed by symptoms which may not unreasonably be attributed to disturbances of the thyroid-adrenal function. The stimulation produced by these toxins may develop into a Graves's disease." The thyroid is one of the defensive agents against infection, and I believe in this case the removal of the septic tonsils produced a flooding with thyroxine, the patient having most probably been hypothyroidic before.

Langdon Brown<sup>11</sup> points out how frequently tonsillar sepsis may be a factor in producing hypothyroidism in childhood. We are familiar with the fact that tonsillar sepsis is likely to excite hyperthyroidism after puberty, but until the gland has experienced the activating effect of puberty—that is, before the gland has taken on its katabolic duties—it is apparently more easily exhausted than excited to over-activity. Once the thyroid has taken on its katabolic duties we find patients with all the symptoms of rheumatoid or atrophic arthritis—as, for instance, the young woman in the early twenties.

Llewellyn had frequently pointed out that the early symptoms of rheumatoid disease, prior to the development of joint swellings, are very similar to the secondary features of Graves's disease and also Raynaud's disease, and he believes that all these diseases are due to endocrine instability or imbalance. McCarrison had pointed out that, in the goitrous regions of the Himalayas rheumatoid arthritis is very common.

\* Abstract of a paper read before the Harrogate Medical Society, February 17th, 1928.

In my experience also I believe that a history of thyroid enlargement and rheumatoid arthritis is extraordinarily common. When you examine the patient there may be no evidence, but on inquiry into the past history it is astonishing how often you will get a history of goitre. I have recently had under treatment a case with the following family history.

Maternal grandmother suffered from goitre; mother had a goitre as a girl and died at 76, bedridden with arthritis, high blood pressure, and attacks of angio-neurotic oedema. The patient has three sisters—all of whom suffered from Graves's disease, one developing the disease a week after marriage. A brother was laid up for a long time, and it was thought he was going to develop Graves's disease, but he is now quite fit. The patient when 12 to 13 years of age had a very large goitre, and did not start menstruating until she was 17, when she had considerable dysmenorrhoea. At 19 the heart was said to be weak, and for the last few years she has suffered from tachycardia, auricular flutter, and fibrositis.

#### Association of Pregnancy with Rheumatoid Arthritis.

For years I have been struck with the fact that a patient with rheumatoid arthritis will give you the following history: that she became pregnant, and that during pregnancy she was very much better, but that during the puerperium all the symptoms returned with increased severity. This clinical fact has given me much thought. Now the thyroid is an active accelerator of metabolism, and its close connexion with reproduction is shown by its frequent physiological enlargement in the female—at puberty, marriage, and pregnancy, and sometimes at menstruation, and by its partial involution at the climacteric. During pregnancy great strain is thrown on the thyroid and the patient often becomes hypothyroidic for the time being. Then there is the association of the secretion of the corpus luteum and the pituitary, the internal secretion of the ovary stimulating the secretion of pituitrin; when the corpus luteum develops in pregnancy it checks this process in the interest of the foetus. Langdon Brown points out that the blood sugar curves of pituitary glycosuria and the glycosuria of pregnancy are similar, and suggests that the latter condition is due to pituitary disturbance, which is comprehensible, since pituitrin directly inhibits the action of insulin. This suggests that the normal holding up of pituitrin during pregnancy allows sugar to be stored up more readily in the interest of the offspring through the unchecked action of the insulin. Again, Cumberbatch and Robinson put forth the hypothesis that arthritis is directly or indirectly due to inactivity of the corpora lutea.

It is worth considering, therefore, whether the exhausted thyroid tends to reproduce the symptoms of rheumatoid disease, which have been held up in some way by the corpus luteum's inhibitory action on the posterior pituitary, and has thus restored the endocrine balance during pregnancy with amelioration of all the arthritic symptoms.

#### Arthritis of the Menopause.

The loss of the internal secretion of the ovary along with the partial involution of the thyroid produces a mild myxoedematous or hypothyroidic state. Clinically we know definitely that these cases improve with small doses of thyroid extract, some with the addition of ovarian extract and others with the addition of pituitary extract. I have particularly noticed how frequently these arthritic symptoms occur in cases where an artificial menopause has been induced and how improvement takes place under the above treatment.

Llewellyn<sup>12</sup> holds that there is a definite rheumatic diathesis due to endocrine instability, an instability which is observed in children and which is the forerunner of acute rheumatism. He bases his opinion on the following points, believing that:

1. The tendency of rheumatism to change its facies with the onset of puberty, the predilection of rheumatoid arthritis for the reproductive period and of osteo-arthritis and gout for the menopause or pre-senile epoch, suggest that the endocrine changes associated therewith account for the superficial diversity, but fundamental unity, of these affections.
2. Rheumatic children are all hypothyroidic.
3. Thyroid swelling very often ensues at the outset of acute rheumatism.
4. There is a definite geographical overlapping of goitre and acute rheumatism.

5. Acute rheumatism is an example of endocrine heredity. He quotes McCarrison: that the victims of simple toxic goitre are not only liable to Graves's disease, but, worse still, hand on to their children a condition of thyroid instability.

6. Both hypo- and hyper-thyroidism may follow acute rheumatism.

7. There is a higher incidence of rheumatism in goitrous than in non-goitrous children.

8. It is a clinical fact that some cases of acute rheumatism do not improve on salicylates until thyroid extract is added.

9. Subthyroidism spells suboxidation, and vasomotor instability implies irregularity in the supply and distribution of oxygen to the tissues.

Now, same may ask, where do infection and septic foci come in, and how is it that if you remove the septic foci the patient so frequently improves? The thyroid gland is one of the great defences against infection, and if the patient is already suffering from instability of the thyroid—either hypo- or hyper-thyroidism—the presence of an infective focus will not improve matters, and its removal may, and probably does, in many cases restore stability, in the same way as the removal of septic tonsils is so often the commencement of improvement in a case of Graves's disease.

Others may ask why it is that vaccines and protein shock are beneficial in these cases. Crammer answers this question when he says that the fact that many bacterial toxins stimulate the thyro-adrenal apparatus illustrates the curious and as yet unexplained phenomenon that in some infections the injection of non-specific vaccine, and even proteins, may have a striking therapeutic effect. The effect of the injection of these substances is to produce a typical rigor. The rationale of this so-called non-specific vaccine therapy, and protein therapy, would be that it elicits an increased functional activity from the thyroid adrenal apparatus—in fact, "sympathetic fever," which is one of the normal reactions of the organism against bacterial infection.

There is another point worthy of consideration—patients frequently tell us that their symptoms of rheumatoid arthritis commenced after a nervous shock, as an air raid, the death of a parent, an accident, etc. I have always believed that there is a psychological element in many cases of arthritis and endocrine imbalance, especially of the katabolic glands; their close association with the gonads supports this view. I have never been satisfied that septic foci were the sole causes of these diseases, but that behind it all there was a soil or diathesis which I believe to be connected with endocrine instability or imbalance.

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## SEA-SICKNESS AND ITS TREATMENT.

BY

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SEA-SICKNESS in its milder forms may be regarded as an occasion for jesting by those whom it does not trouble, but for some sufferers its anticipation may poison the prospect of a voyage, and it may cause prolonged discomfort or even death. A woman, aged 40, rather debilitated by fever, travelling in a ship in which I was a passenger many years ago, died after ten days of continual vomiting which no treatment could check. Such a catastrophe may be rare, but cases occur too frequently where suffering is prolonged for many days and the patient is reduced to a state of extreme mental and physical prostration.

No age, no condition of life, is exempt. Old people going on a voyage for the first time, sailors who have used the

sea all their lives, young people and infants—all are liable, although children below the age of 12 seldom suffer severely. The type of vessel seems to have no bearing on the matter. One person is unaffected in a sailing boat and suffers in a liner; a sailor immune in a battleship may be overcome by the movement of a destroyer.

Undoubtedly the chief predisposing cause of sea-sickness is anticipation; quite a strong-minded person may dread a voyage, while an impressionable passenger, who has made up his mind that he is going to be sick, may be seen to turn pale even as he crosses the gangway. I doubt whether migraine predisposes to sea-sickness. If the determining cause was a labyrinthine vertigo, it would be reasonable to expect that any latent condition, with vertigo as a symptom, would increase such liability; but in my series I can trace no connexion between the two. Conversely, in diseases of the internal ear a relative immunity to accidental disturbances might be expected, and, indeed, persons with perforated drums, previously martyrs to sea-sickness, have been freed by their disability. On the other hand, I have known two cases of double mastoid disease associated with severe *mal de mer*.

The sole cause of sea-sickness is not a disturbance of the harmony that normally exists between the cerebellum, the labyrinth, the eye muscles, and elsewhere, and their co-ordination in the centres. Sea-sickness may be caused, before the ship leaves the dock, by some revolting sensory impression, such as the smell of the bilge in old days, and, in modern times, the characteristic mixture of rubber and engine oil that pervades all but the largest vessels.

In a large proportion of cases there is chronic indigestion, with very often constipation, aggravated, maybe, by the excitement of preparing for the voyage, and, in cases where sea-sickness comes on late, by the excessive food consumed during the first days, which the stomach and bowels, weakened by lack of exercise, cannot deal with. In 88 out of 100 consecutive cases of sea-sickness the patients had over-eaten, either before or during the voyage; 74 were constipated, while in 80 the condition was mild and yielded to twenty-four hours' starvation and calomel. In this milder type the attack begins as a rule with yawning or sighing; sooner or later there is nausea; and the last straw is supplied by the smell of a cigar or the careless remark of a bystander. Retching continues with an empty stomach; the hands and feet are icy; the face is pale, and a cold sweat breaks out upon the head and cheeks. The pulse is feeble and slow, and the blood pressure is sensibly lowered; there is headache, generally occipital, and dizziness, varying from a slight unsteadiness to a vertigo which makes it difficult for the patient to keep his feet. The tongue is furred, and the mouth is dry, with a bitter taste. If in these circumstances the patient can keep about in the air he can hold out, but in 12 of the series the vertigo was so distressing as to make this impossible.

The type of vertigo varies for no apparent reason: the patient may fancy that he is moving and the surrounding objects are stationary; or vice versa. Closing the eyes may improve things or make them worse; plugging the ears with cotton-wool may, or may not, help. In some patients the mental effect is slight; in others there is a strong conviction that death is imminent, followed, as time goes on, by an unreasonable annoyance at its delay. In most cases, either as the result or in spite of the remedies given, the condition improves, and twenty-four or thirty-six hours will see the patient out of trouble. In a minority the condition may become serious: the vomiting and retching continue for many days; hiccup may supervene, the vertigo become intense, the mental depression increase, and the patient be reduced to a state of weakness which may end in death.

As in sickness following excessive smoking, a disordered action of the pneumogastric nerve appears to be responsible. Our sense of position in space is a function of the vestibular nerve and its centres in the brain and cerebellum; the central connexions of its nucleus with those of the tenth and oculo-motor nerves is very close, and it may well be that all are implicated in the production of these symptoms.

But the earlier symptoms may fairly be attributed to the pneumogastric nerve. They may never pass beyond this stage; vertigo is not an invariable, and never an early, symptom of sea-sickness.

#### TREATMENT.

Much can be done in the way of prophylaxis. The traveller who starts his journey with the intention of being sick is seldom disappointed, and he who spends his last days ashore in feasting and farewells will reap what he has sown. If the one would moderate his appetite, and the other practise auto-suggestion for a week before sailing, there would be fewer tragedies during the first days of a voyage. Before a long journey by sea it is wise to take two meals a day—breakfast and dinner—for a period of seven days, eating meat at one only, and avoiding all soups and made-up dishes. At midday take only bread and cheese and an apple. Take half the usual quantity of alcohol, drink water freely, and smoke but a little. The third day before sailing fast—eating nothing, but drinking water freely. That night and the following take a 5-grain blue pill, and the following mornings a Seidlitz powder or a dose of salts. No drugs are needed, but if the patient is exigent he may have a mixture three times a day containing 10 grains of bromide. Faith, however, is essential, and in the strength of it any man may go a-trawling forty days in the North Sea without discomfort. The trouble is that most people will make no effort to avoid a future inconvenience; they demand a cure without any help on their side.

During an attack of sea-sickness one remedy is as good as another if taken with confidence. Each traveller has his own specific: one takes bromide or chlorotone, or preparations of them under picturesque names; another clings to a peculiar form of belt; a third hangs an amulet about his neck; and a fourth plugs his ears with cotton-wool. In mild cases passengers should be encouraged to persevere with their own "cures," exception being taken to nitroglycerin and amyl nitrite, which may lower dangerously the already diminished blood pressure. Failing such a private supply, I prescribe tincture of iodine, 1 minim in a teaspoonful of milk every half-hour, and a mustard leaf to the pit of the stomach; bisenits and apples to eat; dry ginger ale to drink. However cruel it may seem, patients should be driven out of their cabins into the fresh air; only in the rarest cases is it necessary for them to stay in bed.

Such measures, with the help of time, will cure the majority of sufferers from sea-sickness, though the remainder may call for the most careful watching and tax every resource the ship provides. These others must be kept in bed in an airy cabin, protected as far as possible from the smells and noises which cannot be avoided even in the best ships. Swinging cots are unsatisfactory; they must share to some extent the movements of the ship; and there is, in addition, a certain amount of joggling, caused by the "give" of the elastic fittings, to the rods, which adds to the patient's discomfort. Hot bottles to the feet and a shade over the eyes are comfortable to most people, and there is virtue in mustard leaves over the stomach and on the back of the neck.

Injections of adrenaline—10 minims, repeated if need be—are helpful in cases where the blood pressure falls below 105, and the same is true of strychnine and camphor. Where vomiting is incessant the ordinary gastric sedatives given by the mouth are useless: the patient should be encouraged to drink freely of hot water, with or without sodium bicarbonate, which will relieve the bitter taste so often experienced, and serve to wash away the mucus which is abundantly secreted. It may be necessary to give rectal feeds, and nutrient suppositories are satisfying and convenient. I withhold morphine as a hypnotic except as a last resource, for it is apt to cause increased nausea as the sedative effect passes away.

Finally, in cases where the exhaustion is becoming dangerous I have recourse to a method which I have not seen mentioned. The patient is kept in a warm salt-water bath—temperature 90° to 95° F.—for half an hour, an hour, or longer. The relief is great and remarkably prompt; it cannot be ascribed to the general sedative effect,



but to the mechanical changing of the patient's environment. The specific gravity of the water is 1020, and the body is supported very lightly on the buttocks, the shoulders, and the back of the head, with the toes just touching the end of the bath to prevent the legs from floating free. The bath itself shares the rolling and pitching of the ship, but the water it contains has not time to respond, and keeps its level, with the patient immersed in it partaking of its relative immobility. Watching a bathful of water in a rolling ship the surface appears to slant this way and that with the movement of the vessel, but a spirit level floated on a cork raft will show that the water is unaffected. If the ship is pitching the long axis of the bath should be fore and aft; if rolling, athwart ship. The patient must not be able to see the apparent oscillation of the water, and the eyes should be bandaged—voluntary shutting is not enough, since in many cases vertigo is increased by the effort of closing the eyelids. If this procedure is carefully followed it always, in my experience, lessens the dizziness and gives relief, which is valuable in severe cases, and often permanent.

### FATAL SUPPRESSION OF URINE CAUSED BY LATENT HAEMAGGLUTININS.

BY

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Following blood transfusion with an apparently compatible donor, the occurrence of a condition akin to blackwater fever, both in its symptoms and morbid anatomy, and sometimes with a fatal issue, is fortunately uncommon. Blaker and Dodds (1925)<sup>1</sup> record with illuminating detail two such fatal cases, and add very valuable experimental observations. Keynes<sup>2</sup> refers to a case reported by Bernheim<sup>3</sup> where, after transfusion, haemoglobinuria occurred, and progressively increased until the function of the kidney became so much interfered with by deposits of haemoglobin or damaged corpuscles that the patient died with suppression of urine and all the signs of uraemia. Dyke<sup>4</sup> mentions two cases of haemoglobinuria due to a Group 2 case being mistaken for a Group 4 owing to a low titre, Group 3 serum being used for the preliminary testing. Keynes<sup>2</sup> also refers to non-fatal transient haemoglobinuria, and I myself have noted this phenomenon on two occasions.

It is of interest in this connexion to note that Yorke and Nauss,<sup>5</sup> working on the pathology of blackwater fever, injected rabbits with haemoglobin and produced intrarenal obstruction. Blaker and Dodds, repeating these experiments, found that in order to produce renal precipitation the urine must be acid and contain sodium chloride to the strength of at least 1 per cent.

Comparing three fatal cases, one of mine and two of Blaker and Dodds,<sup>1</sup> all have certain clinical features in common: onset within a few hours; pyrexia 99° to 104°; jaundice; methaemoglobinuria; and lumbar pain with symptoms of uraemia. One case was fatal in four days, my case in eight days, and the third in nineteen days. Nitrogen retention was apparent, and the cases took on the picture of latent uraemia.

One of the Blaker and Dodds cases showed a blood urea of 102 mg. per cent. on the fourth day, 178 mg. on the tenth day, 400 mg. on the sixteenth day, 618 mg. on the seventeenth day, and 803 mg. per cent. after death. The second showed a blood urea of 287 mg. per cent., and my case on the third day showed 174.6 mg. per cent.

#### Clinical History of the Present Case.

A woman, aged 36, was admitted to the Princess Alice Memorial Hospital, under Mr. A. H. Crook, with a history of five and a half weeks' amenorrhoea, except for a slight "loss" four days before admission. She had a black discharge, with abdominal pain, constipation, and vomiting. She was very blanched and restless, and had the obvious appearance of severe haemorrhage of some

duration. She was very tender and rigid in the left iliac fossa, and there was dullness in the flanks, with a fluid thrill. Her pulse was 140, the respirations 28, and the temperature 97.5°.

During the operation a pint of the husband's blood was transfused after preliminary cross-testing of the patient's serum against the donor's cells for thirty minutes at room temperature and with the aid of the microscope. Both donor and patient were identified as Group 4 (Moss). At the operation the abdomen was opened by a median incision and much dark blood and clots oozed out, also a small foetus. The right Fallopian tube was found to be ruptured; it was tied and removed. The clots and blood were swabbed out and the abdomen was closed. The wound remained clean subsequently, and the patient showed very slight signs of reaction, the temperature rising only to 100.8°.

#### After-History.

On the next day (June 20th, 1927) the general condition of the patient was very good; she talked cheerfully, but slight icterus was noted, and there was complete suppression of urine. She complained of some abdominal pain, which was probably renal. A catheter was passed and 6 oz. of blood-stained urine were obtained, full of blood debris. The pulse was 116, the respirations 24, and the maximum temperature 99.5°.

June 21st. Suppression was complete. A catheter yielded only 2 oz. of blood-stained urine. The maximum temperature was 99.5°; the pulse 100, and the respirations 24.

June 22nd. Only 1½ oz. of urine were obtained by catheter. Hot-air baths, rectal salines, pilocarpine, and alkalis were given without effect. The blood urea was found to be 174.6 mg. per cent. The pulse was 100; the respirations 24, the temperature 99.2°, and the van den Bergh reaction was an indirect positive.

June 23rd. Only 2½ oz. of urine were removed by catheter. Lumbar pain was now marked. The pulse was 92, the respirations 22, and the temperature 98.6°.

June 24th. Only 1 oz. of urine obtained. Abdominal distension was noted, and diuretic was given without effect. The pulse was 88, the respirations 20, and the temperature 98.4°.

June 25th. Signs of uraemia appeared in addition to haemolytic jaundice, and the patient became drowsy and irritable. The systolic blood pressure was 119 and the diastolic 78. The temperature was subnormal.

The patient died suddenly on June 27th.

#### Post-mortem Examination.

The necropsy was performed in my absence by the house-surgeon, Dr. J. F. Lang. Early adhesions were evident between the wound and the site of removal of the ruptured ectopic gestation. The kidneys were enlarged and of a pale coffee colour, with engorgement showing as striations in the medullary rays. The capsule stripped readily. The cortex was diminished in width; it contained some engorged vessels as striated lines, but the most striking feature was the marked engorgement of the medullary rays. Microscopical sections revealed intense engorgement of the capillaries and tubules. Bowman's capsules gave evidence of compression, and the tubular cells showed flattening and pressure atrophy with disappearance of many of the nuclei. The tubules were full of red blood cells or debris, and there was cloudy swelling where the condition was furthest advanced. The development of fine, intertubular connecting tissue was visible. The kidney was clearly the seat of advanced parenchymatous changes due to lack of nutrition of the cells, which was in turn due to pressure atrophy and toxic changes. Eosin-staining material in masses and granules was evident in parts. The bladder contained coffee-ground material. In regard to the liver, the bile ducts were markedly outlined macroscopically, and the picture of chronic venous congestion was present (nutmeg type). Microscopically there were similar changes due to intense venous congestion with consequent pressure atrophy of the cells leading to parenchymatous degeneration, as evidenced by cell vacuolation and loss of nuclear staining. The spleen was very congested. Other organs were macroscopically normal.

The cause of death was therefore presumably uraemia due to mechanical blockage of the kidneys and liver by blood cell agglutination proceeding slowly and progressively owing to the presence of small but effective amounts of agglutinin in the patient's serum. Undetected incompatibility was obviously the cause. The patient and donor were apparently both Group 4, but a subsequent repetition of the cross-test (donor's cells and patient's serum) revealed at the end of sixty-five minutes a definite macroscopic agglutination. It will be remembered that thirty minutes had been allowed, and in the desperate condition of the case no longer delay was permissible. In the paper by Blaker and Dodds<sup>1</sup> it is recorded, in connexion with their first fatal case, that there had been some question as to the group interpretation, and in regard to the second, both donor and recipient were apparently Group 4, but subsequently a cross-test showed the patient's serum to agglutinate the donor's cells. On more than one occasion I have found that an apparently Group 4 donor's cells were agglutinated by a patient's serum (apparently also Group 4). A similar effect was recently noted by Dr. Dyson of St. Mary's Hospital.

Dyke<sup>4</sup> has noted that Group 3 serums are sometimes deficient in agglutinins, whereas others are of high titre. Professor Freuchen of Copenhagen informs me that, in a series of 400 transfusions, he has met the same phenomenon on four occasions, and the solution of the difficulty is the invariable marketing of high titre Group 3 stock serums—an observation recommended to commercial firms for attention.

Meanwhile, we have the cross-test. Dyke<sup>4</sup> quotes the technique of the American Society of Immunologists, which considers that thirty minutes at room temperature is sufficient prevention of untoward results; the present case affords evidence that this time may be insufficient. My own rule is now to incubate the bloods at 37° C. for one to one and a quarter hours in a damp chamber; the hollow-ground slide is placed in a Petri dish lined with damp filter-paper. To save time, if all is well at the end of twenty minutes the donor is bled, and when seventy-five minutes has elapsed from the time of mixing the bloods, and not before, unless the case is so desperate that the extra risk must be taken, the actual transfusion is commenced. Hitherto all trouble has been obviated, and this I believe to be the only safe method of procedure until such time as reliable high titre Group 3 serums are marketed.

#### Animal Experiments.

The value of animal experiments in elucidating the causation and indicating the necessary preventive measures in respect of this tragic condition will be apparent. Yorke<sup>2</sup> found that in order to produce precipitation of injected haemoglobin in the kidneys a dry diet (in rabbits) was essential; if they were fed on a wet diet of greens it did not occur. Blaker and Dodds<sup>1</sup> found that rabbits would pass an acid urine if fed on greens. In one case with an acid urino partial renal blockage occurred with a blood urea of 78 mg. per cent. The rabbit on wet diet had a blood urea of 35 mg. per cent., and passed a red urine without blockage. The factors in precipitation were found to be: (1) An acid reaction (pH 5-6) which converted the pigment oxyhaemoglobin into methaemoglobin, and then probably into acid haematin. (2) Sodium chloride, provided it was in a concentration of not less than 1 per cent.

In paroxysmal haemoglobinuria and blackwater fever there is a similar mechanism with similar pigment casts, but the amount of haemoglobin liberated is smaller, and in these, as in the lesser degrees of transfusion haemoglobinuria, the kidney is generally able to weather the storm.

#### Therapeutics.

Blaker and Dodds<sup>1</sup> recommend, on theoretical grounds, the exhibition of alkaline diuretics and transfusions of sodium carbonate. It is obvious that what must not occur is an acid, concentrated urine. In my case we tried alkaline diuretics, but, it is probable, not intensively enough. It is sufficient to say that if the urine can be kept alkaline for a few days, experiment has shown that all will be well and no renal blockage can occur.

Finally, the transfusionist must have ample warning, so as to allow the maximum amount of time necessary for cross-agglutination.

Whereas no originality is claimed for anything in this paper, except perhaps the histo-pathology of the liver in this instance, its excuse is to draw attention to the uniformity of the lesions found after death, to the valuable experimental work of Yorke, Blaker, and Dodds, and to show the necessity for a prolonged cross-agglutination test whenever practicable, and so to indicate certain means by which the tragedy of delayed incompatibility may be averted. In conclusion, I desire to thank my colleague Mr. Arthur H. Crook for permission to publish this case.

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## VACCINES IN THE TREATMENT OF GONORRHOEA.

BY

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At the venereal diseases clinic of Salford Royal Hospital it was customary during the years preceding 1924 to treat every case of gonorrhoea by a course of detoxicated gonococcal vaccine in addition to the ordinary routine treatment; however, since December, 1923, the vaccine has been discontinued. The vaccine treatment appeared to have a certain definite influence in the prevention and cure of the various complications and in shortening the period of treatment. We have therefore thought it of interest to make a comparison—so far as it is possible—between the results obtained during the years 1922-23 on the one hand and those of 1924-25 on the other.

#### Routine Treatment.

The clinic permits of the attendance of patients thrice weekly, and the treatment (vaccine excepted) has remained unchanged from 1922 to 1925 inclusive. A urethral smear from each new patient is examined for gonococci, and if urethritis is present the patient is put on a mixture containing 10 grains of potassium citrate, 5 minims of tincture of belladonna, and 1/2 oz. of infusion of buchu, to be taken thrice daily, is supplied with an easily sterilized outfit containing a syringe, and with potassium permanganate lotion 1 in 8,000, and is given a sheet on which are printed all the necessary instructions; after a short period the lotion is strengthened to 1 in 6,000, and later—some four to six weeks after the initiation of treatment—a two-glass test demonstrates the presence or absence of a posterior urethritis. Posterior urethritis is treated by deep irrigation twice weekly with potassium permanganate lotion 1 in 6,000, after the method of Janet, and by prostatic massage once weekly; the irrigation is varied by employing zinc permanganate 1 in 6,000; or silver nitrate 1 in 10,000, and sometimes mercury oxycyanide 1 in 2,000. The progress of the patient is estimated by the two-glass test and by search for the gonococcus, both in films and by means of cultures.

#### Standard of Cure.

Cure is not accepted unless satisfactory tests are obtained during a period of six months after treatment has been discontinued, and before the final test a return to alcohol is permitted. It is very necessary to define the standard of cure; each doctor has his own criterion, and in the past the cessation of the urethral discharge was often accepted as proof of cure. It is preferable to err on the side of strictness and so avoid the possibility of those lamentable happenings which otherwise sometimes occur.

#### The Two-glass Test.

The two-glass test is carried out as follows: the patient holds water for three hours prior to examination; he then passes the first specimen, and after prostatic massage the second; both urines are at once centrifuged and examined microscopically, the average number of pus cells in a field being reported. From this count we determine the presence or absence of posterior urethritis; six to seven pus cells to a field, in the second urine, is the figure which we find from experience to indicate approximately the dividing line between a posterior urethritis and one limited to the anterior urethra—that is to say, a figure above this number denotes an extension of infection to the posterior urethra. For a cure the number in the second glass should not be above three, in a few patients four or five, the ideal being nil in both specimens.

#### Vaccine Treatment.

The vaccine treatment, which was added to the routine procedure during the years 1922-23, consisted of two courses of vaccine—the first of ten injections of a residual pure gonococcal vaccine at weekly intervals, and the second, if posterior urethritis developed, of ten injections of a residual mixed vaccine of gonococci, streptococci, staphylococci, and

*Bacillus coli*, commenced during the third or fourth month. The vaccines were prepared by Dr. C. E. Jenkins, pathologist to the hospital.

#### Results of Treatment.

The total number of new patients for the years 1922-25 inclusive was 424; this figure includes only those in whom the gonococcus was identified, and consequently, although the total figures are considerably reduced, other forms of urethritis are confidently excluded. Of these 424 patients 150 attended for a period of one month or less and then disappeared, leaving 274 for consideration—134 of 1922-23, and 140 of 1924-25. In one-third of these patients it was not the first attack of gonorrhoea. The accompanying table illustrates and serves to compare the results of treatment; the figures are, however, probably more useful for purposes of comparison than as statistics, since a proportion of the patients did not complete their treatment. The numbers dealt with in each period remain, however, approximately equal. We believe that if home treatment by means of an outfit were replaced by hospital treatment at more frequent intervals much more satisfactory results would be obtained.

	1922-23 (Vaccine).	1924-25 (No vaccine).
Number of patients ... ..	134	140
Number without posterior urethritis	26=19%	16=11%
Number with complications...	24=18%	42=30%
Number cured ... ..	66=49%	45=32%
Average period before a negative test	5 months	7½ months
Average incubation period 7 days.		

The figures in this table require some consideration. First, it is obvious that but few patients escape a posterior urethritis; secondly, the numbers cured are to some extent misleading, for of those who do not appear as cured the majority ceased to attend before a negative test was obtained, and many of these were about to reach this stage. The real interest lies in the comparison, and it is seen at once that the percentage of complications (arthritis, epididymo-orchitis, and rheumatism) was greater in 1924-25, the percentages of cures less, and the period of attendance before the first negative test was obtained longer than in 1922-23. It is again emphasized that save for vaccine treatment the routine was in all respects the same during these four years. Some small variations may be expected between different years, but to us it appears justifiable to attribute these marked differences to the vaccine treatment.

### COMPLETE INVERSION OF THE UTERUS: RECOVERY.

BY

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THE very rare occurrence of the condition present in the patient whose case is described below is sufficient warrant for placing it on record, and particularly so since the treatment adopted was followed by complete recovery. According to most authors, in only 30 per cent. of these cases is such an outcome to be expected.

A married woman, aged 37, was admitted to the Ennville Lying-in Hospital, Cork, at 8 p.m. on September 17th, 1927, in labour; she complained of great pain on micturition, and the urine was found to contain blood. She was apparently a strong healthy woman, was the mother of ten living children, and had had three miscarriages. Her menstrual history was normal, and she had never suffered from any serious illness. She had a bad time on the occasion of the birth of her first child, the labour extending, according to her own account, over three and a half days. The placenta was retained and had to be removed manually.

At 1 a.m. on September 18th she gave birth to a male child weighing 11 lb. Profuse bleeding occurred after the child had been born, and the patient collapsed. A hypodermic injection of 1 c.c.m. of pituitrin was administered, followed by brandy. After the lapse of half an hour expression of the placenta by the "Dublin method" was attempted, and sudden and complete inversion of the uterus took place; there had been no traction

on the cord. Shortly before 2 a.m. I was summoned by telephone and found the patient very bad indeed. The pulse was imperceptible, the face was covered with a cold clammy sweat, and the respirations were faint and fast. I was informed that a peculiar placenta was half delivered, and discovered the uterus with the placenta covered by membranes completely external to the vulva, and extending down nearly to her knees. It was quite evident that no time must be lost if the patient's life was to be preserved. I hastily came to the conclusion that anaesthesia was out of the question; the time that would elapse before I could have the assistance of my colleagues would have been fatal. The serious, almost dying, condition of the patient did not warrant my administering an anaesthetic and performing the necessary manipulations myself. By doing so I could not maintain satisfactory anaesthesia, and, moreover, it would have been impossible to keep my hands from becoming infected. In any case I did not think the patient was fit to take an anaesthetic. Having covered the lower abdomen and thighs with towels wrung out of normal salt solution I proceeded as follows. From where I could feel the edge of the placenta I tore through the membranes with my finger in the mid-line and completely swept them off the uterus all round. I then proceeded to separate the placenta and found that it was very adherent at the margin, but that towards the centre it had already separated from the uterine wall to a considerable extent; the cavity thus created had filled with blood, which by now was one large clot. I washed over the surface of the uterus with hot salt solution, and seizing the organ with my two hands I endeavoured to reduce its size by squeezing the blood from it. I kept up this pressure for a few minutes, and then, removing my left hand, grasped the now much diminished uterus with my right hand, and was able to return it completely within the vagina. Gentle upward pressure then at once restored it to its normal position.

Having replaced the uterus I now turned my attention to the general condition of the patient, who was practically unconscious and apparently dying. Another 1 c.c.m. of pituitrin was administered hypodermically. Two pints of normal salt solution containing 1 drachm of adrenaline solution was injected into the axillae, and the patient was ordered 1/30 grain of strychnine with 1/100 grain of digitaline every four hours hypodermically. She was also given salt solution by the rectum every four hours. She regained consciousness at 5 a.m., and by that afternoon had apparently got over the grave shock, but she then complained of severe headache.

Her temperature that afternoon was 97.6° F., the pulse rate was 120, and the respirations 32. Rectal salines and hypodermics of strychnine and digitaline were discontinued. The temperature gradually rose to between 101° and 102° F., and she had a rigor on the third day. She was then given an intrauterine douche of cyllin solution, which was repeated every day for four days, and subsequently every alternate day for fourteen days. On the intervening days the vagina was douches with cyllin solution. She was also given 1 drachm of the liquid extract of ergot twice daily during this time. The temperature gradually subsided and she was quite well and out of bed on the twenty-second day. No further complications occurred, and she left hospital at the end of four weeks quite well.

Complete inversion of the uterus is said to occur only once in 250,000 cases, and is usually put down to the following causes: (1) traction on the cord; (2) too vigorous compression of the fundus; (3) sudden delivery, especially if the mother is standing; (4) exertion after delivery, as in coughing; (5) short cord of whatever etiology.

In this case none of these causes existed, except that pressure on the fundus was tried, as stated, to express the placenta. This, however, was performed by a highly skilled and very experienced nurse, and for that reason may be eliminated. Again, the condition is said to be more common in primiparae, and my patient had given birth to ten children.

Opinions are divided as to whether the placenta should be separated from the uterus before attempting to replace the latter. I have no doubt that if I had attempted replacement without previously removing the placenta I should have had considerable difficulty in doing so; if I had succeeded I should then have had much more trouble in removing the very adherent placenta with the uterus *in situ*, and the extra time involved would probably have been fatal to the patient.

The fact of the patient not being anaesthetized has been already explained. It would no doubt have made things easier for me if the patient had been under the influence of an anaesthetic, but I am satisfied that delay was out of the question, and that speedy replacement of the uterus and treatment of the profound shock gave the patient the only chance, and that a poor one, of recovery.

I am indebted to my colleague Dr. P. J. O'Brien, for whom I was acting on this occasion, for permission to publish this case. To him also is due a large measure of praise for the ultimate recovery of the patient, since he took over the case from me on the day after the birth, and continued in attendance on her till she left hospital.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

IDENTIFICATION FROM A FINGER-TIP  
REMOVED BY A BITE.

(With Special Plate.)

A rascal broke into a house in an Egyptian village with intent to rob or with some other intent. During his peregrinations he entered the room of a woman, and she, in self-defence, bit his finger with sufficient force completely to sever the tip. The visitor made his escape without being recognized, as the place was in absolute darkness.

Fortunately the lady did not swallow the finger-tip, but handed it over to the police when she laid a complaint the following morning. Instructions were issued to watch for anyone with an injured hand, and ten days afterwards a man with his right hand wrapped up in a handkerchief was arrested on suspicion at a railway station in the district. It was ascertained that he had lost a portion of his right index finger, and he was sent to the medico-legal department, together with the seized finger-tip, in order to ascertain whether the portion bitten off belonged to the injured hand.

On examination of the accused person it was found that the injury to the finger had been caused by a bite. X-ray examination of the hand showed that the bite had passed through the base of the terminal phalanx of the index finger. X-ray examination of the specimen showed that the distal portion of a phalanx was present. A comparison of the finger-nail on the specimen with that of the left index finger of the accused showed them to be exactly similar.

There was thus an extremely strong presumption that the man arrested was the guilty person. The accused was then asked if he had been in trouble before, to which he replied that on a previous occasion he had been arrested on a false charge—that was in 1919. The antecedents bureau was immediately asked to supply the finger-prints taken on that occasion, and on comparison of the print of the right index finger with the tip bitten off it was found that the patterns and ridge details were identical.

In the Special Plate Fig. 1 shows the tip and Fig. 2 the original finger-print. Seven points of identity have been marked, but the reader will be able to trace a great many others. This completed the absolute identification of the accused.

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EMBOLUS OF THE SUPERIOR MESENTERIC  
ARTERY.

The brevity (and in some cases the absence) of description in most of the standard surgical textbooks of the signs and symptoms liable to be found in embolic obstruction of the superior mesenteric artery prompt me to place on record the clinical history of a patient under my care, who recently developed this complication.

A lady, aged 79, first consulted me on account of "palpitations and flatulence." On examination her heart was found to be fibrillating. Until the previous few days she had led an active life, interrupted by no special illness. The heart was slightly enlarged, but no bruit was detected. She was instructed to rest in bed, and was given 15-minim doses of tincture of digitalis three times daily. In two days she considered herself better, and thenceforward the heart steadily improved. By the tenth day the pulse had become regular and strong, and she thought her troubles were ended. She was, however, kept in bed, the digitalis dosage being reduced to 10 minims. Two days later there was a sudden attack of very severe abdominal pain, referred mainly to the epigastrium. It occurred soon after her midday meal, which had consisted of some milk pudding and a banana, and a few minutes later it was followed by vomiting and diarrhoea. Her condition was unchanged throughout the afternoon and early evening. The vomit at first consisted of gastric contents and subsequently of bile-stained fluid. The first stool was faecal, but within half an hour of the onset of the pain the patient was passing blood-stained mucus. The vomiting and diarrhoea were severe. The abdomen remained soft, and no tender area developed. The pain was described as colicky, and persisted

mainly in the upper half of the abdomen. There was no suggestion of collapse, the patient repeatedly altering her position in bed, and at times getting out in attempts to ease the pain. The pulse remained strong and steady. Rectal examination was negative. No drug alleviated the symptoms till about 6 p.m., when two large doses of bismuth were retained, apparently easing the pain and stopping the vomiting.

Towards 9 p.m., however, the pain regained its original severity and was accompanied by repeated retching or vomiting and occasional diarrhoea, the stools now being smaller, but still consisting of blood-stained mucus. At midnight no fresh signs had developed in the abdomen and the pulse rate remained unchanged. An injection of morphine was given, and for the next four hours relief was obtained. At 4 a.m. the pain recurred, though to a less degree. The abdomen was now a little tender over the caecum and ascending colon, but still there was no local guarding or rigidity, no visible peristalsis, and no apparent distension or free fluid. Throughout the morning the pain continued with occasional short intermissions and occasional vomiting, the vomit being yellow fluid. The bowels were not again opened. The abdominal signs remained unchanged, but the pulse rate increased from 70 to 94, though still remaining strong and regular. At 2 p.m. the tenderness over the caecum and ascending colon had increased considerably, the abdomen appeared rather distended, and free fluid was present. The patient complained of some pain in the sole of the left foot. Half an hour later faecal vomiting commenced and the right side of the abdomen became moderately rigid. Arrangements were now made for the patient's admission to the Gloucester Royal Infirmary. Just prior to her departure from home the left radial pulse became obliterated, and shortly afterwards numbness and coldness of the left hand and forearm developed.

On admission to the infirmary the patient was seen by Mr. A. Alcock, who diagnosed the condition as being embolism of the superior mesenteric artery. By this time distension had increased very considerably, the whole abdomen was rigid and tenderness generalized. Mr. Alcock opened the abdomen under local anaesthesia; gangrenous small intestine was found, and the diagnosis was confirmed. The wound was closed, and the patient died the following day.

This case not only affords an illustration of the clinical picture liable to be found in embolic obstruction of the superior mesenteric artery, but it also shows the importance of a thorough consideration of every symptom, however small, before coming to a conclusion. The first clue to the correct diagnosis was presumably the pain in the foot, but at the time of its occurrence I attached little importance to this symptom, and thought that the cause of all the trouble was probably a volvulus or possibly an intussusception.

HAROLD J. SELBY, M.R.C.S., L.R.C.P.

Newnham-on-Severn.

## RECOVERY FROM TETANUS.

The case of tetanus described by Dr. J. D. Chisholm and Dr. Arnold Renshaw (February 4th, p. 175) recalled to my mind a case in my own experience.

A Hausa man was brought to hospital on a lorry; when I saw him first he was resting on his abdomen and chest, with both head and heels raised and with marked risus sardonius. He was admitted to a single ward, and further investigation showed that there were suppurating cliggers in the toes of both feet. Left to himself the patient lay on his right side, with marked arching of the back and retraction of the head. He was unable to separate his teeth, but could move his arms and hands. His temperature was not raised, but the pulse rate was increased. On attempting any examination or on the slightest disturbance there was severe spasm of the spinal muscles and risus sardonius. Pain seemed to be most intense in the lower cervical and lumbar regions, and also in the abdominal muscles. It was impossible to obtain a history of the sickness, but apparently he had been helpless for about five days before admission.

The suppurating toes were treated and a saporific given; that night the patient slept well. Next day there was very little change except that the pulse rate was slightly diminished. He took liquid food well. Potassium bromide was given in moderate doses, at first four-hourly and later three times daily. After four days the wounds were healing and the spasms were less severe. Convalescence proceeded slowly but favourably till in the third week the patient was able to walk with only slight stiffness of the back. He was about to be discharged when he passed a large quantity of tapeworm; after helminthic treatment he left the hospital apparently in normal health.

Although on admission this patient had been considered moribund, complete rest and freedom from disturbance, together with sedatives and dressings to the feet, were the only lines of treatment open to us. I despaired of his recovery, thinking that even had antitetanic serum been available the case was too far advanced for it to be of use. I had been led to this conclusion by the earlier cases which I had previously unsuccessfully treated with large doses of the serum. I have never before seen recovery in such a severe case.

Ilesha, Nigeria.

G. LOWE.

## British Medical Association.

## CLINICAL AND SCIENTIFIC PROCEEDINGS.

## CITY DIVISION.

*Fibrositis.*

At a meeting of the City Division, on April 3rd, at the Metropolitan Hospital, with Dr. PHILIP HAMILL in the chair, Drs. T. H. G. SHORE and G. T. LOUGHBOUGH of the Metropolitan Hospital read papers on the treatment of fibrositis.

Dr. SHORE recalled that in the report of the Ministry of Health, 1924, "rheumatic" diseases were stated to account for one-sixth of the total invalidity of the working population. Half of this was stated to be due to joint disease, and the bulk of the remainder comes under the head of fibrositis. Chronic rheumatism, muscular rheumatism, and fibrositis had been defined by Stockman as "a condition of chronic inflammation of the white fibrous tissue of the fasciae, aponeuroses, sheaths of muscles and nerves, ligaments, tendons, periosteum, and subcutaneous tissue occurring in all parts of the body, and giving rise to pain, aching and stiffness, and other symptoms, the result of preceding general infections or of local inflammations or injuries." The name "fibrositis" was first given by Gowers in 1904. From Stockman's histological investigations it appeared that the local lesion in the fibrous tissue consisted of an inflammatory hyperplasia, scattered in a patchy manner in the affected parts. At first was seen a localized collection of fibroblasts and leucocytes, with a serous or sero-fibrinous exudate; later on, young fibrous tissue was formed. When acute exacerbations occurred the tissue became swollen, and more inflammation and exudation was seen, with, later, more fibrosis. Like all newly formed pathological fibrous tissue this contracted, and pain was produced by the pressure of the contracting tissue on nerve endings and on the nerves themselves; partial strangulation of vessels accentuated the trouble. The tissues affected were those which carried the blood vessels and acted as insulators for the nerves, but derived themselves very scanty supplies from either. Vessels supplying the actual fibrous tissue were very small, and were, therefore, especially liable to be affected if the cause of the trouble was of an embolic nature. In chronic cases, in which foci had been inflamed several times, fibrous thickenings, somewhat resembling the nodules of acute rheumatism, might be found; these had been called "tophi rheumatici." They appeared to be capable of interfering with the vessels conveying blood to more distant parts, either directly by pressure or indirectly by deranging the vasomotor mechanism. As a result muscular weakness and muscular wasting might be produced. The initial lesion in fibrositis was histologically of the same nature as the rheumatic nodes of Aschoff in the myocardium. The cause of the fibrositic lesion might reasonably be expected to be similar to that of rheumatic myocarditis. Although no definite causal organism was known it was probably resident in the apices of infected teeth and the tonsils, or, less commonly, in the prostate, the urinary tract, the cervix uteri, the gall-bladder, and, perhaps, the intestine. Infections such as "colds," influenza, gastro-intestinal catarrhs, and infections of the accessory air sinuses were enough to light up the trouble in the primary foci, and indiscretions of diet, constipation, and gout might determine an attack. Dr. Shore suggested that the actual cause of the pain was of a vascular nature, either a vasoconstriction by toxæmia or a structural interference with the vasomotor mechanism, or, more likely, both operating together. The various local measures were directed to increase the blood supply to the part, and when they relieved the condition they did so in that way. Massage should always be applied to the most painful parts, for it was there that permanent fibrous thickenings existed, which massage alone could disperse. Others were faradism, ionization, diathermy, radiant heat, and ultra-violet light, which probably acted mainly in the same way. In cases in which intoxication from constipation had a share saline aperients were valuable. Certain drugs which had diaphoretic actions by virtue of being vaso-dilators relieved

fibrositic pain; such were ammonium acetate, spiritus ætheris nitrosi, and Dover's powder. At one time quinine was much used for this purpose, and on account of its cost was often adulterated with salicin. This led to the use of salicin, and later the salicylates and aspirin; at about the same time the coal-tar derivatives phenazone and phenacetin became popular, a very favourite mixture being aspirin, phenacetin, and caffeine. When gout could be shown to be a factor in the case colchicum and the more recent cinchophen were useful for a time, but could not be expected to act after their function of eliminating excess of uric acid has been performed. These drugs should be employed in short bursts only. Guaiacal carbonate was useful in some cases. Calomel and blue pill were very useful internally, and the mercuric iodide ointment externally. Dr. Shore had found potassium iodide disappointing, though Graves found his own attack passed off so that he noticed relief coming almost hourly, after he had suffered for several weeks on other remedies. Iodine had been used for intramuscular and intravenous injection, as well as externally as a counter-irritant. Methyl salicylate, menthol, and camphor, though their smell was objectionable to some, were quite good as external applications. Fibrolysin had proved very disappointing in the hands of most who had tried it. Vaccines, whether "stock" or autogenous, had also not been very beneficial.

Dr. G. T. LOUGHBOUGH confined his remarks to the physical treatment of fibrositis, including the mechanical, electrical, and radio-therapeutic procedures. Skilled massage helped to relieve muscle spasm in the acute stage and to induce hyperæmia of the affected tissues; in the more chronic cases it freed tissues matted together by old exudate, loosened stiff muscles, and so enabled them to increase the blood supply both to themselves and the parts around them, and by actual attrition removed the fibrous nodules associated with this disease. Electrically driven vibrators were sometimes used, but their action could not be accurately controlled. Of true electrical methods ionization was still used, but the actual amount of drug introduced through the skin in ionic form had been proved to be so small, and also to be carried at once by the superficial blood stream, that it could not possibly have any effect. Any benefit which occurred must be due to the steady passage of current through the affected tissues: this, if steady and prolonged long enough, would undoubtedly reduce effusions and exudates, first by the formation of ions, and secondly, by causing these ions to move in a constant direction through the tissues. This process altered the chemical constitution of the effusion, and helped reduction by changing the osmotic pressure. It was being used for fractures at the Royal Free Hospital with much subsidence of the swelling and earlier relief of pain. The sudden contractions which occur as the result of the stimulus of intermittent currents loosened the adhesions if present, and slightly increased blood flow would occur in the muscle. Radium and x rays were penetrating, high-power rays, and their action was too destructive to be of any use in fibrositis. In spite of its superficial absorption, ultra-violet radiation was an extremely potent agent in the cure of fibrositis; the explanation of this was probably: (1) the benefit was partly due to the general tonic action; (2) the heat produced by absorption travelled inwards by conduction, the absorption taking place deep to the superficial blood stream; (3) the hyperæmia produced also spread inwards by reflex action; (4) the apparatus used also produced waves of many other wave lengths going right down into the infra-red, and it might be that it was from these other rays, or the combination of them all, that the benefit was produced. The rays from the sun or its substitutes, the carbon arc and various therapeutic lamps, acted mainly by their general tonic action on the blood; the deep effects were secondary to this or depended on the presence of rays other than those of visible light. Heat in various forms had long been used as part of the cure of fibrositis. In order to get energy to the deeper affected parts either diathermy currents or the most penetrating infra-red rays must be used. Diathermy was a current of such high frequency that it could not be felt: considerable power could therefore be passed through the patient, which by the resistance



of the tissues was changed into heat. Heat, generated in the deep tissues, brought rapid relief by vaso-dilatation and increased blood supply; secondly, heat acted as a catalytic agent, starting chemical reactions such as the oxidation of products of fatigue and disease; thirdly, energy by molecular and atomic collisions formed new ions, which in their turn altered the electrical charges of atoms and the chemical and physical state of molecules, as, for example, reduction of the viscosity of exudates and the increase in the permeability of membranes. At present, the most useful physical aids in the treatment of fibrositis were, in the acute stage, diathermy to produce internal heat, and ultra-violet rays, preferably from a cored carbon arc which gave almost the whole range of ether waves, the shorter for their tonic effect, and the longer infra-red rays for the heating of the deep tissues in a way similar to, or perhaps better than, diathermy. In the more chronic stage continuance of the above two methods was required, with the addition of skilled massage to remove adhesions and for the unmatting of tissues.

## Reports of Societies.

### THE NON-EXCRETORY FUNCTIONS OF THE KIDNEY.

At a meeting of the Section of Medicine of the Royal Society of Medicine, held on April 24th, with the president, Dr. A. F. HURST, in the chair, Professor SNAPPER of Amsterdam read a paper on the non-excretory functions of the kidney and their clinical importance.

Professor Snapper said that the kidney was usually regarded as an organ of excretion, but if the energy used up by the kidney were calculated, although a large amount was required for producing the hyperosmotic urine, this did not account for all the energy consumed. It was customary to regard the liver as having an excretory function for bile, but as being mainly a gland having great metabolic importance. In the same way the kidney had an excretory function, but had also a metabolic function. He then pointed out the importance of the observations of Nash and Benedict, who showed that ammonia was formed in the kidneys of certain animals, a factor of great moment when large amounts of acid had to be excreted, for the process could continue effectively so long as the kidney function was unimpaired. In certain circumstances this function of the kidney was impaired and a condition of acidosis resulted which could be observed in uraemia. In diabetic acidosis also the impaired function of the kidney for ammonia formation interfered with the excretion of ketone bodies. The important point in diabetic conditions was, of course, the accumulation of ketone substances in the body fluids, and there were cases of diabetic ketosis in which the amount of ketone substances in the urine was only very slight, although a large ketonaemia was present. In such cases the ammonia content of the urine was hardly increased at all, and even after treatment with insulin such cases for a long time passed urine with diminished ammonia excretion. The ketonaemia in such cases must be regarded as partly due to the failure of the ammonia-forming function of the kidney. Dealing next with the excretory function of the kidney, Professor Snapper mentioned the well-known power the kidney possessed for the synthesis of hippuric acid when perfused with benzoic acid and glycecoll. Such synthesis had recently been confirmed as occurring in the human subject as a result of experiments on kidneys removed at operation, and it had also been shown that a similar synthesis took place for other acids of the benzoic series. Another non-excretory function of the kidney was its power of oxidation, and this had been shown experimentally to occur with the aromatic fatty acids. It had also been easy to show by perfusion experiments that beta-oxy-butyric acid and diacetic acid could be destroyed in large amounts by the kidney, and it was therefore important to consider whether in diabetic coma the condition was in any way due to an impairment of this oxidative function of the kidney. There were still cases of diabetic coma in which

treatment by insulin reduced the hyperglycaemia, the hyperketonaemia, and the ketonuria, and yet failed to save life. Most clinicians considered that such cases died of a failure of the circulatory system. The speaker was of the opinion that while these cardio-vascular factors were of great importance there were other factors, of which renal insufficiency was next in seriousness. It had been known for a long time that albuminuria was frequently present, especially in cases with ketonuria, and the older clinicians thought that there was some connexion between these two conditions. In diabetic coma it was often possible to find evidence of retention of urea and non-protein nitrogen in the blood, and uraemic coma was sometimes diagnosed erroneously. One possible reason for nitrogen retention was the oliguria which occurred in such cases, but this was not the only cause, for some had polyuria and still had nitrogen retention. The urine in these circumstances contained only small amounts of urea, and it was evident that the kidney function was impaired. It was possible to divide examples of diabetic coma into two groups. In one, in young subjects, owing to incorrect diet, there was a hyperproduction of ketone substances causing intoxication, even though the destruction of such substances was proceeding at a normal rate; these could be cured by insulin, which stopped the hyperproduction of these substances. In the other group degenerative changes had set in in the kidneys, and even a moderate production of ketone bodies led to intoxication. Insulin would remove the hyperproduction of ketone bodies in such cases, but the impaired kidney function led to death, for the destruction of these ketone bodies did not go on properly. There were pathological proofs of these changes in the kidneys, for at autopsy they could be found to be yellow from fatty degeneration, and microscopic examination revealed glycogen degeneration in the tubules and a special form of necrosis in certain of the tubules, especially in the descending limb of Henle's loop. Professor Snapper lastly dealt with the importance of these functions of the kidney in diabetic therapy, calling attention to the high fat diets used in certain countries, in which ketosis did not occur as long as the amount of protein was small. It was suggested that by relieving the load on the kidneys in these low protein diets the destruction of ketone bodies in large amounts could be carried out.

Dr. R. D. LAWRENCE said he thought those cases of diabetic coma which did not recover died from circulatory depression rather than from renal changes. He found casts and protein in the urine of every case of coma, and the prognosis did not appear to depend on this. He agreed that in cases with oliguria the prognosis was bad, but he thought this was probably due to low blood pressure rather than to renal insufficiency. He did not think that the addition of proteins to a high fat diet produced ketosis because of the added load on the kidney, but was more probably due to the production of fatty acids during the metabolism of the proteins.

Dr. E. P. POULTON said that nitrogen retention was almost a regular feature of diabetic coma. He thought that circulatory changes were of most importance in the death of those patients who did not respond to insulin. An important point in treatment of such cases was the giving of large quantities of fluid.

Professor FAHR (Minnesota) thought that the cause of death in those cases of diabetic coma which failed to respond to insulin was circulatory failure. He mentioned recent work in America and Germany which went to show that a condition resembling shock was present in such cases. Sir JOHN BROADBENT, Dr. P. J. CAMIDGE, and Dr. F. PARKES WEBER also took part in the discussion, and Professor SNAPPER replied to certain questions.

### POST-ENCEPHALITIS PROBLEMS.

At a meeting of the Section of Epidemiology of the Royal Society of Medicine on April 27th Dr. ALLAN C. PARSONS read a paper on post-encephalitis lethargica and its problems.

Dr. Parsons said that encephalitis lethargica was first recognized in this country ten years ago; while the etiology of the disease remained obscure there was more

knowledge now of its varied clinical manifestations, and certain facts concerning its epidemiology had been noted. The disease seemed to be relatively prevalent in these islands compared with other countries; diagnosis, treatment, and prognosis were difficult. Attention was now being chiefly focused upon post-encephalitis—the chronic phase of the disease which frequently follows the so-called acute attack; it was marked by various signs and symptoms which might either have persisted from the original illness, or might have supervened after the acute attack had apparently ended or had passed unrecognized. Upon the general population encephalitis lethargica, fortunately, made but small impact, and its incidence rate of 0.06 per thousand might be compared with that of 0.07 for enteric fever, and contrasted with rates of 2.10 and 1.45 for scarlet fever and pulmonary tuberculosis respectively. But, with the possible exception of cerebro-spinal fever, there was no disease which had, at the same time, so high a case-mortality rate and so high a case-disablement rate. In most of the fatal cases death occurred during the first three weeks of the primary illness, but it had become evident that in a not inconsiderable number it supervened at much longer intervals after onset. Thus of 452 death certificates received during 1926 in which the necessary particulars were given, 9.7 per cent. had recorded the death as occurring two years, 6.9 per cent. three years, and 2.6 per cent. six years after onset. It might be estimated that encephalitis lethargica eventually killed, or helped to kill, between 35 and 40 per cent. of those whom it was known to attack.

Consideration of various series of after-histories relating to patients notified in London, Glasgow, Belfast, Manchester, Bristol, Sheffield, and other large towns showed that a large proportion of patients did not completely recover from their primary illness, but suffered from sequels of varying severity. Thus of 1,173 patients notified in London during 1919–25, and whose cases were reviewed in 1926, 29.1 per cent. were found to be suffering from sequels; in 356 unnotified patients of the same series the sequel rate was 60.9 per cent. A review, after twelve months' interval, of the cases notified in the peak year of 1924 in London, Lancashire, Sheffield, Glasgow, Manchester, Belfast, and Newcastle-on-Tyne, showed that the sequel rates respectively for these local series of cases were: London 35.4, Lancashire 45.8, Sheffield 65.7, Glasgow 37.3, Manchester 50.7, Belfast 74.7, Newcastle-on-Tyne 34.3. The mean sequel rate in the case of 3,112 patients notified from these same cities over varying periods worked out at 41.9, and in rather more than half the number of patients the sequels were serious enough to prevent work or education.

The signs and symptoms of post-encephalitis were generally reminiscent of those which characterized the primary stage of the disease, and, with the important exception of Parkinsonism, as emphasized by Hall, it might be said that serious sequels were usually anticipated by severe symptoms in the initial illness; mental deterioration and conduct changes were also characteristic of the aftermath of encephalitis lethargica. By reason of their interesting variety the sequels of encephalitis invited classification as the primary symptoms of the disease had done, but for administrative purposes it was more useful to classify the post-encephalitis sufferers, rather than their symptoms, into three groups: (1) those who suffered mainly from physical sequels; (2) those who chiefly showed signs of mental deterioration; (3) those who exhibited demoralizations. This grouping was only loose, and a patient might partly qualify for two or more groups at the same time, or he might pass from one group to another at different stages of his post-encephalitic career. No physical sequel was so well known as Parkinsonism; indeed, so common and so important was this particular syndrome that by some it was regarded as almost synonymous with post-encephalitis lethargica. Roughly speaking, about half the patients who manifested after-effects developed Parkinsonism sooner or later; the latent period varied in most cases between three and eighteen months, but in a few instances this had been prolonged for two, three, and even five years. Unlike paralysis agitans, post-encephalitic Parkinsonism affected

males and females about equally and was by no means restricted to elderly subjects; the majority of sufferers, indeed, were under 30, and children were commonly affected. Isolated instances of recovery had been reported, but as a general rule the condition ended fatally, and accounted for most of the late deaths from encephalitis lethargica.

It was probably not too much to say that the mental processes of every subject of encephalitis lethargica were affected in some degree, either in the primary attack or subsequently, and the patients themselves fell easily into two classes—namely, those who were restless and excitable, and those who were dull and depressed. Typical of the irritable or positive type of mental disturbance (and almost pathognomonic of post-encephalitis) was the nocturnal restlessness associated with the inverted sleep rhythm which was so common in children. Positive symptoms of a more severe type were displayed by those older patients who were subject to maniacal outbursts or homicidal impulses. A different picture altogether was presented by the depressed or passive type of post-encephalitic patient. The backward child's inability to make any progress at school was due to a dulled intelligence, an impaired memory, and perhaps drowsiness, rather than to the restlessness, impatience, and lack of concentration which made teachers despair of the excitable type of child. Children in an advanced stage of Parkinsonism often provided examples of the passive type of case, but it was mainly adult patients who typically suffered from mental anergia. The mental disturbance in both the excitable and the depressed types might be severe enough eventually to justify certification; the excitable ones mainly for the sake of others, the passive ones mainly for their own protection. Up to the end of 1927 there had been admitted to mental hospitals and mental deficiency institutions 674 patients whose mental condition was caused by encephalitis lethargica. The subjects of demoralizations (Group III) were for the most part children and adolescents; through lack of inhibition they had become quite unmanageable at home, were given to lying and thieving, committed crimes against society, and found their way into reformatories or prisons. There was little or no intellectual impairment in the case of these children, though they often lacked the "capacity for mental comparison and discrimination"; they were morally defective, and exhibited startling changes, for the worse, in character.

The problems of post-encephalitis varied considerably according to the age of the patient. Released from the discipline and routine of hospital life, with a disposition strangely altered and with nocturnal restlessness as a prominent symptom, the young irritable child soon became an unmanageable nuisance; or, as the subject of Parkinsonism, he might be teased by thoughtless brothers and sisters, or scolded by impatient parents for a slowness of mind and body the significance of which was not understood. In either case the patient was out of place at home. In juveniles the question of education had to be considered, and, generally speaking, it was found that a return to their usual school was not practicable for children seriously handicapped by post-encephalitis. For some, the schools for backward children might provide the extra individual attention and patience required; unfortunately, however, the physical and mental consequences of the disease were so frequently accompanied by conduct changes that these children imposed an unjustifiable strain upon teachers, and might cause physical or moral harm to the other children. The resources of the Board of Education might then become exhausted, and it was in these circumstances, and for children with some prospects of improvement, that an encephalitis unit like that at Winchmore Hill—with its special arrangements for carrying on the child's education while under medical treatment and institutional discipline—seemed to meet a need. Industrial schools and reformatories had not, in the opinion of the Home Office, proved suitable repositories for the troublesome boy or girl. Of the 108 children admitted to these Home Office schools up to January 31st, 1927, 57 had been discharged, and of these 95 per cent. showed no improvement. Fresh difficulties arose when the youth, now over school age and

potentially more dangerous, was discharged from the Home Office school; he was more than ever unsuited for his home; he rarely gave satisfaction if placed out in employment; he might be tolerated for a time in a Poor Law institution if he consented to remain there; and, until the Mental Deficiency Act was amended at the end of 1927, it was seldom that such a case could be certified. Thus under the principal Act of 1913 it was not found possible to certify more than one-fifth of the juveniles under training in Home Office schools. Meanwhile, the ex-reformatory school inmate might come into more serious contact with the law, and as a result be placed in a Borstal institution, or he might be committed to prison. Borstal training had not apparently proved of much avail; but of the 72 post-encephalitic subjects who were admitted to prisons during the period April 1st, 1925, to March 31st, 1927, the Medical Commissioner reported that 54 "showed either no harmful effect from imprisonment or were definitely improved."

The adult post-encephalitic patient, suffering typically from physical infirmities or from mental anergia, was less prominent, though often presenting an anxious domestic problem. It might be the breadwinner who could not retain his old job, nor prove himself suitable for others, who then sat at home by the fire bemoaning his fate and becoming a burden on his family. Or it might be the wife, once the intelligent mainstay of the home, who had now become careless and lethargic, unmindful of her children and without any interest in her household duties. Such cases were not eligible for hospitals, nor were they welcomed in convalescent homes and such places. Eventually a certain number of these patients became certifiable, but a greater proportion found ultimate refuge in Poor Law institutions.

Further research into administrative methods was needed before it could be decided what were the best methods for dealing with these various types of post-encephalitis patient. For the present, it would seem that young subjects, under puberty, with slight psychic disturbance and whose general prospects were not hopeless, merited such institutional facilities as the Metropolitan Asylums Board had provided at Winchmore Hill; for many of the difficult adolescents the amended Mental Deficiency Act of 1927, it was hoped, would prove serviceable in securing for them adequate control and protection. That the lot of the uncertifiable adult could be lightened and his domestic anxieties relieved had been proved by the examples of Bristol, Glasgow, and other places, where, as the result of sympathetic co-operation between the various local departments concerned, special arrangements had been made for these patients in existing Poor Law institutions.

A MEETING of the Wolverhampton and District Clinical Club was held at the General Hospital, Wolverhampton, on April 17th. Dr. G. S. ASTON demonstrated clinically an instance of bilateral Charcot's joints, affecting the knees, in a patient with tabes dorsalis. Mr. S. MASLEN JONES described a case of hydramnios associated with uniovular twins, and criticized several theories accounting for the great excess of liquor amnii in this condition. Dr. W. R. SOMERSET exhibited the inhaler for closed ether anaesthesia which he has invented, and described various methods of using it. He emphasized the benefit of starting anaesthesia with ethyl chloride before passing on to full ether.

THE *Eugenics Review*, published for the Eugenics Society, has hitherto been circulated among members of that body only, but it has now been decided, in order to meet the growing interest which is believed to exist, to make the *Review* available to a wider public by placing it on sale in the ordinary way. For the April issue—the first to appear under the new regime—a more attractive format has been adopted. Among the contents is an extended report of the 1928 Galton Lecture on "Causes of Racial Decay" by Mr. C. J. Bond, of which a summary was published in our issue of February 25th (p. 315). A noteworthy feature, particularly of the editorial notes and book reviews, is the lively, not to say provocative, manner in which the various contributors deal with their subjects.

## Reviews.

### "TAYLOR'S MEDICAL JURISPRUDENCE."

IN preparing an eighth edition of *Taylor's Principles of Medical Jurisprudence* the publishers have very wisely submitted the work of revision to well-known authorities in both the medical and legal professions. A medical man, even though possessing extensive court experience and perhaps a law qualification, is bound to regard the subject from the medical aspect, and the advantage of having the legal viewpoint incorporated in this premier work cannot be overestimated. Especially is this the case in the present edition.

Professor SYDNEY SMITH is one of the few men who have devoted themselves entirely to the study of forensic medicine; he has enjoyed unrivalled opportunities for forensic practice in Egypt, where until recently he was the principal medico-legal adviser to the Egyptian Government. Together with Mr. W. G. H. COOK of the Middle Temple he has not only brought Dr. Taylor's famous work up to date, but has restored to it a great deal of the personal touch which is so apt to be lost when a book passes through the hands of a long succession of editors. Very much of the work is, of course, unchanged. We would have liked to see Professor Smith break away from the custom of previous editions, and include a description of the powers and functions of the General Medical Council and of the relations of the doctor to the State. A textbook of medical jurisprudence is perhaps the only place in medical literature which is suitable for a description and discussion of the legal obligations, penalties, and control to which a medical man submits himself when he places his name on the *Medical Register*, and we hope that an adequate account of this important matter will be included in the next edition.

Like other subjects in medicine, medical jurisprudence is growing, and its offshoots are tending to outgrow the parent. As in previous editions, much space has been devoted to insurance and workmen's compensation. These subjects have now grown to such an extent that they possess a literature of their own, and the question arises whether they should not be omitted from a book on medical jurisprudence. The subject cannot be dealt with thoroughly even in a work of these dimensions, and when "Taylor" ceases to be the authority on any question it indicates that, like public health, the subject has become a study on its own.

Professor Sydney Smith has made a special study of firearms, their identification, and the injuries they produce. His large experience of such cases has made him one of the chief authorities on this subject, and, as we should expect, the section dealing with gunshot wounds contains much fresh material. The other sections, especially that on identity, have likewise been stamped with the mark of personal experience. In the toxicological part of the work the description of gas poisoning, which has come into such prominence lately, has been thoroughly revised. This part of the book in general is well up to date. The legal aspect has been dealt with in an equally thorough manner, and in a way which gives the reader confidence in the legal views expressed. A reference to tetra-ethyl lead in motor fuel appears, though the recorded symptoms of industrial poisoning by this means are no doubt too recent to allow of a full description.

*Taylor's Medical Jurisprudence* needs no introduction or commendation: it is an essential book for any medical man to consult before appearing in a court of law. This new edition shows many improvements, though there are parts, notably in the description of the course to be adopted by medical men in cases of doubtful natural death, where a definite line of action would be preferable to a discussion. The additions and improvements in this eighth edition render it indispensable as a work of reference to anyone engaged in the practice of forensic medicine, and

<sup>1</sup> *Taylor's Principles and Practice of Medical Jurisprudence*. Edited by Sydney Smith, M.D., D.P.H. Eighth edition. With a complete revision of the legal aspect by W. G. H. Cook, LL.D., London: J. and A. Churchill, 1928. (Roy. 8vo, Vol. 1, pp. viii + 400, 39 figures; Vol. II, pp. v + 564, 4 figures, 63s. net.)

the editors are to be congratulated on the very successful manner in which they have completed a difficult task. To those who have a deep interest in the subject the happy thought of prefacing the book with a portrait of the great Taylor will be especially welcome.

### ANIMAL ORGANISMS AND THEIR ENVIRONMENT.

Man may have greater control over his environment than other animals, but he must remain one of the whole system of living things; it is impossible for him to avoid his relations with other beings and to remain cloistered in his own walls. Oecology (or ecology) is defined in the *Oxford English Dictionary* as "the science of the economy of animals and plants; that branch of biology which deals with the relations of living organisms to their surroundings, their habits, and modes of life, etc." A new science cannot arise or progress without stimulation. The scientific study of animal ecology is yet in its early stages, but in Mr. CHARLES ELTON'S book on this subject we find an accurately placed milestone of progress and encouraging views of lines for future advances. To many who read it the fascination of the subject may lie in its multitudinous ramifications, and its dependence on other, and not necessarily closely allied, sciences; others will find their interest in living creatures stimulated and perhaps, crystallized. All must admire the competence of the author and the clear way in which a complicated subject is so easily handled, so much so that at times one is tempted, as many of the pioneers in this field were tempted, to overlook the intricacy of the facts and the analysis of themselves. But the relevancy of the facts and the analysis of their implications are so astutely developed that the end-result of the treatment leaves no doubt as to its value.

The sequence of chapters is logically preserved, and the introductory synopses of each add greatly to the convenience of the reader. Those dealing with the numbers of animals and the variations in numbers should appeal strongly to the general reader, whose interests are also well provided for in the very representative bibliography; the discussion of "Methods" (chapter xi) has many morals of wide application, besides being of peculiar worth to the ecologist. Professor JULIAN HUXLEY is to be congratulated on this volume of the series of textbooks on animal biology which he edits—his introduction provides much food for thought—and Mr. Elton well deserves our thanks for his distinctive treatise.

### STRABISMUS.

In a large and profusely illustrated monograph entitled *Strabismus* Dr. OSCAR WILKINSON of Washington has treated the subject of squint in considerable detail. The moral running through the book is the importance of early treatment and the tragedy of allowing a cross-eyed child to grow up neglected until he arrives at an age when his deformity is incurable.

The book opens with an historical chapter full of interesting anecdotes dating from the time of Hippocrates. Then follow a summary of the various theories regarding the etiology of squints and a discussion of the anatomy and physiology of the ocular muscles and the physiology of vision. The various types of squint are then described; it is rather disconcerting to learn that there are forty-four of these. The clinical methods authorized in the detection and measurement of squint are clearly detailed, and the various methods used in the clinical investigation of the cases. The chapters dealing with the treatment of orthoptic cases are well written; much stress is laid upon orthoptic methods, the training of binocular vision, and the practice of the stereoscope. Many operative procedures are also described, including tenotomy, advancement, and recession. Precision in the extent of operative correction is insisted upon, but at the same time it is rightly pointed out that operation by itself merely gives a cosmetic result and does

not bring about a cure; there is only a mechanical relief of the deformity with the functional loss of the eye. Dr. Wilkinson's book is well written and beautifully produced. The beauty of its production, indeed, is its main drawback, for, considering the extent and scope of the subject matter, this has made its cost almost prohibitive.

### EXPERIMENTAL RICKETS:

*Experimental Rickets* is clearly a work to which the author, Dr. POUL FREUDENTHAL, has devoted a very large amount of labour. He has gone at great length into the literature of the subject, and describes a considerable mass of experimental work. There are, however, now so many monographs on medical subjects that addition to their number seems to need justification. Such justification could be offered for a work which presented new and important facts, which reviewed past and current literature in a convenient manner, or which furnished a compact and comprehensive survey of a wide field. Unfortunately we do not feel that the present volume fulfils these conditions. Of some 230 pages, 49 are devoted to an historical review, some 70 to the author's own experiments, and 71 to photomicrographs and diagrams. The remainder are distributed between "The pathogeny of A-avitaminosis," "Conclusion," "Summary," and a discussion of the importance of the conclusions reached the treatment of rickets. The historical review is extensive, but so badly arranged that it is impossible to distinguish important from unimportant findings. The author's discussion of his own results would be more convincing were it more sharply defined, instead of being intimately mixed with his views on the findings of others which should, one feels, have found a place in historical survey. The reader receives the impression that the author is unwilling to admit the existence of a rickets vitamin, as distinct from vitamin A, and it is quite clear how far he believes in the antirachitic value of ultra-violet light. While no sensible person will claim the existence of vitamin D, or its relationship to the existence of no discussion, yet both are supported by considerable weight of evidence. If the present position be challenged, it can only be attacked on the strong and direct evidence, and such evidence failed to discover in Dr. Freudenthal's book.

### MARIE'S COLLECTED PAPERS.

REFERENCE has already been made in our column volume, published in 1926, entitled *Travaux et* by Professor PIERRE MARIE, dealing with aph megaly, achondroplasia, and other affections of the A second volume has now appeared, and contains reprints of a number of papers which have been published from time to time to various periods of Professor Marie's career. The collection of original accounts of diseases which are described by him, or are intimately associated with his name, is divided into two main sections: in the first, prominence is given to three of the more important articles—namely, those on the Charcot-Marie form of "lacunae"; on hereditary cerebellar ataxy, and on cerebral "lacunae"; the second part contains articles on diverse diseases of the central nervous system, to which are appended several papers on various subjects, such as Graves's disease and skeletal deformities occurring in nervous affections. The article on the Charcot-Marie amyotrophy is that in which Marie separated off the disease as a distinct entity from other forms of progressive muscular atrophy. The same disease was subsequently described under the name of the peroneal type of muscular atrophy by Tooth, and by Hoffmann as neurotic muscular atrophy. The second article contains the original description of the then (1893) new clinical entity to which Marie gave the name of hereditary cerebellar ataxy, a condition related to Friedreich's ataxy.

\* *Experimental Rickets*. By Poul Freudenthal. Copenhagen: Levin and Munksgaard, 1927. (Sup. roy. 8vo, pp. 235; illustrated.)  
 \* *Travaux et Mémoires*. Par Pierre Marie. Tome deuxième. Paris: Masson et Cie, 1928. (Med. 8vo, pp. 393; 48 figures, 2 plates. 30 fr. 50 majoration.)

\* *Animal Ecology*. By Charles Elton, with an introduction by Julian S. Huxley, M.A. Textbooks of Animal Biology. London: Sidgwick and Jackson, Ltd., 1927. (Demy 8vo, pp. x + 207; 13 figures. 10s. 6d.)  
 \* *Strabismus*. By Oscar Wilkinson, A.M., M.D., D.Sc. London: H. Kimpton, 1928. (7 x 10, pp. 240; 120 figures. 42s. net.)

through transitional forms. The article on cerebral "lacunae" was the outcome of an observation of the relative infrequency of haemorrhages and softening in the brains of old hemiplegics, which Marie had special opportunities of observing. He found that in the majority of cases the lesions had the form of a number of spaces or lacunae, varying from the size of a millet seed to that of a bean, and situated in or near the grey centres or in the pons. He held the lacunae to be due to softening and degeneration, and the constant coexistence of arteriosclerosis suggested that this was a sufficient explanation; in some instances, however, the arteries in the feet were freely permeable, and Marie suggested, as a possible alternative explanation, that the softening resulted from an inflammation of the perivascular sheath, which was in all cases found to be considerably dilated. Post-mortem emphysema was definitely excluded. The present volume, like its predecessors, is full of interesting matter.

#### ANALYSIS OF THE FAECES.

DR. RENÉ GAULTIER has filled a gap in the long series of laboratory textbooks by his description of the clinical analysis of the faeces,<sup>6</sup> a third edition of which has been published. He starts with a careful account of the nature of the several faecal constituents in health, and discusses the factors concerned in their production. He then gives details of the various investigations, both macroscopic and microscopic, emphasizing the procedures which determine the presence or absence of abnormalities. Special attention is given to the general physical characteristics, substances derived from the food or from the digestive processes, bacteriology, and parasitology. The subject of the appearance of the different forms of fat in the faeces is treated with particular care, the conditions regulating their occurrence being defined in order that their diagnostic value may be made evident. Numerous illustrations are supplied, but in an English mind the absence of an index is regrettable. The information is given clearly and well, and the various methods are fully explained. The author has achieved the rather difficult task of relating laboratory investigations to clinical conditions without permitting the book to exceed a reasonable size.

#### NOTES ON BOOKS.

THE fourteenth edition of *Green's Manual of Pathology and Morbid Anatomy*<sup>7</sup> has been revised and enlarged by Dr. A. PINEX. Very few alterations have been made, except in the sections on nephritis and surgical shock, and the book still retains the form with which so many generations of students have been familiar. The original edition appeared in 1871, and was one of the first systematic introductions to English students of the cellular pathology associated with the name of Virchow. Since the publication of the last edition five years ago Dr. Thomas Henry Green has died. He had been unable to take part in the preparation of new editions for several years, but the tradition he established has been worthily maintained by a succession of subsequent editors. It has always been a favourite book with students, and is likely to remain so.

The transactions<sup>8</sup> of the second session of the Australasian Medical Congress (British Medical Association), which was held at Dunedin, New Zealand, in February, 1927, have now been collected and published in volume form. A summary of the proceedings appeared in the five issues of the *British Medical Journal* dated March 26th to April 23rd, 1927 (at pp. 584, 622, 670, 738, and 773), so that those who may have been attracted by any point mentioned at that time will now be able to obtain the full text of the papers, together with the discussions which took place. It may be recalled that the first session of the Congress was held at Melbourne in November, 1923. At the more recent gathering in Dunedin the Association at home was represented by Dr. Cooper Pattin of Norwich. It would be superfluous to attempt to detail the ground covered in the meetings of the

twelve sections; the range of subjects was almost coextensive with the field of modern medical science. The president, Sir L. E. Barnett, in his address, dealt with medical ideals and by criticism, and in a special meeting a series of papers on preventive medicine, the relation of the private practitioner to the State and to the hospitals, and national insurance was given. Considerable general interest attaches to the popular lecture on "The coming of the Maori" by Dr. P. H. Buck (Te Rangi Hiroa), director of Maori hygiene. In format and typography the volume is excellently produced, and useful indexes to speakers and subjects have been provided. The illustrations deserve special mention; there are numerous reproductions of diagrams, drawings, photographs, and skiagrams, many on special plates, which add considerably to the value of the various papers, and give an additional distinction to an interesting volume.

In content and format the 1928 edition of *The Yearbook of the Universities of the Empire*<sup>9</sup> maintains the now familiar style of earlier issues, and although a few pages have been added the volume remains still of a convenient size for a work of reference. Within its covers are compressed the central facts relating to some seventy establishments of university standing, with staff directories, information relating to curricula, degrees, diplomas, fees, etc., and various other matters. A useful appendix contains a guide to professions and careers open to persons possessing university qualifications, and others embody particulars of research grants and centres of research outside universities. The indexes are notably well arranged.

<sup>9</sup> *The Yearbook of the Universities of the Empire, 1928.* Published for the Universities' Bureau of the British Empire, London: G. Bell and Sons, Ltd. 1928. (Cr. 8vo, pp. xiii + 856. 7s. 6d.)

#### PREPARATIONS AND APPLIANCES.

##### HYOSCINE HYDROBROMIDE.

For the convenience of medical practitioners who wish to prescribe full doses of hyoscine hydrobromide for oral administration Burroughs Wellcome and Co. now issue "tabloid" hyoscine hydrobromide, grain 1/100 (0.00065 grm) in bottles of 100. "Tabloid" hyoscine hydrobromide 0.0005 gram (grain 1/220 approximately) has been issued for many years, as have also several strengths and combinations for hypodermic use.

##### A SYRINGE FOR INJECTING VARICOSE VEINS.

In giving injections for the chemical sclerosis of varicose veins the ordinary "record" syringe of two or three cubic centimetres capacity, with very fine hypodermic needles, has been the instrument of choice amongst practitioners, though it has the following disadvantages.

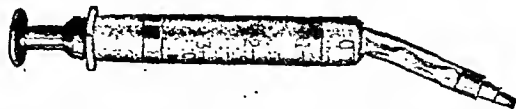
(1) The needle of a "record" syringe is in direct line with the barrel, so that the latter, more particularly in the case of awkwardly situated veins, is apt to obscure the segment of the vessel to be injected.

(2) As a proof that the lumen of the vein has been entered a little blood must be aspirated along the needle into the syringe. This blood, by mingling with the sclerosing fluid in the barrel, fouls it for subsequent injections.

(3) The graduations found upon the "record" syringe are not particularly adapted to the technique.

In an effort to overcome these disadvantages Drs. Katherine Cellan-Jones and C. J. Cellan-Jones (North Shields) have recently had made a modification of the syringe produced by Katz some years ago, and after a test period of three months they are satisfied that this syringe is a most useful and reliable instrument.

As shown by the accompanying illustration the syringe has a



glass barrel and piston, the former graduated in capacities of one-quarter of a cubic centimetre, the latter coloured dark blue for convenience in gauging the amount of a colourless fluid which is to be injected. The lower end of the barrel passes into a glass capillary tube bent upon itself and possessing, towards its extremity, two small dilated chambers. A white opaque background has been introduced in the length of the capillary in order to render the appearance of a minute column of blood more easily visible. The metal nozzle of the syringe, which snugly fits all sizes, and makes of hypodermic needles, has the same coefficient of expansion as glass, thus readily allowing of sterilization by boiling. A metal safety catch situated beyond the graduations fits lightly into a groove upon the piston, and prevents the latter from falling accidentally from the barrel.

When a vein is entered blood can be aspirated along the capillary tube into the ampullae, and when subsequently an injection is made the blood is forced back into the vein, leaving the remaining fluid in the barrel clear and untinted. In this way six or more injections may be conveniently administered without having to change or wash out the syringe.

This instrument has been manufactured for Drs. Cellan-Jones by Braun and Co. of Melsungen, Germany; the London agents are Adair Duff and Co., 47, Victoria Street, S.W.1.

<sup>6</sup> *Précis de Coprologie Clinique.* Par Dr. René Gaultier. Préface de Professeur Albert Robin. Troisième édition, entièrement retouchée. Paris: J. B. Baillière et Fils. 1927. (Post. 8vo, pp. 367; 105 figures, 7 plates. 54 fr.)

<sup>7</sup> *Green's Manual of Pathology and Morbid Anatomy.* Revised and enlarged by A. Pinex, M.D., M.R.C.P. Fourteenth edition. University Series. London: Baillière, Tindall and Cox. 1928. (Demy 8vo, pp. viii + 650, 261 figures, 8 plates. 21s. net.)

<sup>8</sup> *Australasian Medical Congress (British Medical Association): Transactions of the Second Session, Dunedin, Sydney: The Australasian Medical Publishing Co., Ltd. 1928. (Demy 4to, pp. lviii + 277; illustrated.)*



# British Medical Journal.

SATURDAY, MAY 5TH, 1928.

## BRITISH LARYNGOLOGY.

THE invitation extended to Sir StClair Thomson by the president of the American Laryngological Association—the most exclusive body of its kind in any country—to give the address of honour on the fiftieth anniversary of its foundation, is a pleasant reminder of the cordial relations existing between the medical profession in the United States and in Great Britain.

The address itself, which may be found in full in the opening pages of our present issue, deals with the treatment of intrinsic cancer of the larynx by the operation of laryngo-fissure, a subject which the orator, by teaching, demonstration, and research, has made peculiarly his own. He is now able to trace the fate of seventy patients subjected to this method of treatment, a record which is unequalled either in point of numbers or in results. There is little likelihood that it will ever be equalled in numbers, for intrinsic laryngeal cancer is a relatively uncommon disease, and there are now so many competent followers of Sir StClair Thomson's teaching and technique that cases suitable for this operation will doubtless in future be distributed between numerous well-trained operators. It is more profitable to inquire whether the results are likely to be equalled or surpassed. Sir StClair Thomson admits an immediate death rate of 4 per cent.—that is, three post-operative deaths in seventy cases—yet if the case-histories of these three patients are carefully studied it will be noticed that in all of them death was only indirectly due to the operation. The full and accurate record demands a technical mortality of 4 per cent. Here, as often, the statistics prove a *mensonge en chiffres*, for the direct mortality of the operation has in reality been nil. There is therefore no challenge to be feared in this respect.

Of all the 70 patients thus treated, 34 are now alive, and of these 32 have survived from three to nineteen years from the date of operation without recurrence; 18 patients have died from other causes without recurrence, 7 have died from malignant disease elsewhere, and 11 have died from local recurrence. The record must be studied in detail to appreciate the real significance of these figures, which give 76 per cent. of lasting cures. The pioneer work on this truly conservative operation was performed by Butlin and Semon in this country, but there was no finality about it, for in some respects they left it in an unsatisfactory state; and so here again, without in any way detracting from the merits of what has already been accomplished, it may be that, based on the experience gained and faithfully recorded in these seventy cases, this 76 per cent. of lasting cures may be raised still higher. Brilliant as it is for any series of cases of malignant disease, and making allowance for certain favourable peculiarities about cancer in this part of the body, it is yet possible that the knowledge gained by the study of Sir StClair Thomson's seventy cases will enable laryngologists to make an even better selection of cases for this operation, and so raise the percentage of lasting cures. Each of these cases,

however, has been studied so carefully and exhaustively, and the operative results have been so good, that it really seems as though there is but little more to be done in this particular direction.

The paper by Sir Charles Ballance and Mr. Lionel Colledge, which also appears in this issue of the *British Medical Journal*, brings to a definite conclusion a certain line of investigation into the possibility of treating laryngeal paralysis by means of nerve anastomosis. The earlier stages of this experiment will be familiar to many of our readers, for they have been recorded in these columns. A bilateral anastomosis between the phrenic and cut recurrent laryngeal nerves in a monkey resulted in complete restoration of synchronous movements to the vocal cords, and the animal was kept for three years, the result being confirmed by repeated examinations before Dr. Harvey Cushing and the late Sir David Ferrier and Sir Frederick Mott, among others. The animal has now been killed, and microscopic examination of the larynx shows complete recovery of the muscles and nerves concerned. Proof of the functional success of this experiment is thus confirmed by histological examination, and, further, it has been possible, as the direct result of experimental work, to apply the method to the relief of symptoms caused by bilateral abductor paralysis of the larynx in a human being.

These two papers, the one recording a purely clinical research, the other almost entirely confined to a laboratory investigation, show that British laryngology is well able to maintain its position. They should be an encouragement to the younger laryngologists in this country to carry on the torch.

## PURE MILK PROGRESS.

Much energy and ingenuity have been spent in recent years in the attempt to improve the purity of the milk supply of this country. It is satisfactory to learn from an article by Dr. R. Stenhouse Williams, research professor in dairy bacteriology in the University of Reading, and Mr. W. A. Hoy of the same university, printed in the *Journal of State Medicine*,<sup>1</sup> that in their opinion substantial progress has already been made. From a series of tables dealing with the milk supply of various large towns and of large distributing agencies these research workers show that the number of farmers producing milk with low bacterial content has increased very largely during the past five or six years. Thus with one firm in Birmingham the number of farmers supplying milk containing on an average fewer than 10,000 bacteria per cubic centimetre was only 2 in 1922 and as many as 69 in 1926. Between April and August, 1927, one firm in the Midlands supplied milk which consistently gave a count of below 200,000 per cubic centimetre on arrival in London, and several other farms in the same area had nearly as good a record. A very large number of samples in various districts stood the *Bacillus coli* test, though an examination of the tables published shows that it is more difficult to eliminate coliform organisms than to reduce the count.

Professor Stenhouse Williams and his fellow workers in the National Institute for Research in Dairying at Reading are impressed by the excellence of the work of which the milk industry is now capable. He calls attention to the encorniums, in a recent issue of the *Journal of the American Medical Association*, on Great Britain's long list of large cities free from a single

<sup>1</sup> *Journal of State Medicine*, vol. xxxvi, No. 2.

death from typhoid fever; and he attributes the improvement in the purity of the milk supply in this country to two stimuli—wise advice concerning proper methods of handling milk, and a financial stimulus. He finds that the object has been furthered by county clean milk competitions, which were originally started in Essex by the Howards Dairies; by the advisory bacteriological posts set up under the auspices of the Ministry of Agriculture in provincial centres; by the Ministry of Health's system of granting licences to those who wish to produce a better quality of milk; and by the educational facilities now provided and increasingly made use of at such places as the Chelsea Polytechnic. Through these means very remarkable work is being accomplished, even by tenant dairy farmers who do not possess adequate chilling facilities for use during the summer months.

Owing to the difficulty now experienced by farmers in obtaining skilled milkers, two other research workers at Reading University, Mr. A. T. R. Mattick and Mr. F. Proctor, have been investigating the production of milk of low bacterial content by means of milking machines. The difficulty with this method of milking has been to keep the parts of the apparatus clean; so that, as with the old-fashioned domestic water filter, more germs were liable to come out at the exit than entered at the inlet. The observers used for their experiments, which are described in a recent issue of the *Journal of Hygiene*,<sup>2</sup> two units of an Alfa-Laval milking machine, one of which was washed with water, first cold and then at 185° F., while the other, after preliminary washing, was sterilized by steam. It was found that extraordinary fluctuations occurred in bacterial counts, whether the apparatus was sterilized or merely washed. Investigation showed that the contamination took place from water in the vacuum pipe line, from which bacteria found their way into the milk receivers, although a check valve was provided in the lids. By adopting a simple method of traps to the pipe line, and turning all vacuum supply taps upwards, the observers were able to obtain remarkably low bacterial counts in milk, especially with the sterilized unit, even twenty-eight hours after milking. They are convinced that milk with small bacterial content and of good keeping quality can be produced by the use of milking machines; that the milking units and their rubber components can be sterilized successfully by steam; and that contamination from pipe lines can easily be prevented by their methods. They found also that milking machines had no adverse effects on the cows or on their milk yield.

Thus the dairying industry, as Professor Stenhouse Williams remarks, has made great strides since the days when a few people like Mr. Wilfred Buckley were producing clean milk and creating their own markets without official support. On the one hand, there is an increasing desire to make use of scientific knowledge, not only among large firms, but in many much smaller businesses; on the other hand, there is the growing recognition that better work is worth more money. These two factors, operating side by side, have caused a marked improvement in the cleanliness of our milk. Continued collaboration between farmers and dealers, working in close touch with those who are studying their problems in the laboratory, should lead to further progress all along the line. As knowledge increases we may expect the high standard of efficiency already reached by the licensed milk producers in forward areas like Reading to be attained throughout the country at large.

<sup>2</sup>*Journal of Hygiene*, vol. xxxvii, No. 2.

# AN INTERNATIONAL COMMITTEE FOR RESEARCH ON INFANTILE PARALYSIS.

AN international committee for the study of infantile paralysis has recently been formed under the chairmanship of Dr. W. H. Park, director of the Bureau of Laboratories of the New York City Health Department. Arrangements have been made for a concerted three-year attack on the difficult problems of prevention and therapy presented by this formidable and crippling disease. To enable research to be conducted at a number of centres in the United States and in Europe, a sum of 250,000 dollars has been contributed by Mr. Jeremiah Milbank, a prominent New York financier who takes an active personal interest in hospitals and charities. The following centres have been chosen for the proposed researches: Bureau of Laboratories, New York City Health Department; the pathological institutes of Columbia, Harvard, and Chicago Universities; the Pasteur Institute, Brussels; and the Lister Institute, London. These various institutes are represented on the international committee by their respective heads. The personnel of the committee is as follows: Chairman, Dr. W. H. Park; vice-chairman, Dr. Joseph A. Blake (New York); Drs. E. O. Jordan and Ludvig Hektoen of Chicago University; Drs. F. P. Gay and Frederick Tilney of the College of Physicians and Surgeons, Columbia University; Drs. Milton J. Rosenau and Hans Zinsser of Harvard University; Dr. Lee K. Frankel of the Metropolitan Life Insurance Company; Sir Charles J. Martin of the Lister Institute, London; and Dr. Jules Bordet of the Pasteur Institute, Brussels. Mr. Samuel M. Greer and Dr. Josephine N. Neal will act respectively as treasurer and secretary, and the committee's headquarters will be Dr. Park's office at the Bureau of Laboratories, East 16th Street, New York. Directors of research at each selected centre will be free to initiate such investigations as seem to them desirable and within the compass of their respective institutions. The results of such researches will, however, be studied and co-ordinated by the international committee, and will thus constitute a joint piece of work. At the Lister Institute special arrangements are being made for research on poliomyelitis under the direction of Professor J. C. G. Ledingham. It would be difficult to overestimate the importance of this venture. In no field is new knowledge more urgently desired than in that of the neurotropic viruses, but the necessity of employing monkeys for the experimental study has impeded progress by reason of the heavy cost involved. It is nearly twenty years since Landsteiner showed that the virus of poliomyelitis could be transmitted to monkeys, but the little knowledge since gained of this and other neurotropic viruses has not materially clarified the preventive and therapeutic outlook. The present time is very favourable for a new attack on the problem. The last decade has witnessed very considerable developments in our knowledge of virus diseases, and methods of attack which have proved of promise in the investigation of certain other viruses may well be exploited in that of poliomyelitis. The generosity of Mr. Jeremiah Milbank in making the new venture possible will be widely appreciated.

## ARTIFICIAL HUMIDITY IN COTTON CLOTH FACTORIES.

THE effect of artificial humidity on the health of cotton weavers has been a controversial question between employers and employed for rather over fifty years, so that on the introduction of the Factory Bill of 1925, which contained clauses dealing in some degree with this matter, it was considered opportune to have a conference of both sides under Home Office auspices with a view to final settlement of the differences. Although the operatives still insisted upon total abolition of artificial humidity, and the employers claimed not only that such action could not be justified,

but that it would destroy an important branch of the industry, both parties were able to agree that a Departmental Committee would be a suitable body to decide the questions at issue. The committee was set up immediately, and on the scientific side included Professor Leonard Hill, Mr. F. T. Peirce of the British Cotton Industry Research Association, and Mr. D. R. Wilson of the Industrial Research Board. The report<sup>1</sup> has now been issued, and should, on the whole, give satisfaction. To cover the points of inquiry agreed upon by the conference, investigation was made on (1) the extent of mortality and sickness among weavers in selected areas, (2) the effect of total abolition on trade, (3) the extent of foreign competition and restrictions against humidity in other countries, (4) whether improved sizing could replace humidity, (5) the effect of humidity on fatigue and productive efficiency, and (6) the effect of air movement in reducing discomfort. The obtaining of reliable information respecting the health of weavers in both sections of the industry was necessarily regarded as the keystone of the inquiry. The requisite mortality figures for males for the period 1921-22-23 were obtained from the Registrar-General, and though these are not given in the report they are presumably similar to those published elsewhere.<sup>2</sup> They are distinctly against the humid shed, but, acting on the views expressed by such eminent witnesses as Dr. T. H. G. Stevenson, Professor M. Greenwood, Dr. Daley, and Dr. A. B. Hill, the committee is of opinion that the figures are too small to admit of any definite conclusion being formed. The duty of obtaining morbidity statistics was delegated to the Industrial Fatigue Research Board, the report, drawn up by Dr. A. Bradford Hill, being reviewed in these columns on January 14th last (p. 65). The committee expresses agreement with the findings, which were to the effect that there is no evidence that employment in humid sheds gives rise to more sickness than employment in non-humid sheds. Bearing in mind the mortality returns (so far as they are helpful) and the evidence of Sir Thomas Legge and others, it is concluded that one class of shed is no more dangerous to health than the other. Regarding the effect of humidity and of sizing on the tensile strength and extension properties of cotton, Mr. Peirce, a member of the committee, produced evidence which should convince the most conservative employer that he need not go beyond reasonable limits of temperature and humidity to weave his cloth effectively. It appears that humidity has much more effect on cotton yarn than has temperature; it increases the strength and extensibility markedly up to a limit of 80 per cent., but at a less rate over this; short staple cotton seems to be the most sensitive to humidity. The sizing of yarn is regarded as effective for its purpose, but the suggestion that it could be sufficiently improved to serve as a substitute for humidity is strongly negatived. It is therefore agreed that, whilst humidity is essential for the production of certain classes of cloth, the abuse of this agent could be further regulated with advantage. That foreign countries are competitors, and do not so far regulate the use of humidity, is agreed. Mr. S. Wyatt, who gave evidence, has previously shown in a report to the Industrial Fatigue Research Board that excessive humidity does produce fatigue and diminishes efficiency, and as a result of later experiments, carried out for the committee, he has found that the highest output was obtained at a dry bulb temperature of 72½° to 75°, and with a relative humidity of 75 to 80 per cent. Reference is also made to this observer's investigations on production of effective inside air movement by having paddles attached to the

shafting. The use of these is recommended for improving working conditions when the temperature becomes excessive, as in summer time, the assurance being given that air movement has no detrimental effect on the yarn. Alterations and additions to the regulations are recommended: the words "humid shed" to be replaced by "weaving shed," thus abolishing the present distinction, and power given to the Chief Inspector to grant relief to sheds where conditions are satisfactory; artificial humidification to cease at 72½° wet bulb, instead of 75°; weavers to cease work and leave the shed if wet bulb temperature exceeds 80°; the minimum dry bulb temperature to be 50° for the first half-hour of the day and 55° for the rest of the day; plans for conversions or new sheds to be submitted by the local authority to the superintending inspector of factories before sanction; provision to be made for continuing ventilation during the meal time and after work is finished; suitable cloakrooms to be provided for all sheds; air intakes for ventilators to be better designed and placed. Acting on the evidence of Professor Leonard Hill and Dr. Vernon, it was not considered advisable to adopt a "kata" standard for the sheds.

#### MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION.

A MEETING of the Council of the Medical Women's International Association was held at Bologna on April 11th, and was followed on April 12th, 13th, and 14th by an open meeting, at which papers were read on medical measures for the protection of children and young persons in the various countries, and on diseases of the eye in relation to general medicine. There was an attendance of some 120 medical women representing fourteen different countries, and papers were also received from eight other countries which were unable to send delegates. Spain and Sweden, which have quite recently formed affiliated associations, sent fully accredited delegates for the first time, and Japan, where there are over 1,000 medical women, contributed a specially printed paper in German on the protection of children. The meetings were held in the old anatomical theatre of the "Archiginnasio," which has been preserved as a historical monument for the last hundred years, since the transfer of the University to newer buildings. It dates from the sixteenth century, and is entirely panelled in cedarwood, while the rostrum, from which the papers were read, is supported by two carved anatomical figures. At the further end is the grille, behind which the inquisitor watched proceedings in the seventeenth century. The local committee, in co-operation with the municipal and central authorities, had made the most generous and extensive arrangements for social entertainment and for visiting the various hospitals, including the famous orthopaedic institute, the Istituto Rizzoli. The Queen of Italy had consented to give her name as patroness of the conference, and a "committee of honour" had been formed with Signor Mussolini as honorary president and Signor Turati, secretary-general of the Fascio, as vice-president. An impressive inaugural ceremony was held in the library of the old University, at which speeches were made by the prefect, representing the Italian Government, the podesta of Bologna, and Professor Viola, president of the Faculty of Medicine. Lady Barrett, president of the Medical Women's International Association, replied. An afternoon reception was given by the podesta and the municipal authorities in the fine old town hall, which was decorated with the flags of all the nations, and on the evening of April 13th a dinner for 200 people, followed by a concert, was given at the Fascist headquarters of Bologna by the women's section. It was attended by all the foremost personalities of the town and University of Bologna, speeches being made by the prefect, the vice-podesta, Dr. Carepino Ferrari, president of the Italian

<sup>1</sup> Report of the Departmental Committee on Artificial Humidity in Cotton Cloth Factories, with Appendices. London: H.M. Stationery Office, 1928. 1s. 3d. net.

<sup>2</sup> Registrar-General's Decennial Supplement, 1921, Part II, pp. lxxvii and 115.

Association, and Dr. Lea Giorgi, chairman of the local committee. Miss Martindale replied on behalf of the Medical Women's International Association. Receptions were also given by the local committee of medical women, and by the officers of the International Association (Lady Barrett, Dr. Jane Walker, and Miss Martindale), at the Hotel Brini. A notable and most enjoyable week closed with expeditions to Ravenna and Rimini, where the municipal and medical authorities gave a hospitable welcome. At Ravenna lunch was provided in tents in the famous pinewood of Dante, and speeches were made, both in Latin and Italian, by the prefect and others. At Rimini the chief medical officer of health and other local doctors met the medical women at the station, and, after a reception at the town hall, they were conducted over the large children's convalescent home which lies by the sea. All who attended the international meeting came away with grateful memories of the hospitality of the Italians and admiration for their powers of organization on a large scale.

### SEA-SICKNESS.

SEA-SICKNESS, its causes and treatment, is a subject of perennial interest. Its symptoms are only too well known to the victims, though they are difficult to describe accurately to those who have never experienced them. Their explanation is by no means simple. We print on page 752 a short article by Dr. R. Allan Bennett which sums up in a convenient way a good deal of experience in this matter, which is one of real importance; for the condition may make a voyage a misery, and with the great majority of travellers by sea materially detracts from the pleasures of anticipation. The cause of sea-sickness is certainly not merely fear or anticipation, though these may greatly increase the liability. With a moderate ocean swell the milder symptoms may be experienced in mid-voyage by one who has till then been so happy that he is not even thinking about their possibility. The undue celebration of farewell by the medium of meat and drink is clearly inadvisable, but Dr. Bennett's 88 per cent. of patients who had over-eaten either before or during the voyage does not seem to differ significantly from the percentage of the ordinary non-suffering population at sea or ashore who do the same thing. As regards prevention, the avoidance of constipation and the cultivation of confidence appear to be the chief things necessary. The latter may be aided by the preliminary swallowing of a capsule or by any weird device in which the individual believes. Cross-channel passengers have been known to assert that they have avoided all discomfort by keeping one eye closed throughout the passage, or by the continuous eating of apples. A prophylactic mixture containing bromide and chloral with aromatics, sometimes appears to be of real help to the nervous passenger on the longer cross-channel trips, and chloretone has helped others, though its after-effects may be disagreeable, as is true also of some of the much-vaunted proprietary remedies sold at fancy prices. In longer voyages the consensus of opinion among stewards and stewardesses, if there be such consensus (for we understand that nowadays the ship's doctor is not usually consulted), may not be a bad guide to treatment. This, added to personal experience, tends to suggest that the horizontal position and fresh air are the two main requirements. The former is best secured in one's cabin, the latter on deck. This necessitates a nice adjustment of the balance of advantage. Dr. Bennett's dictum, that "however cruel it may seem, patients should be driven out of their cabins into the fresh air," will not be universally accepted. In the less severe cases, and with moderate weather, it is no doubt true, and should be acted upon; but in the presence of severe symptoms and weather there may be much to be said in favour of no attempt to get up. Moreover, if one has to suffer, it is usually preferable to suffer in seclusion. If

musea be very great one or two moderate doses of champagne often give most relief, or, as a second best and if the idea be not too revolting, dry ginger ale. Beyond these things, as a rule, there remains no resource other than an appeal to an unfeeling captain for a judicious choice of weather.

### THE CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

THE programme of the fourteenth triennial session of the Congress of American Physicians and Surgeons, which was held at the beginning of this week at Washington, D.C., has just reached us. This assembly differs in its constitution from any gathering of medical men with which we are familiar in this country, for it consists of fifteen constituent associations and societies, which hold their annual meetings every third year simultaneously and in one place, and devote the time of two meetings of the Congress as a whole to the discussion of subjects of general interest to all the fifteen component parts. In fact, the Congress resembles an Annual Meeting of the British Medical Association, but differs from it in the fact that except for two days in three years each of the sections leads an independent life. The programme is a very full one, and after looking through it we are not surprised to find that a proposal is to be brought forward at the request of the American Pediatric and the American Gynecological Societies to make the meetings of the Congress quinquennial in future. The amount of correspondence and discussion necessary to arrange such a programme may well require a longer interval for recuperation than three years. The membership of the component associations includes many Canadians, whose contributions to the programme show that they are by no means inactive. Certain European physicians and surgeons also appear among the readers of papers. Dr. J. W. Kernohan of Belfast spoke (by invitation) on encephalitis periaxialis diffusa before the American Neurological Association, and Mr. Harry Platt of Manchester read a paper on peripheral nerve complications of certain fractures before the American Orthopaedic Association—a subject full of interest just now when the treatment of fractures is so much discussed. Sir St. Clair Thomson contributed the address on laryngo-fissure for cancer which appears in our present issue and is discussed in a leading article, and Dr. S. A. Kinnier Wilson of London spoke on organic nervous disease in identical twins, reporting on four sets of such which have come under his observation. The name of only one continental European surgeon appears in the programme—namely, Dr. René Leriche of Strasbourg, who has reviewed the surgery of the sympathetic nervous system before the American Surgical Association. There are many subjects of interest mentioned in this programme, and as some of the entries are accompanied by brief abstracts an idea may in those cases be gleaned of the probable nature of the contributions. The remarkable case of Miss Helen Keller is the subject of papers in the otological and the neurological sections. It will be remembered that this patient, who had been blind, deaf, and dumb from infancy, was trained to a very high degree of knowledge and culture by the devoted efforts of Miss Sullivan of the Perkins Institution at Boston, on the lines followed by Dr. S. G. Howe in the teaching of Laura Bridgman, whose brain is to be the subject of discussion by the American Neurological Association. Before the same society a paper is to be read on Charles Darwin and Joseph Leidy of Philadelphia. The abstract postulates the equal importance of these two writers as "the two greatest biologists of the nineteenth century," showing how much a change of some seventy-five degrees of longitude may have on estimates of the relative importance of scientific achievements.

\* See *Man's Miracle*. The Story of Helen Keller and her European Sisters, from the French of Gerard Harry. Published by W. Heinemann, 1914.

## CONFERENCE ON RHEUMATIC DISEASES.

ARRANGEMENTS have now been completed for the Conference on Rheumatic Diseases to be held at Bath on May 10th and 11th, of which we gave preliminary particulars on March 24th (p. 510). The programme has been drawn up with great thoroughness, and everything points to a very successful and profitable series of discussions. The three main sessions, devoted respectively to social aspects, causes, and treatment, will be presided over by Lord Dawson of Penn, Sir Humphry Rolleston, and Sir Farquhar Buzzard. The scope of these discussions will embrace rheumatic fever, both acute and subacute, chronic multiple arthritis, fibrositis, and degenerative arthritis. The proceedings will open on Thursday, May 10th, at 2.30 p.m., with a civic welcome by the Mayor of Bath, Alderman Cedric Chivers, and an inaugural address by Sir George Newman, president of the conference. The programme of social entertainments includes a dinner party given by the Mayor at the Guildhall on Thursday evening, followed by a *conversazione* at the Pump Room, when the guests will be received by the Mayor and the Mayoress (Madame Sarah Grand); and a luncheon on Friday, given by the chairman and members of the Bath Division, British Medical Association. On Saturday the Bacteriological Section of the Royal Society of Medicine will hold its annual meeting at Bath, when demonstrations will be given at the Hot Mineral Baths and Royal Mineral Water Hospital. These will be open to all those attending the Conference on Rheumatic Diseases.

## A CORONER'S JURY AND HOSPITAL ARRANGEMENTS.

No particular authority attaches to the rider of a coroner's jury. It is, in fact, as a rule a generalized expression of opinion based on the circumstances disclosed in the one incident with which they have been concerned. Like most generalizations from a single instance in any branch of investigation, the presumption is that it is wrong. When, however, such a rider is encouraged and endorsed by the coroner it becomes of somewhat more importance, for the coroner is a man with either a medical or a legal training, or both, who has probably had experience of many inquests. Nevertheless, even then the idiosyncrasies of the coroner have in some cases to be borne in mind. There is perhaps some justification for taking public note of the rider added by a jury to their verdict of "Death from natural causes" at a recent inquest upon the death of an elderly man who had been brought to Guy's Hospital and, after a careful examination, sent thence to St. Giles Hospital, Camberwell. After saying that the house-officer who saw the patient "showed all due care, and that no blame was attached to him," the jury added that "they considered that the system which allows patients to be transferred from one hospital to another on the opinion of one doctor only (and that a junior house-officer) is gravely unsatisfactory, and that no patient should be so transferred without being seen by two resident officers, both of whom should initial the removal papers." The coroner himself asks that the hospital authorities will inform him what steps they propose to take with the view of preventing such "regrettable occurrences." He will no doubt receive a courteous, and perhaps a reasoned, reply, but the medical committee of the hospital and the profession generally can scarcely be expected to do other than dissent from the implications of the rider and the request. These appear to be two: (1) That there is some legal right to question the propriety of a practitioner undertaking an ordinary medical service by reason of his age or experience; and (2) that the decision as to how a patient is to be dealt with must in no case be made on the authority of a single practitioner. With regard to the former it is sufficient to

say that it is registration by the General Medical Council which determines the legal status of a medical practitioner. All such practitioners are, in law, upon an equality, and any legal inquiry as to competence should be tested by that criterion. To adopt any other attitude would result in the subjection of every medical practitioner to a challenge as to competence, which is irregular in law and would be variable in practice. With regard to the second implication, it is enough to point out that decisions in every way comparable to those referred to have to be made, not merely at hospitals, but by every private practitioner in active practice every day; and that to accept a recommendation such as that of the coroner's jury would not only entail absurd administrative inconveniences, but would belittle the ordinary responsibility of registered medical practitioners in general, or would at least cast a grave reflection upon the competence of hospital medical officers in comparison with other members of their profession.

## A CAUSE OF NATURAL VARIATION.

THE occurrence of occasional variants and the perpetuation of them by natural selection is a fundamental conception of the Darwinian theory, and various causes have been suggested for this natural variation. There are probably a multiplicity of factors at work. In a short note in *Nature* A. R. Olson and G. N. Lewis<sup>1</sup> of the Chemistry Department of the University of California direct attention to an agency which they believe plays an important, if not a predominant, part in producing variations among plants and animals. It has been shown that the treatment of the fruit fly and the tobacco plant by  $x$  rays produces new and permanent varieties far in excess of those normally occurring, both as regards number and difference from the parent. When a bud of the tobacco plant was irradiated 80 per cent. of the resulting seeds which germinated were decided variants, the variation from one planting being greater than what had been noted in the normal plant for over a quarter of a century. Not all of the variants were fertile, but others seemed to be more fertile than the normal plant. The authors believe that such variations as actually occur in *Nature* are largely due to the reactivity of the environment. Their suggestion is an interesting one, but would be more captivating if it could be shown that there was an unusual variability of the fauna and flora in places where radio-active materials occurred in abundance.

THE Morison Lectures will be delivered before the Royal College of Physicians of Edinburgh by Dr. John Carswell on Monday, Wednesday, and Friday, May 7th, 9th, and 11th, at 5 o'clock. The subject this year is "Psychology and medicine."

THE second St. Cyres Lecture will be given by Professor K. F. Wenckebach in the Barnes Hall of the Royal Society of Medicine on Wednesday, May 16th, at 4.30 p.m. The subject will be "The heart and circulation in a tropical avitaminosis (beri-beri)." Tickets of admission may be obtained from the Secretary of the National Hospital for Diseases of the Heart, Westmoreland Street, W.1.

A Scientific Evening will be held at the Royal Free Hospital on May 9th, at 8.30 p.m., when various demonstrations will be given and cinematograph films shown. Further information may be obtained from the secretary at the hospital, Gray's Inn Road, W.C.1.

<sup>1</sup> *Nature*, April 29th, 1928, p. 673



## ANAESTHESIA BY THE RECTAL INJECTION OF OIL AND ETHER AND OTHER DRUGS.

A REVIEW of the present position as regards the rectal administration of ether and oil as an anaesthetic in surgical practice, and of morphine, magnesium sulphate, and ether analgesin in surgical and obstetric practice, by Dr. Robert A. Hatcher, professor of pharmacology in the Cornell University Medical College, has been published as a series of special articles, which opened in the *Journal of the American Medical Association* for December 17th, 1927.

### I.—RECTAL OIL-ETHER ANAESTHESIA.

Professor Hatcher deplures the fact that Gwathmey, its originator, should have attempted to develop the method without adequate animal experimentation, with the result that theories have been based on erroneous views, and accepted and repeated by later writers; he proceeds to quote numerous extracts from the literature of the subject, and, after discussion, to summarize his conclusions. These are as follows.

1. That oil-ether mixture is an advance over other methods of rectal or colonic administration.
2. That anaesthesia is readily induced with mixtures of varying proportions, but in practice a mixture containing equal volumes of oil and ether is probably the most suitable, since resultant bowel irritation is less than when higher percentages of ether are used.
3. That the bowel must be washed out immediately after the operation is over, and all residual mixture removed. Prior to introduction of the mixture the neighbouring skin must be adequately protected from possible leakage of oil and ether by smearing the parts with vaseline.
4. That ether is absorbed from the colon and not from the rectum; consequently the warmed mixture must be introduced slowly for a period of some ten minutes high up into the colon proper.
5. That the advantages of the method are: (a) It spares to some extent the respiratory passages. (b) There is less salivary and bronchial secretion. (c) It lacks certain disagreeable features of ordinary inhalation methods. (d) The excitement stage is often lacking, and when present is usually of short duration. (e) There is less nausea and vomiting during anaesthesia and after operation. (f) There is a clear field left for the operator in head and neck cases.
6. That the disadvantages of the method are: (a) The depth of anaesthesia is not under perfect control, as is the case with inhalation anaesthesia, and in certain cases this fact may outweigh all advantages. (b) There is always some intestinal irritation after administration, and in a small number of cases this may be severe and accompanied by haemorrhage, and may even end fatally. (c) There is greater injury to the liver with this method than with inhalation anaesthesia when similar quantities of ether are administered.
7. That it shares with inhalation anaesthesia the following drawbacks: (a) It has the same pharmacological contraindications. (b) It cannot be used in a room with an open flame. (c) The patient has to be kept under observation until consciousness returns, and in the case of oil-ether anaesthesia this period may be prolonged. (d) It often needs preliminary medication such as morphine injections, or subsequent inhalation anaesthesia where deep narcosis is required.
8. That detailed statistical studies of accidents due to anaesthesia conducted in various ways are urgently required. These must contain suitable classifications to permit of the correct evaluation of varying factors. Until forthcoming, no comparisons as to the relative safety of any method as compared with any other can be made. The dose of ether should be regulated according to the weight of the patient, and it seems probable that 2 grams of ether per kilogram of body weight is the maximum dose that can be given with safety, following a hypodermic injection of from one-sixth to one-fourth of a grain of morphine, the latter dose depending also on body weight.
9. That the choice of an anaesthetic and its mode of administration need the same careful consideration whatever be the method of anaesthesia employed. Routine methods are dangerous and irrational.
10. That lack of adequate statistical studies of the occurrence of post-operative pneumonia and its causes makes it impossible to state whether this follows oil-ether anaesthesia with greater or less frequency than other forms of anaesthesia.

### II.—SYNERGISTIC ANALGESIA.

The author next proceeds to discuss so-called synergistic analgesia. This was introduced by Gwathmey in 1921 and consists, in the addition to the usual hypodermic injection of morphine, of a small amount of magnesium sulphate. He claims that this addition increases the value of the injection from 50 to 100 per cent., and so allows much smaller quantities of ether to be used. Gwathmey divides the stages of anaesthesia into four—the first being that of excitement, the second that of analgesia, the third that of surgical anaesthesia, and the fourth that of overdosage. He proposes to make use of the first and second stages only, in which excitement is abolished, so as to make expert supervision unnecessary, and it is with synergistic analgesia that he proposes to effect this result. Hatcher discusses the literature of the subject which followed Gwathmey's original paper, and comes to the conclusion that the evidence is not convincing that the use of from 2 to 6 c.cm. of a 50 per cent. solution of magnesium sulphate materially lessens the amount of ether required by rectal administration to induce anaesthesia. *Per contra* there is no doubt that the amount of morphine used has a decided influence on the total quantity of ether required; but there is ample evidence that the action of morphine on the respiratory centre is synergistic with that of ether and magnesium sulphate, and that numerous deaths have resulted from their combined use. What has been said concerning the advantages and disadvantages of rectal anaesthesia applies equally to the so-called synergistic analgesia, and the evidence brought forward by Gwathmey in support of his claims with regard to the latter form of analgesia is not convincing. Moreover, expert supervision is still as necessary as ever with regard to the welfare of the patient submitting to the induction and maintenance of anaesthesia.

### III.—ANALGESIA IN CHILDBIRTH.

Hatcher next discusses analgesia in childbirth, with particular reference to the claims of synergistic analgesia, and after citing numerous papers on the subject comes to the conclusion that synergistic analgesia is by no means safe in the hands of the unskilled, and that the commercial exploitation of proprietary products based on the Gwathmey formulae is potent for much harm, since it will inevitably tend to promote the thoughtless and ill-advised use of the method. No method of inducing analgesia is suitable for universal use. So-called painless childbirth is frequently a most difficult problem. The general practitioner is often misled into believing that he can secure better results by the method that he reads about than by the methods with which he is familiar, when in truth it presents no essential advantage, and may prove inferior in his hands to that in which he has acquired a degree of skill.

The Gwathmey method skilfully used will undoubtedly mitigate the pains of labour, but no woman should be promised a painless labour, since even Gwathmey admits that only a small proportion of patients have relatively painless labour.

Obviously the dosage of morphine and ether should be calculated on the weight of the patient. After an average dose of morphine the maximum dose of ether for a woman of average size amounts to about 2½ ounces. The quinine used in the Gwathmey method frequently overcomes the retarding effect of morphine, but labour is sometimes prolonged even with large doses of quinine. A great difficulty lies in the estimation of the time that will elapse before labour is completed, with consequent uncertainty as to the time when the enema should be administered. Talkativeness and motor unrest are difficulties which, in the absence of suitable attendants, may prove troublesome to deal with. Rectal irritation may be important.

The question of the value of magnesium sulphate with morphine and ether cannot be answered at present. Many state that it has a clinical value, but there is no evidence that it potentiates the action of morphine, and animal experiments show that there is a summation of toxic effects. There is probably also a summation of therapeutic effects.

On the whole, then, the opinion of the author would

seem to be that rectal oil-ether anaesthesia and analgesia, whether used with or without other drugs such as magnesium sulphate or quinine, should be induced only in selected cases and at the hands of the skilled anaesthetist. The methods, even in the hands of the skilled, so far from being harmless, show, or appear to show, unfavourable results with greater frequency than is met with usually in the case of the various inhalation methods. The further inference is obvious and needs no elaboration. The enthusiastic claims of the pioneers, as so often happens, have not been borne out by the experience of subsequent workers, and accidents have happened which cannot be explained away on the assumption that a faulty technique was entirely to blame. Undoubtedly rectal anaesthesia and analgesia have a place in the anaesthetic arm, but it has by no means as yet been proved that this place should be granted them at the expense of the older methods. An examination of the author's papers in the original will convince most British anaesthetists that his conclusions are sound and that the anaesthetic millennium has not yet been reached.

### TETRA-ETHYL LEAD IN MOTOR SPIRIT.

*Committee of Inquiry: Evidence from America.*

The first ordinary session of the committee appointed by the Minister of Health, Mr. Neville Chamberlain, to inquire into the possible danger to health resulting from the use of motor spirit containing lead tetra-ethyl, or similar lead-containing compounds, was held at the Office of Works on April 30th. The names of the committee are as follows:

*Chairman:* Sir Frederick Willis, K.B.E., C.B., who was until recently Chairman of the Board of Control.

*Departmental Representatives:* Ministry of Health: Sir George Buchanan, C.B., M.D. Home Office: Dr. J. C. Bridge, F.R.C.S. (Senior Medical Inspector of Factories). Air Ministry: Mr. D. R. Pye, M.A. (Deputy Director of Scientific Research). Medical Research Council: Sir Charles J. Martin, C.M.G., D.Sc., F.R.S., F.R.C.P. (Director of the Lister Institute). Sir Robert Robertson, K.B.E., D.Sc., F.R.S. (Director of Scientific and Industrial Research). Dr. C. H. Lander, F.R.S. (Director of Fuel Research).

*Non-official Members:* Mr. A. Chaston Chapman, F.R.S., F.I.C., Sir William Wilcock, K.C.I.E., C.B., M.D., F.R.C.P., Professor W. E. Dixon, M.D., F.R.S.

*Secretary:* Mr. S. F. S. Hearder, Ministry of Health, Whitehall, S.W.1.

Evidence was taken from representatives of the American producers and the British distributors of ethyl petrol, and from an official of the Air Ministry regarding experience in its use.

Dr. GRAHAM EDGAR, director of research to the Ethyl Gasoline Corporation, New York, stated that his company had placed the full results of its investigations at the disposal of the committee. There had been, in 1924, five fatalities and a number of cases of poisoning at Bayway, New Jersey, among men developing a new process for the manufacture of lead tetra-ethyl, but this had nothing to do with ethyl gasoline. Several American cities banned the sale of this spirit, and eventually the matter was taken up by the United States Public Health Service. Officially, it was found that there was no hazard to public health from the use of ethyl gasoline, and no grounds for prohibiting it, provided its distribution and use were controlled by proper regulations. Following these investigations the cities which banned the spirit withdrew their objection. The United States Bureau of Mines had exposed animals from three to six hours per day to exhaust gases from an engine burning this spirit; after a period of eight months there was no storage of lead and no symptom of poisoning. Tests on human beings were made by exposing groups of men as severely as possible to ethyl gasoline in various ways, with groups not so exposed as controls. Searching medical examination established that no individual in any of the groups gave evidence of lead poisoning or any other injury to health resulting in any way from ethyl gasoline. The experience of the corporation had been that when their product was introduced into new territory reports of alleged injury were numerous, while from territory in which its use had been extensive such reports were negligible. Reports were investigated wherever possible; in no case had there been any substantiation of the rumour that any injury could be traced to the use of ethyl gasoline. Referring to the result of an investigation recently published in an English newspaper, Dr. Edgar said no conclusions whatever could be reached from consideration of data so fragmentary. Replying to questions, he stated that theirs was a new industry, and that any material or fluid having lead in it had to be closely observed. Some of the men regularly handling ethyl had been rigorously examined during the past ten years, and would continue to be watched for the next ten years, in view of

possible cumulative effects. As yet there had been no deterioration in the health of the staff.

The rapid extension in the use of ethyl gasoline in Canada and the United States was described by Mr. A. M. MAXWELL, vice-president and sales manager of the Ethyl Gasoline Corporation, who added that last year the corporation, which supplied thirty-six of the major oil companies, did not receive a single complaint of damage to health from users. Mr. H. S. TEGNER of the Anglo-American Oil Company said his company was thoroughly convinced of the safety of the tetra-ethyl mixture before marketing it in England. Although its representatives had studied every available source of evidence, and had been intimately concerned in handling the product in their blending plants, where the staffs were regularly inspected by competent medical practitioners, they had not encountered the least indication that the handling of the spirit did or could produce the slightest deleterious effects to the worker, the motor car user, or the public generally.

Mr. PYE, representing the Air Ministry, stated that exhaustive experiments had been carried out in the laboratory and during long evolutions of two squadrons. At no time had there been any report of illness among the personnel handling ethyl spirit. In high-speed aero engines the proportion of tetra-ethyl lead used in the petrol was often considerably higher than in the mixtures sold commercially. Dr. BRIDGE of the Home Office said the Anglo-American Oil Company fully consulted that department before they put ethyl spirit on the market. The inquiry was adjourned.

### Ireland.

*Farewell Dinner to Professor J. A. Lindsay, Belfast.*

On the occasion of his leaving Belfast to take up residence in London, Dr. James A. Lindsay, Emeritus Professor of Medicine in the Queen's University, Belfast, and senior consulting physician to the Royal Victoria Hospital, was, on April 24th, entertained at a complimentary dinner. Professor Lindsay's hosts were his colleagues of the visiting staffs of the Royal Victoria Hospital and the Belfast Maternity Hospital. He has for some years past been chairman of the boards of both these institutions, and in that capacity has exercised an important and beneficial influence on their development. In the after-dinner speeches his colleagues found much to recall in connexion with his valuable services in raising the standard of the local hospitals and in the advancement of medical education in Belfast. Professor R. J. Johnstone, M.P., a former pupil of the guest of the evening, paid his tribute in some amusing verses composed for the occasion. Professor Lindsay is a past-president of the Ulster Branch of the British Medical Association, and was president of the Section of Medicine when the Association held its Annual Meeting at Belfast in 1909. He will be greatly missed by members of the medical profession throughout Northern Ireland, who unite in wishing him health and happiness in his retirement.

*The Coming Public Health Conference in Dublin.*

The aims and objects of the public health conference which is to be held in Dublin from August 15th to 20th were the subject of an address by Sir William Thompson, M.D., at a recent meeting of the Dublin Rotary Club. It was, he said, well known to everyone that medicine and surgery had made great progress during the latter part of the nineteenth century and up to the present time, but it was recognized that in future it would be maintained more in the direction of prevention of disease than otherwise. For some years past special attention had been devoted to prevention, not only by the medical profession, but by big business firms and public bodies having the health and welfare of their employees and of the community at heart. It was to forward this object that over forty years ago the Royal Institute of Public Health was established. The Dublin Medical School, which deservedly held a world-wide reputation, was, said Sir William Thompson, one of the first to institute a diploma or degree in public health—as far back as the sixties in the last century—and, happily, they had still with them Sir John Moore, who was one of the earlier graduates. Dublin business houses had not been behindhand in looking after the health of their employees, notably the firms of Guinness and Jacob. The holding of the yearly congress in large centres throughout

Great Britain, Ireland, and on the Continent, as the Instituto diil, was a means of bringing together those interested in public health and allied work to discuss the problems which arose from year to year. In addition, this served, through the press, to educate the public and keep it informed of the progress made in the prevention of disease, which would add to the health and happiness of the community. Last year the congress was held in Belgium, in 1926 in Bristol, and seventeen years ago it was held in Dublin. The congress was made up of delegates appointed by universities, medical colleges, boards of health, and other institutions interested in public work, through invitations sent by the Institute in London to such bodies in Great Britain, Northern Ireland, the Continent, United States, and Canada. In Saorstát Éireann the invitation was sent by the executive committee of the congress. The Mansion House had been placed at the disposal of the congress for offices, by kind permission of the city commissioners. The matters to be discussed were of practical importance from every point of view, and should be interesting and instructive to the citizens of Dublin and the people throughout the Free State. They had some of the most important public health workers in Great Britain and the Continent coming across. Sir William Milligan of Manchester; Dr. Varrier-Jones, superintendent of Papworth Tuberculosis Settlement; Sir Henry Gauvain; Dr. Stevenson of the British Ministry of Health; Dr. Leighton of the Scottish Board of Health; Dr. Trimble, tuberculosis officer, and Dr. Fulton, Children's Hospital, Belfast; Dr. Wurtzen of Denmark; and Professors Abercrombie and Beattie of Liverpool. From an expert and scientific point of view the success of the congress was ensured. Dublin, he continued, had always been noted for its hospitality, and the executive committee was doing its utmost to live up to past traditions. It might be asked if any good results followed the 1911 congress, and what benefit was expected to accrue from the coming congress. One had no hesitation in saying that those who took part in the 1911 congress were unanimously of the opinion that much benefit resulted therefrom. Public health conditions had advanced considerably during the seventeen years, although the great war and their own unsettled conditions intervened. He wished publicly to pay a tribute to the Ministry of Local Government and Public Health since 1922. There was now in Saorstát Éireann one of the best means for the appointment of medical officers of health, medical officers, and all appointments on health—through the selection board. The adoption of this system was a bold and courageous step for the Executive Council to take; from a political point of view it alienated some support, but, when carried on for years, it ensured a body of public health enthusiasts second to none in any other country. Thus the health of their people would be improved and prosperity and happiness ensue.

#### The Rotunda Hospital, Dublin.

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland on April 20th Dr. Bethel Solomons read the clinical report of the Rotunda Hospital for the year 1926-27, and films were shown to illustrate the appearance of the Fallopian tubes after the injection of lipiodol and the method of performing x-ray pelvimetry. Dr. Solomons announced that the x-ray plant installed during the year had proved useful in obstetrical and gynaecological diagnosis and treatment. The pathological laboratory had been reopened. The scope of the ante-natal department had greatly increased, and it was suggested that ante-natal study should be made compulsory in universities. A small ward had been opened for the treatment of infants. The British Medical Association standard of morbidity had been used and the "Rotunda" method also was followed; the results proved to be identical at the end of the year. The number of Caesarean sections had been large in spite of attempts to avoid this operation. The treatment of eclampsia had scarcely altered. The number of admissions (673) to the gynaecological wing was a record for the hospital. The gynaecological mortality was 0.95 per cent. The master of the hospital thanked his assistants, Drs. Taylor and O'Donel Browne, for their share in the preparation of the report, and he

referred to the excellent work of the matron and nursing staff during the year. Dr. Gibbon FitzGibbon, president of the Section, said that the treatment of septic cases at the Rotunda Hospital was apparently much the same as it had been at the end of his term as master. He did not put much faith in colossal iodine, but thought that it was beneficial in some cases. In the last few years treatment by vaccines and antitoxins had decreased considerably. When performing Caesarean section the lower segment operation was more difficult than the classical form, but it was the better procedure; he did not think that it would have much more influence on the recovery of an actually infected case, and believed that such cases should always be drained at the time of operation. In no case of accidental haemorrhage was plugging of the cervix indicated. He had had most disastrous results in cases of placenta praevia which had been sent into the Rotunda Hospital plugged. Sir William Smyly emphasized the importance of educating medical students in midwifery, and commented on the recent improvements at the Rotunda Hospital. Dr. Louis Cassidy said that at the Coombe Hospital it had been found that at least 50 per cent. of the women who developed sepsis had not been interfered with. He believed that there were three causes for sepsis: the possibility of toxins, a septic focus in the teeth, and residual urine in the bladder. Foetal mortality seemed to be the main difficulty in midwifery at present; this was largely due to lack of ante-natal treatment, and the new ante-natal clinic at the Rotunda Hospital should be of great value. Dr. J. S. Quin said that of all the improvements in the Rotunda Hospital none was of more value to students than the clinic for infants. Dr. R. J. Rowlette remarked that a great forward step had been taken in restoring the pathological laboratory at this institution. Dr. N. McI. Falkiner suggested that a detailed register of the patients who came to the ante-natal department and were delivered in the Rotunda Hospital should be kept and compared with the records of those patients who did not attend; only in this way could the value of the department be estimated.

## England and Wales.

### A Private Patients' Home Insurance Scheme at Norwich.

THE opening of a new private patients' home at the Norfolk and Norwich Hospital marks the beginning of an interesting effort to meet the needs of the middle classes in respect of hospital facilities. In the scheme now in force there the provision of pay beds is associated with an insurance scheme, the membership of which is limited to persons whose incomes fall within certain defined limits. Admission will be restricted to persons whose incomes do not exceed (a) for single persons, £350 per annum; (b) for married couples without children under 16, and widows and widowers with children under 16, £450 per annum; and (c) for married couples with children under 16, £550 per annum. A yearly premium of £1 10s. will entitle a member to free in-patient and certain special out-patient treatment for himself, his wife, and any children under the age of 16. The scheme embraces "hospital" treatment only, and before a patient may be admitted he must be seen by a member of the hospital staff in consultation with his own doctor; the fee for such consultations is not provided for by the premium. Only members of the hospital staff can treat patients under the scheme. Maternity, mental, and infectious cases cannot be admitted. The premium covers all surgical, medical, and maintenance costs, including those of special departments, while in hospital, but not the cost of any special appliances, drugs, or instruments which may be ordered for treatment after discharge. Power is taken by the management committee to control the extent to which members may remain in hospital as in-patients or attend as out-patients; no one may remain as an in-patient for more than four consecutive weeks, or attend as an out-patient for more than eight weeks in any six months, except by special arrangement. The department is managed on behalf of the hospital board by a committee, on which subscribers to the

insurance scheme are represented. Persons who are not members of the scheme, so far as accommodation permits, may be received as private ward patients at a charge of £4 a week; this does not include medical attendance, which will be arranged by the patients themselves, but its cost must not exceed fifteen guineas. The admission of non-members is subject to the conditions regarding income limits and preliminary consultation which apply to members. Simultaneously with the inauguration of the private patients' department, the hospital authorities have determined to reserve the right to refuse admission as ordinary patients to anyone whose income, or in the case of dependents whose parents' income, exceeds £300 per annum. The only exceptions are members of the Sunday and Saturday Fund Contributory Scheme who are entitled to medical benefit under the National Health Insurance Act. Considerable interest attaches to the financial basis of the private patients' insurance scheme and to the arrangements for the remuneration of the honorary medical staff. The first charge on the year's contributions will be a payment to the hospital of an amount for each private patient admitted, based on the average cost per patient in the general wards, plus 25 per cent; the second charge will be an equal amount to be paid to the honorary medical staff. A proportion will then be set aside for capital charges and fresh expenditure, and any balance remaining will be divided equally between the hospital and the medical staff. The distribution of the amount available for these practitioners will be in proportion to the work done by each. It has been estimated that with the premium stated and a 4 per cent. sickness rate the scheme should be financially successful; that with a 5 per cent. rate there would be a profit; but that with a 6 per cent. rate the amount for distribution to the honorary medical staff would have to be reduced. It will be noted that the hospital stands in relation to the medical staff as preference shareholders in a trading concern to ordinary shareholders; its fixed share of the available funds must be met before other payments can be considered. The new building, which stands in its own grounds near the parent institution, was formally opened on April 20th by the Hon. Sir Arthur Stanley, who remarked that it was the first time he had heard of a combination of a private patients' home with a contributory insurance scheme, and expressed his special interest in seeing how their scale of payment would work out.

#### Durham University Medical Society: Visit to Denmark.

The summer meeting of the University of Durham Medical Society took the form of a visit to the University and hospitals at Copenhagen from March 31st to April 6th, the party consisting of forty-five students and members of the staff of the Newcastle Medical School. The visit was arranged at the invitation of the Danish Students' National Union and the medical faculty of the University, with whom the British Chargé d'Affaires, Mr. Millington Drake, and Dr. Vincent Naeser had co-operated with such enthusiasm that a very warm welcome was given to the party. Meetings were held at the Rigshospital on March 31st and April 2nd. A lecture was given by Professor Faber on the medical curriculum in Denmark. The course of study occupies seven years, and is invariably followed by two years' residence in hospital after the final examination. One of the chief features is the "weeding-out" process in the third year at the end of the courses in anatomy and physiology, and after some preliminary hospital work. More than a third of the students are rejected at this stage. The English students felt that this obstacle, savouring of the "survival of the fittest," probably accounted for the very high standard of work in the remaining years of the medical curriculum. Professor Faber continued with a clinical lecture on undulant fever due to *B. abortus* infection, a disease which has been recently recognized to be very prevalent in Denmark, and Professor Lundsgaard gave a very practical clinical lecture on arterio-sclerosis, with an account of his own researches on the subject. Other items included a demonstration by Professor Schaldemose, who operated in the big surgical amphitheatre of the hospital; a lecture on vitamins by Professor Bloch, who showed cases of xerophthalmia, and gave an account of this deficiency

disease and the epidemic of it which appeared in Denmark in 1918; and a lecture by Professor Krøgh on capillary physiology, illustrated by a cinematograph demonstration of the blood cells in the capillaries, which aroused great interest. The remaining days were devoted to Professor Monrad's hospital, to the Bispebjerg Hospital, to the Finsen Institute, and the Serum Institute, where Dr. Thorvald Madsen received the party and lectured. One of the most interesting meetings was held on the outward journey in the s.s. *Arcturus*, with Dr. J. C. Spence, the president, in the chair, when Mr. Rutherford introduced a discussion on sea-sickness. The subject was considered from the stand-points of physiology and therapeutics, and current theories were fully discussed in the light of personal clinical knowledge. Captain Hjelt took part in the discussion, and gave a vivid account of his own experiences of cases and their treatment.

## Correspondence.

### TROPICAL AUSTRALIA.

Sir,—I am glad to reply to the letter of Dr. Andrew Balfour, published in the *British Medical Journal* of January 7th (p. 30). The Commonwealth statistician and actuary, Mr. C. Wickens, furnishes me with the following statement of fact.

"With reference to the letter relative to tropical Australia written by Dr. Andrew Balfour, a copy of which was received under cover of yours of March 5th, I am appending particulars taken from census reports for Queensland, which will serve to refute the statement that Australians employed in the cane-fields are very largely of Italian origin.

#### "Census Reports 1861-1921.

"The reports up to 1868 indicate that the number of Southern Europeans in Queensland was negligible. In 1871 and following census years the number of Italian-born persons in Queensland per thousand of the population was as follows:

1871	...	0.72	1901	...	1.70
1881	...	1.17	1911	...	1.54
1891	...	1.11	1921	...	2.44

"In 1921 separate figures were obtained for tropical and non-tropical divisions of Queensland. The Italian-born population resident at that date within the tropics represented 8.37 per thousand of the tropical population, and the Italian-born population south of the tropics 0.56 of the non-tropical population. The percentage of the population in respect to birthplace was also tabulated for the States of Australia in 1921. The results obtained showed that the number of persons enumerated in Queensland who stated that one or both parents were born in Italy was 3,458, representing about 4.5 per 1,000 of the total population."

It should be remembered that the State is divided into tropical and non-tropical Queensland. The distinction is arbitrary in one sense as it is based on the Tropic of Capricorn, whereas the whole of Queensland is north of the 29th parallel. From Mr. Wickens's statement it will be seen that the answer to Dr. Balfour's suggestion that the white race in tropical Queensland is of Italian origin is that it is not correct. A healthy white race which is not Italian has been reared in tropical Queensland for several generations. The infantile and the adult death rates are lower than in almost any other place in the world, and the most thorough physiological investigations have shown no deterioration which can be measured by the means at our disposal. Towards the end of his letter Dr. Balfour refers to the low-lying lateral of tropical Queensland. Might I suggest that whether a country is low-lying or hilly tells us very little? It is the accurate record of the wet-bulb temperature that indicates the stress to which human beings are subjected. What may lie in the future I do not know, but I can definitely state that in tropical Queensland a vigorous white race, which contains only a small percentage of Italians, is being reared and shows no signs of deterioration. In fact, the suggestion that there is deterioration, when made to some of the residents in tropical Queensland, is received with ridicule. Those who saw the soldiers Queensland sent to the front during the great war will understand the incredulity.—I am, etc.,

Melbourne, March 12th.

JAMES W. BARRETT.

# CARDIOSPASM (SO-CALLED ACHALASIA OF THE CARDIA).

SIR,—In a previous letter (April 7th, p. 610) I furnished evidence combating the theory of achalasia of the cardia and further confirming that of cardiospasm. Dr. Hurst maintains, however, in your issue of April 21st (p. 690) that my letter so seriously misstates the evidence in favour of achalasia and against cardiospasm as to call for a reply.

Dr. Hurst writes: "It is not clear what he can mean by cardiospasm, as he denies the existence of a cardiac sphincter." I certainly deny the presence of an anatomical sphincter, but recognize the presence of a physiological one at the lower end of the gullet. At the British Medical Association meeting in Liverpool (*British Medical Journal*, October 19th, 1912, p. 1047) I showed two dissections, each including the lower part of the oesophagus and upper part of the stomach, in which the muscular layers had been separated. These demonstrated both muscular coats to be of uniform thickness and without any special aggregation of fibres at or near the cardia. The textbooks are in agreement as to the non-existence of an anatomical sphincter in this situation. It is even stated on good authority that a cardiac sphincter is found in no animal (D. M. Greig, *Edinburgh Medical Journal*, August, 1921). In view of the consensus of opinion on this question it is interesting to learn from Dr. Hurst's letter that he and others have demonstrated an anatomical cardiac sphincter. The exhibition of specimens of so rare a nature would be welcomed at a meeting of laryngologists or anatomists. I might mention that my preparations are still available for comparison.

Dr. Hurst states that degeneration of Auerbach's plexus "must result in failure of the sphincter to react to stimuli. The sphincter cannot, therefore, perform its normal function of relaxation nor its rarely exercised power of contraction; it consequently remains closed—that is, in its normal position of rest." It seems to me futile in our present state of knowledge to theorize as to the effect of the degenerated plexus on the cardia. I must, however, take exception to Dr. Hurst's statement that the "sphincter," or, as I prefer to term it, the cardiac canal, is closed during rest. On the contrary, it is rhythmically widening and narrowing with inspiration and expiration respectively, both in the normal subject and in the patient with cardiospasm. In the latter, however, when the oesophagoscope comes into contact with the upper end of the cardiac canal this is seen to contract vigorously, and resistance, sometimes strong, but at least greater than normal, is encountered. These findings seem to me to admit of only one interpretation—namely, spasmodic contraction.

Obviously Dr. Hurst's acquaintance with the endoscopic examination of the oesophagus is limited, or he would not have stated that "it is difficult to pass a rigid instrument past the angle formed by the sphincter with the rest of the oesophagus, particularly when the latter is so dilated that its lower extremity is actually below the entrance to the sphincter," for there is no special difficulty unless in overcoming firm spasm, and under such conditions the oesophagoscope guided by the eye is safer than a mercury tube passed blindly; nor would he have made the amusing suggestion that I have mistaken the spasm of the diaphragm caused by pressure of my instrument for spasm of the cardiac sphincter.—I am, etc.,

Glasgow, April 24th.

A. BROWN KELLY.

\* \* This correspondence seems to have come full circle, and may now, we think, be regarded as closed, except for corrections of fact.

## DELAYED NOTIFICATION OF TUBERCULOSIS.

SIR,—Dr. Rose Jordan's letter under the above title published in the *British Medical Journal* of April 21st (p. 692) raises some interesting and important points in regard to the notification of tuberculosis. It is, I think, unfortunate that, in giving the percentage, she does not divide the non-notified cases from those dying within three months of notification.

In the administrative county of Lancaster we have for many years made special investigations into the reasons for non-notification and delayed notification. Dealing,

then, first with the non-notified fatal cases, we have the following results: In 1927 there were altogether 54 pulmonary (representing 4.8 per cent. of the total pulmonary deaths) and 42 non-pulmonary cases (representing 14.1 per cent. of the total non-pulmonary deaths) reported for the first time at death. The circumstances of non-notification were investigated in each instance, and are as follows: (a) that in 8 of the 96 deaths the doctor was only called in attendance a few days prior to death; (b) that in 28 cases notification was not made owing to the misinterpretation of the regulations—for example, previously notified in another sanitary district, disease commenced prior to 1912, temporary resident, attended by more than one doctor and notification believed to have been made by first practitioner; (c) that 38 cases presented considerable difficulty in diagnosis; (d) that in 5 cases the doctor accidentally omitted to notify; (e) that in 7 cases no doctor was in attendance; (f) that in 6 cases no information was ascertainable; and (g) that in 4 cases there was no apparent reason for non-notification.

With regard to delayed notification, we had altogether in the county 344 cases of pulmonary tuberculosis where the death occurred within three months of notification (the non-pulmonary cases were not specially investigated). Before the inquiry into these 344 pulmonary cases, 146 were deducted for such reasons as deaths outside county area, complicated cases presenting difficulty in diagnosis, deaths in public institutions, fulminating cases, and no doctor in attendance.

Inquiries were made in regard to the balance—namely 198—and it was ascertained that the period under the doctor at the date of notification was as follows:

Under 1 month	...	...	...	...	...	96
1 to 2 months	...	...	...	...	...	52
2 to 3 "	...	...	...	...	...	15
3 to 6 "	...	...	...	...	...	19
6 months and over.	...	...	...	...	...	16

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Thus, 35 patients had been under their doctor three months or more prior to the date of notification, a percentage of 3.1 on the total pulmonary deaths (1,105) for the county for 1927.

This period of three months or more was taken by Dr. Jordan for her seven cases (if I have read her letter aright). While this is much too long a period to allow before the family doctor consults the tuberculosis officer, it must always be remembered that there are patients who will not easily agree to see the tuberculosis officer, and others do not disclose their symptoms to the doctors for some weeks.—I am, etc.,

G. LISSANT COX,  
Central Tuberculosis Officer, Lancashire  
County Council.

Preston, April 23rd.

## THE "CURE" OF PULMONARY TUBERCULOSIS.

SIR,—Dr. Carswell asks me a very proper question (April 21st, p. 692), but he is under a misapprehension as to my views on therapeutic immunization. I consider it essential for success against any infection that: (1) The antigen must be complete—it must contain all the microbes attacking the patient's tissues, hence the use of mixed infection antigens in the treatment of tuberculosis. (2) The antigen must be potent—that is, contain as great a toxin content as possible, so that antitoxin as well as antibacterial immunity can be achieved. (3) Such a dose must be attained as will produce sufficient antibodies to enable the patient's phagocytic cells to ingest and digest the infecting microbes and survive the process. (4) The doses must not be given at fixed intervals, but the interval must vary with the reaction of the patient.

In order to achieve potency the microbes for ordinary antigens are grown on agar containing 10 per cent. unheated human blood—a medium as close to a human tissue as it is possible to achieve. It might not be thought that microbes would lose much toxicity in twenty-four hours, but that period in the life of a microbe corresponds to something like two thousand years of human existence. The tubercle bacillus, owing to its lipid saturation in its



acid-fast form and its slow growth, has made the manufacture of a potent antigen difficult, and, except in the case of old tuberculin A T, special grinding apparatus has had to be devised. In A T Koch hoped for the presence of toxin freed from the bacillary body by autolysis. I think he achieved it to a certain extent, for I have always thought A T the best of all the ordinary tuberculins. In the manufacture of H.T.S. (human type tubercle bacillus solution) no special apparatus is required.

Dr. Carswell is exercised by the smallness of the dose, but 0.000000001 mg. actual weight of the original live tubercle bacillus, obtained by dilution, is a potent therapeutic dose of H.T.S., and must not be exceeded as a primary dose in the immunization of established pulmonary tuberculosis. He will realize, then, that 0.01 mg. is ten million times the primary dose. I feel that the patient is safe if I attain to a dose of 0.001 mg., but it is not always possible to do so, as the maximum dose varies with the individual.

H.T.S. is, therefore, a very potent antigen. I believe it to contain free toxin. I have made a solution of the bovine type (B.T.S.), but have found in practice that H.T.S. gives just as good results in "surgical" cases. Apparently the toxin of the tubercle bacillus is, like that of the diphtheria bacillus, fairly uniform in quality—of course, the ideal would be an autogenous tubercle bacillus antigen for each case. This answers the first part of Dr. Crawshaw Holt's letter (p. 692). I most thoroughly agree with the second part, for tuberculosis will not be controlled until contacts, infants, and calves are rendered relatively immune by preventive inoculation with tuberculosis.—I am, etc.,

Dublin, April 23rd.

W. M. CROFTON.

#### THE CAUSES OF ALCOHOLIC INEBRIETY.

SIR,—In your issue of April 21st (p. 691) Drs. George and Vincent lay greatest stress upon heredity as "a decided cause" of alcoholism. This is not borne out by the experience gained in the institution of which I am medical superintendent. It is true that not only patients, but their relatives also, are generally anxious to shift what they consider the opprobrium of inebriety from themselves to their defenceless forebears. In spite of this perhaps natural desire, only a small proportion can adduce any reliable evidence in support of such a scapegoat type of excuse; against which most of us know that where there has been marked parental excess the children tend to become rabid teetotalers. Drs. George and Vincent do admit that there are "quite an appreciable number in whom heredity and habit seemed to be absent as causal factors." In my experience their "appreciable number" is the vast majority, and the heredity factor when present is so accidentally, not causally. It would appear with at least equal frequency in a sample of the population taken in respect of any other affliction. The bugbear of heredity, which we all trail with us in some sort, stultifies therapeutic endeavour, though it serves as an ever-present help in time of trouble.

Careful psychological investigation in every case reveals the presence of those other factors which Drs. George and Vincent touch upon so lightly and dismiss so easily. My experience has convinced me that the essential underlying factor in alcoholism is the desire for the mental effect of alcohol, and not easy access to the drug, nor habit, nor heredity, which latter serve at most as auxiliary determinants. Of course, alcohol is an addiction drug, and the "alcoholist" is not able so to control himself and his dosage as to maintain the, to him, exactly desired effect. In aiming at what is to him "euphoria," he oversteps the mark and, like all neurotics, finds that his last state is worse than his first. Not infrequently addicts hate the taste of alcohol and refer to it as "the beastly stuff," but this does not prevent them from again having recourse to it when the adequate stimulus recurs.

Unless the prime importance of the individual psychological factor be appreciated a rational therapy and reorientation can hardly be expected. Concurrent and incidental determinants must, of course, be attended to, and so far as possible be removed, but the essential is to discover in each individual "alcoholist" the psychological

factors which motivate his flight to "alcoholic euphoria" at all costs, and in spite of the fact that he is aware that a price must be paid for this flight.—I am, etc.,

Caldecote, April 27th.

ALFRED E. CARVER.

#### "DRUNK IN CHARGE."

SIR,—This subject has again been brought forward in your issue of April 21st (p. 693). As the condition is so easily recognized by an onlooker, it is unfortunate that the evidence of the police surgeon or the judgement of the magistrate should be at fault in what is, in everyone's opinion, a matter of first-class public importance. I beg to submit herewith a few desiderata for your readers.

The time between the moment of arrest and of the accused being examined by the police surgeon should be as short as possible. Then, with the man's name, age, and address, he should be invited to tell his own story. If this is rational, and if there is no suggestion of incoherence of speech, disorder of behaviour, posture, and dress, or disorientation of time and place, then the fifteen to twenty tests commonly applied are unnecessary, for the man is not drunk at the time of examination.

As a rule magistrates prefer tests, and therefore it is wise to put the man through some of these, selecting the most striking results for the ear of the magistrate. The fact, however, that the condition termed "drunk" is due to alcoholic loss of guidance and control of the highest centres should be ever present to the mind of the surgeon during his examination, and, further, enable him in the witness-box to give his evidence in a manner that is lucid, calm, and decisive.—I am, etc.,

London, N.W.1, April 22nd.

J. MAUGHAN.

#### THERAPEUTIC USES OF OXYGEN.

SIR,—It was with considerable astonishment that I read the article on the cause and treatment of the crisis in lobar pneumonia in your issue of April 21st (p. 661). The author states that "In the past the use of oxygen has been the cause of more deaths in pneumonia than one cares to contemplate, simply because it was administered cold and not warmed to the required temperature. . . ." This sweeping statement is entirely unsupported by facts and is palpably incorrect. The small amounts of oxygen commonly used in many of the current non-quantitative methods of supposed oxygen administration are not sufficient to effect appreciably the temperature of the total volume of inspired air, and even with efficient quantitative methods the addition of, say, two litres per minute of oxygen would not reduce the temperature of the inspired air to any significant extent. On the other hand, good results have been obtained without oxygen in the treatment of pneumonia easing out of doors in cold dry air. Having had considerable experience of the administration of oxygen, both warmed and cold, in pneumonia and other conditions of oxygen lack, I can state dogmatically that warming *per se* makes little difference, and that provided that the method be efficient and the rate of oxygen flow adequate the results are excellent. Much more could be said regarding the facts of the case—it is sufficient, however, to protest rather against the manner in which so inaccurate a statement is made.

The final sentence also contains some amazing inaccuracies. Oxygen does not increase metabolism. Where the oxygen supply is insufficient for metabolic needs the animal rapidly succumbs from progressive oxygen lack. Experimental evidence clearly shows, however, that the metabolic rate is independent of the supply of oxygen provided that the latter be adequate (vide any textbook of physiology). The rationale of oxygen administration consists in increasing the oxygen percentage of the alveolar air sufficiently to overcome a pathological deficiency of permeability of the pulmonary epithelium and so to prevent or abolish oxygen lack. Oxygen does not destroy disease, although peroxides, in the absence of excess of catalase or peroxidase, accumulate in cultures of pneumococcus to an extent sufficient to inhibit the growth of the organisms. Efficient oxygen administration overcomes the pulmonary

functional deficiency and so prevents death and damage to tissues from oxygen lack before the immunity processes come into play. The final outcome depends upon those processes, whatever they may be.—I am, etc.,

Leeds, April 24th. H. WHITRIDGE DAVIES.

#### THE MEINICKE SYPHILITIC REACTION.

SIR,—In a report by Jambert et Gory (*Compt. rend. Soc. de Biol.*, 97, 1455-56) the reaction of Meinicke is stated to have permitted a definite classification as positive or negative in 91 per cent. of 610 syphilitic and 1,490 other serums. To quote from an abstract of this made by me (*Physiological Abstracts*, 13, p. 62, April, 1928): "The reaction is considered to be of great value in the battle with syphilis, and practitioners are advised to get it adopted in laboratories to which they look for diagnosis, or at least to insist on the simultaneous use of different methods." Though possessing little practical knowledge of the subject I venture to bring it to your readers' notice. Tolu antigen was used by the authors.—I am, etc.,

Physiological Department, University College, Cork, April 26th.

D. T. BARRY.

#### INVESTIGATION OF MATERNAL MORTALITY.

SIR,—The Council of the Society of Medical Officers of Health has had before it the letter appearing in the *Times* of April 3rd, over the signatures of certain obstetricians, as to the need for research into the above subject. The council is in agreement that the research required calls for a close alliance between the physician, the biochemist, and the bacteriologist, and the close apposition of the laboratory to the bedside, but it is not of opinion that an investigation by local health authorities of all maternal deaths should be excluded or discredited, and the council regrets that the signatories have seen fit to take this view.

The council would further put on record that the signatories are in error in suggesting that a knowledge of the cause of a disease is necessarily a *sine qua non* for its prevention, and in this connexion would refer to the control of small-pox by vaccination, the diminished incidence of enteric fever following on the betterment of sanitary and living conditions, and the reduction of deaths from scarlet fever as the result of the measures taken by health authorities.

The council of this society feels that matters of this kind are best discussed in the professional journals, and it therefore hopes that you will allow this reply to the letter referred to above to appear in your columns.—I am, etc.,

E. H. SKELL,

Acting President, Society of Medical Officers of Health.

London, W.C.1, April 22nd.

#### THE ELECTION TO THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS.

SIR,—My friend Mr. Back, in whom surgery has gained what has been lost to the Bar, has spoken admirably for many who feel as he does and have long suffered in silence. He deserves their thanks. The remedy is never to vote for any candidate on whose behalf his friends canvass, either in person or by letter. Others, I know, follow that rule, and are content to rely on their own judgement. Those Fellows who have no knowledge of the merits of the candidates had better abstain from voting. I understand from an unofficial but reliable source that the College authorities have long viewed canvassing with disapproval.—I am, etc.,

London, April 28th.

LIONEL COLLEDGE.

#### EFFECT OF THE BIRTH RATE ON THE AVERAGE AGE AT DEATH.

SIR,—There is another view of the question which Dr. J. H. Garrett's letter (April 14th, p. 644) discusses. The falling birth rate has been accompanied by a falling death rate, a rising average duration of life, and a rising average age at death, and all these phenomena have been closely correlated. This correlation, and its Malthusian significance, should not be ignored. While this correlation has continued—that is, while economic conditions have continued to be unsatisfactory—the diminution of the birth

rate has not been raising the average age at death for any other reason than the economic one. It has not been raising the average age at death in virtue of its other tendency, which Dr. Garrett stresses, to raise the average age of the population. This tendency can only be effective when the economic conditions of the older adults are not seriously depressed by the burden and competition of the young.—I am, etc.,

London, S.W.7, April 17th.

B. DUNLOR, M.B., Ch.B.

#### SUPERANNUATION OF MEDICAL OFFICERS.

SIR,—In reference to the report of the Departmental Committee upon the amendment of the Local Government and other Officers' Superannuation Act, the Ministry of Health must be well aware of the great importance of proceeding immediately to put the committee's recommendations into execution. There are various undesirable complications and hardships arising out of the present condition, especially in connexion with medical officers, partly due to the irregular application or refusal on the part of local authorities to apply Section 16 of the Act, which affects previous service. It would be lamentable if this Government went out of office without having brought the committee's recommendations to fruition by introducing a bill for this purpose during the present session.—I am, etc.,

April 12th.

ANOTHER VETERAN M.O.H.

#### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON April 30th the House of Commons discussed the Ministry of Labour vote, with special reference to the transference of miners to other areas and industries. On May 1st it resumed consideration of the Budget resolutions, and Mr. CHURCHILL announced that the Government had decided not to persist with the new tax on kerosene. This tax was accordingly rescinded, but no changes were granted in the new petrol tax. Discussion of the Budget continued on the following days.

The Parliamentary Medical Committee met at the House of Commons on May 1st, Dr. FLEMING presiding, and approved the arrangements for a visit, at the invitation of the Army Council, to Aldershot on May 4th to inspect military medical services and institutions. The committee discussed the National Health Insurance Bill. Dr. SINCLAIR made a statement on the position of national health insurance in Northern Ireland. The committee also discussed the schedules of additional benefits proposed in the bill, and decided by majorities to support the inclusion in the first schedule of three new benefits—the employment of specialists, professional attendance in childbirth, and medical attendance on the dependants of insured persons. Regarding the last proposal the committee was sharply divided, and its members felt that as the meeting was a small one its majority view should not be taken as a final one. No opinion was recorded on the proposal to allow other than medical benefits to the dependants of insured persons, this not being thought a subject for the Medical Committee as such. The committee passed a resolution to support an amendment to the National Health Insurance Bill on behalf of the dentists. This amendment would provide that the regulations for dental benefit should give free choice of dentist or clinic to an insured patient, and that no clinics should be run by approved societies. On the Budget the question was raised of whether a rebate could be secured on petrol used in doctors' cars for professional purposes. Sir RICHARD LUCE undertook to inquire as to the views of the British Medical Association on the subject, and the committee agreed that if the Association proved in favour of some such remission the officers of the Parliamentary Medical Committee, with Sir Richard Luce, should table an amendment to secure that remission. Other Budget topics were discussed and adjourned. It was announced that the chairman of the committee had put down a question for May 3rd asking the Minister of Health about the publication of the report of the Committee on Vaccination and Small-pox. The committee agreed to summon a special meeting after the issue of this report. It decided to say nothing concerning Mr. Briggs's Protection of Dogs Bill.

#### National Health Insurance Bill.

The standing committee of the House of Commons which is examining the National Health Insurance Bill resumed, on April 26th, its consideration of Clause 2, which amends the provisions of the principal Act concerning inmates of hospitals, etc. In response to a suggestion previously made by Mr. BRIANT, this clause was amended on the motion of Sir KINGSLEY WOOD to provide that a contributor leaving a hospital or institution should be permitted

to receive sickness or disablement benefit in a lump sum if the society or committee concerned thought that special circumstances warranted this. Dr. VERNON DAVIES asked whether payment would be allowed up to the maximum of £50. Sir KINGSLEY WOOD said it would.

Mr. HARNEY moved an amendment to provide that where any balance remained due to the insured patient it should be paid, not to the Central Fund, but to the institution, unless that were maintained by a public authority or out of public funds. Mr. HARNEY asked whether, when an inmate of an institution said he would like the balance to be paid to that institution, power already existed to have it so paid. Sir KINGSLEY WOOD said that was so.

Mr. HARNEY withdrew his amendment, and the committee carried the clause as amended.

Clause 3 makes amendment to the provisions of the principal Act on the administration of medical benefit, and proposes to enact that, after a date to be prescribed, no insured person other than a nurse or employee of an institution shall be allowed by an Insurance Committee to make his own arrangements for medical treatment or attendance by participating in collective arrangements through any system or institution. A proviso was added that any system or institution through which such arrangements had been made before March 6th, 1928, might apply to the Insurance Committee and to the Minister for approval.

Mr. JOHN opposed the clause, saying that the medical schemes or institutions in existence met the desire for a greater scope in medical treatment than could be given by individual panel doctors. Under the Act the individual medical practitioner was not called upon to have more skill than could be reasonably expected, but by the medical institutions under discussion medical treatments and benefits were so co-ordinated that members of the institution were entitled to get them from a number of doctors, both surgical and medical. These schemes also provided for electric treatment, massage, light treatment, and laboratory work from skilled doctors and surgeons. A number of doctors were engaged by these medical institutions. He had in mind one scheme which included 4,000 unemployed. If that scheme did not get further recognition those persons would be left without any medical service. Panel doctors could not be expected to take them over. He cited the progress of the Mid-Rhondda Medical Aid Society. In 1913 it was approved for about 800 members. Now it had practically 6,000 members, receiving medical treatment, medical appliances, surgical appliances, artificial limbs, dental treatment, and oculist treatment. No individual practitioner could provide these treatments.

Sir KINGSLEY WOOD said institutions for collective medical treatment of their members which were in existence at the passage of the National Insurance Act of 1911 were untouched by this new legislation. A number of institutions had been brought into existence which claimed to make dispositions so as to escape the normal arrangements of medical benefit. This had been done under the guise of making individual arrangements to receive treatment as provided by Section 15 (3) of the old Act—now 24 (3). When the Act was passed that provision was added to meet the case of the person who said, "I want to make arrangements with my own medical man." It was never contemplated that a number of people would be able to band themselves together and by a device put themselves in the same position as institutions existing at the passing of the Act. A number of these so-called institutions were under no obligation to render any returns to the department, which had no effective control to see that the standard of medical treatment was sufficient. In some cases this sort of society made a profit where there should be no profit, as all the money should be expended on behalf of the insured persons. Where, as the department thought, the payment to the doctor was not of a kind that ensured the best medical attention, the department was right in asking Parliament to intervene. It said that any of these institutions not coming under Section 24 (4)—that dealing with societies existing in 1911—must apply to the department, which would examine their claims sympathetically with the object of ensuring an adequate standard of treatment for their members. When approved they would have to supply proper returns to the department and generally conduct their institutions as the original institutions had been conducted. Each case would be considered on its merits.

Mr. JOHN said these schemes had to apply to the Insurance Committee for approval. The secretary of the Insurance Committee for Glamorgan had said before the Royal Commission that he had no cause of complaint against these schemes. The Mid-Rhondda scheme collected £7,218 last year, and the whole cost of administration was £100. It had seven doctors and paid them salaries higher than those in similar institutions recognized by the British Medical Association. Their efficiency and qualifications would compare with those of any other doctors in South Wales. This scheme had expended £4,000 on a proposed hospital for its members. Mr. JOHN added that he understood Sir Kingsley Wood to give an assurance that, subject to schemes being worked according to the standards of the Ministry of Health, no serious objection would be raised to their approval. That being so, he withdrew his objection to Clause 3.

Dr. VERNON DAVIES asked whether Sir Kingsley Wood's speech meant that future schemes on similar lines would be sanctioned. He would be much opposed to that. The old colliery clubs, which had now been called medical institutions, had done extremely good work, but he hoped no new ones would be allowed. The medical men associated with these schemes were competent and did extremely good work, but for some years now the British Medical Association had set its face against this type of institution or practice. Every week in the *British Medical Journal* a warning notice asked anyone applying for such a job to consult the Association first.

(Mr. JOHN: A ban!) When the present qualified and competent medical men retired the highest type of doctor would not apply for these appointments. (Mr. JOHN: We have got them.) Ultimately the institutions would have a type of medical man who, though fully qualified, was not the highest type of the profession, and the institutions would suffer. He hoped the Minister would not in any way sanction an extension of this system.

Sir KINGSLEY WOOD gave an assurance that the department had no intention of dealing with any but those systems and societies already in existence. They did not propose to deal with any new ones nor to encourage the practice.

Dr. WATTS said he did not approve of these institutions, but with the growing discontent in the country with the nature of the treatment people got under national health insurance, a number of people were anxious to band themselves together to make arrangements with private doctors under a system by which the Insurance Committees would hand over to them the capitation fee, and the patients would be willing to pay a supplementary fee to make sure that they got decent attendance as insured persons. He held no brief for the institutions or clubs under discussion. The medical attendance they gave was equally as bad as—if it were possible to be as bad as—the medical attendance under the national health insurance. He spoke from knowledge of the attendance which insured persons got under national health insurance. It was not the fault of the doctors. Under the National Health Insurance Act a doctor's time was taken up in a large measure by red-tape regulations and by keeping silly records which were of no use to anybody, and which, when they eventually arrived at the Ministry of Health, were, he understood, destroyed, no use being made of them. If certain groups of the insured population banded themselves together and made a private arrangement with medical men to attend them on the basis of the capitation fee plus some extra payment which they themselves voluntarily made, and that arrangement could not go on if this clause was allowed to remain, he agreed with the proposal to delete the clause.

Mr. RYAN DAVIES said Dr. Watts belonged to the Neolithic Age. Health insurance had come to stay, and doctors were now anxious to come into it, as payments were secure and they were much better off than in the days before the Insurance Act. He was not sure that people in South Wales were getting the best medical service. In some of these institutions the medical men were splendid fellows so far as their personality was concerned, and gained the confidence of the nation, but might not be competent medical practitioners.

Clause 3 was then approved.

Clause 4 proposed to permit approved societies and Insurance Committees, with the consent of the Minister, to make subscriptions and donations "of an eleemosynary character" to hospitals and similar charitable institutions, even although, in the case of the approved society, no disposable surplus was disclosed at the last preceding valuation. This was altered slightly at the suggestion of Sir Kingsley Wood to make sure that the clause did not bar new societies.

Mr. BRIANT moved to permit subscriptions to "hospitals, dispensaries, and other institutions." He thought the definition should be widened to cover future institutions with new methods of treatment, both preventive and remedial. Sir KINGSLEY WOOD said the clause endeavoured to end a system by which under the previous law advantage was taken to enter by way of contract with some institution, and in return to receive certain benefits for members of the society. That was perfectly permissible at the time, but in the opinion of many societies was detrimental to them. He must resist the amendment. All the societies should do in future was to make genuinely charitable gifts to institutions.

Mr. RYAN DAVIES said they should have in the Act some interpretation of what "charitable institution" meant. He gave a case where officers and committees of approved societies had formed themselves into a "charitable institution," and another where an approved society decided to establish a clinic from funds granted under the same pretext. All money spent from national health insurance funds by Insurance Committees and approved societies should be audited to its destination. By subterfuges societies had been able to detach money from their benefit funds to provide additional benefits which they could not, in law, provide.

Mr. MILLER said some societies had used this section to offer additional benefits in anticipation of a surplus which they had no reason to assume would come to them, and in order to attract people to their societies. If that could be stopped it would be desirable. The Revenue would recommend that gifts should be made to surplus, but this bill went except out of a guizing that there were cases where some gift might be made to an institution whereby special treatment could be obtained.

Dr. DRUMMOND SMITHS said he was interested in the section as connected with the important subject of specialist benefit. The committee had heard speeches showing the unsatisfactory character of the present medical benefit under the Insurance Act. Societies in the past had tried to make arrangements with voluntary hospitals that in return for a donation a certain number of beds would be reserved. In many cases that arrangement had been refused, as managers of voluntary hospitals had not felt they were entitled to make such allocations. He asked whether an arrangement with a voluntary hospital for a certain number of beds to be set aside for a particular approved society would be allowable under the clause.

Sir KINGSLEY WOOD said Dr. Shiels would have an opportunity of raising that on another part of the bill.

Dr. SMITHS asked if a voluntary gift could be accompanied by any condition as to the treatment of an individual or of a number of individuals.

Sir KINGSLEY WOOD said the gift would not then be voluntary. Dr. FRENCHAMPTON pointed out that the clause in the bill omitted the provision in the original Act that gifts might be made for the support of district nurses or for the appointment of nurses to visit and nurse insured persons. Were district nursing associations, Queen Victoria Jubilee Nurses, and midwives' societies intentionally omitted, or were they included under the words "similar charitable institutions"? Contributions to such institutions under Section 25 of the old Act had been very useful and much desired by the people. Nothing should be taken away which might help in reduction of maternal mortality.

The CHAIRMAN (Mr. William Nicholson) pointed out that the next amendment dealt with the words "and similar."

Mr. BRIANT withdrew his amendment.

Mr. HARVEY moved to leave out the words "and similar," and to insert instead "dispensaries and other."

Sir KINGSLEY WOOD said he desired to give an assurance that the Ministry did not wish to rule out any charitable gifts of such a character as those to a district nursing association.

Mr. HARVEY's amendment was accepted by the committee.

Dr. FRENCHAMPTON moved to add to the purposes for which approved societies might make gifts "or for the training or support of district nurses or midwives, and may appoint nurses or midwives for the purpose of visiting and professionally attending insured persons."

Sir KINGSLEY WOOD said the amendment was inappropriate at that stage, and he could not then accept it.

Mr. RIVS DAVIES trusted the committee would not accept the amendment. All the money paid into the funds of approved societies should be paid to approved persons, doctors, dentists, opticians, surgical appliance makers, hospitals, nursing institutions, were all after this money.

Dr. SHULLS said many of the institutions for training midwives and nurses were supported from charitable donations, and many were in an unsatisfactory condition. There was not a sufficient supply of midwives for the wives of insured people. The amendment emphasized the principle that the wives of insured persons should have adequate and efficient nursing, and that an approved society should be able to give donations to societies which were training people for that work.

Dr. FRENCHAMPTON withdrew his amendment, and Clause 4 was added to the bill.

The committee then discussed Clause 5, amending the provisions of the principal Act concerning the repayment of benefits improperly paid. Sir KINGSLEY WOOD accepted an amendment providing that the repayment should not exceed 3s. 9d. a week, and the clause was then carried.

Discussion followed on Clause 6, making administrative provisions regarding societies with members in more than one national area, and the committee adjourned till May 1st.

Consideration of the bill was resumed on May 1st. On Clause 6 Mr. JOHNSTON moved an amendment to provide that where a society without branches had been approved for more than one national area a separate valuation might be made in respect of each national area. He said he proposed this because of the large excess of expenditure on sickness in Northern Ireland, as revealed by the experience of the Prudential and other approved societies. Dr. VERNON DAVIES asked why there was this excess. Mr. JOHNSTON said it was due to the different method in which doctors approached the question. Test examinations in Northern Ireland had disclosed that persons had been continued in benefit who would not have been so continued in Great Britain.

Colonel SINCLAIR, who was indistinctly heard, resisted the amendment. Any excess of sickness was due to the fact that Ulster had a poor agricultural population. The Government of Northern Ireland contemplated future action with regard to health insurance.

Mr. CHAMBERLAIN said there was power under the existing Act by regulation to form a separate society for Northern Ireland and to transfer members to it from the parent society. They would have to secure the consent of the members in Northern Ireland. The proportion per head of sickness benefits was high, but in total payments the amounts were trivial. He understood that the Government of Northern Ireland was unable at the moment to assimilate its national health insurance system to that in this country.

Dr. VERNON DAVIES said he had never met people who were more afraid of sickness or pain than the Irish people. At the slightest pain they ran for the doctor, and the second question was, "Shall we send for the priest?" That psychological attitude—the fear of death on the slightest pain—must be kept in mind.

Mr. MELLER said that if medical benefit were introduced in Northern Ireland, where at present the dispensary service was an inadequate substitute, there would be an increased disparity in contributions between Northern Ireland and the Irish Free State. Mr. RIVS DAVIES asked whether the Minister would press the Government of Northern Ireland to set up an inquiry into the provision. Mr. CHAMBERLAIN said that would be very difficult to do. Representations could only be made through the Secretary for the Dominions.

The committee divided on Mr. Johnston's amendment, which was defeated by 12 to 26. Clauses 6 and 7 were then added to the bill.

Clause 8 authorizes the Minister, under regulations, in any case in which he has reason to believe that the affairs under this Act of an approved society are not properly administered in any respect to cause an inquiry to be held into the administration of the affairs of the society, and if he is satisfied as a result of the inquiry that the administration should be improved, and the society fail after such period as he may determine to introduce such reforms into the administration as are necessary, to order the amount which may be carried to the administration account of the society out of contributions under this Act to be reduced by such sum as he may direct.

Mr. WHITELEY moved an amendment providing that before making such an order the Minister should appoint an independent body to investigate and report on the affairs of the society.

Mr. CHAMBERLAIN said the proposal in the clause was much less drastic than the present law, which made withdrawal of approval, without inquiry, the penalty for maladministration by a society. Clause 7 already provided for an inquiry, and Mr. Whiteley's proposal was superfluous.

Sir KINGSLEY WOOD said it could be generally said that the administration of the societies under a complex Act of Parliament had been creditable to all concerned. Since 1911 there had been about thirty cases of maladministration, which had been met by arranging that the members of the societies concerned transferred to more efficient ones.

Mr. WHITELEY withdrew his amendment. Clauses 8 and 9 were added to the bill.

Clause 10 provides that deposit contributors who are debarred by their state of health from membership of an approved society may apply to the Minister for admission to a deposit contributors' insurance section. Mr. HARVEY moved the omission of the conditions that the application must be made within a prescribed time, and that the exclusion must have been for reasons of health.

Mr. CHAMBERLAIN said the clause was in accordance with the recommendations of the Royal Commission on National Health Insurance. No real difficulty would arise. Mr. HARVEY withdrew his amendment.

During further discussion on the clause Sir KINGSLEY WOOD said it was desirable to draw the conditions of membership for the deposit contributors' section so as to prevent the setting up of a great State insurance section in rivalry to the self-governing approved societies. Ill health was a condition of membership of the section, and any contributor who made no claim for two or three years would be asked to try and secure membership of an approved society.

Clause 10 was added to the bill.

Clause 11 proposes amendments in the provisions of the principal Act dealing with sickness and maternity benefit for unemployed married women. This was added to the bill without discussion.

Clause 12 provides for the establishment of a Seamen's Special Fund, and for the use of contributions payable in respect of masters and seamen neither domiciled nor having a place of residence in the United Kingdom. Masters and seamen are to be eligible for benefits out of this fund, whether they are insured persons or not. The committee assented to this, and to Clause 13, thereafter adjourning till May 3rd.

#### Small-pox.

Sir KINGSLEY WOOD, replying to Mr. LANSBURY, on April 24th, said that in the twelve months ended March 31st 51 cases of small-pox were notified in London. There were 7 cases of small-pox during this period amongst homeless persons in London; but information was not available as to the number of persons who had been in contact with those cases and who subsequently either developed small-pox or escaped infection; 13,348 cases were notified in England and Wales during the period in question. Complete particulars as to the vaccinal condition of these cases were not available. During the same period small-pox was entered on the medical certificate as the cause, or one of the causes, of death in 66 instances. The figures quoted above were, of course, provisional.

In an answer to Mr. Kelly, on April 26th, Mr. CHAMBERLAIN said Circular 830 dealt with the detection of small-pox among casuals, and advised boards of guardians that if a case of small-pox was found in a casual ward the temporary closing of the ward should not be necessary if certain precautions were taken. The circular did not deal with the permanent closing of redundant casual wards. He would soon speak about the extent to which his views on casual wards and small-pox had been accepted by boards of guardians.

On May 1st Sir KINGSLEY WOOD told Mr. Grundy that circular letters were recently issued to boards of guardians in consequence of the epidemic of small-pox. Apart from these, no special instructions had been issued, but the guardians were fully aware of the regulations in force, and the officers of his department would, as occasion might require, draw their attention to any necessary improvements in the arrangements of the several casual wards. As at present advised, the Minister of Health saw no ground for further action on his part.

#### Maternal Mortality.

Sir KINGSLEY WOOD told Sir Robert Thomas, on April 25th, that Mr. Chamberlain proposed to appoint a special committee on maternal mortality. The committee would doubtless report whether further financial assistance could usefully be provided for research into the question.

On April 26th Mr. CHAMBERLAIN told Sir Basil Peto that a detailed classification of deaths due to pregnancy and child-bearing was not available for a later year than 1925, in which there were 84 deaths from septic peritonitis, perimetritis, and pelvic peritonitis. It was a duty of doctors at ante-natal clinics to detect and remedy any focus of infection which might later be a cause of septic infection.

Sir BASIL PETO asked whether Mr. Chamberlain did not know that septic peritonitis almost always supervened from attempted abortion, and whether that was not brought about by the policy of the Ministry of Health in denying information about birth control at maternity and welfare centres.

Dr. VERNON DAVIES asked how anything which was done at an ante-natal centre could get rid of septic peritonitis.



Commander KENWORTHY asked whether Mr. Chamberlain denied that his policy, which the House had approved, of refusing Government information on birth control was responsible for these infections.

Mr. CHAMBERLAIN denied it. On Mr. THURTELL reasserting that lack of information about restriction of families did cause these cases, the Speaker intervened, saying such controversial questions could not be pursued at question time.

#### *Tuberculosis in England and Wales.*

Mr. CHAMBERLAIN, answering questions put by Captain Bournie on April 26th, said that on December 31st, 1927, there remained on the registers of local authorities in England and Wales 363,187 notified cases of tuberculosis. Excluding general hospitals, 215 institutions approved by the Ministry of Health for the residential treatment of tuberculosis had been approved by local authorities in England and Wales, and 134 by voluntary bodies. All these were maintained wholly or in part out of public funds. He had no complete information about institutions not so maintained. Details of the number of persons receiving treatment for tuberculosis in sanatoriums during 1927 were not yet available. In 1926 the number of persons who received residential treatment for tuberculosis under the schemes of local authorities was 63,680, the average duration of treatment being approximately 150 days.

Sir KINGSLEY WOOD, on April 24th, told Mr. Hore-Belisha that it would be impracticable to obtain accurate or complete statements as to the percentage of the industrial employed population who were discharged from their work in 1927 because they were suffering from tuberculosis.

#### *Foot-and-Mouth Disease.*

Mr. GUINNESS, answering questions on April 30th, said that during April one fresh infected area was declared on account of an outbreak of foot-and-mouth disease at Selston (Notts). Three outbreaks were confirmed in areas in which restrictions were in operation at the end of March on account of previous outbreaks. The discovery of the Foot-and-Mouth Disease Research Committee that the virus of foot-and-mouth disease remained alive in the marrow of bones for a considerable period led to the prohibition of the import of bone and bone products from the continent of Europe. Manures of animal origin were admitted under licences, subject to certain conditions.

On May 1st Mr. GUINNESS informed Sir H. Hope that the Foot-and-Mouth Disease Research Committee was investigating the behaviour of foot-and-mouth virus in animal products and on inanimate objects, in the hope of discovering the means by which the virus was introduced to this country and methods of excluding it.

#### *Bills.*

A bill to amend the Rag Flock Act (1911) was presented on April 25th by Mr. Mackinder, supported by Dr. Vernon Davies.

A bill to provide for the representation of the University of Reading in Parliament was presented by Mr. Somerville on April 26th.

The Bethlem Hospital Bill was read a second time in the House of Lords on April 19th, and sent to committee.

On April 26th the Protection of Dogs Bill, introduced by Mr. Briggs, was read a second time. An amendment, subsequently tabled to the bill by Mr. Briggs, proposes to throw on all finders of stray dogs a legal obligation to hand them over to the police.

*Treatment of Venereal Disease in Scotland.*—Sir J. GILMOUR, in reply to Mr. Buchanan, on May 1st, said that while in certain counties in Scotland there were no centres for the treatment of venereal disease, there was no county in Scotland without facilities for such treatment, either at a centre situated within its borders or by arrangements with another local authority. With regard to towns of a population of 10,000 and over, the position was as stated in his reply of April 17th. He was aware that a certain number of persons suffering from venereal disease might shift from place to place, and, indeed, for one important class of persons who frequently moved—namely, sailors—treatment facilities had been specially provided in the principal ports. The development of venereal disease schemes in all areas was being carefully watched and reviewed by the Scottish Board of Health. He did not think that at present any good purpose would be served by the appointment of a committee of inquiry such as Mr. Buchanan had suggested.

*Medical Appointments in Palestine.*—In an answer to Mr. Kelly, on April 25th, Mr. AMERY said that as yet no Government medical appointments in Palestine were open to women doctors. The special positions for dealing with infant welfare which ordinarily were filled by women doctors were covered in Palestine with a widespread service of nurses and midwives. In the opinion of the Government there was no special opening in Palestine for women doctors in other capacities.

*Sleeping Sickness.*—Mr. AMERY, in reply to Sir R. Thomas, on April 30th, said that his attention had not been drawn to the appointment by the Lisbon Government of a commission to investigate the causes of sleeping sickness in Mozambique, with special reference to the tsetse fly. He would, however, ask the Secretary for Foreign Affairs to make inquiry in the matter. A number of such missions, including several in our own territories, were engaged in the investigation of sleeping sickness problems in Africa, and endeavours were made, through a subcommittee of the Committee of Civil Research, to ensure effective collaboration among workers engaged in the study of sleeping sickness.

## Obituary.

SIR WILLIAM SELBY CHURCH, BT., K.C.B., D.M.,

Consulting Physician to St. Bartholomew's Hospital; President of the Royal College of Physicians of London 1899-1905.

THE death, on April 28th, of Sir William Church in his ninety-first year removes a great figure in the medical life of this country at the end of the last and the beginning of the present century. As he retired from St. Bartholomew's under the 65 years' age-limit as long ago as 1902, he was personally little known to the present generation; but such an example of an English country gentleman with simple sportsmanlike instincts guiding a long professional life has seldom been so consistently and unobtrusively set before men. In his time he bore much of the brunt of directing the policy and the activities of many important bodies, such as the great medical school of St. Bartholomew's Hospital, the Royal College of Physicians of London, the Royal Society of Medicine, the Imperial Cancer Research Fund, and the hospital funds of London.

William Selby Church was a member of an old and long-lived family. His father, John Church, J.P., D.L., who was born in 1782 and died in his eighty-ninth year, was taught to shoot by a man who had shot snipe along the River Fleet. His mother was Isabella, daughter of George Selby of Twizell House, Northumberland, and came of a family which once owned most of Northumberland and were the hereditary janitors of Berwick. His maternal grandfather, Pridemore John Selby (1788-1867), High Sheriff of Northumberland in 1823, was a well-known field naturalist, and painted for his illustrations of *British Ornithology* (1825-34) life-size pictures of the birds, some of the originals being in Sir William's possession. William was the youngest of three sons, the other two dying comparatively young, and was born on December 4th, 1837, at Woodside, the house in which he died, on the borders of Hatfield Park. He remembered travelling to Eastbourne when the railway from London went no further than Tunbridge Wells, where the coach had to be taken. He went to Harrow, then under Dr. C. J. Vaughan, in 1851, and was in the school eleven for four years (1853-56), being captain in his last year; but being then overgrown and short of breath he was forbidden by Dr. Richard Bright to play, and accordingly resigned his captaincy. There was, however, no regular match at Lord's against Eton that year, or indeed in 1857, because the headmasters disagreed about the date, Vaughan, indeed, vetoing the match during term time; but in the latter year he played at Lord's for eleven Harrovians under 20 years of age, including those at the universities, against eleven similar Etonians. He often represented Oxford, but did not get his "blue," and continued to play until, in village cricket, he met with the accident so familiar to athletes getting on in years—so-called rupture of the plantaris tendon. As a small boy at Harrow he heard the conversations of Old Harrovians, friends of his father, who remembered and spoke of Lord Byron in not very complimentary terms.

He went up to University College, Oxford, in 1856, and in 1860 took a first class in the School of Natural Science. In this year he was appointed Lee's Reader in Anatomy, thereby becoming a student of Christ Church, and held it until 1869, when residence was made obligatory. He entered at St. Bartholomew's Hospital Medical School probably about 1861 (for examination of the students' register does not show his signature), and worked at morbid histology with James Andrew, then warden of the college, at whose suggestion he investigated, in 1862-63, with J. S. Warter, clinical thermometry and the distinction between typhoid and typhus fevers by means of holding a rod dipped in hydrochloric acid and getting fumes in typhus cases. Warter, who was M.D. of Edinburgh, contributed a paper on "The thermometer in disease" to the *Hospital Reports*, but died prematurely of typhus. Church took the B.M. in 1864, and the D.M. Oxon. in 1868, the membership of the Royal College of Physicians in 1864, and in 1870 was elected a Fellow, together with his junior colleague Dyce Duckworth, who also died this year; since 1923 he had been the senior Fellow of the College. He lectured on comparative anatomy at St. Bartholomew's, and was



physician to the Royal General Dispensary in Bartholomew Close, and assistant physician to the Victoria Park Hospital for a time. In 1866 he was put in charge of the cholera wards at St. Bartholomew's Hospital, and then for three months was acting apothecary for Mr. Wood, thus doing the work subsequently discharged by house-physicians; in March of the following year (1867) he was elected assistant physician, and continued to do much work in the post-mortem room, publishing papers on cerebral pathology and aneurysms in the *Hospital Reports*. Between 1868 and 1880 he made thirty communications to the old Pathological Society of London, all but two before 1874. Early in 1875 he became full physician to the hospital, and when he was elected consulting physician in 1902 had taught no fewer than forty-six house-physicians. As a general physician—a type now becoming exceptional—Church was extraordinarily sound; one of his former house-physicians, who has since followed in his footsteps in being physician at their old hospital, recently expressed doubt if he ever made a serious mistake in diagnosis. He taught more by example than by precept, and had a shrewd eye to the main issues, rather avoiding extreme refinements of diagnosis. Long apprenticeship in the post-mortem room, or, as he usually called it, the dead house, had given him a sense of due proportion, and this experience he increased by constant visits when full physician. His house-physicians learnt more from him than did those who were mainly concerned to pick up hints thought to be useful in steering them safely through the jaws of the examining bodies. He certainly never "laid himself out for practice," and his voice was not heard in the market-place; but, though he gave no sign of disappointment, he was not so indifferent to private practice as was commonly supposed.

At the Royal College of Physicians of London he held the offices of Examiner in 1874, 1875, 1884-86, Councillor 1888-89, Censor 1890-91, Senior Censor in 1896, and was elected President 1899-1904. The first election, on March 27th, 1899, on the retirement of the late Sir Samuel Wilks, was remarkable for the close contest between him and the late Sir William Broadbent, and was impressed indelibly on the memory of those present by the sudden failure of the electric light, which necessitated the votes (Church 77, Broadbent 67) being counted by the glimmering light of a single lamp—a Rembrandt-like effect.

Throughout his life he shouldered laborious and necessary, but not invariably interesting, tasks as a matter of duty without any suggestion that this was the reason, and, moreover, always mastered the business thoroughly. At the Hospital School committees he was indefatigable, and was said to have carried the staff on his back. On the General Medical Council he represented the University of Oxford from 1889 to 1898, and on Sir Henry Acland's resignation of the regius professorship of medicine in 1894 was his obvious successor, but for family reasons he declined to be put forward. When he became President of the Royal College of Physicians of London official appointments crowded upon him. In 1900 he went to South Africa as a member of the Royal Commission on the Treatment of the Sick and Wounded in the South African war. On the announcement of this Commission there were some questions

asked in a critical tone in the House of Commons about some of the members of the Commission, and in answering them Lord (then Mr. A. J.) Balfour showed up their futility by adding, "I suppose that someone will express doubt about Dr. Church's appointment?" In 1901 he served on the Royal Commission on Arsenical Poisoning by Beer in the Midlands, and in 1906 was on the Royal Commission on Viri-section. He was chairman of the executive committee of the Imperial Cancer Research Fund from its foundation in 1902 until July, 1923. He took an active part for many years (1903 to 1918) as chairman of the distribution committee of the King Edward VII Hospital Fund for London, and was also chairman of the distribution committee of the Hospital Sunday Fund until 1922. As President of the Royal College of Physicians he was naturally called upon to give introductory addresses; in October, 1901, he delivered the address at the opening of the winter session

at the Yorkshire College, Leeds; at the Oxford Meeting of the British Medical Association in 1904 he gave the Address in Medicine on "Our sanitary needs, with special reference to the national health"; and, in 1905 he addressed the York Medical Society on "Medicine in the past, present, and future." When Sir Andrew Clark, who was president of the Royal Medical and Chirurgical Society, died in November, 1893, Church was the senior medical vice-president; and accordingly acted as president for the remainder of the session—by no means a light task, for it involved the preparation of the president's address, chiefly composed of detailed obituaries of deceased Fellows, which (and particularly in the case of Sir Andrew Clark) necessitated many and minute inquiries. In 1884 he became one of the honorary treasurers of the society, and in 1905, when senior honorary treasurer, directly after ceasing to be President of the Royal College of Physicians, became chairman of the organizing committee, which, after two years of constant negotiations, successfully accomplished the amalgamation with seventeen other medical societies into

the Royal Society of Medicine in 1907, of which he appropriately became the first president. The enormous labour of conciliating and satisfying the wishes and rights of the contracting bodies had been unsuccessfully attempted several times before—for example, in 1870, when the number of interests concerned was very much smaller. This eventual success, for which the honorary secretaries—the late Dr. Arthur Latham and Mr. H. S. Pendlebury—and the late Sir John MacAlister played admirably in team work, owed much to Sir William Church, for he was, as Sir William Osler said when seconding his election as president, "that rare bird in the profession, a good business man." He continued the honorary treasurership during his presidency (1907-09) until 1913 (except for the year 1911), thus steering the financial course of the society through the troubled waters of finance during the most critical years of transformation and early growth.

Church was not a voluminous writer, but whatever he did, and usually it was in response to some special call, was the outcome of much work and solid thought. He delivered the Harveian Oration at the Royal College of Physicians of London in 1895, the year after Sir Lauder Brunton, who for years was his corresponding assistant



Photo by]

[Elliott and Fry.

SIR WILLIAM CHURCH, Bt., K.C.B.

physician. His Harveian Oration on "The rise of physiology in England" was supplemented by an appendix in small print occupying rather more than half the number of pages that the Oration itself did, and containing much interesting detail, the outcome of patient research. He was Editor of *St. Bartholomew's Hospital Reports* for a number of years (1877 to 1893), bringing out the thirteenth to the twenty-ninth volumes inclusive, and a large part of what he wrote on purely professional subjects is embedded in their pages. He contributed to the first volume a paper on ichthyosis with congenital malformation of the aorta, and for the last time, in 1897, accounts of clinical cases from his wards. The thirteen papers between these two cover a wide range of medicine, as is shown by reference to some of them, such as his report on 136 cases of cholera with 44 deaths, or 33.08 per cent., treated in the hospital in 1866; two valuable reports on cerebral pathology, in 1868 and 1869; a discussion on the etiology of aneurysms (1870), on pyæmia (1893), diphtheria (1891), hydatids (1893). A most important contribution was his analysis of nearly 700 cases of rheumatic fever (1887), on which he wrote with authority in the first and second editions of Allbutt's *System of Medicine*. A great deal of time-consuming and exhaustive investigation was entailed in his historical account of "Our hospital pharmacopœia and apothecary's shop," and in an appendix to the first instalment "A note on the six gifts of Theophilus, Philanthropos or Robert Poole." (The "gifts" of Robert Poole, physician to the Middlesex Infirmary and the Small-pox Hospital, and a follower of George Whitfield, were published works, of which the fifth was the *Physical Vade Mecum*.) He also wrote obituary notices of his colleagues James Andrew and Sir Thomas Smith. In 1899, in an address to the Abernethian Society of the hospital, he reviewed "The progress of medicine during the reign of Queen Victoria," a period then almost corresponding to his own life.

Many honours, entirely unsought, rightly came to him; he was created a baronet in 1901 and K.C.B. (Civil) in 1902, an Honorary Fellow of University College, Oxford, and an Honorary D.Sc. of that University in 1904; he was also the recipient of the Honorary D.Sc. Victoria, D.C.L. Durham, and LL.D. Glasgow. He was a keen shot, fond of horses, and was at one time a prominent member of the London Skating Club. He travelled little abroad, as he had many interests in his country home, where after his retirement he was active as a county councillor and justice of the peace, and in other respects.

Tall, handsome, and with a fine presence, his features when at rest were serene and of a natural unconcealed dignity, but they did not invite any attempt to dictate; bluff, or override his opinion, which he always gave quite plainly. Surprisingly modest, without diffidence or shyness, he was firm, but never showed anger, and was absolutely devoid of self-seeking or log-rolling; he was indeed a just man, whose impartial decisions and wise advice inspired general respect and confidence. Kind and hospitable, he naturally had numerous friends in different walks of life; and among the profession he served so well there are many who owe him much for generous help, and even more for a wonderful example.

In his early professional life he lived first in Granville Street, Portman Square, then at 2, Upper George Street, Bryanston Square, and all his married life at 130, Harley Street. In 1875 he married his relative Sybil Constance, daughter of C. J. Bigge of Linden, Northumberland, who was an uncle of Lord Stamfordham. Lady Church died suddenly in 1913, leaving one daughter and two sons, the elder of whom, John William, was killed in the war (1918), and the younger, Major Geoffrey Selby Church, M.C., R.F.A., succeeds to the title.

The funeral took place on Monday, April 30th, at St. Mark's Church, Woodhill, near his home. A memorial service was held at the same time at the Church of St. Bartholomew the Less inside the precincts of the hospital with which he had been connected for sixty-seven years. It was attended by the President, Censors, and Officers of the Royal College of Physicians.

HUMPHRY ROLLESTON.

## PERSONAL APPRECIATIONS.

We are indebted to Sir ARCHIBALD GARROD for the following appreciation:

The death of Sir William Church, at the ripe age of 90 years, removes from amongst us the Nestor of the Oxford Medical School and the last survivor of a generation of physicians and surgeons to St. Bartholomew's Hospital who seem, to those who were taught by them, to have included an unusual number of men of outstanding personality. For Oxford Sir William had strong affection from the days of his youth when, having taken a first class in the Honour School of Natural Science, he was for a time Lee's reader in anatomy and a senior student of Christ Church. At a later period he represented the University on the General Medical Council, and served on the Board of the Faculty of Medicine. He always had the interests of the Oxford Medical School near to his heart. At St. Bartholomew's he is chiefly remembered as a wise counsellor, whose advice always reflected his own high standards, and always courteous and considerate to those with whom he came in contact. He was also a very able administrator, and his colleagues testified how much of the success of the Medical School was due to its treasurer. These qualities found even wider scope during the six years of his presidency of the Royal College of Physicians. By birth and tastes a country squire, and fond of country pursuits, Sir William devoted his best energies to any work in committee room or ward which he undertook. No one was more regular in attendance, and although he was not at his best as a clinical teacher, one recalls consultations in which he alone reached a correct diagnosis, and sentences which summed up tersely all that needed to be said on a subject. His friends and pupils rejoiced that he was able to enjoy the evening of his life, spent in his country home in the surroundings which he loved so well.

Dr. H. MORLEY FLETCHER, senior physician to St. Bartholomew's Hospital, writes:

As one who served under Sir William Church, first as a clinical clerk and later as his house-physician, and afterwards had the privilege of enjoying his friendship for many years, I am glad to have an opportunity of contributing a few lines about his work at St. Bartholomew's Hospital. His fine presence; his bushy eyebrows, and his keen, penetrating dark eyes with their kindly expression made him a most impressive figure in the wards. He did not give bedside addresses but said comparatively little, though he always liked to be questioned by his clerks, and then he would talk freely in reply. As a teacher he was perhaps more valuable to his house-physicians than to students. During his twenty-eight years of office as physician he had forty-six house-physicians, and all of those who acted in that capacity felt that they owed him a great debt of gratitude for his sound teaching in clinical medicine. His power of diagnosis was very striking, and rarely, if ever, was it found to be mistaken. It was always based on a most thorough physical examination, and never did he attempt a diagnosis based on insufficient grounds. He was a fine morbid anatomist, and for years performed the medical post-mortem examinations at the hospital. The records so carefully drawn up by him are evidence of his devotion to this important department of medicine. He was a pillar of strength on the medical staff, as he was indeed a wise counsellor. His honesty of purpose, strict impartiality, and sound judgement were recognized and valued by all his colleagues. As chairman of the Finance Committee for many years he played a great part in building up the school on a firm basis. After his retirement from active service on the staff he served on lay committees to the great advantage of the administration of the hospital.

What one could always feel with Church was that in him one had a wise friend of great experience and judgement, to whom in times of doubt or trouble one could always go for advice and help, and that this would be forthcoming in full measure. I think he was the most honest and truthful man I have ever had the honour of knowing.

J. A. MACDONALD, M.D., M.Ch., LL.D.,  
Past Chairman of Council and of the Representative Body,  
British Medical Association; Consulting Physician,  
Taunton and Somerset Hospital.

IN our last issue we had to announce with deep regret the death of Dr. J. A. Macdonald, which took place on April 23rd at his home in Taunton, after an illness of some months' duration. In him the British Medical Association loses one of its great figures, a man of outstanding character, universally liked and respected, who devoted a very large part of his working life to the interests of the medical profession and the welfare of his brother practitioners.

James Alexander Macdonald was born in 1855 at Newtownards, County Down, and on leaving school studied for the teaching profession. From his earliest days he was a fine athlete. He played for Ireland in the second International Rugby football match against England, and was in the Irish team for several years; he also played in one international Association match against England, and was an international lacrosse player along with his three brothers. After a short time as a schoolmaster at the Methodist College, Belfast, he decided to take up the profession of medicine, and entered as a medical student at Queen's College in that city, graduating M.D. and M.Ch. at the old Royal University of Ireland in 1887, and B.A.O. in 1889. To a man of Macdonald's open-air tastes and splendid physique the life of a country practitioner naturally appealed. On coming to England some forty years ago as assistant to the late Dr. George Cornish of Taunton, he soon became identified with the public life of the town and district. He succeeded to Dr. Cornish's practice, became medical officer to the Taunton Board of Guardians, and was appointed to the staff of the Taunton and Somerset Hospital, which he served for many years as physician, though surgery was perhaps his strongest professional interest. He took a keen interest in politics, both general and local, and was for a long time chairman of the old Taunton Conservative Association. Ever ready to encourage sport in his adopted town and county, Macdonald's services were in constant demand at athletic meetings of all kinds. He was a very familiar figure on the county cricket ground at Taunton, and maintained his interest in Rugby football up to the last.

In the British Medical Association, which he served with

such ability and distinction, Macdonald held almost every office. He had been a member of the West Somerset Branch Council from 1894 onwards, and had acted as its representative for the past twenty-five years, holding office as president of the Branch in 1899 and again in 1926. In recognition of his work for the profession in the West of England he was elected an associate member of the Dorset and West Hants Branch. He became a member of the Central Council in 1906, and soon afterwards was elected Chairman of the Representative Body in succession to Sir Victor Horsley. He held this post for three years, and was then chosen to succeed Mr. Edmund Owen as Chairman

of Council. He retired from that position in June, 1920, after serving for ten arduous and eventful years, which included the Insurance Bill crisis and the whole period of the war. He was elected a Vice-President of the Association at the Belfast Annual Meeting in 1909, held office as President of the Section of Medical Sociology at the London Meeting in 1910, and during the Birmingham Meeting in 1911 received the honorary degree of LL.D. from the University of Birmingham. The Association's Gold Medal of Merit was awarded him in 1913. In the following year he made a tour of the New Zealand, Australian, and some of the Far Eastern Branches, and he acted again as ambassador of the parent body to Oversea Branches when he visited South Africa soon after relinquishing the chairmanship of Council. These visits were greatly appreciated by all members of the Branches, and they did much to bind closer together the British Medical Association at home and overseas. Dr. Macdonald's absence in South Africa during the latter part of 1920 was taken as an appropriate moment to set on foot an appeal for



*J. A. Macdonald*

a testimonial fund in acknowledgement of his long and self-sacrificing work for the Association and the profession; the presentation was made to him during the Newcastle Annual Meeting by Sir Clifford Allbutt, the outgoing President. From 1920 onwards Macdonald was chairman of the Journal Committee; this was work which made a strong appeal to him, and he was admirably equipped for it by temperament and experience. His loyalty to the *Journal* and its staff was made plain to all every year when he presented the Committee's report to the Representative Body.

For the past seventeen years Macdonald had been one of the direct representatives of the profession in England and Wales on the General Medical Council, and during a considerable part of that period he was a member of the

Executive Committee and of the Education Committee. He was diligent in attendance at Committee and Council meetings, and took a deep interest in the disciplinary business. Another proof of the trust reposed in Macdonald by his fellow practitioners was their choice of him to preside over the early sessions of the Conference of Representatives of Local Medical and Panel Committees. In October, 1919, he was appointed by Dr. Addison (the first Minister of Health) as a member of the Consultative Council on Medical and Allied Services. Lastly may be mentioned his presidency for several years of the Irish Medical Schools' and Graduates' Association.

The funeral, on April 26th, was very largely attended—indeed, the whole of Taunton seemed to have turned out to the church service, and a large number of the townspeople walked to the cemetery. There was a big attendance of Freemasons, Dr. Macdonald having been a very prominent local Freemason, and also a Past Grand Officer. The medical profession was well represented. The Chairman of Council (Dr. Brackenbury) and the Medical Secretary (Dr. Cox) represented headquarters, Drs. F. J. Gomez and H. C. Bristowe represented the Council as well as the West Somerset Branch, and Dr. D. E. Finlay the Gloucestershire Branch. Two other colleagues and old friends must be mentioned—Drs. A. E. Joselyne and J. T. Cameron, who had attended Dr. Macdonald during his last illness.

#### PERSONAL TRIBUTES.

We are indebted to a number of leading old colleagues and friends of Dr. Macdonald in the work of the British Medical Association for the personal appreciations that follow.

Sir JENNER VERRALL writes:

It is told that, when Coleridge died, Charles Lamb would recall his loss from time to time and suddenly exclaim, "Coleridge is dead!" Even so will some of us speak of Macdonald. He has been so long a familiar figure in the Association that only the older members can think of a day when his name was not yet a household word. Though already well known in his own locality, it was the position he assumed under the new constitution in 1902 which brought him quickly into general notice, so that he was actually the second on the list of Chairmen of the Representative Body. He could be moved to a fiery indignation by injustice, was pitiful for distress or failure; but it was the straightforwardness of the man which gained and held the hearts of all. There were elements in him through which he played some parts in life: strong in body and mind, ready to see an opportunity and steadfast in grasping it, easy to follow because easily understood. These were the things which made him in early life an international football player, and later, for so long, a leader of men. When he rose in a meeting there would be no vague generalities. He spoke to press some definite point or expose a danger, and he would, perhaps, end with a whimsical, almost wistful, smile and "I really do not see what else you can do." Men trusted him, for he trusted himself. Who can say if there was still work for him to do? But we may be glad, as he was glad, that fullness of years was given to him that he might be a pioneer in the constitution of the Association, a strong tower for us while the Insurance Act was in the making, and in other stormy times, and a framer of plans for future good in the quiet days of peace.

Sir EWEN J. MACLEAN writes:

The first vivid impression I have of Macdonald was gained at the Exeter Meeting of the Association in 1907, when he was elected to succeed Victor Horsley as Chairman of the Representative Body. A very different type of man in physique, outlook, and otherwise, but, none the less, a sound instinct had determined the choice. The Association, under its reconstructed machinery and with the compelling personality and ability of Horsley to focus it, had taken much new ground in various directions, and needed a leader of rather the "strong silent" type to bring it, for a time at all events, beside the still waters; and such a man was Macdonald.

Of the strong athletic type of build, his handsome

features, well-shaped head, and silvered hair combined to gather from my meeting over which he presided a quick confidence which was confirmed by the tones of the pleasing, good-carrying voice. His fairness of mind and ready wit were further attributes which went to make him the admirable chairman he was. He would not, however, tolerate for long any fantastic element developing in a debate, or the discussion of any proposal inciting to precipitate action. Many a time in the Representative Body and in the Council would a few sentences from him, charged with kindly satire or strong disapproval, speedily bring the proceedings within the pale of "common sense." When he was not in the chair, to "put up Mac" towards the end of a debate meant to gather and consolidate the practical and feasible points which remained or had emerged in its course.

He had no occasion to seek popularity; it came to him. He was trusted of men, and radiated friendliness. He was a man of intense political conviction, even perhaps of bias, and yet in the days of the insurance negotiations, when feeling was running high, I have seen him, though with some obvious effort, control his words and demeanour better to pursue the task in hand. When acute differences arise, some men display their worst qualities, others their best. To differ from Macdonald did not mean to dislike him. On the contrary, in a captivating degree, he had the capacity of agreeing to differ. As it happens, some weeks ago I met, on a public occasion, the distinguished statesman who was responsible for the Insurance Act, and he said: "How is old Macdonald? He was against us, but I liked him!" Macdonald and I would sometimes, in retrospect, fight over again the feudal battles between our respective clans, and as often as not it would end up by his making the passes of striking a dirk into the bench and jocularly challenging me to remember that wherever a Macdonald sat was the head of the table.

Amongst the many and varied services of outstanding importance which Macdonald has rendered the Association, none, I think, can be counted of greater value than his insistence on sanity of outlook and common sense in its counsels. The many years during which he devoted so much time and energy to arduous work at headquarters and elsewhere must have cost him much in finances and in health, and it is with a full heart I recall that when in Edinburgh last year I said we would welcome him at the Cardiff Meeting, he replied pathetically, "I'll surely come, old man—if I'm alive." We shall miss him profoundly.

Mr. E. B. TURNER writes:

My acquaintance with J. A. Macdonald began more than fifty years ago in the flurry of a scrimmage in a twenty-a-side match played on the Rathmines Ground at Dublin. Both of us being what are now called "front-row forwards," we saw (and felt) a good deal of each other during that strenuous hour and a half. We afterwards cemented our friendship at the dinner, where we sat next to each other. Exactly the same thing happened in the two subsequent years, the first in London, the second in Dublin again. For many years after 1878 (when the last of these meetings took place) I only saw Macdonald occasionally when I met him at an Irish match at Blackheath, Richmond, and later on at Twickenham. I knew nothing of his connexion with or work for the British Medical Association, as I was not then a member. I was therefore astounded, when I attended my first Representative Meeting at the Guildhall, and Dawson Williams took me off to introduce me to the Chairman of Council, to find my old friend and opponent of days gone by in that position. Since then, for the last seventeen years, I have been very closely connected with him in almost every aspect of B.M.A. work—on committees, conferences, and Council meetings. During the war his help to me when I was Chairman of the Representative Body was invaluable, and on those most important committees which followed the peace I more and more learned to value and appreciate his qualities. He never spared himself. He was always ready to give of his very best for the good of the public and of the medical profession. He was a whole-hearted B.M.A. man, and during all the years of his work with and for that body was always ready to do whatever in him might lie to con-

solidate its strength and prestige; and its present high position is in a very great measure due to his long, devoted, and unselfish work. He was a bonny fighter, eloquent and generous in debate, with the God-given gift of humour. An outstanding figure in our profession, we shall not soon look upon his like again.

Sir ROBERT BOLAM writes:

During the last quarter of a century "Macdonald of Taunton" has been a name of moment in the British Medical Association. For more than fifteen years he has been to me a vivid and admirable personality. Admission to the freedom of his friendship these twelve years past has been a high privilege. My first experience on the Council was in the early years of his long term of office as Chairman, before the shadow of ill health fell on him. His effortless grasp of intricate and important business, even at the end of a long tedious day, and his intuitive knowledge of the tendencies of his Council members were always surprising. There was much of personal magnetism in his rule. He could be advisedly silent or speechful himself, would brighten the dull debate with humour, encourage the timid, muzzle the verbose or irrelevant, and quell the insubordinate.

At the annual meetings he was at his best. A tower of strength in difficult situations in the Representative Meeting, by a few sentences he would clarify an apparently hopeless position or prevent some step which would be foolish or unsafe. He was never prone to long speeches at these times. His utterances were pithy and to the point, and on occasion he would thunder with a fine indignation where his feelings were deeply stirred. Then at the various social functions he was equally a prominent figure. Though Ireland was his birthplace, one always thinks of Macdonald as typically British in his demeanour and outlook. He had the best traits of all our island nationalities, even if the humour and the keen political instinct of his home country were two of the most dominant. In his youth no mean athlete, Macdonald was still a golfer when I first knew him, and to the end of his days a sportsman in the highest sense. In medico-politics he was never quite reconciled to the steady inroads made by State and local services on the domain of private practice during the last three decades. Yet he was too much of a statesman to allow his feelings to interfere with his recognition of an inevitable trend. The advance of the British Medical Association in the early years of its present constitution was due in the main to the sound sense and devoted labours of a relatively small band of workers. Among these J. A. Macdonald will always hold a pre-eminent place as a statesman and a worthy ambassador of the profession. In the memory of his friends the picture of that noble head and sturdy figure will ever stand for all that is straight and true and lovable.

Dr. C. O. HAWTHORNE writes:

The announcement of the death of Dr. J. A. Macdonald must bring a sense of loss to all members of the British Medical Association. So prolonged and so conspicuous is his record of service that many who never knew him personally will feel that a commanding figure has gone from amongst us. In the history of the Association his name is written in large and firm characters, and just as he gave gladly, so in turn he received confidence and gratitude in full measure. A prominent memory of Macdonald for those who have been associated with him in counsel, in debate, and in administration will certainly be a recognition of the definiteness of his views and opinions. To differ from him was, of course, possible, but not to misunderstand him. Never hurried in his conclusions, and not unduly impatient of opposing arguments, he had a large capacity for decision and an ability to stand fast where he had chosen his ground. These qualities made him an ideal chairman and an efficient administrator. In similar fashion he was a really gallant ally, and equally a formidable opponent, when a fighting campaign was in progress; and he had a manifest joy in battle that engaged the goodwill even of his friends the enemy. His mind, like his physique, was of the robust order, and though circumstances sometimes compelled him to compromise he had no love for this ~~sort~~ of strategy;

what appealed to him was the rigour of the game. Yet, withal, he was a very lovable personality, and in the inner counsels of the Association it is not only his wisdom and commonsense and experience we shall miss, but also his generous and large-hearted fellowship.

Dr. H. B. BRACKENBURY writes:

It was not until after my election to the Council of the Association in 1914 that I knew Macdonald, though I think I had previously attended at least one conference of which he also was a member. He was at that time Chairman of Council and of the Insurance Acts Committee, and he acted also as chairman of the Conference of Local Medical and Panel Committees. My first impressions were of a striking and attractive personality and an extraordinarily capable and effective chairman. Later one discovered, along with one or two ingrained prejudices which often influenced his pronouncements rather than his actions, a soundness of judgement, a grasp of hard facts, and an appreciation of practical difficulties which made him a wise counsellor and a valuable leader of opinion. It was perhaps a little difficult to become intimate with him, but a natural and innate reserve did not succeed in obscuring a broad and abundant sympathy. His was a powerful intellect and a strong character, and he placed these and all his great abilities at the disposal of the Association and profession to a degree and with an unselfishness which have, I think, never received sufficient appreciation and acknowledgement. Over a long series of years he sacrificed time, energy, economic prospects, in the interests of his fellow practitioners and of the organized profession. In these interests he worked hard and continuously and wisely, especially in connexion with the British Medical Association and the General Medical Council, to the amazement of those who were in a position to appreciate what he was doing, and in a way which deserves the great gratitude of all those who have benefited thereby. The memory of his fine figure, lovable personality, and trusted leadership is one to cherish.

Mr. N. BISHOP HARMAN writes:

To Macdonald there fell the unique lot of guiding the counsels of our Association, and through them the profession at large, during some of the most stirring epochs of the last hundred years of medical life. There never was a time when medical opinion and temper were so stirred as during the passage of the Insurance Bill through Parliament. There never was a time when national life was so stirred as during the great war. Through the years of formation of professional opinion before the launching of the original Insurance Bill, and during the negotiations of the terms of the bill, Macdonald was at the helm. Again, in that other epoch, perhaps more cataclysmal than any other of the world's history, in the time of the war, Macdonald was at the helm of the Association's affairs. He was Chairman of Council from 1911 to 1920, and through all these years he devoted himself to the service of his professional colleagues and their business in a manner that few have realized. The character of his work that strikes the mind, when one attempts to judge its quality and to sum up the impressions of it in some terse expression, was balance. He was a man in whom there was shown to the full that perfect coherence of cool thought and calm judgement that gave a perfect poise in the times of human storm, when passions were aroused and temperaments were battling in the dust of the arena. During these difficult years, when sides waxed and waned, he never lost his sense of proportion or failed to keep a fair balance between the swaying parties he had to guide. Reputations were made and marred, but his steadily appreciated. Surely that was the mark of a man of worth. It is sometimes suggested that physique and character are correlated, that the one is the reflex of the other; it surely was so with Macdonald. In physique he was stability personified, though not of the sort shown by the stone pylon, which is stable by virtue of its weight, for with all his solid strength he possessed a manifestly strong current of vitality, which was part of his stability. If there be an "inferiority complex" that forces some to vindicate their existence, to assert that they are there, then Macdonald was born with a most enviable "superiority complex" that gave him a mind



above pettiness, above demagoguery, and filled him full of a golden common sense that saw things both near and far in a comprehensive view. It was a great thing for our profession that there was a man of his calibre at the helm in those days. In these last years, when age and infirmity gave him less time and vigour to work for the Association, he yet found time to serve as the chairman of the Journal Committee, and it is sad to think that within so short a time both the Editor, with whose life-work Macdonald was so closely woven, and the chairman of the Committee that supervises the work of the *Journal* should have reaped their last laurels and passed to their rest.

Two incidents of the stormy years of the Insurance Bill recall to my mind his mastery of affairs—the occasion when the Special Representative Meeting, held at the old Examination Hall of the Conjoint Board on the Thames Embankment, when he guided the proceedings on the visit of the Minister in charge of the bill, and again, a little later, when I met him one Sunday morning after the fateful Council meeting, when he told me of the decision of the Council with regard to the transfer of the services of one of the officials of the Association to the service of the Government. He saw clear-eyed the storm that these actions forecasted, but he did not for one moment quail or hesitate in guiding his colleagues along a path that events and calmer days have justified. Macdonald was an ideal chief, for he was a good comrade. He was massive and yet genial, fearless but kindly. He will live in the memory of the generation that succeeds him as an inspiration.

Sir JAMES BARR writes from Jersey:

It is with extreme regret that I have learned of the death of Dr. J. A. Macdonald. It is only a few weeks since he paid a warm tribute to the memory of Sir Dawson Williams, and now his numerous friends have to deplore his own death. He has long been well and widely known as an outstanding figurehead of the British Medical Association, but comparatively few knew how much the medical profession, and especially the Association, owe to his untiring and unselfish energy. The amount of work and time which he devoted to his public duties was given ungrudgingly and without any personal ends in view. Macdonald's ambition was the aggrandisement and welfare of the medical profession.

He was never a keen controversialist, but he was an ideal chairman, and although he allowed contending forces fair liberty in debate, he never tolerated any licence. He was always firm in his decisions, which were invariably respected by all parties. I was closely associated with him during the stormy times preceding the Insurance Act, when the vast majority of the medical profession were in opposition to the bill; but when the Act became a *fait accompli*, although a stubborn North of Ireland man, he was able to adapt himself to the working of the Act, and piloted the Association through troubled waters into a safe harbour. With his wish I had the pleasure and honour of acting as his deputy in the Council chair during his visit to the antipodes in 1914. Honours and dignities have been showered on less worthy men, but his ambition was not personal, but professional. The Council of the Association recognized his supreme merits, and conferred on him all the honours that were in its power to bestow. He had the personal misfortune to remain a bachelor, but he was wedded to his profession, and had he become a Benedictine the medical profession would have been the losers.

Macdonald was a prominent member of a band of distinguished graduates of the Queen's University who settled in this country in the seventies. Perhaps his first introduction to England was as an international Rugby footballer. I well recollect in 1912, when I was introducing Dr. Gordon of Maghull to him, that they had both played together against England. They were then most loyal subjects, and prepared to fight for England; but when the British Government in their Home Rule escapades were prepared to betray and coerce Ulster, the most loyal part of the Empire, Macdonald was among the first to join Carson's Covenanters. All the Queen's University men to whom I have referred have held prominent public and

professional positions in this country, have been an honour to the country of their birth as well as to that of their adoption. A good many of them are now dead, and the latest to join the great majority, Dr. Macdonald, will be long and affectionately remembered by all who knew him. I feel that I have lost another dear personal friend, and I much regret that I am not now in a position to attend his obsequies.

Dr. MILNEN MOORE (Eastbourne) writes:

I should like to add my tribute of respect and admiration for the late J. A. Macdonald. For many years I have watched his devotion to the interests of the British Medical Association and its members, having sat at his feet when he was Chairman of the Representative Meetings, in the conduct of which he was ever firm, courteous, and discerning. I have admired his manly figure, his captivating brogue, and his ready response to any question asked or suggestion proposed. I regret indeed his loss to the Association and to all those who may have been nearest and dearest to him.

Dr. ALFRED COX writes:

I first met Macdonald at the historic conference called by the Medical Guild in May, 1900. The conference consisted of representatives of local medical societies, of a few Branches of the British Medical Association, and of the Council of the Association, and its influence on the future of the Association was immense, as all those who have read Dr. McVail's account (which was published in the *British Medical Journal* of June 7th, 14th, 21st, and 28th, 1924) know well. Macdonald came as a representative of the West Somerset Branch of the Association; he took little part in the debates, but impressed all of us with his personality. He said afterwards that he had very little knowledge of the subjects to be discussed, and had gone more or less out of curiosity, but his visit was the means of leading him into the life of the Association, and it was not long before he became an acknowledged leader. The seal was put upon his position when he was elected to follow Horsley as the second Chairman of the Representative Body. Horsley was a most masterful person, and there were many who were doubtful whether anybody could successfully follow him in an admittedly difficult position. But Macdonald quickly allayed all fears, and he loved to be reminded of the fact that within half an hour of taking the chair he had called Sir Victor Horsley to order, an event which caused great joy to all who witnessed it. From that day onwards Macdonald became and remained a leader in the Association—trusted, admired, and liked as few men have been. It has always been a subject of wonder to me how he, a single-handed general practitioner, could give up the time he did to the Association and the profession generally. I suppose that, averaged over the last twenty-five years, a day a week would probably be an under-estimate. He explained it by saying that a man must have a hobby and be prepared to pay for it, and that he had the best of neighbours and colleagues. Macdonald was one of those fortunate men who are born with a strong personality. One could not be in the same company with him for long without being impressed by it. He had very strong prejudices, and never concealed them, but he was the soul of honour, and I could not imagine him ever doing a shady action. The Association owes to Macdonald far more than it could ever repay, and the place he made for himself in the profession, by sheer force of personal character, was unique.

Mr. W. E. HEMPSON writes:

I should wish to say a word in tribute to the memory of J. A. Macdonald. Friendship between us dated from our first meeting some twenty-five years ago, and became more closely cemented year by year. He was in truth a boon companion, a staunch friend, and a generous foe—with a "white man," a sportsman, and a gentleman. How few one meets in life who can claim these attributes to the full measure that he enjoyed them, borne with a modesty which disarmed criticism or envy. Had the Representative Body been canvassed in point of individual popularity, Macdonald would without doubt have headed the

list. In debate his voice was never heard on any subject without good occasion arising, and when he spoke he struck home and carried conviction. His honesty of purpose in everything he said and did was universally accepted. Such is my experience of our old friend, and the affection which I bore towards him will remain green in my memory.

The death is announced of Dr. JANE HENDERSON RUTHVEN, one of the best known medical women in Johannesburg, which took place in the General Hospital there on March 28th, after a brief illness. Dr. Henderson, as she then was, received her medical education at the London School of Medicine for Women, and studied later in Paris. In 1890 she obtained the Scottish triple qualification, L.R.C.P., L.R.C.S.Ed., and L.R.F.P.S.Glas., graduating M.D.Brux. in the following year. She had the distinction later of being one of the first medical women to be appointed to the resident staff of a mental hospital, and for two years was assistant medical officer at the Holloway Sanatorium, Virginia Water. Subsequently she commenced practice in Glasgow, where she remained for about seven years, during which time she devoted herself largely to work at the Wynd Mission Dispensary in that city. In 1902 her association with South Africa began, when in the aftermath of the war she received an appointment under the Colonial Office for work in connexion with the concentration camps, and became medical officer of the camp at Krugersdorp. On her marriage soon afterwards she took up her residence in the country, but for many years past had been living in Johannesburg, where in addition to carrying on private practice she was one of the medical officers at the school clinic. Dr. Ruthven's activities, however, extended considerably beyond the affairs of her profession; she took a leading part in various women's movements, and for a number of years was president of the Women's Enfranchisement League. She was also a vice-president of the Women's Civic Society and a member of the National Council of Women; she was, in 1909, elected a Fellow of the Royal Society of Arts, and had recently contributed to the proceedings of the South African Society for the Advancement of Science a paper on international intellectual co-operation. Social and political affairs generally possessed a deep interest for her, and she had travelled extensively in Europe and America. Among other activities may be mentioned her work in connexion with the District Nursing Association, her membership of the League of Nations Union, and her interest in the affairs of the St. George's Presbyterian Church, Johannesburg, in which she was recently elected a manager.

Dr. JOHN LAWSON RANKINE, who died suddenly on April 14th, was born in 1881, and received his medical education at Oxford University and Guy's Hospital, London, obtaining the diplomas M.R.C.S.Eng. and L.R.C.P.Lond. in 1907. He then served for a period as house-surgeon at the Dumfries and Galloway Royal Infirmary, and later was a clinical assistant at the Royal Eye Hospital, Southwark, before embarking in practice in the Border district, first at Mallsburn, Bewcastle, and at Fergus Hill, Kirkcubright, and finally at Longtown, where he spent the greater part of his professional life. He was medical officer of health for the Longtown rural district, and took a considerable part in organizing the provision in the area for dealing with infectious disease. During the war he was for a time in charge of the local Red Cross Hospital, and later received a commission in the Royal Army Medical Corps, serving in the East with the acting rank of major. References to his death were made in the churches of several denominations, and a memorial service, held in Arthuret Parish Church, Longtown, was largely attended by all classes of the community, and notably by representatives of the public health service and the medical profession. Dr. D. C. Edington and Dr. G. T. Willan represented the British Medical Association, of which Dr. Rankine was a member. He is survived by his widow, a son, and a daughter.

Dr. FRANCIS PENNY, who died in Doncaster Infirmary on April 15th from injuries received in a motor accident five days previously, was until recently medical superintendent at the Barnsley and Wakefield Joint Sanatorium, Mount Vernon, Barnsley. He received his medical education at King's College, London, where he was a Warneford Scholar, and in 1884 obtained the diplomas M.R.C.S.Eng. and L.S.A.Lond. As a house-surgeon at King's College Hospital he was associated with Lord Lister. Subsequently he held resident posts at the North Devon Infirmary, Barnstaple, and at the Doncaster Infirmary, and served as a civil surgeon in the South African war. A keen interest in travel and exploration later led him to seek employment abroad, and he acted at various times as medical officer to various mining companies in regions so diverse as Spitzbergen and Central Africa. During the late war he served at sea, and in more recent years was, for a period of about six years, medical superintendent at the Mount Vernon Sanatorium. At the time of his death he was engaged in preparations for a voyage to New Zealand. A former colleague writes: Francis Penny was much loved, and was very popular with his patients. He held very decided opinions in various medical matters, and strongly believed that most of our modern ailments were due to overeating. He believed in periods of fasting, and never, of late years, took more than two meals a day. He rarely used tuberculin in his practice, and avoided the use of all serums and vaccines as far as possible. Penny was one of the pioneers in the use of ultra-violet light, and his results in the treatment of lupus were very satisfactory. He was a good tennis player, and often defeated opponents more than twenty years his junior, and he was also very fond of dancing. The funeral service was held at Lawnswood Crematorium, Leeds, and was attended by several members of his family, including his brother, Colonel Penny, A.M.S. (retired), the mayor of Barnsley; the chairman of the Health Committee of Wakefield; and the medical officers of health for Barnsley and Wakefield.

The late Dr. GEORGE CHARLES KAROP, who died suddenly at his residence at Herne Bay last August, was of Danish descent but of English birth, having been born in London in 1853. He was educated in part at Heidelberg, and afterwards entered as a medical student at the Middlesex Hospital, obtaining the diplomas M.R.C.S.Eng. and L.S.A. in 1875. For about a year he held a resident post at this hospital, subsequently becoming a surgeon in the service of the Royal Mail Steam Packet Company. He next returned to the Middlesex Hospital as tutor in physiology in the medical school, with notable success as a teacher, and later was for ten years clinical assistant at the Royal London Ophthalmic Hospital (Moorfields). In London, and later at Herne Bay, to which place he removed in 1907, he built up a considerable practice as an eye specialist, being for many years honorary ophthalmic surgeon to the Herne Bay Queen Victoria Memorial Cottage Hospital. Throughout practically the whole of his life Dr. Karop took a keen interest in microscopy, being closely identified with the Quekett Microscopical Club, which he joined in 1873, and of which he was the honorary secretary from 1883 to 1904. He was also a Fellow of the Royal Microscopical Society, and served for a time on the council of that body. Microscopical research was his chief hobby, his main interest, apart from its medical aspects, being in the *diatomaceae*. He took no prominent part in public affairs in Herne Bay, but he was a well-known and respected figure in that town, where he was much esteemed for his personal qualities. His wife died in 1926; he is survived by three sons and a daughter.

The following well-known foreign medical men have recently died: Dr. JEAN DANYSZ, of the Institut Pasteur, Paris, Commander of the Polish Order Restituta, aged 67; Dr. EUGENE HERTOGE, vice-president of the Royal Academy of Medicine of Belgium; Dr. L. KLEINWÄCHTER, formerly professor of obstetrics at Czernowitz, aged 89; Dr. OSKAR BAIL, professor of hygiene at the German University of Prague; and Dr. RICHARD PRIBRAM, professor of physical chemistry at Vienna.



THE Fellowship of Medicine and Post-Graduate Medical Association announces that on May 8th there will be two clinical demonstrations, one at 2 p.m., at the Cancer Hospital, by Mr. Ernest Miles, and another at 2.30, by Dr. Frew, at the Hospital for Sick Children. On May 9th Mr. Greaves will give a demonstration at the Royal London Ophthalmic Hospital; all three demonstrations are open to members of the medical profession without fee. Several courses are being given throughout May. In addition to those already in progress, on May 7th four other courses begin. These are an afternoon course for two weeks at the Infants Hospital; a course in diseases of the throat, nose, and ear, occupying all day, for three weeks; an afternoon course in ophthalmology, continuing for four weeks; and a course in neurology at the National Hospital, Queen Square, which continues to June 29th. Full particulars of all special courses and of the general course of work may be obtained from the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE third lecture of the post-graduate course on cancer, at the Leeds Medical School, under the joint auspices of the Leeds and West Riding Medical-Chirurgical Society and the Yorkshire Council of the British Empire Cancer Campaign, will be given on May 9th, at 3.30 p.m., by Professor G. Grey Turner, his subject being cancer of the rectum. The lecture is free to medical practitioners, who should, however, inform the secretary of the British Empire Cancer Campaign, 47, Park Square, Leeds, of their intended presence at least two days previously.

THE spring meeting of the South Wales Medical Golf Society will be held at Southerndown golf course on Thursday, May 17th. The divisional stage for the Treasurer's Cup (for the Cardiff Division) will also take place on the same day at Southerndown. Other Divisions of the British Medical Association wishing to hold their competitions on the same date are asked to communicate with Dr. T. Garfield Evans, 127, Cathedral Road, Cardiff.

A CONFERENCE to consider the position of women in the service of hospitals will be held at the Mary Sumner House, 24, Tufston Street, Westminster, from 2.30 to 6 p.m. on Tuesday, May 8th. The speakers will include Dr. Graham Little, M.P., Dr. Margaret Emslie, Miss Eleanor Rathbone, and Miss C. Fulford, and the three questions to be discussed are: (1) opportunities for training of women medical students; (2) the appointment of women to paid and honorary medical posts in hospitals; and (3) the appointment of women on boards or committees of management of hospitals (including mental hospitals). Visitors' tickets (price 1s.) and further particulars may be obtained from the National Union of Societies for Equal Citizenship (which has convened the conference), 15, Dean's Yard, S.W.1.

ON his departure to take up the appointment of medical officer of health for East Sussex Dr. R. Asbleigh Glegg, who has been M.O.H. to the Lindsey County Council for the past twenty years, was presented with handsome gifts from his associates—doctors, dentists, nurses, and clerks—of the health department and from the staff of the county council as a whole.

A RECENT change in the by-laws of the Royal Society of Medicine extends the privilege of associate membership to dental and veterinary practitioners on the terms formerly applicable only to members of the medical profession. The associateship is therefore open, subject to election by the Council, to members of the three professions who apply for election within five years of their first professional qualification, at the end of which period the privilege lapses. An associate who has paid three annual subscriptions may, if elected to the Fellowship, be admitted without payment of entrance fee.

THE West African Medical Staff List, revised to show the appointments held by officers on November 30th, 1927, gives a total of nineteen specialist and research appointments, one in Sierra Leone, eleven at the Research Institute for the Gold Coast, and seven at the Lagos Research Institute. The total establishment of the staff is now 215.

PENDING international agreement about bacteriological nomenclature the *Bulletin of Hygiene* has provisionally adopted a system based on that recommended by the 1920 report of the committee appointed by the American Society of Bacteriologists. A description of this system is published in the February issue of the *Bulletin*.

AS in several recent years, the Italian State Tourist Department is organizing a special study tour for medical practitioners to the spas and health resorts of Italy from September 5th to 21st. The tour is restricted to foreign practitioners to the number of 150, and will be conducted by a special first-class train throughout. Assembling at Milan, the party will visit a number of centres of medical interest in Lombardy and Piedmont, including the Italian lakes and the Italian Riviera, before dispersing at Viareggio. At each

spa a medical lecture will be given, followed by visits to bathing establishments, etc. The texts of lectures will be provided in English, French, and German, and interpreters familiar with these languages will accompany the party. The inclusive charge will be 1,500 lire (about £16 10s.) for the tour; reduced fares will be available in Italy to and from the points of assembly and dispersal. Full information may be obtained from the Ente Nazionale Industrie Turistiche (Italian State Tourist Department), Via Marghera 6, Rome.

THE ninth international neurological congress will be held in Paris on July 3rd and 4th, when a discussion will be held on the diagnosis and treatment of cerebral tumours, in which Drs. Clovis, Vincent, Bédère, Bollack, Hartmann, and de Martel will take part.

A MEDICAL congress on diseases of the respiratory tract will be held at Clermont-Ferrand, under the presidency of Professor Castaigne of Paris, and will include excursions to La Bourboule and Mont Dore on May 27th and 28th. The subjects for discussion will be the treatment of tuberculosis in the spas of Auvergne and centre of France, treatment of diseases of the pharynx and larynx at these spas, and injection of mineral waters into the tissues. Further information can be obtained from the Centre Médical, 23, Place Bréchin-haut, Moulins (Allier).

THE fifth international congress of thalassotherapy will be held at Bucarest and Constantza from May 21st to 29th. Further information can be obtained from the general secretary, Strada Mantuleasa 35, Bucarest.

DR. AUGUST GÄRTNER, professor of hygiene at Jena University, celebrated his eightieth birthday on April 18th.

ACCORDING to the Stockholm correspondent of the *Times* this year's Nobel Prize winners will receive about £8,700 each from the Nobel Foundation. The prizes to be awarded in 1928 are for physics, chemistry, medicine, and literature.

A PRIZE of 3,858 francs will be awarded by the Société de Neurologie of Paris for the best work on the treatment of disseminated sclerosis published between July 1st, 1927, and July 1st, 1928. Further information can be obtained from Dr. O. Crozon, 70 bis, Avenue de Jéna, Paris.

A BILL has been introduced in the Legislature of Trinidad and Tobago to provide for the medical inspection of Government and assisted schools and of the pupils attending such schools.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **THE EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

THE TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM* 9561, 9563, 9564, and 9565 (internal exchange, four lines).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the *British Medical Journal*, *Antiology Westcent, London*.

FINANCIAL SECRETARY AND BUSINESS MANAGER

(Advertisements, etc.), *Articulate Westcent, London*.

MEDICAL SECRETARY, *Medisecra Westcent, London*.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumshough Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### HARDENING THE FEET.

"H. R." wishes to know the best method of hardening the feet preparatory to a long walking tour.

### INCOME TAX.

#### Cash Basis.

"J. C. G. C." started practice in 1926-27 and paid tax for that year on the basis of his gross bookings less expenses. Can he now adopt the cash basis?

The revenue authorities object to the cash basis as applied to a new practice until the point is reached at which the receipts from old bookings are likely to balance the unpaid

accounts for the year for which the account is paid. Probably they will insist on the "bookings" basis for at least three years. It should be borne in mind that it is the probable value of the outstanding debts which should be brought in, and therefore if there are any particular cases in which it is not expected that the whole amount will be received, deduction should be made for probable specific losses.

#### Deduction for Use of House.

"S. H." owns his house, which is assessed at a net value of £45. He has claimed to deduct, as representing the professional portion, the sum of £25 "as one-third of a reasonable rental value." The inspector of taxes declines to allow more than £15—that is, one-third of the net assessed value.

The assessed value must be taken as the basis, and therefore the inspector's attitude is correct. "S. H." should, however, bear in mind that as £45 is the net value, any cost of maintenance, repairs, etc., applicable to the professional portion of the house may be separately charged as professional expenses.

#### Motor Car Expenses.

"N. B. C." inquires which of the expenses incurred in running a car for professional purposes may be deducted from gross income.

All expenses may be deducted except those incurred in the purchase—as distinct from the cost of replacement—of the car or its improvement. This includes, for instance, the annual cost of insurance, but, of course, the sums received must be brought in against any expenditure resulting from accident, etc. To the extent, however, to which the car is used for private purposes the total cost must be restricted—for example, by 10 per cent., or whatever percentage may be reasonable.

#### Motor Car Transactions.

"I. L." bought a Singer car for £145 in February of this year. What allowance can he claim for 1928-29?

Depreciation, namely, 15 per cent. of £145—that is, £22. When the car is replaced an obsolescence claim can probably be made, as 15 per cent. is usually found insufficient in such circumstances.

"E. W." bought a car in 1926 for £170. He has now sold it for £60 and bought another car for £170. No depreciation has been claimed.

The actual out-of-pocket cost of the new car—that is, £170-£60=£110—can be claimed as a professional expense of the current year. It will be seen that it is the income-tax return for 1929-30 and not for the current financial year that will be affected.

"A. P." inquires what is the annual percentage figure for depreciation on a car for the first, second, and third years.

The normal rate granted appears to be 15 per cent., though no doubt there are cases where 20 per cent. is given, having regard to the nature of the work the car has to perform. The rate is applied to the "written down" value—that is, the cost price as reduced by allowances for the previous years. On a car costing £400 the allowances would work out as follows:

First year—£400 at 15 per cent.=£60, leaving £340;  
Second year—£340 at 15 per cent.=£51, leaving £289;  
Third year—£289 at 15 per cent.=£43, leaving £246;

and so on.

#### LETTERS, NOTES, ETC.

##### PROGNOSTIC SIGNIFICANCE OF LARGE NUMBERS OF TUBERCLE BACILLI IN PUS.

DR. B. R. CLARKE (Bellast), referring to Dr. Cobbett's article on the relative frequency of human and bovine tuberculosis in our issue of April 14th (p. 626), reports the case of a woman, aged 20, who, following pleurisy at the age of 10, was admitted to hospital with physical signs of infiltration of the upper half of the right lung and the upper fourth of the left lung. The sputum was examined four times for tubercle bacilli without result. The patient improved rapidly, the temperature becoming normal after nine weeks in hospital. Nearly a year later a rapidly caseating tuberculous gland developed on the left side of the neck, and the patient began to lose ground steadily. Meningitis supervened and the patient died. Pus aspirated from the swelling was found to contain tubercle bacilli in large numbers; in appearance they were long and thin, and contained no granules. Lesions of the human type appeared in an inoculated guinea-pig.

##### BODY AND MIND.

MR. F. MATTHIAS ALEXANDER (London, S.W.) writes: Dr. A. Murdoch of Bexhill-on-Sea has drawn my attention to your leading article entitled "The reality of delusions" in the *British Medical Journal* of March 17th (p. 437). Dr. Devine's conclusion, which you quote, that a delusion is "the conscious symbol of a morbid state of functioning of the whole organism," and his preceding statement that both physical and mental illness are "the expression of disturbances of the organism," are of more

than ordinary interest to me, as my practical teaching experience of over thirty years has been based upon the impossibility of separating the so-called mental and physical elements in any of our dealings with the human organism. The "disturbances of the organism," which Dr. Devine states express themselves in "both types of malady," I have found to be due in every case to wrong use and malfunctioning of the whole organism. I have evolved a technique the object of which is to restore to my pupils a right use of their whole organism and not to treat manifestations of disease in which I am not interested. I have found that where its application is successful, symptoms, whether manifesting themselves as "physical or mental illnesses," tend alike to disappear in process; and medical men who have sent pupils to me, and whose names I enclose, can verify this. Dr. Peter Macdonald brought out this point very clearly in the address which he gave to the Yorkshire Branch of the British Medical Association, and which you published on December 25th, 1926; and in my book *Constructive Conscious Control of the Individual*, to which you gave a favourable review, I made my position quite clear at the outset by defining my use of the term "psycho-physical" as covering all manifestations of human activity. When you express the hope that the gap between psychological medicine and medicine at large may narrow rather than widen, may I suggest that the first step towards such an integration must be a statement of a technique by means of which the cause of the "morbid state of functioning of the whole organism," which Dr. Devine states lies behind mental and physical illnesses alike, may be found and eradicated?

##### STREPTOCOCCI AND PURPURAL SEPSIS.

MR. J. T. AINSLIE WALKER (London) writes: If Professor Beattie's reference to the Rident-Walker test in his letter in your issue of April 14th was intended to imply that the only organism used in this test is *S. typhosus*, he has given an entirely erroneous impression. In my original note, published in the *Practitioner* in 1932, I gave an example from my laboratory note-book, showing the result obtained for a certain preparation X when working with *B. coli* as the test organism. The multiple, or coefficient, was 10.0. The following quotation is taken from the same note: "Of course, a different multiple will be found when working with different organisms. In the case cited above the multiple found for X when tested against a pure culture of *S. pallida aureus* was 4; but this only bears out Dr. Houston's excellent observation on the necessity for the choice of a disinfectant being governed by the purpose to which it is proposed to put it."

##### THE "RISING TEST" FOR ACUTE ABDOMEN.

DR. K. RAPP (Biberach, Württemberg), referring to Mr. C. L. Granville Chapman's memorandum on a diagnostic test for acute abdominal conditions (October 29th, 1927, p. 788), states that he first recognized the value of this test in appendicitis in 1921, and published a note on it in the *Medizinische Klinik* (1925, No. 41), giving it the name of *Rumpfbereugungsschmerz*. He agrees with Mr. Chapman as to the assistance given by it in the stage before abdominal tenderness appears.

##### CHRONIC DIARRHOEA CAUSED BY A FEATHER QUILL.

DR. H. E. JONES (Glasgow) reports the case of a man who had suffered for many years from pain in the bowels and diarrhoea: he was considerably relieved, but not cured, by treatment with pilul. kino co. He subsequently passed through the bowel a hard, brittle, smooth, polished and somewhat flattened tubular fragment, which was brownish and about the size of an ordinary match. It had been removed from the bowel with considerable difficulty, and subsequently the patient had no diarrhoea, and the abdominal pain and discomfort entirely disappeared. The specimen appeared to be a quill from the wing or feather of a small brown bird. The patient stated that when in South Africa several years previously he frequently dined on snipe and guinea fowl, and might quite easily have swallowed a quill. Commenting on this case Dr. Jones writes: I have been considering very carefully the question of diagnosis and the line of treatment I should have adopted had I previously known that such a foreign body was in the bowel. In the first place, to diagnose a foreign body such as a quill is by no means easy. A quill stuck into a sausage and x-rayed only throws a faint shadow, which would be almost imperceptible were the sausage placed within the abdominal wall. To find a solvent that will dissolve a quill is a difficult matter. Hydrocyanic acid—such as hydrochloric and sulphuric—and soda—and potassium iodide or bromide, a feather or quill. Bromine converts a feather into a brown mass, and nitric acid causes a feather and quill to disappear completely, but neither of these could be used for medicinal purposes. Since wild animals, such as the fox, eat birds, including their feathers, their digestive secretions must contain some solvent which acts upon feathers and quills, or else they must pass through the alimentary canal undissolved. I should be glad to have the opinions of others on this point.

##### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 54, 55, 56, 57, 60, 61, and 62 of our advertisement columns, and advertisements as to partnerships, assistantships and locum tenencies at pages 53 and 59. A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 203.



## An Address ON THE PATHOGENESIS OF ACUTE PRIMARY GLAUCOMA.\*

BY

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GLAUCOMA is not a disease in itself, but rather a symptom-complex whose characteristic feature is increase in the tension of the eyeball. It was, however, the peculiar greenish reflex from the pupil that first attracted attention and suggested the name glaucoma. Centuries had to pass before William Mackenzie drew attention to the hardness of glaucomatous eyes. That was the first observation of real value in the study of glaucoma, and may be regarded as the foundation of all present-day knowledge of the subject.

When considered from the clinical standpoint glaucoma may be primary or secondary; primary when it is unassociated with any other disease in the affected eye, and secondary when the glaucomatous seizure arises as a complication of a pre-existing pathological condition. The attack is acute or chronic, according to the presence or the absence of congestion of the ocular blood vessels, but inflammation in the strict sense of the word never occurs during the course of acute primary glaucoma. Venous congestion is alone responsible for the severity of the symptoms, which vary greatly in degree in different cases. In the majority they are subacute and recurrent, but in a small proportion they may be described as fulminating. In these circumstances glaucoma is seen in its most tragic form—the onset, course, and termination being the incidents of a few hours. A single attack occurring with dramatic suddenness results in total and irrevocable loss of sight. Such a disaster is all the more overwhelming, because glaucoma usually affects both eyes, and although one may be attacked considerably in advance of the other, yet in a few desperate cases both suffer simultaneously.

### SYMPTOMATOLOGY.

Acute glaucoma can be described as one of the emergencies of general practice, and in many instances it appears to come as a bolt from the blue. The patient goes to bed apparently in his usual health, but in the early hours of the morning is awakened by agonizing pain in the head, accompanied by feverishness, nausea, persistent retching, and bilious vomiting. The condition is so alarming that the family doctor is sent for in haste, and unless he knows well what he is about he may easily do the patient more harm than good. It is quite probable that no one will speak about the eye, because even although the failure in vision has been noticed, it has been tacitly assumed to be due to biliousness. The attention of the patient and of those surrounding him is occupied wholly as a rule with the severity of the pain in the head, the nausea, and the vomiting. The true nature of the condition, therefore, may be easily overlooked, and if the doctor is also deceived the result will be deplorable.

Acute glaucoma is not by any means a common disease. It may happen that a medical man has been many years in practice before he is called to treat a case. He ought, however, always to bear the disease in mind, and never to forget to examine the eye of a patient said to be suffering from a severe bilious attack. Every country doctor ought to be able to recognize acute glaucoma. There is not much difficulty in the diagnosis. The eye is tender and the patient shrinks from the slightest touch; it is hard, and said to feel too big for its socket. The bulbar conjunctiva

is congested and oedematous; the cornea is steamy and in many instances so insensitive that it can be touched without the patient's knowledge; the pupil is dilated, irregularly oval shaped, and irresponsive to light; the anterior chamber is shallow. At this stage of the examination the general practitioner must be on his guard not to misinterpret the significance of these signs and symptoms.

The chief local condition with which acute glaucoma is often confused is acute iritis; but the stony hardness of the eyeball, the dilated pupil, the shallow anterior chamber, and the loss of sight form a group of signs sufficiently diagnostic to prevent glaucoma from being mistaken for any other disease. Unfortunately, however, glaucoma and iritis are still confused by the unwary, and the consequences of such an error in diagnosis are deplorable, because the treatment for glaucoma is the opposite of that for iritis. It is well known that in iritis the vigorous use of atropine is imperative, but it is not so well known that if a mydriatic be instilled into an eye suffering from glaucoma the symptoms will be aggravated and the chances of recovery of sight will be materially lessened. There are few errors in diagnosis which are followed by such disastrous results.

Although the patient may never have consulted a doctor regarding his eyes until the onset of the acute symptoms, careful inquiry into the history of the case will usually elicit the fact that for weeks, months, or years he has suffered from transient attacks of dimness of vision. These attacks are often so fleeting that little significance is attached to them, and as a rule the patient does not think it worth while to mention them until something in the course of a medical examination recalls them to mind. The fact that such attacks are usually made light of and quickly forgotten makes it all the more necessary for the family doctor to be quick to appreciate and appraise at their proper value any remarks regarding eyesight made in a casual manner during the course of conversation.

Suspicion should at once be aroused if a patient says that now and again he has seen objects through a fog, and that lights have appeared to be surrounded by rainbow-coloured rings. Inquiry will usually further elicit that while these symptoms are present there is a dull pain in the eye and forehead, and if it should happen that the doctor was consulted during one of these attacks he will remember that the eye was more or less red, hard to the touch, the cornea steamy, and the pupil dilated. If the examination be carried further by the use of the ophthalmoscope it will be seen that the retinal veins are enlarged and that the arteries pulsate as they pass over the optic disc. When the patient is kept under regular observation it will be discovered that the attacks are recurrent and vary in duration from a few minutes to several hours, while in the intervals the eye to all appearance is healthy. Recurrences become more and more frequent and protracted, however, until at length a state of increased tension is permanently established. In the majority of instances that sequence of phenomena is easily followed, but there is usually considerable difficulty in understanding the underlying cause of the condition.

The increased tension of the eyeball is not a disease in itself; it is only a symptom of a general condition, whose etiology is at all times very difficult to determine. When an eye is predisposed to glaucoma anything that depresses the action of the heart may determine a seizure, which in the majority of instances can be clearly traced to mental distress or moral shock, to the injurious influence of cold or of hunger, or to worry, sleeplessness, or fatigue. In many instances also there are present such associated conditions as anaemia, lithiasis, bronchitis, persistent constipation, or the suppression of some habitual discharge. Acute glaucoma occurs frequently in women at the menopause. Lagrange has defined glaucoma to be "a sick eye in a sick body," and Laquer says that everything "that dilates the pupil or debilitates the patient" may precipitate an attack. It is characteristic of the onset of the disease that the increase of tension is intermittent, but sooner or later it becomes permanent. By the time that stage is reached, however, the cause of the disease is usually obscured by its results.

\* Delivered at the James Mackenzie Institute for Clinical Research, St. Andrews, on March 20th.

## ETIOLOGY.

The earlier glaucoma can be detected, therefore, the more likely is its etiology to be discovered. No progress will be made with this quest, however, until the physiological mechanism whereby the intraocular tension is maintained in a state of health is properly understood, because without such knowledge it is not possible to detect the earliest aberration which transforms the physiological into the pathological. It must be borne in mind that there is no essential difference between physiology and pathology. No sharp line of demarcation separates the normal from the abnormal. By the recognition of symptoms, however, the trained clinician is able to detect the beginnings of disease, at a time when the morbid process giving rise to it is still on the borderland of the physiological. Function rather than structure is the foundation of the science of medicine. A physiological problem cannot be argued from the standpoint of pure anatomy without grave danger of falling into error. The special requirements of every organ necessitate certain modifications of structure, but the basis of vital activity is the same in every part of the body. The unification of both physiological and pathological processes must be recognized. If, for example, the etiology of acute glaucoma be sought for along anatomical lines the disease will inevitably seem obscure and mysterious; but whenever it is recognized that every vital process takes place through the walls of the capillaries, glaucoma is at once brought into line with other pathological conditions which are clearly defined and well understood.

The study of the etiology of glaucoma has passed through many phases. Hypotheses deemed important in their day have had, with the advance of science and the increase of knowledge, to be put aside; but they were useful at the time in so far as they paved the way to the acquisition of fuller knowledge. The tension of the eyeball depends upon the fluid content of the globe, and the theory generally accepted is that the intraocular fluids are derived from the capillaries of the ciliary processes,<sup>1</sup> and that in a state of health a close relationship exists between intraocular pressure and general blood pressure. It has also been demonstrated that, starting from their source, the intraocular fluids pass forward through the circumferential space, the posterior chamber, and the pupil to reach the angle of the anterior chamber from which they escape from the eye into the canal of Schlemm, through the filtration spaces in the pectinate ligament. When that mechanism is in proper working order the tension of the eyeball is liable to very slight variation, consequently the intraocular pressure resembles the general blood pressure in so far as both are maintained at a fairly constant level in the normal condition; but sudden and great variations are liable to occur in such morbid conditions as glaucoma and hyperpiesia. It must not be concluded, however, that high blood pressure is in itself an essential factor in the etiology of glaucoma. The two conditions frequently coexist, but the relationship is purely accidental and is not one of cause and effect. Arterial pressure must exercise a certain amount of influence upon the tension of the eye, but the important factor in the regulation of the intraocular pressure is the pressure in the capillaries. That being so, the clue to the pathogenesis of glaucoma is likely to be found by a study of the capillary circulation in the eye.

Many of the old theories of the causation of glaucoma were based upon the hypersecretion of the aqueous humour: that hypothesis is open to serious objection. When the excretory channels in the corneo-iridic angle are in good working order any increase in the inflow of fluid is at once compensated by a corresponding increase in the outflow. The results of clinical experience, moreover, have demonstrated that when the secretion of the aqueous is excessive, this reciprocal arrangement is quite efficient in maintaining the normal tension of the eyeball. On the other hand, the pathological study of eyes enucleated as a result of secondary glaucoma has demonstrated that hardening of the eyeball is due, not to over-secretion of the intraocular fluids, but that it is the result of their retention. In almost every instance the filtration spaces at the corneo-iridic angle are closed and obstruct the outflow of fluids, which, being retained within

the eyeball, cause a gradual and progressive increase in tension.

Kries and Weber were among the first to suggest a retention theory for primary glaucoma similar to that generally adopted for the secondary form of the disease, and the epoch-making researches of Priestley Smith support their view. In the earliest stages of primary glaucoma, however, occasion for occlusion of the affected eye never arises, consequently before it is possible to obtain material for microscopic examination the disease has advanced so far that, although end-results can be fully described, nothing whatever can be learned of the mode of origin. The opportunities for observation are not much more favourable from the clinical standpoint, because the family doctor rarely sees a case until the disease is fully developed. He has had no opportunity to note the subtle changes which have led up to the acute seizure on account of which he has been consulted. Nevertheless, it is the premonitory symptoms that ought to be carefully studied, because until the mechanism of their production is properly understood it is impossible to explain how it has come about that an eye apparently quite healthy in the evening is attacked by a formidable disease before morning. It is always assumed that the eye affected was predisposed to glaucoma, and from the anatomical standpoint such a predisposition undoubtedly exists.

Priestley Smith has demonstrated that eyes liable to glaucoma are smaller than normal, and, in view of the fact that primary glaucoma is a disease of late adult life, he has pointed out that, while the lens continues to grow throughout life, the size of the eyeball, after a certain age, remains stationary. In some instances, therefore, the disproportion between the bulk of the lens and the size of the globe becomes so pronounced that the circumferential space is obliterated. Whenever that occurs increase of pressure in the vitreous chamber pushes the lens forward, and closes the filtration angle by the approximation of the base of the iris to the posterior surface of the cornea. Retention of the intraocular fluids leads to the development of symptoms of glaucoma, and these will steadily persist so long as the drainage system of the eye remains blocked. If the circumferential space has been encroached upon gradually the eye can so far adapt itself to the altered conditions, and acute symptoms do not occur, but if, on the other hand, obliteration takes place suddenly signs and symptoms of acute congestive glaucoma at once arise.

The most meticulous study of the pathological anatomy of an eye that has been excised for glaucoma can, however, reveal nothing more than end-results. An examination of the eyeball can never by itself reveal the cause of the disease. The sick body, as Lenné said, must also be considered, because, until glaucoma is brought into line with diseases whose etiology is well established, its pathogenesis cannot be properly understood. It is necessary in the first place, however, to recall the physiological principles which regulate the intraocular circulation and control the intraocular pressure. An essential postulate for the continuation of the circulation in the eyeball is that the arterial pressure be higher than the capillary, the capillary higher than the venous, and the venous higher than the intraocular. The capillaries, rather than the arteries, are the chief regulators of intraocular pressure: any obstruction to the venous outflow is of much more importance to the eye than high pressure in the arteries. This preponderating influence of venous obstruction is due, in all probability, to its immediate effect upon the capillaries. Any local interference with the venous circulation—ligature of the venae vorticosae, for example—will at once precipitate an acute glaucomatous seizure. When, however, the problem is put in its right setting and seen in its proper perspective, the behaviour of the capillaries is the one thing that is fundamental, both in physiology and in pathology. It is all-important, because the capillaries are not only the dynamic part of the circulatory system, but they also demonstrate the sum of the purposes for which circulation of the blood exists.

Bryson,<sup>2</sup> in the early days of the James Mackenzie Institute for Clinical Research, was the first to suggest that the

capillaries play the predominant role in all vital activities, and that the other parts of the vascular system are controlled by them and are subservient to their requirements. On several occasions he has brought forward clinical evidence in support of his views, and the truth of his hypothesis has been proved by many laboratory workers, among whom Krogh, Lewis, and Dale deserve special mention. These observers have demonstrated that the capillaries act independently of the other parts of the circulation; that they are called into use only as they are required, and that there is an enormous reserve of shut-down capillaries in an organ while it is resting. The capillaries and the cells associated with them may be said, therefore, to act together as a physiological unit. When the feeding time for a cell is due the capillaries associated with it open at the right moment, and after sufficient nutriment has been supplied they close down. This nutritional process goes on intermittently so far as individual cells are concerned, but constantly over the body as a whole. The result is that blood is sent round at the call of the different cells, while the utmost economy is practised in its distribution. This regular fluctuation of the capillaries is the basis of all vital activity.<sup>3</sup> It explains why it is that separate parts of an organ work in shifts—some of the component cells being in action while the others are resting, and vice versa. If all the capillaries were to open up simultaneously it is common knowledge that they could contain more than the whole of the blood in the body, and the animal would bleed to death into its own capillaries, because, stagnation having taken place, circulation would cease.

It is generally agreed that the tissue fluids come from the blood plasma by dialysis through the walls of the capillaries, and Duke-Elder has demonstrated that the intraocular fluids obey the same physico-chemical laws. He believes, therefore, that the aqueous humour is a dialysate, and has brought forward evidence to prove that it is neither a secretion nor a filtrate. His work has put the physiology of the intraocular circulation into line with the circulation in the body as a whole. That does not mean, however, that there are no local differences in special organs, but Duke-Elder believes that the apparent anomalies are to be explained by the difference in the permeability of the capillaries. Each organ has its own needs, and possesses within itself physiological adaptations for the purpose of satisfying its requirements. In carrying out this process the permeability of the capillaries is one of the most important factors, permitting only the right quantity and the proper quality of nutrient fluid to be dialysed from the blood plasma.

In the eye the capillaries are very impermeable, relative to those in other parts of the body. While, as a rule, the tissue fluids are dialysed at a pressure of from 1 to 2 mm. Hg, in the eye dialysis takes place under a pressure of about 25 mm. Hg. The aqueous, therefore, is comparable to the tissue fluids, both as regards its origin and its metabolism, but it differs from them qualitatively in proportion to the relative impermeability of the capillaries. In the eye the special arrangements may be described as a "biological adaptation to keep the intraocular fluids as far as possible optically homogeneous." That is to say, that a simple modification of the same physiological process which regulates the function of the capillaries in all the other parts of the body is sufficient to secure the transparency of the dioptric apparatus of the eye. That physiological arrangement is an apt illustration of one of the main contentions of this paper—namely, that although peculiarities of structure are necessary for the architecture of the different organs of the body, yet it is one and the same physiological process which regulates and controls their vital activities.

The first departure from health in the eye is indicated by dilatation and increased permeability of its capillaries, but except in the case of direct injury the cause of this must be sought for in the general health of the patient rather than in the eye itself. The eye is not only in the body, it is also of the body: that is the key to the proper understanding of the glaucoma problem.

Interference with the circulation of the blood through the eyeball and the consequent alterations in the composi-

tion of the intraocular fluids are the outstanding features of acute congestive glaucoma, and in every instance loss of tone in the wall of the capillaries is responsible for the onset of an attack. Of the predisposing causes, in addition to the small size of the eyeball, the most important is the wear and tear of life, with its cumulative autointoxication and its vascular degenerations, while among the causes directly precipitating an attack may be mentioned over-excitement, crushing misfortune, sorrow and bereavement, excessive fatigue, prolonged exposure to cold, repeated indiscretions in diet, or a bout of drinking. It is almost certain that glaucoma cannot occur in anyone who is quite healthy. Doubtless in many instances the disease reveals itself with appalling suddenness in one who is apparently healthy, but in every case of that kind a careful scrutiny of the patient's medical history will disclose symptoms, both local and general, which, though regarded as trivial at the time of their occurrence, were really premonitory of something much more serious. It is difficult to detect the earliest signs of failure in the delicate physiological mechanism for keeping the tension of the eyeball at a normal level. These must, however, be intimately associated with an alteration in the behaviour of the capillaries which regulate intraocular pressure, and the truth about glaucoma will not be known fully until all the factors governing the circulation, both of the blood and of the fluids within the eyeball, have been clearly demonstrated.

It is known that the body contains two groups of substances mutually antagonistic—a histamine group, acting as dilators of the capillaries, and an adrenaline group, acting as contractors. During life there must be a constant give and take between these two groups in the effort to maintain equilibrium, which is readily disturbed in one or other direction by the influence of hormones. Whenever one of these groups gains ascendancy over the other disturbance in the capillary circulation occurs sufficient to place the patient in the borderland of the pathological. Dale and his associates have made a careful study of histamine,<sup>4</sup> and have demonstrated that when this substance is injected intravenously into a living animal it causes such extreme dilatation of the capillaries that the blood stagnates and at the same time the capillary walls become so permeable that oedema of the tissues occurs from loss of blood plasma. Those changes may become so extreme that the circulation is brought to a precariously low point by depletion of the central vessels. When such circulatory disturbances are general throughout the body secondary shock arises, but when they are localized in the eyeball acute glaucoma supervenes. Both in acute glaucoma and in secondary shock, therefore, the underlying cause is the same, and from the pathological point of view one condition may be regarded as analogous to the other.

To sum up, it is probable (1) that the first stage in the pathogenesis of glaucoma is a disturbance in the capillary circulation leading to a general dilatation accompanied by increased permeability of their walls; (2) that the condition is brought about by the action of a toxin which upsets the delicately balanced mechanism controlling the function of the endocrine glands, and thereby interferes with the normal action of the sympathetic nervous system.

One of the earliest symptoms of glaucoma—one that occurs before increased tension in the eyeball has become permanently established—is dulling of sensitivity to dim light and delay in dark adaptation.<sup>5</sup> This failure in light minimum is due to interference with the function of the layer of rods and cones of the retina, which derives its nourishment from the choriocapillaris. Whenever these nutrient capillaries lose tone the blood stagnates, the rods and cones suffer, and the light sense becomes disordered.

Although severe congestive changes and oedema of the ocular conjunctiva are such outstanding characteristics of acute glaucoma, they are neither primary nor essential to the attack, but are secondary to the changes which have occurred already in the capillaries. The glaucoma is fully established before the surface of the globe has become congested; but unless the patient has consulted

his doctor during a premonitory attack, the disease is very seldom seen in this early stage.<sup>6</sup> That, however, is the time when it can be studied in its simplest form, because a premonitory attack differs from genuine glaucoma only in so far as it passes off quickly. The pathogenesis of both is the same. The congestive changes are something superadded to a pre-existing condition, and it is not difficult to understand how they originate. The increased dilatation of the capillaries and the increased permeability of their walls cause great interference with the intraocular circulation. An increasing obstruction is therefore offered to the return of the blood by the veins, and whenever stagnation occurs acute glaucoma supervenes. The phenomena seen in the eye resemble what occurs in the thrombosis of blood vessels in other parts of the body—acute pain, vascular congestion, oedema, and loss of function. The gravity of an attack is in great measure determined by the severity of those secondary vascular complications. The chief stress is felt at the corneo-iridic angle, where the circulation can be said to be strangulated, and the state of the eye may be compared to a hernia which has become strangulated. In both instances danger is extreme until the strangulation is relieved.

The initial cause of glaucoma may be traced to the injurious action of a toxin of the histamine type. It is probably of biochemical rather than of bacterial origin, and is manufactured in the course of defective metabolism due to persistent constipation, hepatic insufficiency, or renal inadequacy. There is, however, little difference in the action of a biochemical toxin and one of bacterial origin. Both cause dilatation of capillaries with increased permeability of their walls.

#### AN ANALOGY.

A good example of the action of both forms of toxin is seen in a comparison of acute glaucoma with acute glomerulo-nephritis. The ciliary processes in the eye and the glomeruli in the kidney show many features in common. The chief function of both is to dialyse fluid through the walls of capillaries, and the dialysate in both eye and kidney contains every substance present in blood plasma. There is this difference, however, that the quotient varies according to the osmotic pressure of the blood and the degree of permeability of the walls of the capillaries. With those reservations the aqueous humour may be taken as a type of every dialysate, and if the eye were supplied with a tubular arrangement similar in function to that in the kidney, the aqueous, after passing through it, would be turned into urine. Moreover, while the reaction of the normal aqueous is almost neutral, in glaucoma it is distinctly alkaline.<sup>7</sup> A change in the osmotic pressure and a diminished hydrogen-ion concentration of the blood permit an excess of sodium to pass through the walls of the capillaries. Archer found that the sodium content of the blood is diminished in glaucoma, and that observation is in harmony with the generally accepted statement that in nephritis there is a deficiency of sodium bicarbonate in the blood. Those changes lead to increase of pressure in the capillaries followed by damage to their walls, which become so permeable that they allow particles of protein to escape. The normal aqueous contains the merest trace of albumin, but Tronecos has demonstrated that in glaucoma it is present in appreciable amount. Albuminuria of the aqueous is due, therefore, to the same pathological process which gives rise to the presence of albumin in the urine, and if the eye were not specially protected by the great impermeability of the capillaries of the ciliary processes the presence of protein in the aqueous humour would be of frequent occurrence.

These widespread changes in the capillaries and in the veins must cause great increase in the size of the organ affected, and as both the eye and the kidney are enclosed within a firm capsule, increase of tension readily supervenes. When that occurs a state of glaucoma may be said to exist both in the eye and in the kidney—the abnormal pressure causing blindness in the one and suppression of urine in the other. In neither organ can function be restored until the abnormal tension is diminished, and,

in the last resort, that can be accomplished by performing iridectomy in the eye, and by stripping the capsule in the kidney.

#### PRINCIPLES OF TREATMENT.

The rational treatment of glaucoma is based on a knowledge of the same physiological principles which are so helpful in the study of its etiology. It is not possible, however, to attempt in this paper anything more than a brief and general discussion of the problem. In considering the pathogenesis of glaucoma, it has been stated that histamine and adrenaline are mutually antagonistic, and that when the histamine group of toxins predominates increased intraocular pressure arises, and will persist and become permanent if the noxious cause cannot be removed. The physiological antidote to all poisons of the histamine type is adrenaline,<sup>8</sup> which consequently is the rational treatment whenever capillaries are over-dilated and their circulation obstructed. When administered artificially adrenaline restores the circulation and prevents loss of fluid through the walls of the capillaries by improving their tone. A retrobulbar injection of about 3 to 6 minims of a 1 in 1,000 solution within a few minutes reduces the tension of a normal eye. In primary glaucoma it has a similar effect, and in some instances its use has brought about a cure of the disease. The use of adrenaline must, however, be carefully safeguarded locally. It is a very powerful mydriatic, and by dilating the pupil to the maximum might readily cause serious complications by pushing the iris into the corneo-iridic angle, thereby obstructing still further the escape of fluids from the eye. Its use, therefore, must always be preceded by energetic instillation of eserine drops to keep the pupil contracted. Treatment by adrenaline is, moreover, usually ineffective in very acute cases of congestive glaucoma, it being powerless to relieve the secondary complication due to thrombosis at the venous exits.<sup>9</sup> In these circumstances the first thing to be done is to relieve the stranglehold at the corneo-iridic angle. Sleep is Nature's cure for glaucoma, consequently the first indication in every case is to relieve pain—by the administration of morphine hypodermically, the continuous application of heat to the eye, free leeching of the temple, and eserine instillations to keep the pupil contracted. The general condition of the patient also demands attention. At the outset a calomel purge, followed, in three hours, by an alkaline saline draught, is always helpful, and ought to be repeated if necessary. The fact that intraocular pressure can be lowered by producing a hypertonic state of the blood has led Duke-Elder, following previous observers, to recommend the intravenous injection of 50 c.cm. of a supersaturated saline solution. The tension falls as a result of abstraction of fluid from the eye, but, as the treatment interferes with the whole fluid traffic of the body, it must be used with caution lest dangerous symptoms supervene from too rapid a fall in the general blood pressure.

In spite of those conservative means of treatment, however, ocular hypertension may persist, and in these circumstances operation will be required. The sole object of operation is to reduce the tension of the eye and to prevent the recurrence of hypertension. No operation can, he said to be a cure for glaucoma, in spite of the fact that thousands of sufferers, who would otherwise have been blind, have been enabled to retain their sight by the aid of one or other of the various operative procedures that have been introduced since von Graefe discovered the value of iridectomy.

The aim of every operation for glaucoma is to establish a filtering cicatrix which will act as a safety valve through which excess of fluid can escape from the eye during any recurrence of high tension. This immediate end may be successfully attained, but nevertheless the disease may progress. The treatment of the patient himself, therefore, must always be considered to be as necessary after, as it was before, operation.

I am greatly indebted to the following books of general reference. Priestley Smith: *Pathology and Treatment of Glaucoma*, 1891. V. Morax: *Glaucoma et Glaucomateux*, 1921. Elliot: *A Treatise on Glaucoma*, 1922. Duke-Elder: *Recent Advances in Ophthalmology*, 1927. Thomas Lewis: *The Blood-vessels of the Human Skin and their Responses*, 1927.

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## PROFESSOR CALMETTE'S STATISTICAL STUDY OF B.C.G. VACCINATION.

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In the January issue of the *Annales de l'Institut Pasteur* Dr. Calmette publishes an article<sup>1</sup> on the statistics and results of his method of prophylactic inoculation from July, 1924, to December, 1927. Dr. Calmette's earlier report<sup>2</sup> was subjected to some little criticism both in the editorial columns of the *British Medical Journal*<sup>3, 4</sup> and from individual writers<sup>5, 6</sup>; recently Dr. Monod<sup>7</sup> has expressed the hope that the latest report might allay the doubts that had been expressed as to the sufficiency of the statistical evidence.

Briefly, the objections which were urged against the earlier report were these: (1) that the enormous rate of mortality from tuberculosis said by Dr. Calmette to apply to the children of the tuberculous, or to children exposed to massive infection, in the first year of life was deduced from inadequate data or depended upon misinterpretations of published literature, and did not agree with such evidence as that of Kjer-Petersen and Ostenfeld<sup>8</sup>; (2) that the positive evidence of a statistical kind supplied by Dr. Calmette was ambiguous.

Thus, with respect to the first objection, I pointed out that Weinberg's very careful statistical study had been misrepresented; that, far from supporting the suggestion that anything like 25 per cent. of the children of the tuberculous died of tuberculosis in the first year of life, Weinberg's figures were in reasonable agreement with those of Kjer-Petersen and Ostenfeld, Bergman,<sup>9</sup> and Dörner,<sup>10</sup> making the rate of mortality of the order of 5 to 10 per cent. rather than of 25 per cent. With respect to the second objection, I showed that the data handled by Dr. Biraud, who used an adequate method of analysis, became so scanty within a few months of birth that it was difficult to have great confidence in the inferences—*prima facie* favourable—which appeared to be deducible from them.

An attentive study of Dr. Calmette's latest paper leads me to think that its distinguished author has either not read or not understood the criticisms of his former report, because, to put the matter quite plainly, this new paper repeats and even exaggerates former inaccuracies while introducing statistical errors peculiar to itself. I take first the contention that Dr. Calmette has again misrepresented the published work of other writers. Of Weinberg he writes under the heading *Mortalité par Tuberculose des nourrissons de zéro à un an nés et élevés en milieu bacillifère*:

"D'autre part, une statistique (déjà ancienne, mais portant sur un grand nombre d'enfants) publiée par Weinberg, avait établi qu'à Stuttgart, de 1873 à 1889, la mortalité des enfants de zéro

à un an par tuberculose était due: pour 30, 53 p. 100 à la mère tuberculeuse; pour 29, 88 p. 100 au père tuberculeux; pour 31, 92 p. 100 à la fois à la mère et au père tuberculeux."

This passage repeats the misrepresentation to which attention had already been drawn. The figures quoted are not for the mortality from tuberculosis, but from all causes, and, at the same epoch, the death rate in the first year of life of children of mothers who were not tuberculous was as high as 23.82 per cent. The present misrepresentation is rather worse than that of the first report (p. 210), because there the attribution of the mortality to tuberculosis was not quite so explicit.

Of Kjer-Petersen and Ostenfeld's recent work (again in the section dealing with mortality from tuberculosis in the first year of life), Dr. Calmette writes that they

"n'ont enregistré, pour 245 nourrissons suivis par eux, qu'une mortalité de 7,7 p. 100 de zéro à un an. Mais il faut remarquer d'abord que les 245 nourrissons dont il s'agit ne comprennent pas seulement des enfants nés de mères tuberculeuses, mais aussi, et surtout des enfants qui ont simplement été en contact, pendant une période plus ou moins longue, avec un tuberculeux."

The mortality rate of 7.7 per cent. in Kjer-Petersen and Ostenfeld's series is the rate of mortality from all causes—namely, 19 deaths among 245 children, and of these 19 deaths only 12 were assigned to tuberculosis. The complete specification in the paper is as follows. Tuberculosis: 3 from tuberculous meningitis, 5 from pulmonary tuberculosis, 1 from abdominal tuberculosis, 1 after operation for tuberculous disease of the ear, 2 from generalized tuberculosis. The other deaths were thus classified: 1 cholera, 1 influenza and inflammation of the lung, 2 measles and inflammation of the lung, 3 inflammation of the lung. If we assume that the last three were really instances of tuberculous infection we shall reach 6.1 as the percentage death rate from tuberculous disease.

The authors set out their categories quite clearly, and one finds that 101 of the children had the mother or both parents tuberculous, and of these 101 children 4 died of tuberculosis, while the remaining 8 deaths from tuberculosis occurred among the 116 children whose fathers only were tuberculous. In other words, these data show a higher incidence of fatal tuberculosis upon the children of tuberculous fathers than upon the children of tuberculous mothers.

The fundamental importance of Kjer-Petersen and Ostenfeld's paper depends on the fact that it is based upon data compiled on statistically sound lines. Their means of access was the tuberculosis station of Copenhagen. They obtained a record of all births from July 1st, 1919, to June 31st, 1925, to families with at least one case of open tuberculosis; and they have excluded from the series instances where the child was born at least a month after a tuberculous father's death, or was isolated from the mother during the first year of life; that is, their data should give a maximal incidence for the class of population concerned. I shall return to the point later; at present I am merely describing Dr. Calmette's treatment of his sources. It is, I think, evident that no reader of his report who had not had access to Kjer-Petersen and Ostenfeld's paper (the locus of publication of which is not given by Dr. Calmette) could have formed a just impression of what these authors actually did.

The next example of Dr. Calmette's literary researches is even more interesting. On page 7 of the report under notice we are told that:

"Margarete Roepke, dans un tableau qui résumé l'histoire de 78 enfants, trouve une mortalité de 30.8 p. 100 pour les nourrissons en contact avec des malades arrivant à la période ultime de leur tuberculose; de 25 p. 100 lorsqu'il s'agissait de lésions avancées, tandis que la mortalité était nulle lors des contacts avec des formes légères de la maladie."

Dr. Calmette does not actually give a reference to the locus of publication of M. Roepke's paper, but there is no doubt that the paper in question is that printed on pages 252-263 of vol. 54 (1923) of the *Beiträge zur Klinik der Tuberculose*. The source of the above-quoted statement of Dr. Calmette is in fact the following table, which I have taken from Fr. Roepke's paper (p. 260), the only change I have made being to translate the letterpress into English.



TABLE IV.—Mortality from Tuberculosis of Infants Exposed to an Infection, in Relation to the Severity of the Disease in the Carrier of Infection.

Infants in Families with Infections Tuberculosis.	Carriers of Infection.			
	In the Last Stage.	Advanced.	Slight.	Not Reported.
Infected ... .. 23	10	7	5	1
Not infected ... .. 13	3	1	8	1
Total number of infants ... .. 36	13	8	13	2
Deaths from tuberculosis ... .. 6	4	2	—	—
Percentage deaths of exposed to risk ... 16.7	30.8	25.0	0	—

The reader will recognize in this table Dr. Calmette's percentages of 30.8 and 25, but what, he will ask, is the source of the 78 infants upon which, according to Dr. Calmette, the table is based? The answer is that if one adds up all the figures in the second column except the percentage, the sum is  $23+13+36+6=78$ ; that is, we reach 78 by counting all the children who survived twice and all those who died three times! It is not easy to understand how this mistake could have been made, because even a person completely ignorant of German and without a dictionary would surely wonder why there were four categories of absolute figures, and would have noted that 6 is 16.7 per cent. of 36, not of 78. However this may be, the simple fact is that the percentage mortalities of 30.8 and 25 are based respectively upon 13 and 8 observations.

No further remarks upon Dr. Calmette's treatment of literature seem needed. I pass now to the contention that, in the present report, in addition to repeating errors in the citation of the literature, Dr. Calmette has introduced statistical errors of a novel kind. On page 11 of the report there is a section headed "*Enfants vaccinés depuis moins d'un an au 1<sup>er</sup> décembre 1927.*" The first paragraph of this section reads as follows (italics are as in the original):

"Sur les 5,749 enfants qui figurent dans notre fichier, 3,808 ne sont vaccinés qu'après moins d'un an au 1<sup>er</sup> décembre 1927. A cette date, on avait compté parmi eux 118 décès dont 34 par maladies présumées tuberculeuses. Leur mortalité générale (par toutes causes de maladies) était donc de 3.1 pour 100, alors qu'en France la mortalité générale des non-vaccinés, avec ou sans contact tuberculeux, est de 8.5 pour 100 nés vivants. La mortalité générale de zéro à un an est donc de plus de moitié moindre chez les vaccinés en contact tuberculeux qu'chez les non vaccinés avec ou sans contact."

Now the ratio of 8.5 per cent. is the ordinary measure of mortality in the first year of life; that is, it purports to tell us—and, unless the fluctuations of natality or mortality from month to month and year to year are very large, it does effectively tell us—what is the proportion of live-born children who, being exposed to risk of death for a whole year from birth, will actually die within that year. But the 3,808 children in Dr. Calmette's report are definitely stated to have been vaccinated less than a year from the date of closing the observations. Therefore, if the record of mortality extended from birth to the first anniversary of birth it covered some part of the first year before they had been vaccinated at all; if it only covered the period during which the infants belonged to the vaccinated class it is not a record of the mortality of the whole of the first year of life, but only of a part of that year. On either hypothesis the ratio of the number of deaths to the number of children cannot be compared with the rate of mortality in the first year of life. From a consideration of the details printed amongst Dr. Calmette's documents it would appear that the second method was that adopted in compiling the data. Omitting three cases of death after the age of 1 year it is found that no less than 38.26 per cent. of the total deaths were at ages 6-12 months, and only 12.17 per cent. in the first month of life. It is well known that the greatest proportion of deaths in the first year occur in the first month of

life. Thus in England and Wales (1926) 45.38 per cent. of the total deaths under 1 year occurred in the first month of life, and only 23.28 per cent. at ages over 6 months. The explanation of Dr. Calmette's figures is presumably that he is dealing with the mortality, not from birth, but from (on the average) an older age, hence the large proportion of deaths at older ages. An elementary mistake in the handling of statistics has been made, and a mistake which would necessarily show a result favourable to any treatment.

I do not think that it is necessary to examine Dr. Calmette's statistical methods further; it seems to me to be proved that the latest report, where it differs from its predecessor, differs from it for the worse, and that it cannot be regarded as a serious contribution to scientific literature at all.

If the question were merely one of academic discussion it might well be left there—indeed, it might well never have been raised. To paraphrase Mr. Shaw, Dr. Calmette's excursion into statistics might properly have been received with that silence which falls upon ordinarily good-natured people when a man of distinction offers, as his contribution to the discussion of a matter he has never studied, an absurd blunder. But it has been suggested that those who are unable to accept these strange bibliographical and statistical methods are indifferent to the possible importance of the subject in its practical applications. As a statistician I naturally attach value to the statistical method as an instrument of research. If a scientific man claims that he has proved by some other method than the statistical that such-or-such a means of treatment is good, I am naturally not very ready to believe him; but I neither have nor claim the right to impose my belief upon others. If Dr. Calmette had stated that, on experimental grounds, he was satisfied that his method of vaccination was a valuable prophylactic, and had confined himself to the kind of reasoning contained, for instance, in the first pages and the fifth and sixth sections of his report, I should not have been convinced because, *inter alia*, I do not understand how a living vaccine—that is, something quantitatively indeterminate—can be a satisfactory means of therapeutics; but I should have felt that my knowledge of the literature and technique of modern immunology was so amateurish that it would have been an impertinence to bandy words with an investigator who has devoted his life to such studies. But Dr. Calmette has not adopted this course; he has deliberately appealed to the statistical method, and, in my submission, his use of that method has been so gravely defective that no confidence can be placed either in his statistical inferences or in the reliability of the data which he has assembled. The collection of data is at least as delicate a business as their analysis, and a writer who shows so little respect for logic in analysis is not likely to have been more circumspect in assembling data for analysis. I see no hope of obtaining statistical data from France. If an appeal is to be made to statistical methods in other countries, we should be quite clear what conditions have to be fulfilled to give the statistical court jurisdiction.

If we confine ourselves to the case of the incidence of fatal tuberculosis in the first years of life, and desire to learn whether a particular treatment applied at the beginning of life reduces the risk of death, our first difficulty is the smallness of the material. The total number of registered deaths from all forms of tuberculosis at ages under 1 year in England and Wales in 1926 was only 862, or 1.8 per cent. of the whole number, 48,757, of deaths under 1, and 1.24 per 1,000 of the total number of live births, 694,563. Suppose, then, we were to take by lot every tenth registered live birth and to divide the sample of, say, 70,000 live births into two sets of 35,000 each, to treat one moiety and leave the other as a control series. We should expect, on the average, some 43 deaths from tuberculosis in the control series, the expectation being subject to an error of sampling of approximately 6.6. If, then, in the treated series there were 23 or fewer deaths from tuberculosis, we should reasonably conclude that it was easier to believe that the treatment had really been beneficial than that a very improbably large divergence had arisen by the luck of sampling. Such a comparison, if the conditions of random sampling had been strictly fulfilled,

would be perfectly satisfactory. But in actual practice the larger the "sample" the less probable is it that the conditions will be fulfilled, and the possibility of controlling a sample of the order of 10 per cent. of the whole annual births is virtually an impossibility. Take a less ambitious scheme, and suppose that in some town of moderate size, a town of some sixty or seventy thousand inhabitants, with an annual quota of, say, 1,000 births, the children could be treated randomly—for example, every second child whose birth was registered from January 1st in some year to be treated. We should expect on the average less than one registered death from tuberculosis in the control 500, and no strong presumption of advantage would be raised by a nil return from the treated series, taking only a year's experience.

Evidently it was a sound instinct to seek for a decision amongst the class of material where a higher rate of mortality was to be expected. That is the significance of Kjer-Petersen and Ostenfeld's work. What can we conclude from their investigation as to the probable range of mortality in the first year of life of in-contacts? We can, of course, at once dismiss the preposterous suggestions of rates of mortality of the order of 25 per cent., even from all causes. Had such a rate really prevailed in the population sampled by Kjer-Petersen and Ostenfeld, their "expectation" would have been 61 deaths with a standard deviation of 6.77. Actually they observed 19, and the odds against such a deviation as 42 are of the order of a thousand millions to one. If, however, one might postulate a rate of mortality from tuberculosis in the first year of life even of the order of 5 to 10 per cent., the comparison of samples of order 500 would not be waste of time. We should expect

in our control 500 from 25 to 50 deaths, and if the treated sample returned, say, only some 15 to 30 or fewer deaths, a case would have been made out which would be rather strong. Whether it would be practically possible to use this method, here or in America, it is hard to say. The number of instances of births in families with one or more cases of open tuberculosis which come to the notice of the public health authorities within any one area and within a limited period of time is small, and the difficulty of strict random sampling is great. We are concerned, not with guinea-pigs, but with human beings, and it is not easy to induce those who have the medical charge of human beings to administer to any of them a treatment which they regard as worthless, or to abstain from administering to any of them a treatment which they regard as valuable. None of us can dramatize this conflict with the art of Mr. Sinclair Lewis in *Martin Arrowsmith*, but all of us have, to a greater or less degree, participated in it. I do not expect that the value of B.C.G. will be determined on these lines. Like most methods of treatment, its use or neglect will be determined by psychological considerations. But to the still small, but increasing, number of medical men who attach importance to statistical accuracy it is of some moment that methodological errors having the sanction of the name of a distinguished investigator should at once be pointed out. That is my reason for writing this article.

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- <sup>3</sup> *British Medical Journal*, 1927, i, 835. <sup>4</sup> *Ibid.*, 1928, i, 264. <sup>5</sup> *Ibid.*, 1927, i, 826. <sup>6</sup> *Ibid.*, 1927, i, 1082. <sup>7</sup> *Ibid.*, 1928, i, 520. <sup>8</sup> *Ugeskrift for Læger*, March 31st, 1927 (No. 13), pp. 257-261. <sup>9</sup> *Dent. Med. Week.*, 41st J., 1916, 1310. <sup>10</sup> *Beitr. z. Klin. d. Tuberk.*, xx, 1911, 20.

## VITAL CAPACITY IN HEART DISEASE.\*

BY

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(From the Heart Department of the Royal Infirmary.)

It has been the aim of investigators for many years to devise some simple test to estimate the functional capacity of the heart, apart from the subjective sensations of the patient. Many tests have been introduced from time to time for this purpose, based as a rule on the response of the heart to some form of exercise—the simplest consisting of taking the pulse rate before a fixed amount of exercise, immediately after the exercise has ended, and after an interval of a few minutes. An exercise tolerance test of this type has largely been made use of by the Ministry of Pensions for purposes of assessment of cardiac disabilities.

A test like this one, based on changes in the pulse rate, however, is open to the objection that it is more a measure of the excitability of the sino-auricular node than an indication of the capacity of the heart, and depends on many other factors quite independent of the cardiac reserve power. After vital capacity had been introduced as a measure of the extent and progress of certain lung conditions this test was applied to patients suffering from cardiac disabilities by several observers (see references 1 to 4), who found that the vital capacity was very much below normal standard when any serious cardiac condition was present; while Peabody and Wentworth<sup>5</sup> also drew attention to the fact that there was a definite relationship between diminution in the vital capacity and a tendency to dyspnoea on exertion.

Before considering the changes which occur in cardiac patients it is advisable to consider what is meant by vital capacity. Hutchinson<sup>6</sup> many years ago divided the volume of air in the lungs into the following divisions:

1. *Residual air*—air which cannot be expelled and is left in the lungs.
2. *Reserve air*—air which can be expelled by effort at the end of normal expiration.
3. *Tidal air*—air which is inspired or expired during normal respiration.
4. *Complementary air*—air which can be inspired after normal inspiration.

\* Based on a paper read before the Liverpool Medical Institution.

5. *Vital capacity*—the sum of the reserve air, tidal air, and complementary air—that is, the greatest amount of air which can be expelled after the deepest possible inspiration.

In this investigation a simple water spirometer (Fig. 1) has been used, graduated in cubic centimetres and balanced so that no effort is required to raise the cylinder. A large number of glass mouthpieces were provided, so that they could be readily disinfected between each patient without loss of time.

It is always advisable to explain fully the working of the machine before actually taking the measurement, as it is necessary to get the patient's whole-hearted co-operation to obtain an accurate result. Each patient was given three attempts, the highest being taken as the vital capacity. In taking the reading, if there is any tendency to expire through the nose this should be closed by pinching during expiration. When patients were not confined to bed the record was always taken standing, and generally in their ordinary clothes. With regard to the patients who were confined to bed they were all able to sit up in bed when taking the reading, so that it was not necessary to correct the reading for the 5 per cent. diminution in the vital capacity which has been shown by Christie and Beams<sup>7</sup> and Rahnowitch<sup>8</sup> to occur when the reading is taken in the recumbent position. Owing to the variability of the vital capacity according to the height, sex, age, and race of the individual concerned, the simple reading of the number of cubic centimetres expired gives little indication of the deviation from the normal, unless the reading is expressed in percentages of the standard vital capacity for that individual.

In this investigation the vital capacity is expressed as percentages of the standard vital capacity for that particular patient. It would be out of the scope of this paper to enter into all the different methods for calculating the

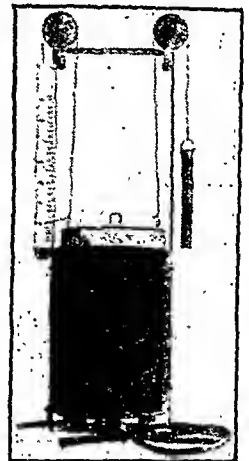


FIG. 1.—Water spirometer.

standard vital capacity; probably the most accurate is that calculated on the surface area of the body as estimated by the method of Du Bois,<sup>8</sup> where the vital capacity is two and a half times the surface area in men and twice the surface area in women. This is, however, a somewhat lengthy proceeding, and West<sup>9</sup> has shown that for all practical purposes the standard vital capacity in cubic centimetres can be determined by multiplying the standing height of the patient in centimetres by twenty-five in men and twenty in women. Age also modifies the reading considerably, but it has been shown by the work of Bowen and Platt<sup>10</sup> that this alteration with age only takes place during youth and after 50 years of age. As the cases in this series, with one or two exceptions in the high tension group, fell between the ages of 20 and 50, it was felt that the variation due to this factor would not materially alter the results.

Before investigating cardiac cases it was thought desirable to take a series of normal men and women and see what variations took place between the actual vital capacity as tested by the spirometer and the calculated standard vital capacity of the individual by means of West's formula. Fifty men, mostly medical students, and fifty women, chiefly nurses with a few students, were tested in this way.

#### Vital Capacity of Fifty Normal Males.

An examination of Fig. 2 shows that there are considerable variations among healthy individuals, and readings of 20 to 30 per

#### VITAL CAPACITY NORMAL MALES 50

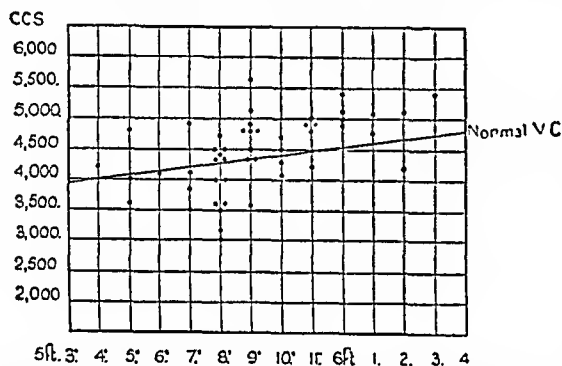


FIG. 2.—Showing the vital capacity of fifty normal males. The vertical line indicates the vital capacity in cubic centimetres, the horizontal line the heights, and the oblique line the standard vital capacity for each height as calculated by means of the formula. Each individual reading is shown as a dot.

cent. above or below normal are quite common without any apparent evidence in the health of the individual. In spite of these individual variations, however, the average of the group works out at 102 per cent., which is very near the normal figure of 100 per cent.

#### Vital Capacity of Fifty Normal Females. (Fig. 3.)

The variations in this group are if anything greater than in the male group, and the number of cases in which the actual

#### VITAL CAPACITY NORMAL FEMALES 50.

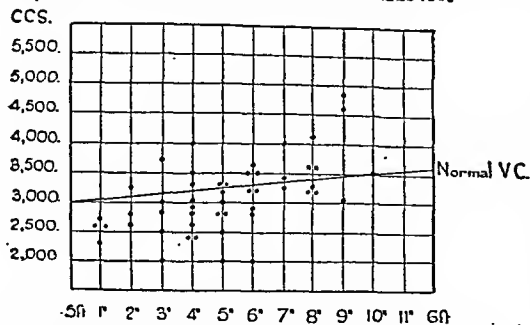


FIG. 3.—Showing the vital capacity of fifty normal females.

vital capacity was much below the calculated normal are more numerous. The average for the whole group is 95 per cent.—slightly below normal.

#### The Effect of Organic Cardiac Disease on Vital Capacity. (Fig. 4.)

The percentage incidence of organic cardiac disease is shown on the vertical line and the percentage of the normal vital capacity on the horizontal line. The normal curve is taken from 100

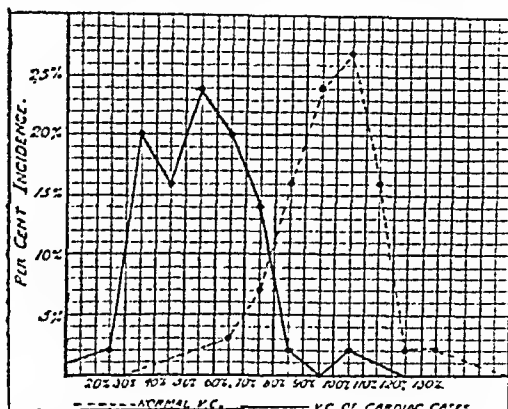


FIG. 4.—Curve to show the effect of organic cardiac disease on vital capacity.

normal individuals and is shown by the broken line. The curve of the organic cardiac cases is taken from 50 cases and is indicated by the continuous line.

#### Readings obtained in the Various Groups of Organic Cardiac Cases.

**GROUP I: The Average Vital Capacity of all Organic Cardiac Cases.**—Most of the cases in this group were able to attend the heart department, and only in comparatively few cases were the patients confined to bed. The cases examined numbered 54; the average vital capacity was 53 per cent.

**GROUP II: The Vital Capacity of High Blood Pressure Cases.**—All over 160 mm. systolic pressure, most of them over 200 mm. Number of cases 13; average vital capacity 55 per cent.

**GROUP III: The Vital Capacity of Mitral Stenosis Cases.**—These cases are subdivided into two groups—those with normal rhythm and those with auricular fibrillation. The average vital capacity for the whole group was 47 per cent. (25 cases); for the normal rhythm group 56 per cent. (12 cases); for the auricular fibrillation group 40 per cent. (13 cases).

**GROUP IV: The Vital Capacity of Cases of Aortic Regurgitation.**—The number of cases in this group was 10; the average vital capacity 59 per cent.

**GROUP V: The Vital Capacity of Cases of Auricular Fibrillation of All Kinds.**—There were 16 cases in this group, with an average vital capacity of 45 per cent.

**GROUP VI: The Vital Capacity of Cases showing Abnormalities in their Electro-cardiographic Record.**—(1) Left ventricle preponderating—average vital capacity 50 per cent. (13 cases). (2) Right ventricle preponderating—average vital capacity 51 per cent. (5 cases). (3) Inverted "T" (ex. Lead III only)—average vital capacity 51 per cent. (7 cases). (4) Q R S abnormal—average vital capacity 58 per cent. (3 cases). (5) Auricular fibrillation—average vital capacity 42 per cent. (14 cases).

These figures show that the vital capacity is markedly diminished when any organic cardiac condition is present. In certain conditions, especially in the mitral stenosis group with auricular fibrillation, this diminution is very marked, while in the high tension cases and in aortic disease it is not relatively so marked. In the cases showing changes in the electro-cardiographic record, apart from the low reading in the fibrillation group which has already been noted there is no special change in the average reading of any of these particular groups. A series of cases were kept under observation for a considerable time to see if any change took place in the vital capacity with varying states of compensation in the same patient. In two of these cases auricular fibrillation supervened during the period of observation, and we had the good fortune to obtain records of the cases while the heart was beating with its normal rhythm and subsequently records of the same patient when auricular fibrillation was present.

The first of these cases was a man, aged 44, suffering from mitral stenosis with a slight mitral leak. Fig. 5 shows the heart rate and vital capacity of this patient for a period of two months. The

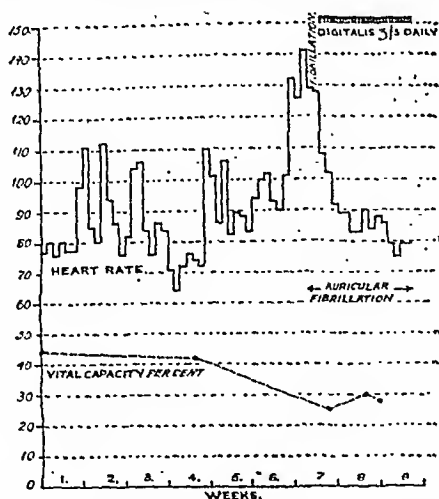


FIG. 5.—Chart showing the heart rate and vital capacity for a period of two months of a man suffering from mitral stenosis.

chart shows clearly the drop in the vital capacity which occurred with the onset of auricular fibrillation and the subsequent improvement which took place on full doses of digitalis. (I am indebted to Dr. Ince for this chart and that shown in Fig. 6.)

The second case was that of a woman aged 26, also with mitral stenosis. Fig. 6 shows the effect of rest and digitalis on the heart rate and vital capacity when the heart was beating with a normal rhythm, the pulse rate falling steadily, and the vital capacity rising. The second part of the chart shows the record obtained

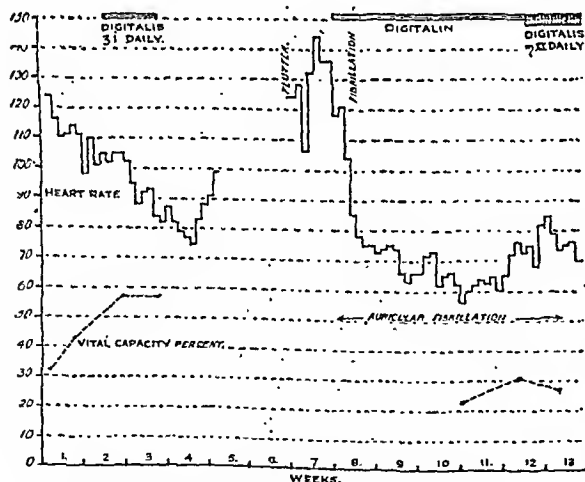


FIG. 6.—Chart showing the effect of rest and digitalis on the heart rate and vital capacity of a young woman with mitral stenosis.

from the same patient when she was readmitted two months later with auricular flutter, which soon became auricular fibrillation. She was extremely distressed on admission, and the vital capacity was not taken until she had improved considerably, but even then it was very much below the lowest figure when normal rhythm was present, and though improvement took place under digitalis it never subsequently reached its previous figure.

Another interesting case of this series was that of a healthy man in whom auricular fibrillation had been accidentally induced by means of an electric shock. His heart was turned back to its normal rhythm by quinidine, but relapsed into fibrillation and again had to be turned back by quinidine. We took records of his vital capacity during the whole of the period of transition from one rhythm to the other, and at no time did the change in the vital capacity between the period of normal rhythm and the periods of fibrillation exceed 100 c.cm.—a relatively very slight change.

A series of cases of disorderly action of the heart, or the "effort syndrome," were also investigated. This group

is of special interest in view of the marked dyspnoea on exertion which, as a rule, is one of the characteristic features of this disease.

All the cases investigated were very well marked examples of this condition, and were mostly of men in receipt of a pension for this disability as a result of service in the war. The cases investigated numbered 9, the average vital capacity being 85 per cent.; the lowest individual reading was 75 per cent.

These results in cases with disorderly action of the heart are in agreement with those published by Levine and Wilson<sup>11</sup> in this country and by White<sup>12</sup> and Adams and Sturgis<sup>13</sup> in America. The very slight diminution in the vital capacity of this group is very curious in view of the marked dyspnoea which all these patients had, and shows that the dyspnoea which is associated with functional disease of the heart is very different in origin from that due to organic cardiac disease. Leaving out this group, which is in a class by itself and depends on so many factors outside the cardiac condition, it is apparent that the vital capacity is an indication of the amount of dyspnoea in cardiac disease, and though many<sup>2</sup> question that it pictures the cardiac condition more clearly than records of the blood pressure and pulse rate, and in support emphasize those cases where the reading does not change rapidly with varying states of compensation, yet there is no doubt that it is a valuable numerical expression of the amount of dyspnoea.

If one takes all the cases together they can, broadly speaking, be divided roughly into the following four classes, according to the amount of dyspnoea:

1. V.C. above 60 per cent.—dyspnoea not very marked.
2. V.C. between 60 and 40 per cent.—moderate amount of dyspnoea.
3. V.C. below 40 per cent.—considerable amount of dyspnoea.
4. V.C. below 30 per cent.—patient usually confined to bed with orthopnoea.

As in normal persons, however, a considerable amount of individual variation takes place.

Many views have been expressed as to how this diminution in the vital capacity in cardiac conditions is brought about. Siebeck<sup>14</sup> believes that it is due to engorgement of the capillaries of the lung alveoli causing distension of the alveolar walls with increase in the fibrous tissue. Drinker, Peabody, and Blumgart<sup>15</sup> have investigated the effect of pulmonary congestion on the ventilation of the lungs in cats, and have shown that pulmonary congestion produced by compressing the pulmonary veins at their entrance into the left auricle caused a marked diminution in the air passing through the lungs, and that recovery soon occurred when the pressure was released; but that if this compression was maintained for sufficient time to cause exudate into the lungs a more or less permanent diminution in the air passing through occurred. They believe that vascular congestion can act in two ways: (1) by encroaching upon the alveolar spaces by the congestion limiting their size; (2) by diminishing the elasticity of the lungs owing to the congestion, like erectile tissue.

Meakins and Davies,<sup>16</sup> in summing up the evidence, express the opinion that the decrease in cases of organic cardiac disease is probably due to some structural change in the lungs. In favour of such a change taking place is the slow alteration in the reading with changes in the degree of compensation, and also the fact that the diminution is greatest in cases of mitral stenosis, especially when associated with auricular fibrillation, a lesion which is extremely likely to produce permanent changes in the lungs.

In conclusion, I should like to emphasize the following points:

1. The vital capacity is a valuable numerical expression of the amount of dyspnoea in organic cardiac cases.
2. It is a useful indication as to the general progress of treatment, though the changes in the reading only follow slowly the varying degrees of compensation of the heart.
3. The vital capacity is most diminished in cases of mitral stenosis, especially when associated with auricular fibrillation.

4. The reading is no indication of the amount of dyspnoea in disorderly action of the heart or functional disease.

5. It is of little value in the early diagnosis of cardiac conditions, owing to the variability of normal standards.

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## ORAL ADMINISTRATION OF PANCREATIC AND OTHER PREPARATIONS IN THE TREATMENT OF DIABETES.

BY

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THE discovery of insulin entirely changed the former more or less hopeless outlook in cases of diabetes mellitus. It has enabled diabetic patients, who under previous conditions would have been dead before now, to lead active and useful lives in comparative good health. Such emergencies as operative and coma arising in the diabetic patient are no longer regarded with the same dread as formerly, for, in the majority of cases, both can now be dealt with successfully.

The mode of action of insulin is still a matter of conjecture, but it apparently helps to store carbohydrate in the liver and other tissues; at the same time it plays a part in the combustion of sugar. In the normal individual there is found an almost constant difference between the arterial and venous blood sugar content, the latter being less by approximately 0.04 per cent. In cases of diabetes this difference is reduced or disappears, showing an inability on the part of the tissues to deal adequately with supplies of glucose. Similarly in diabetes the lengthening of the normal blood sugar curve after the ingestion of carbohydrate shows that the liver is unable to store glycogen from the portal circulation as in the normal individual. After adequate treatment with insulin and suitable diet both these abnormalities show a return towards the normal.

It has been proved definitely that insulin is destroyed both by the gastric and the intestinal juice; whether given in acid or alkaline media, or in alcohol or glycerin, it exerts no appreciable effect on the blood sugar or carbohydrate metabolism. Oral administration on a full or empty stomach appears to make no difference; no absorption of active substance takes place. It was hoped at first that some way could be found of giving insulin by the mouth to obviate the unpleasantness of frequent hypodermic injections, but so far these attempts have not been attended with success.

In this respect insulin seems to bear a close resemblance to the extract of the posterior lobe of the pituitary gland, which on hypodermic injection has a definite effect in raising blood pressure and causing all unstriated muscle in the body to contract, whereas after oral administration it has no demonstrable effect.

Thyroid extract, when its value was first discovered in the treatment of myxœdema, was given by injection, but later it was found that it could equally well be given orally, as it was absorbed and exerted its effect in the same manner. For this reason after the discovery of insulin a fresh impetus was given to the use of various

pancreatic and other extracts for oral administration in the cases of diabetes mellitus.

The continued hypodermic injections in the case of patients on insulin treatment soon become irksome and may give rise to considerable trouble through sepsis if the patient be not careful with his cleansing of skin and syringe. In the case of the hospital class of patient the expense of the insulin very often gives rise to difficulty, though now, since the considerable decrease in price, this is not of so much importance as formerly.

These points have made it seem worth while to investigate some of the many oral preparations which are at present on the market for use in the treatment of diabetes mellitus. The claims made for these preparations are many and varied. In some cases the pamphlets even go so far as to claim cures on an ordinary mixed diet. For example, the synthetic insulin tablets A and B were said to produce a cure in a fortnight whilst the patient was on an ordinary diet. A similar claim was made for the diatana mixture.

Parko Davis's pancreatic extract (Mackenzie Wallis) is claimed to be of value in some cases of diabetes; in from two to three weeks on a suitable diet the extract is said to cause a reduction in blood and urine sugar and an improvement in the patient's clinical condition. Messrs. Parko Davis state that if no improvement is found in from two to three weeks the treatment should be discontinued. The improvement alleged in some cases might quite well be due to the strict dieting, and not to the pancreatic extract at all. They state that they do not aim at reducing the blood sugar to the region of 0.1 per cent., but they endeavour to reduce the blood sugar to the region of 0.15 to 0.20 per cent., and to decrease the sugar in the urine. No reference is made to the effect on the ketone bodies, which are in many respects of more importance in estimating the patient's condition than the amount of glycosuria.

Messrs. Carnrick, in their literature relating to the pancreatic extract put on the market by them, give a graph showing the blood sugar and urine sugar in a case treated on their preparation. In this case the sugar disappeared from the urine and the blood sugar fell to normal in a few days. They state, however, that the patient was placed on a restricted diet, presumably at the same time as he started taking the pancreatic extract, so that the fall in blood and urine sugar may have been due to the restricted diet. Indeed, in the light of my observations (recorded later) there is little doubt that the diet was the only effective factor.

Another point which must be considered is the fact that diabetes is well known to vary from time to time, and that temporary improvement may occur apparently spontaneously.

Various claims as to the exact method of action of pancreatic preparations for oral administration are made by the vendors. In most cases these claims are rather vague, and generally state or infer that the active component is insulin. These assertions must obviously be wrong, as insulin is destroyed rapidly in the stomach and intestine. It is, however, possible that there may be some other substance, not insulin, present in these preparations which, when administered orally, may be absorbed and stimulate some mechanism which controls carbohydrate metabolism in the body.

It has been found experimentally in dogs that if the pancreas be completely removed, injections of insulin will only keep the dog alive for a short period. If, however, a very small portion of the pancreas be left, insulin injections will keep the dog alive for an indefinite period. This rather points to the fact that the pancreas may secrete some other internal hormone besides insulin, and it is conceivable that this substance, whatever it may be, might be present in the oral preparations and might be absorbed from the alimentary tract when administered by the mouth. If this were so it might benefit cases of diabetes to be treated with these preparations, even though, of course, they were not absorbing any of the insulin contained in the preparations. All kinds of theories could be formed as to the type and mode of action of this pancreatic secretion, but as its presence is a pure hypothesis, conjectures as to its



mode and site of action seem rather far-fetched. As several cases which have been under my care seem to show that this substance, if present, is not at any rate absorbed in sufficient quantity to be observable clinically, the question becomes even less worthy of consideration.

Insulin seems to be rendered inert very rapidly by gastric and intestinal juices, but alcoholic extract of insulin has been found to produce a slight effect on the blood sugar when given by the mouth, and this is presumed to be due to the rapid absorption of part of the insulin with the alcohol before the gastric secretion has had time to destroy it. From the practical point of view this method is of little value, as the percentage absorbed is too small to make it a satisfactory proposition from the economic standpoint.

It is claimed for most of the pancreatic extracts that they increase the percentage of the food absorbed during digestion. If this be so it seems to be a disadvantage rather than an advantage, because the fault in diabetes lies not in the absorption, but in the utilization of the food after absorption. If we increase the absorption we increase the amount of materials with which the body has to deal, thereby throwing a greater strain on the carbohydrate metabolism. It is well known that it is exceedingly difficult to get diabetic patients to adhere for any length of time to a very rigid diet, and this would increase the difficulty; at the same time, any action of this kind would tend to diminish the bulk of the faecal matter, which is a disadvantage.

It is possible that these pancreatic extracts given by the mouth may stimulate some internal secretion other than insulin which aids in the utilization of carbohydrate within the body, and if this is the case the effect would be reflected in the blood sugar estimations and in the general condition of the patient. On these grounds it was determined to give these preparations a trial under standard conditions to see if they did produce any alteration in the patient's condition.

Some difficulty was found in finding suitable patients on whom to test these preparations, as an endeavour was made to get some mild and some moderately severe cases. Unfortunately some of the latter, whilst they were being standardized on a comparatively low diet, showed symptoms of the onset of diabetic coma, and had to be placed on insulin to prevent their condition getting worse. This has somewhat reduced the number of cases treated on these preparations, but the evidence of those cases in which the treatment was carried through is extremely constant.

In carrying out the investigations each patient was placed on a moderately low diet—say, 980 or 1,050 calories in most cases. The twenty-four-hourly collection of urine was examined daily, the total sugar and acetone being estimated; after the excretion of sugar had been constant in amount for several days the oral preparations were administered for periods of a week to a fortnight, controlled by daily estimations. In some cases preparations containing pulvis cretae or pulvis cinnamomi were made similar to the real preparations, and these were administered without the patient knowing of the substitution. This was done after the real preparations had been administered over a period of several days in order to rule out any psychological factor which might be influencing the results. In other cases sugar tolerance curves were done on the blood, first of all without and then following a large dose of one of the preparations. The sugar estimations on the urines were done by Bertrand's method, and the acetone estimations by acid distillation method, whilst the blood sugars were estimated by MacLean's method.

The following case is typical of a number in which the various preparations were employed. Details of these cases are unavoidably omitted owing to lack of space. The results were similar in all the cases.

A single man, aged 38, was admitted to hospital on October 25th, 1923. All his family had been healthy. The patient had had mumps, diphtheria, measles, and whooping-cough as a child. He was rejected for the army owing to his eyesight and varicose veins. Five years ago, when working in Canada, he noticed that he always felt tired, was thirsty, and had a nasty taste in his mouth. His doctor told him he had diabetes, and gave him a diet, to which he kept more or less for three years, since when he had not dieted. In August, 1923, he had a return of his original symptoms. In addition he lost 2st. in

weight, and had numbness and pains in the legs and marked hunger. On admission no definite physical signs were found. The urine was acid, specific gravity 1030, sugar and acetone present.

He was first placed on a diet equivalent to 1,050 calories, and then starved, and worked up gradually to a diet consisting of 51 grams of carbohydrate, 61 grams of protein, and 33 grams of fat, with a total calorific value of 980. On November 22nd, 1923, he started to take 5 capsules of Carnrick's internal secretion of pancreas 3 times a day before meals. On December 4th he started taking 10 capsules three times a day, and two days later 20 capsules three times a day. On December 11th the patient commenced to take 5 imitation capsules, containing pulvis cretae, three times a day, and on December 14th he was given 10 units of insulin twice daily, his diet being altered to carbohydrates 40 grams, protein 56 grams, fat 184 grams.

The patient felt weak when on the low diet, but said he felt much stronger when he started on the capsules. When taking the larger number of capsules daily he did not feel so well, and complained a lot of flatulence, but he said that he felt very well indeed while taking the capsules of pulvis cretae. His weight fell during starvation, but just before starting the insulin his weight was 8 st. 5 lb., the same as on admission.

The patient was discharged from hospital on January 5th, 1924.

Table showing Preparation given, Blood Sugar Concentration, and Amount of Sugar Excreted.

Date.	Preparation Given.	Blood Sugar per cent.	Sugar Excreted per Day in Grams.
1923.			
Nov. 20			11.2
" 21		0.235	8.0
" 22	5 Carnrick's capsules t.d.s.	0.245	35.0
" 23	" " "	0.255	48.8
" 24	" " "	0.262	40.0
" 25	" " "	0.262	47.5
" 26	" " "	0.262	55.0
" 27	" " "	0.260	35.5
" 28	" " "	0.260	56.8
" 29	" " "	0.258	34.5
" 30	" " "	0.255	32.0
Dec. 1	" " "	0.253	41.0
" 2	" " "	0.250	42.0
" 3	" " "	0.245	43.0
" 4	10 Carnrick's capsules t.d.s.	0.210	44.0
" 5	" " "	0.165	52.0
" 6	20 Carnrick's capsules t.d.s.	0.287	31.0
" 7	" " "	0.195	63.0
" 8	" " "	0.212	50.0
" 9	" " "	0.216	49.8
" 10	" " "	0.227	39.5
" 11	5 capsules chalk powder t.d.s.	0.236	44.8
" 12	" " "	0.256	26.0
" 13	" " "	0.228	52.5
" 14	" " "	0.125	72.0
" 15	Insulin given	0.157	17.0
" 16	" " "	0.162	7.5

Hourly Blood Sugar Estimations.

Time.	Nov. 21st 1923. Diet Only.	Dec. 3rd, 1923. 15 Carnrick's Capsules per Day.	Dec. 9th, 1923. 60 Carnrick's Capsules per Day.
9 a.m. ...	0.222	0.241	0.271
10 " ...	0.207	0.302	0.218
11 " ...	0.221	0.266	0.244
12 " ...	0.235	0.216	0.227
1 p.m. ...	0.252	0.229	0.246
2 " ...	0.234	0.241	0.222

#### CONSIDERATION OF RESULTS.

From the clinical point of view none of the cases showed or felt any improvement in their general condition whilst having the various pancreatic extracts; in fact, two patients complained of feeling weaker while on the extracts. One of these patients had to be rather hurriedly put back on insulin injections, as he developed a rapid pulse, went off his food, complained of abdominal discomfort, and became drowsy, with breath smelling of acetone. In fact, he exhibited the premonitory symptoms of coma.

Three patients were treated with Parke, Davis and Co.'s pancreatic extract (Mackenzie Wallis). One of these, a married woman, aged 35, showed little alteration in her blood sugar levels whilst taking the tablets; the glycosuria, on the other hand, possibly showed a fall at the start, but for the last few days before ceasing to take the tablets had returned practically to the original level. The acetonuria, on the other hand, tended to rise rather than fall during the exhibition of the tablets. As far as can be seen this patient was not influenced by the administration of

the tablets, and her blood sugar remained between 0.25 and 0.30 per cent. After being put on insulin injections and an increased diet she improved very rapidly, and has since done extremely well. This patient's blood sugar estimations, done at hourly intervals, showed a greater variation when she was taking the tablets. As far as can be seen from this case, one of moderately severe diabetes, the patient was not in the least benefited by the administration of the pancreatic extract.

Another of these patients, a married woman, aged 53, said she felt better whilst taking the tablets, but she also said so whilst she was having the imitation capsules containing *pulvis cinnamomi compositus*. Her acetonaemia and blood sugar curves showed little alteration. The urinary sugar also was little affected whilst taking the tablets. After being placed on injections of insulin and a much increased diet, consisting of carbohydrates 56 grams, protein 63 grams, and fat 182 grams, her acetonaemia and glycosuria disappeared in about a week and her resting blood sugar fell to between 0.100 and 0.150 per cent. She has since kept very well. While this patient was taking the imitation capsules the blood sugar finished at a higher level than at other times, but at one period fell to a lower level. From the other data, too, this patient was not materially affected by the exhibition of the pancreatic extract.

In the third patient the curve after the pancreatic extract rose to a higher level than it did when no extract was being given, but the final reading two and a half hours after the glucose was slightly lower than in the curve when no capsules were taken. These variations were of no significance.

With regard to the patient whose case is recorded in the text, during the period while he was taking the capsules the glycosuria reached its maximum when he was taking the largest number of capsules—that is, sixty a day—and the blood sugar was also highest at this point. Whilst taking the capsules the blood sugar and glycosuria levels did not appear to be appreciably altered, and the blood sugar remained above 0.200 per cent., even on the low diet he was then having. Immediately after being placed on insulin the blood sugar fell to the region of 0.150 per cent., in spite of an increased diet. The first blood sugar curve, taken while the patient was on diet alone, showed a lower resting blood sugar level, but a higher level at 2 p.m. than either of the other two curves. The second curve, taken while the patient was having five capsules three times a day, showed a very marked rise after breakfast to over 0.300 per cent. There followed a marked fall, and at 2 p.m. the sugar concentration was about 0.240 per cent. The last curve, taken while the patient was having fifteen capsules three times a day, showed a high resting blood sugar, 0.270 per cent., but the readings then kept lower, ranging between 0.220 and 0.250 per cent. Possibly this last curve shows a lower average level than the other two, but it must be remembered that the blood sugar curves vary in the same person from day to day, and there is no real improvement in the average level in spite of the fact that the patient was taking the enormous number of forty-five tablets a day, a number which it would be difficult to get a patient to continue taking over a long period of time.

A fifth case, that of a labourer, aged 26, was a severe and long-standing one, with considerable emaciation and marked asthenia. He was on diurnal injections of insulin and a diet of 40 grams of carbohydrate, 56 grams of protein, and 186 grams of fat for six weeks before the exhibition of the capsules, and improved considerably in his general condition. He was receiving 25 units of insulin night and morning, but this was stopped for a period and the patient then given five capsules of Carnrick's internal secretion of pancreas three times a day before meals. On examining the blood sugar, glycosuria, and acetonaemia estimations it was found that on ceasing the insulin injections there was a very marked rise in glycosuria, acetonaemia, and to a less extent in the blood sugar levels. At one period while he was taking the tablets the patient was excreting as much as 5 grams of acetone bodies daily in the urine. Immediately after recommencing the injec-

tions of insulin the glycosuria and acetonaemia fell rapidly, and the blood sugar dropped to nearly normal limits.

Another patient, a girl, aged 15, was given some synthetic "insulin" tablets. The tablets were divided into two kinds, A and B, and these were supposed to be taken alternately every two hours, six in all being taken during the day. While the patient was taking the tablets there was no improvement in either the glycosuria, acetonaemia, or blood sugar levels, but before discharge on 5 units of insulin twice daily her urine was free from sugar and acetone, and her blood sugar had fallen to the region of 0.100 per cent.; she had put on weight and felt very well in herself.

The last patient was a man, aged 49, with a history of diabetes for seventeen years and a ten days' history of a patch of superficial gangrene on the right big toe. He was placed on a liquid preparation called "diatana," which was credited with curing diabetes on any diet in a fortnight. Later on he did well on insulin.

In considering the various cases together from the point of view of results, the value of the different varieties of treatment must be looked at from several aspects.

In the first place, are they a cure? In no instance has there been any evidence of cure, but in the case of most of the preparations no claim that the treatment would produce a cure was made.

In the second place, is there any evidence that the treatment was beneficial to the patient? In no case is there definite evidence of any improvement whatever whilst under treatment. The patients either remained stationary or tended to go downhill, in spite of the fact that most of them were on low diets, which would have been quite insufficient for them to live and work on outside. The labourer whose case is referred to, who was on a sufficient diet to get on with outside, after being on capsules for five days had to be hurriedly put back on insulin injections owing to the fact that he was in the early stages of diabetic coma.

In June, 1923, a married woman with diabetes, who was being treated on a strict diet and Parke Davis's pancreatic extract (Mackenzie Wallis), was admitted to hospital in coma. With injections of insulin and other appropriate treatment she was able to leave hospital later comparatively well.

Besides the above, many patients have been treated at St. Thomas's Hospital with pancreatic mouth preparations during the last two years. In no case was the slightest benefit produced.

#### CONCLUSIONS.

From the consideration of the data given it is clear that the administration of oral preparations of pancreas in severe cases of diabetes is a waste of time, and likely to be harmful to the patient by delaying the proper treatment with diet and insulin injections. Other mouth preparations, such as "insulin synthetic" and diatana, I have found to be useless.

As regards the milder cases, in none of the above patients could any definite improvement be traced, either in the clinical condition of the patient or in the blood sugar levels. In those patients on whom blood sugar curves were taken over several hours no definite difference in the mean blood sugar level could be detected as the result of treatment with oral preparations. In fact, all the above results point to the conclusion that the oral preparations tried are of no value in the treatment of diabetes, and that probably the improvement attributed to the oral preparations has in reality been due to the strict diet the patient has been put on at the same time. In other words, the patients would have done equally well if put on the diet alone. The only value the tablets seem to possess is that some patients, if placed on a strict diet alone, feel that they are not receiving proper treatment, and the giving of the oral preparations obviates this difficulty.

I am indebted to Professor H. MacLean for his kindness in allowing me to carry out these investigations in his wards, and to Dr. C. H. Budgo for his help with the laboratory work.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### MASSIVE DOSAGE WITH INSULIN.

THE interest of the following case lies in the unusually large amount of insulin that was necessary to produce any noticeable improvement.

On the evening of September 20th, 1927, a baker, aged 23, was admitted to St. George's Hospital in a semicomatose condition; he was very drowsy and apathetic, and it was only with the greatest difficulty that he could be persuaded to answer any questions. An examination of his urine revealed a very considerable quantity of sugar, together with acetone and aceto-acetic acid. His breath smelt strongly of acetone.

He was immediately given 15 units of insulin and put on Graham's diet (first day). The next morning a blood sugar estimation showed 0.317 gram per 100 c.cm. Massive dosage with insulin was then carried out, carefully controlled by frequent blood sugar estimations as detailed below. All the estimations were done by Hagedorn and Jensen's micro-method.

#### September 21st.

6.45 p.m.: Insulin 60 units.  
8.15 p.m.: Blood sugar 0.370 gram per 100 c.cm.  
Patient's condition same as on admission.  
9.45 p.m.: Insulin 50 units.  
11.15 p.m.: Blood sugar 0.340 gram per 100 c.cm.  
11.30 p.m.: Insulin 50 units.

#### September 22nd.

12.15 a.m.: Insulin 120 units.  
Coma becoming deeper.  
12.30 a.m.: Blood sugar 0.530 gram per 100 c.cm.  
1.40 a.m.: Blood sugar 0.550 gram per 100 c.cm.  
2.45 a.m.: Insulin 180 units.  
3.40 a.m.: Blood sugar 0.365 gram per 100 c.cm.  
Slight improvement.  
11.15 a.m.: Blood sugar 0.335 gram per 100 c.cm.  
11.45 a.m.: Insulin 100 units.  
2.10 p.m.: Blood sugar 0.365 gram per 100 c.cm.  
2.15 p.m.: Insulin 200 units.  
3.45 p.m.: Blood sugar 0.278 gram per 100 c.cm.  
4.15 p.m.: Insulin 200 units.  
5.45 p.m.: Blood sugar 0.262 gram per 100 c.cm.  
6.30 p.m.: Insulin 500 units.  
9.0 p.m.: Blood sugar 0.227 gram per 100 c.cm.  
Condition definitely improved.  
9.15 p.m.: Insulin 200 units.

#### September 23rd.

1.20 a.m.: Blood sugar 0.182 gram per 100 c.cm.  
10.45 a.m.: Blood sugar 0.090 gram per 100 c.cm.

Thus it is seen that he received in all 1,715 units of insulin in thirty-six hours.

His subsequent treatment was briefly as follows. He was worked up the ladder diet: no insulin was given till the sixth day, up to which time his urine had remained sugar-free. He was then put on insulin again and the diet increased up to the tenth day with supplements to equal a calorific value of 1,805 C. His basal metabolism had previously been estimated at 1,820 C. From October 3rd to November 20th it was found necessary to give him on an average 200 units a day to keep his urine sugar-free.

On October 1st he was found to have marked signs of pulmonary tuberculosis in the right chest, bacilli being found in his sputum. A radiogram showed that it was only the right upper lobe that was affected, and it was decided to perform an artificial pneumothorax on that side. Considerable difficulty was experienced owing to the presence of multiple adhesions. The element of sepsis must have contributed to the abnormal resistance to treatment. In addition to the presence of tuberculosis, both his arms and legs, on admission to hospital, had been covered with a multitude of small rounded ulcers in various stages, caused apparently by the injections he had been giving himself.

His dose of insulin was subsequently reduced, and he was discharged from hospital on December 13th, having gained over a stone in weight, and being able to maintain himself on a sufficient diet with the help of 110 units of insulin per diem.

I am indebted to Dr. J. S. Collier for the permission to publish the notes of this case.

HAROLD A. BYWORTH, B.M., B.Ch.Oxon.,  
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#### FULL-TIME ABDOMINAL PREGNANCY: PROLONGED SUPPURATION: RECOVERY.

THE following case seems to be of sufficient interest to place on record.

In August, 1927, an African woman, about 25 years old, was brought to me with the following history. About August, 1924, the patient became pregnant for the first time. In April, 1925, she had labour pains, but "nothing was born." The pains ceased after a day or two, and the patient was left with a hard swelling in the abdomen. The swelling caused only a little inconvenience until

August, 1926, when it became very painful, increased in size, and finally burst in the region of the umbilicus, discharging a quantity of foul-smelling pus. About the same time the patient noticed pus in the stools. At intervals the swelling continued to discharge pus in which were noticed short hairs and small fragments of bone.

**Condition.**—The patient was extremely emaciated, scarcely able to stand unaided, and quite unable to stand erect because of a large hard and rounded swelling in the middle of the abdomen. The swelling was discharging thin pus through a small opening about half an inch above the umbilicus. Her pulse was 120, and her evening temperature 100° F.

**Operation.**—The swelling was incised in the middle line. A fold of peritoneum was accidentally opened for about half an inch in the upper part of the incision, but was swabbed with acriflavine and closed. The cavity contained the fetid remains of an apparently full-time foetus. The cranial bones were lying loose, the brain having liquefied. Several limb bones were lying loose, but the greater part of the soft parts were still recognizable. The cavity passed downwards towards the left iliac fossa, and apparently opened into the pelvic colon. The cavity was emptied carefully, irrigated with warm saline, swabbed out with acriflavine, and drained through a large rubber tube below the umbilicus. On the second day after the operation some faeces were passed through the drainage tube and continued in diminishing quantity for fourteen days. The patient's general condition commenced to improve immediately. After six weeks she was able to attend as an out-patient, and two weeks later was soundly healed, and was discharged quite fat and well.

Moravian Mission, Tabora,  
Tanganyika Territory.

A. J. KEEVILL, M.B., Ch.B.

#### HYDATID CYST IN THE HEART.

THE illustration, supplied by the South African Institute of Medical Research, Johannesburg, depicts a hydatid cyst (c) situated in the septum of the heart in the region of the bundle of His. The specimen is in the museum of the Institute, and the interior of the left ventricle is here displayed.

The man from whom it was taken was a patient of Dr. Andrew Watt, who gave me permission to use his notes.



He had two attacks of unconsciousness while in hospital, both lasting about a minute and accompanied by fit movements. Dr. Watt identified one of them as being due to ventricular standstill. The electro-cardiograph gave no evidence of heart-block between the attacks. On other grounds a diagnosis of cerebral tumour was made. Before operation another attack of unconsciousness occurred, in which the patient died. On post-mortem examination the condition of the heart depicted here was shown, and also hydatid cysts were found in the cerebrum.

The septal lesion had evidently an intermittent effect on the conducting tissues, and recalls the case of intermittent heart-block published by Russell Wells and Wiltshire, in which the lesion was a large calcareous mass in a similar position.

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Honorary Assistant Physician, Johannesburg  
General Hospital.

### MERCURY SALICYLATE INJECTIONS IN CHRONIC ULCERATION.

THE following details of the successful treatment of a very intractable ulcer of the leg by intraosseous injections of mercury salicylate seem to deserve recording.

A man received, in 1918, an abrasion of the inner side of the right ankle while assisting in the cleaning of a foul sewer; some septic material infected the cut surface. Several small painful pus-discharging ulcers formed, and in a short time coalesced into a single ulcer about the size of the palm of the hand. Despite various forms of treatment the ulcer did not improve. The veins were not varicose. I first saw him in February, 1921, and treated the ulcer in the usual way with rest, antiseptic lotions, ointments, and strapping. During the years 1921 to 1925 the patient was not under my observation from the months of May to October, as he was engaged as chef in various hotels. In April, 1925, he was treated at St. John's Hospital, Leicester Square, where his Wassermann reaction was found to be negative. During treatment in this hospital the ulcer partially healed, but broke down ten days after discharge, becoming as large as before.

In March, 1926, I injected twice weekly for a fortnight into the gluteal muscle 1 grain of mercury salicylate ("Glaseptic" ampoules 1 c.cm., Parke, Davis and Co.). The patient then left the town and I did not see him again until last October, when I found the ulcer perfectly healed with a healthy non-adherent scar. He told me that the healing process had been complete three weeks after the injections.

I showed the patient at a meeting of the Southampton Medical Society. This treatment was suggested to me in a paper read to this society by Dr. Budd Ferguson of America a few years ago.

Southampton.

EDMUND WILLIAM LYNCH,  
L.R.C.P. and S.L., D.P.H.

### British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### GLOUCESTERSHIRE BRANCH.

##### High Blood Pressure.

At a meeting of the Gloucestershire Branch at the Royal Infirmary, Gloucester, on April 12th, with the president, Mr. C. L. COODE, in the chair, Dr. H. CAIRNS TERRY opened a discussion on blood pressure.

Dr. Terry contrasted the clinical picture which used to be conjured up by the mention of high blood pressure—a plethoric man with thick arteries, albumin in the urine, and a probable history of alcohol and syphilis—with the type of case seen now, when frequently no toxic condition could be found. He almost felt justified in defining high blood pressure as a disease. He reminded his audience of the structure of an artery, with its outer fibrous coat, its inner coat composed mainly of unstriated circular muscle fibres and elastic tissue, and its intima, consisting of endothelial cells and elastic tissue. The coat to which he attached special importance was the inner muscular coat; it was always ready to act, was always having calls made on it to regulate the circulation, and its work was governed by the manner of life of the individual and the consequent varying demands made on the contractile power of the arteries. In Dr. Terry's opinion, by far the heaviest demands were made by the person always "on the go," always at tension, and giving himself no rest, even though the muscular work entailed might be in no way excessive. Such an individual tended to call too continuously on his circulation; a stage of muscular irritability in the arteries was reached, the elastic fibres began to fail to support the muscular, the muscle passed into a state of "tone," and high blood pressure resulted. As such a person grew older the muscle developed chronic spasm, the pressure rose to overcome it, the heart tried to compensate, and a vicious circle was established. Then appeared true arterio-sclerosis—degeneration in muscle which was tired out by overaction. As an example of the earlier stage Dr. Terry mentioned a man, aged 33, who came to him complaining of brain fag, which he had tried to counteract by the "fetish of fresh air and exercise." This man led a very active life, and his condition was due to interference with his circulation, the highly specialized cells in the brain being the first to exhibit symptoms of insufficient blood supply. The systolic blood pressure was over 200 mm. Hg, and even at that pressure the brain was suffering from relative starvation. In such a case the first essential was rest. Drug treatment

for lowering the pressure was illusory, and the rest must be absolute; the patient must be put to bed and kept there till it was clear that the pressure had fallen to his normal. The only drug treatment recommended was small doses of bromide or luminal to help to secure the patient's co-operation in attaining a sufficiency of rest; such patients were among the most difficult to keep in bed. In this case the blood pressure fell to 130 mm. Hg, and remained there; the patient had become perfectly fit. In its more aggravated forms the interference with cerebral circulation might produce a condition precisely simulating a haemorrhage. A woman, aged 72, intensely active in spite of her years, visited the Wembley exhibition and explored it thoroughly. Two days later she suddenly became unconscious, with incontinence and complete hemiplegia. Her blood pressure was 240, but there was no albumin in the urine. She rapidly recovered; in ten days her blood pressure had fallen to 160, and she was to all intents and purposes well. The attack left no ill effects, and she regained perfect health. The prognosis in high blood pressure depended upon the amount of fall in response to rest and the condition of the heart. If the heart was enlarged, dilated, and irregular, the outlook was much more doubtful. If albuminuria was present then the patient was heading for true arterio-sclerosis and all that that entailed.

Dr. ALLMAN POWELL mentioned the help which might be obtained from a study of the blood pressure in estimating operative risk, and gave illustrative examples.

Dr. SOUTAR discussed the effect of emotion on blood pressure, the heightened pressure due to this cause aggravating the emotional condition, until Nature could no longer stand the cumulative strain, and a crisis was precipitated.

Dr. ANNOTT DICKSON emphasized the point made by Dr. Terry that it was the muscular coat of the artery which counted in affecting blood pressure. Nearly twenty years before he had conducted an inquiry into the incidence of thickened arteries in coal miners. Among 500 men examined the very great majority had thickened arteries; this occurred at all ages, from 15 upwards. Although very thick arteries, which could be rolled under the fingers like a pencil, were frequently met with, high blood pressures were almost unknown. The explanation was forthcoming when, after a pit disaster, it was possible to obtain portions of the radial artery from a number of men who had been previously examined. It was found that the thickening was confined almost entirely to the intima, which in several cases was ten times as thick as the normal—a condition not previously described. This variety of thickening apparently did not influence blood pressure, though the lumen of the vessel was greatly encroached upon.

##### Clinical Cases.

Mr. J. F. H. STALLMAN showed two cases of congenital torticollis after open operation. He condemned the subcutaneous division of the muscle, since this left the deep cervical fascia and other structures untouched, with a consequent poor result. He demonstrated the type of harness which he fitted, and detailed the after-treatment, including daily manipulation and exercises.

He also showed a boy, aged 9, who last August sustained a supracondylar fracture of the right humerus. When first seen by Mr. Stallman in the following month a hard mass could be felt in the antecubital fossa which was diagnosed as myositis ossificans; this was confirmed by x-ray examination. Treatment by ionization and radiant heat, combined with rest in a sling, proved valueless, and if was only after prolonged rest in plaster that the condition cleared up. A series of x-ray films demonstrating the gradual disappearance of the bony mass was shown. Mr. Stallman drew attention to the danger of this condition developing in the region of the elbow-joint, with special reference to operative treatment, too early movement, or too heavy massage.

In reply to the President, Mr. STALLMAN added that the danger existed also in cases of dislocation, and that in his opinion all injuries round the elbow-joint should be treated by prolonged immobilization in the flexed position, preferably in plaster.

Mr. STALLMAN next showed a case of spastic paraplegia

in a boy, aged 11, who last June was carried into his out-patient department totally unable to stand or walk.

Photographs were shown illustrating the scissor-leg deformity of the limbs and the equinus deformity of the feet. The anterior division of the obturator nerve was divided in the groin, and the position of the limbs was corrected by suitable appliances. The boy was now able to walk unaided, though with a spastic gait.

## Reports of Societies.

### OBSTETRICS AND GYNAECOLOGY.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on April 20th, with the president, Mr. COMYNS BENKLEY, in the chair, Professor BLAIR BELL read a paper on the malignant functions of the chorionic epithelium. He expressed the belief that chorion epithelium was malignant in nature, though normally under control. Since the trophoblast was the earliest functioning tissue in the fertilized ovum, the specific process of malignant neoplasia consisted of a reversion of the differentiated, highly specialized, somatic cell to, or towards, the earliest type of cell capable of obtaining nutriment for itself; this process was known as dedifferentiation. Professor Blair Bell then proceeded to show that dedifferentiation was an essential feature of somatic malignant neoplasia, and that the placenta, or more exactly the chorionic epithelium, was a malignant tissue in respect of its functions. He referred to the work of Warburg of Berlin, demonstrating the importance of glycolysis in the metabolism of malignant tumours. The speaker then described his own investigations of human placental tissues.

Mr. R. H. PARAMORE, in a paper entitled "Eclampsia and its treatment: an experience with spinal anaesthesia in one case," discussed critically the various forms of treatment of this condition. He outlined his own theory as to the causation of eclampsia, and criticized several of the current views. He then described a case successfully treated by spinal anaesthesia, and expressed the opinion that the lateral position was most important in this procedure.

Mr. C. D. READ showed a specimen of a teratomatous ovarian tumour with torsion of the pedicle in a girl aged 11. Microscopical investigation showed areas of plasmoidal masses, large multinucleated cells lining a blood sinus, and many polygonal cells derived from Langhans's layer. The patient a few weeks later developed a tumour in the parotid gland and died within a fortnight after attacks of profuse haemoptysis. Mr. Read also showed a specimen of malignant change in the corpus uteri demonstrating metaplasia. This was obtained from an unmarried woman, aged 34, who had complained of uterine haemorrhage for more than a month. Microscopical investigation showed two different conditions. The upper mass in the uterus exhibited glandular hyperplasia with slight invasion of the muscle coat. The columnar cells had become stratified and embryonic in character in part, and the lower area presented an appearance not unlike that of a squamous epithelioma. This specimen was discussed by Professor Blair Bell, who gave an epidiascope demonstration of metaplasia in tissues.

### MYOPIA IN CHILDHOOD.

At a meeting of the Brighton and Sussex Medical-Chirurgical Society on May 3rd, the president, Dr. DONALD HALL, in the chair, Dr. C. G. SCHURR read a paper entitled "Myopia in childhood," illustrated by lantern slides.

Dr. Schurr said that his aim was mainly to try to prove that myopic children presented a problem as important to the general practitioner and ophthalmologist as those diseases which showed definite fundus lesions, such as nephritis and diabetes. After a brief description of the main features of myopia he passed to the consideration of its incidence, and said that it commenced considerably earlier than was generally supposed. Patients were met with as early as 6 years old who had acquired myopia, and congenital cases were sometimes found. Occurring

alike in males and females, myopia was most prevalent in children attending State schools, who constituted 90 per cent. of all children between the ages of 7 and 14. In America 40 per cent. of the children in State schools became myopic during their period of education, and the impression gained from observation was that the case was similar in England. When the serious results from breakdown in after-life were considered, it was clear that there was a really grave problem which, so far, had attracted insufficient attention generally. The four theories most widely held as to the causation of myopia could be divided into two classes—"postural" and "predisposition." The "postural" theories attributed the condition to (1) excessive convergence, and (2) the effect of gravity. The "predisposition" theories cited (1) a small ciliary body, and (2) diminished resistance of the sclera. An examination of the first three theories showed that in the end they were dependent upon the fourth. All three conditions might be contributory, but without an abnormal distensibility of the sclera they could not be deleterious in their action. In discussing the fourth theory Dr. Schurr said that heredity might undoubtedly be a contributory cause, but it did not account for those cases, which were by no means infrequent, in which there was no history of myopia, but, on the contrary, there was even a history of hypermetropia in the family. An investigation of the height and weight curves of myopic children in the Barclay Home, Brighton, showed that there seemed to be some definite relation between myopia and metabolism. A series of graphs of contrasting cases, with which Dr. Schurr illustrated this point, showed that where the myopia was found to be increasing there was always a falling off in the weight and height ratio compared with the normal. This condition was not found where the myopia was stationary, even if corneal nebulae were present. The material available so far had not proved sufficient for any firm conclusions, but it afforded a basis for interesting speculation; it was insufficient also for an adequate series of "ponderal indices." On the other hand, it gave very good grounds for the suggestion that the cause of myopia might be found in a consideration of aberration of growth in children. If refractive errors fell into a medical category this constituted the strongest argument, and one which so far had not been used, against allowing opticians to prescribe glasses. A description of the work in a myope class brought forward the question of the future of the children after they left the schools. The establishment of workshops, where myopes could compete with persons of like disability, appeared to be more reasonable and less wasteful of money than sending them out to compete with normal persons. Dr. Schurr emphasized the point that the early detection of myopes was a most important duty of medical officers in charge of schools; the general practitioner could give useful advice on such matters as suitable exercise, good food, sufficient sleep, and the choice of profession.

At a meeting of the Forfarshire Medical Association at University College, Dundee, with the vice-president, Dr. G. W. MILLER, in the chair, Professor J. A. KYNOCHE, in the course of a paper on the malignant complications of uterine fibromata, said that fibroid tumours were not the benign innocent growths they were once supposed to be; they might be associated with malignant changes, either in the tumour itself or in the uterus. This had a direct bearing on treatment, for if it could be shown that malignant complications occurred at all frequently it would be a weighty argument for early removal of fibroids. The cases fell into three groups—namely: (1) sarcomatous degeneration of the tumour; (2) fibroids associated with adenocarcinoma of the body; and (3) fibroids associated with squamous-celled epithelioma of the cervix. Analysing his last 200 consecutive cases of abdominal hysterectomy for fibroids, he had found that 26 patients were under the age of 40, and in none of these was the fibroid complicated with malignant changes. Among the remaining 174 there were 8 cases of malignancy. Of these, 3 were associated with adenocarcinoma of the body, 2 with epithelioma of the cervix, and 3 were sarcomatous. The combination of squamous cancer of the cervix with fibroids must be regarded as an accidental occurrence, but there seemed to be some etiological association between adenocarcinoma of the body of the uterus and fibroids. His view was that when fibroids were found in a woman over the age of 40 the uterus should be removed on account of the increased tendency to malignant complications after that age.



## Rebuelus.

### RADIOLOGY.

THREE out of four volumes of the work entitled *The Theory and Practice of Radiology*,<sup>1</sup> by Dr. BERNARD J. LEGGETT, have been published. These are, respectively, on "Electrical theory applied to radiology," "The physics and measurement of  $\alpha$ -radiation," and "X-ray apparatus and technology." The fourth volume, which is in course of preparation, will deal with the "Diagnostic and therapeutic applications of  $\alpha$ -radiation." The three volumes under review are large books, profusely illustrated; volumes i and ii have each from 240 to 300 pages, and the third is even larger, for it runs to 550 pages. It need scarcely be said that between them they cover very completely the whole of the subjects indicated by their titles, and we may add that they do this in a very systematic and detailed manner. The student who is preparing himself for one or the other of the diplomas in radiology should most certainly find in them the answers to all the questions he is likely to be asked either in the papers or in the oral part of the examination, and incidentally it would appear that they contain a great deal which he certainly would not have asked. The author has introduced at the end of most of the subjects a series of questions based largely on those set for D.M.R.E. examinations; they are suggested as "exercises" upon the chapter or chapters dealing with the particular subject. No doubt the correct answers could, in most cases at any rate, be dug out from the text, but we venture to suggest that as the questions are set it would have added greatly to their value, if not to that of the volume, if the author had seen fit to add, perhaps in an appendix, his conception of how these questions should be answered.

To take the volumes separately. Number one has six chapters, which discuss separately the dielectric circuit, the electric circuit, the magnetic circuit, varying currents, electro-magnetic machinery, and the electron theory. Numerous illustrations help to elucidate the text, but a good deal of the mathematics included therein makes it somewhat hard reading for the ordinary medical man. We do not, however, mean this remark to be taken in any sense as adverse criticism: the author clearly indicates that, though primarily written from the point of view of radiology, the work was not written for the purposes of any particular examination.

The second volume is concerned with the physics and measurement of  $\alpha$ -radiation, and deals, among other things, with light and heat, the origin and properties of  $\alpha$ -radiation, the measurement of both quality and intensity, and the dangers of radiology. In two appendices the author adds the various recommendations upon protection and those relating to dosage. He rather adversely criticizes the English recommendations on protection, chiefly from the point of view of their effect on manufacturers' difficulties. It is of interest to note that up to the present the regulations in Russia are the only official ones enforceable by law. Some fifty pages are allotted to a chapter on the dangers of radiology, not only the risks from the rays themselves, but also the various electrical and other dangers. This is a valuable chapter, full of useful information and references to literature. Volume iii is very large, and savours overmuch of the instrument maker's catalogue; at the same time this perhaps enhances its value as a reference book in which information on any point of instrumentation can easily be turned up and the more readily understood by means of the pictures. Nothing appears to have been omitted. A chapter is devoted to the radiological chapter is that on the radiological as it is with plans of departments, but Useful information on this subject has often in the past been difficult to obtain, and in this chapter, again profusely illustrated, a distinct want has been practically dealt with. In another part the different kinds of  $\alpha$ -ray

tubes are described and compared; whilst the detailed account and description of high-tension transformers is of great value.

It is not possible in a review of this kind to enter into any further minute detail. The three volumes are excellently got up, printed in good legible type, and the illustrations leave nothing to be desired. We can congratulate the author upon a fine piece of work, invaluable for reference and a mine of information for those in search of expert knowledge.

### BLOOD PRESSURE.

THE fourth edition of *Blood-Pressure: Its Clinical Applications*,<sup>2</sup> originally written by Professor G. W. NORRIS, appears with the collaboration of Dr. H. C. BAZETT, professor of physiology in the University of Pennsylvania, and Dr. T. M. McMILLAN, cardiologist to the Philadelphia General Hospital. The spirit of team-work is further shown by the inclusion of four chapters by authorities on blood pressure in nervous diseases (Dr. F. G. Grant), surgery (Dr. G. P. Müller), obstetrics (Dr. N. W. Vaux), and ophthalmology (Dr. H. W. Searlett). The chapters on physiology are now. Professor Bazett, after stating Poiseuille's law, lays stress on the importance of recognizing that a rise in blood pressure does not necessarily imply any increase in the peripheral resistance, and that a normal mean blood pressure, which is obtained by adding one-third of the pulse pressure to the diastolic, is not a definite indication of a normal circulation, for a normal pressure level can be maintained by abnormal adjustments of the circulation rate and the peripheral circulation; thus the systolic and diastolic pressures are often practically normal when dyspnoea, oedema, and cyanosis are present. Whereas an abnormally high or low blood pressure shows that the circulatory rate or the periphery resistance is disordered, a normal blood pressure does not prove that these factors are normal. The subject of the capillary and venous blood pressures is duly summarized, and diurnal and postural variations are described under physiological considerations, and again in the following chapter.

The section on instrumental estimation of blood pressure is copiously illustrated by useful figures and diagrams, and attention is called to the occurrence, when the auscultatory method is used, of unexplained periods of silence, so that palpation at the wrist may give a higher systolic pressure than by the auditory method; this "silent gap" is more frequent in repeated estimations than in the first of a series, and in some circumstances, but not in all, its presence may be due to venous engorgement. Silent gaps have attracted very little attention in this country, except from P. C. Gibson. After discussion of the variations of blood pressure that may be regarded as physiological, the functional efficiency of the circulation as estimated by blood pressure and allied tests is fully considered.

The important subject of pathological high blood pressure, meaning thereby pressures above 160 mm. Hg systolic and 100 diastolic, receives full and satisfactory treatment, and much useful and some curious information is given, such as Quinlan's view that high blood pressure is commoner in left-handed than in right-handed persons. The directions as to treatment are thoroughly sensible, and this well-written treatise well maintains its reputation as a useful practical guide and source of reference.

Under the title *L'hypertension artérielle solitaire*<sup>3</sup> Dr. J. PELLISSIER discusses the much debated subject of high blood pressure without any discoverable morbid lesion such as nephritis. This, in fact, is the essential hypertension of many authors, especially Americans, but the adjective "essential" is adversely criticized by the author as being, like "idiopathic," merely a cloak for ignorance. In this critical essay, which contains the details of sixty cases studied clinically, and a bibliography of 249 items, including

<sup>1</sup> *The Theory and Practice of Radiology*. By Bernard J. Leggett. M.R.C.S., L.R.C.P., A.M.I.E. A Treatise in four volumes. London: Chapman and Hall, Ltd., 1928. (Roy. 8vo, Vol. I, pp. xii + 238; 188 figures; 18s. net. Vol. II, pp. xi + 308, 203 figures; 25s. net. Vol. III, pp. xi + 550; 534 figures; 42s. net.)

<sup>2</sup> *Blood-Pressure: Its Clinical Applications*. By George William Norris, A.B., M.D., Henry Cuthbert Bazett, B.Sc., B.Ch., Oxon., and Thomas M. McMillan, A.B., M.D. Fourth edition, thoroughly revised. London: Henry Kimpton, 1928. (Med. 8vo, pp. viii + 387; 1 coloured plate, 47 figures. 21s. net.)

<sup>3</sup> *L'hypertension artérielle solitaire*. Par L. Pellissier. Paris: Masson et Cie, 1927. (Med. 8vo, pp. 272. 30 fr. sans majoration.)

a fair sprinkling of English papers, it is rather surprising to find that there is no reference to hyperpiesia or to Sir Clifford Allbutt. The conception that there is a form of pure primitive high blood pressure without any causal renal lesion is ascribed to Vaguez in 1903, who considered that the excessive activity of the adrenals was the responsible factor. After some discussion in the light of more recent knowledge, Dr. Pellissier, who admits that he has never found any macroscopic or microscopic evidence of changes in the adrenals of his cases, concludes that the rise of arterial blood pressure is due to excessive adrenalinaemia, which, however, is only the means, and not the primary factor. The underlying cause is a disorder of humoral metabolism, which stimulates the adrenals, breaks down the physico-chemical balance, and irritates the sympathetic system.

### A TEXTBOOK OF BIOCHEMISTRY.

PROFESSOR A. T. CAMERON'S *Textbook of Biochemistry*<sup>1</sup> is certainly not a ponderous volume, yet it contains a remarkably complete survey of a very wide field. The book is in substance the written version of courses of lectures delivered to students of science and of medicine. Thus it assumes in the reader no previous knowledge of biochemistry, and, as each successive topic is dealt with, the fundamentals are explained before the details are described.

The busy medical student will find in this book a concise account of the facts with which he is expected to become familiar, while, for the benefit of those who wish to explore the subject further, more detailed accounts of topics of general interest are appended. There is, for instance, a very interesting section on comparative digestion, which includes descriptions of the digestive processes of plants, protozoa, invertebrates, and vertebrates, and a chapter on biochemical processes in industry, describing some ingenious practical applications of the subject. It should also be noted that sensible and scientific accounts of diet and vitamin requirements are given, which will provide the student with a sound basis for studying dietetics. Indeed, by dint of the skill with which he has condensed an unwieldy mass of material into small compass, at the same time omitting nothing essential, Professor Cameron has created a quite exceptionally readable textbook.

The author himself puts forward in his preface the plea that it is necessary, in order to avoid confusing the elementary student, to adopt a somewhat dogmatic attitude when dealing with controversial points. This is doubtless true, yet the one fault we have to find with the book is that it contains one or two statements which are definitely not in agreement with the facts as at present known. For example, while the author's unquestioning belief in the existence of the enzyme urease in crystalline form may surprise the cautious, it is quite possibly well founded; but his conclusion that the ammonia present in the urine is formed by the kidney from urea has a large weight of evidence against it. Similarly the statement that pepsin does not attack the CO-NH links in proteins is definitely contradicted by the results of recent researches on peptic digestion. These are, however, matters of detail, and will certainly not prevent this *Textbook of Biochemistry* from attaining the popularity with students and teachers which it undoubtedly deserves.

### PEDIATRICS.

NEARLY seven years have passed since Professor J. P. CROZER GRIFFITH first published his textbook in two volumes on *The Diseases of Infants and Children*,<sup>2</sup> and for the second edition now published he has had the assistance of Dr. A. GRAEME MITCHELL. The preface says that every part of the book has been subjected to a thorough review, and it is obvious from the references to recent literature

profusely appearing throughout the work that this edition has been completely revised. The result is an authoritative textbook, well illustrated, carefully documented, and, above all, presenting a very well balanced account of the vast subject. An excellent feature is the inclusion of such subjects in surgery and the special branches with which physicians treating the diseases of children should be more or less familiar.

It may be complained that the two large volumes which result contain too much for the general practitioner, but as a work of reference it is remarkably practical in its detail on such matters as diagnosis and treatment. In this respect there are still some small matters calling for criticism. The author states that he is embodying in the book largely the results of his own experiences, but it is scarcely fair to say (p. 647, vol. i) that tuberculous mediastinal glands present "few if any clinical manifestations," nor is it in accord with modern teaching to include coeliac disease vaguely along with other forms of "chronic intestinal indigestion in older children" (p. 142, vol. ii). The treatment of scurvy (p. 718, vol. i) is rather brief, no mention being made of such methods as the use of deacidified lemon juice. The inclusion of such conditions as "athrepsia" and "malnutrition" in the first volume—a long way from the digestive disorders and feeding difficulties—does not help in a proper conception of nutritional disorders in infants, and, if these terms are to be used at all, they do not justify inclusion of the disorders in a section containing such other diseases as rickets and rheumatism, for example.

Such criticisms almost exhaust the faults to be found in more than eighteen hundred pages; for the rest the work demands high praise. The section on the acute infectious fevers is especially good, and there is much to be learnt from the description of such disorders from the point of view of a pediatrician rather than of the specialist confining his activities to the fever hospitals, as in this country. Rickets is well described, and a well-documented brief summary of its etiology is very good. The section on diseases of the respiratory system begins with a useful chapter on "cough," and the treatment of the common cold in children is well set out. The specialist will find much that is stimulating to thought in these two volumes, and the general practitioner will not go to them in vain for help in the solution of his most trivial problems.

### POST-MORTEM TECHNIQUE.

THE new edition of Dr. SHENNAN'S book on *post-mortem examinations*,<sup>3</sup> which has been long overdue, shows evidences of considerable revision. While the original plan remains the same, additions have been made in the descriptions of the lesions with the object of making the work to some extent a textbook of special pathology as well as a guide to *post-mortem* technique. Among the sections which have been extended in this direction may be mentioned those on diseases of the blood vessels, on pneumonia, on the thymus and thyroid, on jaundice, on the splenomegalies, on nephritis, and on diseases of the nervous system. Further, additional measurements have been furnished of the embryo and of children from birth onwards, and a chapter has been added on medico-legal *post-mortems*, on *post-mortems* on stillborn infants, and on cases of death under anaesthesia. Much of the subject-matter of the old edition has been rewritten and the remainder recast, so that, as the author states, the work is practically a new book. It is the outcome of Dr. Shennan's long personal experience in *post-mortem* work, and therefore contains first-hand information on the subject and technical recommendations that have stood the test of time. With regard to the arrangement of the subject-matter, the *post-mortem* room and its equipment is first described, with general rules as to the conduct of the necropsy and the restoration of the body after its performance. Then follow the external examination of the body and the opening of the body cavities, with the order of removal and methods of examination of the

<sup>1</sup> *A Textbook of Biochemistry*. By A. T. Cameron, D.Sc.Ed., F.I.C., F.R.S.C. With a foreword by Professor Swale Vincent, LL.D., M.D., D.Sc., F.R.S.E., F.R.S.C. London: J. and A. Churchill, 1928. (5½ x 8½), pp. x + 462; 12 figures. 15s.

<sup>2</sup> *The Diseases of Infants and Children*. By J. P. Crozer Griffith, M.D., Ph.D., and A. Graeme Mitchell, M.D. Second edition, reset. Philadelphia and London: W. B. Saunders Company, 1927. (Roy. 8vo, Vol. I, pp. xiii + 783 + 65; 233 figures. Vol. II, pp. viii + 927 + 65; 228 figures; 20 coloured plates in the two volumes. 90s. net the two volumes.)

<sup>3</sup> *Post Mortems and Morbid Anatomy*. By Theodore Shennan, M.D., F.R.C.S.Ed. Second edition. London: The Scientific Press (Faber and Gwyer, Ltd), 1927. (Demy 8vo, pp. viii + 664; 213 figures. 25s. net.)

viscera. A valuable chapter on certain special cases deals with necropsies following death from poisoning, the account of which is very full, and other cases of medico-legal importance. In an appendix useful information is given on methods of preserving specimens for the museum and on simple methods of preparing microscopical sections and staining bacteria. The section devoted to the performance of a necropsy in private houses furnishes hints which, if followed, will render that operation less unpleasant to the operator and the inmates than is sometimes the case.

#### APPENDICITIS.

THE latest addition to the Surgical Monograph Series is *Appendicitis*,<sup>1</sup> by H. A. ROYSTER. This monograph resolves itself into a collection of many and varied facts and theories concerning appendicitis, which the author has succeeded in correlating and criticizing in such a way as to produce a very clear and practical description of the etiology, pathology, diagnosis, treatment, and complications of inflammation of the appendix.

Many interesting observations are made on the etiology of the disease, especially with regard to the part played by diet, intestinal worms, and foreign bodies. Pathology is discussed in relation with etiology. The chapter on diagnosis contains many useful suggestions, and the value of x-ray diagnosis in chronic appendicitis is fully discussed. A chapter is devoted to appendicitis in children, and this gives a particularly clear description of the difficulties and dangers of the disease in these circumstances. The prognosis of appendicitis is careful and fully considered, and special attention is directed to the gradually increasing mortality rate at the present time in the United States. Dr. Royster says that the one way of lowering the death rate in appendicitis is to operate at the first onset of symptoms of inflammation of the organ. "Far better results are obtained by the mediocre surgeon in early cases than by the more capable operator in late cases made dangerous by complications." The full and lucid review of treatment of the disease in every phase should prove useful to the surgeon as well as to the general practitioner. Complications, their prevention, and treatment are well described, and also special points in the post-operative care.

At the end of each chapter a long list of references is given which will be useful to those requiring more detailed knowledge of any branch of the subject.

#### THE MAKING OF A MAN.

IN *The Struggles of Male Adolescence*<sup>2</sup> Dr. C. STANFORD READ provides a thoughtful account of the influences which underlie the confused psychological development of this stage in life. He approaches their consideration from the Freudian standpoint, but avoids what he stigmatizes as "freakish interpretation of ill-digested theories," and retains throughout a clear practical outlook. Opening with an exposition of the various conflicting psychological trends, he emphasizes the danger of neglecting these at the time when they can be most conveniently dealt with. A vivid picture is given of these warring forces as being a necessary part of normal growth into manhood; and the development of various reactions to them, such as repression, compensation, displacement, and identification, is traced. The second part of the book is concerned with the possible results of this conflict and the paths which lead to health. The reader can hardly fail to be reminded of Kipling's story of the ship that found herself, and some will recall the deep insight into human character revealed in ancient Hindu literature, which describes symbolically the yoking and control of the diverse elements in the personality. On this "finding of oneself" depends very largely the happiness and usefulness of human life, and Dr. Read has made a very valuable contribution not only to individual, but also to national welfare. There

are few short cuts to success in the task of character training or in therapeutical psychology, but careful perusal of this book by medical practitioners, teachers, and parents would make the way easier for many of them. The author has told a difficult tale in simple language. Any criticism of details would be out of place in view of the value of his work as a whole, regarded either as a textbook of one branch of preventive medicine or as a contribution to the science of education.

#### NOTES ON BOOKS.

THE plan adopted by Dr. C. D. AARON in his textbook on *Diseases of the Digestive Organs*<sup>3</sup> is to follow the path of the digestive tract, beginning with diseases of the stomach, liver, gall-bladder, bile ducts, pancreas, small intestine, vermiform appendix, caecum, colon, rectum, and anus. Although the diseases of these different organs are considered chiefly from the medical point of view, the author includes descriptions of the simple pathology and diagnosis of diseases which come within the province of the surgeon—as, for instance, tumours—but does not attempt any complete account of surgical treatment. General medical and dietetic treatment are given special prominence, and there are chapters on massage and electrical treatment and mineral waters. The book is well illustrated and indexed, and will be found a useful work for reference.

*Gynaecology for Nurses*<sup>4</sup> is the title of the latest publication from the pen of Dr. CROSSEX of Washington, but we would suggest that "An atlas of gynaecology" would more aptly describe the book. In some 230 pages there are 365 illustrations, all of which are well produced. Many are unnecessary, for surely microscopical pathology is beyond the province of a nurse. In the text there appears to be a lack of proportion in the space allotted to the various subjects, which are, however, on the whole well described. For those engaged entirely in the operating theatre of a gynaecological ward the book may serve a useful purpose; to the many others in the nursing profession it will appear spectacular, but of small value.

The thirty-sixth edition of the Charity Organisation Society's *Annual Register and Digest*<sup>5</sup> of charities in the United Kingdom has now appeared. The useful classification of previous editions is retained, so that with the aid of an excellent index it is easy to trace institutions which give relief in the various forms of affliction, sickness, and permanent or temporary distress. The usual review of the previous year deals lucidly with the finances of institutions situated in or available for the metropolis. This edition will maintain the high reputation won by previous issues; it is an indispensable book of reference.

<sup>1</sup> *Diseases of the Digestive Organs, with Special Reference to their Diagnosis and Treatment*. By Charles D. Aaron, Sc.D., M.D., F.A.C.P. Fourth edition, thoroughly revised. Philadelphia: Lea and Febiger. 1927. (Med. 8vo, pp. 927, 174 figures, 25 plates, 11 dollars.)  
<sup>2</sup> *Gynaecology for Nurses*. By Harry Sturgeon Crossen, M.D., F.A.C.S. London: H. Kimpton. 1928. (Sup. roy. 8vo, pp. 281, 365 figures, 12s. net.)  
<sup>3</sup> *The Annual Charities Register and Digest*. Thirty-sixth edition. London: Longmans, Green and Co., Ltd., and the Charity Organisation Society. 1928. (Demy 8vo, pp. xx + 553, 8s. 6d. net.)

#### PREPARATIONS AND APPLIANCES.

##### "VAPOROLE" EPHEDRINE.

THE Chinese drug ephedrine, which produces an action closely resembling that of adrenaline, has proved of great value in the treatment of asthma. Messrs. Burroughs Wellcome and Co. have issued a "vaporole" preparation of ephedrine for application to the pharynx and nose by means of an atomizer. The spray compound consists of ephedrine 1 per cent., menthol, camphor, and oil of thyme of each 2 per cent. in a base of "paroleine" (a high quality liquid paraffin). Such a spray enables ephedrine to be efficiently applied locally in hay fever and congested conditions of the pharynx and nasal mucosa. It is stated that clinical trials of this new method are exceedingly satisfactory, and promise to provide a very effective weapon for the symptomatic relief of hay fever and of engorged and catarrhal conditions of the nasopharynx.

##### LIVER EXTRACT B.D.H.

WE have received from the British Drug Houses, Ltd., a sample of liver extract. This is a powder prepared by a process which has been tested clinically and found efficient by the Medical Research Council. The contents of one tube correspond to half a pound of fresh liver, and this quantity has been found to be the most suitable daily dose in pernicious anaemia. The remarkable value of liver treatment in pernicious anaemia is now universally recognized, and the liver extracts possess advantages over whole liver in respect of palatability and simplicity of preparation.

<sup>1</sup> *Appendicitis*. By Hubert Ashley Royster, A.B., M.D. Surgical Monographs, under the editorial supervision of Dean Lewis, A.B., M.D., Eugene H. Pool, A.B., M.D., and Arthur W. Eling, A.B., M.D. New York and London: D. Appleton and Co. (Sup. roy. 8vo, pp. xii + 370, 56 figures, 2 plates, 21s. net.)  
<sup>2</sup> *The Struggles of Male Adolescence*. By C. Stanford Read, M.D. London: George Allen and Unwin, Ltd. 1928. (Post 8vo, pp. 248, 7s. 6d. net.)

# SOME COMMENTS ON THE CASE OF TYNDALL v. ALCOCK:

WITH REMARKS AS TO THE ORIGIN OF ISCHAEMIC CONTRACTURE.

BY

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PROBABLY the majority of medical men who heard or read the account of this case, reported briefly in the *British Medical Journal* of December 10th, 1927 (p. 1121), and March 24th, 1928 (p. 528), were greatly shocked at its result. There can be no doubt that it throws an added light on the dangers which beset the practitioner in the treatment of a fracture.

Let me first briefly relate the accepted facts of the case and the trial.

In July, 1926, a girl, Phyllis Tyndall, aged 8 years, fell from a donkey and hurt her left elbow. Mrs. Tyndall, the patient's mother, did not take her child to the nearest doctor for first aid or bandaging, but decided to apply to Dr. Alcock,

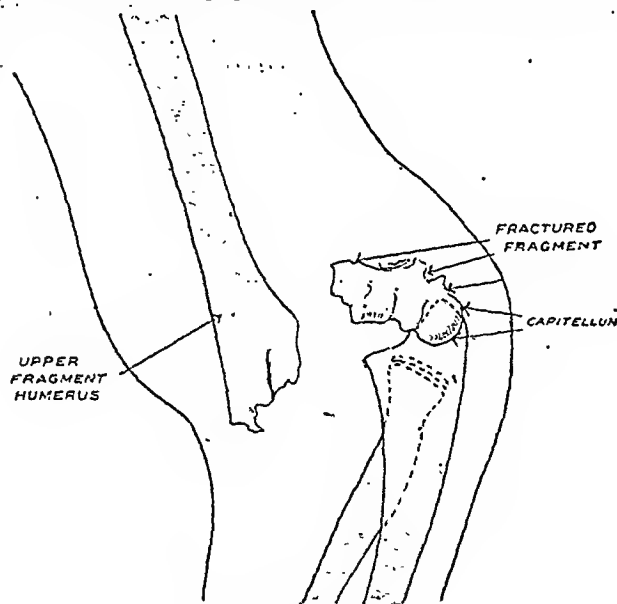


FIG. 1.—Before reduction.

surgeon to the Gloucester Royal Infirmary. Accordingly, with the assistance of a neighbour, the child was taken in a motor car to Gloucester, a distance of ten miles, without any splint or sling, the injured arm being merely held in a more or less extended position of the elbow-joint. Dr. Alcock, being apprised by telephone, was waiting to receive the patient, and actually first saw her in the motor car. He recognized the serious character of the injury, and therefore did not have the child out of the car, but himself got into it and was driven to the consulting rooms of Dr. Goss, the leading radiologist in Gloucester. In Dr. Goss's rooms the child was anaesthetized and x-rayed. This showed a typical supracondylar fracture of the humerus, with great backward and upward displacement of the distal fragment, and the shaft of the broken bone so near the skin surface that it must have been pushed forwards through the muscles and other soft tissues in front of the elbow-joint (Fig. 1). Dr. Alcock then made traction upon the forearm, and gradually flexed it at the elbow, bringing the hand up till the fingers touched the shoulder of the injured limb. He felt the displaced lower end of the humerus move forward into place, and being satisfied as to the reduction of the displacement, he fixed the arm up in full flexion by passing adhesive plaster round the doubled-up limb. There was no pad in the flexure of the elbow, nor any bandage encircling any part of the arm or forearm. A bandage was placed over the flexed arm, and at this stage a further examination was made by the x-rays, with the screen, and Dr. Goss told Dr. Alcock that the reduction had been satisfactory and the position good.

In order to obtain a record of this position a plate was taken. The child was still unconscious, lying on the x-ray couch, the tube being below. In order to get a lateral view of the elbow

the arm was rotated outwards so that the hand lay on the same level as the back, but on the outer side of the shoulder. The resulting x-ray film (Fig. 2) was not developed until the next day, and it is not quite clear when Dr. Alcock saw this, as his opinion that satisfactory reduction of the displacement had been effected depended on his own palpation of the limb at the time of the manipulation and upon Dr. Goss's opinion of the screen examination. However, as it so happened, the trial largely turned upon the interpretation of this x-ray film.

The x-ray picture having been taken, the arm was replaced with the hand in front of the shoulder and a bandage passed round the body and left arm; thus there were three sets of bands round the limb—first, adhesive plaster; second, a bandage, these two going round the doubled-up arm; and a third bandage surrounding the arm and body.

Dr. Alcock then took the child in a motor car to a nursing home himself, and gave instructions about her care. She remained in the home for fifteen days, and Dr. Alcock saw her daily during this period. From the first few days and onwards Mrs. Tyndall, the patient's mother, was constantly asking that the child might be taken home, but Dr. Alcock absolutely refused to hear of this. Within a day or two of the accident it became apparent that the circulation of the hand was impaired, and the extreme position of flexion was relieved, the arm being brought down first by a few degrees and then to nearly a right angle.

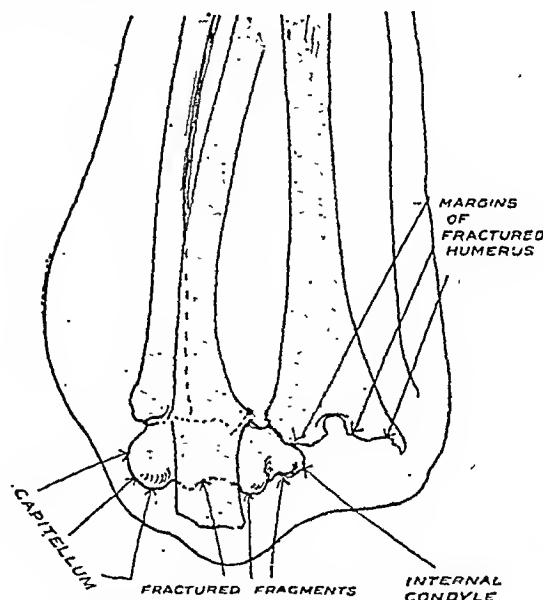


FIG. 2.—After reduction, arm in acute flexion.

It was not clear at what precise moment Dr. Alcock recognized the existence of ischaemic paralysis, and he stated quite frankly that he had in a large experience never seen such a condition before. It was, however, pretty clear that he did recognize the gravity of the condition before the child left the home, as he told this to one of the relatives. For about two months more the child attended the Gloucester Infirmary as an out-patient under Dr. Alcock's care, but as the authorities of that institution did not consider she was a suitable patient for a charitable institution she was transferred to the Children's Hospital, Bristol. X-ray photographs at that institution showed posterior displacement of the lower end of the humerus, which had become attached to the shaft by a new periosteal bridge, the original shaft of the humerus projecting forwards above and in front of the elbow. An operation was performed, and the projecting portion of the humerus was removed, but this did not materially improve the elbow, which was almost fixed at a right angle. The final condition of the arm showed a well-marked ischaemic contracture of the forearm flexors and a stiff elbow. Dr. Alcock, after a trial lasting four days, was found guilty of "negligence," and was ordered to pay £2,000 damages to the plaintiff, Phyllis Tyndall, and £150 to Mrs. Tyndall, to reimburse the latter for expenses incurred in the treatment.

Having now given the main facts of the case, I should like to make certain comments on its medico-legal bearings. The first and most glaring thing is the interpretation which was put on the term "negligence." I venture to say there never was, and never will be, a fracture case which was treated with greater care and solicitude than that of Phyllis Tyndall by Dr. Alcock. He met her in the

motor car; he took her to an x-ray specialist; he anaesthetized her; he used the x-rays before and after treatment; he treated her by the universally approved method; he was assured by an experienced radiologist that the position was satisfactory; he took the patient himself to a nursing home, and gave her unremitting care first at the home and then as a hospital out-patient. And yet this is consistent with negligence!

The second striking fact is the way in which a fracture case and the reading of an x-ray film lend themselves to misinterpretation by a jury. Counsel for the plaintiff made a great point of this being "a perfectly simple fracture." In the technical sense that it was a closed and not an open fracture this was quite true, but if by this it was meant that the case was a simple one in the ordinary sense of the word, and presented no difficulty, I most strongly disagree. There was not only fracture, but great displacement; the child had been jolted over a rough road in a motor car without the protection of any splint or sling; the shaft of the humerus was almost projecting through the skin, so that it must have torn through the overlying muscles; and yet this was a "perfectly simple fracture"! And again, take the phrase "setting a fracture." The common idea is that setting a fracture consists in perfect locking together of the broken surfaces, whereas it is common knowledge that this is very seldom done apart from open operation. That displacement can be reduced or even over-reduced, leaving the fractured surfaces in a favourable position for union by callus, though not actually touching one another, is an idea not acceptable to the lay mind.

Great controversy took place on the interpretation of the x-ray film taken after manipulation. Was it an antero-posterior or a lateral view? The plaintiff's experts held that it was an antero-posterior view, in spite of Dr. Goss's plain description of how it was taken. They said that the shape of the bones showed that they were viewed in an antero-posterior direction. In giving this opinion the fact was ignored that the arm was rotated outwards in order to get the picture, and also that this picture did not represent the bones as they lay when the arm was placed in front of the chest.

If the picture is an antero-posterior view, then it shows some lateral displacement; if it is a lateral view, then it shows that the displacement has been over-reduced and that the lower fragment of the humerus has been brought forward to lie rather in front of the shaft. But in any case, what has this to do with ischaemic paralysis or the stiff elbow? Apparently it was enough to convince the jury that the bones had not been "set" for them to conclude that the paralysis was caused by this faulty setting. The plaintiff's case was that there was lateral displacement of the lower end of the humerus upon the shaft, but not one word of explanation was given as to how this lateral displacement could constrict the artery or cause ischaemia. The idea of a blood effusion round the fracture first pressing upon the veins and then bringing the circulation to a standstill was dismissed as hypothetical. No effusion could be seen in the x-ray pictures, but the "misset" bones were there, and that was enough.

The next point upon which I should like to comment was the interpretation put upon Dr. Alcock's conduct after the first treatment and upon the indefiniteness of his evidence.

Great stress was laid upon discrepancies of various witnesses about the releasing of bandages. Mrs. Tyndall declared that for fourteen days the bandages were never released; but evidence was given that she had never seen the arm undone, and she only judged by the fact that she always saw it surrounded by the body bandage.

Then it was impossible to be certain on which day the flexion of the arm was released. But surely after the lapse of eighteen months this is quite natural. In the same way Dr. Alcock could not be clear when or how he first recognized the existence of ischaemic paralysis. This may seem strange to a layman; but surely any man of experience knows that the onset of failing circulation and the signs of congestion may be, and indeed often are, insidious, and that if a limb is covered with a bandage, easily overlooked. Dr. Alcock certainly realized before a week had passed that

he had charge of a bad case. He could quite easily at any time within the first few days have got out of all his difficulties by allowing the mother to take the child home, as he alleged she repeatedly asked. Instead of this, he persisted in keeping the child under his care. But instead of recognizing this as the action of a careful and conscientious man, it was represented to the jury as being the conduct of one who knew he had made a fatal blunder and wished to hide it.

The nature of the damage to the arm was very difficult to explain fairly. It is true that the muscles or muscle fibres affected by ischaemic paralysis are permanently lost, and this was represented as though the whole forearm was permanently and totally paralysed. In reality it is only certain groups of muscles which are affected, and usually some fibres of even these escape, so that, as Sir Robert Jones has shown, ischaemic contracture is capable of great amelioration by patient treatment, and the hand becomes ultimately quite useful in a limited degree. Similarly the fibrous ankylosis of the elbow is a condition susceptible of improvement. But in this case it was suggested that the left arm was permanently useless, and that the child, who was represented as a potential musical genius, had had her career wrecked.

But there is another question of great importance suggested by this case, quite apart from the manifest absurdity of saying that a want of alignment of the bones caused paralysis of the arm—and that is, What was the real cause of the ischaemia, and could this have been avoided? It is a matter of common agreement that the prime cause of ischaemic contracture is a damage to the blood vessels and soft parts. This may have been caused at the time of the accident, and was probably aggravated by the want of proper "first aid." The condition of a child with a broken elbow-joint surrounded by swelling and effusion is one which often has to be considered and the correct line of treatment determined. On this very point there is not enough emphasis laid down in textbooks upon the importance of watching the circulation rather than the fracture; and in particular it is not usually recognized that acute flexion of the elbow always has a constricting effect upon the blood vessels. In all individuals in whom I have tried the experiment, including myself, forced flexion of the normal elbow-joint can readily be brought to a point where the radial pulse ceases. And to this observation another may be added. A case is taken in which some operation in the neighbourhood of the elbow-joint is to be performed. It is noted what degree of forced flexion is required to cause cessation of the radial pulse. Then after the arm has been relaxed, about one ounce of saline solution is injected under the skin and deep fascia in front of the elbow. The arm is then again flexed, and it will be noted that the radial pulse disappears with a much less extreme flexion than before. This shows that the mere presence of effusion round the joint, quite apart from actual injury to the blood vessels, makes flexion of the elbow liable to obstruct the circulation; therefore it should be clearly understood that it is always a most dangerous thing to flex a swollen elbow-joint, and if this is done a most careful watch should be kept on the radial pulse, both at the time of manipulation and for some days afterwards.

When a case of fracture of the lower end of the humerus is presented for treatment some hours after the accident, presenting much swelling, it is far better to be content to leave the limb alone, simply supported upon a pillow, until the effusion has subsided. It is quite true that this delay generally means that manipulative reduction of the fracture will be impossible, and in these circumstances open reduction, which is quite a simple matter, is indicated. Through an external or posterior incision the blood clot is evacuated, the separated fragment is replaced, and then a moderate degree of flexion will be quite enough to retain it in position without any actual suturing of the bone itself.

It is perhaps unnecessary to add that if ischaemic paralysis has already developed, then no reposition of the bone, even if done within a few days of the accident, will have any effect in relieving it—another proof, if such were needed, of the absurdity of suggesting that ischaemia could be in any way due to a want of alignment of the bones.



## PHYSIOLOGY OF THE CEREBRAL HEMISPHERES.

## PROFESSOR PAVLOV'S CROONIAN LECTURE.

THE Croonian Lecture on certain problems in the physiology of the cerebral hemispheres was delivered before the Royal Society by Professor I. P. Pavlov, For. Mem. R.S., on Thursday, May 10th. The following is an abstract.

The function of the nervous system is to maintain dynamic equilibrium within the organism, and between the organism and its environment. In the latter case the equilibrium is, in the higher animals, extremely complex, and is achieved mainly by means of the hemispheres. These continuously analyse and synthesize events occurring in the environment, and in correspondence with its changes establish temporary connexions between events, whether simple or complex, and various activities of the organism, in particular those of the skeleto-muscular system, which is preponderantly concerned in reacting to environmental changes, and is likewise itself highly differential and integrative in its response.

At present the physiology of the hemispheres exists only in outline—as a framework consisting of only a limited number of known factors, such as excitation and inhibition, their two-directional movement in the form of irradiation and concentration, and their mutual induction. The working out of the innumerable details of their intimate mechanism is a colossal problem of the future. At present in this respect we do but collect fragmentary observations, a small part of which, comprising the latest investigations carried out by the author and his co-workers (subsequent to the publication of the author's book *Conditioned Reflexes*), are given here in summarized form.

## I.

The development of new temporary connexions between external agencies and definite reactions of the organism (development of conditional reflexes) depends on the coincidence in time of the action of these agencies upon the receptor mechanisms of the organism with the various activities of the organism evoked either by external stimuli effective since birth, or by external stimuli which have become established as such after birth, or finally by changes in the internal condition of the organism (automatic stimuli). Under these conditions the formation of the connexion is a physiological law.

In order to become a firmly established, powerful, conditioned stimulus the external stimulus must begin to act slightly before the particular activity of the organism, and may even cease a few seconds before the beginning of the activity. If, on the other hand, the given activity constantly begins before the stimulus, either no connexion is established or, if any is established, it is weak and survives only for a short time, and the specialized excitatory effect of the stimulus is invariably replaced by general inhibition. The biological significance of this fact is not yet clear. Where the stimulus begins to act before the given activity of the organism, and continues during that activity, the reflex tends to increase in strength and stability.

The mechanism underlying these phenomena cannot be expressed in terms of the general properties of the cortical tissue without further investigation.

## II.

The analysing activity of the nervous system is founded in the first instance on the peripheral receptor organs, which constitute not only a receptive mechanism, but also an analysing apparatus of the organism. To the peripheral points of the analyser separate points correspond in the cortex (the primary and simplest cortical mosaic). A good proof of this is that by applying definite external stimuli belonging to the same analyser—as, for example, different auditory stimuli—it is possible to produce various disturbances or fatigue at different strictly localized cortical points. In this manner a very delicate method is opened up for investigating the construction of the cortical parts of the analysers, and it is possible to distinguish special areas in the cortex relating to the different analysers, such as the visual and auditory, from certain other cortical elements of those analysers, which are dispersed probably over the whole mass of the cortex of the hemispheres. Not only are these dispersed elements incapable of performing

any higher synthesis and analysis, but they have a very low degree of vitality, as evidenced by the rapidity of their transition into an inhibitory state under the influence of external stimuli.

## III.

The conditions determining the characteristics and the magnitude of the excitatory and the inhibitory effects of conditional stimuli are bewilderingly complex, and are only gradually being registered and classified.

It is obvious that the magnitude of the positive effect is directly related to the amount of energy applied to the receptor organ. The phenomenon of summation of weak stimuli comes out clearly. The limit of normal excitability and the optimum strength of stimulation are also definite. In the case of very strong stimuli and of the summation of medium stimuli the excitatory process rapidly changes into an inhibitory one. Of course, the strength of stimulus is a relative quantity, varying greatly with individual differences of nervous system.

Since most probably the points between which the new connexions are established are in the cortex, it follows that the variations in the effect of conditioned stimuli will be dependent on the mutual relation between the different cortical points corresponding with the different conditioned stimuli, and also between the different points of those areas of the hemispheres which are affected by the unconditioned stimulus. For instance, the conditioned stimuli based on food and acid respectively become connected with the chemical analyser of the hemispheres, and therefore, if in the experiments both sets of conditioned stimuli are used, their effect will be determined not only by the interrelation of the points corresponding to the stimuli, but also by the relation existing between the alimentary and "acid" points of the chemical analyser.

## IV.

The accumulation of observations upon the normal and pathological activities of the hemispheres gives grounds for distinguishing various types of nervous system. There is the excitable type, which always displays partial or complete failure when confronted by difficult relations between the excitatory and inhibitory processes, and which, if the experiments are continued, ends by developing an abnormal and extremely protracted weakening of the inhibitory activity, attended by an exaggerated general excitation. At the other extreme stands the inhibitable type, which very easily becomes subjected to inhibition by stimuli either unusual or slightly stronger than usual, and which, when confronted by comparatively difficult relations between the excitatory and inhibitory processes, passes into a state of complete inhibition for prolonged periods of time.

In between can be placed the well-balanced type which, successfully and without any signs of abnormality, establishes in all cases a balance between the opposed nervous processes. This type comprises two varieties of animal, differing greatly from one another in external appearance—the stolid animal, always quiet, and the animal which is lively under ordinary conditions, but becomes drowsy with surprising rapidity under monotonous conditions. The latter variety has some difficulty in obtaining a balance between the two processes. This grouping of the types of nervous system corresponds closely to the ancient classification of temperaments: the excitable type—choleric temperament; the inhibitable type—melancholic; the quiet, balanced type—phlegmatic; and the lively balanced type—sanguine.

[Dr. W. Horsley Gantt, in his Medical Review of Soviet Russia, which appeared in these columns from time to time during the last four years, makes frequent mention of Pavlov's work on conditioned reflexes. His first reference is in our issue of September 20th, 1924 (p. 533), where he deals with the work of Pavlov and his collaborators. In this article Gantt notes that the recent work of this school on "conditioned" reflexes had already received attention in the *British Medical Journal*, and refers to our report of the International Physiological Congress held in Edinburgh in July, 1923, at which Pavlov delivered a lecture on this subject (see *Journal*, August 11th, 1923, p. 256). The whole of Part I of Section VI of Gantt's "Review" is given up to Pavlov's work, and consists chiefly of a most absorbing account of his researches concerning conditioned reflexes in the dog (*Journal*, June 11th, 1927, p. 1070).]

# British Medical Journal.

SATURDAY, MAY 12TH, 1928.

## THE HARVEY TERCENTENARY.



NEXT week delegates from universities and medical societies throughout the world will meet in London to attend the celebrations promoted by the Royal College of Physicians of London in honour of the three hundredth anniversary of the publication of William Harvey's great work, the *De Motu Cordis*, in which he proved for all time his theory of the manner in which the blood circulated.

No pains have been spared to make this occasion fully worthy of the memory of Harvey, the great discoverer and the most distinguished Fellow on the roll of that College which now pays him homage. It is fitting that this gathering should be composed of representatives of all nations, for Harvey's work is the common heritage of the world at large, and for that reason this celebration recognizes no boundaries, either national or racial. All, therefore, will meet together next week on common ground to do honour to the man who conferred upon mankind one of its most signal benefits. The international character of the celebration is impressed upon every item of the programme. His Majesty the King has graciously consented to receive the delegates, thus setting his seal to the importance of the event. At the reception of the delegates at the College of Physicians by the President four creations of Honorary Fellows will be made which will be representative of those throughout the world who have contributed so largely in our time to the extension of the boundaries of medical and scientific knowledge. The three distinguished men—Sir Charles Sherrington, Professor Chauffard, and Professor Keibel—who will be called upon to deliver eulogies of the great work of Harvey will worthily represent the sum of medical and scientific endeavour wherever it exists, and at the dinner given by the College of Physicians in the ancient Guildhall of the City the gathering will represent all nations, all shades of opinion, and all classes. Not least of the ceremonies will be the scientific demonstrations given at University College by Sir Thomas Lewis and Dr. H. H. Dale on behalf of the College of Physicians. Here the actual experiments of Harvey will be repeated, and by means of a clever cinematograph film the audience will be able to see, almost, Harvey conducting his experiments as they were performed three hundred years ago. During the celebrations also an opportunity will be given to the delegates to inspect the treasures of the College of Physicians in the shape of books, manuscripts, portraits, and other objects of interest. Some of these relate to Harvey, such as his autograph letters, the diploma given him by the

University of Padua, the first edition of the *De Motu Cordis*, and the ebony pointer used by him for the purposes of demonstration when delivering the Lumleian Lectures in which he first announced the essential parts of his theory.

From the foregoing the magnitude of the celebrations will be manifest, but the importance of Harvey's discovery may not be so evident to all, and some may not be informed exactly concerning the far-reaching effects of his work. Indeed, there can be little doubt that while the central fact of Harvey's discovery of the circulation of the blood is well known to all, many are unaware that he overthrew a theory which had held the medical world in bondage for nearly fifteen hundred years. It becomes our duty, therefore, to describe certain features of medical thought existing before Harvey's time, in order to appreciate at its true worth the tremendous effect of his discovery, and to show how it opened the road down which successive investigators have travelled to reach our present-day triumphs in the realms of physiology and medicine.

Until the beginning of the sixteenth century all the knowledge possessed by the world concerning medicine and science was obtained from the ancient Greeks, and that knowledge had been finally systematized and reduced to order by Galen, who flourished during the second century A.D. After him medical and scientific thought slumbered for thirteen hundred years, and so paramount had his influence become that it was regarded as impious to question his authority. The result of this attitude was that medical writers were reduced to the sterile task of merely commenting upon what Galen had said, for to criticize, to doubt, or to inquire was not permitted. Indeed, so great was Galen's authority that John Geynes, a Fellow of the College of Physicians, was in 1559 threatened with expulsion for daring to impugn it. The writings of Galen deal with all branches of medicine, including anatomy and physiology, and he gave an explanation of the way in which the blood performed its function of carrying on the nutrition of the body. In order to understand the importance of Harvey's discovery it will be necessary to recall in some detail the main features of Galen's theory of the circulation of the blood, and the admirable description of that theory given by Dr. Charles Singer will be quoted. It is as follows: "The food taken into the body became converted into chyle by the intestines, and was carried by the portal vein to the liver, where it was changed into blood, becoming there endowed with the essence of all living things, which was called 'Natural Spirit.' The blood thus manufactured and endowed by the liver was carried by the hepatic vein and the inferior vena cava to the right side of the heart. Here it was purged of its impurities, which found egress by means of the pulmonary artery and the lungs to the external air. This venous blood, thus purified, ebbed to and fro in the veins and carried on the functions of nutrition. But a small part of the venous blood filtered through the septum of the heart, by means of invisible pores, into the left ventricle, where it came into contact with the external air, which had reached that chamber by way of the trachea, the lungs, and the pulmonary veins. By this contact with the air and the innate heat of the heart the blood became endowed with a higher form of spirit, termed the 'Vital Spirit,' and became arterial blood, which, ebbing and flowing in the arteries in the same way as the venous or crude blood, carried on its higher functions of nutrition. But the arterial blood which flowed to the brain became endowed there with the highest form of essence, known as 'Animal Spirit,' and was distributed to

the body by means of the nerves, which were believed to be hollow canals, and gave rise to the highest functions of motion and sensation."

From this description of the theory of Galen regarding the circulation of the blood it will be seen, therefore, that the main supports were: (1) the liver as the source of the veins and blood; (2) the communication between the right and left side of the heart through minute and invisible pores in the septum between the ventricles; (3) the presence of three vitalizing essences; and (4) the absence of any circular movement of the blood propelled by the heart. This was the theory of circulation, based partly on anatomy, partly on hypothesis, and fantastic in the extreme, which was accepted for more than a thousand years solely on the great authority of Galen. Until it was overthrown it postponed and fettered any advance in physiology, much in the same way as the theory of "phlogiston" held back any advance in chemistry.

So the position remained until the sixteenth century, when, under the influence of the revival of learning, the mind began to free itself from its bonds, and when men began to summon up courage to doubt and to inquire. The first attack made upon the authority of Galen came from the anatomical side in the year 1543, when Vesalius published his *De Humani Corporis Fabrica*, a book in which he described what he himself had seen when dissecting, and not what authority asserted. With regard to the septum of the heart Vesalius admits at first that the invisible pores must be there, although he could not see them; later, however, he says boldly that they do not exist. Columbus, Caesalpinus, and Servetus dealt with the lesser circulation, and Fabricius soon after described the valves in the veins. But they all lacked the power to draw the all-important conclusion. It was left for Harvey to make the discovery, and to give to the world the convincing proofs of his theory. This he did in his book, the *De Motu Cordis*, published three hundred years ago. His first position was to establish the primacy of the heart as the great factor in the circulation. From experiments and observation Harvey saw clearly that the heart was a muscular organ always propelling the blood it had received from the veins to the tissues of the body. Then he asked himself, Where did this blood thus propelled go, and whence came the blood in the veins to be carried to the heart? From quantitative estimations it was impossible to believe that the blood propelled by the heart could remain in the tissues, for he estimated that in an hour the heart propelled to the tissues more than the total amount of blood contained in the body. This observation forced on him the inevitable conclusion that the blood was always being propelled by the heart to the tissues, and that the same blood only could be carried back to the heart from the tissues by means of the veins; or, as Harvey says, "I began to think whether there might not be a motion, as it were, in a circle." With the adoption of this idea the direction and use of the valves in the veins became clear, and also the direction and use of the valves in the heart and arteries. The thesis was therefore proved, the victory won, and Harvey takes his lawful place beside his peers, Copernicus, Galileo, Newton, and Darwin. The sight of the blood passing through the capillaries was denied to Harvey, for the establishment of this fact was reserved for Malpighi, who was born in 1628, the year of the publication of *De Motu Cordis*. With that fact proved, the theory of Harvey concerning the circulation of the blood became unassailable and fixed.

This great achievement of Harvey had far-reaching consequences. Before his advent no progress could be made in physiology, for its foundations were faulty. But after the acceptance of his theory advance was rapid and sure, and it is not too much to assert that it is entirely owing to his illuminating discovery that such signal triumphs in medical and physiological science have been registered ever since. As a mark of our appreciation of the immense debt we owe to William Harvey, the great founder of modern physiology, we present to his memory next week the homage of the world.

## CONSULTANTS AND THE NATIONAL HEALTH INSURANCE BILL.

IN a leading article on April 21st last (p. 677) we suggested that the National Health Insurance Bill now before Parliament ought to receive from the medical profession, and especially from those practising as consultants or specialists, more attention than it seemed to be receiving; that in its present form it did not meet some of the most important requirements of the profession; and that an endeavour should be made by the British Medical Association, particularly by the Insurance Acts Committee, to secure satisfactory explanations, assurances, and amendments. This endeavour has been promptly made; but we are obliged to return to the matter because, though the Minister of Health has satisfied one such requirement, the position remains quite serious in other respects. The bill as introduced would have made it difficult, perhaps impossible, for an insured person to receive medical advice and treatment by way of additional benefit from a specialist or consultant except at some clinic or charitable institution. By reason of an amendment, suggested by the Insurance Acts Committee and accepted by the Minister, a more private mode of consultation will not be ruled out or discouraged. It will still require vigilance, however, in watching regulations and the clauses of suggested schemes to make sure that the Minister's own principle, that "no one must be compelled to go to a clinic if he would rather go to a private practitioner," is fully maintained.

Certain other amendments were suggested to the Minister which he has not felt himself able to accept. Yet if the object these amendments had in view is not by some means attained there may easily arise a situation which would not be consistent with the honour and interests of the profession, and in which the British Medical Association might have to advise its members not to take part in any, or in some particular, additional treatment benefit. The profession was of one mind in the earlier stages of national health insurance in saying that practitioners would not submit to the administration and control of approved societies, even though this were to be governed by Regulations which might be made by a Minister of Health. It is to be expected that it will be equally of one mind in saying that the freedom which it won for general practitioners shall not be withheld from consultants and specialists. The bill as it stands definitely endangers this freedom in the case of consultants and specialists, if it does not, indeed, make it impossible.

Under the present Act no additional benefit which is "of the nature of medical benefit" can be administered by an approved society. Of the existing additional benefits there is one only which is unquestionably of this nature. This has never been operative; and is to be abolished by the new bill.

Therefore, it is argued, the clause imposing this disability on approved societies may safely be repealed. Even so, the conclusion does not follow from the premisses; and in any case the principle enunciated by the clause is so valuable that it might well be allowed to stand even if it had no immediate application. But the soundness of the argument disappears—even the good faith of the argument seems to disappear—when it is discovered that in one of its schedules the bill introduces fresh words into the description of some of the other additional benefits which make them clearly, not only in the common acceptance of the language, but according to the most authoritative legal opinion, “of the nature of medical benefit.” “The payment of the whole or any part of the cost of treatment” may, as most lawyers agree, not be of that nature; but “the payment of the whole or any part of the cost of the provision of treatment” certainly is. Under this description, accompanied by the repeal of the restricting clause, it seems evident that approved societies, without resorting to the indirect and doubtful methods now employed, could themselves establish their own clinics for ophthalmic treatment under Clause 13 of the schedule, or for any other kind of specialist treatment under Clause 16. In this way they might be in a position to select and control staffs, medical and other, and largely to determine the character of the treatment to be carried out.

It is not suggested that the best of the approved societies would wilfully abuse their powers; and it is quite true that under the bill they would not be completely free to do as they liked, but would be governed by Regulations to be made by the Minister of Health. It is not suggested, either, that the Regulations would be unreasonable or improper, or that the profession, through the British Medical Association, would not be consulted with regard to them or be without its influence upon them, as is now the case. In the event contemplated such regulating would be not only useful, but imperative. The protection of Statute Law is, however, better than the protection of Regulations; and the consultants and specialists cannot contemplate with equanimity a state of affairs which would compel them either to abandon a legitimate sphere of practice or to submit to objectionable conditions which the experience of another branch of their profession has proved to be intolerable.

Either the words “the provision of,” italicized above in the description of additional benefits, should be deleted, or the restricting subsection of Section 75 of the Act of 1924 should be allowed to stand, or should be so amended as to maintain the principle that when an additional benefit is of the nature of medical benefit, in whatever other way it may be administered at least it shall not be administered by an approved society. The present situation is a serious one for a considerable section of those engaged in consultant and specialist practice. The importance of securing, if it be possible, one or other of these amendments is great, not only to them, but to the whole profession, in order to maintain its traditions and independence intact. Even if there be failure to secure such amendments it will, of course, still be possible for the profession to withhold its services from a society or to refuse to give medical advice and treatment under Regulations to which it objects; but it may yet be that a realization of the position and of the reasonableness of the request may lead the Government or Parliament to avoid such an undesirable situation. To secure this, however, the profession must itself be not merely alert, but active. “It is not enough to will, we must also do.”

## GLAUCOMA.

It is only a few generations since physiology was considered an unimportant fragment in the subject of anatomy, and hardly more than one generation since biochemistry was barely recognized as an entity at all. To-day the whole of the structure of medicine and surgery is slowly being consolidated on the basis of physiological facts, and physiology itself is being interpreted and studied more and more through the medium of the still more fundamental science of biochemistry. There are few problems of pathology where this tendency is seen more evidently than that of the etiology of glaucoma. For years it has been the subject of inquiry and investigation; but so long as work has been directed along the lines of pathological anatomy and gross end-results, the problem has remained obscure. In his suggestive lecture, which appears in this issue, Dr. Maitland Ramsay has indicated how the trend of recent work is throwing new light upon the matter, and although the problem is not by any means solved as yet, although it may not even be ultimately solved in this way, it is undeniable that some deeper insight into it is being gained, and some advances have been made which cannot but bear fruit.

Before the causes of pathological rises of intraocular pressure can be adequately understood, it is obviously essential that the factors which govern the maintenance and variations of this pressure under normal conditions should first be made clear. This is a question upon which it cannot be said that all authorities are agreed; but the evidence recently deduced from biochemical studies seems to point very definitely to the thesis that there is little in the physiology of the eye which differs from the physiology of the other parts of the body. It would seem most probable that the intraocular fluids are, like the tissue fluids, that the intraocular circulation is governed by the same general principles as the general circulation; and that the apparent anomalies seen in the eye are merely physiological adaptations based on general biological principles such as are shown by every organ in order that it may satisfy its own peculiar needs. As Dr. Ramsay aptly puts it, “although peculiarities of structure are necessary for the architecture of the different organs of the body, yet it is one and the same physiological process which regulates and controls their vital activities.”

An interference with the circulation of the blood through the eye, and the consequent change in the nature of the intraocular fluids, are two of the outstanding features in an attack of acute glaucoma, and all the evidence points to the conclusion that the essential cause of the changes is to be found in that part of the circulation through which all vital changes take place—the capillaries. The first step is a disturbance in this part of the circulation, leading to general dilatation of the capillary walls, accompanied by an increased permeability. What the cause of the disturbance is remains as yet obscure; presumably it is to be sought in the general health and metabolism of the patient rather than in the eye itself. Most probably it is chemical in nature, perhaps hormonal, or due to some substance of the histamine group, as Dr. Ramsay suggests; whatever its nature its action is a dilatation of the capillaries, an increased permeability of their walls, and an oedema of a plasma-like fluid into the tissue spaces of the eye, with a consequent rise of pressure.

The matter, however, is not so simple as to be without any other complicating factor. Physio-

logically the intraocular pressure is changed by factors other than the state of the capillaries, and pathologically great rises of tension can be met with in cases wherein the entire uveal tract, containing the great mass of ocular capillaries, is compressed almost out of existence by something else. The appearance of a glaucomatous eye, with the lens pushed forwards and the anterior chamber shallow, suggests forcibly that this factor is a swelling of the vitreous. This substance is a colloid, and it is found under experimental conditions to be capable of a considerable amount of swelling; but the conditions determining the volume changes of such a mass are as yet imperfectly known. Colloid chemistry is a science even younger than biochemistry. Here again the causal factors are chemical in nature, most probably of general metabolic origin, and their assessment and elucidation is one of the most interesting and important applications of biochemistry, which must in the meanwhile be left to the future. The trouble is that "glaucoma" is not a disease, but a symptom common to many diseases, and it is illogical to look for an explanation of every rise of intraocular pressure along the same lines. It is one of those problems which become more complicated the more they are investigated, but which for the same reason become more fascinating.

#### "FRIENDS OF THE OLD ASHMOLEAN."

A SOCIETY of Friends of the Old Ashmolean was formed at a meeting held at the house of the Royal Society of Medicine on May 2nd, under the chairmanship of Sir Humphry Rolleston. The purpose of the society will be to assist in the restoration of the Old Ashmolean building at Oxford as a public Ashmolean Museum of the history of science. The gift to Oxford about five years ago of the Lewis Evans collection of scientific instruments has made the scheme possible, and it is hoped to provide, by means of annual subscriptions, for the purchase of desirable objects of historic scientific interest to add to the collection. The University has shown approval by allotting the upper room in the Old Ashmolean building for this purpose, and several of the colleges and certain city companies have given financial assistance. But it is hoped that the new society may render further assistance in the acquisition and conservation of objects of scientific and medical interest, besides securing the Old Ashmolean wholly as a scientific institution in the University, just as Sir Thomas Bodley restored the library that now bears his name. Sir Humphry Rolleston reminded the gathering that the Old Ashmolean was named after and provided with a local habitation by Elias Ashmole, the famous antiquary, in 1683. This had the distinction of being the oldest museum for natural history in the kingdom. Its recent rebirth as the Lewis Evans collection of scientific instruments was due to Mr. R. T. Gunther, who, among many other acts of devotion to science in Oxford, collected the old scientific instruments for exhibition for the presidential address given before the Classical Association in 1919 by Sir William Osler, "who being dead yet speaketh." Mr. Gunther then gave some details of the aims and purposes in achieving what the chairman had called "this pious act," and said that the Lewis Evans collection was in urgent need of more space. The present time was favourable for the restoration of the building. The great *Oxford English Dictionary* was completed, and the book stacks which had blocked up the rest of the exhibition space in the old museum might readily be evacuated as part of any Bodleian extension scheme; two such schemes were now under consideration. Sir Humphry Rolleston, in a few further remarks, discussed some special

reasons in favour of the project. Knowledge of a science, he said, was incomplete without an acquaintance with the history of its development to supply guidance in avoiding pitfalls and fallacies, and to suggest fresh avenues for investigation. For such a history recourse was usually made to books, but a museum was another source of information, and in some ways the complement of a library. Not only in the sciences but in the arts was a museum displaying instruments and machinery of great value. Medicine, struggling to become some day an exact science, was or should be an applied science, and a collection of instruments illustrating the way in which the applications of science had led to its advance was beyond question most instructive. Sir Humphry gave one example of the way in which instruments of precision had not only added to knowledge, but stimulated investigation—namely, Laennec's introduction in 1819 of auscultation by means of the stethoscope. Auscultation had been practised before that date, but psychologically the possession of a new instrument served as a spur to Laennec to pay most careful and prolonged attention to the sounds that could be heard in the chest. It was much the same with regard to Piorry's pleximeter and mediate percussion, which in itself, and apart from its temporary influence in stimulating investigation, was inferior as a method of eliciting physical signs to Auenbrugger's long-neglected direct percussion, which it was intended to supersede. The debt cardiology owed to the polygraph, the electro-cardiograph, the orthodiascope, and the sphygmograph need not be laboured, nor, in other fields, the value of the thermometer, the microscope, and so forth. Medicine owed heavy contributions from the more exact sciences, and depended for its advance largely on their assistance. In return for these gifts it was meet and right that medical men, not only those interested in its history, but all who looked to its future with a lively sense of benefits to come, should contribute of their sympathy in a practical form. The scheme was then supported in short speeches by Dr. E. B. Knobel, speaking from the point of view of astronomy; Dr. W. T. Calman, from that of zoology; Dr. A. G. Gibson, pathology; Sir George Fordham, cartography; and by Professor A. F. Boycott and others. The resolution approving of the formation of a Society of Friends of the Old Ashmolean was moved by Sir D'Arcy Power and seconded by Dr. Dixey, and carried. Among those who sent letters of regret at inability to be present and approved the purpose of the gathering were Lord Crawford, Sir Farquhar Buzzard, Sir Archibald Garrod, and Professor G. Elliot Smith. It is understood that a meeting of the new society will be held annually at Oxford, when accessions to the collections will be exhibited. The minimum subscription is 5s. a year; it may be sent to the Treasurer of the Friends of the Old Ashmolean, at Barelays Old Bank, Oxford.

#### WELFARE OF THE BLIND.

THE seventh annual report of the Advisory Committee on the Welfare of the Blind to the Minister of Health shows that there is increasing knowledge of and care of the blind in this country. There has been a growing tale of the blind, due without doubt to the discovery of cases brought about by recent legislation. There are known to be 17,232 blind persons between the ages of 50 and 70 years, and of these no less than 84 per cent. are in receipt of benefits under the Blind Persons Act. The annual value of the pensions granted is £364,000. This sum, together with the Exchequer grants payable in respect of specific services for the blind, represents a very substantial State contribution towards the cost of making provision for the blind. The State grants and pensions have released voluntary funds for other purposes, such as the relief of blind persons

<sup>1</sup> Seventh Report of the Advisory Committee on the Welfare of the Blind, 1924-27. London: H.M. Stationery Office, 1928. 6d. net.



not eligible for pensions. Under the Act local authorities were empowered to promote schemes for the welfare of the blind; 146 such authorities have submitted schemes which have been approved. Most have elected to act through the existing local voluntary societies, and it is found in practice that these schemes are the most successful where there is an active local society and use is made of it. The introduction of State and rate-aided services for the blind has not had the effect of reducing voluntary subscriptions and donations. The register of the blind for England and Wales now shows a total of 46,822 persons, or 1 in 835. This is the highest ratio yet recorded. It is held that the increase is more apparent than real. The passing of the Wireless Telegraphy (Blind Persons' Facilities) Act of 1926 has led to the discovery of a considerable number of blind persons who were unregistered. It is noteworthy that the increases in numbers are shown in the older age groups, whereas in the age group below 21 years there has been a small decrease. This decrease is encouraging, as it seems definitely to indicate that the measures in operation for the prevention of infantile blindness are restricting the number of persons who become blind in the early years of life. In the latest return 62.3 per cent. of the blind are over 50 years of age, as compared with 59.1 per cent. in 1925, 56 per cent. in 1923, and 52 per cent. in 1921. Despite the decrease in the earlier years, the largest proportion still become blind in the first year of life, and the next largest between 60 and 70 years of age. Statistics of employment show that there has been a diminution of unemployed blind persons. There has been an increase in the number under training, and a fall in the number for whom training cannot be found. The unemployable is by far the heaviest total, and an increasing one. Paragraph 16 of the report may be quoted *in extenso*: "In connexion with the registration of the blind, the inclusion of new entrants in grant-aided service, and for other purposes, voluntary agencies find it necessary to obtain medical certificates as to visual conditions, and in some areas the arrangements made for obtaining such certificates would not appear to be altogether satisfactory. We are informed that in connexion with the provision of pensions under Section 1 of the Blind Persons Act, 1920, the Ministry are prepared to arrange, if considered to be necessary, for the medical examination of cases where either the pension officer or the applicant appeals on ground of blindness against the decision of the local pensions committee. We gather, however, that the onus of securing the medical certificates for other purposes—for example, registration—rests with the voluntary agency or the local authority. In a number of areas the local authority have, through their own special staff or by agreement with the local ophthalmic specialists, made arrangements for the certification of blind persons receiving benefit under their scheme under Section 2 of the Blind Persons Act, 1920, and we would recommend other local authorities to consider the advisability of adopting this practice where the voluntary agency conducting services on their behalf experience difficulties in regard to the certification of the blind."

#### THE HEALTH ORGANIZATION OF THE LEAGUE OF NATIONS.

THE work done by the Health Organization of the League of Nations becomes each year of greater importance, and the report for 1927, just issued, contains a mass of information of activities pursued in many parts of the world. One very extensive piece of work carried out at Geneva consists in the collection of epidemiological intelligence and public health statistics. The Health Section publishes a *Weekly Record* and a *Monthly Epidemiological Report*, and at a conference held at Geneva in October last the question of the transmission of epidemiological

intelligence by means of telegraphic code and by wireless broadcast in code or in clear was carefully considered. The Eastern Bureau of the Health Organization at Singapore carries out for the East what Geneva does for the rest of the world, and is in weekly communication with 140 ports. This bureau also receives information with regard to the arrival of infected ships at certain ports, and acts as a co-ordinating centre for certain research problems. Another important part of the work of the League's Health Organization is the interchange of public health officers and facilities for advanced study and training in public health and hygiene. A course in Paris in January, 1927, was attended by twenty-six health officers of fifteen different countries, and a second course was held in London towards the end of the year. Besides these international public health courses, two regular interchanges of public health officers were held in 1927, the first in Great Britain and the second in Germany. The work of the various commissions of the Health Organization is reported in some detail. The Malaria Commission has issued a very important report on the control of malaria in Europe, and steps are being taken to carry out an effective campaign against malaria among the Bulgarian refugees in the Burgas region, where the Health Organization of the League and the International Health Division of the Rockefeller Institute are co-operating. The Sleeping Sickness Commission has completed its work in equatorial Africa, and an extensive and detailed report is shortly to be issued. This report has been studied by a commission of experts, and it is proposed to inquire whether a second international conference on sleeping sickness (the first was held in London in 1925) shall be called to consider the final report and the opinion of the commission of experts. During the past year important steps have been taken with regard to co-ordinating the work of the Health Committee with that of the permanent committee of the Office International d'Hygiène Publique, and in future it is hoped that the two committees will be of more assistance to each other. International health matters have scarcely a spectacular appeal, but as the work of the various organizations gains in experience it is becoming more obvious how national health matters are bound to reap benefit.

#### TUBERCULOSIS IN FRANCE.

PERIODICALLY the medical profession in various countries launches a fresh attack on tuberculosis. The first move in the campaign is the assertion that the country is behind its neighbours in the public provision made for the treatment of the disease. Yet it may be doubted whether adequate statistics, showing the comparative incidence and mortality in different countries, with due allowance for fallacies, have ever been prepared; it is possible that the difficulties in obtaining such a comparison are insuperable. In any case, further evidence seems desirable before the Frenchman allows *La Vie Médicale* to make his flesh creep by means of the two statements used as texts for its special number on prophylaxis in infancy against tuberculosis. This journal, which is officially connected with the general association of French practitioners of medicine, adorns the title-page of a recent issue with two assertions: Denmark spends two gold francs per head of population on its antituberculosis campaign; France spends forty paper centimes. The articles in *La Vie Médicale* do not, however, tell us whether the results in the public health correspond with these figures. Thus Dr. René Mainot's statement that France is forty-first in the list of countries arranged according to the excess of births over deaths does not necessarily mean that the position is due solely to infantile mortality from tuberculosis. Dr. Mainot seems to suggest that in Denmark, England, and the United States tuberculosis has receded as the result of the provision

of special beds for the tuberculous; and he thinks that France needs 40,000 more beds, at a cost of 880 millions of francs! Surely a proposition like this requires the careful consideration of all possible figures of incidence and mortality in various countries before salvation is sought at such a cost. Moreover, it would be interesting to learn how far the removal of sources of infection to special beds is likely to excel the Grancher system and Professor Calmette's vaccination with B.C.G. The boarding-out of the very young is dealt with in an article in *La Vie Médicale* by Professor Léon Bernard, and Dr. G. Poix writes on the results of 'six years' preventive vaccination against tuberculosis. It is evident that many doctors in France are looking to preventive vaccination as a means of largely reducing the mortality from tuberculosis.

#### NON-TUBERCULOUS FIBROSIS OF THE LUNG IN CHILDREN.

ANY method of differentiating tuberculous and non-tuberculous primary fibrosis is always of great interest. In a paper in the February issue of the *Archives of Disease in Childhood* Drs. Agassiz and Gill reported the results of the study of a number of cases of non-tuberculous fibrosis in children. In the 37 cases examined there was a family history of tuberculosis in 2 only; there was also a previous history of measles, whooping-cough, or pneumonia in a large proportion. The authors are inclined to distinguish between pulmonary fibrosis and bronchiectasis, and they suggest that since fibrosis precedes bronchiectasis it is possible that the former may exist without the latter. They found that cough was frequent, expectoration slight, dyspnoea not complained of, haemoptysis rare, and cyanosis a constant sign of this disease. The temperature charts were normal, except for an occasional rise when a portion of the lung became inflamed in non-tuberculous fibrosis, while in tuberculosis the temperature was as a rule constantly above normal. X-ray examination revealed a deflection of the mediastinal contents in non-tuberculous fibrosis, and the basal lobes were more commonly affected. In tuberculosis there is a mottling or wooliness throughout the lung, more marked in the region of the apex. Examining the blood for its oxygen content, these authors conclude that in fibrosis the blood oxygen content is diminished, whereas in tuberculosis the blood oxygen content should be normal except in massive infection of the lung. In fibrosis where tuberculosis develops later the oxygen content should increase with the advance of the tuberculosis, whereas in a healing and fibrosing tuberculous condition the blood oxygen content should decrease as healing proceeds. They believe that the prognosis of non-tuberculous fibrosis of the lungs is very much better than that of pulmonary tuberculosis. Ordinary open-air treatment in convalescent homes or sanatoriums for children is very suitable in this disease.

#### INTERNATIONAL CONFERENCE ON CANCER.

As announced in our issue of April 14th (p. 640), an International Conference on Cancer, convened by the British Empire Cancer Campaign, will be held from July 16th to 20th in London, at the house of the Royal Society of Medicine. Physicians, surgeons, pathologists, and radiologists from all parts of the world whose work has been closely associated with inquiry into the causes and cure of cancer will attend, and the Royal Society and all the principal universities, medical schools, and scientific bodies of this country have appointed delegates. Sir John Bland-Sutton, Bt., vice-chairman of the Grand Council of the

Campaign, will preside, and Sir Richard Garton, chairman of the Finance Committee, is acting as honorary secretary of the Conference. On Wednesday, July 18th, H.R.H. the Duke of York, President of the Campaign, and the Duchess of York will receive the delegates and their wives at Lancaster House (Landon Museum), which has been lent by the trustees for this purpose.

#### ROCKEFELLER MEDICAL FELLOWSHIPS.

THE Rockefeller Medical Fellowships for the academic year 1928-29 will shortly be awarded by the Medical Research Council, and applications should be lodged with the Council not later than June 1st next. These Fellowships are provided from a fund with which the Medical Research Council has been entrusted by the Rockefeller Foundation. Fellowships are awarded by the Council, in accordance with the desire of the Foundation, to graduates who have had some training in research work in the primary sciences of medicine or in clinical medicine or surgery, and are likely to profit by a period of work at a university or other chosen centre in the United States before taking up positions for higher teaching or research in the British Isles. A Fellowship will have the value of not less than £350 a year for a single Fellow, with extra allowance for a married Fellow, payable monthly in advance. Travelling expenses and some other allowances will be made in addition. Full particulars and forms of application are obtainable from the Secretary, Medical Research Council, 15, York Buildings, Adelphi, London, W.C.2.

DR. GEORGE H. F. NUTTALL, F.R.S., Quick Professor of Biology in the University of Cambridge, has been elected a foreign corresponding member of the Academy of Medicine, Paris.

THE annual general meeting and conversazione of the Medical Society of London, arranged for Monday, May 14th, has been postponed to Monday, May 21st, when Sir Archibald Garrod will deliver an oration entitled "Lessons on rare maladies" at 9 p.m.

THE Royal Society of Tropical Medicine and Hygiene will celebrate the twenty-first anniversary of its foundation by a dinner at the Café Royal on Wednesday, June 20th, at 8 o'clock, when the Right Hon. L. S. Amery, M.P., Secretary of State for Dominions and for the Colonies, will be the principal guest.

As we go to press we have received a report, prepared for the Ministry of Health by Dr. J. Alison Glover, on non-specific chronic arthritis, with special reference to the provision of treatment.<sup>1</sup> This is the third of a series of reports from the same pen concerned with public health preventive aspects of the so-called "rheumatic" diseases. The first, which dealt with the incidence of these disabling conditions in adult insured persons, was noticed in our columns on March 1st, 1924 (p. 395). The second dealt with acute rheumatism in childhood in its relation to heart disease, and was reviewed on July 30th, 1927 (p. 187). Like these earlier documents, the present one is intended both for the use of medical practitioners and for the guidance of the lay public. An appendix by Dr. R. Fortesque Fox and Dr. Margarethe Mautner describes the treatment of rheumatic diseases by physical methods in Germany. We hope to notice the report in some detail in an early issue.

<sup>1</sup> Vol. 3, No. 13. Issued by the British Medical Association. London: B.M.A. House, Tavistock Square, W.C.1. Yearly subscription (6 numbers), 25s. Single number, 4s. 6d.

<sup>1</sup> Reports on Public Health and Medical Subjects, No. 52. London: H.M. Stationery Office. 1s. 6d. net.

# The Harvey Chapel at Hempstead.

BY THE LATE

SIR DAWSON WILLIAMS.

WILLIAM HARVEY died in his eightieth year on June 3rd, 1657, at the house of his brother Eliab at Roehampton. This brother had, about the year 1647, acquired by purchase from Sir Charles Mordaunt the Manor of Winslow (or Wincelow) at Hempstead a small Essex village situate about seven miles east of Saffron Walden and some fifty miles from London. The church, in which is a chapel known as the Harvey Chapel, was originally a Norman structure, dating from the reign of William Rufus, who in 1089 settled it on Battle Abbey, Sussex. A late Norman font and fragments of the

Norman chancel are preserved in the existing church. The church was rebuilt about the year 1340 in the Decorated Gothic style, the four clustered pillars, supporting pointed arches, separating each of the aisles from the nave, being highly ornamental and beautiful. The Harvey Chapel, on the north side of the chancel, is a plain rectangular brick building, with a high-pitch tile roof, and lighted by a large triple-light window. This chapel contains sixteenth century memorial brasses of a date prior to its association with the Harvey family. Beneath the chapel Eliab Harvey had in the year 1655 built an outer vault

as a sepulchre for his family; and it was here, as we shall see, that the mortal remains of the great William Harvey were first laid. The fabric of the Early English church still exists, except that about one-third of the west end of the nave was destroyed when the tower fell in 1881, and was rebuilt in 1884 at the cost of upwards of £2,000.

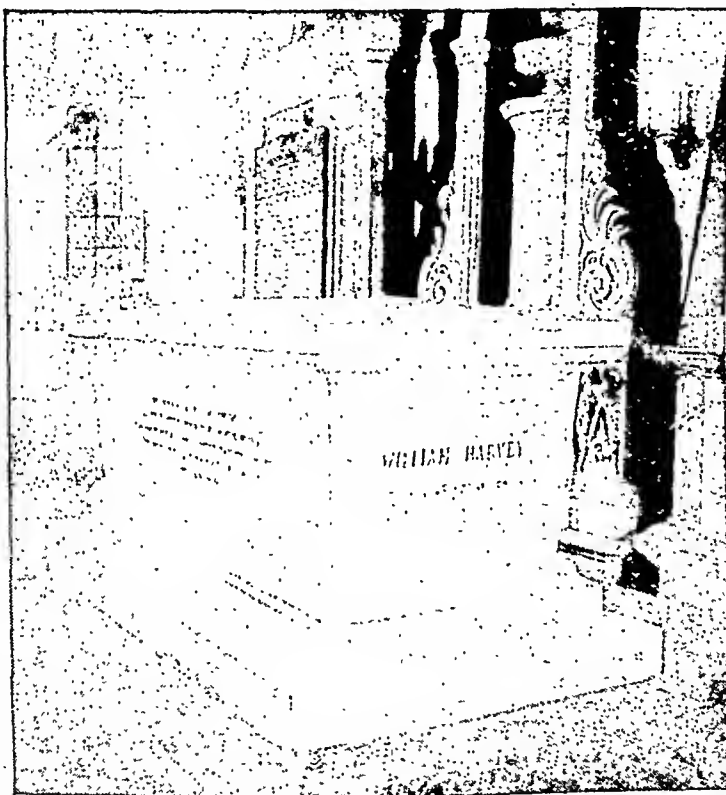
The church contains altogether some nine brasses dating from 1472 to 1530, to representatives of families resident at the three ancient manors of the parish. The memorials to members of the Harvey family in the chapel begin with Eliab, who owned and occupied one of these manors, his wife, and children, and descend to another William Harvey and his wife, whose features are shown in a pair of very striking medallion portraits by Koubiliac, the famous sculptor. There is also a fine memorial tablet to Admiral Sir

Eliab Harvey, who was in command of the *Téméraire*, chosen by Lord Nelson to be his supporting ship at the battle of Trafalgar. The earliest memorial in the church is the exceedingly interesting thirteenth century marble tablet in the floor of the chancel with a Norman-French inscription, decipherable only by the indentations in the stone from which the inlaid lettering has been displaced and lost. The reading is: " Dame Margerie de Basinggè gist ici Dieu de sa alme cit merci Amen "; in English, " Lady Margerie de Basing lieth here: May God upon her soul have

mercy. Amen."

Again, another interesting relic is an heraldic helmet set on an iron bracket above the pulpit, surmounted by the Harvey crest—a hand supporting a crescent at the finger-tips.

The sarcophagus containing the remains of William Harvey himself is within the chapel, but the monument to him is just outside on the north wall of the nave. It consists of a marble bust, with his arms above, and a long and laudatory Latin inscription below. The bust is set in a niche, over which is a small arched pediment having, upon its rising sides, two cupids in posture of distress, one of which is represented holding in his hand a death's head. The



Marble sarcophagus containing the remains of William Harvey. Erected by the Royal College of Physicians in Hempstead Church, Essex, 1693.

monument is a composition of black and white marble, veined. Sir Benjamin Ward Richardson, who took a great interest in all that pertained to the last resting-place of Harvey, came to the conclusion that this bust had been copied from a cast of the face of Harvey taken after his death; in this opinion he was supported by Mr. Woolner, R.A., who visited the church in 1878.

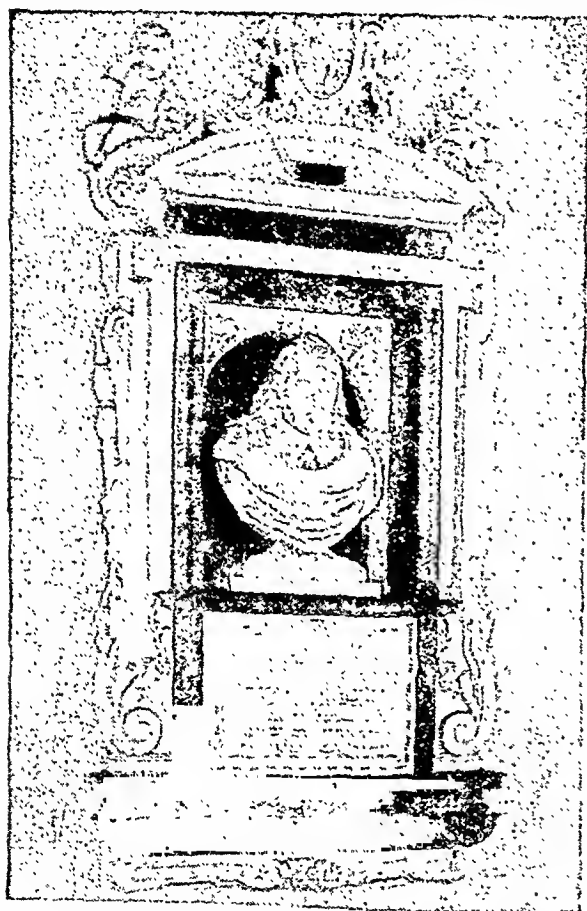
Eliab, who was Harvey's executor, resolved that his brother's body should be placed in the family vault he had constructed. The funeral started from London on June 26th, and was followed far beyond the City walls by a large number of the Fellows of the College of Physicians.

Harvey's body was simply wrapped in lead without a coffin, which seems to have been a custom peculiar to the Harvey family. The leaden case used for

William Harvey was roughly shaped in the form of a body, having a head, neck, and shoulders, from which it gradually tapered towards the feet, where it was turned up at a right angle. It had a broad breastplate with the following inscription in raised letters:

DOCTOR  
WILLIAM HARVEY  
DECEASED THE 3  
OF JUNE 1657  
AGED 79 YEARS.

When visited in 1847 by Richardson, and again in 1859 and 1868 by Dr. A. P. Stewart and Dr. (afterwards Sir) Richard Quain, the leaden shell lay upon



The original memorial to Harvey (1657) upon the wall at the entrance to the Harvey Chapel in Hempstead Church.

the floor just beneath a small window in the eastern wall. The suggestion arose that the remains should be removed to Westminster Abbey, and was favoured by Dean Stanley; but he was then in failing health, and nothing was done until matters were brought to a crisis in January, 1882, by the fall of the tower of the church. No damage was done to the Harvey Chapel, but the College of Physicians decided to take some action. Sir Benjamin Ward Richardson reported to the College in February, 1882, that the lead of Harvey's shell was going fast, and suggested that the remains should be raised to the Harvey Chapel above the vault. The College appointed a committee, consisting of Sir William Jenner (President), Sir James Risdon Bennett, Sir Henry Pitman, and Drs. Sieveking, Richardson, Frederick Furre, Quain, and A. P. Stewart. It was decided to keep the remains at

Hempstead, but to remove them to the Chapel above the vault and to place the leaden ease in a sarcophagus. The floor of the Chapel was strengthened by pillars built in the vault, and a plain sarcophagus of pure white Carrara marble provided. The memorial was designed and carried out by Maile and Sons of Euston Road.

The following inscription was placed at the head of the sarcophagus:

WILLIAM HARVEY  
Born 1578. Died 1657.

The following was engraved on one side:

The remains of William Harvey  
Discoverer of the Circulation of the Blood  
were reverentially placed in this sarcophagus by  
the Royal College of Physicians of London  
in the year 1883.

A leaden ease was also prepared, in which was placed the edition of the works of Harvey published in Latin by the Royal College of Physicians of London in 1766, and edited by Drs. Akenside and Lawrence. On one side of this was engraved:

GULIELMI HARVEII  
Opera Omnia  
Edita  
MDCCLXVI.

On the other side was inscribed:

The complete works of William Harvey  
deposited October 18th, 1883.

A memorial bottle, hermetically closed, was also prepared and was wrapped in lead. In it was placed a memorial, engrossed on vellum by Messrs. Harrison of St. Martin's Lane. The leaden case enclosing the bottle had inscribed upon it:

SCROLL

Deposited October 18th, 1883.

The following is a copy of the memorial itself:

"The body of William Harvey laid in lead simply soldered was laid without shell or enclosure of any kind in the Harvey Vault of this Church of Hempstead Essex, in June 1657.

"In the course of time the lead enclosing the remains was from exposure and natural decay so seriously damaged as to endanger its preservation rendering some repair of it the duty of those interested in the memory of the illustrious discoverer of the circulation of the Blood.

"The Royal College of Physicians of which corporate body Harvey was a munificent Benefactor and which by his favour is the possessor in perpetuity of his patrimonial Estate at Burmarsh, Kent, did in the years 1882-83 by permission of the Representatives of the Harvey family undertake that duty.

"In accordance with this determination the leaden mortuary chest containing the remains of Harvey was repaired and as far as possible restored to its original state and on this 18th day of October 1883 in the presence of four Representatives of the Harvey family and of the President, all the office-bearers and many other Fellows of the College of Physicians (whose names are hereto appended) was reverently translated from the Harvey Vault to this Sarcophagus raised by the College for its reception and preservation."

The scroll was signed by four members of the Harvey family, and by the President, Censors, Treasurer, Registrar, Harveian Librarian, and a number of Fellows of the College, who attended at Hempstead on St. Luke's Day (October 18th), 1883. The leaden coffin was then raised to the churchyard and carried up the nave and aisle into the Harvey Chapel, the pall-bearers being eight Fellows of the College, of whom the last survivor was Sir Dyce Duckworth, who died last January. At the conclusion

of a short service the leaden shell was lowered into the sarcophagus, and the President of the College placed the case containing the scroll in a glass bottle and the metal box containing the copy of Harvey's works also in a bottle, beside the leaden coffin in the interior of the sarcophagus.

*Note.*—Sir D'Arcy Power says, in his Masters of Medicine Series, that the marble monument containing the bust of William Harvey is "high in the wall of the Church at Hempstead." The ornamentation of the tablet is bold and effective, and below the bust is a long Latin inscription. He quotes from the report of Mr. Thomas Woolner, R.A., as follows: "The features presented by the bust are clearly those of a dead face. The sculptor exhibits no knowledge of sculpture except when he was copying what was directly before him. With the cast of the face for his copy he has shown true artistic delineation, but all that he has been obliged to add to make up the bust as it stands is of the worst possible quality. The ears are placed entirely out of position, the large redundant head of hair is altogether out of character, imaginary, and badly executed, and the drapery of the shoulders is simply despicable."

The Latin inscription upon the original memorial to Harvey reads:

GULIELMUS HARVEIUS  
Cui tam colendo Nomini assurgunt omnes Academiae  
Qui diurnum Sanguinis motum Post tot Annorum  
Millia Primus invenit  
Orbi Salutem Sibi immortalitatem  
Consequutus.  
Qui ortum et generationem Animalium Solus omnium  
A Pseudophilosophia Liberavit  
Cui debet  
Quod sibi innotuit humanum genus Scipsam medicina.  
Serenis Majestati: Jacbo et Carolo Britanniarum Monarchis  
Arenarius, et clarissimus  
Colleg: Med: Lond: Anatomes et Chirurgiae Professor  
Assiduus, et foelicissimus  
Quibus Illustrem Construxit Bibliothecam  
Suog. Dotavit et Ditavit Patrimonia.  
Tandem  
Post triumphales  
Contemplando, Sanando, inveniando,  
Sudores,  
Varias domi forisq. Statuas Quum totum cirevit  
Microcosmum Medicinae Doctor ac Medicorum  
Improles Obdormiuit.  
III<sup>o</sup> Junii Anno Salutis MDCCLVII, Aetatis LXXX<sup>o</sup>  
Annorum et Famae Salut.  
RESURGEMUS.

Of this a liberal English translation (by the Rev. T. Conyers Barker, M.A., Vicar of Hempstead) is as follows:

WILLIAM HARVEY  
to which honoured name all the Universities  
pay the greatest veneration:  
Who after so many thousand years first discovered  
the constant circulation of the blood,  
obtaining thereby health to the world and immortality to  
himself  
Who alone of all men rescued the birth and generation of animals  
from false philosophy,  
To whom mankind are indebted for the knowledge of medicine  
itself,  
Chief and dearly-loved physician to their Serene Majesties  
James and Charles, Kings of Britain;  
Diligent and successful professor of anatomy and surgery in the  
College of Physicians at London,  
for whom he erected, and endowed with his own estate,  
a magnificent library.  
At length  
after labouring with success in his studies, in his practice, and in  
his discoveries,  
And after many statues had been erected both at home and  
abroad,  
When he had encompassed the whole order of Medicine and of  
Medical Science, this learned man  
died without issue on the Third of June in the year of our  
Lord 1657, of his age the 80th,  
Full of Years and Honour.  
WE SHALL RISE AGAIN.

## HARVEY TERCENTENARY CELEBRATIONS.

MAY 14TH TO 18TH, 1928.

Through the courtesy of the President and Registrar of the Royal College of Physicians of London we have received an advance copy of the full programme for the tercentenary celebration next week of the publication of *De Motu Cordis* by William Harvey. This programme is a beautiful document, printed in pamphlet form, with three fine photographic plates, one being a reproduction of Harvey's portrait by Jansen, the second showing the Arms of the College, after Richard Wallis's design, and the third showing the College Insignia displayed on their tasselled velvet cushion. The whole work has been carried out with reverent care by Mr. Emery Walker at his Hammersmith press. The text includes a short account of Harvey's life and work, an historical note on the College and its possessions, and an imposing list of the delegates from twenty-one foreign countries, from the Dominions beyond the seas, and from the British Isles, who will be received by the King at Buckingham Palace on Monday morning and will take part in the other ceremonies. Besides these official delegates, ninety in number, from universities, colleges, and scientific bodies at home and abroad, Harvey's birthplace will be represented by the Mayor of Folkestone; his school by the late Headmaster of King's School, Canterbury; his hospital by the Treasurer of St. Bartholomew's; his College at Cambridge by the Master of Gonville and Caius; Merton College, Oxford, by his successor to-day in the office of Warden; and the Harvey family by the Rev. Rosendale Lloyd. The delegate of the British Medical Association is its President, Sir Robert Philip.

At the reception to be held by the Royal College of Physicians on Monday afternoon four eminent men will be admitted as Honorary Fellows—the Earl of Balfour, K.G., O.M., F.R.S., Sir Ernest Rutherford, O.M., President of the Royal Society, Professor Pavlov of Leningrad, and Professor Wenclebach of Vienna—and short eulogies of Harvey will be delivered by a physiologist, Sir Charles Sherrington, O.M., F.R.S., a physician, Professor A. Chauffard of Paris, and an anatomist, Professor Franz Keibel of Berlin. The other functions during the week are indicated in the abridged time-table printed below. After the luncheon party at St. Bartholomew's, Sir Wilmot Herringham will give an account of Harvey's connexion with that hospital. The visit to Cambridge will be followed by a meeting of the Physiological Society to be held there on Saturday. The Harvey tercentenary will be celebrated in Paris on the following Tuesday, May 22nd, at a commemorative function arranged by the Académie de Médecine.

### TIME-TABLE.

Monday, May 14th.

- 11 a.m.—Reception of Delegates by His Majesty the King at Buckingham Palace.
- 3 p.m.—Reception of Delegates and distinguished guests by the College of Physicians at the Addresses by Delegates. Eulogies of Harvey.
- 6.30 for 7 p.m.—Dinner given by the Grocers Company at Grocers' Hall.
- 9 p.m.—Lady Bradford "At Home" at 8, Manchester Square.

Tuesday, May 15th.

- 10.30 a.m. to 12.30 p.m.—Demonstrations arranged by the Royal College of Physicians in the Physiological Department of University College. A reproduction of Harvey's original anatomical dissections by cinematograph. Demonstrations of the circulation of the blood.
- 1.15 p.m.—Luncheon at St. Bartholomew's Hospital given by the Governors of the Hospital.
- 4 p.m.—Tea at the Royal College of Physicians with exhibition of books, MSS., pictures, silver, and other objects of interest.
- 9 p.m.—Conversazione at Merchant Taylors' Hall by permission of the Court of the Company. H.R.H. the Prince of Wales has consented to be present.



## Wednesday, May 16th.

10.30 a.m. to 12.30 p.m.—Demonstrations arranged by the Royal College of Physicians in the Physiological Department of University College.

6.30 p.m. for 7 p.m.—Dinner given by the President and Fellows of the Royal College of Physicians in the Guildhall of the City of London.

## Thursday, May 17th.

Morning and Afternoon.—Visit to Oxford by invitation of the Warden and Fellows of Merton College.

8.30 p.m. to 11 p.m.—Reception at the Rooms of the Royal Society, Burlington House, by the President of the Royal Society.

## Friday, May 18th.

Morning and Afternoon.—Visit to Cambridge by invitation of the Master and Fellows of Caius College.

## DEMONSTRATIONS AT UNIVERSITY COLLEGE.

The following demonstrations, arranged by the Royal College of Physicians, will be given at University College, Gower Street, W.C., on the mornings of Tuesday, May 15th, and Wednesday, May 16th.

At 10.30 a.m. each day there will be an exhibition of a cinematograph film of Harvey's experiments, prepared by Sir Thomas Lewis and Dr. H. H. Dale. At 11.30 the following demonstrations illustrating recent additions to knowledge of the circulation will be given:

1. Professors Lovatt Evans and Verney will give a demonstration of "the isolated mammalian heart-lung preparation." The preparation to be shown is one devised by the late Professor E. H. Starling for the purpose of studying the reactions of the mammalian heart to measurable changes in the conditions under which it is working. The heart and lungs are completely isolated from the rest of the animal, the normal peripheral circulation being replaced by a system of tubes representing its arterial, capillary, and venous components. The rate of inflow of blood into the right auricle, the temperature and composition of this blood, as well as the peripheral resistance against which the left ventricle works, can be varied and measured at will. Further, the effect of variations in any of these factors on the volume of the heart, on its rate of beating, and on the coronary flow, may readily be studied. The demonstration is designed primarily to show the nature of the reaction of the isolated heart to changes in the work which it is called upon to perform. These changes in work are here brought about by variations in the venous inflow or the peripheral resistance or in both. The effect of changes in the  $CO_2$  tension in the gas ventilating the lungs, and of the addition of adrenaline to the circulating blood, will also be shown.

2. Dr. H. H. Dale will demonstrate an apparatus for artificial circulation, designed by Dr. E. H. J. Schuster and himself, and consisting of two diaphragm pumps, the throws of which are independently adjustable while the machine is in action. The two pumps are made to replace the two ventricles of the heart, so that the reactions of the blood vessels of both major and minor circulations, and the resulting changes in resistance and in distribution of the blood in the system, can be studied, free from the complications of compensatory or other changes in the action of the living heart. One pump carries out the circulation through the lungs, the other through the whole, or any selected part, of the systemic circulation. This system, with its artificial heart and natural resistances, is in some sense a counterpart of the heart-lung preparation.

3. Sir Arthur Keith will demonstrate: (a) models made in 1906 to illustrate the movements of the human heart and to explain the negative wave in the jugular pulse, and (b) Sir James Mackenzie's original polygraph preserved in the Museum of the Royal College of Surgeons. Sir Arthur Keith will also give a brief account of the anatomical examination of hearts observed and recorded by James Mackenzie during his practice in Burnley.

4. Sir Thomas Lewis will demonstrate, with the help of Dr. Ronald Grant and Dr. K. E. Harris, on Wednesday only at 11.30 a.m., some reactions of the human skin to stimulation, illustrating contraction of the minute vessels and their reactions to injury.

5. Dr. B. W. S. Mackenzie will show some of Sir James Mackenzie's original apparatus.

Some tickets are still available for these demonstrations, and medical practitioners who desire to be present should apply for them at once to the Registrar, Royal College of Physicians, Pall Mall East, S.W.1.

## LYMPHADENOMA AND RELAPSING PYREXIA.

## Dr. MacNalty's Report.

MANY interesting and instructive facts concerning this manifestation of lymphadenoma are to be found in a report entitled "An investigation of lymphadenoma with relapsing pyrexia," which has been prepared for the Ministry of Health by Dr. A. Salusbury MacNalty, medical officer to the Ministry.

Dr. MacNalty discusses the nomenclature of the disease and favours the term "lymphadenoma" for all types in which there are definite and recognizable histological changes in the lymphatic glands. Referring to Osler's classification, Dr. MacNalty regards lymphadenoma with relapsing fever as a clinical entity possessing distinctive features. He points out that the disease has long escaped recognition as a clinical entity owing to the difficulties in diagnosis before Reed established the histology of lymphadenoma in 1902; it has been given various designations, such as "pseudo-leukaemia" (infectious form) (Pel); "some morbid appearances of the glands and spleen" (Hodgkin); and "lymphosarcoma with relapsing fever" (Renvers). Gowers, Musser, and Taylor have specially drawn attention to the relapsing fever in lymphadenoma. Dr. MacNalty described thirty-two cases of the disease in the *Quarterly Journal of Medicine* in 1911, and since the publication of that paper he has obtained abundant evidence that this disease has salient and individual features which make it a distinct clinical syndrome.

The etiology is similar to that of the chronic form of lymphadenoma, and both have the same histological changes in the lymph glands. Lymphadenoma exists without any evidence of tuberculosis, and therefore it cannot be regarded as an atypical form of this infection. There is no doubt, however, that it predisposes to tuberculosis, and that it is likely to be confounded with it, as is shown by the reports of the cases in this investigation. Lymphadenoma, though it disseminates and infiltrates non-lymphatic structures such as bone, cannot be regarded as a new growth on this account, for the granulomata—syphilis, tuberculosis, and actinomycosis—behave in a similar fashion. The "Hodgkin's sarcoma" is regarded by Professor Turnbull as a "lymphosarcomatoid" type of inflammatory reaction; he goes further, and considers that lymphosarcoma is an inflammation and not a new growth, because the deposits only involve the Malpighian bodies of the spleen, and do not affect the spleen pulp. Symmers regards lymphadenoma as a transition stage between the granulomata and the new growths.

Though the cause of lymphadenoma is at present unknown the balance of evidence is in favour of it being a specific infective granuloma of protozoal origin. The facts that appear to support this hypothesis are the familial tendency; the acute course in certain cases, death occurring within six weeks; and the remarkable outbursts of fever, together with its relapsing character and the sometimes periodic enlargement of the glands. Its clinical history is analogous to certain protozoal diseases, such as malaria and relapsing fever, and the beneficial results occasionally obtained by arsenic also simulate the results obtained by this drug in protozoal infections. Osler supported this view of the disease, and suggested that it might be a spirillosis. Dr. Mervyn Gordon, however, has failed to isolate a spirochaete by using the anaerobic culture methods which have proved efficacious in the culture of *Spirochaeta pallida*. Bunting and Yates claim to have isolated a Gram-positive pleomorphic diphtheroid bacillus, but this has not been confirmed. Bacteria have also been obtained from the blood during the pyrexial periods, and the pyrexial attacks have been regarded by some observers as being a terminal infection. This cannot be true, for the disease may start acutely; the febrile attacks may last for as long as four years, and some cases pass into the chronic afebrile form of the disease. Dr. MacNalty has investigated the blood for parasites, performed splenic puncture, made repeated blood cultures, and examined the body secretions on many occasions, all with negative results.

The most common primary site is the cervical glands, but Dr. Turnbull found from *post-mortem* figures that the primary site in 40 per cent. of cases was the abdominal glands, in 30 per cent. the intrathoracic, and the cervical glands in 22 per cent. Experimental pathology has not, as yet, helped to elucidate the problem, because the disease apparently cannot be transmitted to animals. Professor Woolridge reports that dogs are liable to a symmetrical bilateral enlargement of the lymph glands, but sections of these glands have none of the histological appearances of lymphadenoma, but of lymphoma. Dr. MacNalty suggests that anthropoid apes might be suitable animals for experiment, since they have proved so useful in the investigation of syphilis.

The granulomatous nodules are found in structures other than lymphoid tissue—namely, the liver, kidneys, ureter, and pleura; they directly invade bone, and occur also in the marrow of long bones. The histology of this disease is similar to that of chronic lymphadenoma. The various stages in its histology, as previously described by Longcope, have been confirmed by examination of glands in the present series, particularly the marked fibrosis in the advanced stages and the cellular composition of the glands in the earliest stages. In fact, it was possible to recognize some correlation between the histology and the duration of the disease.

Dr. MacNalty finds that the disease is most common in youth and early adult life, the commonest age incidence being 20-30. The symptomatology is well described, interesting features being the symptoms produced by intrathoracic deposits and the various abdominal manifestations described by Rolleston. In its onset the disease is usually insidious, and it has been mistaken for influenza or early pulmonary tuberculosis; it may, however, commence with the development of sudden respiratory symptoms. The disease may be superimposed on chronic lymphadenoma, as in one case reported.

From a careful analysis of the salient features of the many previously reported cases and the author's seventeen cases Dr. MacNalty has classified the disease into two main types: (1) a form with enlargement of the external glands, with or without involvement of the internal glands; (2) a form in which the internal glands are alone involved. The first type is further subdivided into two groups, one with slight or no enlargement of the glands during the periods of pyrexia, and another group in which the clinical picture alters suddenly during the attacks of pyrexia, the glands becoming much enlarged, tender, hot, and painful, with adherence and reddening of the skin. The second group is uncommon, and very closely resembles acute suppurative lymphadenitis. The various types may occur as intermediate or mixed forms.

Dr. MacNalty has drawn an accurate, clear-cut, clinical picture of this disease, and among many other interesting peculiarities he points out that excessive appetite is often a prominent feature. The prognosis is very unfavourable, particularly in the second type—namely, that with internal glandular involvement alone. X rays do not have any permanent curative effect in this disease, but arsenic is undoubtedly beneficial in many cases; Fowler's solution is said to be better than intravenous forms of arsenic, such as salvarsan and neosalvarsan. Difficulties in differential diagnosis are greatest in this second type, for in type 1 excision and microscopy of a superficial gland will settle the nature of the condition. This histological examination should always be performed when a superficial gland is available. Chronic pulmonary tuberculosis and chronic tuberculous adenitis with relapsing fever are most likely to be confused with the disease, and a diagnosis can often only be made by consideration of the clinical features and by a process of elimination. The author discusses the differential diagnosis very fully, and this part of the report should prove very useful to the clinician. The recognition of this disease is not of mere academic interest, but it is important from the point of view of prognosis and its separation from other diseases.

Dr. MacNalty has performed a very useful service to clinical medicine. From the admittedly ill-assorted group of diseases characterized by enlargement of the lymphatic glands he has separated one clinical type, distinct in its

morbid histology, sufficiently unlike other diseases in its clinical manifestations, and unhalting in its forward march. As already indicated, it is important to recognize this disease because of its particularly unfavourable prognosis. It may be added also that the best hope for the discovery of some effective remedy lies in the accurate definition and study of this infection.

## England and Wales.

### Clean Milk Production.

ANOTHER "social evening" took place at the Royal Society of Medicine on May 7th, when Sir James Berry, the President, and Lady Berry received a very large number of Fellows and guests. During the evening an illustrated address was given by Mr. P. B. Tustin, who has been associated for many years with the campaign for clean milk, on the processes of milk production and distribution. He gave an expert account of the breeding of cows for milk-producing purposes, and the economics of the dairy farm. Discussing the mechanical milker, worked by a vacuum pump, he said that this was a very good and efficient arrangement, provided only that an intelligent man was in charge; otherwise, used carelessly, it was liable itself to be a source of contamination. He insisted that the production of clean milk was a matter of method rather than of expensive equipment, and he described an experiment which showed that even in an extremely insanitary barn—not that such places were to be tolerated—clean milk could be produced, given proper methods in the handling of the cow and the taking of due precautions. The equipment necessary for clean milk production included curry-comb, brush, and clippers, and a bucket of water. The milk should be received in a small-top pail, the milker should thoroughly wash his hands before beginning his job, the stool on which he sat, and the position of which he had often to adjust with his hand, should be clean, and, given these conditions, with fastidiousness as to the cow's udders, all contamination in the milking process should be avoided. Mr. Tustin said that the dairy farmer had made enormous strides in clean milk production during the last few years. Such cleanliness had been very largely stimulated by clean milk competitions, of which there was only one in this country in 1919, while there were fifty-eight, in different counties, last year. Mr. Tustin described the method of pasteurization and the clarifying and other equipment of the modern milk factory. In milk consumption per head of population, he said, the British people were unaccountably backward as compared with the Scandinavian nations, and even with America and Canada. He also dwelt upon the really extraordinary organization whereby milk produced one day in Somerset or somewhere else, on the next day finds its way, pasteurized, bottled, and sealed, on to the London doorstep—an achievement at least as expeditious, he claimed, as anything that the post office can show in the way of delivery, and relatively cheaper. In proposing a vote of thanks to the lecturer, Dr. Andrew Balfour said that he noticed that Mr. Tustin had not touched on the sophistication of milk. This was no longer an important problem, perhaps, in this country, but in tropical countries it was very much a matter of concern, and he recalled how a hospital in Mauritius once received its milk with small fish swimming about therein! The fish, which had been used for the destruction of mosquito larvae, had been scooped up in the water so profusely added to the milk.

### Leicester Royal Infirmary.

The report of the Leicester Royal Infirmary and Children's Hospital for 1927 records a further increase in the demands made upon that institution, and it is therefore pleasing to note that the financial position is satisfactory and that the governing body has enough confidence in the outlook to undertake provision for future needs. Admissions during the year numbered 6,788 against 6,485 in 1926, and the number of out-patient attendances was 151,281 against 146,733 in 1926. A point of some interest, in view of the keen discussion now current regarding the future of the hospital services, is that of the in-patients

treated approximately 60 per cent. were insured persons and members of approved societies. The proportion would, of course, be considerably higher if patients of 16 years and under and 65 years and above were excluded, as such patients are not within the scope of the national insurance scheme. From the total income of £78,009 the board was able to meet the ordinary expenditure, provide for several substantial items of extraordinary expenditure, and wipe off part of the accumulated deficit of previous years. Ordinary expenditure, at £69,679, was £1,557 below the 1926 figure, in spite of the fact that the work done was on a more extensive scale. Extensions in progress include a temporary ward of thirty beds, two new wards of fifteen beds attached to the orthopaedic department, two new operating theatres, and the reconstruction of the kitchens, the estimated cost being £31,000. On July 1st it is intended to begin the reconstruction of the central wing, which will provide three wards in place of two, at an estimated cost of £50,000, making a total of £81,000. Mr. H. T. Mills of Langton Hall has undertaken to contribute one-third of the cost, up to £20,000, of the central wing reconstruction, and other donations amounting to £22,863 have been received.

#### Women Medical Students and London Hospitals.

A conference attended by about two hundred representative women was held under the auspices of the National Union of Societies for Equal Citizenship on May 8th to consider the question, in the light of recent events, of women in the service of hospitals. The speakers included Dr. Graham Little, M.P., Miss Eleanor Rathbone, president of the union, Dr. Margaret Emslie, and others. Several resolutions were carried, the principal one protesting against the exclusion of women medical students from all the London general hospitals with training schools (with the exception of the Royal Free Hospital and, for a limited number of vacancies, University College Hospital). Dr. Graham Little said that there was no sufficient provision at the present moment for the teaching of women medical undergraduates in London. There were large fields of medicine, left untillied by men, which ought to be taken up by women, and he foresaw an enormous possible expansion of medical work in this respect. Even if one wanted to do so, he could not stay the entry of women into medicine, and therefore the wise course was to secure the professional education of women in the best possible way. If the material and facilities for women medical students in London—the best centre in the world for the purpose—were inadequate the result would simply be to take women to the provinces, where no such fantastic position existed. Miss Eleanor Rathbone laid stress upon the fact that the hospitals were supported by women as well as by men, and that they depended to an increasing degree upon funds to which women, as well as men, were asked to contribute, either through collections or deductions from wages. An attempt was now being made to establish a male monopoly, and women subscribers to hospitals were virtually being compelled to exclude their sex from the training which what were improperly called “men’s” hospitals—though the patients included women as well as men—afforded. It was agreed to ask the National Union to organize a representative committee to bring this point of view before the hospitals and appropriate public bodies, also to call upon local authorities and voluntary bodies responsible for the administration of hospitals to ensure the appointment of women on the responsible committees, and to give equal opportunity in training facilities. A further resolution urged that visiting committees of mental hospitals should be required to co-opt at least two women in cases in which women had not been otherwise appointed, and drew attention to the need for the appointment of women doctors in all mental hospitals, with opportunities to rise to the highest posts.

#### L.C.C. Medical Officers.

The Minister of Health has asked the London County Council to allow its medical officer of health, Dr. F. N. K. Menzies, to serve on the departmental committee to investigate the present situation in regard to the training and employment of midwives, as he feels that Dr. Menzies’s

knowledge of the subject and interest in questions affecting maternal welfare would be of considerable assistance in the inquiry. Dr. Menzies, however, is at present absent from duty owing to ill health, and has been granted sick leave until the end of June. The council has agreed to Dr. Menzies serving on the committee, subject to his state of health on his return to duty allowing him to do so. The council has agreed that one of its assistant medical officers, Dr. Naney Holloway, shall exchange duties for a period of one year with a school medical officer, Dr. Eleanor Stang, attached to the health department of Western Australia. Each officer will continue to receive her own salary from the authority at present responsible for its payment, and any adjustments are left to be made privately.

## Scotland.

#### Hospital Problems in the Highlands.

A CONFERENCE convened by the Scottish Board of Health to assist the movement for hospital co-operation was held this week in the Town Hall, Inverness, under the chairmanship of Dr. W. E. Elliot, Under Secretary of State for Scotland. In a letter sent to the voluntary hospitals and public authorities in the counties of Inverness, Moray, Nairn, Ross and Cromarty, Caithness, Sutherland, and Orkney, representatives were desired to discuss some of the immediate questions arising in connexion with the Northern Infirmary at Inverness. It was considered desirable that the directors of this institution, now under construction, should know what will be its relation to other voluntary hospitals in the north, and particularly what accommodation and services it will be expected to provide in connexion with services administered by the public authorities for tuberculosis, maternity, children’s diseases, and venereal diseases. Following the recommendation of the Mackenzie Committee on hospital services, the Northern Infirmary is being equipped as a central hospital for the northern region. A sum of £60,000 out of the £100,000 required to give effect to this recommendation has been already raised, and building operations have commenced. It was arranged that Dr. Elliot should lay the foundation stone of the infirmary on May 8th, and that on May 10th he should perform the opening ceremonies at the extended sanatorium which is managed by the British Red Cross Society at Stornoway, and at the extension of the Lewis General Hospital at the same place. The two latter functions formed an important landmark in the history of hospital organization in the Outer Hebrides. The Lewis Hospital is an experiment in State medicine in a remote part of Britain which will be watched with interest for the influence it may have upon developments further south. The large island of Lewis has a population of over 32,000, and until very recent times medical practice was possible only on a limited scale, mainly on account of difficulties of transit, so that the practices of earlier generations in the shape of hereditary healers and village bone-setters still persist. The hospital scheme inaugurated by the Scottish Board of Health has now gained the confidence of the people. The original hospital, erected by public subscription in 1896, was enlarged in 1912 to provide twenty beds. Owing to local prejudice it was not fully used until 1924, when a specialist surgeon was appointed in Stornoway by the Board. The new hospital will contain twenty-four beds and four cots, and has been equipped with x-ray plant, an operating theatre, a laboratory, and all the other requisites of a modern hospital. It also contains a private ward. Cases requiring special surgical treatment which are not urgent are referred to hospitals on the mainland. The scheme of providing specialist services has now been in operation since 1926, and already great demands have been made upon the hospital, where still further extension will probably, it is thought, soon be required. The Board of Health will not contribute towards maintenance, so this charge will have to be met by local contributions and payments. The nursing service, controlled by local committees, is subsidized by the Board of Health, and it is expected that a much extended district nursing scheme will shortly be instituted.

**Summer Post-Graduate Courses in Glasgow.**

The Glasgow Post-Graduate Medical Association has completed its arrangements for post-graduate teaching in that city during the coming summer, from June to October. The instruction is offered in three forms—a general medical and surgical course, certain special clinical courses, and clinical assistantships. The general course will occupy four weeks, from August 20th to September 15th, and has been designed to include most of the subjects likely to interest general practitioners. Throughout this period the mornings will be devoted to general medical and surgical diagnosis and minor surgery, in the Royal and Victoria Infirmarys, while special subjects will be taken at various appropriate centres in the afternoons. Demonstrations in psychological medicine will be given on the four Saturday mornings at Duke Street Hospital and at Gartnavel Mental Hospital. The subjects covered in the special clinical courses, intended for general practitioners who have not much time to give to hospital work, include surgery, obstetrics, gynaecology, dermatology, radiology, venereal diseases, diseases of children, and diseases of the ear, nose, and throat. At most of the institutions taking part in the work of the association a limited number of clinical assistantships are available during the summer months as well as at other times of the year. These appointments afford exceptional opportunities for special study, and graduates securing them are expected to enrol for three months. Copies of the syllabus may be obtained from the secretary (Dr. James Carslaw), Post-Graduate Medical Association, The University, Glasgow.

**East Fortune Sanatorium.**

With regard to the annual report by the medical superintendent of the East Fortune Sanatorium summarized in the *British Medical Journal* for April 28th (p. 728), it should be explained that the figures published respecting results of treatment referred to the number of days spent in the sanatorium by patients ultimately discharged in various conditions. Thus of the male patients treated for diseases of the lungs and chest glands, those whose cases were clinically quiescent on discharge had remained under treatment for 227 days, much improved 204 days, improved 251, stationary 41, worse 372, while those who died had on the average been treated for 282 days. The corresponding figures for women were: 181 days clinically quiescent, 227 much improved, 226 improved, 118 stationary, 489 worse, and 92 days for those who had died. Of the children, those who were discharged clinically quiescent had remained in the sanatorium on an average 205 days, much improved 393 days, and there had been no deaths among children. The total number of deaths was 29.

**Ireland.****McKisack Memorial Fund.**

A MEETING of the subscribers to the McKisack memorial fund (announced in our issue of April 21st, p. 686) will be held in the Royal Victoria Hospital, Belfast, on May 17th, at 10.30 a.m., immediately before the clinical meeting of the North of Ireland Branch of the British Medical Association. All those who intend to join are asked to forward their subscriptions before that date so that the accounts may be closed. They may be sent to Dr. W. Caldwell, 56, Wellington Park, Belfast, or to any other member of the committee.

**The Need for Hospital Co-ordination.**

Senator Sir Edward Coey Bigger, M.D., speaking as chairman at the annual meeting of the Monkstown Hospital, said that before referring to the position of the hospital and its need for greater financial assistance, he would like to mention two points connected with the question of hospitals and hospital treatment in the country. The first was that, although they had some of the most highly skilled physicians, surgeons, and specialists in the world, who gave their services most freely and

whole-heartedly, in the large voluntary hospitals, they were not employed to the extent that they should be or to the best advantage. More co-ordination was required between the small and the large hospitals. Many patients were admitted to the small hospitals who needed the most skilful diagnosis and treatment; by sending them to the larger clinical hospitals, with their special equipment and complete organization for laboratory work, x-ray and radium therapy, and diagnostic investigation, patients would receive the advantage of the best available advice and treatment. This could be carried out under the Public Health Acts by co-operation between the local health authority and the large voluntary hospitals. The hospitals would, of course, recover the cost of treatment from the health authority. Such co-ordination would be of the greatest benefit to the patients, to the hospitals, to medical science, and to the training of students and nurses. The other point that he wished to make was that the State provided a medical service for those who were unable to pay for treatment, but there was a large class above those who could claim free treatment who could not, on account of their limited means, pay the usual medical fees—either for prolonged illnesses or difficult operations or even special diagnoses—for whom something might be done. There had been a great change in the position of hospitals during recent years. The development of hospital treatment as against home treatment was constantly increasing; the difficulty and expense of modern methods of treatment, combined with the dependence of those methods on skilled nursing, had made it practically impossible for them to be carried out at home. He mentioned these points in the hope that they might receive serious consideration. Proceeding, Sir Edward said that Monkstown Hospital had done most useful work, and it was surprising that so many cases should have been treated in such a small hospital. The remarks that he had just made about small outlying hospitals in the country did not apply to the Monkstown Hospital, which had a very large staff of honorary and consulting physicians and surgeons. He had referred to small hospitals with, perhaps, one medical officer and, possibly, forty or fifty beds. He was glad to see that in Monkstown Hospital wards were provided for people with limited means. In the financial part of the report there was one item which greatly pleased him—that was the provision for nurses' pensions. The money spent in Monkstown Hospital had been well spent; such a hospital was a tremendous asset to the district. He hoped everyone would realize his responsibility in regard to it.

**Vaccination Bill in the Dail.**

A resolution recently adopted by the executive committee of the Irish Medical Committee with regard to the Vaccination Bill now before the Dail states that the executive committee has learned with anxiety of the proposal to permit exemption from compulsory vaccination on the plea of conscientious objection. In the opinion of the committee any tampering with the compulsory action of the vaccination laws would be likely to render the laws nugatory, and to expose the population of the Irish Free State to the grave danger of an epidemic of small-pox. The danger was all the greater because of small-pox now being rife in England, a condition which had been brought about by the very step which it was now proposed to take in the Irish Free State.

**Education of Mentally Defective Children.**

At the meeting of the Belfast City Council held on May 1st the School Medical Services Subcommittee of the Belfast Education Committee recommended that the principal committee should draw the attention of the Ministry of Education to the necessity for the establishment in Northern Ireland of an institution where mentally defective children, ordinarily resident in Northern Ireland, might be educated.

**A Medical Officer's Resignation.**

At the same meeting of the Belfast Corporation attention was drawn to the resignation of Dr. R. McCulloch as assistant medical officer for tuberculosis. The chairman of the Tuberculosis Committee said that Dr. McCulloch could not

see his way to comply with a provision that he should record his time at the institute by means of the "clock" instead of by entering his signature in a book. The regulation had been approved by the corporation, and other members of the institute staff had complied with it. There had been discussion about it, and opinion was divided. The resignation was accepted.

## Correspondence.

### CYCLICAL VOMITING AND APPENDICITIS.

SIR,—Cases of cyclical vomiting in children frequently develop symptoms suggestive of acute appendicitis. There is danger of hurried resort to operation with the great risk attending upon general anaesthesia in the presence of acidosis.

A simple test can be used which will often decide for or against operation. Having observed the relief of distress and the relaxed condition of the patient's limbs and abdominal wall following an attack of vomiting in a severe case of cyclical vomiting some years ago, I used emesis, produced by giving the same child two tumblers of water to drink, in a subsequent attack accompanied by fever, with pain and rigidity in the right iliac region. The child vomited promptly, and at once the resistance over the appendix was felt to have disappeared. The child died soon after operation for appendicitis, performed a few months later during my absence from town.

Shortly afterwards another severely ill patient was saved from operation through the use of the same manoeuvre, and made a good subsequent recovery on strict diet with alkalis. During the last week one of my students used the emesis test on a case sent into the Kingston General Hospital for immediate operation, with a similar result. A full clinical examination revealed the acidosis and the true condition.

I have not met with any mention of this method of diagnosing the presence or absence of appendicitis in this class of case, and apparently it is unknown to many. It seems worth while recording, so that full trial may be made of it. It may be well to remember that in these days of safe and successful surgery there are conditions where the necessary anaesthesia may lead to death.—I am, etc.,

THOMAS GINSON,

Professor of Pharmacology and Therapeutics,  
Queen's University, Kingston, Ont.

April 23rd.

### DEAD AND INFECTED TEETH.

SIR,—In your issue of April 28th (p. 731) Mr. C. Jennings Marshall very rightly draws attention to the importance of Mr. A. P. Bertwistle's article on dead and infected teeth (April 7th, p. 589). In his desire to emphasize this he closes with the rather sweeping statement, "The stopping of teeth in which the pulp cavity has been infected is a surgical heresy, and I would like to put forward the suggestion that it is the duty of the medical profession to discountenance the procedure."

May I be allowed, for a definite reason, to repeat very briefly one or two of the facts having a bearing on the opposite side of the question?

"Teeth in which the pulp cavity has been infected" must include not only those in which the pulp has died from infection, not only those in which the pulp has been killed by the dentist owing to its involvement in the carious process and inevitable infection, but also, according to recent bacteriological work in America, a considerable proportion of filled teeth in which the pulp still reacts, although sluggishly, to the ordinary vitality tests, which produce no local signs or symptoms whatsoever, but which have been proved in a certain number of cases to have caused rheumatoid conditions that have cleared up on removal of the degenerating pulp and its replacement by a properly inserted filling. Mr. Jennings Marshall must therefore be prepared to recommend the extraction of all dead and a proportion of living filled teeth.

There is an old observation on this subject which will

bear repetition, to the effect that the doctor examines the mouths of a small proportion of the population, mostly sick; the dentist those of a large proportion of the population, mostly in good health. Why should the former, on the strength of what he sees, condemn the dentist to a policy of wholesale extraction, the effects of which, in mutilated mouths, spacing of the teeth and consequent interstitial caries, traumatic occlusion and consequent pyorrhoea, faulty mastication and consequent chronic indigestion, he is unlikely to see or realize?

In America, where the importance of Hunter's teaching was admitted and acted on more quickly and more wholeheartedly than in more conservative Britain, a policy of 100 per cent. extraction of dead teeth was the almost immediate result. A careful study of the dental literature of recent months clearly points to a gradual but progressive return to a middle course based on more careful selection of cases for root canal work, and in face of the brilliant and devastating bacteriological studies of Rosenow, and the voluminous, if less convincing, work of Weston Price. In the *Journal of the American Dental Association* for January, 1928, Coolidge reports a series of 147 carefully selected cases for root canal filling, showing 3 per cent. failures, 19 per cent. where there was still a slight element of doubt as to the ultimate success, and the remaining 78 per cent. undoubtedly successful.

In advancing these points I have no wish to belittle the dangers of infected teeth, and until a solution of the problem has been found these dangers cannot possibly be over-emphasized; but a policy of 100 per cent. extraction is a policy of despair which, recommended blindly by the medical profession, can only retard and impede progress towards that refinement of diagnosis in the choice of suitable cases for conservative treatment, and that development of technique in root canal therapy, which provide the only real way out of the present position.—I am, etc.,

Brussels, May 1st.

T. DUNCAN GOULD.

### INHERITANCE OF MENTAL DEFECT.

SIR,—Any editorial pronouncement in the *British Medical Journal* of necessity carries such weight that I am tempted to invite your attention to the annotation in your issue of April 21st (p. 680) on sterilization of the feeble-minded in Alberta, where this sentence occurs: "Scarcely any fact is more securely established than that it is only a small, almost negligible, minority of mentally defective persons who are the offspring of parents themselves certainly mentally defective." On the other hand, I read in a paper on heredity of feeble-mindedness by H. H. Goddard, Vineland, N.J. (reprinted from the *Eugenics Review*, April, 1911), with regard to one single family, "Since this was written this family has been further investigated, with the result that we now know the facts concerning 319 members, of whom 119 are feeble-minded, with only 42 known to be normal." Can you assist me in reconciling the two statements?—I am, etc.,

Bristol, April 30th.

D. S. DAVIES, M.D.

\*\* The two statements to which Dr. Davies directs attention are not contradictory. It is true that where both parents are mentally defective the offspring are almost certainly mentally defective also, and that even where one parent only is mentally defective, some of the offspring are likely to show the same characteristics. Nevertheless, it is true also that in any generation only a small proportion of mental defectives are the children of parents who themselves are certainly mentally defective, the overwhelmingly larger proportion being the children of apparently normal parents, of "carriers" who themselves are normal, or of those who suffer from mental or nervous instability or from psychoneuroses or a mild degree of mental abnormality not certifiable. It follows that, for the purpose of cradling or preventing the spread of mental deficiency, the sterilization of a small number of feeble-minded persons would be ineffective. Attention may be again directed to the pamphlet on *Sterilization and Mental Deficiency* published by the Central Association for Mental Welfare.



## ERYTHEMA NODOSUM AND TUBERCULOSIS.

SIR,—Dr. W. Camac Wilkinson, in his article entitled "The affinities between rheumatism and tuberculosis" in your issue of May 5th (p. 749), makes particular reference to the association of erythema nodosum with tuberculosis. He goes so far as to say, "... I have not once seen erythema nodosum apart from tuberculosis." That the association of the two conditions is a very close one is evident from the fact that, from a clinical standpoint, it can be demonstrated in fully 20 per cent. of cases of erythema nodosum, if a careful physical examination is made, and if the after-history is followed up. I reported a series of such cases in the *British Medical Journal* of April 25th, 1914 (p. 909), and in a book, which is at present in the press, I have added reports of many others.

It does not necessarily follow from this that erythema nodosum is a tuberculous disease; indeed, in the great majority of cases even the use of tuberculin has failed to prove this—a failure resulting possibly, as Dr. Wilkinson remarks, not from the tuberculin, but from the administrator. He says that histologically the lesions of erythema nodosum cannot be distinguished from rheumatic lesions of the skin. Personally I have no knowledge of the histology of rheumatic skin lesions, but I have on several occasions excised erythematous nodes, and the histology of mature nodes is identical with that of tuberculosis in epithelioid and giant cells.

My own view is that erythema nodosum is a specific fever which leaves the patient unduly susceptible to tuberculosis. Whatever the explanation may be, however, Dr. Wilkinson has served a most useful purpose in drawing attention to the association of the two conditions, for many lives are wrecked or sacrificed by failure to take precautions after erythema nodosum, a disease which is still generally regarded by the profession in this country as a mild cutaneous disorder demanding little or no attention.—I am, etc.,

Clifton, Bristol, May 5th.

J. O. SYMES.

## THROMBO-PHLEBITIS MIGRANS.

SIR,—The subject of thrombo-phlebitis migrans, discussed in your issue of April 7th (p. 586) by Professor T. Gillman Moorhead and Dr. Leonard Abrahamson, and continued in your issue of April 21st (p. 690) by Dr. Owen, has interested me very much, as lately I have had five cases of this condition.

In Professor Moorhead's article the authors stress the conspicuous absence of embolic symptoms, in spite of their patients' habits being most favourable to an embolus. They note subacute occurrences, and have been at pains to show that the blood cultures were sterile; they state also that the various treatments used had no apparent effect on the course of the disease. Of the four cases quoted in this article, one patient had had a previous illness, one had an injury, and two were persons of middle age who were apparently in robust health.

In Dr. Owen's communication this condition is recognized as occurring in the presence of an influenza epidemic, in proximity to operations, and in confinements. It would therefore appear that there is no specific relationship between this condition and micro-organisms, but it must be primarily regarded as resulting from the general state of the patient, who is affected later by some infection or chemical changes which temporarily lower the general resistance.

There is one factor common to all these conditions, and that is the state of the soil (that is, the patient), which when exposed to a further strain, as by an infection or an anaesthetic, evinces one common result manifested by thrombo-phlebitis. The changes which lead up to the result—namely, a thrombosis—are obviously primarily concerned with the state of the blood, and that is the one common cause; and I submit that the true explanation is arrived at by the work of Mr. J. E. R. McDonagh, and plainly put forward in volume 2 of *The Nature of Disease* (p. 289) and in an article by him in the *Lancet* of April 16th, 1927 (p. 845), in which thrombo-phlebitis migrans is fully discussed.

The state of the blood being the real cause of the manifestation of a thrombo-phlebitis explains at once how it is

that the original thrombus occurs—which may be in a superficial vein in a limb where it is evident, a deep vein in a limb where it gives rise to physical signs as in enteric fever, or in a viscus where it is seen *post mortem* as an infarct—and that thromboses may be multiple and recurring, thus giving rise to the condition of so-called thrombo-phlebitis "migrans." As long as the blood remains in the condition of dehydration and liable to gelation, so long are thromboses likely to occur, and do so in any part of the body. That the condition in the lungs should be caused by a detachment of a clot from a vein lodging in a branch of the pulmonary artery is ruled out by the fact that the affected area in the lungs does not always correspond with the area supplied by one vessel, and, moreover, that in some cases where the affection is widespread, involving the whole of an upper lobe, the embolus would have to be of a very considerable size, and, furthermore, thrombosis here may be primary.

The treatment in all my cases has been the same as that carried out and described by Mr. McDonagh in his article in the *Lancet*, and has been successful in all. In some cases I have noticed that after the first injection of sup 36 there has been some pain locally at the site of the thrombus in vessels in the leg.

It is only natural that in an influenza epidemic, where a large number of patients are affected, some of those would be in such a primary condition as to develop a thrombosis owing to the superadded infection. In post-operation cases it is due to the anaesthetic, and in pregnancy it is most likely to occur in women who have albumin in the urine, and who are in a debilitated condition and affected by oral sepsis.

The points I wish to emphasize are that this condition is not due to any specific organism, and, as such, cannot be regarded as primarily a bacterial infection; that it is encountered as a sequel to various diseases and injuries; that it depends more on the condition of the patient than on any other factor; and that the idea that subsequent thromboses are due to the detachment of emboli cannot be any longer seriously considered.—I am, etc.,

Docking, Norfolk, April 26th.

W. W. JEUDEWINE, M.D.

## EFFICACY OF TUBERCULIN.

SIR,—The views expressed about tuberculin are somewhat opposed, but can be summarized as follows: (1) It is dangerous. (2) It is useless or no better than ordinary treatment. (3) It is useful, but especially so if some particular preparation is employed. (4) That those who practise tuberculin do not employ "controls," and, therefore, they cannot gauge the value of their treatment as compared with other methods.

(1) Tuberculin is certainly dangerous if used in unsuitable cases and in the wrong doses. Dr. Crofton (April 7th, p. 611) rightly says: "It is easy to kill any patient with strychnine, it is easy to kill a tuberculous patient with overdoses of tuberculin; but no physician kills patients with strychnine, and no patient is killed by tuberculin given in proper doses." In my opinion no one should attempt the tuberculin treatment of advanced cases of tuberculosis without first undergoing a course of instruction at an institution where tuberculin is systematically given.

(2) I went to Dr. Camac Wilkinson's clinic as an absolute sceptic some six years ago, but gradually became convinced that in his hands, at any rate, tuberculin is the remedy *par excellence* for tuberculosis. What struck me was that, without any medicines, the general health of the patients seemed to be better than that of those treated on ordinary lines. I was so impressed that I started a tuberculin clinic in my own hospital, which I have carried on ever since. I have had excellent results in early tuberculosis and asthma. In open tuberculosis I can only describe my results as "fair."

(3) With regard to the special value of particular preparations I cannot speak much from personal experience, but all tuberculins appear to act in the same way. This is confirmed by the phenomena of the tuberculin reaction, which are similar whatever tuberculin is used, the only difference being in the degree of the reaction, which varies with the toxicity of the preparation. It seems to me,

therefore, that a knowledge of *when* to use it and *how* to use it is more important than the selection of a particular antigen.

(4) It is more difficult to make a comparison between cases treated by tuberculin and by ordinary methods than would be supposed. Attempts have been made to compare the mortality amongst those who have had tuberculin and those who have not. In order to convince the non-believer in tuberculin, statistics have been chiefly confined to the cases with tubercle bacilli in the sputum. Now tuberculin, to be of real service, should be used in the early stages before the bacilli have appeared in the sputum. Even in the later stages, however, it would appear from the comparatively few cases that have been recorded that life can be prolonged by tuberculin in a certain percentage of cases. In the earlier stages the diagnosis cannot be made with certainty without the use of tuberculin and skiagraphy. If the former shows hypersensitiveness and the latter indicates activity the condition is certainly tuberculous. Even if there are no radiographic changes and no abnormal physical signs, and yet there are symptoms of early tuberculosis, the physician who uses tuberculin will be on his guard if he gets a strong positive reaction with it. He will not necessarily treat such a patient with tuberculin, but if that patient is not progressing favourably under ordinary methods he certainly will do so. To produce statistics which will convince the unbeliever is, however, difficult, for he cuts the ground from under one's feet by saying, "Everyone reacts to tuberculin," which is, of course, a half truth, and depends on what is meant by a tuberculin reaction. The comparison with "controls" is not so easy as it sounds.

In my hands I find:

1. That children thrive on tuberculin.
2. That in adults (provided they are afebrile and there are no tubercle bacilli in the sputum) the more sensitive they are to tuberculin the better are the results.
3. That cases exhibiting much fibrosis do not benefit greatly.
4. That in tuberculous asthma it acts almost as a specific.
5. That in open tuberculosis it is wisest to send the patient to a sanatorium till the condition has become stabilized, but, on his return, it is well to keep up his general health by means of cautiously administered tuberculin.

—I am, etc.,

London, E.C., April 20th.

F. E. GUNTER, M.D.

#### MEDICAL AUTOGRAPHS.

SIR,—I am endeavouring to compile a list of medical societies or institutions that possess a collection of medical autographs, my purpose being to encourage this method of perpetuating the memory of those pioneers of medicine who have for the most part passed beyond the Veil, but whose names live as the benefactors of mankind.

The extensive collections that are possessed by the Royal College of Physicians, the Royal College of Surgeons, the Royal Society of Medicine, and that more recently acquired by the British Medical Association, are familiar to me, but there must be many other professional societies both at home and abroad that have recognized the historical interest of such literary memorials, especially when associated with an album of portraits. I shall be grateful if such societies will furnish me with some particulars of any collections they possess.—I am, etc.,

Hinton Firs, 15, Gervis Road,  
Bournemouth, May 3rd.

JAMESON B. HURRY.

#### The Services.

##### ROYAL NAVAL VOLUNTEER RESERVE.

THE KING has approved the award of the Royal Naval Volunteer Reserve Officers' Decoration to Surgeon Commander T. B. Dixon, M.S.

##### DEATHS IN THE SERVICES.

Lieut.-Colonel William Mawer James, R.A.M.C.(ret.), died at Ottawa on January 31st, aged 79. He was born in Jersey on August 14th, 1848, and took the Edinburgh double qualification in 1873. Entering the army as surgeon on September 30th, 1875, he became surgeon lieutenant-colonel after twenty years' service, and retired on February 3rd, 1897. After retirement he was employed successively at Beverley in 1897, at Hythe from 1898 to 1908, and at Guildford in 1908-09.

#### Obituary.

##### THOMAS VILLIERS CROSBY, M.D.,

Consulting Physician, Leicester Royal Infirmary.

We regret to record the death of Dr. Thomas Villiers Crosby, honorary consulting physician to the Leicester Royal Infirmary, who died at Leicester on April 26th, after a prolonged illness.

He was a son of the late Mr. James Crosby of Burlescombe, in East Devon, and was a pupil at Blundell's School, Tiverton. He received his medical education at University College Hospital, London, and graduated M.B.Lond. in 1894, proceeding M.D. in 1903. After holding for a short time a resident appointment at University College Hospital he commenced practice in Leicester. His connexion with the Leicester Royal Infirmary began in 1902, when he was appointed honorary assistant physician; he subsequently became honorary physician, and was still attached to the infirmary in a consultative capacity at the time of his death. In 1908, on the organization of the Territorial Force, he received a commission as major in the Royal Army Medical Corps, being appointed to the 5th Northern General Hospital, with which he served throughout the late war. At one time he held office as president of the Leicester Medical Society. His main interest was always in his profession, but in the years before the war he served for a period as a member of the Leicester Board of Guardians, and he was also associated with the Masonic organization as an office bearer. Dr. Crosby is survived by his widow and by two sons, one of whom, Dr. G. J. V. Crosby, is in practice at Bushby, Leicestershire.

A colleague, "A. V. C." writes: The long and sad illness of T. V. Crosby has been a source of sincere regret to his many medical confreres in Leicester, and his death came as something of a relief in that he had been spared further suffering. It was a sad chain of events. He was for years a very successful practitioner and, thoroughly weary, he retired at Christmas, 1926, hoping to enjoy a well-earned rest. In the course of a few weeks he became aware of a serious malady affecting him; with his medical friends he discussed critically the probabilities of any relief from an operation. He underwent it, however, only to learn that any radical treatment was impossible, and he obtained very little relief. His bearing in that illness was characteristic of the man; he maintained his imperturbability, so prominent during his active professional life, with its many anxieties and difficulties, even when he himself was the victim of circumstance. For more than twenty years he was an honorary physician to the Leicester Royal Infirmary, a loyal colleague, and a conscientious worker. He was always ready to give a helping hand to others, and always perfectly willing to assist in anything which might help in the smooth running of the medical wards. His kindly disposition endeared him to everyone. He had many friends, enjoyed being in company, and was fond of sport, but in recent years his work monopolized his whole time and he found little chance of recreation. Country bred, he lived his active life in a large town, but his tastes were simple; he cared nothing for show, and his sympathies were broad. Such characters are the most laudable members of our profession, and the memory of T. V. Crosby will be cherished alike by patients and colleagues.

##### THE LATE DR. JAMES WHEATLEY.

DR. CHARLES PORTER writes from Johannesburg:

"May I be permitted a word of sincere appreciation of my old friend James Wheatley, the announcement of whose passing, though I knew recently that he was ailing, was quite unexpected. I first met him on my transfer from East Kent to Stockport early in 1892 (some thirty-six years ago), and frequently thereafter at the excellent and pleasant meetings in Manchester of the North-Western Branch of Medical Officers of Health Society; and we also foregathered annually at various congresses. Wheatley's charming personality and characteristic modesty were very engaging, whilst his fairness of outlook and sound judgement made discussion with him a very helpful privilege.

When, in 1902, I resigned the post of county M.O.H., Shropshire, to come out here as M.O.H., Johannesburg, I could think of no one better suited in every way for the Shropshire appointment than he; and it was a source of particular pleasure when he applied and was selected for it. For "those who cross the sea" the attenuation of old interests and valued friendships, even with men such as Delépine, Wheatley, Niven, and many others, is inevitable, but keenly regrettable; regular correspondence soon flickers and dies. But in 1926 (just after my retirement as M.O.H., Johannesburg) Wheatley wrote me, at considerable length, from his pleasant garden in Shrewsbury, a very interesting letter about his work in and plans for the county, and his contemplated withdrawal before long from active official life; but, characteristically, he said little about himself, and I did not then gather that he was failing. My hope of meeting him again in that Shrewsbury garden is gone; but one is indeed glad that he lived to enjoy the well-earned recognition by his confreres of the excellence of his life's work, and the expression of their high personal esteem, when they honoured him by election as president of the Society of Medical Officers of Health, an honour he was destined to enjoy for all too brief a time.

Dr. SANGER BROWN, whose death at the age of 76 is reported as having occurred at Chicago on April 1st, was a well-known neurologist. He was from 1892 to 1897 professor of medical jurisprudence and hygiene in Rush Medical College, Chicago, and was also professor of clinical neurology in the College of Physicians and Surgeons, Chicago. We are indebted to Sir EDWARD SHARPEY-SCHAFER for the following details. Dr. Brown came to London as a young man and worked with me in 1886-87 in the University College laboratory on sensory localizations in the brain of the monkey. Our joint work was published in the *Philosophical Transactions*, 1888. The main result was to show that the cerebral centre of vision lies in the occipital lobe—occupying in the monkey the whole of that lobe, but as regards central vision being chiefly concentrated on its inner surface. Previously it had been held (by Ferrier, Gower, and others) that the angular gyrus represents the cortical centre for vision; but in the joint work above alluded to it was proved that this gyrus could be removed without any effect being produced on vision. It was also shown that appreciation of sounds is not confined in the monkey to the first temporal gyrus—the part which, when stimulated, causes pricking of the opposite ear and movement of the eyes to the opposite side—for not only could this gyrus be removed, but all the rest of the temporal gyri could be destroyed or removed on both sides of the brain without any marked impairment of hearing. This was also contrary to the generally received doctrine which postulates that the appreciation of sounds is confined to the cortex of the temporal lobe and is chiefly situated in the first temporal gyrus. On his return to America Dr. Brown continued for a time to carry on experiments on the monkey's brain, but the time occupied by these experiments proved incompatible with the claims of a growing practice, and he had reluctantly to relinquish them. Of late years he practised entirely as an alienist, having been for twenty-three years head of a large mental sanatorium at Kenilworth, a few miles north of Chicago.

We regret to announce the death of JOHN DONAL CARROLL, M.C., M.D., medical officer of health for Cork, who died recently at the early age of 38. Dr. Carroll, who was the fourth son of the late Vincent S. Carroll, Dundalk House, Dundalk, studied medicine at University College, Dublin, and graduated M.B., B.Ch., B.A.O. in 1913. He received a commission in the R.A.M.C. in August, 1914, and served in Gibraltar, Malta, Egypt, and France, and won the Military Cross in April, 1917, for attending the wounded at an observation post, although the enemy continued to concentrate heavy shell fire on it. During the attack on Ypres in August, 1917, his dressing station was blown up, and though he was not wounded he suffered severely from shell-shock. He later served with the Army of Occupation until 1919. After leaving the R.A.M.C. he

decided to specialize in public health work, and in September, 1920, he obtained the D.P.H. and graduated B.Sc. of the National University of Ireland in public health, both with first-class honours; he was the first in Ireland to obtain the latter distinction. He then served for some time as school medical officer under the London County Council. In August, 1922, he was asked by Dr. M. R. J. Hayes to organize the sanitary work of the Free State Army, and he held the post of chief sanitary officer in the Free State Army until September, 1925, when he was awarded a Rockefeller Fellowship for the purpose of studying public health work in the United States. He studied at Johns Hopkins University, and obtained the Doctorate of Public Health. He was the first medical officer of health appointed under the new Free State scheme, and took up work in Cork a year ago; he completely organized the public health work of the city, especially as regards tuberculosis and child welfare. He married in July, 1923, Shiela, daughter of Mr. J. J. Flynn of Dublin, and leaves one son and one daughter. He twice won the Free State Army golf championship, and during his university career twice represented University College, Dublin, in throwing the discus and putting the weight.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON May 7th the House of Commons read the Equal Franchise Bill a third time. Scottish Estimates for health, education, and agriculture were put down for May 8th, but progress was reported before they were discussed. On May 8th Mr. EVERARD obtained leave to bring in a bill to control the production, distribution, and sale of reconstituted and synthetic cream. He claimed that the bill was in the interests of public health; Dr. Vernon Davies was among its backers.

### National Health Insurance Bill.

ON May 3rd the standing committee of the House of Commons which is considering the National Health Insurance Bill considered Clause 14, which proposes to amend the provisions of the principal Act respecting the application of surpluses by approved societies. Sir THOMAS DAVIES moved to add "for the support of district nurses" to the purposes enumerated in the bill as those for which approved societies may make occasional subscriptions or donations out of their disposable surpluses. He said this addition would be valued all over the country.

Mr. RHYNS DAVIES said there would be strong opposition to the suggestion. Officials and members of approved societies objected to putting on the funds of the societies expenses which ought to come out of the local rates or from the Exchequer. Sir Thomas Davies's proposal was to take £1,000,000 or £2,000,000 from the funds of the approved societies and relieve the voluntary institutions of the country of the duty of collecting the money. This amendment, if passed, would compel the societies to reduce the £1 sickness benefit by 2s. 6d. or 5s., and hand over that money to an institution.

Mr. CHAMBERLAIN said that it was relevant to the amendment, which only concerned the granting of charitable institutions to which he was granting occasional subscriptions; it was not relevant to the surpluses of approved societies. He should not accept the amendment. A society could fairly argue that by an occasional donation to a district nursing association it would incur expenses which might become a charge on its funds. He said that district nursing associations were covered in the bill by authorizing gifts to "other similar institutions" which doubt had been expressed on that.

Mr. CHAMBERLAIN pointed out that the schedule of additional benefits which was appended to the bill already provided for the payment of the whole or any part of the cost of the provision of nurses for members. Under that an approved society could engage its own nurses. But if Mr. Chamberlain thought the amendment was an improvement he would not carry his protest further.

Mr. BRIANT said it was absurd for every society to think it could provide its own nurses. In many cases the medical man, who would perhaps only go to see a patient once a day, was of less service than the district nurse.

Mr. MELLER said the amendment was not a development of the additional benefit schemes. If there was sufficient money for a nursing scheme the society would come forward with one and the Minister would agree. The amendment was to meet the case where a society had already allocated the greater part of its surplus to other schemes and had a small amount over, which it might use for charitable purposes from time to time.

Dr. VERNON DAVIES asked whether the committee understood the distinction between district nurses and nurses. At present it was dealing with district nurses. District nurses visited patients once or twice a day. They were often run as charitable institutions, and he saw no reason why approved societies should not

be allowed to contribute a little toward their fund. All insured persons had a claim on the services of these nurses, whether they paid or not; they simply went on the recommendation of the doctor.

The amendment was agreed to.

Dr. WATTS moved to authorize the grant from the disposable surplus of subscriptions or donations for the provision of x-ray examinations in cases of fracture or suspected fracture. He said an x-ray photograph was necessary in the interest of the patient and of the doctor. In recent cases the courts had held that failure by a doctor to get an x-ray photograph rendered him liable to an action for damages if anything went wrong with the fracture. A panel doctor had no means of getting an x-ray photograph unless he paid for it. The Cheshire Insurance Committee and the Flint Insurance Committee, among others, had asked Dr. Watts to bring forward this claim. The cost would be trifling.

Sir KINGSLEY WOOD said anything that could be done to secure proper examination of fractures would be done if the finances of the societies permitted. The amendment proposed by Dr. Watts could not appropriately be inserted in the clause under consideration. If Dr. Watts merely wished to encourage hospitals which were doing x-ray examinations, the society could give them an occasional subscription. If he asked that the committee should provide for x-ray examinations, that should be considered under the first schedule of the bill, and could be discussed on an amendment in the name of Dr. Shiels. [This amendment proposes to insert the following new benefits: "The payment of the whole or any part of medical or surgical specialist services. The payment of the whole or part of the services of a midwife or medical practitioner in cases of confinement. Medical treatment or attendance for any person dependent upon the labour of a member."] Dr. DAVIES said he understood that insured persons were entitled to the best medical attendance.

Sir KINGSLEY WOOD said they were entitled to the attendance mentioned in the Act.

Dr. DAVIES said if a doctor did not make an x-ray examination he might miss a fracture altogether. If a doctor was not certain, how, under present conditions, could a patient obtain the best skilled attention?

Sir KINGSLEY WOOD said if the committee desired to discuss whether x-ray examination came within the duties of the ordinary medical practitioner or not, it must do so on another part of the bill.

Mr. BRIANT asked whether there was any part of the bill in which the committee could insert provisions to secure the payment of x-ray examinations.

Sir KINGSLEY WOOD said the question might be dealt with on the first schedule of the bill.

Dr. WATTS then withdrew his amendment.

Dr. DAVIES moved to provide that additional benefits should be administered by the society or branch of which the persons entitled to the benefits were members, except where the benefits were in the nature of medical benefits. He said this was a controversial subject on which, as he had retired from practice, he could speak for the medical profession in an unbiased way. Before the National Health Insurance Act of 1911 the lay committees of the friendly societies had got the idea that it was reasonable and proper that they should employ or engage medical men. When the national health insurance scheme was framed the medical profession as a whole had formed the opinion that, being members of a learned profession, it was not conducive to their dignity or position that they should be managed by a committee of lay people, particularly regarding medical treatment or medical benefit. The approved societies saw no reason why, under the national health insurance scheme, they should not have control of the doctors. The State intervened and made regulations by which medical men were not put under the power of the approved societies, which had never been able to get over their disappointment. There was even now a slight, veiled antagonism to the medical profession, and the idea that it was out to protect its own interests, irrespective of anything else whatsoever. The State, the approved societies, and the medical men should be co-operators, none superior to the others. The approved societies would have to recognize that they were one of three equal parties. The medical profession also had no desire to be superior to the approved societies, but most definitely would not work under them. The National Health Insurance Act, 1924, Section 75, Subsection 5, provided that where benefits were in the nature of medical benefit they should be administered by and through the Insurance Committee. He maintained that by that subsection the State recognized that medical men should not in any circumstances be placed under the supervision or control of approved societies on the question of medical benefit. It was now proposed to delete this subsection, the view of the Minister being that it was unnecessary or unworkable. The medical profession said that the subsection was a safeguard and should not be deleted, lest the approved societies should be able to re-establish the position, as regards additional benefit of a specialist or consultant character, which the profession thought had been ended by the Act of 1911. The profession had confidence in the Minister of Health, but he would not always occupy that office. The Minister might make regulations to ensure that the point would be safeguarded, but regulations depended on the personality of the Minister. The medical profession said the subsection was the only safeguard it had, and that the schedule of the bill relating to additional benefits would make possible the establishment by approved societies of ophthalmic clinics.

Mr. CHAMBERLAIN said that in his endeavour to avoid the difficulties caused by Section 75 (5) of the existing Act, Dr. Davies was creating fresh difficulties. Dr. Davies knew that administration by Insurance Committees of additional benefits in the nature of medical benefit was impossible, and he had cut it out, but he

did not say who was to administer these benefits. If the Minister was left to provide by regulation under Clause 14 (3) for the administration of these benefits, they would be administered by a joint body, on which the medical profession and the approved societies would be represented. They could rely on the good sense and fairness of Parliament to see that these regulations were not reversed.

Mr. HARNEY asked why the Ministry proposed to change the arrangement whereby approved societies administered additional benefits of a cash character and Insurance Committees those of a medical character.

Sir KINGSLEY WOOD said that Insurance Committees were not appropriate bodies to administer the new dental and ophthalmic benefits. So long as the subsection cited by Dr. Davies was in existence it was impossible for administration to be by a joint body on which approved societies and members of the medical profession would sit.

Remarking that he had made his protest, Dr. DAVIES withdrew his amendment.

Mr. RHYNS DAVIES moved to omit a provision regarding additional benefit which ran: "Regulations may be made with respect to the administration of schemes under this section and of any additional benefit, and with respect to the arrangements for the provision of any service or appliances towards the cost of which payment may be made by way of additional benefit; and any scheme providing for any additional benefit shall, except so far as the Minister may otherwise direct, have effect as if the regulations relating to the benefit were incorporated in the scheme, and the provisions of the scheme made subject thereto." He said he did so to secure information about the projected establishment of dental and ophthalmic clinics. The whole country could not be covered with clinics, nor could insured persons be compelled to attend them. He hoped clinics would be set up by approved societies in association. If the societies were only allowed to do so singly the large societies would alone be able to establish clinics. He assumed clinics would be established in Manchester, Liverpool, Glasgow, Cardiff, and London. The regulation to be issued should make perfectly clear that the insured person had freedom of choice, and should not be compelled to attend against his will. The dental profession had secured their status, and the antagonism between them and the British Medical Association was not as great as that between the medical profession and the people who practised optics. The panel doctor and the dentist had been definitely fixed into the national health insurance scheme, but an approved society did not at present compel an insured person to go to an ophthalmic surgeon, though some approved societies paid the expenses of an ophthalmic surgeon, who would give the patient a prescription to take to the optician who provided the glasses. The ideal would be to send every insured person to a qualified medical man who had specialized in eye diseases and for his prescription to be made up by an optician, but, as a member of the Departmental Committee which inquired into the registration of optical practitioners, Mr. Rhyms Davies thought that day was far distant. Did the Minister propose to allow the two systems to continue? Dr. Vernon Davies would say that there was a sufficient number of specialists in eye diseases, and that the Minister should lay down regulations whereby every insured person was first examined by one of them. The number of persons qualified to deal with the eye was about a thousand, and they were no more qualified than the best opticians. Even if there were a large number of specialists in eye diseases in the medical profession they would not live in the districts, such as the South Wales coalfield, where eye disease was most prevalent.

Dr. VERNON DAVIES approved generally of what Mr. Rhyms Davies said, but not that the best qualified optician was the equal of a qualified ophthalmic surgeon.

Mr. RHYNS DAVIES averred he had said the best qualified optician was as capable of providing a proper pair of spectacles as the ordinary medical practitioner who had not affected to be a specialist in eye diseases.

Dr. DAVIES said most general practitioners had no interest in the examination of eyes for spectacles. The British Medical Association said that there were in this country about a thousand doctors, experts in ophthalmology, who were prepared to work the scheme. The British Medical Association and the profession generally should be given their chance; the Minister should accept their offer to run the scheme.

Mr. HARNEY said that by the subsection under discussion any scheme formed by an approved society would be deemed to have incorporated in it regulations promulgated by the Minister. That would empower the Minister to say that persons receiving additional benefits must go to institutions or clinics set up by him.

Mr. CHAMBERLAIN said he had given a definite pledge to the House of Commons that a free choice must remain a feature of any scheme. To bind his successors he was ready to accept an amendment tabled by Mr. Whiteley which ran: "Provided that such regulations shall not restrict the right on the part of any insured person to obtain treatment from any practitioner, clinic, or other institution with whom arrangements with respect to that form of treatment have been made in accordance with the regulations."

Mr. MELLER asked if the Minister, before coming to a final conclusion with any professional body with whom he was negotiating, would submit the proposed terms to the Consultative Council.

Mr. CHAMBERLAIN said he was pleased to give that assurance. He added that he did not intend to authorize the setting up of a dental clinic by an approved society, managed solely by that society. These clinics were to be experimental, and managed by a joint body, representing both the professional classes and the approved societies. The question of the opticians and ophthalmologists was very important. Some defects of sight were not caused by mechanical alterations or faults in the construction of the eye,



but by disease. It was not always easy to decide whether eye trouble was due to disease or to a mechanical condition of the eye. It might always have existed or might have been caused by disease, and on that matter skilled advice was necessary. It seemed hard to say that a person should not go to an optician who was quite qualified to fit the patient with a glass which would correct his mechanical defect, when the patient could get that done much more cheaply in that way than by consulting an ophthalmic surgeon. On the other hand, he might, by doing so, commit a grave mistake, the consequences of which might even be fatal to his eyesight. He did not think it possible at this stage to lay down a general rule or regulation providing that every insured person who suffered from an eye defect must go to an ophthalmic surgeon first. There was not always a surgeon handy. It was not the intention of the regulation to attempt to enforce a practice which he did not think could actually be carried out, though it was the ultimate ideal at which they aimed.

Dr. FREMANTLE said he had been asked to speak by representatives of the Dental Service Association and of the British Dental Association. The experimental clinics mentioned by the Minister would be of great value. The Dental Association had feared a return to the old position where medical and dental clubs were run by approved societies, who made a profit out of the professional work and did not give proper attention to medical considerations. The medical profession would support the dental profession against such practices. The societies which had approached him suggested there was danger if any body of persons set up a clinic, and they would demand a voice in the management. They had to trust the Minister to ensure by regulations that the management gave weight to professional considerations and did not unduly consider the financial side. The Minister had made out a case for regulations the committee could not resist, but he wished the procedure could be improved to give the House of Commons greater facilities for supervising such regulations.

Mr. BRIANT said there was a difference between dental clinics and any other form of medical treatment. Panel patients as a rule seemed to enjoy going to see a doctor, and the master the medicine the more confident they were it would do them good, but there was difficulty in getting people to go to a dentist at all, and it would be still more difficult to get them to go to a clinic. People regarded a clinic as an institution where they had to line up, and as something quite different from going to their own private practitioner or private dentist, where they made an appointment and felt they got the kind of attention they would not get at a clinic. Yet if approved societies were to give large amounts from their surpluses for the establishment and maintenance of dental clinics, heavy pressure might be put upon patients to attend them. Mr. Briant wished that dental clinics could be removed from the list of establishments coming under the approved societies.

Mr. WOMERSLEY said he took it that, as in the past, the Minister was going to use opticians affiliated to the Qualified Opticians Council for supplying the glasses required. Some 4,000 opticians were properly qualified and recognized by the Minister for such supply, and 95 per cent. of cases of eye trouble were merely refraction cases or simply required eye testing. Qualified opticians feared the power to be given to the Minister would be used to destroy the existing arrangements, which had worked well.

Mr. BARKER suggested that the new regulations should provide that where an optician found eye disease he should send the case to a specialist.

Mr. MELLER said that if approved societies were to avoid heavy payments for ophthalmic treatment and deal justly with the insured people, there must be better co-operation between the medical profession and the societies—something different from the certificate which had been issued wholesale by practitioners throughout the country that the patient required to be examined by an ophthalmic surgeon. In half these cases the medical man could not have said what was the matter, and could not have justified the suggestion that the patient should go to an ophthalmic surgeon. If he spoke honestly he would have said the optician was in a better position to determine the matter. If the honest panel practitioner and the honest optician co-operated, not for self, but in the interest of those requiring treatment, then the funds at the disposal of the Minister and of the societies would provide that every genuine case went to the ophthalmic surgeon. Mr. Meller welcomed the suggestion of Dr. Davies that there should be co-operation between the societies and the doctors, but said the desire for co-operation was greater on the part of the approved societies than he had found it on the part of the medical profession.

Dr. SINCLAIR said he still had some anxiety about the sanctity of the free choice of dentist. He asked how the competition between the dentists connected with the clinic and those outside would be maintained.

Mr. CHAMBERLAIN said he could give no further assurance. Mr. RHYS DAVIES then withdrew his amendment, and Mr. Whiteley's amendment, as previously read out by Mr. Chamberlain, was added to the bill. Amendments moved by Mr. WOMERSLEY and Mr. BRIANT were negatived, and Clause 14 was added to the bill.

When the standing committee resumed on May 8th Dr. SHIELDS moved a new clause to amend the principal Act in the section dealing with maternity benefit by providing that Subsection (1) of Section 14 of the principal Act shall have effect as if the following words were added at the end thereof: "in addition to treatment and attendance by a duly qualified medical practitioner or by a duly certified midwife." He said that the money now provided for maternity benefit was not always used to provide attendance by medical men or midwives, and if the Minister could meet the

amendment he would gratify public opinion, which was perturbed at the fact that mortality in childbirth was not decreasing, and had remained practically the same for a hundred years.

Sir KINGSLEY WOOD said the whole committee would sympathize with the amendment, but he could not advise acceptance. The amendment would cost the national health insurance scheme £1,500,000, and would upset the finances of the whole scheme.

Dr. FREMANTLE hoped the approved societies would turn their attention to the subject. These societies often thought less of the medical needs of the population than of the cash needs of their members. If part of the cash maternity benefit of 40s. could be converted into a medical benefit, with the attendance of a qualified practitioner or midwife, the country would prevent many of the 3,000 or 4,000 deaths occurring in childbirth every year.

Dr. SIMES said the report of the Royal Commission showed that money could be got if certain arrangements were made. He trusted that the approved societies would take the matter into consideration. The first object of the Act was to give adequate medical attendance to the people. He begged to withdraw his amendment.

Mr. RHYS DAVIES proposed a new clause to add dental treatment and ophthalmic treatment, with the cost of optical appliances, as statutory benefits. At present societies with large surpluses could give these as additional benefits, while other societies could not. Was it possible to secure part of the surpluses of some societies in order to give these as statutory benefits?

Sir KINGSLEY WOOD asked where the money was to come from. The Royal Commission on National Health Insurance had calculated that the cost of a complete dental service would be £4,500,000 a year. Nothing approaching that sum was now spent as additional dental benefit. He could not accept the proposed clause. They could understand a member of the medical profession having no regard to the amount of money to be spent, but they expected more regard from an administrator of an approved society, as Mr. Rhys Davies was.

Dr. FREMANTLE protested against the reflection on the medical members of Parliament.

Mr. RHYS DAVIES withdrew his amendment and proposed another to provide that an approved society with branches separately valued should be entitled partially to pool its surplus in order to help branches with a deficiency. Had it been in order the Labour party would have proposed a partial pooling of surpluses throughout the country. Societies covering 1,500,000 insured persons supported his proposal.

Sir KINGSLEY WOOD said the proposed clause was supported only by societies with one-half of the total membership possessed by societies with branches. The Royal Commission made no recommendation in favour of the clause, nor did the Consultative Council. The Minister of Health had given the House of Commons a pledge that pooling would not be dealt with by the present bill. He trusted Mr. Rhys Davies would not press his proposal.

Mr. WHITELEY said they should now attempt to make the Act into a National Health Insurance Act. All these years since 1911 they had been tinkering at it, and it had never met the requirements.

The clause was rejected by 21 to 11.

Dr. WATTS moved to add to the statutory benefits under the principal Act "the payment of x-ray examinations, in cases of fracture or suspected fracture, when such examination is recommended by the insurance practitioner." That this was desirable was agreed by approved societies and local Insurance Committees. It was wrong that a panel practitioner should have to treat fractures without an x-ray photograph. This new benefit would cost very little.

Mr. RHYS DAVIES remarked that Dr. Watts would not have moved his amendment if it were not that the doctor who took the radiograph would be paid for it. He had not indicated what the fee would be. For every x-ray examination the doctor would get two or three guineas.

Dr. VERNON DAVIES said that seven or eight years ago the fee was half a guinea.

Mr. RHYS DAVIES said that if that were so the fee would be three guineas now.

Sir KINGSLEY WOOD said that to add this to the statutory benefits meant increased cost, and he could not advise the committee to accept the amendment.

The clause was negatived without a division.

The first schedule specifies the additional benefits which may be given by societies with surpluses. The first of these additional benefits is "an increase of sickness and disablement benefits." Dr. SHIELDS moved to add thereto "in the case either of all members of the society or of such of them as have any children or any specified number of children wholly or in part dependent upon them." He said this had appeared in the original Act, but had been dropped because it had never been put into use.

Sir KINGSLEY WOOD said that to reinstate this provision would be undesirable. It had been deleted at the recommendation of the Royal Commission. It did not provide for the dependent wife. If there were to be allowances to dependent children they should be introduced as part of a general scheme.

Mr. RHYS DAVIES opposed the amendment. Dependents' allowances were not insurance, but savoured of Poor Law relief. He objected to Acts advertising benefits under the scheme which could not be paid.

The amendment was defeated by 17 to 8, and the committee adjourned till May 10th.

Replying, on May 2nd, to Mr. Bromfield, Mr. CHAMBERLAIN said he was not prepared to allow regional medical officers' fees paid by approved societies to be charged against the benefit fund account instead of against the administration account. The fees were part of the administrative expenditure, and must under the Act



be charged to the administration account. He had no reason to think they could not be met out of that. They amounted on the average to less than a halfpenny per member per year.

During his statement on national health insurance in Northern Ireland (a statement made to the standing committee on the National Health Insurance Bill, and briefly reported in the issue of the *Journal* for May 5th, p. 777) Dr. SINCLAIR said the suggestion that Northern Ireland should be excluded from the common valuation under the national health insurance scheme would practically compel it to establish a health insurance scheme of a nature similar to that which existed in Great Britain. That would be an extremely complicated business, because the dispensary system, which had existed in Northern Ireland for several generations, would require to be remodelled by the establishment of medical benefits similar to those existing in England and Scotland. The Minister for Home Affairs in Northern Ireland had appointed a Commission to look into the affairs of Poor Law administration in that country, and a report had been furnished to the Government of Northern Ireland at the end of last year. The Minister of Labour in Northern Ireland acted for the Ministry of Health, and had adopted a medical referee system, of which the health societies availed themselves freely. The certification system in Northern Ireland left something to be desired, but the medical referee system now in force would soon help to correct any alleged irregularities of certification. He begged the committee to hesitate before accepting the amendment, and to give the Government of Northern Ireland time to remodel their local government services, and with them the dispensary system, thereby bringing Northern Ireland into line with Great Britain. Northern Ireland was far too small an area to support a national health insurance scheme of its own. The dispensary system that prevailed in Northern Ireland suited admirably the large agricultural areas, but it was not so much availed of in the industrial areas. If sufficient time were given, it might be that, in the long run, a new scheme of health benefits would be adopted in Northern Ireland.

#### Small-pox.

Answering Dr. Fremantle, on May 3rd, Mr. CHAMBERLAIN said the report of the Departmental Committee on Vaccination was being printed, and would be ready at an early date.

On May 3rd Mr. BROMFIELD asked what means were adopted by the officials of the Ministry of Health to determine whether samples of lymph contained vaccinia virus. Mr. CHAMBERLAIN said the methods adopted in pursuance of Article 8 in Part 1 (B) of the second schedule to the regulations were those of Calmette-Guérin, Gins, Sobernheim and Groth, which were recommended by the Small-pox and Vaccination Commission of the League of Nations. Mr. BROMFIELD asked what were the characteristic lesions due to vaccinia virus referred to in the Therapeutic Substances Regulations. Mr. CHAMBERLAIN said the characteristic lesions referred to were the production of the specific and characteristic vesicles on the rabbit's skin, inflammation with cloudiness and opacity of the cornea of guinea-pigs and rabbits, and local areas of infiltration of definite size and appearance in the case of the intradermal method. Mr. BROMFIELD further asked to what extent rabbits were used for the purpose of propagating lymph in the Government establishment; and when they were first brought into use for that purpose. Mr. CHAMBERLAIN answered that during the last six months the number of rabbits used was twelve. Rabbits for this purpose had been systematically used since 1902, and for two years previously in preliminary experiments.

Mr. BROMFIELD asked whether, in view recently published third edition of *Manual of Infectious Diseases* in regard to the various sources of vaccine lymph produced in the Government lymph establishment, Mr. Chamberlain would state what means were used by his officials for ascertaining whether the viruses obtained from so many different sources were identical in their character, particularly in view of the fact that no causal germ specific to vaccinia had been discovered. Mr. CHAMBERLAIN said the statement in the publication cited as regards the various sources of vaccine lymph appeared to refer to vaccine lymph in general, and not to the lymph used at the Government lymph establishment. The records showed that the lymph now used at the Government lymph establishment was derived from calf lymph originally obtained from Cologno, and the strain had since been carried on by repeated transference from animal to animal. In these circumstances the question of ascertaining whether different viruses were identical in character did not arise.

An outbreak of small-pox in Lichfield Poor Law Institution has been notified to the Minister of Health; it did not occur in the casual wards, which, with his sanction, have been closed since 1925.

#### Output of Morphine.

In an answer to Mr. Scrymgeour, on May 7th, Mr. LOCKER-LAMPSON said he was not aware that between 1921 and 1926 the world output of morphine increased from 30 to 60 tons. A statistical survey recently issued by the League of Nations gave the figures as about 30 and 40 tons respectively, but both figures were incomplete. The 1926 figure included quantities of morphine which were produced solely for transformation into non-dangerous products such as codeine. The quantity of morphine manufactured for sale as such was far smaller. In Great Britain the manufacture of morphine had shown a steady decrease during the last five years. Mr. Locker-Lampson said he was not aware that the Italian representative on the Advisory Committee charged

the British Government with concealing its drug exports. He called attention to the fact that the amount of raw opium returned by Great Britain as exported to the United States was less than the amount of raw opium returned by the Government of the United States as imported from Great Britain. This discrepancy was being examined by the two Governments. It was probably due in part to the fact that the returns related to different periods, the British being for the calendar year, the American from July to July, and in part to the fact that opium sold from Great Britain might actually be exported from Great Britain, but shipped direct from a foreign port to the United States. There was no reason to question the accuracy of the British official figures.

In a previous answer to Mr. Scrymgeour, on May 2nd, Sir AUSTEN CHAMBERLAIN denied that the British representatives on the Opium Committee of the League of Nations had opposed the efforts of the Italian representative to prevent the Opium Control Board being made independent of the League and representative only of the interested Government. The point at issue was the relation of the secretariat of the Board to the secretariat of the League, and the British representatives, with some other members of the Opium Committee, acted in the belief that the views they put forward gave effect to the intentions and provisions of the Opium Convention.

Lieut.-Commander KENWORTHY asked if Mr. Locker-Lampson was aware that the figures he had read out did not include one showing that the total world requirement for medicinal purposes was only 15 tons, and that at least twice as much was being manufactured. He asked why Parliament should not take drastic steps to prevent an excessive amount being manufactured and sent out by profit-making firms in this country. Mr. LOCKER-LAMPSON replied that for that reason the British Government had ratified a convention setting up a Board of Control.

*Treatment of Venereal Disease.*—Miss LAWRENCE asked Mr. Chamberlain, on May 3rd, the amount of grant given towards the treatment of venereal disease in the years 1921 and 1927, and the amount which local authorities had been informed was the maximum they would receive for the year 1927-28; the number of treatment centres for venereal disease in England in 1921 and at the present time; and the number of health authorities where no such centres were provided. Mr. CHAMBERLAIN replied that the grants paid to local authorities for this purpose amounted to £241,687 and £272,921 during the financial years 1921-22 and 1927-28 respectively. The maximum grant payable to these authorities in respect of the financial year 1927-28 was £286,763. There were at present 177 treatment centres in England, compared with 184 in 1921, the reduction being due mainly to the policy adopted in some large towns of concentrating the work of two or more centres in one centre, at which the facilities for treatment had been extended. Facilities for the treatment of venereal disease had been provided by all the local authorities responsible for this work, but in a few cases the treatment centres were outside the administrative areas of the authorities.

*Tuberculosis: Cost of Sanatorium Treatment.*—Mr. CHAMBERLAIN announced, on May 3rd, that the average cost of residential treatment in tuberculosis sanatoriums during 1926-27 was 49s. 3½d. per patient per week. The total sum spent in any year on sanatorium treatment proper was not separable from the amounts spent on other treatments of tuberculosis. Dr. VERNON DAVIES asked whether the accounts could be altered in future years to give the cost of sanatorium treatment. Mr. CHAMBERLAIN said it was difficult to separate sanatorium treatment from other treatment in residential institutions. Answering a further question by Captain BOURNE, Mr. CHAMBERLAIN said the tuberculosis schemes of all local authorities provided for the observation of patients discharged from sanatoriums. He had no figures to show the percentage of such patients who were permanently cured of tuberculosis.

*Procedure regarding Discharge of Certified Persons.*—Mr. RICHARDSON asked the Minister of Health, on May 3rd, if, according to a recent ruling of the Board of Control, the procedure under Section 49 of the Lunacy Act of 1890 for the examination of a certified person by two doctors with a view to discharge was now held to require that the two doctors, instead of visiting once each with an interval of seven days and giving an independent opinion, should visit the patient together on two separate occasions with a like interval of seven days; and whether he would introduce legislation at an early date to simplify and facilitate the procedure so as to place the opportunity for discharge conferred by this section within reasonable reach of the poor. Mr. CHAMBERLAIN replied that the ruling of the Board of Control was given after full consideration of the terms of the section. The point raised had been noted for consideration in the event of fresh legislation being introduced.

*Miners' Phthisis due to Rock-boring.*—On May 3rd Sir WILLIAM JOYNSON-HICKS, who was asked by Mr. GRENFELL about the extension of the schedule of industrial diseases to include men who contracted miners' phthisis while rock-boring in coal mines by compressed air machines, said the matter would have to be dealt with by a scheme under the Workmen's Compensation Act, 1925, and he had asked the Departmental Committee on Workmen's Compensation for Silicosis to advise as to the terms of a scheme. He had offered for this purpose to appoint to the committee two representatives of the industry on each side, but had not yet received the reply of the Miners' Federation. The disease was not notifiable, and no statistics were available, but its incidence, to a limited extent, in the coal-mining industry had been established.

**Duties of Registrars of Births and Deaths.**—On May 7th Mr. CHAMBERLAIN told Sir C. Oman that a registrar of births and deaths was required by regulations to report to the coroner every death which, on the information before him in the medical certificate or otherwise, was due to any one of certain prescribed causes or occurred in certain prescribed circumstances, and, pending consideration by the coroner, to defer registration and the issue of an authority for burial. He had thus no discretion to decide whether to report such cases or not. He (Mr. Chamberlain) was aware of no reason for apprehension that registrars of births and deaths did not discharge faithfully the duties of their office in those cases where they also held Poor Law office.

**Milk Production in England and Wales.**—On May 7th Mr. GUINNESS, in reply to Mr. R. Young, stated that the total amount of milk produced in England and Wales during the past two years, exclusive of milk fed to calves and pigs, but inclusive of milk manufactured into various products, both on and off farms, as well as milk consumed in liquid form, had been estimated as follows: June to May, 1925-26, 1,135 million gallons; June to May, 1926-27, 1,150 million gallons. "Certified," "Grade A (T.T.)," and "Grade A" milk constituted approximately 1 per cent. of the milk consumed as liquid milk. No reliable estimate for "pasteurized" milk was available. The terms "clean" and "purified" were not recognized as official designations; they were entirely relative terms, and the quantities of milk sold under them were unknown.

**Dysentery in a Prison Camp.**—On April 30th Mr. AMERY informed Mr. Renne Smith that his latest information on the outbreak of dysentery in a prison camp at Malaita was given in a reply to a question on April 17th. So far as his information went, only one of the natives was arrested by the end of October last. Arrests were still being made in February. The trials would ordinarily be conducted by the chief magistrate of the protectorate, but he had to leave the protectorate owing to ill health, and another judicial officer had to be sent to the protectorate from Fiji. He (Mr. Amery) proposed to await the report of the High Commissioner before deciding whether any inquiry by the Special Commissioner in regard to happenings between the arrest and trial of the prisoners was desirable. Until he received that report he was not prepared to enlarge the present scope of the inquiry.

**Insanitary Areas in Plymouth.**—On May 1st Sir KINGSLEY WOOD told Mr. Hore-Belisha that the Minister of Health had seen the report of the medical officer of health for Plymouth for 1927, in which he stated, with reference to the three insanitary areas which he scheduled in Plymouth more than three years ago, that it appeared almost incredible that the short, though necessary, formalities regarding his representation should still be incomplete and that matters should have advanced so little towards any definite end. A scheme dealing with one of the areas in question had been submitted to the Minister, and he had directed a public inquiry into the scheme. He was making inquiry as to the other two schemes. The report of the medical officer of health for 1927 stated that upwards of £100,000 was spent by owners of insanitary property in Plymouth on repair work during the years 1924-27.

**Rating of Voluntary Hospitals.**—Sir KINGSLEY WOOD, replying to a question, said that no complete statement of the amount of rates paid in respect of voluntary hospitals was available. In the opinion of the Minister of Health any proposal to de-rate voluntary hospitals must be considered in relation to similar claims made on behalf of other charitable and public institutions.

**Ethyl Petrol.**—Sir PHILIP SASSOON stated, on May 2nd, that ethyl petrol was used by high-speed aircraft during practice flights in the Air Service. The Royal Air Force had been experimenting for four years with this spirit, and had no evidence to show that it was more dangerous than ordinary spirit.

#### Notes in Brief.

In 1926-27 the gross expenditure on the school medical services was £151,695 and the receipts £66,010.

During the twelve months ended March 31st, 1928, 14,714 animals were cremated on account of foot-and-mouth disease, and 621 were buried.

During 1927 there were 1,028 fatal and 172,883 non-fatal accidents at mines under the Coal Mines Act, resulting in 1,128 deaths and disablement for more than three days to 173,449 persons.

In 1927 there were 48 fatal accidents in the Royal Air Force, with 55 deaths; in 1928, to April 24th, there had been 15 fatal accidents with 24 deaths.

The Minister of Health cannot reconsider the decision not to allow the use of sulphur dioxide in the treatment and milling of barley.

The birth rate for the administrative county of London in 1927 was 16.1 per 1,000. The boroughs with the highest birth rates were Shoreditch (20.7) and Bethnal Green (20.0).

At the beginning of April 2,685 maternity and child welfare centres were known to the Ministry of Health in England and Wales as against 2,575 a year previously.

Sir Kingsley Wood states that he cannot give an assurance that the proposed Local Government Bill will await the report of the Royal Commission on Local Government.

In Glasgow, on March 31st, the number of houses inhabited but certified unfit for human habitation was 3,007.

The governors of the Royal Veterinary College are endeavouring to obtain the necessary funds to rebuild the College, and the Ministry of Agriculture has promised a grant of £35,000 on a pound for pound basis.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

At a congregation held on May 3rd the following medical degrees were conferred:

D.M.—L. N. Jackson.  
B.M.—C. W. Flemming.

### UNIVERSITY OF LONDON.

#### UNIVERSITY COLLEGE.

In addition to those announced on April 28th (p. 740) the public lectures at University College, Gower Street, during the current term will include one by Professor Ross G. Harrison of Yale University, on "Modern trends in the study of animal development." The lecture, which will be given at 5.30 p.m. on Monday, May 21st, is addressed to students of anatomy, physiology, and zoology, and is open without fee or ticket.

### UNIVERSITY OF SHEFFIELD.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B. (Part I).—J. D. Gray, Bessie Hatherley, Thos. M.B., Ch.B.—W. H. Carlisle, A. Cohen, F. Ellis, R. B. Gould, Iris M. Moody, S. K. Pannikar, T. H. Pudar, L. Slesnick, J. H. Whitbourn.

\* With distinction in pathology.

† With distinction in anatomy, pathology, and pharmacology.

### UNIVERSITY OF DUBLIN.

#### TRINITY COLLEGE.

At the first summer commencement of Trinity Term, held on May 5th, the following medical degrees were conferred:

M.D.—W. R. Aykroyd, L. C. Brough.

### ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on May 1st, when the president, Dr. Robert A. Fleming, was in the chair.

Dr. James Thomson was introduced and took his seat as a Fellow of the College. Dr. John Howes McDougall and Dr. Anna Justina Augusta Wilson were elected Fellows.

Alfred Joseph Clark, Margaret Black Martin, David Taylor Mackie, Joseph Ryland Whitaker, and Mohamed Abd El-Hamid Gohar, were elected members of the College.

Dr. Robert Thun was elected a representative of the College on the Conjoint Committee of Management of the Triple Qualification. Dr. William Russell was elected the representative of the College on the General Council of Medical Education and Registration.

The Lister Fellowship was awarded to Dr. Charles G. Lambie, F.R.C.P., for his work on carbohydrate metabolism.

At an extraordinary meeting held the same day, Dr. Walter Tyrrell Beeson was elected a Fellow of the College.

## Medical News.

THE next session of the General Medical Council will commence at 2 p.m. on Tuesday, May 22nd, when the President, Sir Donald MacAlister, Bt., K.C.B., M.D., will take the chair and give an address. The Council will continue to sit from day to day until the termination of its business.

THE next quarterly meeting of the Royal Medico-Psychological Association will be held on Wednesday, May 16th, at the British Medical Association House, Tavistock Square, W.C.1, under the presidency of Dr. Hamilton Maw. The ninth Maudsley Lecture will be given, at 3.30 p.m., by Sir John Macpherson on "The new psychiatry and the influences which are forming it."

PROFESSOR W. E. DIXON will deliver a Chadwick public lecture on June 7th, at 5 p.m., in the Chelsea Physic Garden, on narcotic plants.

A MEETING of the Chelsea Clinical Society will be held on May 15th, at 8.30 p.m., at the Hotel Rembrandt, when Dr. J. H. Ruffel and Dr. O. L. De Wesselow will open a discussion on the clinical value of biochemical methods. The meeting will be preceded by dinner at 7.30 p.m., and after the discussion the annual general meeting of the society will take place.

At the meeting of the Biochemical Society to be held to-day (Saturday, May 12th), at 2.15 p.m., at the University of Birmingham, a number of communications will be made, including one by Mr. S. H. Edgar on the composition of the blood in acute rheumatism of childhood, and another by Messrs. E. M. Hume, H. H. Smith, and I. Smedley-Maclean on the biological examination of irradiated zymosterol for vitamin D.

At a meeting of the Royal Society of Tropical Medicine and Hygiene at 11, Chandos Street, W.1, on Thursday, May 17th, at 8.15 p.m., Dr. George W. Bray, medical officer of Nauru, Central Pacific, will read a paper on "Vitamin B deficiency in Infants: its possibility, prevalence, and prophylaxis." The paper will be preceded, at 7.45, by a demonstration to illustrate the subject.

THE London Clinical Society has arranged a clinical evening, to be held at the London Temperance Hospital, Hampstead Road, N.W.1, on Thursday, May 17th, to which all medical practitioners are invited. Cases will be shown from 8.15 p.m., and the chair will be taken at 9 p.m. Smoking will be permitted and refreshments provided.

At the meeting of the Royal Microscopical Society to be held in the Lecture Hall, 20, Manover Square, W., on Wednesday, May 16th, at 7.30 p.m., a communication will be made by Mr. G. F. Marrion and Dr. A. S. Parkes on the effects of infection and vitamin B deficiency upon the testes of the pigeon. The annual pond life and general microscopical exhibition will be held on June 6th, from 7.30 to 10 p.m.

THE annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 16th, at the Refectory, University College, Gower Street, London. An address will be given by Dr. A. W. Hooker, Wesleyan Mission, China, recently returned from West Africa. An intimation of intention to be present will be welcomed by the honorary secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

THE Midway Mission Hospital, Bethnal Green, which has now attained its jubilee, has recently completed the building of a new extension and the equipment of an x-ray department, and the formal opening of these additions will take place on Saturday, May 19th, on the occasion of the annual meeting and "pound day." In recent years the number of in-patients has doubled, and increased accommodation has therefore become necessary, not only for the patients, but also for the additional staff required. Out of £20,000 needed to complete the extension £13,000 has been given or promised, and a special appeal is now being made to secure the balance.

A POST-GRADUATE course commenced at the National Hospital, Queen Square, Bloomsbury, W.C.1, on Monday, May 7th; it will continue until Friday, June 23rd. The general course will consist of clinical lectures and demonstrations, teaching in the out-patient department, and pathological lectures and demonstrations. A course of lectures on the anatomy and physiology of the nervous system will also be given. Further particulars can be obtained on application to the dean of the Medical School.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on Tuesday, May 15th, at 2.30 p.m., there will be a clinical demonstration by Dr. Thomas Cotton at the National Hospital for Diseases of the Heart, and that on the same day, at 5 p.m. at St. Mark's Hospital, Mr. W. B. Gabriel will give a demonstration of cases illustrating diseases of the rectum. A demonstration will also be given on Thursday, May 17th, at 1 p.m., at the Royal London Ophthalmic Hospital, by Mr. Whiting. The first of four demonstrations on ante-natal diagnosis and treatment will be given at the Royal Free Hospital by Professor Louis Mellorey at 5 p.m. on Wednesday, May 16th. Arrangements for June include special courses in chest diseases at the Victoria Park Hospital, from June 18th to 30th; in diseases of children at the Children's Clinic, from June 4th to 16th; in gynaecology at the Chelsea Hospital for Women, from June 18th to 30th; and in neurology at the West End Hospital for Nervous Diseases, from June 25th to July 21st. Particulars may be obtained from the secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

At the meeting of the Society of Public Analysts held on May 2nd a communication on the separation of lead tetraethyl from solution in petroleum spirit was made by Messrs. F. W. Toms and C. P. Money. The method depends on the separation of lead ethyl sulphinate on passing sulphur dioxide into "ethyl petrol," and conversion of the deposit into lead sulphate.

THE Minister of Health has appointed Mr. A. B. MacLachlan to be a principal assistant secretary and Mr. M. Heseltine, C.B., to be an assistant secretary of the Ministry.

At a meeting of the council of the University of London Graduates' Association, held on May 7th, it was resolved to support the re-election as representative of the University in Parliament of Dr. E. Graham Little, M.P.

DR. LEWIS S. ROBERTSON, who has been appointed superintendent of the Pretoria General Hospital, has taken a prominent part in professional affairs in that city, notably as an officer in the local branch of the Medical Association of South Africa (British Medical Association). He received his early medical education at Capetown, and entered Aber-

deen University in 1913, but in October, 1914, joined the Scottish Red Cross and served in France for two years with that organization, subsequently holding a commission in the Royal Field Artillery. After graduating M.B., Ch.B. Aberd. in 1919 and obtaining the D.P.H. he returned to South Africa. Since 1922 he has been in practice in Pretoria.

WE have received the first number of a new scientific quarterly, published by direction of the Council of the Pharmaceutical Society, entitled the *Quarterly Journal of Pharmacy*. The four issues when bound into a volume for the year will represent the *Year-Book of Pharmacy*, which was first issued in 1870. The present volume contains an historical introduction by the President of the Pharmaceutical Society of Great Britain, and an account of the outlook in pharmacology and pharmacy by Sir John Roso Bradford, President of the Royal College of Physicians of London. Original articles include the pharmacological assay of digitalis by different methods, the composition and solubility of strychnine hydrochloride, the solubility and rate of solution of arsenious oxide *H.P.*, and a critical article on the oestrous cycle in the guinea-pig and the suitability of the uterus for the estimation of placental extract. The issue also contains abstracts of current literature. It should prove a very useful work of reference.

A MEDICAL congress will be held at Rio de Janeiro from July 15th to 19th. Further information can be obtained from the general secretary, Dr. Belmiro Valverde, Rua Sao José 84, Rio de Janeiro, or from Dr. Drugman, 18, Boulevard des Mondins, Monto Carlo.

THE eighth Italian congress of radiology will be held at Florence from May 14th to 16th, under the presidency of Professor Luigi Scilliano.

MESSRS. J. AND A. CHURCHILL announce for early publication two new volumes in the Recent Advances Series—*Surgery*, by Mr. W. H. Ogilvie, and *Disease of Children*, by Drs. W. J. Pearson and W. G. Wyllie.

ACCORDING to the census of 1926 the population of the Union of the Soviet Republics is 145 million as compared with only 104 million in 1897, so that in spite of the war, famine, and epidemics the population has increased by 40 per cent. in the last thirty years. During this period the number of urban dwellers has increased two-fold, while the increase in the rural population has been only 30 per cent.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM 9561, 9562, 9563, and 9564* (internal exchange, four lines).

THE TELEGRAPHIC ADDRESSES are:

EDITOR of the *British Medical Journal*, *Aitology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Miscroscop Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*); telephone: 62550 Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### INCOME TAX.

*Appointment: New Consulting Practice.*

"M.D." has sold his practice in Harley Street and is living in the country. He has obtained a part-time appointment under the Ministry of Health, the work being done at a town eight miles away, and hopes to get some consulting work. What expenses can he deduct?

\* \* \* The receipts from the appointment are strictly assessable according to the rules of Schedule E, and if that course is followed the expense of travelling between his residence and the place where the work is done is not legally allowable. By custom

such receipts are usually merged in a practitioner's general earnings for assessment under Schedule D, and the objection to the allowance of travelling expenses is then waived. Unfortunately, "M.D." has no fund of general earnings with which the appointment receipts can be merged, and in such circumstances the concession referred to would not apply. We can only suggest that when "M.D." is called upon for a return he should request that demand be left over until he has been twelve months in the new work, and that he should then make an inclusive declaration deducting all travelling expenses and other costs incurred in doing the work and ask for the matter to be dealt with on that basis. As the car will presumably be largely used for private purposes, it may be best to keep a record of the mileage driven for professional purposes and divide the total car expenses proportionally.

#### *Deduction for Residence.*

"W.S." explains that since his last year's return was made he has purchased his house. What can he deduct in the form of rent?

\* \* The same proportion as was previously applied to the rent paid should now be applied to the net assessment under Schedule A on which "W.S." now pays income tax as the owner of the premises.

#### *Value of Board and Lodging.*

"J.C.H." was engaged as a temporary assistant on terms which provided for free board and lodgings; he is not staying under his principal's roof, but the cost of his board, etc., is paid for him. Is he liable for tax on the value?

\* \* He is not liable on any advantage which is not received in money or in a form capable of conversion into money; on that principle and on the facts stated he is not liable for tax on the value of the board and lodgings. If "J.C.H." made a return for assessment including that value as part of his statutory income he can claim back the tax paid in error—or have it set against the next instalment due—but if he left the assessment to be made in the absence of his return and then did not give notice of appeal within the statutory period of twenty-one days, we fear he has no legal remedy.

#### *Motor Car Transactions.*

"N.W.J." bought an E car in 1924 for £350 and sold it in 1927 for £75—when the price of a similar new car was £280. In 1927 he bought a W.K. car for £575. What should he claim?

\* \* (1) Obsolescence allowance, £350-£75=£275—but it is possible to contend that the allowance should be £280-£75=£205. (2) Depreciation allowance 1928-29, £575 at 15 or 20 per cent.

"H.A.T." bought a 11.4 h.p. car in January, 1926, for £250 and sold it in January, 1928, for £100, buying a 12.24 h.p. car for £230. His accounts have been made up to April 5th each year. What allowances can he claim?

\* \* Obsolescence allowance as an expense of the year 1927-28, the out-of-pocket expense—namely, £230-£100=£130, and depreciation allowance for 1928-29, 15 or 20 per cent. on £230. One point should perhaps be mentioned—that is, that as there was a slight increase in horse power it might be contended by the revenue authorities that there was some measure of capital expenditure involved in the purchase of the second car. The difference is, however, so small that it is thought that that contention would not be pressed seeing that the second car cost less than the former one.

### LETTERS, NOTES, ETC.

#### *SALARIES OF MEDICAL WOMEN.*

"N.O." writes: Your correspondent "County Medical Officer" (April 7th, p. 612) mystifies me when, referring to the small salaries of women assistants in general practice, he concludes that "Such a condition of affairs must react unfavourably upon the whole profession, and the first to suffer will be the male members of the public health service." I ask myself repeatedly "How?" but fail to find the answer. I agree with him wholeheartedly that well-qualified women do work for their board only, and that the addition of £3 a week is a relatively princely emolument to many. I admire such women for their courage and tenacity in sticking at all costs and sacrifice to their calling. Let not "County Medical Officer" commiserate with them. After twelve months' hospital experience I was offered £150 per annum (out of which I had to pay for my own board and lodging in an insanitary two-roomed cottage in the village) to act as assistant to a distinguished retired colonel. He himself lived with his small family in a charming and roomy house. I had too high an opinion of myself, and refused this post. About the same time I was offered a post under a South Wales medical aid society at £350 per annum; acting on the advice of the Secretary of the British Medical Association I courageously refused. After further clinical experience I succeeded in obtaining a public health post at salary of £600 per annum. Having worked for three years and paid off my financial obligations to my parents and my old school, I married, and for this offence was obliged to

resign my post. My desire to get back into harness, to justify my years of hard study, amounts at times almost to an obsession; moreover, I seriously need the help that a reasonably paid post would provide for a war-disabled husband and a small family. But I know that the position is hopeless in the face of this appalling state of unemployment amongst medical women. I would go further than "County Medical Officer" in stating that "it reacts unfavourably," etc.; I would say that it is a disgrace to the profession, and calls for smart action by the Association as a whole, and the Women's Federation in particular. Let them rouse themselves from their case. The closing of the medical colleges to women at any rate will save many from bitter disillusionments in the future. At the same time I feel sure that the power of such as those who countenance with unconcern this artificial attempt to subordinate women in the sphere of medicine cannot ultimately prevail. And so "County Medical Officer" and his hypothetically out-of-work colleagues will not have to tremble for long.

"A.M." writes to express his agreement with the letter of "County Medical Officer" with regard to the remuneration of medical women. He thinks that steps should be taken to reduce the entry of women into the medical profession in view of the serious overcrowding, as illustrated by the fact that fifty or one hundred women apply for small appointments. He adds that these "student appointments" are supposed to be suitable for six months, but are actually retained for long periods by women who have been in practice for four or five years.

#### *FIVE GENERATIONS ATTENDED BY ONE DOCTOR.*

Dr. JAMES ADAM (Hamilton, Lanarkshire) writes: Dr. L. J. Hood's experience (April 21st, p. 703) of attending five generations in one family has also been mine for some years past. I am hoping I may attend the sixth.

#### *UNUSUAL PIGMENTATION OF SCALP.*

Dr. G. G. COOPER (Bel-Abbes, Algeria) refers to the report by Dr. D. I. Walker (February 11th, p. 243) of the case of a boy who had a patch of jet black hair on the right parietal and frontal region of the scalp, the hair otherwise being of a sandy, fair colour. Dr. Cooper remembers a similar well-marked case in a boy aged 12-14, whom he saw in Edinburgh about twenty-five years ago. This boy had pronounced red hair, with an oval patch of black as large as a hen's egg over the upper part of the right occipital area.

#### *COMMERCE IN RADIUM.*

With reference to an article under this heading which appeared on January 7th (p. 19), a correspondent informs us that, besides the known deposits mentioned therein, large deposits of uranium ore are now being developed in the Flinders Range in the Northern Section of South Australia. Extensive lodes of antimony and torbenite, not associated with any other metal or mineral, have been found, and radium element has been extracted from these ores at the Australian Radium Corporation's treatment works at Adelaide.

#### *THE "TRANSPARENT" CARD HINGE.*

The device which now bears this name, and which was formerly called the "M. H. S. Card Clip," is the invention of an English doctor and is manufactured by Messrs. Cooper, Denison, and Walkden, Ltd., St. Bride Street, E.C.4. It is designed to furnish a means of keeping index cards, notably those used in insurance practice, permanently grouped without the use of clumsy wire clips; by its use a number of cards can be quickly attached to one another to form a "book." Each hinge consists of a small double disc of strong light fabric, the two parts being united by a flange of stiteling and the inner surfaces of the discs being gummed, so that the edges of the cards may be fastened firmly between them.

#### *THE PETROL ENGINE.*

In *The Petrol Engine* the staff of the *Motor* provides motorists, mechanics, and others with a brief and clear account of the construction and use of the petrol engine. The descriptions of the various parts of the engine are simple, and the book is well illustrated, so that it is easy for one with no mechanical training to understand the working of his machine, whether it be a touring car, a motor cycle, or a commercial vehicle. The first chapter gives the history of the early development of the internal combustion engine. At the end there is a chapter describing the chief types of engine for petrol-electric lighting sets. The book is a useful addition to the Temple Press series of manuals for motorists. Its price is 3s. 6d.

#### *MOTOR TYRE MANUFACTURE.*

The Dunlop Rubber Company extends to any medical practitioner who is interested in motor tyre equipment an invitation to visit the works and see the manufacture of tyres in progress from the raw rubber to the finished article. Any reader who desires to take advantage of this invitation should communicate with the Reception Officer, Fort Dunlop, Erdington, Birmingham.

#### *VACANCIES.*

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 48, 49, 52, 53, 54, and 55 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 50 and 51.

A brief summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 211.



# A British Medical Association Lecture ON IMMUNIZATION AGAINST DIPHTHERIA, SCARLET FEVER, AND MEASLES.\*

DELIVERED TO THE HARROGATE DIVISION ON MARCH 17TH, 1928,

BY

S. MONCKTON COPEMAN, M.D., F.R.C.P., F.R.S.

## DIPHTHERIA.

THE outcome of Behring's researches on diphtheria, resulting in the introduction of antitoxin, constituted a great advance in the treatment of this disease, by affording the possibility of mitigating and even of aborting attacks; provided that the antitoxin is employed at a sufficiently early stage. Moreover, if "contacts" are inoculated before any symptoms have developed, incidence of the disease can be prevented. Unfortunately, however, the passive immunity thus produced is of a very fleeting nature, not extending, as a rule, for a period longer than three weeks or so. Consequently, although of undoubted service in face of an existing outbreak, the inoculated individual will, in all probability, prove just as liable to contract the disease if subsequently exposed to infection.

It is to the work of Schick, first published in 1910, that we owe the introduction of a means of testing for the presence or absence of immunity, and of the method of active immunization against diphtheria, which has put into our hands a means of prevention the value of which has now received recognition throughout the civilized world. In this country work on the lines laid down by Schick was not taken up to any extent for a number of years subsequent to its publication. But in America the case was very different, more especially in New York, where, owing to the enthusiasm of Dr. W. M. Park and of his assistants, Drs. Anna Williams and Abraham Zingher, investigations were initiated at an early date and on an extensive scale.

It was not, however, until 1921, on the occasion of an outbreak of virulent diphtheria in the Southmead Infirmary of the Bristol Union, into the circumstances of which I made inquiry, that official investigation into the potential value of the Schick test and of toxin-antitoxin inoculations in connexion with diphtheria prophylaxis was initiated. Here our first attempt at immunization (on a nurse in one of the diphtheria wards, who, unfortunately, turned out to be a serum reactor) was followed by considerable rise of temperature and malaise on the part of the patient. Happily, however, this case proved to be quite exceptional, and, moreover, we subsequently found that by commencing with a minimal preliminary sensitizing dose of the immunizing mixture the full dose could be given twenty-four hours later, even to adults, in whom reaction is usually more marked than in children, without any similar trouble arising.

An account of what was eventually accomplished at the Southmead Infirmary was set out in the "Report on Diphtheria," published by the Ministry of Health. Suffice it to say that since the work was carried out diphtheria has not again been a source of trouble in the infirmary.

The Schick test is a clinical test by means of which the antitoxic immunity of individuals, and consequently their susceptibility or otherwise to the disease, can be judged by a local skin reaction. Experience has shown that the blood of persons who have recovered from diphtheria, or are otherwise immune to the disease, contains not less than 1/30 unit of antitoxin per cubic centimetre. The amount of toxin used in the Schick test is such as will cause a positive reaction in persons with less than this amount of antitoxin in the blood. The test is carried out by injecting into, but not under, the skin of the flexor surface of the forearm 0.2 c.cm. of a freshly made dilution of standardized diphtheria toxin of full strength. Care must be taken that the needle is inserted into the proper layer of the skin, and in this and other minutiae a certain amount of practice is necessary. As a control, a similar amount of the same

solution, previously heated so as to destroy the toxin, is also injected intradermally on the opposite arm. The results first become apparent after about twenty-four hours, but it is difficult to be certain of an accurate reading before at least ninety-six hours have elapsed.

The reaction appears on the surface of the skin at the site of injection as a positive, a negative, a pseudo, or a combined (positive) reaction.

(a) The positive (susceptible) reaction is indicated by a roughly circular area of a more or less deep red colour around the site of injection, while no change occurs on the control arm. It is due to the irritant effect of the toxin acting upon tissue cells which are not protected by antitoxin. A positive reaction indicates that little or no antitoxin is present in the patient's blood, and that, in consequence, susceptibility to diphtheria exists.

(b) In the negative (immune) reaction there is no change at the site of injection on either arm, and a result of this kind indicates immunity from diphtheria.

(c) In a "pseudo" reaction there is an approximately equal area of redness on both arms, which usually reaches its height in about twenty-four hours, and may have completely faded by the fourth day. The pseudo reaction is non-specific, and occurs in persons susceptible to the action of "foreign" proteins in general; it is to be regarded, equally with the negative reaction, as indicating immunity to diphtheria.

(d) The combined (positive) reaction presents elements of both the positive and the pseudo reaction in the same individual. In this case a reaction occurs in both arms, that on the arm inoculated with potent toxin being larger and usually presenting a distinctly defined, central red area. The pseudo element on both arms disappears early, leaving persistent evidence of the true positive reaction.

Under the auspices of the Ministry of Health Schick-testing, followed by immunization of individuals giving a positive reaction to the test, has now been carried out on about 50,000 children and adults in various "centres," institutions, and secondary schools in this country, with the satisfactory result that, with the exception of two or three specially susceptible cases, none of these children, even when exposed to risk of infection, has subsequently contracted the disease. And whereas, in one of these institutions, limited outbreaks of diphtheria had, for several years, been the cause of much trouble and expense at intervals of a few months only, since the work was completed—with the added precaution of the immunization, when requisite, of further admissions—there has been absolutely no recrudescence of the disease.

In view of the increasing prevalence of diphtheria the suggestion has been made that the education authorities should follow the lead of New York and undertake the testing and immunization by the Schick method of all children of school age. But I would suggest that it is of even more importance to aim at immunization of all children of pre-school age—at the period, that is, of greatest danger, and in order to obviate appreciable risk of contracting the disease when they come in close contact with other children on joining school. This work, until recently, had only been attempted on a comparatively insignificant scale in this country.

Doubtless publication of reports (unfortunately justified) as to certain fatalities which occurred in Austria about a couple of years ago; in some similar instances at a previous date in America, in consequence of the use, for immunization purposes, of batches of toxin-antitoxin mixture subsequently found to contain excess of toxin; and, most recently, in Bunderberg, Queensland, concerning which an authoritative report is still awaited, has somewhat naturally deterred various authorities from advocating and arranging facilities for carrying out the work. However, recurrence of such mishaps is improbable in future, owing to the fact that anatoxin, or toxoid, which is entirely non-poisonous, is now successfully replacing toxin in the immunizing mixture.

In view of the fact that a high percentage of infants over the age of 6 months are likely to be susceptible considerable saving of time and energy can be gained by omission of the preliminary Schick test. Research, moreover, is being directed to the possibility of reducing the

\* This is an abridgement of the lecture, which was illustrated with lantern slides in natural colour photography.



three immunizing doses now required to two, or even one, and also of combining a first immunizing dose with the preliminary test. But, whenever possible, it is most desirable to perform a further Schick test about three months subsequent to the last immunizing inoculation, as it is known that in a few instances the ordinary procedure may not suffice for conferring adequate protection, and so may have to be repeated.

Reduction in the number of inoculations requisite for the attainment of an adequate degree of protection would undoubtedly constitute a valuable advance towards more general acceptance of the method. But even so, opposition is still likely to be encountered, as there undoubtedly exists widespread objection to the adoption of any therapeutic measures involving the use of inoculation methods. Yet it is certain that we have at our disposal, in the immunization of infants and those of school age, a most powerful weapon in our fight against the ravages of diphtheria, but much propaganda work will be essential in this country if the desired end is ever to be attained.

I desire also to advocate most strongly the Schick-testing and, if necessary, the immunization of all nurses employed in fever hospitals before being allowed on duty in diphtheria wards. This, I am glad to know, has been the rule as regards the staff of the Bristol City Hospital, for instance, since January, 1922, with the result that no completely immunized member of the staff has ever developed clinical diphtheria. But, as pointed out by Sir George Newman, "there are still many infectious diseases hospitals where nurses are allowed to attend diphtheria cases without having been offered the advantage of this method of protection." He adds that "one large authority calculated that the total cost to the hospital of every nurse who took diphtheria was £28 10s., while the cost of immunizing a nurse was 2s. 9½d. only."

#### SCARLET FEVER.

During an official visit to New York a few years ago I was afforded opportunity of studying work then in progress on the bacteriology of scarlet fever, on methods of immunization, and on the specific treatment of individuals who had already contracted the disease. The work was, in large measure, concerned with what is known as the "Dick test," so named after its introducers, a test which exhibits many analogies to the "Schick test" for diphtheria.

As the outcome of their study of the bacteriology of scarlet fever the Dicks, apparently confirming earlier results by Klein, Tunnicliffe, Bliss, and Mervyn Gordon, claim that a haemolytic streptococcus, long recognized as a micro-organism constantly present in the nasopharyngeal cavities of patients suffering from scarlet fever, constitutes the probable etiological agent of the disease. But considerable difficulty has been experienced by all who have worked at the subject, owing to the fact that it seemed practically impossible, by the inoculation of the usual laboratory animals, to produce a disease bearing any definite resemblance to scarlet fever. Various observers have shown, however, that by cultivation of the supposedly specific haemolytic streptococcus in blood-broth a toxin can readily be produced inoculation of which in the human subject is said to have caused some of the main features of the natural disease, including the rash. This toxin, suitably diluted, is used for the purpose of the Dick test for determination of the susceptibility or otherwise of individuals to scarlet fever, the test fluid being inoculated intradermally in precisely the same manner as the solution of diphtheria toxin in performance of the Schick test. The results following on the use of this test are also very similar to those observed in the case of the Schick test, except that the reactions appear more rapidly, being at their maximum intensity after an interval of about twenty-four hours, and subsequently fade more quickly.

Further evidence in favour of possible specificity of the toxin is afforded by the fact that its effects can be completely neutralized by admixture with blood serum obtained from a convalescent scarlet fever patient, or with the serum of a horse which has been immunized with the toxin. Furthermore, if serum from either of these sources be injected intradermally into the skin of a patient suffering

from an early scarlet fever rash a blanching of the rash over the area of the injection is produced in the course of six to eight hours subsequently. This phenomenon, of considerable service as an aid in diagnosis, is known as the Schultze-Charlton reaction.

As regards the extent of the reaction following on the Dick test among children not suffering from scarlet fever very similar results to those well known in connexion with the Schick test have been obtained. Thus in the earliest stage of life a child apparently obtains fleeting placental immunity from the mother, so that up to the age of 3 months, at any rate, the Dick test is likely to afford a negative result. At subsequent ages the relative proportion of positive and negative results, as in the case of the Schick test, will develop according to age, to social status, and as to whether the child is town or country bred.

Many thousands of children in hospitals or infant welfare centres in New York, found to give a positive reaction to the Dick test, have now been inoculated intramuscularly with scarlatinal haemolytic streptococcus toxin. As in the case of the Schick work, these inoculations have usually been three in number at weekly intervals. These, in the majority of instances, have not given rise to any undue reaction locally or constitutionally. Again, as in the case of the Schick work, it is important that the results of these inoculations *qua* immunization should be determined by a further Dick test after an interval of three or four months from the last inoculation.

About a couple of years ago the Committee on Scarlet Fever, appointed by the Ministry of Health, decided that it was desirable that intensive investigation into the etiological relationship of certain haemolytic streptococci to this disease, and the diagnostic value of the Dick test, should be undertaken under the co-ordinated direction of a team of expert pathologists and clinicians. With the object of ensuring, as far as possible, that the work carried out in the different laboratories should be on strictly comparable lines it was arranged that similar methods and, so far as possible, identical materials should be employed by all the different workers concerned.

The scheme ultimately adopted has comprised, on the clinical side, performance of the Dick test as a routine measure on all patients notified as suffering from scarlet fever admitted to certain infectious diseases hospitals, together with a further Dick test, when possible, prior to their discharge. On the pathological side, throat discharges of scarlet fever patients admitted to these hospitals have been examined for the presence of haemolytic streptococci, while, for purposes of comparison and control, strains of these micro-organisms of non-scarlatinal origin have also been isolated from various sources, and submitted to thorough investigation in the various laboratories concerned.

It is essential to bear in mind that the problems connected with the diagnosis of scarlet fever, and of immunization against this disease, are, in certain respects at any rate, much more complex than in the case of similar work in connexion with diphtheria. Of primary importance is the necessity for accurate differentiation of the specific micro-organisms responsible for the production of the disease in susceptible individuals. The departmental sub-committee has lately arrived at the conclusion that a haemolytic streptococcus is to be regarded as the responsible agent; but the variety of strains that have been isolated from the throats of patients suffering from this disease renders it difficult, as yet, to determine precisely whether one particular strain, or any of several varying strains, are specially concerned. Again, the divergent results not infrequently met with in connexion with the classification of haemolytic streptococci by agglutination and absorption tests introduce further difficulties.

An interesting point, to which sufficient attention has hardly perhaps hitherto been paid, concerns the nature of the population which it is sought to immunize *qua* degree of susceptibility as estimated by means of the intradermal test. Experience has clearly indicated, in the case of our work on diphtheria, that where a certain general basis of immunity already exists it is comparatively easy to increase the extent of this immunity to a sufficiently high level. On the other hand, in certain

institutions which for years previously had been completely free from this disease, probably owing to the fact that most of the children are recruited from unaffected rural districts, we found that immunity was practically non-existent. And so, unfortunately, the building up of a sufficient degree of immunity proved a matter of no little difficulty, requiring indeed, as eventually became evident, a time interval more lengthy than previously observed. It remains to be seen whether the response to immunization work in scarlet fever will be found to run on similar lines. It is, I think, as yet hardly possible to estimate what may eventually prove to be its precise value as compared with immunization against diphtheria. As a matter of fact, so far as is at present known, attainment of anything like complete immunity by means of inoculation methods appears to be decidedly more difficult of accomplishment in scarlet fever than is the case with diphtheria. Moreover, there is, unfortunately, reason for believing that immunity thus produced is by no means permanent.

#### MEASLES.

As in diphtheria and scarlet fever, so also in the case of measles, infants appear to inherit some temporary immunity from their mothers, which is said to last until the fifth or sixth month of extruterine life. From this period onwards, however, up to the age of 5 years, mortality from measles is high (from 13 to 15 per cent.), mainly owing to its complications—a fact which renders desirable some more effective method than “the careful nursing of each case” which at present, as we are told, constitutes “the only possible way of reducing its mortality.” It is therefore of interest to realize that a method of immunization has been worked out recently which has been reported by many observers to be of value in this connexion. The method consists, in its original form, of the subcutaneous administration of small doses of serum obtained from patients recently convalescent from the disease. If required, advantage may be taken of the fact that antibodies are also present, although in smaller quantity, in the serum of adults who have had measles.

It is of interest to note that as long ago as the year 1758 Francis Home of Edinburgh introduced a method of active immunization against measles which had been suggested by Alexander Monro in the previous year. About forty years ago Hugh Thompson, a vaccinator appointed by the Faculty of Physicians and Surgeons of Glasgow, devised a method of blistering measles convalescents and vaccinating contacts with the serum, for which he claimed good results. In this connexion, as in so many others, it is curious to note how history has a habit of repeating itself, as illustrated by the fact that only last year Professor Karl Leiner of Vienna introduced a similar method, the employment of which, however, he discontinued in consequence of a campaign of opposition from the daily press.

As in the case of scarlet fever, progress in regard to immunization against measles has been greatly hampered owing to want of knowledge as regards the specific virus of measles, although various micro-organisms have been incriminated from time to time. But, pending more definite knowledge as to the bacteriology of measles, the method of immunization by means of “convalescent serum” to which I have already referred is obviously one which demands our serious consideration. This was first employed by Nicollo and Conseil during a small epidemic of measles in Tunis in 1916, and has subsequently been employed extensively by Park and Zingher and by Richardson and Connor in America, by Degkwitz in Munich, and by Debré in Paris. Various workers have since modified the original methods of Nicollo and Conseil, and the production of active immunity has been attempted, apparently with some measure of success.

To achieve passive immunity the following methods of employing the serum are feasible: (1) Injection of convalescent serum into healthy contacts; in this case an immunity which lasts about a month is produced. (2) Injection during the first five or six days of the incubation period, when, as Degkwitz and others have shown, the patient will not develop measles; although the later it is injected the larger will have to be the dose.

If the serum be injected *after the sixth and before the ninth day*, measles will, nevertheless, develop; but the attack will be modified in the length of its invasion period, and by the absence of catarrhal symptoms, Koplik spots, and high temperature. The eruption also, if present, is less confluent, and the macules are smaller.

Injection at the beginning of the period of invasion (about the tenth day) will result only in local inhibition of the rash—the phenomenon of Debré—as regards which it should perhaps be mentioned that it is not, as has been suggested, comparable with the Schultz-Charlton reaction in scarlet fever.

With regard to the production of active immunity, besides the method mentioned of inducing a modified attack, Nicolle has suggested that the child it is desired to protect be given 10 c.cm. of convalescent serum, and, twenty-four hours later, 1 c.cm. of blood from an early case of measles. If the injection of blood be repeated, it is stated that the immunity produced is likely to be permanent. This method is probably reproduced in Nature when serum is given to a very early case.

The results obtained by the majority of workers who have used the earlier methods referred to have been decidedly favourable, as, indeed, is evidenced by the fact that municipal collecting and distributing centres for the serum have been established in connexion with hospitals in Germany, France, and America.

No original work on the subject had been published in this country prior to a paper by Dr. W. S. C. Copeman,<sup>1</sup> recording successful results obtained by him in face of a somewhat exceptionally severe epidemic of the disease which prevailed during the period February to July, 1925, at the Children's Hospital in Paris; and it will be of interest to members of the Harrogate Division to recall the fact that Drs. Smith and Miller, working on similar lines, recorded some successful results in a communication to the Pathological Society of Great Britain and Ireland in January, 1927.

In view of the importance of lessening, if possible, the mortality from measles in this country, we shall doubtless all agree that it is eminently desirable that investigation of the whole subject should be officially undertaken as speedily as possible, perhaps somewhat on the lines of that recently initiated in connexion with the work of the departmental committee on scarlet fever.

Meanwhile, it is encouraging to learn from Sir George Newman that the Ministry of Health, in conjunction with the Medical Research Council, is maintaining close observation upon the important investigations of Dr. Degkwitz, especially concerning the use of a sheep serum introduced by him, and the prophylaxis of measles generally.

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## FUNGUS INFECTIONS OF THE HANDS AND FEET.

BY

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THE diseases to which I wish to draw attention are deeply situated in the epidermis and are very refractory to treatment. Many varieties of fungi may be pathogenic and provoke changes in the skin. Their classification is complicated, but broadly they may be divided into (1) the ringworms (*Gymnosaceae*), (2) the yeasts (*Saccharomyces*), and (3) some members of the order *Hyphomycetes* such as *monilia*. The reactions of the skin may be to all appearances identical, and the same species of fungus is able to produce lesions which differ clinically. The subject is still further complicated because many moulds and fungi are saprophytic, occurring on normal skin without producing any reaction, but both the yeasts and the ringworm mycelia have been found consistently invading the layers of the epidermis in the same type of skin lesion; in addition, the lesions have also been produced successfully by rubbing

the culture growth into scarified skin. Experimental work in this branch of dermatology is limited, for animals have a high degree of immunity to some of the species. Koeb's postulate is therefore difficult to verify; but there is sufficient evidence that certain forms of skin disease are the response of the skin to the action of fungi which are pathogenic. Clinically they may be divided into (1) infection of the interdigital clefts; (2) acute vesicular eruption of the hands and feet; (3) infection of the nails.

#### *Infection of the Interdigital Clefts.*

In many patients the fungus responsible is the epidermophyton; this is the same parasite which attacks the upper third of the thigh and the groins, and causes the so-called *dhobi itch* or *tingea cruris*. It was first described clinically by Hebra under the name of "*eczema marginatum*" so long ago as 1860. Afterwards the parasitic nature of the malady was recognized, but it was not until fifty years later that Whitfield<sup>1</sup> in this country, and Sabouraud in France, called attention to parasitic lesions occurring on the feet, which were shown by Sabouraud to be due to the same fungus as the circular or polycyclic lesions of the groin.

Sabouraud's classic studies of the cultural characteristics of the pathogenic fungi known at that time established on a sound basis the importance of these diseases and led to an immense amount of research. It has since been proved that it is possible for the fungous elements to be carried by the blood stream, and to give rise to a generalized rash polymorphic in character (Arzt and Fuchs,<sup>2</sup> Ambrosoli<sup>3</sup>). In 1918 V. Graffenried<sup>4</sup> successfully inoculated two human subjects with the epidermophyton. Bloch<sup>5</sup> had previously shown that these fungi had the property of producing an allergic or sensitized state of the skin, but not always an immunity in the true sense of the word. He infected himself with the trichophyton and afterwards grafted a piece of his skin on to a patient suffering from a leg ulcer; the grafted skin alone was shown to be sensitized to the toxin of the fungus, thus demonstrating that the sensitiveness is a cellular phenomenon.

Some individuals are more susceptible than others, and it is not uncommon for one partner of a marriage to remain free from the infection although the other has suffered from it for many years. We must note also that different fungi have a predilection for various parts of the body. The interdigital infection, whether it be due to the epidermophyton or other fungus, may be present for years without the patient experiencing anything more than an occasional slight discomfort; yet it may flare up suddenly and rapidly spread to the axilla, the gluteal cleft, the submammary folds, and elsewhere, not only causing considerable distress, but incapacitating the patient from following his or her occupation.

In an overwhelming proportion of the patients the disease is first noticed in the interspace between the fourth and fifth toes of one or both feet. If the toes are separated a white macerated epidermis is observed, which can be detached by forceps; small vesicles may be present at the edge or under the sodden skin, and not infrequently a fissure is to be found at the apex of the cleft. If the macerated skin is removed the exposed surface is seen to be of a bright red colour. The same condition may be present between all the toes, or may be limited to one or more clefts on one foot for years. In many cases if the plantar surface of the infected toes is examined it will be seen that this too is infected and fissured. The disease is inclined to spread along the sole, causing eczematous lesions together with increased cornification and painful fissuring. In addition, a dermatitis of the anterior surface of the legs is often present, and also in the hands one or both palms will sometimes be found to be fissured. It should be noted that the infection may occur on the instep without the toes being involved. As already stated, the axillae and groins may be affected, giving rise to circular or polycyclic patches of red inflamed skin. The following cases serve to illustrate the above description.

A married woman suffered from solid oedema of both ears and post-auricular fissures, with maceration and inflammation of the skin of the upper gluteal cleft. Maceration and fissures occurred between the toes of both feet, and mycelia were found in the

epidermic scales from between the toes. The patient had been aware of the cracks between the toes for six years; the other lesions had been present for two years, and were thought to be *seborrhoeic eczema*.

A man complained of pruritus ani of ten years' duration. He had had various treatments, including innumerable ointments, ultra-violet light, and x rays. Examination revealed extensive dermatitis of the perineum and buttocks, with the characteristic fissures between all the toes. Mycelia were present in the scales from the toes. The patient stated that the toes had been sore for more than ten years, and that the complaint was thought to be a manifestation of gout.

Two patients had dermatitis on the forehead and the upper lids, together with mycosis of the toes, verified by microscopical examination.

With reference to the second patient mentioned, it is interesting to note that A. Castellani<sup>6</sup> drew attention to the fact that pruritus ani might be associated with a fungous infection. He found either the epidermophyton or trichophyton present in 11 out of the 54 cases he examined. Some of the skin complications are probably due to sensitization phenomena, and are not caused by the local growth of the fungous elements; for although it is possible to recover the fungus from the accompanying lesions between the toes, repeated examination fails to find it in other situations.

There is no doubt that the disease is more common in the middle classes than among the manual workers, and in my experience during the war groin ringworm was more frequently met with among the officers than amongst the men. Outbreaks of a serious nature have occurred in some public schools. The incidence is relatively high among young men; this is probably explained by the infection taking place through the medium of bathroom floors, towels, etc. Experiments show that the epidermophyton will live for at least a year in a dry state, and it has been recovered from infected boots four months after they were discarded. The incubation period is thought to be about twelve days.

Microscopical examination is essential for establishing the diagnosis, and may have to be repeated several times before the true nature of the disease is detected. The actual technique is simple, but requires some practice before the mycelia can be recognized. Epidermic scrapings should be taken preferably from the edge of the toe lesion, tamped in liquor potassae, and then examined with a 1/6 in. objective. The mycelia are long, slender, highly refractile threads. Exact identification can only be achieved by culture on special media, but description of this process is outside the scope of this paper.

Treatment to be successful necessitates meticulous care on the part of the patient and his medical attendant. This is easily comprehensible when it is realized that the fungus occurs deep in the epidermis, is buried in all the nooks and crannies around the nails, is hidden in socks and boots, and in many cases is found to be growing in the nail substance itself. It is very resistant to moist heat, but according to Schanberg and Kolmer<sup>7</sup> is killed when boiled for ten minutes. The same authors found that the epidermophyton is also easily destroyed by weak antiseptics.

Unfortunately it is no easy task to destroy these fungi in the living subject. In order to do so the exfoliating sodden epidermis must be thoroughly removed daily with a curette, and the toenails must be pared and scraped. As it is difficult for the average patient to perform the contortions necessary, it is advisable that this part of the treatment should be allotted to a third person.

There is a wide choice of remedial applications, the most noted of which is an ointment recommended by Whitfield, which now has a world-wide reputation. It consists of benzoic acid 5 per cent., salicylic acid 3 per cent., in a base of coco-nut oil and vaseline. Although the fungicidal property of the ingredients does not appear to be very high, yet in many of the cases an application of the ointment brings about a rapid improvement. Other remedies are tincture of iodine diluted with ten volumes of spirit, a 2 per cent. aqueous solution of mercurochrome-220, and 5 per cent. chrysorbin ointment. In my experience the first and the last named are the most serviceable, but whichever is chosen will fail unless the preliminary cleansing is carried out with exacting care. The feet should be washed daily. Socks should be of cotton, and

boiled for ten minutes daily; boots and shoes require dusting inside with an antiseptic powder such as boric acid. The treatment should be continued for at least a month after all signs of the disease have disappeared, and infected boots and clothing should then be destroyed. Surrounding dermatitis of the feet, if present, should be treated by the same remedies, but a fractional dose of x rays will greatly assist in its disappearance.

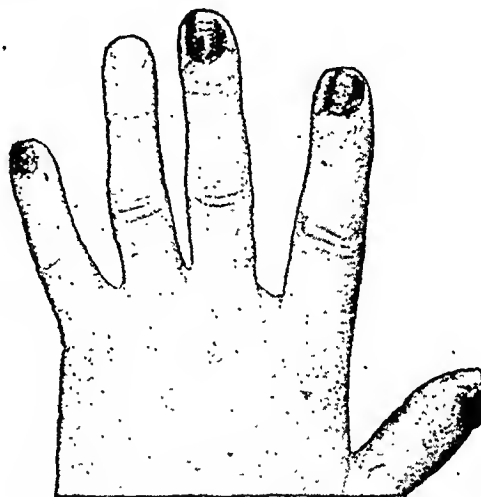
In 1903 Ciarocchi<sup>8</sup> described a dermatitis limited to the webs of the fingers; this closely resembles in appearance the affection in the clefts of the toes mentioned above, but it is caused by other species of fungus—*monilia* or a member of the yeast group. It is curiously selective in position, for in the majority of patients its habitat is the web between the ring and middle fingers, although other webs may be involved. It is much less common than the mycosis of the toes, and so far has only been met with in women, most of whom have an occupation necessitating the frequent immersion of the hands in water. Kaufmann-Wolf<sup>9</sup> produced similar lesions of her own hand with a culture from a patient with the disease. This disease is refractory and should be treated on the same lines as the mycosis of the toes.

Such patients are usually of the hospital class, attending for the first time. They are often in a pitiable state; the hands are bathed in pus, under which is a dirty sodden skin, buttonholed in numerous places by the rupture of some of the pustules. It is astonishing how rapidly these patients improve if all the dead overhanging epidermis is removed daily, and a wet dressing of 1 per cent. solution of silver nitrate is applied three or four times a day. The oedema disappears, fissures heal, and, although the skin is covered with the black stain of silver oxide, it is soon apparent that the disease is under control. At this stage a fractional x-ray exposure materially hastens recovery. If the patient is spared the pyogenic infection, the vesicles dry and the skin exfoliates in about fourteen days. In such a case a protection by boiled cotton gloves or sterile gauze will suffice.

A girl, aged 10, was admitted to Sheffield Royal Infirmary suffering from vesicular eruption on all her toes. A pure yeast culture was obtained from the vesicles on three successive examinations. This case is interesting as she had previously been admitted to Firvale Hospital for the same complaint. A few weeks later she was discharged quite healed; but the vesicles returned within a few days—reinfection from her boots probably accounted for the recurrence.



Vesicular eruption on toes. A pure yeast culture was obtained from the vesicles.



Paronychia of the fingers and thumb. Culture showed growth of a cryptococcus.

#### *Cheirpompholyx.*

The cheirpompholyx of Hutchinson or the dysidrosis of Tilbury Fox has recently been the subject of research and discussion, and the consensus of opinion is that this vesicular eruption of the hands should in no small proportion of cases be regarded as a mycosis. Kaufmann-Wolf demonstrated a fungus in the vesicles in 30 per cent. of her cases. Darier<sup>10</sup> stated that, excluding trauma and pyogenic infections, most cases (80 per cent.) were of mycotic origin. I have made a practice of examining the cases occurring in this district, and have found mycelia present in comparatively few. It is likely, however, that a more prolonged search would reveal a larger percentage of positive cases. The trichophyton appears to be the most frequent aggressor, but members of the yeast group are also responsible. The complaint is prone to recur, and is most common in young people, particularly women.

Although the hands suffer more frequently than the feet, it is by no means unusual to find vesicles in both situations during the same attack. The eruption is preceded by burning and itching. Small deeply situated vesicles then appear, the favourite position being the borders of the fingers and the palms. It is almost invariably symmetrical, and, should it be present on the feet, the vesicles are less numerous than on the hands. As the vesicles are deeply situated they do not rupture easily, but they may be secondarily infected, when they increase in size, coalesce, and rupture. Oedema of the hands accompanied by lymphangitis and pain is a further complication. Unless the pustules are incised and the whole of the exfoliating epidermis removed, the pus tends to burrow under the surrounding epidermis.

#### *Fungus Infection of the Nails.*

Trichophyton infection of the nails has been recognized for many years. It may be present without any other manifestation of the disease, or may be associated with an affection of the beard or any other part of the body. Recently, however, cases have been described in England and abroad which are due to a yeast—*Oospora* (*Oidium*) *albicans* (Avid Scott,<sup>11</sup> Shelmire,<sup>12</sup> Kumer<sup>13</sup>).

When the disease is confined to the nail itself it commences at the free border, which becomes irregular, brittle, and of a dirty grey colour. This change gradually extends towards the lunula. In certain cases, and particularly when the "thrush fungus" is responsible, the changes in the nail are accompanied by paronychia. The appearance is then as follows: The soft tissue bordering the nail is oedematous, red, and raised. When gently massaged a sero-purulent fluid may be pressed from under the margins. There is often some crusting at the bottom of the nails, and if this be removed the nail fold is found to be detached from the nail. The free margin of the nail is raised by a brownish-grey debris. It is at first localized to one nail, but after varying intervals others are involved. The hands are more commonly affected than the feet. Changes in the nails which closely resemble the above are met with as an accompaniment of other diseases, or may be due to infection with staphylococcus or *B. coli* (H. MacCormac<sup>14</sup>), but careful microscopical and cultural examinations reveal an invading fungus in an increasing proportion of cases examined.

The treatment of the affliction is difficult, whichever variety of fungus is concerned. Perhaps the most successful procedure is avulsion of the nails, but even this drastic

remedy cannot always be relied upon to accomplish the desired result, for a recurrence may follow when the nail grows again. A more simple method is to pare and scrape the nails to the utmost limit of the patient's endurance, and then apply a 2 per cent. solution of silver nitrate or Fehling's solution. It is essential to keep the fingers dry, for the disease is most common in those whose occupation entails the immersion of the hands in water. It is also advisable to continue the treatment with a weaker solution after the disease is apparently cured.

In conclusion, I would emphasize the point that these diseases are more common than is generally supposed; they are of sufficient medical and social importance to deserve recognition and study by medical practitioners.

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## Report

ON

THE TREATMENT OF MALIGNANT DISEASE BY  
COLLOIDAL LEAD.

BY

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IN view of the success claimed in the treatment of malignant disease by means of injections of colloidal lead I visited Liverpool in April, 1926, and, with Professor Blair Bell's permission, saw some of the patients who had there been submitted to the treatment, and observed the technique of the process. Although I was unimpressed by the results which were shown it was considered necessary by the Cancer Hospital that the method should be fully investigated. Dr. Lorna King was therefore appointed to assist me, and together we have treated a total of 88 patients in this way. Of these, however, 32 were given a preparation of colloidal lead hydroxide, and I omit details of them for three reasons—namely: (1) the preparation differs from that used by Professor Blair Bell in that all the lead has been converted to hydroxide, whereas in the latter only a variable and unknown proportion is in that form; (2) it is extremely toxic—ill effects so frequently follow its use, and are so marked, that I consider its employment unjustified; (3) no evidence of benefit was obtained in any case. Moreover, it has often been emphasized that satisfactory results could be obtained only if the lead be prepared in a particular manner, and if its pharmacological effects be closely watched in each patient. That much importance need be attached to such a statement is more than doubtful—the method used in Liverpool for preparing the metal has been many times changed, and there is no evidence whatever that one method is more successful therapeutically than another—but it was obvious that, in the first place, the original technique must be strictly followed.

Fifty-six cases were treated strictly by the Liverpool method—namely, 35 at the Cancer Hospital, 18 at St. James's Hospital, S.W., and 3 privately. In describing the results no differentiation is made between these series.

## Method of Preparing the Colloidal Lead.

When this work was commenced it was impossible to obtain colloidal lead except by preparing it for oneself. The necessary apparatus was erected by Mr. C. E. Phillips, consulting physicist to the Cancer Hospital, and consisted essentially of a circuit containing a voltmeter and an ammeter together with an adjustable resistance, such that a current of 70 volts and 10 amperes passed when an arc was established between two pure lead electrodes immersed in distilled water. The water was placed in a porcelain

bowl with a few small lead shot. One electrode was then fastened so that its lower end was in contact with the shot, which were constantly stirred with the other electrode while the current passed. In twenty minutes a colloid suspension of lead (about 0.5 per cent.) was obtained. Its concentration was estimated by a modification of Nesler's method—a not very accurate one for such quantities, but the most practicable in the circumstances. For use, the suspension was diluted to exactly 0.5 per cent., and 0.4 per cent. gelatin, 2 per cent. sodium chloride, 0.05 per cent. potassium chloride, and 0.027 per cent. calcium chloride were added. The preparation is very unstable, sedimentation quickly occurs, and oxygen is rapidly absorbed from the air with the formation of very toxic lead hydroxide. It must consequently be used at once, and cannot be prepared in bulk for use at a later date.

From time to time certain slight modifications were made: First, 4.0 per cent. of gelatin was added instead of 0.4 per cent., so that the preparation was solid at ordinary temperatures. In this condition it could be stored in sealed ampoules, and remained stable for several months. Then iso-electric gelatin was substituted for the ordinary substance, and had the same stabilizing effect without becoming solid. Sometimes a trace of a reducing agent was added to hinder the formation of hydroxide. Finally, we reverted to the original preparation.

All these preparations are essentially the same, and there is no reason to suppose that their therapeutic action differs.

## Type of Patient Treated.

Most types of malignant disease have been treated—epithelioma, carcinoma, and sarcoma. In every case the disease was inoperable when first seen, or was recurrent after operation. Many of them were in an advanced stage of the disease. To obtain suitable patients for such work is far more difficult than appears on the face of it. A large majority of the inoperable patients admitted to hospital are having, or have had, some other form of treatment (for example, radiation), and are therefore unsuitable for this, since any change observed could not be certainly attributed to either method. If the patient be not already under some form of treatment he or she is generally too near the end for any form. Another difficulty is that very often the patient refuses to remain long enough in hospital to give the method a chance. No patient in this series had received any but surgical treatment.

## Dosage.

In deciding on the dose to be given an attempt was made to give the maximum amount of lead which did not endanger life, and to keep the patient as long as possible under the influence of this quantity. With six exceptions the initial dose was 0.08 to 0.1 gram. In one case this was repeated after seven days, with the result that the patient became very ill; there were several rigors, repeated vomiting, and marked jaundice. From these effects she eventually recovered, and survived about seven months, but it was not considered justifiable in any other case to repeat the dose at so short an interval. In seven cases the second dose was given a fortnight after the first, but again the reaction which followed was generally intense, so intense that it was decided to allow an even longer interval. In six cases an initial dose of 0.05 gram was given, and repeated in approximately a week. While these showed no better therapeutic results than the others, the reaction following each injection was reduced to a minimum, and never amounted to much. For the remainder an initial dose of 0.1 gram was followed by the same dose at the end of three weeks. Even after this interval some reaction was almost invariable, but was in no case serious.

Subsequent doses must depend, both as to the quantity and interval, upon the reaction of the individual patient. Our aim has been to administer a total of 0.6 gram to each patient, and we commenced by repeating the original dose of 0.1 gram at intervals of three weeks to six doses. This proved disastrous, for the only two patients who were so treated (one with five and the other with six doses) both died of uraemia within eleven days of the last dose. We therefore changed the procedure and gave three doses of 0.1 gram at intervals of three weeks, and then continued



with doses of 0.05 gram at intervals varying from a fortnight to a month, according to the condition of the patient, and no other instance of renal complications clinically discoverable was encountered amongst those who received the latter doses.

The two cases mentioned above called attention to the importance of determining, if possible, how near one has approached to the patient's tolerance. But no method of doing so was discovered. In both cases, before the last dose, the urinary urea was adequate, the blood urea was well within normal limits, there was no marked anaemia nor deficiency of haemoglobin, and little or no punctate basophilia in the erythrocytes. Lead is, of course, a cumulative poison, and it seems as though it accumulates up to a point without causing any appreciable damage to the kidneys, but immediately that point is passed there is a sudden or rapid destruction of certain of the renal elements, so that the urinary urea falls, the blood urea rises, and the patient becomes uraemic. In one of these cases the blood urea was steady between 18 and 36 mg. per 100 c.c.m., but four days after the last injection it had risen to 146; in the other it was 28 to 34 until the last dose, whereas two days later it was 77, and another five days later 111.

Observations were made on certain of the cases with phenolsulphonethylphthalein, as well as on the various nitrogenous constituents of the blood—for example, uric acid, creatinine, etc.—with the object of determining whether any change could thereby be discovered which would indicate damage to the kidneys before evidence was afforded by the urine or blood urea. No significant change was found, nor did any other case of uraemia occur (though one other patient had died of this condition after a comparatively small dose of lead before these observations were commenced).

Probably the best method of deciding whether, and when, another dose shall be given is by clinical experience. The patient's colour is important—too marked pallor contraindicates immediate treatment. A very severe reaction suggests a longer interval. A reaction, even though moderate or slight, if long drawn out, calls for delay in administration of the next dose. Examination of the blood really helps very little. There is a more or less marked fall of haemoglobin within a few hours of each injection, but as a rule recovery takes place. If the haemoglobin falls very much, or if it fails to recover its previous figure, treatment must be discontinued or delayed. We found that the number of red cells showing punctate basophilia was no evidence whatever for or against continuation of treatment.

#### *Immediate Reaction.*

Following the injection there is usually some general reaction, but very rarely does it amount to much. It is either of two main types: (1) rise of temperature and pulse frequency, rigor, generalized pains (head, back, and limbs); (2) nausea, diarrhoea and vomiting, and abdominal pains. It may come on in a few minutes or be delayed for two or three hours. A sensation of chilliness without actual shivering is the commonest reaction, though not infrequently there is a slight rigor. Both of these symptoms remain but a short time, and as a rule pass off within ten to sixty minutes. Occasionally there is no rise of temperature, more often it rises to about 100° F., in a few cases it will reach 103° F. or thereabout; but 100° to 101° F. is usual. There may be a feeling of malaise—the sensation is apparently indescribable; there may or may not be some headache. Nausea is commonly experienced. Abdominal pain and discomfort were observed once or twice, and definite colic once. Abdominal symptoms may be accompanied by diarrhoea. Only three times was a severe reaction seen—temperature 102° to 103° F., dyspnoea, cyanosis, a small frequent pulse, and pain in the head and back. In only two cases was there any local reaction, shown by swelling and pain in the growth.

In some cases the types have been combined. Recovery was quick and appears complete from the first type of reaction. In the second type the patient felt ill for a considerable time—in two cases the abdominal discomfort lasted for five weeks, and in one of these was followed by a blue line on the gums, a metallic taste in the mouth,

and sluggish knee-jerks. Both eventually recovered, and treatment was continued. In no case has death occurred as an immediate result of an injection of lead.

Occasionally a prolonged reaction was observed. Slight headache commenced an hour or two after the injection, but disappeared after a night's rest. In the morning, however, there was slight nausea, and the patient might even vomit. This condition of discomfort—there is an indefinable feeling of malaise, a suspicion of nausea, loss of appetite—may persist and only pass off in six or seven days.

It is quite impossible to foretell the occurrence of a reaction; it is no more likely after a first than after any subsequent injection.

#### *Late Reaction.*

Rarely was there any apparent effect upon the growth itself—there was no swelling of the mass, no increase of pain in it, and no breaking down; but in two cases swelling of the growth, and pain in it, were noted. It is difficult to say whether these effects were the direct result of lead, or merely that of the natural progress of the disease.

*Effect on the Blood.*—Some degree of anaemia generally follows the injections, though the effect on the erythrocytes is not extreme. The number of the latter falls, often considerably, but rarely below 3.5 million. Even after considerable doses of lead they may remain well up (5 to 5.5 million). A more marked effect is exerted upon the haemoglobin, which falls more rapidly and to a greater extent. In spite of this, only once had we to cease treatment on account of the condition of the blood. Stippling of the red cells was found to a greater or less extent in all cases, but appeared to have no special significance from a prognostic point of view, and after a short time little or no importance was attached to this finding. The white cells did not appear to be affected in any way. Except in one case, when a carcinoma of the breast was complicated by diabetes, the injection of lead did not influence the sugar content of the blood. In the diabetic, however, it seemed to increase the circulating sugar and exert an adverse influence on the course of the disease. Three cases of uraemia have already been mentioned; in no other case was clinical evidence of renal damage obtained—the urine remained normal and the blood urea showed no significant change. In a few cases the excretion of phenolsulphonethylphthalein was tested, but no abnormality was found. In some others the nitrogenous constituents of the blood, other than urea, were also estimated, but without demonstrating any pathological change.

*Effect on the Urine.*—The urine in non-fatal cases has shown variable alterations. In many cases the amount excreted in twenty-four hours has been very much diminished for seven to fourteen days after an injection, usually (but not always) with diminished urea excretion. Cases with reduced urea excretion (even though this be marked) have shown no clinical signs of renal incompetence, have had no rise of blood urea, and have had further injections of lead without ill effect.

*Uraemia.*—Three cases of uraemia occurred. One of these must certainly be attributed to the direct effect of treatment, and is, indeed, a case of acute lead poisoning. This patient received in all 0.6 gram of lead in the course of three months, and eleven days after the last injection she died presenting the typical picture of uraemia. Towards the end the excretion of urine diminished, albumin (at first a trace, later in considerable quantity) and casts appeared in it, and the blood urea rose from 0.034 to 0.111 per cent. At autopsy the kidneys showed well-marked changes in the tubules, but none in the glomeruli. It is more than doubtful whether the other two can be attributed in any way to the lead administered. In one the original lesion was a carcinoma of the cervix, which eventually penetrated the bladder and involved both ureters. The blood urea rose from 0.036 to 0.146 per cent. At necropsy the pelvis of each kidney was dilated, and the kidneys showed numerous minute abscesses scattered throughout. The other died of uraemia after a total of 0.25 gram of lead. A carcinoma of the rectum had been excised some time previously, but a local recurrence appeared and, spreading to the bladder, involved both

ureters. The kidneys showed extensive interstitial fibrosis with tubular changes superimposed. In both these cases ureteric obstruction and subsequent bacterial invasion of the organs are sufficient to account for the microscopic lesions.

No case of typical chronic lead poisoning occurred—constipation, colic, peripheral neuritis, encephalopathy, were never seen—but one patient presented a blue lead line on the gums after 0.25 gram of lead given during a period of eleven weeks.

Autopsies were made on 17 of those who died, and the *post-mortem* findings were remarkably constant. In no case was any sign of regression observed in the growth. In some cases it showed advanced degeneration (but no central

Table showing the Results in 56 Cases of Malignant Disease treated by Colloidal Lead.

Patient.	Disease.	Duration of Treatment.	Total Dose.	Results.
A. C. ...	Ca. thyroidei	169 days	0.55 gram	Died.
A. F. ...	Ca. thyroidei	15 "	0.2 "	Died.
C. P. ...	Ca. recti	43 "	0.25 "	Died.
C. H. ...	Ca. mammae	225 "	0.45 "	I. S. Q.
E. S. ...	Ca. mammae	106 "	0.3 "	Worse.
A. H. ...	Ca. mammae	107 "	0.35 "	Worse.
L. A. (a) ..	Ca. mammae	167 "	0.05 "	Died.
R. D. ...	Sarcoma femoris	132 "	0.57 "	Died.
I. D. ...	Ca. ventriculi	45 "	0.17 "	Died.
A. B. ...	Ca. mammae	63 "	0.3 "	Worse.
W. A. S. (b) ..	Ca. ventriculi	46 "	0.22 "	Died.
S. H. ...	Ca. oesophagi	—	0.1 "	Died.
R. S. (c) ..	Ca. soli oris	—	0.09 "	I. S. Q.
E. T. ...	Ca. cervicis	—	0.1 "	Died.
S. G. ...	Ca. cervicis	—	0.08 "	Died.
E. C. (c) ..	Ca. cervicis	—	0.08 "	I. S. Q.
D. N. ...	Epith. oris	—	0.08 "	Died.
S. W. (c) ..	Ca. ovarii	—	0.07 "	I. S. Q.
T. G. ...	Melanomatosis	—	0.104 "	Died.
M. H. ...	Ca. mammae	49 days	0.3 "	I. S. Q.
W. K. ...	Epith. pharyngis	115 "	0.508 "	Died.
T. R. ...	Ca. vesicae	77 "	0.251 "	Died.
H. D. ...	Ca. recti	21 "	0.2 "	Died.
E. S. ...	Ca. mammae	88 "	0.35 "	Worse.
C. S. R. ...	Ca. nodorum cervicis	84 "	0.45 "	Died.
M. A. ...	Ca. vesicae	42 "	0.295 "	Worse.
A. B. P. (d) ..	Ca. mammae	105 "	0.53 "	Worse.
A. W. H. ...	Epith. oris	22 "	0.2 "	I. S. Q.
C. J. ...	Epith. labii	166 "	0.6 "	Worse.
B. A. ...	Epith. soli oris	166 "	0.075 "	Worse.
M. B. ...	Ca. cervicis	54 "	0.4 "	I. S. Q.
R. H. ...	Epith. soli oris	36 "	0.3 "	Died.
A. B. B. (c) ..	Ca. oesophagi	36 "	0.1 "	I. S. Q.
E. D. ...	Ca. ovarii	65 "	0.35 "	Died.
C. C. ...	Epith. soli oris	176 "	0.575 "	Died.
K. P. ...	Ca. ovarii	176 "	0.1 "	Died.
E. N. ...	Ca. mammae	237 "	0.26 "	Died.
M. R. ...	Ca. mammae	28 "	0.3 "	Worse.
W. C. ...	Epith. labii	55 "	0.3 "	Died.
A. G. B. ...	Ca. oesophagi	43 "	0.3 "	Died.
M. C. ...	Ca. soli oris	35 "	0.25 "	Died.
W. G. (c) ..	Ca. soli oris	35 "	0.1 "	I. S. Q.
F. B. ...	Ca. oesophagi	35 "	0.1 "	Died.
W. P. ...	Ca. recti	35 "	0.1 "	Died.
M. N. ...	Ca. vesicae	41 "	0.29 "	Worse.
E. M. ...	Ca. vesicae	41 "	0.29 "	Worse.
D. N. (c) ...	Ca. mammae	98 "	0.4 "	Worse.
G. S. (c) ...	Epith. tonsillae	20 "	0.2 "	Died.
F. O. ...	Ca. cervicis	74 "	0.5 "	Died.
A. G. ...	Epith. soli oris	86 "	0.6 "	Died.
J. C. ...	Epith. oris	147 "	0.5 "	Died.
A. L. ...	Ca. vesicae	58 "	0.4 "	Died.
A. N. B. (c) ..	Ca. mammae	94 "	0.45 "	Improved.
R. M. ...	Ca. mammae	36 "	0.2 "	Died.
F. T. ...	Ca. mammae	197 "	0.6 "	I. S. Q.
G. S. B. (c) ...	Ca. prostatae	21 "	0.32 "	I. S. Q.

(a) This patient also had diabetes. (b) Died of haematemesis. (c) Left hospital at own request. (d) Still under treatment. (e) Refused further treatment.

necrosis, and no change which is not commonly seen when no lead at all has been given), in others there was no degeneration whatever, and in every case the mass of growth was larger than when treatment commenced. In nearly every instance the brain, liver, and kidneys showed evidence of damage as follows. In the brain there was extreme superficial (subarachnoid) oedema, with free fluid at the base. The choroid plexuses were markedly oedematous. The liver showed extreme fatty degeneration. Apart from the cases of uraemia, the kidneys showed no macroscopic change. In most the cells of the convoluted tubules stained badly and showed some degree of desquamation, but it is possible that this is largely, if not entirely, a *post-mortem* process. But the localization of the changes is noteworthy: in no case was any abnormality discovered in the glomeruli or the cells of the loop of Henle or the collecting and straight tubules. In view of the fact that these appearances are not such as are met with in cases of malignant disease treated by other methods it is fair to presume that they directly result from the toxic action of the lead preparation employed.

#### Final Results.

Of the 56 patients treated one only—with a small supra-clavicular gland which appeared one year after amputation of the breast for carcinoma—showed definite improvement, the gland being now only just palpable, whereas before it was about the size of an almond, and quite visible. Although clinically a definite diagnosis of secondary malignant disease was made, there is no proof that the gland was in fact malignant.

No appreciable change took place in 12, but of these 7 received admittedly inadequate treatment—2 because they were so ill that it was decided to leave them in peace, 5 because they refused further injections. Five received from 0.3 to 0.6 gram of lead in all, but the local condition remained unchanged. Another 11 were actually worse after treatment, of whom 2 received less than 0.3 gram of lead in all (one was considered too ill to receive more, the other refused). Nine received from 0.3 to 0.6 gram, in spite of which the malignant growth progressed. Thirty-two died, of whom 8 had received only one injection each. In other words, of 40 patients who received sufficient lead to warrant the expectation of some benefit, if any ever occurs, 22 died, 11 were clearly worse, 6 showed no change in either direction, and only one in any way improved. (Full results, with total dosage, are given in the accompanying table.)

#### Conclusion.

Of 40 patients who have received 0.2 gram or more of colloidal lead intravenously, only one has shown any improvement, while the majority are dead or obviously much worse than before treatment. So far, then, as my observations go there is no support for the statement that colloidal lead exerts a beneficial influence upon the progress of a malignant growth. Moreover, it is certainly a difficult and dangerous therapeutic method.

## SYPHILIS OF THE HEART.

BY

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It is of the utmost importance to recognize syphilis of the heart, this being one of the few heart affections which almost invariably yield to treatment. In many cases, it is true, the improvement due to antisyphilitic treatment is not pronounced, but there are doubtless numerous cases of cardiac syphilis in which proper treatment has effected a complete cure. To overlook a case of syphilis may mean the whole difference between normal health and permanent disability, and sometimes even between life and death.

The incidence of syphilis in heart disease has been greatly underestimated in the past, and there are but scant references to it in the older textbooks. Mackenzie,<sup>1</sup> for instance, dismisses it with a few words, and authors like Romberg<sup>2</sup> actually express the opinion that syphilis of the heart is rare. As a matter of fact syphilis is a

very common cardiac affection, but unfortunately in the majority of cases it is not recognized.

This paper is based on a hundred cases of syphilis of the heart taken from patients attending the Heart Hospital; they represent about 9 per cent. of all cases at this institution.

It is obvious that patients with straightforward syphilis do not attend heart hospitals. The incidence of cardiac syphilis in patients attending venereal disease clinics must be considerable, and no doubt a good percentage of neuro-syphilitics have damaged hearts. Syphilis of the heart must therefore be a common affection. In the great majority of the cases the true character of the disease was recognized in the first instance at the Heart Hospital, although many of these people were attending other institutions and some had been seen by prominent consultant physicians. Obviously the diagnosis of syphilis of the heart is very difficult.

At the outset it is well to recognize that there is not one single method, taken by itself, on which we may rely absolutely for the diagnosis of cardiac syphilis. In order to make a reasonably certain diagnosis of cardiac syphilis it is essential to employ all procedures available for the investigation of the disease; a single method cannot absolutely be relied on, but employed in conjunction with other methods, the evidence of cardiac syphilis may be so strong as to amount to a certainty.

The methods used are the Wassermann test, examination of the physical signs, electro-cardiographic investigation, study of the symptoms and history, and the use of anti-specific treatment.

#### *The Wassermann Test.*

We depend a great deal on this test, but it is not absolutely reliable; two specimens from the same patient sent to different laboratories will sometimes give contradictory results, owing in some instances to inaccuracy, and in others to difference in the methods employed. Moreover, even in this country, as is well known, a positive Wassermann reaction does not invariably denote syphilis; it is believed that tuberculosis and infective endocarditis may, in the absence of syphilis, give rise to a positive reaction; it must also be borne in mind that a positive reaction may indicate only congenital syphilis. We actually have an instance of a positive Wassermann reaction in a grandchild and a grandmother, and numerous cases of members of a family with such reactions which can only be explained by the hereditary factor. On the other hand, a negative result does not mean that the patient is free from syphilis. There seems to be a general consensus of opinion that in the second stage of syphilis a positive reaction is the rule.

In heart cases, however, we are dealing mainly with latent chronic syphilis, and there are without doubt a relatively large number of cases of cardiac lesions which give a negative Wassermann reaction. For instance, in one almost certain case of cardiac syphilis repeated Wassermann tests of the blood serum were negative, and the spinal fluid alone gave a positive reaction. Still the fact remains that a positive reaction in this country connotes syphilis in more than 90 per cent. of all cases.

I have profound faith in a positive Wassermann reaction for two reasons. In a large number of positive cases there was found corroborative evidence of lesions in the form of neuro-syphilis. More significant still, many of these cases responded to antisyphilitic treatment to such an extent as to leave no doubt about the character of the disease.

I think we are justified in concluding that a positive reaction, even with a single plus, goes a long way towards the establishment of a diagnosis of cardiac syphilis; still it does not indicate that a particular heart affection is syphilitic.

#### *Clinical Evidence of Cardiac Syphilis.*

Clinical evidence which is absolutely pathognomonic for syphilis of the heart does not exist. We diagnose heart disease by abnormal functions which it causes, but these manifest themselves in the same way, whether structural alteration has been caused by syphilis or not. Disease of the auriculo-ventricular bundle may give rise to block,

whether the disease is due to syphilis or to other factors. I maintain, however, that in many instances it is possible to diagnose syphilis of the heart with a high degree of probability from the clinical evidence alone, and in the majority of cases this evidence is such as to raise a strong suspicion of syphilis.

Broadly speaking, there are two features which are characteristic for cardiac syphilis. As is well known, this infection attacks the aorta and the coronary arteries, and disease of the latter gives rise to various affections of the myocardium. Syphilis affects the heart muscle with much greater frequency than does any other agent known to cause heart disease; there may be syphilitic aortitis, or aortic regurgitation, or other forms of infection, but usually the myocardium will also be damaged.

We may contrast this with the rheumatic valvular heart, where the myocardium is relatively seldom affected. Out of 88 electro-cardiograms of cases of cardiac syphilis, only 9 were normal; in the same number of cardiograms taken from rheumatic valvular heart cases 42 were normal. The cases of rheumatic origin were very much more advanced clinically than the syphilitic cases, so that the incidence of myocarditis in the rheumatic heart in relation to the syphilitic is relatively much less than these figures show.

This point is of practical importance in the diagnosis of syphilis. Take a case of aortic regurgitation in which, although it is not a very advanced case, there is evidence of myocarditis; this circumstance in itself favours the diagnosis of cardiac syphilis. In syphilis, moreover, the physical signs of a particular cardiac affection are not generally clean cut, the clinical picture is not usually true to type. In a case of rheumatic aortic regurgitation, for instance, the clinical signs are usually definite and correlated. There may be pronounced enlargement of the left ventricle, and the apex beat will be pointing outwards and downwards. There are usually such indications also as a pronounced water-hammer pulse, the different signs being correlated in a certain proportion. We may find such a picture occasionally in syphilitic aortic regurgitation, but in the majority of cases the clinical picture will be atypical. For instance, from an examination of the aortic area we may expect a large left ventricle and the typical appearance of the patient, but absence of one or the other indication is frequently observed. Again, in many instances, on examination of the heart we have difficulty in placing the abnormal signs in a definite category. The heart does not seem to be normal, and yet there are no distinct signs of valvular trouble; there is no enlargement in a given direction. We may be tempted to label it "tired" or "irritable" heart; it does not really fit in properly with either. In such circumstances it is advisable to investigate the case from the point of view of syphilis.

Passing from the general to the particular, aortitis is probably a most common event in syphilis; it must be remembered that syphilitic aortitis usually means syphilitic myocarditis. We may expect increased dullness over the aortic area, but this is not always easy to make out. In the early stage of aortitis we often depend for the diagnosis entirely on accentuation or alteration of the second aortic sound. I want particularly to emphasize the point that accentuation of the second aortic sound in the absence of high blood pressure, in cases where there is either a history of syphilis or a positive Wassermann reaction, is quite sufficient evidence for the diagnosis of syphilitic aortitis, and, incidentally, syphilitic myocarditis. Usually the left ventricle is slightly enlarged; often there is a systolic aortic murmur, a diastolic murmur appearing later. Characteristic of these murmurs is also the fact that they cannot be relied on to be always audible—they appear and disappear. It is easier to distinguish between aortic regurgitation due to syphilis and aortic regurgitation due to rheumatic fever, than between the former and aortic trouble secondary to such conditions as high blood pressure.

Syphilis does not seem to be a common factor in mitral disease. I have, however, had a number of typical cases of mitral stenosis with a positive Wassermann reaction and no history of rheumatic fever. Is mitral stenosis sometimes due to congenital syphilis? Syphilitic myocarditis, cardiac irregularities, extra-systole, auricular

fibrillation, heart-block, and branch bundle lesion are all common in syphilis, while the "large silent heart" is sometimes caused by it, and I have known instances of syphilitic pericarditis. Infective endocarditis sometimes gives a positive Wassermann reaction, and it is assumed in this case that such a reaction does not mean syphilis. It is, however, interesting that Byrom Bramwell,<sup>3</sup> in a book published before the Wassermann test came into vogue, gives syphilis as one of the causes of infective endocarditis; so acute an observer must have had good reason for his belief.

#### Symptoms.

Broadly speaking, symptoms of heart failure are the same, whether the underlying cause is syphilis or something else. It has been asserted that nocturnal dyspnoea is characteristic of cardiac syphilis. This has not been my experience, but as many of my cases are early cases of syphilis it is possible that if we take only advanced cases nocturnal dyspnoea may be more frequent. The one characteristic symptom of syphilis in my cases was cardiac pain, which was present in 70 per cent., but this pain has not usually the characteristic features of a classical angina pectoris. In my experience the great majority of typical cases of angina are not due to syphilis. The pain in the syphilitic variety is not so intense, does not appear so suddenly, and differs often in distribution from the pain met with in true angina; occasionally, however, the pain is similar.

The next important symptom is the gastric pain; pain is frequently referred to the stomach, simulating gastric ulcer, but the gastric symptoms are easily distinguishable from those which may be due to heart failure.

#### Electro-cardiographic Evidence.

The electro-cardiogram gives information about the condition of the myocardium and also the nature of different irregularities. The great majority of electro-cardiographic abnormalities, however, are not characteristic of syphilis, and only denote a damaged heart muscle. They are, however, of the utmost importance in the diagnosis of cardiac syphilis, because in many instances it is by means of the electro-cardiograph that we are able to demonstrate conclusively that there is something wrong with the heart. In my experience, however, there is one type of electro-cardiogram characteristic of syphilis—at least, I have so far not seen it in any other disease. It consists of certain wavelets all over the electric line.

Blood pressure reading yields nothing characteristic of syphilis of the heart; the majority of cases do not show abnormal blood pressure reading.

The result of treatment is often a valuable aid in diagnosis. A patient was admitted into hospital suffering from gastric symptoms, but obviously very ill. The electro-cardiograph revealed branch bundle lesion, a condition invariably fatal if not due to syphilis. In this case syphilis was subsequently admitted by the patient. Antispecific treatment of a few weeks' duration was sufficient to restore the patient to practically normal health, and the electro-cardiogram became normal. Another patient developed a heart affection which was diagnosed as tired heart; he got worse, was able to walk only a yard or two, and became almost blind. He denied syphilis. After admission to the Heart Hospital the Wassermann reaction was found to be double plus, and antisyphilitic treatment was so effective that this man is now able to follow his employment. In this case, no doubt, the diagnosis of syphilitic myocarditis was correct. All cases of cardiac syphilis do not show such good results under treatment, but in my experience the great majority improve definitely.

I have said sufficient to make it clear that from clinical evidence alone it is quite impossible in every case to diagnose syphilis of the heart with absolute certainty. The disease is very common. Those who concentrate on the subject will probably make fewer errors in diagnosis than others, but all sometimes overlook a case of cardiac syphilis. It is obviously a very serious matter to leave a case of syphilis without treatment. In my opinion we have no alternative but to adopt the Wassermann test as a routine procedure for all cases suffering from heart

disease. A positive reaction, particularly in a patient with some cardiac trouble, ought to be sufficient indication for a prolonged course of antisyphilitic treatment. We are making this test part of the routine examination at the Heart Hospital.

I am indebted to my house-physicians, Dr. Wilson and Dr. Waters, for their valuable help in connexion with the case-taking.

#### REFERENCES.

<sup>1</sup> Mackenzie: *Text Book of Heart Disease*. <sup>2</sup> Romberg: *Krankheiten des Herzens*. <sup>3</sup> Byrom Bramwell: *Text Book of Heart Disease*.

## SOME FUNDAMENTAL FACTORS IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

BY

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IN the search for guiding principles in dealing with cases of pulmonary tuberculosis it is more instructive to approach the subject from the point of view of objective in treatment than to attempt a classification of methods.

The discovery of the tubercle bacillus by Koch led to the rational adoption of all those measures calculated to stimulate the normal resources of the body so that the patient might overcome the infecting micro-organism—indirect therapy. It was also to be expected that direct therapy, in the form of vaccines and serums, would emerge from the discovery. The aim of the direct and indirect therapies is, therefore, similar, for the objective in both instances is to overcome the tubercle bacillus on the lines of immunization, producing a serological immunity.

The issue is thus simplified, for, whether the patient is aided by such traditional methods as good food and fresh air in overcoming the infection, or whether vaccines and serums are administered, it is assumed that the toxin-antitoxin balance is involved, and that increase of the antitoxic content will lead to healing. The terms "toxin" and "antitoxin" are used here in the widest sense.

Now the existence of a toxin—probably entirely endotoxin—is established, but what evidence is available in favour of the existence of a specific antitoxin in the serological sense? That the human body must have some method of dealing with tubercle toxin is beyond question. Sanatorium principles and probably tuberculin therapy heighten the capacity to withstand tuberculous toxæmia, but the vital point remains: Does a highly positive resistance to toxæmia on the part of the patient necessarily overcome the tuberculous infection or lead to healing of the diseased focus? In other words, is the defence against the disease purely a local histological problem independent of systemic resistance beyond that required to maintain life?

In dealing with tuberculosis we have become so accustomed to accepting direct and indirect therapy as resting on an established basis that it may seem absurd even to open the question. Still, the answer to the previous query involves the validity of the present attitude to the treatment of this disease.

My survey covers some clinical and experimental aspects of tuberculin therapy, clinical observations, and pathological findings. I wish to emphasize that this survey is only an expression of my attitude to the question raised.

The presence of an antitoxin in the blood has not been proved by direct tests; besides, if such an antitoxin exists, its presence should be manifest in clinical experience.

#### TUBERCULIN.

To obtain evidence of this antitoxin as contrasted with detoxication tuberculin was studied. The first point to become prominent was that relatively enormous doses could be administered at the end of a gradually increasing course without any apparent improvement in the pulmonary lesion. In such a case the patient has obviously increased detoxicating power, the general condition may also be good, and yet such a favourable situation is not coincident with healing power.

Of course, it may be argued that the above citation is only an example of tolerance to injected toxin if focal reactions are ignored. At least one may accept increased tolerance to injected toxin and proceed to test the position as follows. It is recognized that a skin reaction to tuberculin is a miniature tuberculous lesion. Now lesions established cutaneously are capable of observation. As skin tests are more informative in children than in adults I selected altogether forty tuberculous children suitable for tuberculin therapy, and performed a quantitative skin test. A note was made of the sensitiveness and the time required by the papule to disappear. These children were treated with the same brand of tuberculin over a period of three months, the ultimate dosage varying with the capacity of the child. Within the period when I could still have injected the last dose of tuberculin—namely, on the eighth day—I repeated the quantitative test and made notes as before.

Comparison of the results revealed no relation in regard to either sensitiveness or duration of disappearance of the papule and the artificially produced systemic tolerance. One rather expected to find on the whole an increased sensitiveness.

Cutaneous reactions are too imperfectly understood to make any rash claims on the basis of these experiments; still, the trend of the results is again unfavourable to the standpoint that healing is necessarily dependent on systemic tolerance beyond that required to maintain life. I have simply recorded the results of these tests on a comparative basis in the same case without asserting a defined relationship between tissue and skin sensitiveness ordinarily.

These observations as to the effects of tuberculin are in accord with the attitude of the majority of tuberculosis workers to tuberculin therapy.

#### CLINICAL AND PATHOLOGICAL EVIDENCE.

There is an inevitable association in the information afforded by these two sources, consequently the facts are recorded under one heading.

Post-mortem records definitely indicate the power of the human body to cure tuberculous lesions in its own way; yet the exercise of this power fails to confer immunity to further disease. When disease occurs it is usually referred to as the result of broken-down immunity. Is this justifiable? If the factor determining activity of disease is failure of immunity, why should a patient suffering from prolonged pulmonary tuberculosis not produce disease in all parts of the body susceptible to the infection? "Lytic hypersensitiveness" is more a defence of a theory than an explanation of this fact. I think the infrequency of generalized tuberculosis in progressive phthisis is against reduced immunity as being the determining factor in resistance.

Again, it is a comparatively common experience to find latent disease becoming active as the result of a fall, a blow on the chest, the occurrence of an acute illness damaging the lung, or the resumption of a life where lung function is placed at a disadvantage. It is difficult to see how the humoral aspects of immunity are involved where the exciting cause is a fall or a blow. It seems to me that trauma is a more vital factor, and the same factor is at work where activity results from illness and bad environment.

These observations amount to a claim that trauma, or strain, is an important factor in the causation of tuberculosis, a factor, too, operating locally, and that general immunity as such is negligible. They do not, however, exclude a local cellular defence, a histogenous immunity, which in a sense is an enlightened way of referring to the "soil." It is not sufficient to explain away reactivation on the basis of a short-lived general immunity, because the longer a case has remained healed the less are the chances of renewed disease.

Now the same idea may be approached from a different clinical angle—namely, the progress of multiple lesions in a patient dying from tuberculosis. I had under observation for over two years a patient dying slowly from pulmonary tuberculosis, and during that period he effected apparent healing of an osseous lesion. In patients with

multiple lesions it is not uncommon to see some healing and others advancing, while the case as a whole is going downhill.

At this point it is interesting to survey the question of healing. It is recognized that healing in tuberculosis, as met clinically, is not by resolution, neither is it dependent on the extinction of the infection. The term "healing" in this disease is really more accurately regarded as a replacement of the primary physiologically active tissue by a practically inert substance which acts as a barrier to further damage by the bacillus. Such is the pathology of tuberculosis that any agent acting through the circulation must fall short of complete extirpation of the infection, and consequently tissue replacement will remain a vital factor.

On the above reasoning the classification of objectives in treatment as direct and indirect therapy does not seem to me well founded. With our present knowledge of immunity reactions, including the reaction of tuberculous and non-tuberculous subjects to infection and toxin, I cannot see that a case is made out for the humoral factors of immunity. The introduction of an intermediate factor, such as lysin, may explain the difference between immunity in tuberculosis and such a disease as diphtheria, but we have then only a hypothetical presentation of the subject, which does not fit in with clinical experience.

The specific reaction to infection and toxin when inoculated suggests a specific histogenous defence; it is a local phenomenon, and would not seem dependent on high general resistance to toxæmia on the part of the patient. In these days of much advertised serums it would be informing to have the basis of their efficiency.

Again, if the general resistance be not a vital factor in local defence, the basis for treatment by sanatorium and allied methods is still to be established as a stimulant to healing. That the sanatorium, being the embodiment of all those factors which make for health, is a sound treatment of the patient is beyond question. It is also obvious that the restoration of systemic resistance is desirable in the interests of living, but the elaborate building up of systemic resistance with the object of producing healing is very questionable. The sanatorium does, however, afford the patient an opportunity to effect healing which might be withheld in the less satisfactory environment of many homes.

For the sake of lucidity I might recapitulate that, first, treatment of the patient is not necessarily treatment of the disease, and secondly, the patient must be treated to allow time for the local cellular defence to effect restraint of the disease.

The treatment of the patient is that of a bacterial toxæmia; the treatment of the diseased lung is rather that of a damaged than an infected organ. I take this standpoint on the basis of the nature of the process, at present known; healing is mainly a replacement process, not even a replacement of the infection. The relative indifference to systemic tolerance and the after-history also seem to me to uphold such a standpoint. Even if a safe bactericide were found, such an attitude would still be indicated.

This presentation of the subject, in my opinion, demands rest of the damaged organ as a first step in treatment. Support for this demand is got from observation of cases—thus an attack of pleurisy often heralds an improvement in the disease; a serous effusion is also beneficial. The mechanical support arising from these conditions is apparently contributory. Again, a general review of tuberculosis reveals the great predominance of clinical disease in organs the function of which involves movement; mortality rates from tuberculous infection show the same association with mobile organs. Add to these observations the fact that where mechanical immobilization can be effected—as, for instance, in joints—the results of treatment are far superior to those obtaining in the case of the lungs. Surely, then, a *prima facie* case is made for rest in treatment.

Again, in the treatment of a pyrexial patient absolute rest is the only therapeutic measure available. The toxæmia is lessened because the lung is being less disturbed, and consequently the metabolic and excretory



functions are better controlled. It is agreed that toxæmia is much more easily overcome than the disease itself. Rest in bed brings about the recovery of the patient, but the disease remains a problem. To effect the local healing which I have previously emphasized I wish to suggest that local rest of the lung should be the aim at this stage, rather than graduated exercise. In short, the plan is local and general rest until toxæmia is controlled, followed, if possible, by continuous lung rest until repair has been effected.

#### SOME POINTS CONCERNING LOCAL REST.

Some hint as to the application of local rest is given by the observation of healing or healed cases. In such patients, apart from the attempt at muscular restraint, there is retraction of the chest wall; fuller investigation usually reveals displacement of the heart and mediastinum towards the diseased side. In other words, the diseased lung is permanently protected, in that its field of operation is finally restricted. This is usually referred to as a result of the pull of the fibrosing lung; I regard it rather as a compensatory process brought about by the healthier lung increasing its field of operation, and at the same time ensuring restraint of function on the part of the diseased organ.

It may reasonably be argued that there is no good outlook for bilateral cases. As a fact there is not much for the moderately advanced bilateral case; improvement, if any, is usually temporary. We all have seen rare cases of extensive tubercle clear up in an apparently miraculous manner. I have felt that most of such cases are examples of superficial lesions where the pleura contributes to the result by promoting fibrotic change, and an enhanced cellular defence may be in operation; but the miraculous case is not our problem.

To return to the question of retraction, which I have described as compensation, I wish to emphasize its vital importance. A tuberculous lung is an organ as permanently damaged as a heart with diseased valves. In the latter case every effort is made to establish compensation, whereas in the former I am not aware of any real recognition of such a process, which is probably more protective than functional.

To investigate the possibility of inducing compensation, and also the results accruing from it, I devised an appliance controlling the ribs on one side and leaving the opposite side comparatively free. In a suitable case it was found that rib restriction brought about some displacement of the mediastinum in a few weeks; this must be a compensatory process, as fibrous retraction could not be operative. It may be that the obvious is being laboured in this connexion, but its recognition in treatment is not obvious. As to results, I have no hesitation in asserting that, acting on the above basis, healing was effected in cases where other methods, including the sanatorium, had failed, and these patients have remained well over four years. These results are claimed for the principle; no claim of universal cures is intended.

In the production of rest certain factors have to be kept in mind. After considerable work on the question of rest in treatment I defined certain postulates, which are as follows:

1. The method must be capable of comparatively wide application.
2. The method must not restrict unduly those conditions which promote a healthy state of the body and mind.
3. It must promote compensation, and not impair to any considerable extent the normal function of the opposite lung.
4. In the event of healing being effected the patient's physique must be unimpaired.
5. It must recognize the mechanism of respiration.
6. The usual distribution of the disease must be noted and efforts made to promote rest at the zone of extension of the disease, and thus facilitate the formation of "barrier" tissue.

The postulates 1 to 4 require no further elaboration; a note on the last two, however, is indicated.

Enlargement of the thoracic cavity is brought about mainly by movement of the ribs below the second, and by diaphragmatic movement. Lung movements are subservient to these two factors. Thoracic enlargement in any direction causes general enlargement of the lung; thus Keith

has shown that movements of the diaphragm are reflected over at the lung apex. Again, tuberculous disease in the lung more frequently starts in the upper part and spreads downwards.

With these points in mind, it may be permissible for the sake of explanation to suggest that we have a lung fractured at the zone of extension of the disease, with an upper diseased and relatively immobile fragment, and a lower more actively movable fragment. With this conception it will be seen that rest can only be attained if restraint be applied to the more freely moving fragment.

#### CONCLUSION.

This paper is concerned with principles rather than methods. Further elaboration may be desirable in certain parts, but I think I have indicated sufficient grounds to justify a trial of more widespread surgical measures in treating pulmonary tuberculosis.

Condensation rather tends to give the impression of lack of balance in the statement of a case. Still, if I have made my objective clear, and given some indication of the lines along which it should be sought, my purpose in writing this article is attained.

### BRONCHO-PNEUMONIA IN CHILDREN TREATED BY INJECTIONS OF EMETINE HYDROCHLORIDE.

BY

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THE alkaloid emetine, chiefly known for its specific action in amoebic dysentery, has in the past been vaunted as a remedy for other conditions, notably the arrest of hæmorrhage (especially hæmoptysis) and respiratory diseases. Within this latter group falls broncho-pneumonia, to which disease alone the ensuing observations refer. Burdick<sup>1</sup> says, "There is now accumulating evidence that the remedy has some beneficent action in this class of diseases aside from that due to its expectorant properties." He goes on to state that Raeburn, Flaudin, and others believe that this action is of a decongestant nature. Little seems to have been written concerning this method of treatment during the past ten years, so some further notes on the matter may perhaps prove of general interest.

#### The Booth Hall Observations.

The cases treated were not picked ones, but 50 consecutive cases of definite broncho-pneumonia, primary or secondary, admitted to the hospital, which takes patients from birth to 16 years old. As a control, 50 further cases treated by any other method were observed, these only being selected in so far that just the same number of secondary cases were taken as had occurred in the emetine series.

#### Dosage.

Bertrand<sup>2</sup> states that for pulmonary conditions he used a smaller dose than that normally given in dysenteric cases. The daily dosage used in this series was roughly in accordance with the following table:

Age up to 4 years ...	...	...	...	1/9 grain
4 to 10 years ...	...	...	...	1/6 "
10 to 15 years ...	...	...	...	1/3 "

These were used as commencing doses, but each case had to be judged by its reaction. In the majority of cases these amounts were found quite adequate to produce effects. The salt of emetine used was the hydrochloride, this being the most readily soluble, and the suitable quantity was administered daily by hypodermic injection.

The number of doses administered to any one case in the series varied from two to nine. In the main it was found that if at the end of six daily injections of the drug the case had not shown definite signs of settling, as regards temperature, pulse, respiration, and clinical picture, little further benefit was to be expected from its use. In a number of cases the doses were discontinued short of six.

*Conditions of Dosage.*

To ensure that the action of the emetine injections only was observed, no other expectorant or diaphoretic mixture was administered along with the treatment. The only additions permitted were local applications (such as antiplogistine), brandy, and injections of strychnine where desirable.

*Effects Observed.*

Even in those cases which did not finally settle after this treatment its effects were evident. These included a fall in the temperature after an injection and a corresponding fall in the pulse rate. The respirations seemed little affected directly, but gradually tended to follow the temperature and pulse. A striking loosening of the expectoration was soon evident, in some cases even after the first injection, and the type of the accompaniments heard on auscultation changed to the coarse bubbling type of rale.

At this point the cases seemed to divide themselves into two groups—one where expectoration became profuse and the chest cleared, the other where the chest appeared to clear up without the occurrence of the free expectoration. It is, of course, possible with children that sputum was swallowed in some of these cases, but this type of clearing seems to have been noted also by Rachburn<sup>1</sup> among his first group type of cases (non-tuberculous). Renou<sup>2</sup> found that the temperature fell, dyspnoea was reduced, and that the facility of expectoration was greatly increased. These effects he found more evident in broncho-pneumonias than in lobar pneumonias.

The depressant action of emetine never made itself really evident, and these cases did not require any more, in the way of stimulants, than the control series. The only case which showed a possible toxic sign (diarrhoea) was one in which the patient died with this as a terminal complication. Whether or not it was attributable to emetine is very doubtful.

Comparison of the figures obtained in the emetine series and those obtained in the control series is not encouraging. Both series consisted of 50 cases, and in each there were 42 primary and 8 secondary cases. The figures are as follows:

	Emetine Series.	Control Series.
Cured ... ..	27 = 54%	30 = 60%
Died ... ..	20 = 40%	20 = 40%
Recovered, but not settled after emetine ... ..	2 = 4%	Nil
Improving; removed by parents ... ..	1 = 2%	Nil

The average duration of febrile symptoms in cured cases was 4.5 days in the emetine series and 6.2 days in the control series.

*Conclusions.*

Both series give a death rate of 40 per cent., and the percentage of definite cures in each case does not differ greatly. Thus emetine hydrochloride on these results cannot be considered as a cure for broncho-pneumonia. The highness of the death rate in both instances may be condoned to some extent by the fact that the majority of the patients were drawn from the very poorest areas of Manchester, were initially possessed of a poor degree of natural resistance, and in many instances were brought to hospital too late to hope for really effective treatment.

The febrile period seems on an average to be reduced in the emetine series, and in both series the fall was by the usual form of lysis.

As previously mentioned, in no case were definite toxic symptoms present, nor was any undue depressant effect noted, nor did any objectionable local reaction occur following injection of the drug.

While not acclaiming the use of emetine as a specific remedy, it certainly appears to be of clinical value, and this may be summed up briefly as follows:

1. In children the effect gained by the daily injection saves in many instances a struggle with the child to get it to take medicines by the mouth, thus giving patient and attendant alike a more restful time. For this alone it should be a valuable method for the general practitioner,

where difficulty in this direction is only too often present owing to amateur nursing.

2. The febrile period of the disease appears quite definitely shortened when the average of cases is taken.

3. The stomach is left free from any irritation by expectorants and given a better chance with such nourishment as may be taken.

My thanks are due to Dr. J. D'Ewart, medical superintendent, for permission to make use of my observations.

## REFERENCES.

<sup>1</sup> *International Clinics*, vol. 11, 1915, p. 42. <sup>2</sup> *Bull. de l'Acad. de Méd.*, 1914, p. 557. <sup>3</sup> *British Medical Journal*, March 28th, 1914. <sup>4</sup> *Gaz. des Hôpitaux*, March 12th, 1914.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## SARCOMA OF THE STOMACH.

Two cases of sarcoma of the stomach have been reported in the pages of the *British Medical Journal* during the past three months by Mr. James S. Hall and Dr. Alexander Smith. As this condition is so rare the following account of a recent case under my care in the Royal Isle of Wight County Hospital may be of interest.

The patient, a gardener, aged 32, had a fainting attack on January 9th, 1928. Previously, although he was anaemic and lackadaisical he had had no severe illness, nor suffered from dyspepsia or pain in the abdomen. On January 11th he had melaena, which lasted until January 20th. From that time onwards his health improved, although he was very weak and profoundly anaemic. The melaena was thought to be due to gastro-duodenal ulceration, for which he was treated. On February 5th, at 2 p.m., he complained of severe epigastric pain, which lasted continuously until he was seen by me at 9 p.m. At that time he looked very ill, and stated that the epigastric pain was still very severe. He had not vomited and his bowels had been well opened. The abdomen was moderately rigid and moved slightly on respiration, and the epigastrium was tender. The liver dullness was not obscured, but extended for two inches below the costal margin. Pulse 72, temperature normal. Nothing abnormal was found in the lungs. In view of this attack of pain supervening on an attack of melaena his condition was thought to be that of a ruptured gastric or duodenal ulcer, so he was removed to hospital for immediate operation.

*Operation.*—On opening the abdomen through a right paramedian incision a maroon-coloured tumour presented. This was delivered and was found to be pedunculated, having a pedicle one inch long and attached by a two-inch base to the lesser curvature of the stomach. The tumour was very much congested with large vessels coursing over its surface. It was firm, about the size of a foetal head, and had the appearance of sarcoma. The tumour was removed together with one inch of gastric wall beyond the attachment of the growth. The stomach was sutured by a double row of stitches, and the abdominal wound closed.

Except for a slight consolidation of the base of the left lung the patient had an uneventful convalescence, and he was discharged from hospital on March 3rd. On April 7th he reported himself to be much improved and able to take a fair amount of exercise and to do a little work. Before leaving the hospital a radiogram was taken of the patient's chest, but there were no signs of secondary deposits of sarcoma in the lungs.

*Pathological Report.*—The tumour was sent to Dr. L. Firman-Edwards, pathologist to the hospital, who reports: The tumour is a large brain-like mass about the size of a foetal head, with numerous small haemorrhages in it. It has the macroscopic appearance of a sarcoma. Microscopically the tumour is made up of spindle-shaped cells with large elongated nuclei, arranged in a whorl-like formation. Between the whorls the cells form a fine network like that of areolar tissue. There are no true blood vessels, but embryonic blood spaces occur throughout the section, and these have in many cases a lining of endothelial cells. The structure is typical of a spindle-celled sarcoma, although in some ways suggestive of an endothelioma.

This case is interesting in that, in spite of the size of the tumour, the patient had no symptoms until the fainting attack and the appearance of melaena, and one was led to suspect rupture of a gastric or duodenal ulcer owing to the sudden attack of acute epigastric pain on February 5th. This sudden onset of pain was undoubtedly due to torsion of the pedicle of the tumour. Its maroon appearance at the time of the operation, and the pathological report of numerous small haemorrhages in it, bear out this assumption.

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## A CASE OF POLYDACTYLISM IN THE FOOT.

ALTHOUGH cases of polydactylism may not be extremely uncommon, it must be rare indeed that an instance, such as that recorded below, is met with in which the patient has as many as three additional digits on one foot. There is, too, more often than not an hereditary tendency to the deformity. This was absent in the present case. Miles Atkinson, in the *British Journal of Surgery* (vol. 9, 1921-22, p. 298), records a case of hereditary polydactylism, in which it was possible to trace the occurrence of the deformity back through four generations: of 48 persons traced, 26, or more than half, exhibited a condition of polydactylism. In no instance, however, was there more than one extra digit on any one limb; although Atkinson



mentions that cases have been reported in which there were as many as eight digits on one hand, and a case with nine toes occurred in America.

The present patient was a lady, aged 82, who was found to have eight separate and fully formed toes on the left foot. On inquiry I could not trace any other member of the family with a similar deformity; indeed, the relatives did not know that the patient had anything wrong with her foot at all. Unfortunately no radiogram of the foot could be obtained.

I am indebted to Dr. Campbell of the Public Health Department for the excellent photograph with which this note is illustrated.

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## Reports of Societies.

EARLY DIAGNOSIS OF CANCER OF RECTUM  
AND COLON.

At a meeting of the Subsection of Proctology of the Royal Society of Medicine on May 9th the subject of the early diagnosis of cancer of the rectum and colon was debated. The chair was taken by Sir CHARLES GORDON-WATSON.

Sir WILLIAM DE COURCY WHEELER, dealing with the surgical aspect, said that he was doubtful whether he had ever seen an early case of cancer of the rectum or the colon, and from the literature he discovered that most surgeons had had the same lamentable experience with regard to late recognition. In the Breslau clinic 70 per cent. of cases of cancer of the rectum were inoperable on arrival, and he thought the figure for St. Mark's, London, was similar. In connexion with the lack of early recognition, he drew attention to the relative frequency of cancer of the distal portion of the colon, because it was just in this situation that early diagnosis ought to be made. From the diagnostic point of view, cancers in the distal region were really external cancers, comparable with cancer of the breast. If early diagnosis could be made there would be a rich reward, for even under present conditions 50 per cent. of excisions of cancer of the rectum, and 60 per cent. in the case of the colon, were followed

by five years' cure. Moreover, under modern conditions, the operative mortality was becoming negligible. With so many missed diagnoses it would be profitable to review the diagnostic armoury. All the authorities he had consulted commented on the lack of thorough examination in suspicious cases. Each patient ought to be examined thoroughly, but he thought it only fair that those who specialized in this branch of surgery should make allowance for the busy general practitioner, who was often misled by high abdominal symptoms predominating in the first instance. He himself had seen several cases, and there were many recorded in literature, which had been examined for dyspepsia by x rays on many occasions, when the cause was within easy reach of the finger in the rectum. Numbers of cases of cancer of the rectum were mistaken for haemorrhoids owing to perfunctory examinations, notwithstanding the fact that students were taught to beware of so inexcusable a mistake. It might help in arriving at an early diagnosis if students examined the pelvis bimanually per rectum in the same thorough and systematic way as the vaginal examination was performed by gynaecologists. Just as tumours in the rectum and rectal sigmoid were easily felt, so tumours higher up could be easily seen, and the simplicity of the sigmoidoscopic examination was insufficiently realized. No examination of this kind was complete without employing x rays after a bismuth meal and bismuth enema, but here he wanted to sound a note of warning to the general practitioner, that radiologists were not infallible, nor were their dicta akin to the gospel. Often a practitioner sent a suspicious case to a radiologist straight away; nothing definite was seen, and the case was left for perhaps a year until an inoperable growth had made its appearance. He thought it a grave mistake to take a radiological report as proof positive of either absence or presence of a rectal or colonic growth, though he gladly admitted that the bricks of the diagnostic building were cemented together by the radiological findings. In the routine examination of the faeces occult blood was not found unless there was some definite alteration of the gastro-intestinal tract. After speculating on the cause of the anaemia in cancer of the colon, which might be due to the loss of small amounts of blood, he said that the anaemia was never a contraindication to operation, though exploration should be the last resort. If there were occult blood and suspicious symptoms, and if the x-ray findings were suggestive, the case was one for exploration, supposing no tumour was palpable. Unfortunately there always remained a group of patients who would not seek medical advice. They corrected their constipation by purgatives, their diarrhoea by astringents, and their lassitude and weakness by change of air and holidays; they were doctored by themselves, their friends, and the daily press. Some good might come in this respect from cancer campaigns, and the public must be taught to avoid those paths of neglect which led inevitably to the grave.

Dr. CUTHBERT DUKES described the way in which the pathologist could be of most service in the diagnosis of cancer at an early stage. He would leave on one side those still unsettled problems of pathology that centred round the origin of malignancy, and limit himself to answering the practical question, "What can a pathologist do to help the surgeon make up his mind whether or not his patient has cancer of the bowel?" and said that the answer was disappointingly brief; it was limited to the fragment removed for diagnosis. He knew no reliable way of recognizing those changes in the blood which must accompany cancer from its first beginning. Some time ago he had hopes of agglutination tests with a peculiar strain of *B. coli*, but the procedure proved useless for diagnosis, because only in the later stages of cancer was it positive, and even then the results were often equivocal. Similarly, the alterations in the urine which eventually accompanied rectal cancer arrived too late to be of practical value in diagnosis. The chemical and microscopical examination of the faeces had been explored almost in vain. The occult blood test might be useful in certain cases, but many other possible sources of blood in the stool had to be borne in mind. The prospect of finding a fragment of cancer epithelium in the

daily dejecta was about as hopeless as the search for a needle in a haystack. There was, however, one aspect of recent work at St. Mark's Hospital which might be useful to surgeons. The so-called innocent adenoma of the bowel was a frequent precursor of cancer, and Dr. Dukes had had the opportunity of demonstrating to the Subsection preparations illustrating the onset of malignancy in adenomatous tumours, pointing out how often an early bowel cancer was accompanied by a cluster of sessile adenomata and patches of epithelial hyperplasia scattered over the mucous membrane for several inches above and below the growth. The existence of these proliferations was a warning against the misconception of regarding the malignant disease as strictly limited to the area of the bowel which bore the cancer. If on sigmoidoscopic examination no obviously malignant tumour were discovered, this observation should point to the need for a very close medical supervision in the immediate future, with re-examinations with the sigmoidoscope. With regard to the microscopic examination of fragments of suspected tumour, already defined as the most useful function of the pathologist in early diagnosis, it was worth while to consider which particular region of the tumour was most likely to permit a decisive opinion. The pathologist made up his mind chiefly from the general disposition of the cells and their relation to neighbouring tissues. Too much reliance should not be placed on the morphology of individual cells, for in a rapidly growing adenoma in which the interrelationship of the epithelium was strictly preserved, and in which there was no encroachment into subjacent tissues, cells might be found which exhibited all the generally accepted marks of malignancy. The individual cancer cell, separated from its fellows and neighbours, possessed no histological feature that might not be paralleled in a cell separated from a non-malignant tumour. With isolated cells the highest magnification could not distinguish the malignant from the benign. Much more could be learnt from the general arrangement of the epithelium, but this also must not be taken as an invariable guide, because the disorderly disposition of the cells in cancer might be closely mimicked by the proliferation of a benign tumour. The only unequivocal sign of cancer of the bowel was the intrusion of atypical epithelium into regions where such epithelium was not normally found. The particular features which the pathologist wished to study were most conspicuous in the tissue at the edge of the tumour. A fragment removed from this region would show the normal epithelium side by side with the neoplastic, and would allow of comparisons being made between the natural histological appearance and the disorderly disposition of the new growth. Moreover, the margin of the cancer was its growing point, and therefore a fragment from the edge was the best means of recognizing the nuclear peculiarities of malignant cells. The manner of removal of the fragment was important. It should be handled carefully, and not squeezed or cut with the knife or scissors. If the fragment could be removed by dissection that was the method of choice, but almost equally satisfactory samples could be obtained by means of a punch. Finally, it was well to remember that a negative report, stating that there was no evidence of malignancy discoverable, did not necessarily imply that the whole tumour was benign. The report referred only to the particular portion sent for examination.

Dr. GRAHAM HODGSON, who spoke from the radiological point of view, said that it was generally acknowledged that an efficient x-ray examination could be of great assistance to the surgeon by confirming clinical suspicions and by localizing the growth and defining its extent. The most important radiological sign of carcinoma of the colon was a filling defect, and he showed on the screen many examples of the radiographical appearance of this. Early growth in the part of the colon where the calibre was wide, as in the caecum, was very apt to escape observation if screened or radiographed in the antero-posterior plane. In these situations oblique views were essential. He also described the dual exposure technique.

Dr. ARTHUR F. HURST said that the advanced period in the case at which the surgeon or physician saw the patient was lamentable. In his last twenty-four private cases the

average duration of symptoms before the patient came to him was ten and a half months. A careful history of symptoms was the most important thing in diagnosis. The patient usually had some definite abdominal symptoms, which came on fairly suddenly after a period of health; generally there was discomfort and some change in the regularity of the bowel action, almost as often a tendency to looseness and irregularity as to constipation. On further investigation it was striking how infrequently was there any abnormality in the stools. Out of the twenty-four cases just mentioned the stools in only five showed, on naked-eye examination, any abnormality, but on a more elaborate examination occult blood was found without a single exception. He thought that of all the signs and symptoms the presence of occult blood was the most constant. He had never yet seen a case of growth in the stomach or colon without occult blood being present. Occult blood might, however, also be found in one or two other conditions, including rare cases of tuberculosis of the colon, and, curiously enough, localized adhesions. With regard to x-ray examination, all were agreed as to its great value, but it was very important to realize that there were cases of fairly advanced growth of the colon in which a barium enema showed no abnormality. Both the delay and the shape of the filling defect helped to distinguish the growth from other conditions which might simulate it. He emphasized the value of the sigmoidoscope, and added that until this was recognized as an instrument which the general practitioner ought to use cases would be missed. There were certain cases, however, in which the sigmoidoscope did not help, and diagnosis depended on indirect methods, such as x rays and occult blood. In the earliest cases of all x rays were negative, no tumour was palpable, and all one had was the history and the occult blood.

Mr. J. P. LOCKHART-MUMMERY said that if growths in the colon were detected during the early stage the results of operation were admirable, and the recurrence rate low. He doubted whether 25 per cent. of cases of carcinoma of the colon ever reached the surgeon in an operable state. Methods of diagnosing carcinoma of the colon had improved enormously during the last twenty years. In his early practice it was extremely rare to come across a case unless there was acute obstruction, but now in at least half the cases of carcinoma of the colon that he saw there was no obstruction, or such obstruction as existed was relieved without operation. The improvement in diagnosis was partly due to the use of the sigmoidoscope, partly to the testing of occult blood, and very largely to the x-ray picture and its careful interpretation. The x rays were most useful as confirmatory evidence, though they should never be taken as negating a positive diagnosis. The general practitioner, however, was coming to realize the importance of early and thorough investigation, and the education of the public would follow in due course.

Mr. W. B. GAMMEL said that among the out-patients at St. Mark's he had discovered during the last few years an appreciable number of early carcinomas which the patients themselves had not suspected, having come for some minor condition such as piles.

Mr. L. E. C. NORBURY emphasized the need of routine examination of the patients. He had had two cases of unsuspected carcinoma of the lower sigmoid in youngish patients who came up with a history of recent piles. It was tempting to assume that that minor cause was the whole trouble, but the sigmoidoscope showed an early growth. Any youngish patient who gave a recent history of piles should be very carefully examined with a view to the detection of carcinoma. The general practitioner could help more, but the trouble was that the national insurance system practitioners had such huge lists as to make it quite impossible for them to perform any routine examination.

Mr. E. T. C. MILLIGAN thought it very important that the patient should not undergo any preparation before a sigmoidoscopic examination, since, if the bowel was washed out before using the instrument, the whole appearance was often changed. Frequently the sigmoidoscope enabled a diagnosis to be made, even in the absence of a shigram.

In a tumour high up palpation should always be performed, since it might indicate whether induration was present.

Sir WILLIAM WHEELER, replying briefly on the discussion, touched on the difficulty of learning the subsequent course of events after patients had been operated upon. One practitioner to whom he wrote specially about a patient who had survived for at least four years after operation replied that the man had suddenly disappeared. The speaker did not think a patient should be sent to the radiologist without particulars, since a negative report was more likely, and the patient might drift on in false security. There was value in the suggestion that preparation should not precede an examination with the sigmoidoscope.

### BOTHRIOCEPHALUS INFECTION.

At the annual general meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on May 3rd the president, Professor R. T. LEIPER, described a cryptic infection with *Dibothriocephalus latus*.

Professor Leiper said that it had frequently been supposed that bothriocephalus infection in man caused a serious type of pernicious anaemia, but experimental proof of this was still lacking. In 1922 a number of experimental infections in man with this parasite had been undertaken in his department at the London School of Tropical Medicine. Two of these were maintained for over three months, and the parasites were then expelled with molo fern. No appreciable anaemia was produced, but there was an eosinophilia which increased to about 15 to 16 per cent. after three weeks, and thereafter diminished to about 2 per cent. for the remaining time. In one of these cases treatment was apparently successful as, although no heads were recovered, no ova were found in the stool after several weeks. In February, 1928, the patient contracted bacillary dysentery in Egypt, and an examination of his stool in connexion with this infection disclosed the fact that the tapeworm was still present. Professor Leiper thought that there was little doubt that this was a continuation of the original infection. An examination of the blood showed that the eosinophilia was still under 2 per cent., while the total count was 7,000,000 red and 6,150 white cells. The only clinical symptoms were occasional tenderness in the epigastrium beneath the gall-bladder, and at other times in the region of the umbilicus and the appendix. No migrating segments of the tapeworm had been seen in the stool since treatment, although careful search had been made for them. The fact that no anaemia had developed during the five years of infection suggested that there was still some unknown contributory factor involved in this so-called bothriocephalus anaemia. Professor Leiper also demonstrated sections of the intestine of an experimentally infected animal to show that the fluke *Heterophyes heterophyes* was actually pathogenic and caused an erosion of the mucosa. Finally, he drew attention to the fact that bilharzia disease, which had been reported from Cyprus many years ago by Dr. G. A. Williamson, had recently been found by himself still in the same endemic focus. Four out of seventeen boys examined had ova in their urine. A prolonged search for snails disclosed *Bullinus* locally, although not elsewhere on the island. Cyprus, geologically, was connected with Asia Minor—not with Egypt—and the recovery of *Bullinus* from various other islands in the Mediterranean suggested that it was once widespread before the submergence of the basin. The parasite might have come to Cyprus either from Egypt or from Syria.

#### Climate and Epidemic Disease.

Sir LEONARD ROGERS then gave a lantern demonstration entitled "Climate and the incidence of small-pox, plague, and cholera, and the forecasting of epidemics." He said that small-pox epidemics had gradually decreased as vaccination had increased, and epidemics were now irregular in India. The incidence was high in certain States, such as the Punjab and the United Provinces, but very low in Bengal; he showed that it varied directly with the absolute humidity, and not with the temperature. A low absolute

humidity was always followed by an epidemic. In England, owing to lack of vaccination, the disease had increased over sixtyfold in the last six years, and here also the lowest absolute humidity (which was in December) was followed by an increase in the number of cases in January. The reverse was also true, and the lowest number of cases was in the month following the lowest absolute humidity. Here, of course, relative humidity and absolute humidity were almost equal. Plague varied very much in India with population, temperature, and the species of rat flea present, but Sir Leonard Rogers demonstrated that the epidemics depended on the saturation deficiency, computed from the absolute humidity and the temperature; when this was low plague was low in the following year. Cholera was believed a hundred years ago to have spread all over India from a focus in Bengal, but it did not do so now. If the absolute humidity was low the disease died out in the cold weather, and widespread cholera was impossible. The various outbreaks followed the rise in absolute humidity. The endemic areas in India were Assam, Bihar, South-East India, and Bombay, where it had not been absent during the past thirty years. A knowledge of these facts would enable the local authorities to forecast epidemics and take the necessary steps to stop fairs and pilgrimages, or to make arrangements for combating the infection in time.

### THE KAHN TEST FOR SYPHILIS.

At a meeting of the Scottish Branch of the Medical Society for the Study of Venereal Diseases on May 2nd, in the Hall of the Royal Faculty of Physicians and Surgeons of Glasgow, with Dr. W. G. CLARK in the chair, Dr. R. L. KAHN gave a lecture on the clinical aspects of the Kahn reaction.

Dr. Kahn first reviewed the history of serum diagnosis of syphilis, touching upon the discovery of the *Spirochaeta pallida* by Schaudinn and Hofmann, the extension of knowledge about complement fixation by Bordet and Gengou, and the development of the Wassermann test by Wassermann, Neisser, and Bruck. He then discussed the early attempts to develop a precipitation test for syphilis, beginning with that of Michaelis in 1907, and reviewed the work of Sachs and Georgi, Meinicke, and Dreyer and Ward. Dr. Kahn said that his own early studies were in connexion with the phenomenon of precipitation. He showed that the requirements for optimum precipitation results when syphilitic serum was mixed with an antigen-saline suspension were as follows: (1) optimum concentration of antigenic lipoids in the antigen, excessive or deficient concentration preventing precipitation; (2) proper physical state of antigen suspension; (3) correct quantitative relation between serum and antigen suspension: the number of antigen units must not exceed the number of serum units; (4) shaking—as a probable means in hastening collision between the interacting particles; (5) dilution of the mixture of serum and antigen suspension should be a minimum. These observations formed the basis of the Kahn test. The outstanding features of the test were its relative simplicity in performance, the rapidity in obtaining results—the test requiring no incubation and being completed after shaking the reagents for three minutes—its relative economy, its availability in all parts of the world, and its application to research in extending knowledge of the serum diagnosis of syphilis. With regard to the relation between the Kahn and Wassermann tests, Dr. Kahn claimed that the interaction between serum and antigen was the same in both. The result of this interaction was directly visible in the Kahn test by the formation of a precipitate, while in the Wassermann test, the result being invisible, a special indicator (the haemolytic system) was employed to render the reaction visible. The Kahn test was described as being highly specific for syphilis and not affected by pathological conditions other than syphilis, but it should not supplant careful clinical study of each case. Dr. Kahn also discussed such extensions as the quantitative serum test, the qualitative and quantitative spinal fluid investigations, and the more sensitive "presumptive" procedure.



## Rebichus.

### FRACTURES OF THE NECK OF THE FEMUR.

PROFESSOR PIERRE DELBET is well known as an advocate of early surgical intervention in the treatment of fractures and some other injuries. Two of his disciples, Drs. Jacques LEVEUF and CHARLES GIRODE, surgeons to the hospitals of Paris, have put on record their experiences in the study of operations for fracture of the femoral neck, with special reference to the remote results of such proceedings.<sup>1</sup> Their statistics include 83 cases treated with metal screws and 57 treated with autogenous bone grafts or heterogeneous bone pegs, including 7 in which the methods of autogenous graft and metal screw were combined. The mortality of the metal screw cases amounted to 13.25 per cent., while that in the bone graft cases was only 3.5 per cent. The authors explain that this great contrast is due to the severity of the cases subjected to the metal screw method being much greater, and that also these cases were all recent, while the others were not so. In a late series of metal screw cases (1920-24) there have been no deaths. As to the old bugbear of hypostatic pneumonia and the dangers of keeping elderly people in bed, it has become the custom in Professor Delbet's wards to keep patients in bed for sixty days, so as to make sure of good union before allowing walking.

In the second part of the book an elaborate apparatus and its application are described, by the use of which the position of the fragments is ascertained under the x rays. This appliance is maintained in place during transit from the x-ray room and upon the operating table. It carries a guide through which drills and pegs or screws are passed, and the authors claim that with its use they can be sure of inserting pegs and screws in the correct position in the neck and head of the femur. The operation thus performed is not subcutaneous, for the great trochanter has to be exposed by incision through skin, fascia, and muscles, but the joint is not opened except in so far as is necessitated by the passage of a peg into the head. From January, 1924, to May, 1926, 23 cases were operated upon in this manner with 2 deaths—one, aged 50, from acute suppurative arthritis, and one, aged 67, from cardio-pulmonary affection forty-eight hours after operation. Fifteen results are classed as "good," and 6 as "bad," excluding the 2 fatal cases.

This report, if we may so term it, is a valuable one and full of information, and it can be recommended to those who are interested in the treatment of this troublesome fracture. The apparatus described by the authors appears to us to be complicated and clumsy, but the fact remains that in their hands its use has given good results. Evidently much practice, accuracy, skill, and team work are required for the successful use of this machine. That it does not exclude the risk of sepsis, against which it was chiefly designed, is shown by the facts recorded by MM. Leveuf and Girode. We think that in those cases for which nailing is thought more suitable than Whitman's abduction method most British surgeons will continue to prefer the open method such as was described by Mr. Hey Groves in his Bradshaw Lecture (*British Journal of Surgery*, vol. 14, p. 485), by which the actual state of things can be exposed to the eye of the operator, and all chance of the interposition of soft parts between the fragments is done away with.

### RADIOGRAPHY OF THE URINARY TRACT.

So many advances have been made since the publication of Dr. W. F. BRAASCH's work on *Urography*<sup>2</sup> ten years ago that his second edition, prepared in collaboration with Dr. B. H. HAGER, is to all intents and purposes a new book. By the comprehensive title of "urography" is meant

all methods of investigating the urinary tract by x rays after distending the lumen with opaque fluid. At one time this method of study was confined to the pelvis and calyces of the kidney, but it has now been used throughout the whole of the urinary system. Dr. Braasch's position at the Mayo Clinic has afforded him unique opportunities for the employment of urography, and it may be said without hesitation that the collection of plates published in his new work is the finest that we have seen.

In the chapter dealing with the normal renal pelvis as many as ninety-nine excellent pyelograms have been produced, showing every variety of kidney that may be considered to lie within the range of normality. This large collection allows the reader to appreciate the various forms the normal pelvis may take. Since the chief danger in the interpretation of a pyelogram lies in the mistaking of a variation of the normal kidney for an abnormality, the reproduction of this excellent collection is invaluable. Following the section on the normal kidney are chapters dealing with abnormalities of position, dilatation from obstruction, dilatation of the pelvis and ureter resulting from inflammation, renal and ureteral calculi, renal tumours, and congenital abnormalities. All of them are illustrated with excellent plates, and in the text sound advice is given on the subject of diagnosis. Chapter xi is devoted to cystography. The author has found, as have many other urologists, that the use of solutions of the halogens is often followed by intense pain, and he has therefore employed, for the purpose of distending the bladder, a 5 per cent. emulsion of silver iodide. This not only serves as an excellent opaque medium, but has the advantage of exerting a soothing antiseptic action on an inflamed bladder. He has found cystography of use in the diagnosis of diverticula, new growths, and prostatic enlargement. For the making of urethrograms he employs the same solution of silver iodide, placing the patient in the dorso-lateral position and tilting the pelvis to an angle of 45 degrees with the horizontal. The urethra is distended by means of a syringe, and the opaque solution is injected during the entire time of exposure. This is necessary, since otherwise the posterior urethra will not be shown on the plate, owing to the rapid escape of fluid into the bladder.

In conclusion it may be said that this is the most complete work on the subject that has yet been published in the English language. The illustrations have been chosen from what must be one of the finest collections of pyelograms at the command of any single urologist, and discrimination and a nice sense of proportion have been shown in deciding on those which should be reproduced. The text, which deals chiefly with the interpretation of the plates, is written in clear and simple language, so that the author's reasons for arriving at his diagnosis are easily appreciated. Certain more recent allied methods of diagnosis, such as pycloscopy, have not been included within the scope of the work, but otherwise it may be regarded as complete. It is unfortunate that the cost of reproducing so many plates has forced the publishers to make the price of the work so high as it is.

### METHODS OF CLINICAL DIAGNOSIS.

In choosing the volumes which are to form his own intimate library for immediate and ready reference, it is of the utmost importance for the student and the recently qualified man to include at least one of those handy little books which deal with the bedrock elements of professional knowledge, without which the most comprehensive display of textbooks is but as the sounding brass and the tinkling cymbal. In extending a hearty welcome to the latest of these, *The Methods of Clinical Diagnosis*,<sup>3</sup> by Drs. A. G. GIBSON and W. T. COLLIER, it is safe to predict for it a speedy popularity. The authors wisely remark that more errors are due to the omission of some part of the examination of a patient than to misinterpretation of the signs discovered, and throughout the book emphasis is laid on the systematic observation of every

<sup>1</sup> *Le Traitement des Fractures du Col du Fémur*. Par Jacques Leveuf et Ch. Girode. Paris: Masson et Cie. (Roy. 8vo, pp. 148; 164 figures, 30 fr. sans majoration.)

<sup>2</sup> *Urography*. By William F. Braasch, B.S., M.D., F.A.C.S. In collaboration with Benjamin H. Hager, B.S., M.D. Second edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company. (Roy. 8vo, pp. 480; 759 figures. 60s. net.)

<sup>3</sup> *The Methods of Clinical Diagnosis*. By Alexander George Gibson, M.D., F.R.C.P., and William Tregonwell Collier, M.D., M.R.C.P. London: E. Arnold and Co. (Cr. 8vo, pp. viii + 353; 136 figures. 12s. 6d. net.)

detail so that even the slightest sign of abnormality may not be missed.

The book follows the lines usually adopted in works of this kind. Commencing with an account of the general methods of examination commonly employed, a chapter is devoted to the examination of the regions of the body from scalp to sole. The systems are then discussed seriatim, special chapters being devoted to the examination of children and to clinical pathology. The book is packed with useful information presented in a lucid and interesting manner. Throughout attention is focused on clinical observation, instrumental and laboratory investigations being very properly shown to be supplementary to and never to be substituted for a thorough examination of the patient himself. At the same time all the chemical methods in general everyday use, such as the fractional test-meal, tests of renal efficiency, urine analysis, and so forth, are briefly but clearly described.

It is surprising what a wealth of information the authors have compressed within 398 pages, and that they should have done so in such a readable manner is proof that they have accomplished what they set out to perform. The make-up of this book is a great advance upon that of some, at least, of its popular prototypes. The printing is clear and the diagrams are adequate. A work such as this will be constantly referred to not only by the student, but by the man in busy practice. Drs. Gibson and Collier are to be congratulated upon producing a volume worthy of the school which Sir William Osler did so much to invigorate and revitalize.

#### THE MEDICAL ANNUAL, 1928.

The *Medical Annual*<sup>4</sup> is an old and tried friend and its reappearance is always welcome; the forty-sixth issue, with its array of able contributors and its wealth of practical information, fulfils our expectations. Research is no longer confined to the laboratory; all clinical workers have become imbued with its spirit. Although 1927 was not marked by the discovery of any outstanding specific remedy, there has been much steady progress. In medicine the liver treatment of pernicious anaemia has occupied a great deal of attention during the past year, and two papers appear on this subject in the volume under review; one of them deals with the principles on which the treatment is based and their significance in relation to the prognosis and pathogenesis of this disease. An interesting summary of the malarial and other microbial methods in pyrexial therapy is given. Alcoholism is dealt with by two writers—in relation to tests for drunkenness and to the treatment of chronic inebriety—and there are articles on the value of antimony in kala-azar and of chaulmoogra oil in leprosy. The specific serum for employment in acute poliomyelitis, prepared by the Pasteur Institute of Paris, and the treatment of epilepsy are discussed; while a group of papers deals with epidemic encephalitis. There is a careful review of present knowledge about vitamins. Among newer drugs, cardiazol, novasurol, and ouabain are considered in relation to their action on circulatory failure. Students of preventive medicine will find much of interest in the papers on the reduction of infantile mortality, on the etiology of rheumatic fever, on isolation with quarantine in pneumonia, and on epidemics in boarding schools. Two modern methods of treating gonorrhoea are described: by intra-urethral and subcutaneous injections of toxin-free gonococcal preparations, and by irrigations with mercurochrome and glucose. The suggestions for the treatment of cases of gonorrhoea and syphilis on the lines followed at St. Thomas's Hospital deserve attention.

Recent progress in surgery is reflected in papers dealing with toxic symptoms in appendicitis and their treatment with anti-gas-gangrene serum, the importance of the CO<sub>2</sub> content of the blood in abdominal surgery, prolapse of the rectum, cerebral abscess, oesophageal spasm, and intussusceptions in children. A case is recorded in which the abdominal aorta was successfully ligatured. A paper on the treatment of sprains and synovitis should prove of

value to the general practitioner; and the articles on the isolation of an organism in cases of trachoma, on the relation of foreign proteins to conjunctival spring catarrh, and on the effect of the cinema on the eyes will be of interest to the ophthalmologist. Many obstetrical and gynaecological papers appear, among which may be mentioned those on gonital prolapse, sterility, and the care of the pregnant woman. Various anaesthetics and anaesthetic measures are described, and the series of papers on radiotherapy contains much helpful information. Scattered throughout the book will be found many practical notes on diagnostic methods, such as liver function tests and cholecystography, and a section is given to the pathology of "late" rickets.

The usefulness of the *Annual* is much increased by well-reproduced diagrams and plates, and by the inclusion of items of general information, such as lists of new drugs and medical and surgical appliances; books of the year and medical and scientific periodicals; a directory of sanatoriums, spas, and other institutions; and an official and medical trades directory. Of the work as a whole we may say that the editors, Dr. Carey Coombs and Mr. Rendle Short, have once more performed a difficult task with skill and judgement.

#### FOUR TEXTBOOKS OF BACTERIOLOGY.

Dr. WHITBY's book *Medical Bacteriology*<sup>5</sup> is a conveniently sized handbook on medical laboratory methods. A short description is given in the first part of the book of all the pathogenic bacteria and protozoa and the commoner helminths, and in the second part, devoted to applied bacteriology, the author discusses the use of bacterial preparations, the collection and examination of specimens, laboratory aids in the diagnosis and treatment of individual diseases, and the bacteriology of water, milk, and food. For the student this volume has the merit of being neither too detailed nor too condensed, and for the regular laboratory worker its practical outlook should ensure it a prominent place of reference on the bookshelf.

We have before us an old copy of the fifth edition of ZINSSER's *Text Book of Bacteriology*, which appeared in 1922, and also the sixth edition of 1927, and we notice many additions in the present edition,<sup>6</sup> notably in the new section on the pathogenic protozoa and in the sections dealing with immunology. Substantial alterations have been made in the chapters on pneumonia and streptococcus diseases; a separate section dealing with scarlet fever has been inserted; the chapters on the filterable virus have been completely rewritten and rearranged. These are only a few of the changes. We notice that in every chapter of this long and carefully documented book the author has persevered in his original plan of providing a fairly full account of the present state of our knowledge of the bacteriology of the infectious diseases, with critical reference to many modern developments of theory and technique.

Professor FORD's *Text-Book of Bacteriology*<sup>7</sup> is an example of an attempt to give a complete and accurate description of the microbes commonly encountered in routine bacteriological work in medicine, comparative pathology, hygiene, and public health. But the impartial cataloguing of this host of microscopic creatures is almost a superhuman task, and the author has been forced to give prominence to the human pathogenic bacteria and the problems they create, and to give only a brief description to all other bacteria. Although the book begins by approaching bacteriology as an independent science, the reader is conscious of a change of direction as he proceeds through the sections of general and systematic bacteriology to those which deal with infection and immunity. But

<sup>5</sup> *Medical Bacteriology: Descriptive and Applied, including Elementary Helminthology*. By L. E. H. Whitby, M.D. Camb., M.R.C.P. Lond., D.P.H. London: J. and A. Churchill. 1928. (5 + 81, pp. vii + 320; 74 figures. 10s. 6d.)

<sup>6</sup> *A Text Book of Bacteriology*. By Hans Zinsser, M.D. With a section on pathogenic protozoa by E. E. Tyzzer, M.D. Sixth edition, rewritten, revised, and reset. New York and London: D. Appleton and Co. 1927. (Med. 8vo, pp. xx + 1053; 181 figures. 30s. net.)

<sup>7</sup> *Text-Book of Bacteriology*. By William W. Ford. Philadelphia and London: W. B. Saunders Company. 1927. (Roy. 8vo, pp. 1069; 186 figures, 9 plates. 37s. 6d. net.)

<sup>4</sup> *The Medical Annual*. Forty-sixth year. Bristol: J. Wright and Sons, Ltd. London: Simpkin, Marshall, Ltd. 1928. (Demy 8vo, pp. xcix + 630; 120 figures, 55 plates. 20s. net.)

the additional information that the book contains which is not found in ordinary medical textbooks of bacteriology is extremely useful for reference purposes, as is also the unusually detailed treatment of the spirochaetes in Part V.

In its original form STITT'S *Practical Bacteriology, Blood Work, and Animal Parasitology* was intended to serve as a textbook in clinical pathology for students of the American Naval Medical School, but with the enlargements of subsequent editions the former plan of a pocket manual has been abandoned, and the book has now grown to more than 800 pages. We have directed attention to earlier editions as they have appeared, and need only say that the revision now accomplished has not entailed any fundamental alterations, except perhaps the adoption of the terminology of the Society of American Bacteriologists in the "keys" at the beginning of each chapter. The previous names have, however, been retained in the descriptive matter and in the clinical notes of the bacteria important in human pathology.

#### THE PIRQUET SYSTEM OF NUTRITION.

In 1923 Dr. E. NOBEL published an account of the Pirquet system of nutrition, which had been devised in Vienna during the war and post-war period. In preparing a second edition of this little book on the nutrition of healthy and sick children,<sup>9</sup> intended for the use of practitioners and students, he has had the assistance of Professor PIRQUET and Dr. R. WAGNER. It is arranged in two sections. The first, of less than twenty pages, explains the theoretical aspects of the subject; the second deals at much greater length with the practical applications of the method, first to healthy and then to sick children. It may be recalled that the basis of the system is the use of the "nem," defined as the nutritive value of one gram of standard human milk, and the nutritional requirements are worked out from the square of the "sitting height." It is shown that there is a relation between the weight and the sitting height: in the healthy adult the sitting height in centimetres equals the cube root of ten times the weight in grams. These facts are mentioned because the obvious criticism of the system as here set out is that it is unnecessary and adds complications to what is already often a feat of mental arithmetic—namely, infant feeding. These basic criticisms of the system apart, however, this little book gives an excellent and well-illustrated summary of the nutrition of the healthy and the sick child, and it is a good example of how to concentrate much mental pabulum in a very small bulk.

#### NOTES ON BOOKS.

The familiar little practical textbook of *Experimental Physiology*<sup>10</sup>, by Sir E. SHARPEY-SCHAFER must have tutored a long line of medical students during its academic life of fifteen years. It now renews its youth in a fourth edition. The occasion for the present edition appears to be merely that its predecessor has run out of print, rather than any signs of ageing of its substance, for the text remains virtually unchanged. There appear a total of eight new pages, for which the reviewer can account by the addition of one or two new experiments—for example, on chronaxy and on the entoptic appearances of the lens and vitreous humour—and an occasional clarification and elaboration of technical descriptions.

The fourth edition of the now well-known *Recent Advances in Medicine*<sup>11</sup> by Dr. G. E. BEAUMONT and Professor E. C. DODDS, has been brought up to date by many minor changes in the various chapters. A new section has been added on spinal cord compression which gives an account of combined cisternal and lumbar puncture, with an illustrated description of lipiodol in the diagnosis of spinal cord compression. In the chapter on disorders of the endocrine system a section has been included

on the parathyroids, and the clinical applications of the use of the new potent extract of these glands are carefully considered. A fuller and clearer description of the action of quinine now appears in the chapter on the heart, and there is also an account of "cat-unit tablets" of digitalis leaves in the treatment of heart failure. The extended care which has been taken with the bibliography at the end of each chapter and the wide scope of the authors quoted make this a particularly valuable book, not only for post-graduate students, but as a reference work for those studying for higher examinations. In short, this new edition maintains the high standard of "Beaumont and Dodds."

In *The Divine Origin of the Craft of the Herbalist*,<sup>12</sup> written at the request of the Society of Herbalists, Sir A. E. WALLIS BUDGE, formerly keeper of Egyptian and Assyrian antiquities of the British Museum, describes briefly the attributes and works of the earliest gods of medicine in Mesopotamia and Egypt, and shows that the Sumerian, Egyptian, Babylonian, and Assyrian herbals formed the basis of the Greek herbals, which were translated into Syriac and Arabic, and thus became known in Western Asia, spreading to Turkestan and China. The great nations of antiquity believed that the gods were the first herbalists, and taught the denizens of this world the art of healing by plants and herbs, which were regarded as composed of, or containing parts of, the bodies of the gods. Water was to the Egyptians "the Father of the Gods," and "the Water of Life," and Osiris was a grain god and introduced wheat and the vine into their country; vegetable oils were early recognized as valuable in protecting the skin from the heat, and, indeed, were regarded as effluxes from the body of Ra, the Sun God. The herbals of various nations are described, with illustrations from manuscripts in the British Museum. Sir Wallis Budge, while recalling that the herbalist craft fell into sad disrepute in the nineteenth century, and illustrating this by his early recollections of a herbalist's shop in 1865, suggests that the craft may now be regaining its rightful position in Great Britain among the systems of medicine which have been evolved by generations of men in their efforts to heal their bodies.

Dr. KENNETH ROGERS, who has explored deeply the records at the Guildhall and various parish registers, has written an interesting pamphlet on *The Boar's Head Tavern in Eastcheap*.<sup>13</sup> Incidentally, he has recovered the names of the vintners, and helped to locate the exact site of the tavern. Of this supposed resort of Falstaff and Prince Hal in Shakespeare's *Henry IV* nothing now remains except the original sign in the Guildhall Museum and the Falstaff cup and the tobacco box which were used at vestry meetings of St. Michael's parish when held in the tavern. St. Michael's, one of Wren's churches, and the tavern buildings were both demolished in 1830 to make room for the approach to the new London Bridge. Dr. Rogers's booklet is illustrated with pictures of St. Michael's Church, the Boar's Head, sundry tokens, and the Falstaff cup.

<sup>12</sup> *The Divine Origin of the Craft of the Herbalist*. By Sir A. E. Wallis Budge. London: Cuspeper House, by the Society of Herbalists. 1928. (Demy 8vo, pp. xii + 96; 13 illustrations. 5s. net.)  
<sup>13</sup> *The Boar's Head Tavern in Eastcheap*. By Kenneth Rogers, M.D. Lond. Foreword by the Rev. J. J. Fynes Clinton. London: The Homeland Association, Ltd. 1928. (Cr. 8vo, pp. 58; illustrated. Paper cover, 3s. 6d. net; cloth, 4s. 6d. net.)

#### PREPARATIONS AND APPLIANCES.

##### A DUAL CONTROL UNIT FOR RADIOGRAPHY.

A FACILITY having some resemblance to that which was afforded to the photographer in the advent of the reflex camera is now forthcoming in radiology by a device brought out by Newton and Wright, Limited, of Hornsey Road, London. It has often happened that the radiologist, while watching the image on the fluorescent screen, has desired to make a plate record of some condition only visible for a short period. To do this, however, has necessitated the suspension of the screen examination and the making of certain adjustments, by which time, probably, the phenomenon has disappeared, and the plate reveals nothing unusual. By this new arrangement, which is known as the "Holway" dual control unit, the controls on the main switchboard are adjusted for the production of the necessary radiographic current through the tube, but for the time being these are left in reserve. The patient is examined with the screen, and, thanks to the dual control, the ordinary screening current, which, of course, is much less than that required for rapid radiography, is employed. When any appearance of which it is desired to make a permanent record presents itself a half-plate cassette, which had been fixed in a kind of protective tunnel, is slipped instantaneously into position, and by means of a foot control the current required for radiography is at once passed through the tube. After this the screen examination may be resumed, again by the manipulation of a foot control. It is a happy contrivance, capable of being used in conjunction with almost any type of x-ray plant, and judging by the number of times we have heard x-ray workers lament the lack of something of the kind—to record, for example, a filling defect in the duodenum—it should achieve considerable popularity.

<sup>9</sup> *Practical Bacteriology, Blood Work, and Animal Parasitology*. By E. R. Stitt, Ph.D., M.D., Sc.D., LL.D. Eighth edition. London: H. K. Lewis and Co., Ltd. 1927. (Post 8vo, pp. xv + 837; 685 figures. 2s. net.)

<sup>10</sup> *Ernährung Gesunder und Kranker Kinder*. Von E. Nobel, C. Pirquet, R. Wagner. Zweite, völlig umgearbeitete Auflage. Wien: J. Springer. 1928. (64 x 94, pp. vi + 159; 78 figures. R.M.12.)

<sup>11</sup> *Experimental Physiology*. By Sir Edward Sharpey-Schafer. F.R.S. Fourth edition. London and New York: Longmans, Green and Co. 1927. (Demy 8vo, pp. xviii + 139; 90 figures. 6s. net.)

<sup>12</sup> *Recent Advances in Medicine*. By G. E. Beaumont, D.M.Oxon, F.R.C.P., H.P.H. Lond., and E. C. Dodds, M.D., Ph.D., B.Sc., M.R.C.P. Lond. Fourth edition. London: J. and A. Churchill. 1928. (5½ x 8½, pp. xiv + 426; 48 figures. 12s. 6d. net.)

# CONFERENCE ON RHEUMATIC DISEASES.

BATH, May 10th and 11th, 1928.

THE Conference on Rheumatic Diseases, which took place at Bath on Thursday and Friday, May 10th and 11th, proved the success which its hard-working promoters deserved. It was attended by a very large proportion of those whose names have been identified with recent investigations into the subject, also by many delegates from local authorities, and it attracted some distinguished visitors from France, Italy, Belgium, Holland, and Denmark. The medical profession in Bath supported it in large numbers, and the fact that the annual meeting of the Balneological Section of the Royal Society of Medicine was held in that city on the day following the Conference helped to swell the attendance. At no period of the meeting, not even at the wane of the sessions, were there fewer than 250 present.

The president was Sir George Newman, Chief Medical Officer of the Ministry of Health, but each of the three sessions—on social aspects, on causation, and on treatment—had its separate chairman—namely, Lord Dawson of Penn, and the two Regius Professors, Sir Humphry Rolleston, Bt., and Sir Farquhar Buzzard respectively. During the day and a half of the meeting thirty communications were presented. Their authors were in most cases compelled to make a severe condensation—a task evidently neither easy nor congenial—but only so could time be allotted for general discussion. Even as it was, the great mass of written material, as well as the shortness of time available, rather hindered that free interchange of views and experience which the word "conference" implies. The Organization Committee had taken the greatest pains for months past in planning every detail, with the result that all the papers were printed in advance and were available for distribution, and will be published subsequently in a volume.

The city of Bath was hospitality itself. The only shadow on the occasion was the illness of the Mayor (Alderman Cedric Chivers), who had taken a most generous share in facilitating the Conference. In his absence the Deputy Mayor (Mr. C. H. Hacker) expressed the local welcome, to which Sir George Newman, as president, replied. He mentioned that the Minister of Health first of all had been invited to preside, but found himself unable to do so owing to numerous political engagements; when in due course the invitation was transferred to the Chief Medical Officer of the Ministry Mr. Chamberlain expressed the earnest wish that he (Sir George) should attend, and state with what interest and expectation the Minister viewed the occasion.

## Presidential Introduction: The Problem Stated.

In a brief presidential address Sir GEORGE NEWMAN said that the Conference had assembled to consider the nature of the campaign to be organized for the conquest or control of rheumatism. The urgency of this matter had been made manifest by the advance of knowledge of the heterogeneous group of morbid joint conditions and by the data furnished for the first time by the school medical service and the health insurance system. It was now known that acute rheumatism of children was sowing seeds of a growing harvest of disease of the heart and nervous system, and that the chronic forms of rheumatism were seriously crippling many hundreds of thousands of people. The disease was a drag on industry, a heavy handicap on the worker, a source of oppressive financial loss to the State, and a potent cause of excessive mortality and ill health. The main difficulties were three: (1) neither the respective relation of the varied forms of rheumatism to each other, nor their distribution over the world generally or in this country, could as yet be exactly defined; (2) the *causa causans* of this morbid group was not known with

certainly; (3) the varied medical experience was not yet in working accord as to the best means of treatment. Happily advances were being made in all three directions, but they awaited integration. "In treatment some swear by heat and light, and others by water, some by massage and manipulation, and others by rest, and some, rightly enough, swear not at all, but proceed from case to case with tentative empiricism." The hypothesis which at present held the field was that acute rheumatism was the reaction of the human body to the presence of the *Streptococcus viridans*, possibly a constant habitant of the body, in which event attention must be concentrated on the conditions, circumstances, or predispositions, external or internal, which induced it to assume an activity resulting in rheumatic fever. Speaking broadly, the attempt must be made steadily to improve the personal and environmental hygiene of childhood, a closer and more vigilant supervision must be exercised over susceptible children by the infant welfare and school medical services, and the methods of diagnosis and treatment of those found suffering from the beginnings of this disease must be organized. In chronic rheumatism of the adult there must be further intensive and comprehensive investigation, not only in the laboratory, but at the bedside, and even in the factory and workshop. As in acute rheumatism, so here research was needed into the social and causative aspects, and experience of therapeutic measures must be pooled. Not only must there be medical co-operation, but also the co-operation of contributory public agencies, such as social, health, and hospital services. He closed by giving some general counsel to those suffering from any degree or form of chronic rheumatism, first, to seek medical advice and submit to the removal of possible sources of infection in their own bodies; secondly, personal hygiene and strict moderation and selection in food and drink, exercise, and so forth; thirdly, vigilance in avoiding predisposing conditions, such as dampness and chill, unsuitable clothing, excessive use, misuse, or disuse of the stricken joints, or a clogged alimentary system.

## SOCIAL ASPECTS.

### The Cost to the Nation.

Sir WALTER S. KINNEAR, Controller of Health and Pension Insurance, Ministry of Health, opened the Social Aspects session by an estimate of the cost to the country of industrial rheumatism. He applied to the most recent sickness experience of insured persons—that for 1927—the conclusions of the Ministry's committee on the incidence of rheumatic diseases, which reported in 1924. The committee found that approximately one-sixth of the total period for which sickness and disablement benefit was paid to men (one-seventh in the case of women) was due to rheumatic diseases. In 1927 such total benefit in Great Britain amounted to £20,000,000, representing 34,000,000 weeks' incapacity. Making certain adjustments, he thought it probable that the incapacity due to rheumatism amounted to 5,500,000 weeks, with an approximate disbursement under the insurance scheme of £5,000,000. To this must be added about £12,000,000 as the amount of wages lost to insured persons through rheumatism, and even this total of £17,000,000 did not include anything for the cost of medical treatment of sufferers not totally incapable of work, the cost of nursing in bad cases, or the necessary institutional treatment, nor did it cover fully persons over 70, or make any allowance for dependants of insured persons.

### Organization of Medical Treatment.

Dr. H. B. BRACKENBURY, Chairman of Council, British Medical Association, spoke on the organization of medical treatment of industrial rheumatism. He described such treatment as including the elimination of infected foci, the

administration of drugs, and the use of various physical agencies or methods. The problem of organization was to provide treatment for those unable to provide it for themselves, without any waste on unsuitable cases, or unnecessary travelling or superfluous equipment, but with the greatest available knowledge, experience, and skill placed at the service of the patients, and with every possible facility for education and research. After tracing the attempts made in Germany and Holland to secure this organization, he said that this effort—he was speaking principally of the German effort—did not afford the guidance which might have been expected. Most of it appeared to be a little haphazard; there did not seem to be that careful selection of suitable cases, considered prescription of appropriate treatment, or adequate supervision of treatment given which was so desirable. Any organized scheme must secure the goodwill of the medical profession and of the approved societies. Unfortunately, under present conditions in this country, not every insured person was entitled to specialist and ancillary help of the required type. This was unfortunate, and the medical profession was almost universally in agreement with the report of the Royal Commission that specialist advice and treatment of all kinds should become part of statutory benefit as soon as possible, and be available for all insured persons and administered by some responsible public body. Two practical schemes, compatible with the provisions of the amending Insurance Bill before Parliament had now been submitted to the profession and the public. One was the out-patient clinic to be established in London under the auspices of the British Red Cross Society, and the other the scheme for spa treatment of insured persons under the auspices of the British Spa Federation. The latter had received, certain conditions being accepted, the approval of the Council of the British Medical Association. It was to be hoped that both these schemes would become operative, and, indeed, that they would be united, but they must conform to certain requirements if they were to receive the hearty support of the medical profession—namely, that no patient should be treated except on the recommendation of a registered medical practitioner, that any patient who could easily obtain the requisite treatment for himself should be refused, that where conditions made such a course feasible the possibility of a patient obtaining medical advice at the private consulting room of a specialist instead of an institution should be provided, and that there should be suitable opportunity for practitioners to observe and obtain experience of the methods employed and their results. One consideration which Dr. Brackenbury stressed was the need for co-operation of the recommending practitioner and the specialist. Organized medical treatment for industrial rheumatism, both at spas and at suitably equipped clinics in the larger towns, should prove a sound national and economic investment, but if disappointment was to be avoided something more than zeal and optimism were required; the problem to be solved was primarily one of medical science, and not of philanthropy. The main value of an organized scheme or institution would consist in the improved facilities and opportunities it would afford for that clinical and pathological observation and research which was so necessary for further success in combating an obstinate national scourge.

#### *Continental Experience.*

The last speaker had made a special mention of the pioneer out-patient clinic for physical treatment opened in Amsterdam in 1905, and its founder and director, Dr. J. VAN BREEMEN, followed with some remarks on the problem in Holland. After a statistical review, his general conclusions were that the number of cases of rheumatic fever, not only in children, but in adults, was relatively small in Holland, also that the number of cases of rheumatoid arthritis was smaller than in England. He mentioned that the Dutch Society for Combating Rheumatism, founded last year, was collecting statistical data on the incidence of rheumatic diseases, and that with regard to nomenclature, which was the first problem to be tackled, the Society had adopted the nomenclature of the British Ministry of Health, as set forth in its report in 1924. As secretary of the International Committee on Rheumatism also Dr. Van

Breemen had remarked with satisfaction that several other countries had adopted this same nomenclature.

Dr. HANS JANSEN of Copenhagen gave some account of the various groups of cases treated annually in the physiotherapeutic department of the Bispebjerg Hospital. He differentiated between primary chronic progressive polyarthritis and secondary chronic rheumatic polyarthritis, as did his and other German authors, though he knew it might be very difficult to divide them. In his opinion progressive polyarthritis—real rheumatoid arthritis—was a disease *sui generis*, probably of endocrine nature, while secondary chronic rheumatic polyarthritis was simply the result of rheumatic fever, often of repeated attacks, and certainly of infective nature.

#### *Environment and Incidence.*

Dr. REGINALD MILLER, who was honorary secretary of the British Medical Association Subcommittee on Rheumatic Heart Disease in Children, spoke on the influence of environment on rheumatic infection in childhood. Juvenile rheumatism, he said, was massed amongst the children of the poor and practically absent from the children of the well-to-do. This class incidence was so clear that until the explanation of it was known the large-scale production of the disease could not be understood. It was not due to case-to-case infection. The general trend of medical opinion was in favour of regarding it as an environmental disease. So close was the association between juvenile rheumatism and tonsillar disease that it seemed as though the environmental factors at work must to some extent centre round the production of diseased infected tonsils. One of the reasons for the immunity to rheumatism amongst well-to-do children was the present-day practice of early and complete removal of the tonsils. It was probably not correct to regard juvenile rheumatism as a poverty disease, for there was evidence that its frequency did not necessarily increase as the lower depths of poverty were reached. Poverty was a predisposing cause of immense importance, but some other factor, a common concomitant of poverty, must also be at work. Dr. Miller believed that the environmental factor of chief importance, combined with poverty, was damp dwellings. These had a real and particular connexion with the development of juvenile rheumatism. Residence in damp dwellings governed to some extent the distribution of the disease within the rheumatic stratum of society, and determined in many cases why one family suffered and another of the same grade of poverty escaped.

The closing paper of the session was read by Dr. J. ALISON GLOVER of the Ministry of Health, who spoke on the general incidence of rheumatic diseases. He accepted an estimate of 5 per cent. as the proportion of patients in general practice whose ills might be classified under the heading "rheumatic." He even ventured on an estimate of the number and species of rheumatic patients seen by an insurance practitioner with a list of 2,000 (1,000 males and 1,000 females), all of them persons over 15 years of age. Such a practitioner during the year would see, for all diseases and accidents, 930 of the persons on his list, and of these some 55 (35 males and 22 females) would be suffering from rheumatic disease, of whom 9, if the law of averages held good, might be expected to belong to the acute rheumatic group, 30 to the fibrositis group, and the remainder to the chronic arthritis group. The incidence of acute rheumatism (rheumatic fever) was one of the bright spots in the present position of rheumatic diseases. It was undoubtedly declining; in the Royal Navy, for example, it had fallen markedly. In exhibiting a table illustrating the occupational incidence Dr. Glover drew attention to the extraordinary incidence of all forms of rheumatic disease, but especially osteo-arthritis, among workers in metals. With regard to chronic conditions, whose importance was one of the many startling silhouettes of State medicine revealed by the financial searchlight of national insurance, he quoted some figures from hospitals which showed, what was generally agreed, that the large general hospitals worked under such severe pressure from more acute cases that they could not admit more than the smallest fringe of cases of chronic arthritis. Further institutional provision was necessary for dealing with chronic arthritis, in which disease there was a stage when the patient's admission to



an institution, with the range of diagnostic method and treatment there available, would be very advantageous.

Dr. R. G. GORDON of Bath said that no disease could be attributed to one etiological factor, and perhaps this platitude was more applicable to the chronic rheumatic diseases than to most others. No one could doubt that in all forms of fibrositis, infective arthritis, and more indirectly osteo-arthritis, faulty elimination played an essential part, and it might be that too little attention had been paid to intrinsic poisoning, resulting from failure by the patient to get rid of his waste products of metabolism. In almost every case the skin was at fault in some way or other, and he specially invited attention to certain factors making for inefficiency in the proper secretion of sweat. These were, first, a humid, cold atmosphere; secondly, fatigue (in which skin action was notoriously upset, excessive sweats occurring alternately with periods of complete inaction), and thirdly, emotional strain, for it was a commonplace that emotions affected the skin—for example, the sweat of terror and the dry skin of anxiety, an effect probably brought about almost entirely through endocrine, and especially thyroid, activity. It would do no harm when dealing with these rheumatic conditions to bear in mind the effects of climate, fatigue, and emotional strain, especially worry and depression.

LORD DAWSON OF PENN, who presided over this session, deprecated the allusion to rheumatism as a "poverty disease," because this carried with it the implication that if the poverty were removed the disease also would disappear. But the incidence of the disease was not in proportion to the poverty. It was found, for example, in the families of railwaymen and postmen, who, though not affluent, could not be classified as poor. It was the domestic environment which needed altering. He ventured to say that the improvement in the housing of the working class, better ventilated homes, more sufficient and sensible clothing, a better ordered dietary, would all play a larger part than the mere question of poverty. Recreation, too, he regarded as extremely important—not merely time for recreation, but its right employment. It was not so much more recreation that was needed as more knowledge of how to use it. In this connexion he thought that while the securing of the eight-hour day had been invaluable to the worker, there was some disadvantage in making it too rigid. He thought it would be well if, while maintaining the average, the worker could on certain days work for nine or perhaps even ten hours, so that at the end of the week he would have an accumulated leisure which would be available for recreation really worth while. This redistribution of hours of work and recreation might be recommended to the serious attention of those controlling industry. Lord Dawson added that some of the troubles of rheumatism which were noted with advancing years were to a large extent an expression of strain—the over-use or unbalanced use of certain body structures. Where there was strain there was increased liability to infection. Damp and cold were the precipitating causes, but in the background the determining factor was fatigue, often long continued.

#### THE CAUSATION OF RHEUMATISM.

The second session was presided over by Sir HUMPHRY ROLLESTON, who, in some brief opening remarks, said that the term "rheumatic diseases" was convenient if umbrella-like, as it included these acute and chronic infections, rheumatic fever and the rheumatoid groups; and it might be well to raise again the question of the relation of these groups to each other, and to consider whether there were any connecting links or common etiological factors. At one end of the scale there was acute rheumatic fever, which might mainly or exclusively attack the heart, and when it had not done so was remarkably amenable to salicylates; at the other end, there was osteo-arthritis, largely if not entirely a degenerative lesion, which did not induce cardiac lesions and did not respond to salicylate treatment. Between these two extremes there was a chain of gradual transitions. The characteristic lesion of rheumatic fever was the formation of nodules, large in the subcutaneous tissues, submiliary in the heart. Subcutaneous nodules had often been found in rheumatoid

arthritis and osteo-arthritis, but he had not found any evidence that the submiliary nodules occurred in the heart in chronic rheumatism. Fibrositis, the non-arthritic form of chronic rheumatism, was also accompanied by nodulo formation. These thickenings were not so characteristic histologically as the rheumatic nodule, but Dr. Hadfield would presently exhibit to the Conference microscopical sections of panniculitis demonstrating endarteritis, and so showing evidence of a blood-borne agent, and at any rate some resemblance to the rheumatic nodule. Panniculitis, like fibrositis and fibromyositis, might be due to various causes, and possibly it was stretching a point to correlate its fibrotic thickenings with submiliary nodules. As to infective factors, Sir Humphry Rolleston said that the much-debated streptococcal nature of acute rheumatism, in spite of criticism, had steadily gained ground. It might be argued that the various members of the family of rheumatic diseases were streptococcal in origin, and that their clinical and structural differences depended on variations in the "seed" and inborn or acquired differences in the "soil"—namely, the constitutional, metabolic, and endocrine factors. On the whole, the speaker concluded that it might be reasonable to suggest that varying degrees of diminished constitutional resistance of the fibrous tissues or of sensitization to infection on the one hand, and on the other the action of different kinds of streptococci, might explain the different clinical manifestations seen among the diseases grouped for convenience under the heading "rheumatic."

#### Predisposing Factors in Childhood.

Professor WILFRED VINING of Leeds University brought forward the thesis that the large majority of rheumatic children had a history of health defect for months or years before they developed their first frank rheumatic attack, that their health defect, if carried on into the rheumatic period, did much to colour the complete picture of the rheumatic child, and that it bore a very intimate relationship to the clinical rheumatic affection which followed. It was a relationship which might be much more than, say, the relationship between being "run down" and the development of an attack of influenza. In his opinion the pre-rheumatic child was at least a potential rheumatic child, perhaps a child sown already with the seeds of rheumatism: To his mind this relationship seemed clear from the frequency with which the preceding health defect occurred, the peculiar and significant repetition of the same group of symptoms, and the fact that so many of these symptoms, such as nervous instability and limb pains, had in the past been recognized as pointing to the rheumatic child. That a toxæmia was in existence, and that it was bacterial in origin, few would deny. As to where this toxæmia arose, the throat suggested itself, but this was not a complete explanation; the relationship of abnormal states of the intestinal tract to the pre-rheumatic debility had to be considered. Professor Vining believed that the child's digestive system was a factor in the etiology of rheumatism which had failed to receive adequate recognition. Rheumatism in childhood was primarily a disease based upon a nutritional disturbance brought about by a prolonged dietetic deficiency, either in vitamin B or in protein in conjunction with a relative excess of carbohydrate, or possibly both these factors. While the brunt of the defect fell upon the alimentary tract, yet the results were widespread, and produced loss of tone in all the systems. Secondly, rheumatism was a streptococcal infection, the organism passing through the weakened lines of defence, and so producing the toxæmic element of the debility.

Dr. DINGWALL FORDYCE, honorary physician, Royal Liverpool Children's Hospital, mentioned three predisposing factors in rheumatic infection in childhood—namely, instability of the nervous system, digestive disorder, and weakness of lymphoid defence. He held that while the first two were usually closely associated, the third might result in rheumatic infection without either of the other conditions being marked. When all three were marked there was serious danger of heart infection and chorea; when nervous instability and digestive disorder alone were marked the threat was chorea, and when lymphoid weakness alone

was marked the danger was of heart infection, while chorea was not much to be feared. The predisposing factors as he saw them were simple and homely, and on that very account difficult to control. The moral seemed to be that there was no royal road to the prevention of rheumatism. If, however, there were more beds at command in country hospitals, and adequate provision of suitable residential schools, the scourge of rheumatic heart disease would be very largely swept away.

#### *The Bacterial Factor.*

The bacterial origin of rheumatism was discussed by Dr. CAREY COOMBS, physician to the Bristol General Hospital. He held that the causal factor was infection rather than intoxication, and that the infection was blood-borne. To the question as to the portal by which the streptococcal organisms entered the blood channels only an incomplete answer could be returned. That the tonsils were responsible in many instances was so probable that it might perhaps be treated as proved. The clinical evidence in support of the view that the streptococci might enter through the intestinal wall appeared to him vague, but it was on the face of it unlikely that there should be only one spot in the whole alimentary tract through which these streptococci could penetrate to the vital fluids, and therefore he could not feel satisfied if the tonsil only was blamed. The view might be accepted that the tonsil was certainly, and the intestinal mucosa possibly, responsible for admitting this virus into the systemic circulation. But there remained some unknown quantity in the equation whereby the balance between defence and attack was upset in favour of the latter. For the moment he did not feel able to claim more than that the streptococci were probably derived from the alimentary tract in which they were always present, that it was only by a conjunction of extraneous influences that they were enabled to inflict injury to the tissues, and that the fact that the injuries inflicted conformed closely to a certain pattern observable even in histological details was due rather to constancy on the part of these extraneous influences than to the specificity of the organisms themselves.

#### *The Cardiac Problem.*

Rheumatic fever visualized as essentially a cardiac problem was the subject of a paper by Professor FERNAND BEZANÇON and Dr. MATHIEU-PIERRE WEIL of Paris, which was read by the latter. The authors considered that the general point of view with regard to rheumatism should be completely changed, that the disease should not be considered as consisting of a series of acute lesions, first articular and later cardiac, but rather as a true chronic disease, similar to tuberculosis. The articular lesions appeared the most important only because of their painful nature, which prevented them from passing unnoticed. The endo-pericarditis was really much more important, and this after a period of development readily became obscured again until a definite cardiopathy was established which led to cardiac irregularity. The reservoir of the rheumatic virus was the heart, the endocardium, the pericardium, and particularly the myocardium. The acute attacks were distinguished either by a recrudescence of the cardiac lesion or by fresh articular symptoms. The authors held that this method of interpreting the fundamental part played by the heart was the only way of explaining the development of the disease, which frequently, after a stage during which articular and cardiac signs were present simultaneously, progressed with cardiac signs only, and became more and more severe.

#### *Fibrositis and Panniculitis.*

The causation of fibrositis and panniculitis was discussed by Professor RALPH STOCKMAN of Glasgow. In fibrositis, he said, the irritant was most commonly a bacterial toxin produced either at the site of the lesions by small colonies of microbes which had established themselves there, or it was carried possibly from a more distant site by the blood stream. Cold and wet had from time immemorial been cited as causes of chronic rheumatism, and it was possible that they might be capable of setting up a fibrositis, but he was inclined to regard them more as exacerbating

factors when the lesions were already present. With regard to the etiology of panniculitis, this was quite a different condition from obesity or myxoedema. Many women at the menopause tended to lay on fat, and if they happened to be subjects of subcutaneous fibrositis they then began to suffer, or suffer more severely, from its effects. The explanation was probably an increased growth of the connective tissue to support the mass of fat, and increased tension due to weight. Professor Stockman showed some lantern slides of ancient carvings which indicated that panniculitis was a frequent and perhaps a fashionable condition among females in earlier civilizations, as it was with certain primitive tribes at the present day.

#### *Pathological Investigations.*

Dr. GEOFFREY HADFIELD, demonstrator of pathology at Bristol University, described a recent investigation made with the object of discovering whether there was a specific tissue reaction in the chronic rheumatic disorders or any group of them. More work needed to be done, but enough had been brought out to justify certain statements, such as that in some types of infective arthritis skin nodules occurred, having a constant histological structure, which appeared to resemble the primary lesion of acute rheumatism in the heart wall, skin, and synovia closely enough to make it likely that both were due to a micro-organism of the same group. A similar tissue reaction was occasionally found in the lesions of the more chronic types of endocarditis, which appeared to be due to local infection by faecal or oral streptococci in patients whose general immunity to these organisms was high. The work suggested—but did no more than suggest—that in chronic infective arthritis infection was by a saprophytic streptococcus to which the patient had a high degree of general immunity, but a low degree of local immunity in the synovia of his joints.

A paper on the comparative pathology of the subject was read by Professor TOM HARE of the Royal Veterinary College, London. It described a study of equine arthritis. Not only horses, but dogs, and possibly dairy cattle, are infected with rheumatic disease, and Professor Hare said that there was evidence for the belief that it originated in them in early maturity. Heredity, sex, food, and environment did not appear to have any etiological significance.

#### *The Endocrine Factor.*

The question of the endocrine factor called forth two or three contributions. Dr. W. LANGDON BROWN thought that attention should be confined to the thyroid and the ovaries. Any influence that the other endocrine glands might have was, to say the least, problematical. It was a striking fact that, as the recent report of the Ministry of Health showed, the incidence of mortality from acute and cardiac rheumatism, and also the incidence of rheumatoid arthritis and osteo-arthritis, were markedly higher in regions where goitre was endemic. While not going quite so far as Llewellyn, who held that the hereditary transmission of rheumatism consisted in the transmission of a tendency to thyroid inadequacy or instability, Dr. Langdon Brown agreed that such inadequacy or instability was a factor of importance. He believed that tonsillar sepsis played a large part both in rheumatism and goitre, and that lack of iodine entered into the production of both hyperthyroidism and hypothyroidism, either of which conditions provided a suitable soil in which rheumatism could flourish. He was doubtful as to any direct influence of the ovary. If ovarian deficiency were a primary cause one would expect to find rheumatism and rheumatoid arthritis chiefly during the child-bearing epoch, which was not the case. He believed the condition of the thyroid to be the principal endocrine factor.

Dr. F. G. THOMSON (Bath) considered that the close connexion of certain forms of chronic arthritis with abnormalities of thyroid activity was clearly brought out in the case of rheumatoid arthritis on the one hand, and villous (or what he would prefer to term climacteric) arthritis on the other. It was a matter of common observation that rheumatoid arthritis was very frequently complicated by symptoms of hyperthyroidism. He showed some diagrams

illustrating the correspondence between the two diseases. The close association of chronic arthritis with want of endocrine balance was also clearly shown in the case of villous arthritis, occurring in women at the menopause. This disease was usually associated with definite evidence of endocrine deficiency in the form of fibro-fatty thickening of the subcutaneous tissues, dryness of skin, and tendency to alopecia. The brawny, middle-aged woman who developed painful, swollen, and creaky knees at the climacteric formed one of the commonest types of the so-called "rheumatic" patient. This form of arthritis was so well defined, so true to type, and so closely associated with other changes incidental to the menopause, that he thought it justifiable on clinical grounds alone to regard it as climacteric arthritis.

Dr. KERR PRINGLE (Harrogate) spoke of the "atrophic" group of rheumatoid arthritis cases, in which focal infections played no part. This atrophic group was confined, he believed, entirely to the female sex, and observers had pointed out the similarity of the prodromal and early symptoms to those occurring in Graves's disease. A history of enlargement of the thyroid would often be found. The patient would often say that her symptoms were relieved during pregnancy, to return in the puerperium. The stimulation of the secretion of pituitrin by the internal secretion of the ovary was arrested by that of the corpus luteum until the time for the uterus to contract and the milk to flow. It appeared to the speaker well worth considering whether the inhibitory action of the corpus luteum on the posterior pituitary had any part in the amelioration of the arthritic symptoms during pregnancy.

#### Papers Taken as Read.

In the absence of the authors a number of papers were taken as read, to be embodied in the proceedings of the Conference. Dr. R. G. GORDON briefly indicated their nature. Dr. Kahlmeter of Stockholm discussed the sedimentation reaction, which he found to increase enormously, as compared with normal controls, in acute rheumatism and gout. The chief point of the paper was the prognostic value of this sign; until the curve of the reaction fell to normal, exacerbations and recrudescences were apt to occur. Professor H. STRAUSS of Berlin contributed a paper on the endocrine factor, which he did not regard as causal entirely; treatment by endocrine preparations did good in many conditions, but seldom alone effected a cure. Dr. Ralph Pemberton of Philadelphia recounted some experiments on the capillary circulation, and considered that a good many characteristic symptoms of rheumatic disease were due to a failure of the flow of blood through the small capillary channels. Dr. J. C. SMALL of the same city summarized his investigations on a specific micro-organism which he named *S. cardioarthritidis*, and said that with treatment by vaccines with cultures of this organism he had obtained beneficial results. Dr. Homer Swift of the Rockefeller Institute, New York, had a reasoned paper on the subject of rheumatic fever as due to hypersensitiveness to streptococcal invasion. Dr. Gordon Watson of Bath submitted some work by Dr. James Lindsay and himself, suggesting that the cause of chronic rheumatism was the result of the actions of toxins, endogenous and exogenous, and that the systemic imbalance might be initiated by any two or more of such factors as focal sepsis, mental strain or shock, systemic infection, environment and climate, endocrine imbalance, faulty metabolism, or disease of various organs. Mr. Timbrell Fisher of the London School of Clinical Medicine had a long paper on the pathology of chronic arthritis, discussing the complex pathological changes, and pointing out that in the same joint might be seen the phenomena of repair, inflammation, and new growth.

#### General Discussion on Causation.

Dr. F. J. POYNTER (London) thought it necessary still to keep an open mind as to the difference between rheumatism and rheumatoid arthritis and osteo-arthritis, and that the time had not yet come when it was possible effectively to form arthritic units, and cardiac units, and chorea units. It might be even now that the streptococcus would not prove to be the primary cause, though he thought it would.

Dr. P. LAZARUS-BARLOW (Queen Mary's Hospital, Carshalton) said that he had isolated from throat cultures of children suffering from acute and subacute rheumatism an unusual type of streptococcus, which he believed to be identical with the *S. cardioarthritidis* of Small of Philadelphia. On the whole, experiments had shown that this organism could form an endotoxin from which an anti-toxin could be produced.

Dr. L. BERTRAND (Antwerp) described some work on the anaerobic bacillus described by Achalmé thirty years ago—a polymorph microbe which could assume the coccic form. He believed that this was the cause of acute articular rheumatism. He had succeeded in isolating it from synovial fragments in chronic rheumatism, and he had treated patients with a vaccine from cultures of this organism with beneficial results. "I am in possession of the right treatment for true rheumatism, and the most effective at the present moment. These results have been corroborated by a large number of Belgian and foreign practitioners."

Dr. RUPERT WATERHOUSE (Bath) said that although he could give no statistics in confirmation, his experience of fillositis and chronic arthritis left him with the impression that a previous attack of rheumatic fever or chorea was little if at all more frequent in these sufferers than in patients admitted to the hospital for other complaints. He thought the tendency to abandon the distinction, first drawn by Sir Archibald Garrod, between rheumatoid arthritis and osteo-arthritis was to be regretted, because though many intermediate, perhaps mixed, cases were to be met with, the differences in the clinical picture and in the anatomical changes in well-marked examples of the two were so great as to leave no doubt that they had little or nothing in common.

Dr. J. B. BURR (Buxton) exhibited a bone taken from a horse suffering from osteo-arthritis, and said that one out of every eight of the horses which came to slaughter in London had what was known as "cabhorse disease." From this example he contended that trauma alone could produce arthritis, that strain on the ligaments was a factor—possibly the first factor—in the formation of bone changes, and that the heredity factor was important. Rheumatism in animals offered a valuable field for investigation.

Surgeon Vice-Admiral GASKELL spoke of the extreme rarity of the old classical rheumatic fever nowadays in the navy, also the remarkable drop in the incidence of chronic rheumatism. A similar reduction in those forms of heart disease supposed to be due to rheumatism had not been experienced.

Dr. P. WATSON-WILLIAMS (Bristol) said that the undoubted association of chronic sepsis in the tonsil with the incidence of rheumatic conditions had been well brought out by Dr. Langdon Brown. Endocrine imbalance was one of the consequences frequently encountered by those who had to deal with chronic septic infection. In these processes, going on so slowly, sometimes for years, there was ample time for clinical development to take place. At the climacteric and in pregnancy rheumatoid manifestations were apt to be more marked, and he would suggest that this was merely in many cases the result of the lessened tissue resistance incident to those phases of life giving to the focal infection, which was always present, greater opportunities of manifesting itself in characteristic lesions.

Dr. HENRY ELLIS (London) spoke on the biochemistry of rheumatism, which, he said, governed the whole situation. In endocrine rheumatism one did not get any disturbance of the acid-base equilibrium in the urine. If one found no variation of the acid, no increase of the sulphates, no diminution of the phosphates, one could be almost absolutely certain that it was the endocrine form of rheumatism.

Dr. G. HOLMES (Harrogate) described investigations on fifty hospital cases suffering from chronic arthritis, not all of one type. To his surprise he found no evidence of hypo- or hyper-thyroidism as shown by the basal metabolic rate. It was known that clinically the administration of thyroid was beneficial in rheumatoid arthritis, but it was of some interest to be able to take a series of fifty cases and find that they had normal metabolic rates.

The session closed with a few remarks in French by

Professor PISANI of Florence, who brought to the gathering the felicitations of his Italian colleagues, and stated his view that there was a positive relation between chronic rheumatism and disorder of the endocrine system.

#### THE TREATMENT OF RHEUMATISM.

Sir PARQUAR BUZZARD presided over the final session, remarking that his brother regius of Cambridge had accepted responsibility for the causation of rheumatism, so that surely Oxford could shoulder the burden of its treatment. True, as causation preceded treatment, the older university might have claimed the previous session for its own, but in this particular instance it was felt that the miasmatic properties of the fen country established a right of precedence which could not be disputed. "How is it that you doctors have never discovered a cure for rheumatism?" was a rebuke not infrequently addressed to them; and the only faithful reply must be that the more they knew about many diseases the less they knew about their cures. The problem of rheumatism was highly complicated, and not simplified at all by any attempt to bring all conditions blessed with that name into one pathological category. The problem involved in treatment was the problem of causation, the proper assessment of causative factors, and the requisite knowledge to prevent and destroy their influence. In the long run it was a problem of preventive medicine. Meanwhile, spa treatment was invaluable from several points of view, relieving suffering, preventing crippling, and offering opportunities for research.

#### Prevention of Chronic Rheumatism.

Dr. R. L. J. LLEWELLYN, in a paper on the prevention of chronic rheumatism, said that if the fundamental truth that man and his environment were one organic whole had never been lost sight of, the salient role of the skin in rheumatism would never have been minimized. The primary signs of physiological inadequacy in rheumatic subjects were instability of the blood supply of the skin and also sweat secretion. This pointed to what should be a basal principle in prophylaxis—namely, the maintenance of the functional efficiency of the skin. Many textbooks on acute and chronic rheumatism contained not a word about skin hygiene, although the skin and mucous membrane were our first line of defence against weather changes. The maintenance of the skin's efficiency was best achieved by hydrotherapy, with alternating applications of hot and cold water to the skin surface. Dr. Llewellyn went on to discuss the principles underlying the prevention of muscular rheumatism, including the maintenance of a due balance between food intake, muscular output, and skin efficiency, the avoidance of "occupation misfits," the recognition of "motion study" as essential to scientific management in industry, the avoidance of fatigue and the wrong use of muscles, the arrangement of rest pauses, and the necessary hygienic conditions in the workroom. He also spoke of the prevention of rheumatoid arthritis, the key to which, he considered, consisted in recognition and treatment of the pre-arthritis or premonitory phenomena.

#### Rheumatic Infection in Childhood.

Dr. F. J. POYNTER of University College Hospital, who dealt with the treatment of acute rheumatic infection in childhood, declared himself to be no believer in the treatment of young children with acute rheumatic carditis by means of salicylate of soda. He had instead treated the severe forms of rheumatic carditis in children by the ethyl-ester of methyl-phenyl-cinchoninic acid, known by the proprietary name of "tolsin." He had used this drug now for some four years in very grave cases of young children in whom there had been pancarditis and often also nodules, arthritis, and chorea, with general toxæmia. He mentioned certain objections to salicylate when it was pushed, including possibly death from coma, also depression, which he had never seen follow from the cinchonic acid preparation just mentioned. He would not pretend that salicylate of soda had no beneficial effect in rheumatism, for he knew that it had, but whatever the action might be it was not specific, as quinine was specific to malaria. The drug he had mentioned was milder in action,

but, he believed, clearly of value, and he recited a number of cases in which treatment had been carried out with the ethyl-ester with good results, and without causing any anxiety on account of troublesome symptoms.

Dr. A. P. THOMSON of the Children's Hospital, Birmingham, dealt with the organization of institutional treatment for rheumatic children. Until recently, he said, no organized system of treatment of rheumatic children existed; the disease had certainly attracted the attention of the school medical service as a frequent cause of prolonged absence, but nothing was done by any public health authority to remedy the evil that the inquiries disclosed. The ordinary case might require, at one time or another, three different types of treatment: in hospital during the acute phase; in a convalescent home, where nearly all the time might be spent in bed; and finally, in an institution in which the child's return to activity could be regulated under careful supervision. In Birmingham children with acute manifestations of rheumatism were admitted to the Children's Hospital in the ordinary way, were later transferred to a convalescent home, whence they went in batches to Baskerville School, a special residential school, controlled by the local education authority. Dr. Thomson gave an illustrated description of this institution, its special equipment, and its daily routine. In showing a group of the children playing cards he mentioned that card-playing was quite a valuable corrective for chorea, because, if the player had chorea too badly, he could not help showing his hand to his opponent!

#### Vaccines: their Use and Abuse.

Sir WILLIAM WILLCOX, in speaking on the treatment of the underlying infection, said that in his experience of hospital practice one did not meet to anything like the same extent to-day with the virulent cases of rheumatic fever in children which were so common thirty years ago, an improvement which he attributed largely to the development of school hygiene. He went on to speak particularly of vaccine therapy. Vaccines, he said, should not be given until the case had received the fullest clinical investigation, and any existing foci of infection had had appropriate treatment. An abuse of vaccine therapy was the administration of vaccines in cases of chronic rheumatism where obvious foci of infection were present—for example, septic teeth or tonsils. Vaccines were contra-indicated where "sensitization" to the toxins from the infection existed, also in exophthalmic goitre, if this was associated with chronic rheumatism. They were of value in chronic rheumatism when any gross focus of infection had been removed and the toxic process was being carried on by the chronic infection of a mucous surface with its accompanying glandular tissue. It was advisable to begin with a vaccine of weak strength—say 5,000,000 per c.cm.—and after a preliminary course to proceed with a stronger vaccine of, say, 50,000,000 per c.cm. Any evidence of symptoms of sensitization was an indication for discontinuance. Stock streptococcal vaccines made from other patients were in his experience far inferior to autogenous vaccines. Antistreptococcal serum was not indicated in cases of chronic rheumatism. Protein-shock therapy had been disappointing.

#### Physical Treatment.

Dr. J. CAMPBELL McCURE of London divided physical treatment into two groups: (1) exercises, baths, and radiotherapy, which effected alterations in metabolism and raised the general resistance to infection, and (2) massage, local applications of heat, douches, and manipulation. The value of the various forms of physical treatment was much debated. A great deal depended on the way in which they were applied. No form of physical treatment was more stupidly applied than massage. The good effects of general massage were often nullified by heavy massage of the abdomen to counteract the tendency to constipation, on the extraordinary idea that one could produce good effects by the rough handling of the colon itself. Baths, again, improperly applied, could be dangerous to the patients—for example, if given at too high a temperature having regard to the circulatory and metabolic capacity. He emphasized the importance of electrotherapy in the treatment of all

wasted and atonic muscles in rheumatic disease. Massage and baths could do much, but without the addition of electrical treatment a great deal of time was wasted. In this condition, as in others, no one form of physical treatment was enough. The Plombières treatment was extremely useful in cases where rheumatic manifestations were associated with a chronically inflamed and infected colon; it should, however, be administered by careful and skilful persons. He had known its misuse—in combination with an excessive diet of lactic oats—produce in a person, who at the beginning of treatment was as reasonably healthy as most nervous persons living under considerable strain could be, an obstinate mucous colitis. He had always found that the best results were obtained by a combination of various forms of treatment.

Professor ISIDORE GUNZBURG gave an account of the Brugman Hospital at Brussels, which is an antirheumatic centre, with an elaborate physiotherapeutic service. Since it started this centre had received about 230 patients, and he claimed that in 50 per cent. the rheumatic pains had disappeared altogether, and in 60 per cent. the movements had been considerably improved.

#### *The Scope of Surgery.*

A paper on the scope of surgery in the treatment of degenerative arthritis was to have been read by Mr. Max Page, but he was unable to be present, and this phase of the subject was dealt with very briefly by Mr. WHITCHURCH HOWELL, who described the various methods of treatment open to the surgeon in these cases. These methods included traction, mobilization with or without traction, arthrodesis, and in a limited number of cases arthroplasty, or the formation of a new or false joint. By means of lantern slides he indicated the types of cases in which these various procedures were suitable, and laid stress upon the fact that in no case should manipulation be performed without x rays. Arthritis could be prevented, and very often could be cured in its early stages.

#### *General Discussion on Treatment.*

Dr. WARREN CROWE asked why vaccine treatment was not universally used. He had found great benefits follow from it. Faulty technique was possibly a reason why it was put on the shelf. The first principle of treatment—the small dose—was too often disregarded. He had cases under treatment at the present time which got a very definite reaction with a twentieth part of a million of streptococcal vaccine. Rarely should any case start with more than 500,000, and 2,000,000 might easily be the maximum tolerated. He pleaded that those who had the treatment of rheumatic cases should try vaccines again; the method had the great advantage that it was suitable for the general practitioner's use in his own surgery.

Dr. C. W. BUCKLEY (Buxton) said that it had been his experience for many years to see patients drawn from manufacturing districts suffering from various rheumatic disorders largely attributable to their environment. Frequently they had spent weeks or months in hospitals in their own neighbourhood without benefit, but after treatment in a large and well-equipped spa hospital they greatly improved. Climate, as well as food and mode of life, had a great influence in promoting recovery. No student of the treatment of rheumatism could afford to be ignorant of the great spa hospitals and the wealth of clinical material they presented for study, and a conference of that character would be incomplete without some consideration of spa treatment, the most ancient of all methods.

Dr. VINCENT COATES (Bath) gave some personal experiences of the treatment of infective arthritis. The essentials of treatment were the raising of immunity and the correction of biochemical abnormalities. The condition of a patient in the acute or subacute stage of the disease should be regarded in much the same light as that in which it was customary to regard pulmonary tuberculosis or Hodgkin's disease. In the chronic stage in which infection died out and there was apparently no likelihood of recrudescence, the patient should be regarded in much the same light as that in which it was customary to regard sufferers from other diseases giving end-results in joint and bone—namely, as an orthopaedic case. He described

the thorough examinations whereby biochemical and bacteriological anomalies should be sought for and adjusted in an attempt as far as possible to raise the immunity of the individual. With regard to the joints themselves, in the acute stage rest in splints was indicated to obviate the well-known deformities. No joint which was hot or tender should be manipulated. In the subacute stage much could be done by hydrotherapy and splinting; a mud-pack to, say, the knee, followed by a deep bath, was an excellent prelude to the readjustment of an extension splint. Manipulation under anaesthesia could be safely indulged in in a large number of chronic cases. Care must be taken that not too much force was used. Spa treatment was useful throughout the course of the disease.

Dr. HANS JANSEN (Copenhagen) gave the following general principles of his treatment:

**Lumbago:** Radiant heat or hot air, followed by massage.  
**Sciatica:** In first stages, bed; afterwards warm fomentations in woollen blankets; later radiant heat and massage.  
**Subacute polyarthritis:** Very cautious use of physical treatment.  
**Chronic polyarthritis:** Hot air, steam bath, diathermy, active and passive exercises.  
**Osteo-arthritis:** Vigorous warm treatment followed by energetic massage and exercise of the muscles, but never massage of the affected joints (hip or knee) themselves.

In some further discussion Dr. ALEX. CAWADIAS (London) mentioned that he had found his best results with common stock vaccines. In vaccine therapy he thought the method of procedure was more important than the material used. He believed there was a great future for shock therapy. Dr. DONALD BRIMS (London) spoke of the effects of introducing oxygen beneath the skin and of treating rheumatic cases with emanations of radium and thorium. He had seen results from these applications, made at the Pasteur Institute in Paris, which were amazingly good. With the help of lantern slides he described the technique. Dr. P. WATSON-WILLIAMS (Bristol) emphasized the difficulties that confronted one in the endeavour to detect focal infections. The history of the patient's symptoms was most valuable. One should persevere in the search for focal infection, because, if this could only be found, a very considerable step had been taken towards stopping the progress of the lesions.

Sir FARQUHAR BUZZARD, in closing the session, said that it would be impossible at the moment to estimate the results of the discussions, but if no other immediate results were forthcoming, the exchange of views could not fail to stimulate new interest in the subject, new ideas for research, and new hope for the future treatment of rheumatism in all its phases.

Sir GEORGE NEWMAN, president of the Conference, proposed a resolution, which was seconded by Dr. R. A. FLEMING, and heartily carried, thanking the Mayor and municipal authorities of Bath for their most lavish hospitality, and acknowledging also the convenient arrangements made by the local Organizing Committee and by the director of the City Baths (Mr. John Hatton). Sir George Newman added that he proposed to take the earliest opportunity of presenting to the Minister of Health and the President of the Board of Education a copy of the proceedings of the Conference.

#### *CIVIC ENTERTAINMENT.*

On the evening of the first day of the Conference a civic reception to the visitors was given at the Pump Room. About 400 guests were received by the Mayoress (Madame Sarah Grand)—in the absence, through illness, of the Mayor, Alderman Chivers—and by Dr. F. G. Thomson, chairman of the Organizing Committee. A most excellent programme was provided by the Pump Room Orchestra, and supper was served in the Roman Promenade and in the Museum.

The reception was preceded by a dinner at the Guildhall, over which the Mayoress presided. The distinguished company included nearly all those taking a prominent part in the work and arrangements of the Conference. Among the guests were Lord Dawson of Penn, Sir George Newman, Sir Walter Kinnear, Sir Farquhar Buzzard, Dr. R. A. Fleming (President, Royal College of Physicians, Edinburgh), Sir James Berry (President, Royal Society of



Medicine), Dr. H. B. Brackenbury (Chairman of Council of the British Medical Association), Dr. J. Van Breamen (Honorary Secretary of the International Committee on Rheumatism), Sir Squire Sprigge (Editor of the *Lancet*), and Dr. N. G. Horner (Editor of the *British Medical Journal*).

The speeches were brief, as an early adjournment was made to the Pump Room for the reception, but the health of the city of Bath was proposed in an eloquent oration by Lord Dawson of Penn, who spoke of the distinctive qualities of this beautiful city of the West, which had survived time and change in so wonderful a way. "Its Roman remains bear witness that its beauty of design, its distinctive adornment, have ever been its pride; and enshrined in this fabric of beauty there is left to this day that spirit of independence, that civic consciousness, which were the mainstay of the Roman Empire—qualities which, we note with pride and rejoicing, are still active and vivid in the Bath of to-day." It was, however, the eighteenth century, Lord Dawson continued, which gave us a Bath conscious of its gifts and resources. Men of genius raised from amongst its craftsmen worked together as if inspired on a harmonious town-planning, and thus was set a perfect stage on which the sparkling comedy of manners was soon to be played. After the passing of Beau Nash and his regime Bath went for a while into the shade, but its spirit and tradition survived, and to-day it was to be seen and admired of all men—a spa unsurpassed in equipment and direction, in vision and civic purpose, and full and overflowing hospitality.

#### LUNCHEON BY THE BATH DIVISION.

In the interval between the morning and afternoon sessions on May 11th the medical visitors to Bath were hospitably entertained to lunch at the Grand Pump Room Hotel by the Bath Division of the British Medical Association, under the chairmanship of Dr. R. G. Gordon. In proposing the health of the guests Dr. Gordon explained that, although the Conference was not in any way a B.M.A. function, its Organizing Committee was in fact a subcommittee appointed by the local Division of the Association, and he and his immediate colleagues (Dr. Thomson, Dr. Waterhouse, and Dr. Coates) had received much help and encouragement from the headquarters of the Association. It was therefore with particular pleasure that they welcomed the Chairman of Council (Dr. Brackenbury) at the Conference and at this luncheon party. The toast was responded to by Sir Farquhar Buzzard, who expressed the appreciation of himself and his fellow guests for the boundless hospitality with which they had been received by the city and the medical profession of Bath. Sir Humphry Rolleston proposed the health of the Division, and spoke of the affection with which Bath was regarded throughout the profession. He coupled the toast with the name of Dr. F. G. Thomson, President of the British Medical Association in 1925-26, and now chairman of the Organizing Committee for this Conference, whom everyone was delighted to see restored to full health and vigour. Dr. Thomson acknowledged the compliment, and three of the distinguished medical visitors from abroad addressed a few words of greeting and thanks to their colleagues at Bath.

#### BALNEOLOGICAL MEETING AT BATH.

On the day following the Conference on Rheumatic Diseases the Balneological Section of the Royal Society of Medicine held its annual meeting in Bath. Members of the Section and a number of others who had attended the proceedings on Thursday and Friday assembled in the Pump Room at 9.30 a.m. on Saturday for a visit to the hot mineral baths, and saw demonstrations of treatment on appropriate cases in the various establishments. At 11 o'clock clinical demonstrations were given at the Royal Mineral Water Hospital by the physicians of the hospital, Dr. Rupert Waterhouse showing cases of osteo-arthritis, Dr. J. Lindsay cases of gout, Dr. Vincent Coates cases of infective arthritis, Dr. R. G. Gordon cases of fibrositis, and Dr. A. Gordon Watson cases of sciatica. In the afternoon the visitors went on a motor tour of Bath and its environs, by invitation of the Hot Mineral Baths Com-

mittee. This was followed by an inspection of the Roman Thermae, and tea on the Roman Promenade; in the evening a concert was given by the Pump Room Orchestra. Sunday was mainly given up to charabanc excursions to the Mendips and Cheddar, returning by way of Wells, and in this manner four very enjoyable and instructive days were rounded off.

#### SUNLIGHT IN MODERN MEDICINE.

##### *Clinical Experience in England and Scotland.*

A CHADWICK public lecture on "Sunlight—natural and artificial—and its use in modern medicine" was given by Dr. Walter Elliot, M.P., Under Secretary of State for Scotland, on May 15th, at the British Medical Association House, Tavistock Square, London.

Dr. Elliot referred briefly to the development of the medical employment of sunlight, and said emphasis was now laid upon the constructive or healing power of radiation, particularly of short-wave (ultra-violet) radiation, but the effects were still a matter of active discussion. Public authorities were making extensive use of this method of treatment, and their experience already formed a large body of clinical opinion which would well repay attention.

In England and Wales, by the year 1926, 64 centres had been established by local authorities directly, and 56 by voluntary agencies, to which local authorities sent cases. In addition, light treatment was carried out at 11 school clinics; at 7 hospitals, and at numerous centres established by voluntary agencies to which children were sent. In Scotland there were 30 centres in sanatoriums and hospitals belonging to local authorities, and 6 in private sanatoriums. There were also 21 centres under child welfare schemes, and it might be taken that all the larger and several of the smaller voluntary hospitals possessed installations. There were also some installations in the larger Poor Law hospitals. This gave a total of over 170 centres in all.

Experience in England showed that the best results were obtained in treating (1) lupus, (2) certain skin conditions, (3) rickets, and (4) superficial lesions in surgical tuberculosis. The general conclusions of the reports received by the Ministry of Health were that, while ultra-violet light was by no means a general specific for all forms of disease, it formed a useful accessory therapeutic weapon, especially in combination with other methods tested and approved by time; further, that the time was not yet ripe for any co-ordinated classification of results. The Scottish verdict was somewhat more enthusiastic. A special report by the Board of Health stated: "Its value in the less severe forms of non-pulmonary tuberculosis is unquestioned. In pulmonary cases the results have not been discouraging, but much more work will require to be done. In child welfare work on the whole the results are most encouraging. They fully justify the expense and labour involved in providing this method of treatment."

The explanation of these differences of opinion, Dr. Elliot continued, might be found in the ultra-violet radiation recorded in the respective countries. In Ventnor the average daily readings for November and December, 1926, were 2.35. In Edinburgh the readings were nil for the whole three months between November, 1925, and March, 1926, and even in March and April the readings only averaged 1.1. It was obvious, therefore, that one would expect a supplementary source of ultra-violet light to show more marked results in the North than in the South. In the short-wave radiations a therapeutic factor of considerable potency was available, although its working was by no means clearly understood. He wished to draw attention to a passage from one of the Scottish reports, where the observers pointed out that "its therapeutic properties are in the main limited to conditions of growth or function that are below normal. The increase of body weight, improvement of mineral content of the blood, increasing of the bactericidal power of the blood, took place when individuals were below normal, but no corresponding effect took place with normal individuals." This view was strikingly emphasized by experiments carried out by Henderson in Aberdeen.

Dr. Elliot concluded that irradiation was of value in removing a condition which, although widespread in modern life, was still a symptom only. The illness of which this condition was a symptom was deficiency in diet, lack of accessory food factors, vitamins, or mineral salts. Effort should be directed to the removal of the root cause, and the work of the ultra-violet-ray therapist would come into close relation to that of the nutritionist. The fundamental requirements of the normal being were yet far from being met; these were fresh air, fresh water, fresh food. Till these were met the administrator would have a part to play in the twentieth century not less important than he had in the nineteenth.

# British Medical Journal.

SATURDAY, MAY 19TH, 1928.

## RHEUMATIC DISEASES.

A CONFERENCE on Rheumatic Diseases was held at Bath at the close of last week, under the presidency of Sir George Newman, Chief Medical Officer of the Ministry of Health. We think we may say that the objects of this conference have been attained. As the president remarked, the chief affliction of Great Britain in the twentieth century would seem to be rheumatic disease, as tuberculosis was of the nineteenth century. For many years a number of individual workers have been engaged on the study of rheumatism, and the time has now come when their several results and theories may with advantage be correlated and discussed, so that the medical profession may see its way to tackle this problem systematically. It will occur to those who read the account of the papers and discussions published elsewhere in our present issue, and the full proceedings which will appear shortly in book form, that nothing startlingly new has been given to the world, and perhaps this could hardly be expected. What seems to us to have been the chief note of the Conference is in a sense paradoxical: the lack of similarity between acute rheumatism at one end of the scale and osteo-arthritis at the other was stressed by several speakers, while others insisted that there might be more justification for the common term "rheumatic" than has been hitherto supposed. It must be the purpose of future research to resolve this paradox. The maladies to which the human race is heir may be roughly divided into two groups. Those in the first group are due to specific causes, they present a fairly constant clinical picture, and sooner or later a specific remedy is found; as an example may be mentioned the malarial plasmodium and quinine. Those in the other group have a complicated etiology, their clinical manifestations are manifold, and there is no certain remedy which can be used effectively, though the number of patent medicines claiming to cure is immense. To this group rheumatism unquestionably belongs, for even in the acute disease the specificity of salicylates is being called in question.

It seems obvious that if rheumatism is to be classed in the second group of maladies the problem presented must be envisaged as a biological one, and not as symptomatic. Pain and affection of the joints may be the most striking features from the subjective and objective standpoints respectively; but the physician in the future must not let his attention be diverted by them from the appreciation of what lies behind. Nor does he lack reasons for taking the wider view, for in the insured population alone, comprising not more than one-third of the whole, the cost of rheumatism in money is upwards of £17,000,000; and, if the late effects of rheumatic carditis in children are taken into account, the rheumatic group of diseases must be reckoned one of the principal causes of death in the community.

So far as acute rheumatism and rheumatic infection in childhood are concerned, the war against these conditions must begin in infancy. Although heredity does not seem to play very much part, the constitu-

tion of the child undoubtedly does. Rheumatic infection is apt to occur in the "nervous child," and when infection has taken place the "nervousness" is increased in a vicious circle. Diet is of considerable moment, for the pre-rheumatic child tends to be intolerant of carbohydrates and is often deficient in vitamin B. The lymphoid system of these children is poor in quality, and soon becomes converted from a defence against micro-organisms into an absorbing surface for the microbes and their toxins—hence the importance of close attention to the hygiene of tonsils and adenoids; while failure of the intestinal lymphoid structures is responsible for the toxic debilitated state found in children before and after actual infection has taken place. The endocrine system is ill-balanced, as is shown by two phenomena which are familiar after infection has taken place—namely, the irregular and abnormal sweat secretion, and the tendency to hyperpyrexia, which may often be controlled by insulin. The skin is inefficient in its response to cold and damp, which may explain the marked effect of damp houses on the incidence of this disease. There is also a sensitization of the tissues to certain micro-organisms and their toxins, particularly to the *Streptococcus viridans* and its allies, and a phasic variation between this sensitivity and a relative immunity may occur all through childhood, explaining the frequent remissions and exacerbations. This may culminate in an absolute immunity in adult life.

Opinion is still divided as to the causal organism, though most observers admit that it is a streptococcus, which is probably a saprophyte in ordinary circumstances, only becoming pathogenic when sown on a suitable soil. Evidence is accumulating that such streptococci of low virulence may induce a specific tissue reaction in the form of the nodule analogous to the tubercle and the gumma. Various special strains of streptococcus which are believed to be the specific causal organism have been described; the most recent is that termed in America the *Streptococcus cardio-arthritis*. Although not an infectious disease, evidence is not wanting that under certain conditions it may be mildly contagious, especially in the stage before clinical signs have become manifest. If serious complications are to be avoided, not only must rest and appropriate treatment by salicylates or other drugs be given during the active stage, but convalescence must be managed with the greatest care. The rheumatic child must not go back to the rough-and-tumble of ordinary school life for at least a year after the attack, but complete rest in a convalescent home is not generally necessary for more than six weeks; therefore the provision of special schools is a necessity. Since the main incidence of rheumatic infection is on the elementary school child, the charge for these schools, if and when they are established, will presumably be on the State.

When we turn to chronic rheumatism the first thing that strikes the eye is the complexity of the picture. In this picture, however, certain features are found which resemble those of acute rheumatism: the disordered skin reaction, the disturbance of endocrine function, and the specific tissue reaction to low-grade streptococci—namely, the nodule. Like acute rheumatism, these conditions—whether infective arthritis, fibrositis, or osteo-arthritis—must be looked upon as biological deviations, as system diseases. The first two have their seeds in early life, while the last may be a part of the general deterioration of advancing years affecting joints which have been weakened by strain, trauma, or infection, acting separately or together. In the investigation of these

diseases it is necessary to pay attention to the biochemical constitution of the patient, and deviations from the normal will often, if not always, be met with. The commonest are disturbances in sugar tolerance, alterations in the pH values of the body fluids, and abnormalities in the metabolism of calcium, phosphorus, and sulphur. The endocrine organs, and more particularly the thyroid gland, are as a rule not fault, hypothyroidism being associated particularly with fibrositis and chronic synovitis, and dysthyroidism with infective arthritis. Foci of infection are of great, but not exclusive, importance, and faulty elimination must also be taken into account. Treatment of these conditions may be grouped under six heads: (1) removal of septic foci by surgical or medicinal means; (2) promotion of elimination by means of physiotherapy and hydrotherapy, more particularly by the skin; (3) establishment of immunity from the invading organisms by means of vaccines, given with due discrimination in respect of dosage and interval; (4) induction of tissue reactions by various forms of shock therapy; (5) correction of endocrine imbalance by administration of suitable extracts; (6) massage and other physical and hydrological methods which aim at the alleviation or removal of local lesions. If the case comes under treatment reasonably early such methods warrant a favourable prognosis. They can be carried out at a well-equipped hospital or clinic, but probably the spa is still the best centre for their administration. Physical treatment is expensive, and therefore often beyond the reach of the industrial population, unless the State, through the national health insurance scheme, extends this opportunity for treatment to its beneficiaries. Mention should also be made of the place of surgery in the treatment of rheumatic diseases. In the first place, orthopaedic principles must be applied in the maintenance of posture of joints and muscles; and secondly, when the case has been neglected, or when in spite of treatment contractures and deformities have resulted, a helpless cripple may be restored to comfort and usefulness by means of arthrodeses, arthroplasties, and kindred operations.

Such appears to be the gist of the contributions made in the course of three strenuous sessions at Bath. We believe that the promoters of the Conference may feel confident that they have collected a mass of material which will stimulate further research into these difficult problems of causation and treatment, and point the way to the more efficient application of what is already known.

### IMMUNIZATION AGAINST INFECTIOUS FEVERS.

THE need for taking stock of new procedures for the prevention and treatment of disease arises from time to time, and in the opening pages of our present issue there appears the report of an opportune lecture by Dr. Monckton Copeman, in which he surveys recent developments in immunization against diphtheria, scarlet fever, and measles. In connexion with the treatment of diphtheria it may be wise to recall that these new methods of prophylaxis in no way invalidate the wise rule of practice that when a patient shows membrane in the throat and a suspicion of diphtheria arises, impelling the doctor to take a swab, antitoxin should be given then and there. For the prevention of the disease Schick testing and active immunization have proved their utility, and in the case of nurses in diphtheria wards and of children in residential

institutions in which diphtheria is endemic, sufficient experience is now available to justify action. None of these nurses should be Schick-positive, nor should the children, unless the parents refuse the protection offered. In regard to the general population it has often been said that, though any idea of compulsion will be equally distasteful to medical administrators and to the public, every parent who desires protection for his children should have ready access to an immunization centre. Many public health authorities already meet this demand.

The Dick test and active immunization against scarlet fever have clearly come to stay, though the exact field they will occupy and the details of the optimum methods in their application have not yet been finally settled. Evidence from Benson and others indicates already that the personnel in scarlet fever wards can be almost entirely protected against the disease. In infected residential schools and kindred institutions in which scarlet fever is endemic, these measures, properly applied, give the responsible authority a confident control of the position. In an emergency a dose of 5 c.cm. of antitoxin will protect contacts for from seven to ten days, and allow time for other appropriate measures to be applied. Here again the busy practitioner will feel that his course in the treatment of the disease is clear. When he is called to an obvious case of scarlet fever he need not feel obliged to remember that the Dick test and the Shultz-Charlton blanching test will be positive, and that haemolytic streptococci are present in almost pure culture in the throat—he may be glad enough to recall these facts when in doubt about a diagnosis in a difficult case or during a troublesome atypical epidemic in a school—but he will remember to give intramuscularly an adequate dose of scarlet fever antitoxin at once if the patient is severely or even moderately ill.

The vexed question of the interrelation of the haemolytic streptococci must at present be left to the immunologists. It is interesting that Parish and Okell<sup>1</sup> find scarlet fever antitoxin more useful in neutralizing, in the rabbit, the haemolytic streptococci of puerperal and streptococcal septicaemia and erysipelas than the autogenous serums. Their suggestion that scarlet fever antitoxin should be given an adequate trial in the treatment of all infections caused by the haemolytic streptococci has a certain amount of clinical support, and will appeal to many practising physicians.

We are glad that the use of convalescent serum in the fight against measles has again been brought before the medical public.<sup>2</sup> To the child aged less than 3 years, and particularly to one already struggling with some other illness, an accidental exposure to infection with measles is a serious matter, for at this age measles is a grave menace. The knowledge that 5 c.cm. of human convalescent serum given in the first four or five days after exposure will completely protect such an infant, or will give safety to a schoolboy due to sit for an important school examination, and that the same dose given between the fifth and ninth day after exposure will almost certainly allow a very mild and transient attack of measles to develop with subsequent active immunity, will often be gratefully recalled by the busy practitioner. Yet it is disturbing for him to have this knowledge but to be unable at present to get supplies of the serum when required. Lord Monckswell, in a letter printed in the *Times* on May 4th, called attention to a case in which it was impossible to procure the serum in London, and a

<sup>1</sup> Parish, H. J., and Okell, G. C.: *Lancet*, 1928, i, 745.

<sup>2</sup> See *British Medical Journal*, 1928, i, 189.

telegram had to be sent to Paris. A convalescent adult can easily spare 300 c.cm. of blood. The volunteer can be told, without exaggeration, that the thirty doses of serum resulting will certainly remove much anxiety from many troubled mothers, and may quite probably save the lives of a number of infants. Such a presentation of the case should make a powerful appeal to many convalescents. A healthy adolescent, 12 to 15 years of age, could easily spare 100 to 150 c.cm. of blood, and Dr. Canti's<sup>1</sup> success in obtaining small supplies from volunteer patients suggests that the appeal will often succeed. It would be a great source of satisfaction if the Medical Department of the Ministry of Health, which has done so much already in other directions, could overcome the difficulties in the way of organizing a central supply of convalescent serum for urgent cases of measles.

### ENDOSCOPY.

THE originators of endoscopy could scarcely have foreseen the extent to which it has proved to be capable of development, although its introduction into the practice of medicine is of relatively recent date. It is natural that its foremost and most dramatic triumphs should be those in which life has been saved by the extraction of foreign bodies from the air passages or oesophagus, or even from the stomach, but in the past few years its application to the diagnosis and treatment of disease has also made striking progress. Of those who have devoted themselves to the study of this highly specialized work it is no overstatement to say that Dr. Chevalier Jackson and his associates in Philadelphia have accomplished more than all other contemporary workers combined. It would seem, indeed, that in so far as the extraction of foreign bodies is concerned Dr. Jackson has no further fields to conquer. The first edition of his *Bronchoscopy and Esophagoscopy* was an abstract of the large work *Peroral Endoscopy*. The latest edition of the smaller work<sup>2</sup> is on the same lines, but the scope is broadened; there are fresh details, and it contains, among other new matter, an interesting account of the course directed by Dr. Jackson at the University of Paris. He tells us that "when *Peroral Endoscopy* was published in 1914 five cases were mentioned as beyond the limits of bronchoscopy." "Every one of those cases would have been quite simple to-day," and the only exception that he now admits "is in the case of foreign bodies that are so small as not to be localizable." "The impossible in bronchoscopy for slender foreign bodies, such as pins, in minute bronchi at the periphery of the lung" has been practically eliminated. Of the method generally Dr. Chevalier Jackson says "it is all a matter of plumbing." The metaphor scarcely does justice to an art which has been brought to such a stage of refinement, though the meaning is clear enough, but if there are any general principles involved this is about the only one. The summit has been reached by the detailed study of a large number of cases, by the selfless co-operation of a number of fellow workers, both colleagues in other branches and assistants, and by the ceaseless adaptation of instruments to meet the infinite variations in the problems which demand solution. Perhaps this last consideration is the most important of all, for endoscopy is an art which lends itself in no way to makeshifts or brilliant improvisation. Everything depends on proper instruments and assistance, and for the inexperienced operator it is better to leave a case alone than approach it either with an insufficient equipment or, it may be added, without reading Dr. Jackson's book. "The

motto of the endoscopist should be, 'I will do no harm.' " *Primum non nocere* is a rule of general application, but the account of the state in which many patients reach the Bronchoscopic Clinic in Philadelphia after unsuccessful endoscopies elsewhere shows that it applies more forcibly here than almost anywhere else in medicine or surgery. It would be impossible, therefore, to exaggerate the benefit resulting from the training which a large number of the younger school of laryngologists have received at the Bronchoscopic Clinic.

### THE FOUNDER OF THE RED CROSS MOVEMENT.

HENRI DUNANT, the centenary of whose birth was celebrated at Geneva on May 8th, founded the Red Cross movement, which ranks very high among the international organizations associated with the name of this Swiss city. Geneva was, in a sense at least, the home of Calvinism; it was the domicile of the now forgotten First International; it is to-day the seat of the League of Nations; but no ideal or enterprise which has originated in Geneva has gained such world-wide approval as has the Red Cross. Dunant was a member of a patrician family of the Republic and Canton of Geneva, and appears to have derived his interest in the care of the sick and wounded in war from his admiration for the achievements of Florence Nightingale in the Crimea. In 1859, when France, Austria, and Sardinia became involved in war, he went to Italy, and at the battle of Solferino assisted in the removal and care of the wounded. Three years later he published his impressions under the title of *Souvenirs de Solferino*, and in his conclusion uttered the hope that before long the treatment of those who suffered in war would be governed by a general agreement providing for their relief irrespective of their nationality. Dunant's suggestion having been favourably received and actively supported in Switzerland, he undertook a missionary tour of various European capitals to win wider support. In October, 1863, a conference of representatives of various Governments was held at Geneva, and certain fundamental principles were enunciated, the effect being to embody in international law the idea of respect for the wounded and of a measure of immunity for medical personnel and material. The Geneva Convention came into being in the following year, when delegates of sixteen countries, at an assembly convened by the Swiss Federal Government, agreed to its provisions and adopted the emblem of the red cross on a white ground, the symbol being the Swiss Federal colours reversed. This side of the movement gave the wounded a definite title to protection, but the other side, which resulted in the creation of the Red Cross societies, has been of equal importance. The establishment of the first Geneva committee, the International Committee of Assistance to the Wounded, was followed soon afterwards in Great Britain, for example, by the inauguration in 1870 of the National Society for Aid to the Sick and Wounded in War—the parent of the British Red Cross Society. It is unnecessary to recall the services to humanity rendered by the International Red Cross Committee, notably in connexion with prisoners of war, and the various national bodies during the late war. Since then Red Cross work has taken a new orientation, and to-day the chief concern is with the casualties, not of war, but of peace. In a hundred ways, less dramatic than those associated with trenches and battlefields, but no less important to suffering men and women, the humanitarian tradition which inspired the founder of the movement persists. Henri Dunant has not lived to see the full fruition of his work, for he died in 1910, and his later years were overshadowed by sickness and financial anxiety. It is pleasant to recall that he was not altogether unrewarded and unrecognized, for in 1901 he was the recipient of the first Nobel Peace Prize, and on several occasions foreign orders were bestowed upon him.

<sup>1</sup> O'Brien, R. A.: *National Health*, 1927, xx, 238.

<sup>2</sup> *Bronchoscopy and Esophagoscopy*. By Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S. Second edition, revised. Philadelphia and London: W. B. Saunders Company. 1928. (Roy. 8vo, pp. 457; 179 figures, 19 plates. 36s. net.)

## MULTIPLE EXTRACTIONS OF TEETH.

It is a curious fact that, despite the horror universally evoked by the sight of the dentist's forceps, tooth extraction is still widely regarded as a very minor, almost contemptible, operation. "Oh, whip it out with a whiff of gas!" is the attitude of many people, both among the laity and among members of the medical profession—as if shock and sepsis were unknown after operations in the mouth. In a post-graduate lecture delivered lately at the Royal Dental Hospital of London<sup>1</sup> Dr. Harvey Hilliard, senior anaesthetist to that institution, urged the importance of a more serious view of tooth extraction, especially of multiple extractions. Dr. Hilliard has thirty years' experience both of general practice and of dental anaesthetics, and may claim to speak with authority. He holds that multiple extraction of teeth should rank as a major operation, to be performed in a nursing home or at the patient's own residence, after due medical examination (including blood examination) and proper preliminary preparation; and that an adequate period of convalescence should be arranged for, and the patient immediately fitted with temporary dentures, so that he can partake of the diet he has found by experience best suited to him, and thus be saved from the risk of being half starved, with its inherent danger of consecutive disease. As the result of his own experience Dr. Hilliard finds that patients suffer much less, as regards both shock and sepsis, if all the teeth are taken out on one occasion. Operating at home, as opposed to extraction in the dentist's room, allows of the use of a preliminary injection of atropine and morphine, which in turn may render prolonged nasal "gas" available in cases otherwise calling for ether. Dr. Hilliard's lecture is of more than passing interest, and the views he puts forward deserve careful consideration, though we suspect that some medical practitioners and dental surgeons will find difficulty in agreeing that wholesale extraction at one operation is a good routine procedure.

## YELLOW FEVER IN WEST AFRICA.

WHILE it no longer inspires the old terror, and has been robbed of its strongholds in most parts of the New World, owing to the ease with which the insect vector *Aedes (Stegomyia) argenteus* can be attacked, yellow fever still preserves the secret of its identity, even though, as recorded in our issue of April 28th, some new light has lately been thrown upon the nature of the virus. Moreover, the disease still continues to smoulder on the West Coast of Africa, blazing up from time to time into smaller epidemics which no one can afford to neglect. These have been the subject of communications by various writers, such as Lasnet (French West Africa, 1926-27, *Bull. Acad. Med.*), Aitkin and Smith (Lagos, 1926, *Trans. Roy. Soc. Trop. Med. and Hyg.*), and now the outbreak in Accra (March-June, 1927) is dealt with by Dr. Selwyn-Clarke in a report published by the Gold Coast Government.<sup>2</sup> For the whole colony during the year 1926 there had been 8 European and 57 African cases; during 1927, 14 (10) Europeans, 88 (25) Africans, and 5 (5) Syrians (the numbers in parentheses being the number of fatal cases among them), a bigger outbreak than had ever previously been recorded, leaving out of account the estimated figures given by the Rockefeller Commission for Asamankese (1926). The large number of African cases is worthy of note, and is probably explained by the easier methods of communication on the one hand, and, on the other, the greater facilities for recognizing the disease. For the town of Accra the figures were 3 (3) Europeans, 9 (4) Africans, and 4 (4) Syrians; these are small figures, but the history

of this little outbreak is interesting. The disease was doubtless introduced from one of the several infected areas but a few miles from Accra. The first case was a Syrian, as has happened before along the coast of West Africa. Dr. Selwyn-Clarke then traces the circumstances leading to the infection of subsequent cases, with a short clinical account of each, and the measures adopted to prevent the spread of the epidemic. There was, as is commonly the case, considerable difficulty in making a diagnosis within the first three or four days—that is, during the period when the patient is infective—and the lack of some means of getting over this difficulty was severely felt. Clinically the disease varied somewhat from yellow fever as seen in America, as has been before remarked, and in no case, confirming previous experience in Africa, was the *Leptospira icteroides* discovered. The American commission has, however, using some of these cases as the source of the virus, carried out successful experimental transmission to animals, and all recent work goes to prove that yellow fever is caused by a filterable virus, and that *L. icteroides* is identical with *L. ictero-haemorrhagica*, and plays no part in that disease. Lessons may be learned even from so small a series of facts as are presented in the Accra report. Among these are the necessity for an efficient medical and sanitary service, armed with the needful resources and backed with the essential legal powers to act; the urgent need of some biochemical test as a rapid means of diagnosis at an early stage of the disease; and the danger involved in non-segregation of native populations in townships which include European inhabitants. This last question is one which, of course, not only arises when protective measures against yellow fever are under consideration, but in malaria and other tropical diseases also. It is one which has often not been sufficiently recognized by Europeans, and has led to feelings of antagonism on the part of the natives, but it should never be lost sight of when dealing with towns containing native elements whose standard of hygiene is below the European level.

## LIGHTING AND FINE WORK.

LAST year there was issued a joint report of the Industrial Fatigue Research Board and Illuminating Research Committee on an inquiry into the optimum illumination required for typesetting by hand in the printing industry. The results suggested that with a system of direct lighting output did not reach its maximum, nor errors and turned letters (letters set upside down) their minima, until an artificial illumination of approximately 20 foot-candles was attained—an amount believed to be much higher than that usually found in printing offices to-day. This investigation has now been extended by an inquiry into the kind of artificial lighting<sup>1</sup> that gives the best results as judged by the same tests in this operation, taken as typical of fine work. Illumination was standardized at 10 foot-candles, but the type of lighting varied from direct to semi-indirect and complete indirect, with the intermediate provision of combined direct and semi-indirect. The direct was the common bulb lamp, but in the tests the lamps were fitted into a trough that reflected the light upon the type-case and protected the eyes of the compositor. Semi-indirect lighting was obtained by reflectors of various types above the lamp and opal shields below it. The tests showed the usual diurnal variation in output and errors; output tailed off towards the end of the morning and again in the late afternoon, while errors at first declined and then tended to increase as fatigue came on. There was some evidence that the semi-indirect system gave the best results; output was increased and errors diminished. The mixed system of direct and semi-indirect lighting, though highly

<sup>1</sup> *Lancet*, April 21st, 1928.<sup>2</sup> Report on Yellow Fever in Accra, March-June, 1927. Gold Coast: Government Printing Office, Accra, 1928. 2s.<sup>1</sup> The Effect of Different Systems of Lighting on Output and Accuracy in Fine Work (Typesetting by Hand). London: H.M. Stationery Office, 1928. 4d. net.



approved by the printers, did not seem so favourable to accurate work. Indirect lighting, where the lamp was enclosed within a white enamelled opaque bowl surmounted by a trumpet-shaped pale blue glass intended to give an approximate daylight effect, was much liked by the printers, but was not entirely satisfactory. The main conclusion derived from this report is that good lighting—good by reason both of sufficiency and of wise distribution—is a true economy in furthering the comfort of workers and improving their efficiency. In conclusion, it may be suggested that good lighting in the home, though less susceptible to investigation and less obviously of economic consequence, also deserves the greatest consideration, notably where much sewing or study is done.

#### CHARLES NICOLLE.

THIS year has witnessed the twenty-fifth anniversary of the assumption by Dr. Charles Nicolle of the charge of the Pasteur Institute at Tunis. At the end of last month the event was celebrated by a distinguished company, which met in the municipal theatre of the town. Representatives were present from the Pasteur Institute in Paris and from medical societies at Rouen, Havre, and elsewhere, together with the General Officer commanding the French troops in Tunis, several officers of the navy, the Swedish, Spanish, Italian, and United States Consuls, and His Britannic Majesty's Consul-General in Tunis, Mr. J. M. MacLeod. A congratulatory message was received from Madame Valléry Radot, Pasteur's daughter. Dr. Conseil presented to Dr. Nicolle a beautiful gold medal to express the gratitude of the French people to their admired compatriot. Dr. Nicolle, in replying, spoke of the grey sky of Rouen, and alluded to his Norman ancestry. He modestly touched but lightly on his own fundamental work, but drew attention to the wide and varied usefulness of the Pasteur Institute in Tunis. He referred to its antimalarial research, to the transmission of typhus fever to animals, and to the investigation of trachoma. He recalled the study of Mediterranean fever, the serum prophylaxis of measles, investigations into rabies, and other matters by which the Institute has rendered such signal benefit, not only to North Africa, but to medicine in general. One speaker quoted Flaubert in *Salammbô*: "Tunis is a land of greenery and birds. Under its orange trees the air is so sweet that it is impossible to die." These words, he said, had proved prophetic. The Pasteur Institute of Tunis had realized Gustavo Flaubert's dream, and the author and inspiration of the whole had been Dr. Charles Nicolle. Scientists and medical men in this country will join with their colleagues in France and all over the world in congratulating Dr. Nicolle on this auspicious occasion, which marks a stage in his distinguished service, but happily does not put a period to it.

#### A CORONER'S DISCRETION.

THE office of coroner is an ancient and honourable one. Dr. Whitehouse, coroner for South-East London, is a barrister-at-law and the author of *Notes for Guidance of Coroners' Officers* and of *The Coroner and his Office*. He, in common with all other coroners, is supposed to be at liberty to do and say whatever he likes in his own court, subject only to the jurisdiction of the Lord Chancellor with respect to his removal. Nevertheless, the conduct of an inquest and public pronouncements made by a coroner in his court may still be the subject of public comment and criticism. At an inquest held recently at Greenwich a verdict of "Death from natural causes" was recorded in the case of a man who died suddenly while ascending an omnibus. In the course of the case it appeared that a doctor, at the instance of the London

General Omnibus Company, had been present at the *post-mortem* examination without having previously asked the permission of the coroner. Thereupon Dr. Whitehouse is reported to have said that "if the company does things like that I will shut them out of court entirely," and "I will see that the doctor is never present in my court on any future occasion." It thus appears that the coroner has announced in advance his intention to exclude from his court, either absolutely or in certain contingencies, one or more persons who may quite probably be the most material witnesses in some future cases. Surely if a coroner may admit or exclude such witnesses at his whim and pleasure confidence in the usefulness of inquests cannot fail to be undermined. The medical man concerned in this incident committed the error of not asking the coroner's permission to attend the *post-mortem* examination. No doubt he was at fault; but exemption from the necessity of attending before the coroner in future may, of course, be regarded from the personal aspect as a privilege rather than as a punishment. In view of the remarks of the coroner in this case, too, it may be worth while to point out at any rate one matter which is outside the coroner's discretion. Section 22 (4) of the Coroners (Amendment) Act, 1926, reads: "Where a person states upon oath before the coroner that in his belief the death of the deceased was caused partly or entirely by the improper or negligent treatment of a medical practitioner or other person . . . such medical practitioner or other person shall have the right, if he so desires, to be represented at any *post-mortem* examination."

#### THE NATIONAL DAIRY COUNCIL OF CANADA.

THE report of the proceedings of the National Dairy Council of Canada contains several features of interest from the medical point of view. The first impression, perhaps, is that of surprise at the efforts made by the dairy interests to increase the consumption of milk and dairy products. It is natural for traders to wish to dispose of as much of their merchandise as possible, but to the average person milk is so much a staple of food that it seems hardly worth while to labour the point with advertising. An article will be written, for example, around such a remark as "A bottle of milk and a bath," which was the first request made by Lindbergh after his famous transatlantic flight, and this will be published in the newspapers; or else sets of posters and bulletins showing the energy-producing food value of milk, butter, and ice cream will be sent to teachers and home nurses throughout the country. Such "rules of health" are promulgated as the following: "A bottle of milk is a bottle of health"; "Open the window and throw out your chest"; "Be true to your teeth so that they will not be false to you." Prominent athletes are the keystone of some of the advertisements; just before the prize-fight between Tunney and Dempsey some enterprising person discovered that Tunney drank a quart of milk a day, while Dempsey drank only a glass, and this was widely advertised in the Chicago papers. It is clear, however, that the general run of the National Dairy Council's activities has included more than the mere advertising of dairy products. The importance of sanitary precautions is fully recognized, and one of the immediate results of the convention was the passing of a resolution calling on the Government of Canada to bring in legislation providing for "a single, uniform, and compulsory standard of inspection of all farms producing milk and cream." The need for some such uniformity in methods throughout the country is becoming all the greater in view of the widening of the markets for dairy products. The deplorable incident of the typhoid epidemic in Montreal last spring served to show that one province at least needed an improved system of inspection. Other matters fully

discussed were the pasteurization of milk and the eradication of bovine tuberculosis, and on these points also resolutions were passed calling for legislative action. The greater part of the discussion in this convention was very naturally concerned with the business aspects of dairying, but credit is due to those who conduct this business for displaying a wide and intelligent interest in the sanitary problems arising from the handling of milk and other dairy products. Due prominence was given to the fact that the eighth World's Dairy Congress is to be held in England this July, under the patronage of the King, who has invited all the delegates to visit Windsor and see his dairy and herds, in which it is known he takes so keen an interest.

#### PARTIAL DEATH.

In the course of one of the addresses at the staff meetings of the Mayo Clinic, Dr. E. Libman spoke on the subject of invasion of the body during life by the *Bacillus aerogenes capsulatus*, especially after operations, when it may imitate lung complications, such as embolism and bronchopneumonia, and may cause unexplained post-operative deaths. The clinical picture in these cases is "moderate fever, signs in the lung resembling broncho-pneumonia, and then a sudden sharp ending with pulmonary oedema and very high temperature. If a patient has a cadaveric look or emits a cadaveric odour, or if the peculiar blue discolorations of the skin are present, there is more reason to suspect the presence of this condition." Dr. Libman answers his own inquiry, "What is the meaning of this general invasion?" by suggesting that the patient may be regarded as partly dead, which would account for the cadaveric appearance and odour, and the multiplication of bacteria which does not occur under ordinary conditions. This question of partial death, which had interested him for years, he found to be no new idea, for Michel Peter, in his lectures on heart disease (*Leçons de clinique médicale*, 1870, ii, 791) dealt with "mort partielle," and a century earlier Bichat, in his monograph *Recherches physiologiques sur la vie et la mort*, discussed the problem with particular reference to the brain, lungs, and heart, and the influence of death of one organ on the others—a subject in these days familiar enough in connexion with gangrene of the extremities. Dr. Libman quotes in conclusion Peter's expressive dictum, "One lives until one stops dying."

#### THE ACADEMY OF MEDICINE OF JERUSALEM.

PROBABLY the most completely international and polyglot medical association in the world exists to-day in Jerusalem, where at least ten mother tongues are spoken by the forty-five members of the Academy of Medicine, and where there are almost as many different training schools and modes of thought as there are members. It may be recalled that we gave a short account of the progress of the medical department of the Hebrew University on March 7th, 1925 (p. 471). It is not surprising that the foundation of such a society, even with its very laudable objects of promoting good feeling amongst medical practitioners and the encouragement of scientific research, encountered many obstacles. Indeed, a first attempt failed on account of the language difficulty, but this has been overcome, and the first issue of the annual *Bulletin*, edited by Dr. H. J. Orr-Ewing, indicates that the association promises to be a flourishing concern which should go far to solve some of the problems of medical practice in Palestine. Some of the health questions which have to be faced in that country can be better approached if there are full facilities for discussion between medical men, and the *Bulletin*, by printing papers in full or by reporting such discussions, will greatly help

those who are unable to attend. A paper on blindness in Palestine by Dr. A. Tricho in the present issue illustrates this point. It is estimated that there are twenty times as many blind there as in Great Britain in proportion to the population, despite the fact that ophthalmia neonatorum is unknown. Of a large group of binocular blind patients, 72 per cent. were found to have external disease of the conjunctiva as the origin of their disability. Trachoma is the cause of many cases, and acute inflammation supervening on this is very frequent. Glaucoma and cataract come next, with 7.83 and 6.85 per cent. case incidence respectively. Tuberculosis is not uncommon, but syphilitic affections of the eye are comparatively rare, despite the fact that the natives are widely infected with the spirochaete. The vast majority of the blind in Palestine are Arabs, and Dr. Tricho insists that better general hygiene, with expert and timely treatment, will prevent blindness in 75 per cent. of cases. The *Bulletin* also contains an account of the very successful second annual dinner, held on June 23rd, 1927, with Dr. V. Kalbian, president of the academy, in the chair. Dr. Emmanuel Kant, president of the older Jewish Medical Society, was a guest on this occasion, and it is clear that the relations between the academy and the larger Jewish society are of the happiest.

#### METHODS OF SLAUGHTERING.

DR. GERALD LEIGHTON of the Scottish Board of Health, in his Benjamin Ward Richardson Memorial Lecture (now published in pamphlet form), has given an excellent summary of the present position of the meat food industry from a public health point of view. On the advantages of the modern abattoir under the direct control of a public health authority over the privately owned slaughterhouse no doubt can exist. The high standard of proficiency demanded of inspectors is good for both the public and the trade. The former can rest assured of obtaining meat in a wholesome and fresh condition, while the latter can be confident that no carcasses are unjustly condemned. Dr. Leighton is not satisfied with the methods of slaughter of pigs, calves, and sheep. He thinks that no animal should be killed by bleeding without previous stunning. Much improvement in droving and sea transport can yet be made. Rough treatment of animals prior to entering the abattoirs causes much unnecessary suffering. Dr. Leighton's view that animals are indifferent to scenes of bloodshed within slaughterhouses must be listened to with respect, though it leaves us only partially convinced. He advocates the large central abattoir built on the open hall system as opposed to one divided into a number of small booths. The central open abattoir is best for the disposal of offal, and also offers greater facilities for pathological examination.

WE are informed that the Rockefeller Foundation has made an offer to the Government of India of the sum of £100,000 to build and equip an All-India School of Hygiene, opposite the Calcutta School of Tropical Medicine, on condition that the Government of India becomes responsible for the staff, and that the Indian Research Fund Association, which controls the medical research work in India, becomes the governing body. This will allow the present hygiene section of the Calcutta School of Tropical Medicine to be used for the much-needed expansion of that institution.

A MEMORIAL tablet to the late Sir William Leishman, K.C.B., F.R.S., who died on June 2nd, 1926, will be holding the office of Director-General A.M.S., will be unveiled in the Queen Alexandra Military Hospital Chapel, Millbank, S.W., on Saturday, June 2nd, at 11.30 a.m.

<sup>1</sup> *Proceedings of the Staff Meetings of the Mayo Clinic*. 1927, II, 274.

# The Harvey Tercentenary.

## RECEPTION OF DELEGATES BY THE KING.

On Monday, May 14th, delegates from universities and medical societies throughout the world met in London to attend the celebrations arranged by the Royal College of Physicians of London in honour of the three hundredth anniversary of the publication of William Harvey's great work, the *De Motu Cordis*. The first event on the programme was the reception of delegates at 11 a.m. by the King at Buckingham Palace. The delegates, numbering nearly 100, were presented to His Majesty by Sir John Rose Bradford, K.C.M.G., F.R.S., President of the College, who delivered an address in the following terms.

### ADDRESS TO HIS MAJESTY.

*May it please your Majesty:*

By Your Majesty's gracious invitation we are gathered here to-day to celebrate the Three Hundredth Anniversary of the first publication of William Harvey's famous book, the so-called *De Motu Cordis*, in which he announced to the whole world the discovery already made known by him to his own medical colleagues in his lectures before the Royal College of Physicians. This book Harvey dedicated to His Majesty King Charles the First.

Harvey's demonstration that the same blood must flow unceasingly round and round the body, visiting its remotest parts, swept away the visionary speculations of his predecessors and paved the way for a scientific explanation of the purpose of the Circulation of the Blood. Thus it is the publication of the *De Motu Cordis* has been rightly acclaimed as the Birthday of Physiology and of Scientific Medicine.

Science knows no boundaries of race or nation, and obedient to this doctrine Representatives of Medical Science from many lands have joined with Representatives of the Universities and Scientific Societies of this Kingdom and of the Dominions of your Empire Overseas to pay homage to the memory of this great English Man of Science.

Your Majesty, in identifying yourself with this Commemoration of Harvey's work, is but treading in the footsteps of your Royal Ancestors. King James the First and King Charles the First both set a true value on Harvey and made him their own Physician, and the latter supplied him with the bodies of deer from the royal herds for his anatomical studies. Harvey constantly brought to King Charles natural curiosities for his inspection, and exhibited to him much of his experimental work. Together also they shared the rare experience of watching the beating heart in a human subject through a defect in the chest-wall produced by disease.

In the Civil War, too, Harvey stood by his Royal Master and was present at Edgehill, in charge of the young Princes Charles and James, and afterwards at Oxford, where by Royal Mandate Harvey was appointed Warden of Merton College.

As President of the Royal College of Physicians of London, on whose roll of Fellows Harvey stands out as its brightest ornament, I have the honour to express to Your Majesty the dutiful thanks of every member of this Delegation for the honour of this Reception, by which Your Majesty to-day participates in the Celebration for which we are all assembled in the Capital of Your Empire.

### THE KING'S REPLY.

I thank you sincerely for your Address. It is a great pleasure to me to join with my people in welcoming the many distinguished men from my Overseas Dominions, and indeed from all parts of the civilized world, now assembled in London in honour of the Tercentenary of Harvey's immortal discovery.

I appreciate the comparison drawn in your Address between my part in to-day's ceremony and the action of my

predecessors, who befriended Harvey in his lifetime. I am proud to think that the Kings of England of that day, recognizing Harvey's great gifts, granted their patronage and help in his work, and are thus entitled to the credit of having contributed to the new birth of medical science.

The importance and value of William Harvey's work cannot be exaggerated. In an age when physiological knowledge was in a state of darkness and chaos, he laid the essential foundation for a science of physiology by demonstrating not only the fact of the circulation of the blood, but the manner in which it took place. He discerned and taught that the true method of scientific progress is by observation and experiment, and it is for this, and not merely as the author of a single discovery, however brilliant and fundamental, that we to-day do honour to the name of Harvey.

Science, as you truly say, knows no boundary of race or nation. Harvey's own career is an instance of this. He was a graduate not only of our own Cambridge, but also of Padua, which ancient and illustrious University I am happy to see represented here to-day. His great book was published in Latin, the universal language of learning, and won acceptance for itself and fame for its author throughout Europe. But, though science is international, each country's contribution may still bear the marks of the national character. And here we may proudly note that Harvey, in his threefold capacity as a successful physician in private practice, as physician to St. Bartholomew's Hospital, and as an eminent student and investigator, foreshadowed what is now, and has long been, characteristic of British physiology—the combination of research with medical and surgical practice, allied with a generous devotion to the service of the poor in the public hospitals.

## RECEPTION AT THE ROYAL COLLEGE OF PHYSICIANS.

### ADMISSION OF HONORARY FELLOWS.

The Library of the Royal College of Physicians, with several portraits of Harvey looking down from its walls, presented a brilliant spectacle on the afternoon of May 14th, when the President (Sir John Rose Bradford) received the delegates and distinguished guests in connexion with the Harvey Tercentenary. The occasion was made the more noteworthy by the admission to Honorary Fellowship of the College of the Earl of Balfour, O.M., Sir Ernest Rutherford, O.M., President of the Royal Society, Professor I. P. Pavlov of the Academy of Sciences, Leningrad, and Professor K. F. Wenckebach of the Academy of Sciences, Vienna. Three eulogies of Harvey were pronounced, the first by an English physiologist, Sir Charles Sherrington, O.M., the second by a French physician, Professor A. Chauffard, and the third by a German anatomist, Professor Keibel.

Academic dress was worn, and the gowns and hoods of some fifty British and foreign universities made a striking picture. Seventeen European countries were represented in the assemblage; there were six delegates from the United States, six from British Dominions beyond the seas, every university in Great Britain and Ireland had its delegate, the Royal College of Surgeons of England and the Royal Colleges of Physicians and Surgeons of Edinburgh and of Dublin were all represented by their Presidents, and in addition there were delegates from the principal medical and scientific societies, the medical services of the Navy, Army, and Air Force, the Indian Medical Service, the British Association, the British Medical Association (represented by Sir Robert Philip, its President), the Medical Research Council, and other bodies. Harvey's birthplace at Folkestone, his school (King's School, Canterbury), his

hospital (St. Bartholomew's), his collegio (Gonville and Caius, Cambridge), as well as Merton College, Oxford, where he was warden, had their delegates.

The President, with the insignia of the College before him, the mace in silver gilt, the caduceus or silver wand, and the Book of Statutes on its velvet cushion, was accompanied by the Censors, and supported by more than one hundred Fellows of the College.

The delegates were received with stately ceremony. Each was introduced to the President, with whom he shook hands, and received from one of the Censors (Sir Farquhar Buzzard) a beautifully printed and bound copy in facsimile of the *De Motu Cordis*, 250 copies of which had been specially produced by a firm of Florentine printers. Many of the delegates presented addresses from the universities or academies they represented. The Universities of Buenos Ayres, of Helsingfors, and of Athens were represented respectively by the Ambassador of the Argentine Republic and the Ministers Plenipotentiary of Finland and of Greece. The Greek Minister presented an illuminated address on vellum in ancient Greek testifying to the rejoicing of the University of Athens in the celebration.

After the presentations of the delegates, which occupied nearly half an hour, the President said that they had assembled to honour the memory of Harvey, and not only to honour the man himself, but to pay a tribute of respect to the method of inquiry which he had instituted. The College was proud to welcome the large number of delegates representing universities, academies, and learned institutions all over the world. In addition, there were a number of other distinguished guests present, a list of whose names he read, who, though not official delegates, had done noteworthy work in medicine, more especially after the method of Harvey. Their names were as follows:

Dr. Clerc, Dr. G. E. Coghill, Professor G. Fano, Professor O. Frank, Professor H. Fredericq, Dr. Gallavardin, Professor L. G. Henderson, Dr. C. H. Best, Professor Noyons, Professor R. Höber, Dr. N. G. Horner, Professor H. Horst-Meyer, Sir Arthur Keith, Dr. Lemierre, Professor G. Liljestrand, Professor O. Loewi, Dr. W. S. Thayer, Professor T. L. Thunberg, and Professor A. V. Hill.

Continuing, the President said that although the College of Physicians had existed for over 400 years it was not clear that it had ever had a roll of Honorary Fellows. It was true that in the time of Harvey, and on Harvey's initiative, the Fellowship was conferred on one man who was not a practitioner of medicine—namely, the Marquis of Dorchester, who was admitted a Fellow in 1658. It was true also that a distant President did admit a number of individuals, all of them practitioners of medicine, who were styled in the records Honorary Fellows, but they were not honorary in the sense in which that term would now be used. His late Majesty Edward VII also, when Prince of Wales, agreed to accept the Fellowship at the hands

of Sir Samuel Wilks, who was then President. But with these possible exceptions the College, ancient as it was, had not instituted an Honorary Fellowship. It was thought, however, not inappropriate to the present occasion, when they were assembled to honour the memory of the greatest Fellow the College ever had, to institute such a distinction, the Honorary Fellowship to be conferred upon those who had rendered signal service to medicine either directly or indirectly.

It was possible to serve medicine in more ways than one. The College was right in honouring men who had served medicine without taking any active part in its practice or in the prosecution of research in ancillary sciences. There were a number of laymen, both in history and in the present, who had shown an intimate acquaintance and

sympathy with the aims and objects of medicine, and the College felt that it was appropriate on this occasion to honour one such in the person of the Earl of Balfour. (Applause.) It was a matter of regret that Lord Balfour was not well enough to be present on the occasion; a message had been received from him to say how greatly he appreciated what was proposed and how much he regretted his enforced absence. It was interesting at this moment, when it was proposed to honour a layman, that another distinguished man, who was also to be made an Honorary Fellow, Professor Pavlov, had stated recently that he received his inspiration for his work on physiology from reading the works of another layman, George Henry Lewes, who, like Lord Balfour, was a philosopher.

A second category of men who had served the cause of medicine were those who had

devoted their energies to the prosecution of natural science. The relationship of science to medicine was close and reciprocal. In the Fellowship of the College in the past there had been men whose most notable claim to distinction was not their work in medicine, but in science. It was now proposed to confer the Honorary Fellowship on Sir Ernest Rutherford, the President of the Royal Society, whose devoted researches in science made him a worthy recipient of the honour. The other proposed recipients, Professor Pavlov of the Academy of Sciences, Leningrad, the very distinguished physiologist, and Dr. K. F. Wenckebach of the Academy of Sciences, Vienna, the equally distinguished cardiologist, might be taken as representing the two sides of medicine—the one essentially scientific, the other, while also scientific, more directly connected with the art they all practised.

The three recipients of the honour who were present then came forward and signed the register. Addressing Sir Ernest Rutherford, the President admitted him in these terms: "I, John Rose Bradford, President of the Royal College of Physicians of London, admit you, Ernest Rutherford, to our Honorary Fellowship. I wish you every happiness." The same form was used in the case of Professor Pavlov and Dr. Wenckebach. All three were received with prolonged applause.



William Harvey, 1578 1657 From the portrait by Cornelius Jansen belonging to the Royal College of Physicians of London.

## EULOGIES OF HARVEY.

The remaining business was the pronouncement of three eulogies on Harvey by Sir Charles Sherrington, Professor A. Chauffard of Paris, and Professor Franz Keibel of Berlin, after which the President briefly expressed the thanks of the gathering to the three speakers, and the proceedings terminated.

SIR CHARLES SHERRINGTON said that in William Harvey they bore in remembrance one who was Fellow, Censor, Treasurer, and, for a day, President-Elect of the College, its benefactor by gift and bequest, and part and parcel of its pride and honour. Three and a half centuries had passed since his birth, and three since his unforgettable book. In science as in letters, the book is of the man. Harvey's book embodied not only Harvey's thought, but what his hand had contrived, searched for, and found: At the Renaissance the spirit of man turned from an old order, "cabined within a rounded scheme of things," to move and inhabit for itself afresh. The new day broke first on scholarship and letters; in science it adventured first among the stars. When it turned to explore the inward meaning of organ and organism, the living function, the Renaissance was William Harvey.

Harvey was the pupil and fervent admirer of the masters of antiquity. To him, listening in the steep theatre at Padua to Fabricius expounding in Latin the parts displayed below on the anatomy table, Aristotle and Galen in living authority were as present as was Fabricius himself. But his famous exhortation to others—to search out Nature by experiment—he addressed early to himself. For his great discovery he applied only those means and appliances which had been at men's disposal from classical antiquity onwards. His was the triumph of the new spirit aided only by its own freedom. He was the coming of modernity; not that he was entirely modern, for he let ten years pass between his discovery and sending to the press the slender book which engendered modern medicine. The message had to fight its way, and in some quarters did so slowly. But Harvey relied on the truth and the future. He could hardly have guessed the long train of gifted men who were to extend his work—Einhoven and Starling, so freshly lost to us, and, of his own College to-day, Dale and Lewis, brilliantly extending by discovery his original discovery.

To supply in forty-nine small pages a refutation of nineteen centuries' tradition of continuous error argued a fine restraint. But once at least Harvey gave his spirit rein, and in forecasting the uses which must accrue to the blood in virtue of its circulating, burst forth into a luxuriant passage. This was a new Harvey, a Harvey fired with constructive imagination, a Harvey who could write in red ink on the cover of his notebook, "Everything is full of Jove!" One of the deep springs of his enthusiasm was his philosophy of nature.

Sir Charles Sherrington concluded: "The work of Harvey, the spirit of it no less than the import of it, provides his eulogy and makes superfluous all other. His great discovery, aside from its intellectual worth, secured an item of knowledge than which no other single item has so served to grow, as from a seed, medicine as we now know it. And it was the reassertion, the rebirth, of the method of experiment which, wedded to observation, had created the medicine—and the surgery—of the civilized world to-day. To engender medicine anew is to engender a whole world of correlated knowledge; and an attendant world of beneficence no less. The circulation of the blood, the meaning of the heart, the light of a victorious method! May we not affirm that modern medicine does in fact start there? Harvey, founder of modern medicine! He would himself have felt no term can carry richer or lovelier praise from a grateful world."

Professor CHAUFFARD said how greatly he appreciated the invitation to speak at this commemoration. The honour embraced the Academy of Medicine of Paris, of which he was a delegate. To speak of Harvey and his book was a real joy to a physician. In the first place, he was greatly impressed by the courage exemplified in its publication.

Only a voice here and there, such as that of Vesalius and Servetus, in the sixteenth century had disputed, with great temerity, the authority of Galen. Harvey himself lost part of his practice, and had many opponents, less in his own country than in Italy and Germany, but most of all in France. If his discovery was a work of courage it was also a work of patience. The speaker reminded his audience that in 1616, twelve years before the publication of his book, Harvey, to an audience of about forty persons at the College of Physicians, made a public statement of his ideas regarding the circulation of the blood. The publication was preceded by many years of silence—a period of incubation and verification necessary to all great work. There was a similar period of quiet in the history of Francis Bacon before he gave to the world his *Novum Organum*, and the same was true of Newton, and Pasteur, and Darwin, and others. Genius had long patience. The wise man avoided the error of premature publication.

Another most striking characteristic of Harvey's work was his industry. It was through a variety of direct observations on many different creatures that he gradually overcame the difficulty of his subject and arrived at his explanation of the functions and structure of the heart. But he had also the vision to see far ahead how many problems could be solved, how much advance made possible as a result of this new conception. Harvey was fully conscious of the immense future scope of his discovery. As time had gone on, the truth of it had been preserved; it had been supplemented by the modern means of observation available, but not diminished, only completed and multiplied in value. His work stood intact. In other respects also, in the general precepts which he laid down for the teaching of anatomy, for example, not one word needed to be taken away. In embryology he showed the same grasp of his subject and the same striking modernity of ideas. And Harvey himself was in no way inferior to his work. He was a man of the highest moral character, true to his convictions and friendships, devoted to the interest of the College, of which he was a most generous benefactor. It was fitting that on this occasion the whole world of medicine should unite in eulogy and in pious gratitude.

The final eulogy, by Professor FRANZ KEIBEL, was delivered in German. We are indebted to Dr. J. D. Rolleston for the following translation:

It is my privilege to say a few words on the relation of William Harvey to anatomy. First of all, let me briefly allude to the relation of physiology to anatomy. Both sciences have a common root and are thereby closely associated, but even in their terminal ramifications to-day they are not completely separated from one another. I need only remind you that the wide subject of joint physiology has received most attention from anatomists. The same was true, even in a greater degree, in the time of William Harvey, and we know that Harvey was not only a great experimental physiologist, but also an outstanding anatomist. Of anatomy he said that it should not be learnt from books, but from dissections; not from philosophical dogmas, but from the structure of the body.

Harvey, of course, like all great discoverers, had his predecessors as well as his followers, who brought his work to completion. It is a remarkable fact that Andreas Vesalius, the great reformer of human anatomy, can only in a very restricted sense be included among them, in spite of his excellent description of the heart. Vesalius could not find any pores in the ventricular septum, but, nevertheless, supposed that air passed through it, on this point being in agreement with his great opponent Galen.

Among Harvey's predecessors must be mentioned the unfortunate Servetus, who gave a correct description of the lesser circulation in a theological book entitled *Christianismi Restitutio* (1553). This work was burnt with its author, but it has recently been suggested that it was known to Realdus Columbus, who gave a similar description of the lesser circulation, although he made no actual mention of the work of Servetus. The other predecessors were Caelius, Cannani, and Fabricius ab Aquapendente, Harvey's teacher at Padua. Cannani discovered the valves of the veins, of which Fabricius published admirable drawings. Fallopius also should not be forgotten.



All these men had in their hands the key to the great riddle of which Harvey said at the commencement of his studies with Fracastor that it was so difficult that God alone knew the answer. They were in possession of a number of isolated facts, by proper application of which to inductive conclusions they might have solved the riddle of the function of the heart; but they did not draw these conclusions, and therefore to William Harvey belongs the full glory of having discovered the circulation of the blood and the function of the heart.

Among those who completed Harvey's work should be mentioned Marcello Malpighi, who discovered the capillaries, and Aselli, Pecquet, and Rudheek, who discovered the lacteals and receptaculum chyli. It is true that Harvey used the word "capillaries," but applied it only to the finest terminations of the arteries. He convincingly proved the connexion of the arteries with the veins, but did not succeed in demonstrating it, the demonstration of this connexion being left to Malpighi in the lungs and urinary bladder of the frog. The discovery of the lacteals and receptaculum chyli may be regarded as important additions to the doctrine of the circulation of the blood. Malpighi's discovery was made in the year 1661, four years after Harvey's death in 1657. In 1665 Malpighi discovered the blood corpuscles.

Some time elapsed before the doctrine of the circulation was generally accepted, so firmly rooted were Galen's errors and so great was the reputation of this ancient physician, who for centuries was worshipped as a saint. New problems, of course, arose, and additions to knowledge were made. I need only allude to the auriculo-ventricular bundle—whose discovery by William His, junr., almost all of us can remember—a bundle which gave us such important information about the functions of the heart. We also must not forget that Harvey took a keen interest in the comparative study of organisms, and is therefore to be regarded as one of the founders of comparative anatomy. Moreover, the latest investigations on the heart and circulation rest on the foundation which Harvey laid in so masterly a manner, and this foundation will last as long as our science survives.

#### THE GROCERS COMPANY.

Among the principal events of this Harvey Tercentenary week has been the banquet given by the Worshipful Company of Grocers in its magnificent Hall in the City of London on Monday evening. A very large and distinguished company of official delegates and other guests were received by the Master, Lieut.-Colonel Francis W. Heath, C.M.G., and the Wardens, and were sumptuously entertained in the manner for which the great City Companies are famous the world over. The speeches, and the music also, were worthy of the occasion. In proposing the health

of the delegates Lord Hanworth, Master of the Rolls, showed himself fully acquainted with the life and work of William Harvey, and recalled that Harvey himself may have dined on that site as the guest of his brother, who was a member of the Grocers Company. Eloquent replies in fluent English were made by Professor J. van der Hoeve (of the Royal Academy of Sciences, Amsterdam) and Professor G. H. Monrad-Krohn (of the University of Oslo). The toast of "The Company of Grocers" was very appropriately in the hands of Sir John Rose Bradford, President of the Royal College of Physicians of London, who has had long associations with the Company, and whose name, with that of Sir James Paget, appears on the roll of its Honorary Freemen. In the course of his speech Sir John made

acknowledgement of the splendid hospitality of the Grocers Company on this memorable occasion, and indicated something of the debt owed by medicine to that ancient City Guild. Many of our readers are well aware that in mediaeval times the Apothecaries were linked with the Grocers, and so remained until their separate incorporation as a Company in the reign of James I. The Grocers Company has always given, and continues to give, generous aid to hospitals and other charitable agencies, but more than any other Guild it has recognized that in the advancement of education and of scientific discovery lies the best hope of diminishing poverty and suffering, and of promoting national health and prosperity. It has given practical effect to these views by the establishment of schools (notably Oundle), the provision of scholarships at the universities, and the endowment of scientific research. With the object of encouraging original research in preventive medicine the Company awards scholarships to assist

the investigation of matters connected with the causation of disease or the means of preventing premature death. Discoveries of much value have resulted from the work of Grocers' research scholars, and not a few of those who have earned distinction in that branch of science, such as Woolridge, Sims Woodhead, MacFadyen, Rose Bradford, Starling, and Bulloch, have been helped on their way by the Company's endowments. Moreover, when the scheme for founding in this country a School of Preventive Medicine was delayed in execution by want of funds the Grocers Company, by timely financial help, relieved the promoters from their difficulties, and did much to aid the establishment of the foundation now known as the Lister Institute, which has greatly enlarged our knowledge of the causes of disease. It is fitting that these services, briefly alluded to on Monday by the President of the Royal College of Physicians, should be called to mind at a moment when the Company has given further proof of its friendly feeling towards the medical profession and of its belief in medical research.



Title-page of first edition of Harvey's *De Motu Cordis*, published at Frankfurt, 1628.

## THE HARVEY FILM.

The demonstrations arranged by the Royal College of Physicians in the Physiological Department at University College (of which preliminary particulars were given in our last issue at p. 819) included a reproduction of Harvey's original experiments displayed by cinematograph. Something of the thrill which Harvey must have felt as he slowly and cautiously traced the steps which led to his epoch-making discovery was conveyed to those who, three centuries later, have watched the graphic unfolding of the argument by the art of the film.

The familiar portrait by Cornelius Jansen of Harvey sitting at a table is first shown, and then the fingers slowly seem to come to life. They are next seen represented on an enlarged scale. First they turn the pages of Galen with a hesitancy which suggests doubt; then the effect of the disturbing observations of Vesalius, Servetus, Fabricius, and Columbus is indicated. Thinking gives place to testing; the books are closed, and the body is opened that its secret may be revealed. The hands pass from one animal to another as the various stages in the argument are built up. The rapid beating of the hearts of dogs and cats loses its mystery when the hearts of snakes and eels are exposed. Questions arise and are answered. What is the function of this contracting organ? Where does the blood go? Where are these alleged pores of Vesalius to be found in the curiously tough ventricular septum? Where does the blood come from in order to reach the heart, and what evidence is there of the existence of the "natural" and "vital" spirits postulated by Galen? Then the famous time calculation is indicated, and the discovery that in one hour the heart expels from itself a greater quantity of blood than the body holds. So, irresistibly, the invisible reasoning which guided the testing fingers is driven to the idea that there may be motion in a circle. Then in quick stages comes the revelation of the functions of the valves in the veins and heart, and with the experimenting fingers now applied to the human body the great conclusion is inevitable. The last part of the film represents Harvey turning the pages of his immortal work, *Exercitatio Anatomica de Motu Cordis et Sanguinis*; his hands close the book and lay it on one side. The fingers become still; the hands are again those of Harvey in the portrait, sitting at the table.

This cinematograph film was more than dramatic; it was an education in itself, and a quiet rebuke to guesswork without experimentation. To Sir Thomas Lewis and Dr. H. H. Dale a very high meed of congratulation is due for a brilliant conception and for a perfect demonstration of how a great genius reached his greatest discovery. This film might well be shown to every medical student; it tells more clearly than spoken words how knowledge grows from more to more, and how alone error can be replaced by truth.

## EXHIBITION AT THE COLLEGE OF PHYSICIANS.

On the afternoon of Tuesday, May 15th, delegates and guests and the ladies accompanying them were entertained to tea at the Royal College of Physicians. They were received at the entrance to the Library by the President, and an interesting account of the College and its treasures was given by the Harveian Librarian, Dr. Arnold Chaplin, who briefly traced the history of the corporation from its foundation by Thomas Linacre in 1518, and described the vicissitudes of the Library and the College houses. Books, manuscripts, pictures, silver, and other objects of interest, some of them relating to Harvey, were displayed. The portrait of him painted by Cornelius Jansen, which hangs behind the President's chair, is reproduced at p. 867 in our present issue. Other exhibits in the Large Library included the original Charter of the College, granted by Henry VIII in 1518, the first Book of Statutes, the first Book of the Annals of the College in the handwriting of Dr. John Cains, the Signature Book of the Fellows, dating from 1647, and Sydenham's Notebook, written with his own hand. There were also on view the first book printed in English by Caxton in 1474, and other incunabula, including the first printed edition of Homer, many early and rare editions and manuscripts, and three books saved from the

Great Fire of 1666. On a separate table were laid out many of the earlier editions of Harvey's work, *De Motu Cordis*, including the first edition published at Frankfurt in 1628, whose title-page we reproduce at p. 869; also eleven autograph letters of Harvey, a book with marginal notes in his hand, the obony pointer used by him when delivering his Lumleian Lectures, and his Diploma of Doctor of Medicine in the University of Padua. In the Censors' Room were displayed the silver plate belonging to the College, the ceremonial mace, the silver caduceus designed by Caius, and the famous gold-headed cane, whose imaginary adventures were told by MacMichael. Another object of particular interest was the catalogue of the library of the Marquess of Dorchester, who, after the destruction of all but 140 of the College's 1,300 volumes in the Great Fire of London, bequeathed to it the whole of his books, amounting to some 4,000 volumes and comprising one of the finest libraries of the time in England.

## HARVEY AND ST. BARTHOLOMEW'S HOSPITAL.

Harvey's connexion with St. Bartholomew's Hospital was commemorated by a luncheon in the Great Hall on May 15th, when Lord Stanmore, treasurer of the Hospital, presided. Sir WILMOT HERRINGHAM delivered an address, which was subsequently described by the President of the Royal College of Physicians as one of the outstanding features of the centenary celebrations. After paying tribute to the valuable historical research of his colleague Sir D'Arcy Power, Sir Wilmot Herringham recalled how Harvey, after taking an Arts course at Cambridge, studied at Padua for four years and obtained his doctorate there; he then returned to Cambridge and proceeded M.D., and before the age of 27 came to live close to the Hospital in the parish of St. Martin, Ludgate Hill. A year or two later he was elected "physician in reversion" to the Hospital, corresponding to the post of assistant physician to-day; in October, 1609, he was promoted full physician. Sir Wilmot read out the words of the charge given to Harvey on his appointment, with its reference to the care of the poor and the collecting together of patients so often as might be required for the investigation of their afflictions. He added that no record of Harvey's work at the Hospital for the next twenty years was extant, though during that period he was elected Lumleian lecturer at the Royal College of Physicians, and also physician to James I. The next apparent reference to him in the records of St. Bartholomew's was his obtaining leave of absence to be with the Duke of Lennox on his travels abroad. Harvey accompanied Charles I on his journey to Edinburgh for his coronation, and, while the king was wrestling in argument with the divines, the physician went off to study the birds at the Bass rock. At a later date he appeared as a reformer at St. Bartholomew's Hospital, introducing new rules and improvements. He suggested that no patients should be admitted if they were suffering from trivial or incurable complaints. He advised that cases of venereal disease should be treated in a building separated entirely from the Hospital. No patients were to stay in the institution for more than a certain time without special leave, while the disobedient and those who refused to take their medicine were to be discharged. The surgeons were not to allow their work to be done by their "boys," nor to admit patients without preliminary examination. The surgeons should be restrained under the control of the physicians, and should perform no operation without their counsel and advice. Sir Wilmot explained that the suggested enactment implied, therefore, that operative treatment should be directed by the most skilled knowledge at that time. Harvey himself in his Lumleian lectures covered the whole of medicine and surgery as it was then understood, and was an operator himself. In 1636 he went abroad again, this time with Lord Arundel in the vain attempt to regain the Palatinate for the nephew of Charles I. He was commissioned to buy pictures at Venice for the king, who was one of the leading art collectors of the period. In 1637 he returned to England, and two years later was appointed physician to the king, with quarters in Whitehall, an allowance from the kitchen, and a yearly stipend of £400. He joined the king in the

Civil War, and consequently, in 1643, the House of Commons ordered him to be expelled from St. Bartholomew's Hospital, thus terminating his connexion with this institution. Sir Wilmot Herringham next emphasized points of interest in the character of Harvey, whose will illustrated his liberal and warm-hearted nature. No member of his family escaped mention in it in the most cordial terms, and all were given bequests. Harvey was generous, both in public and private life; he was deeply beloved by his friends, and a great favourite with Charles I and Lord Arundel, two of the most cultured men in Europe at that time. He was an intimate friend of the learned and famous judge John Selden, with whom he conspired on one occasion to cure a man who insisted that he was possessed by two devils, which instructed him to destroy Selden. A parchment was given to the patient, curiously inscribed and sealed, and three months later the patient returned with the information that the two devils had been successfully driven out, but that two others had arrived making the same demands as regards murder. Selden and Harvey prepared another parchment, and it was explained to the patient that, should there be a recurrence, the only two men in the world who could save the sufferer were the two conspirators, who thus ingeniously insured their lives. Harvey attended professionally Francis Bacon, of whom he said, rather unkindly, that he talked philosophy like a Lord Chancellor. Sir Wilmot remarked that Harvey might well be described as the first "scientific" man in the modern sense of the word; he observed carefully, made experiments, and drew conclusions. He would have been at home in a modern physiological or scientific laboratory as no other man of his time could have been; Gilbert was his only possible rival in this respect. Harvey might not have been so deep in his reasoning as his successor John Hunter, but he was at any rate the founder of the English school of physiology. For many years he was passed over for the presidency of the Royal College of Physicians, at first by reason of the seniority of others, but later, in 1641, he was deliberately ignored, owing, it is supposed, to political feeling, which was then running high in opposition to the king and those around him. When the offer was eventually made to Harvey, at the age of 76, he was too old to accept it. His house had been destroyed in the Civil War and his papers were scattered; yet his closing years were tranquil, and he passed them happily among his books in the family circle.

## TETRA-ETHYL LEAD IN MOTOR SPIRIT.

### COMMITTEE OF INQUIRY.

At the second public meeting\* of the committee of inquiry on lead ethyl petrol, held on May 15th under the chairmanship of Sir FREDERICK WILLIS, evidence was given by Dr. MYN COPLANS. The witness submitted a précis of his evidence, which, however, was not circulated to the press. He was questioned by the chairman and other members on the results of his investigations as published in the *Daily Mail*, and in particular as to his medical examination of two men who had "serviced" cars using ethyl petrol, one of whom was found to be excreting a small amount of lead. Lead was also found on the overalls of these mechanics.

Dr. Coplans, in reply to Sir Frederick Willis, said that in his investigations on the excreta of these men spectroscopic examination, which within limits was a quantitative as well as a qualitative test, was employed. With regard to the overalls, he suggested that it was dangerous to send such articles to the laundry without some special notification. In his précis he had referred to the possibility of contamination of water supplies; he had in mind particularly the shallow wells used in the country for drinking purposes. Sir F. Willis asked whether, as a scientific man, he thought that the amount of work he personally had done justified his rather alarmist statements, to which he replied that his work was borne out by more prolonged investigations in the United States, where a number of authorities considered that the unlimited use of ethyl petrol constituted a public danger. He did not think that he had exaggerated the dangers of exhaust gases in confined spaces. He agreed that he had imputed that the use of ethyl petrol for motor cars in this country might be followed by dire results, but, of course, such results depended upon the number of cars, the congestion, and the susceptibility of the

persons concerned. Sir F. Willis said that if the *Daily Mail* had been really anxious to get to the bottom of this problem in a scientific way one would have thought that some of this American work which told in the opposite direction would have been mentioned. The United States Government committee, set up on the recommendation of the conference called by the Surgeon-General, had been unable to find any definite cases of lead poisoning, and held that at present there was no good ground for prohibiting the use of "ethyl gasoline of the composition specified as a motor fuel, provided its distribution and use are controlled by definite regulations." Dr. Coplans said that whatever might have been the case with the *Daily Mail*, he himself had referred in his articles in the medical journals to this American report. He agreed, in further reply, that he had not controlled his results; he had examined the two mechanics in a garage where ethyl petrol was used, but not corresponding men in other garages where it was not used. His investigation was a private affair, and it was a question of money, and of opportunity for making tests.

Sir Charles Martin asked whether, if a person remained for an hour in a traffic block in Piccadilly, among cars using ethyl petrol, he would run any risk of lead poisoning from exhaust gases. Dr. Coplans replied that this might be the case in a narrow street with a great deal of traffic and in the case of a person repeatedly subject to such conditions. Sir C. Martin thought such a person would suffer from carbon monoxide poisoning far sooner than from lead. In an hour, if it was granted that a man might breathe 0.5 mg. of lead, he would at the same time be absorbing some 300 c.cm. of carbon monoxide, which would half saturate his blood. In reply to the suggestion that he had exaggerated the danger of exhaust gases in a confined area, Dr. Coplans denied any such intention, but said that it was the ordinary practice in public health, in addressing the public, to speak not with scientific exactness, but in such a way that warnings would be regarded. The point was that lead was a cumulative poison, and the constant breathing of even one-third of a milligram per hour was a wrong thing to permit. Sir C. Martin said that one would have to stand in a traffic block for six hours, according to figures which Dr. Coplans had supplied, to get the 2 mg. of lead which were said by one authority to be the industrial limit for a working day. Was anybody going to stand six hours in a traffic block? With regard to the mechanics, did Dr. Coplans feel justified as a scientific man in drawing any conclusion whatever from the trace of lead in the faeces of one of them, when he had not examined the excreta before the man was so exposed? Dr. Coplans agreed that no proper conclusions could be drawn from one or two such cases, but he thought it justifiable to keep such a man under medical observation. Asked whether, in view of the fact that there must be large numbers of employees in America constantly exposed to this risk in garages, he knew of a single substantiated case of lead poisoning in America, apart from persons employed in the mixing and manufacture of tetra-ethyl lead itself, he submitted a report of the International Labour Office of March last, and also quoted from the *Journal of the American Medical Association* on February 25th, 1927, which stated that the Standard Oil Company of New Jersey had settled the case of certain tetra-ethyl gas victims by the payment of 350,000 dollars. Professor W. E. Dixon said that he had read that report, but he thought the damages were paid for accidents in the manufacture.

In reply to Professor Dixon, the witness said that he did not suggest that the mechanics he had examined had any signs of lead poisoning. He was aware that lead was used medicinally—in great quantities in dysentery, for example—but the trouble arose when repeated doses were given over a great length of time. Professor Dixon pointed out that there were other sources of lead poisoning besides tetra-ethyl lead, and asked whether, if all these lead hazards were diminished, the danger of ethyl petrol would not be completely negligible. Dr. Coplans could not agree. Asked whether, if a man took 1 mg. of lead a day, he would get lead poisoning in five years, Dr. Coplans thought it more likely to be a few months, not five years. Professor Dixon further suggested that the results of certain experiments with lead on his own skin, which Dr. Coplans had carried out, might be due to a purely adsorption effect. Lead acetate, for example, put on the skin, could not be washed away; it would have to be scraped.

In reply to Sir William Willcox, the witness said he was aware of Blair Bell's experiments with colloidal lead in the treatment of cancer, and knew that sometimes toxic effects resulted. The point about lead was that it was a slowly accumulating poison. It might be a matter of months or years before it was eliminated, whereas with carbon monoxide absorbed from exhaust gases in a garage elimination would be merely a matter of days. With regard to water contamination, Sir William Willcox pointed out that lead ethyl was a lipid soluble, and the presumption seemed to be that it would stick to the oil rather than go to the water. Dr. Coplans, however, said that the results of experiments proved that it went to the water. The last member of the committee to cross-examine Dr. Coplans was Dr. J. C. Bridge, in reply to whom the witness said that he would certainly schedule lead ethyl as a poison.

\* A report of the proceedings at the first ordinary session of the committee was published on May 5th (p. 770).

## Scotland.

### Morison Lectures at Edinburgh.

THE Morison Lectures for 1928 at the Royal College of Physicians, Edinburgh, were delivered on May 7th, 9th, and 11th by Dr. John Carswell, who took as his subject "Psychology and medicine." The lecturer recalled that the late Sir William Gairdner had been Morison Lecturer in 1879, and had insisted on the importance of the cultivation of a psychological habit of mind among physicians. He had suggested that the symptoms of disease should be regarded as an effort on the part of the bodily organs to carry on the functions of the body under adverse conditions, and this applied particularly to manifestations of mental disease. The lecturer considered that the trend of recent research on nervous structures and functions, and its bearing on psychology as an aid to the practice of medicine, was particularly valuable, and should be closely studied by medical men. He referred in particular to the work of Hughlings Jackson, who had advanced the theory that the symptoms of mental disease should be regarded as manifestations of the dissolution of function, so that those mental functions which were the most highly developed and the latest acquired were the first to disappear when anything occurred to interfere with the working of the brain; the more primitive functions then tended to appear as symptoms. The lecturer also referred in particular to Sir Henry Head's work on aphasia and kindred disorders of speech, and notably to his doctrine of vigilance, in which hysterical manifestations were regarded as due to special parts or special functions of the nervous system becoming unusually active. The lecturer showed how anatomical lesions such as those producing aphasia could be linked up with disordered physiological, and therefore psychological, states, and he entered a plea that psychology should be based upon considerations of the same problems of physiology that were generally regarded as entering into the causation of physical disease. He believed that advances in psychological medicine would come especially along such lines.

### Conference on Mental Health.

A conference was held on May 11th at Edinburgh under the auspices of the Scottish Association for Mental Welfare. The representatives attended from various public bodies in different parts of the country, and Lord Murray presided. The chairman remarked that this association had on its roll 40 parish councils, 25 education authorities, 19 town councils, 6 district boards of control, and various other organizations, and the organizing secretary, in a report upon the year's work, showed that twenty-two local committees were now in existence, working both in industrial towns and in rural areas, where occupational centres were being set up for the training of low-grade mental defectives. The chairman further declared that he was convinced that a large class of mental defectives existed for whom there was a clamant need of more extended resident accommodation. Beyond this large class there were a vast number of cases on the border-line which could only be effectively dealt with by kind-hearted men and women. Dr. G. A. Anden, school medical officer for Birmingham, read a paper on "The borderlands of feeble-mindedness," in which he said that there had been too great a tendency to attempt the study of mental welfare in isolation from its cognate problems. If capacity to conform to the standards and inhibitions set up by the community were taken as the criterion, then individuals who showed defects of temperament and character formed a menace to the well-being of society far greater than that offered by those who were called feeble-minded. Character implied a degree of permanence and stability of conduct, and lack of these qualities constituted what was popularly termed a weak character. In the light of recent developments in psychology the mainsprings of conduct were regarded not as the intellectual qualities of reason and judgement, but the emotions which had come to be associated with the activities of the endocrine glands. The regulation of bodily growth was also a function of these organs, and thus a

definite relation had been established between bodily and mental function which explained the frequent presence of stigmata of degeneration in individuals to whom the term "devolutive" might be applied. A lengthy discussion followed the paper, and it was resolved to ask the Government to extend to Scotland the provisions of the 1927 Mental Deficiency Act for England. Dr. Kate Fraser, speaking on mental welfare in the United Kingdom, said that this country was ahead of America in regard to after-care. Committees established in America with a view to improving conditions in mental hospitals had now become an organized social movement, which conducted a vigorous educative campaign, drawing attention to the importance of mental health in regard to social problems. Definite scientific investigation into the cause of mental deficiency was still much wanted.

A discussion on the responsibility of local authorities was opened by Mr. Bertram Talbot, chairman of Roxburgh Education Authority, who said that more unified control was needed in tackling this important question. He would suggest that the body primarily responsible for the whole matter should be the education authorities of Scotland, to the care of which children from the age of 5 years onward were committed, and which could be used for the primary duty of discovering what was abnormal in the child. A member of the audience at this point interrupted to ask why parents were being ousted. She considered that the interference of the social worker had done an immense amount of harm. If parents nowadays punished their children they were called cruel. She disapproved of this interference with the home life of children and the putting of them into institutions. Many a naughty child grew up to do more good than many a child with a smug appearance who had been passed over by the social worker.

Dr. Drever, reader in psychology in Edinburgh University, speaking on the "Basal principles in mental testing," said that mental tests were generally distrusted, and had frequently been ridiculed in the press. This was partly the fault of the psychologists, who had made a needless mystery about the mental testing, and had mixed up practical questions with abstruse psychological and mathematical theories. Mental tests should be used for practical purposes, and it should be possible to give a clear and intelligible answer as to what mental tests were used and why they were employed. Behaviour of the individual was the only way in which mentality could be satisfactorily judged, and mental tests should be able to determine whether an individual possessed a certain knowledge, capacity, or ability. Thus any mental function which developed with age could be tested on precisely the same principles as were used for tests of sight or hearing. A child's ability to profit by ordinary school education could in this way be tested quite satisfactorily, and the result reached might be called general mental efficiency, or school aptitude, or by some such name. Everyone who had experience of mental deficiency laws recognized how unfortunate was the legal and current use of the term "deficient," and even of the term "feeble-minded." It would be far better to speak of mental retardation or to use some similar non-committal term. Intelligence had many aspects. It might be abstract and be shown in the ability to deal with ideas and symbols, or be concrete in the ability to deal with facts, or be social in the ability to deal with people. The tests usually employed to diagnose mental retardation had been largely tests of the abstract type, and the education in the ordinary school placed a premium on this type of intelligence. Performance tests would be a test of concrete rather than of abstract intelligence.

### Highland Hospital Extensions.

As intimated in the *British Medical Journal* on May 12th (p. 821) Dr. Walter Elliot, Under Secretary of State for Scotland, last week performed several important functions in connexion with the development of hospitals in the Highlands and Islands of Scotland. The first function was the laying of the foundation stone of the reconstructed Northern Infirmary at Inverness on May 8th. In connexion with the ceremony a conference of fourteen provosts from towns of the northern counties, and of members of the medical profession and of various local authorities, was held

in the Town Hall, Inverness. Dr. Elliot, opening the conference, said that the position of hospital accommodation in Scotland required the closest attention, and it was very important that they should move in the right direction. With regard to the voluntary system of hospitals, the Scottish Board of Health desired to confirm, maintain, and extend that system. It was impossible, however, that the whole hospital organization of Scotland could be effected under the voluntary system, which in some remote places suffered from financial limitations. At present the voluntary hospitals in Scotland provided 9,000 out of 25,000 hospital beds, and these figures gave the key to the development for which they must look in the future. He wanted that day to discuss particularly the question of co-operation between the Northern Infirmary at Inverness and other hospitals in the North, such as those of Fort William and Dingwall, and to see how far co-operation was possible between the Northern Infirmary and these other hospitals. The problem of hospital co-operation touched the future development of local government in many intricate ways; he believed that along the lines of co-operation lay the real future for the development of the voluntary hospital system. After some discussion it was decided to ask local voluntary hospitals to nominate representatives for the purpose of forming a voluntary regional hospital committee. It was announced by the honorary secretary of the Northern Infirmary that Mr. Alexander Edward of Forbes had presented to the Northern Infirmary the estate of Kintail, one of the best sporting estates in the West of Scotland, with a rental of over £3,000 and an estimated value of about £45,000. On May 10th Dr. Elliot formally opened the enlarged Stornoway hospital and the extended Lewis sanatorium, to which reference was made in last week's issue.

#### Hospital for Crippled Children at Edinburgh.

The committee which was appointed in Edinburgh some time ago to make provision for the care of crippled children in the south-eastern counties of Scotland has secured a site for a hospital on the outskirts of Edinburgh, and arrangements are being made for major and minor clinics for cripples throughout the area. The site for the new building is at Fairmilehead, some three miles to the south of the city. The hospital will be pleasantly situated on rising ground, with a view of Edinburgh in one direction and of the Pentland Hills in the other. A sum of £20,000 has already been promised, but £55,000 is still required for the completion of the scheme. The Edinburgh Corporation has meanwhile voted a sum of £500 from the Common Good Fund. Local efforts are in progress in East Lothian, Midlothian, Berwick, Fife, Clackmannan, and Kinross to raise money, and a flag day is being held in Edinburgh on May 5th. This is the first organized movement in Scotland to secure treatment for cripples at an early stage by means of an orthopaedic hospital linked up with local clinics, where children suffering from diseases likely to lead to crippling can, in the first place, apply for treatment, and to which they can be subsequently referred for after-treatment. The hospital will be suitably placed in respect of fresh air and sunlight, and will be sufficiently near the city to secure the regular supervision of surgeons, physicians, and trained nurses.

#### Health of Dunfermline.

The second annual report since the appointment of a whole-time medical officer of health for the burgh of Dunfermline has just been issued by Dr. C. Barclay Reekie, medical officer of health for Dunfermline, and notes advance in several directions. The total number of cases of infectious disease, of which the chief was scarlet fever, shows a decrease from 591 in 1906 to 477 in the year under review, and is closely comparable with the figures of 441 for 1924 and 463 for 1925. Of the 161 cases of scarlet fever notified, it is pointed out that 65 per cent. occurred among children of school age; the largest number occurred in October and the smallest in July. Infection is attributed generally to cases regarded as "sore throat," which were in fact mild atypical cases of scarlet fever, remaining at school until their recognition during the "peeling" stage. Seventy-five cases of diphtheria were notified, of which 60 per cent. were of school age and under, but there were

no deaths from this cause. Influenza assumed epidemic proportions in January; and notification was adopted; 1,539 cases were reported, with a mortality of 23, or 1.5 per cent. Insulin was supplied at the expense of the local authority to persons in necessitous circumstances suffering from diabetes. Of pulmonary tuberculosis there were 47 notifications as compared with 61 in 1926, and 18 deaths were registered as due to this cause. Of the notified cases, 15 received sanatorium treatment. Administrative control included the visitation of all notified cases by a tuberculosis nurse, acting as health visitor, giving advice with regard to prevention of infection, etc., and inviting the patient to attend at the tuberculosis dispensary. The total number of visits paid in this way was 1,098. The tuberculosis dispensary was in operation for eight months during the year, and in this period there was an attendance of 492. Three health visitors were employed by the burgh, of whom one was the tuberculosis nurse. The infantile mortality rate was 78 per 1,000. The total number of attendances at the two child welfare clinics for children under 1 year was 2,263, and of those over 1 year 1,000. The maternity home was largely utilized, as was shown by 214 admissions during the year.

## England and Wales.

### Medical Women's Federation.

THE gratifying progress of the Medical Women's Federation was demonstrated at the annual dinner, which was held in London, at the Hotel Victoria, on May 10th. Dr. Christine Murrell presided, and among the guests were Lord and Lady Balfour of Burleigh, Sir Robert Bolam, Sir Walter and Lady Fletcher, Mrs. E. D. Simon, Mrs. Philip Snowden, Dr. Graham Little, Professor Grey Turner, Sir Gregory Foster, Sir Herbert Waterhouse, and Major-General J. B. Smith. Sir Robert Bolam, proposing the toast of "The Medical Women's Federation," spoke of the early days of the entry of women into medicine, and paid a high tribute to the work of the Federation. He discussed its relation with the British Medical Association and promised sympathetic co-operation. Dr. Letitia Fairfield, who replied, emphasized the value of comradeship of men and women in the medical profession, but insisted on the importance of women working together as a unit if the best results were to be obtained. She mentioned the gratifying increase in membership of the Federation, and gave illustrations of the special work in which women were pre-eminent. Attention was drawn to the recent successful international meeting at Bologna, and to the good results that had attended the work of the Federation in helping and encouraging medical women who were starting in practice. Dr. Clara Stewart, one of the original members of the Federation, proposed the health of "The Guests," and in reply Mrs. E. D. Simon contributed a very witty speech dealing with the relations of men and women. Sir Walter Fletcher, who also replied to this toast, paid a warm tribute to the advance in medicine which had followed the entry of women into its practice and study. Medical art and science had been enriched by the special gifts they had brought, and he referred particularly to the services they had rendered to statistical inquiries, the study of nutrition, and the use of radium. Professor Lucas Keene, proposing the health of the chairman, paid a warm personal tribute to the value of the work of Dr. Christine Murrell, and commented on the affection and esteem in which she was held by all. The chairman briefly responded, and so brought to a conclusion a very successful and enjoyable evening.

### Maternal Mortality: Minister of Health at Leeds.

The Minister of Health, Mr. Neville Chamberlain, was, on May 8th, the guest at a luncheon in Leeds Town Hall held to advance the work of the Leeds Maternity Hospital and the Leeds Babies' Welfare Association. Mr. Chamberlain, in his address, devoted himself to explaining the policy of the Ministry of Health in relation to the problem of maternal mortality. During the nine years of the



Ministry's existence, he said, the general death rate of the country had fallen from 14 per 1,000 to 12.3 per 1,000, and infant mortality from 89 per 1,000 to 70 per 1,000 in 1927; but it was an unhappy and regrettable fact that the maternal mortality rate had for the past twenty years remained practically stationary. It was in circumstances like these that it was the duty of the Ministry to stimulate all the efforts which were being made to cope with this blot upon their civilization. Mr. Chamberlain then referred to the committee of investigation he proposed to establish to deal with the causation of maternal mortality, an account of which was given in the *Journal* of April 28th (p. 729), saying they hoped by this means to get available information which would throw new light on the dangers they were providing against. That they believed would be very useful to the Ministry in its campaign against maternal mortality. What was needed was more supervision, both ante-natal and post-natal, more opportunities for consultation, and more beds in maternity hospitals. Finally, there was wanted more education of the public, which would then understand more of the instructions given, so that it would carry them out wholeheartedly. He then emphasized the importance of attracting into the profession midwives of the right type; their training was not so complete as in some Continental countries. Accordingly he had just appointed a strong committee to investigate the training of midwives and their working conditions. The pressure and support of public opinion would be required if the recommendations were to be carried into effect. Mr. Chamberlain concluded by saying that he believed that in all the fields of public health there was no more noble or fruitful section than that to which they were devoting their efforts.

#### The London County Council and Compulsory Vaccination.

The City Council of St. Albans has asked the London County Council to support a resolution passed by it to the effect that in view of the increasing prevalence of small-pox in this country the law should be amended so as to provide for compulsory vaccination and revaccination; further, that the medical officer of health should have power to isolate contacts or suspects for such period as he might deem necessary. The Public Health Committee of the London County Council, however, considers that in the present state of public opinion it would not be wise to attempt to impose any further measure of compulsion in regard to vaccination. "This does not imply that the value of vaccination is in any way considered by competent medical opinion as having diminished. The contrary is the case." But the whole question of vaccination is under consideration by a departmental committee, the report of which is expected shortly. With regard to the compulsory isolation of suspects and contacts, the Public Health Committee states that the present outbreak of small-pox of a relatively mild kind which has been prevalent for some months is being spread by persons of the vagrant class who frequent the casual wards of Poor Law institutions, and there are no powers of controlling adequately their movements in the present emergency. It is considered doubtful whether any strengthening of control would not defeat its own object, since it would lead to avoidance of the casual ward. One objective of the Ministry of Health in dealing with the present outbreak is to keep all casual wards open and thereby to have all tramps under close observation. The closure of the wards would disseminate rather than restrict the spread, and drive casuals into common lodging houses. It is also pointed out that the present outbreak is less menacing than previous ones. It appears to be a fixed variant of small-pox differing from the normal disease in many respects, of which the most significant is that it is not fatal. It is frequently mistaken for chicken-pox, which in Paddington and the Port of London is already notifiable, while other metropolitan borough councils are considering obtaining similar powers. Propaganda in regard to small-pox is a matter primarily for the sanitary authorities responsible for the prevention of epidemic diseases in their areas. The officers of these authorities and those of the council work in close co-operation, and any assistance and advice which the council's officers can afford is readily

given. In all the circumstances the Public Health Committee is not prepared to advise the London County Council to support the St. Albans proposal.

#### Central Midwives Board.

The Central Midwives Board for England and Wales met on May 3rd, with Sir Francis Champneys in the chair. The standing committee reported that it had been in communication with the midwifery boards of certain of the States in the British Empire concerning the conclusion of reciprocal arrangements for the registration of midwives. It was proposed that the English Board should undertake to place on its roll the names of midwives who produced a certificate of registration granted by the State board concerned, after examination, provided that the State boards would similarly accept the English qualification. The arrangement would not apply to midwives holding the English Board's certificate granted by virtue of their having been in bona fide practice prior to 1902, while the acceptance of other certificates in England is governed by certain conditions regarding training and experience. It was reported that a letter had been received from the Nurses' Registration Board of South Australia agreeing to an arrangement on this basis, and the Central Midwives Board therefore adopted a resolution giving effect on its side to the proposed reciprocal agreement.

## Ireland.

#### Free State Medical Registration.

Medical practitioners desirous of having their names placed on the Irish Free State Medical Register are reminded that May 26th is the last day for receiving applications for registration without a fee. After that date a fee of £5 will be charged. Every practitioner whose name appears in the general *Medical Register* before May 26th will be entitled to have his or her name entered in the Free State Register if application is made within the prescribed time; those with Irish Free State addresses will be placed automatically in the Irish Register, and therefore need not make personal application for registration. Details were given on April 21st (p. 686). Medical practitioners in Northern Ireland whose practice extends into the Free State should have their names in the Free State Register so that they may have the legal right to sue for fees for treating patients resident in Southern Ireland.

#### Lady Dudley's Nursing Scheme.

The committee of Lady Dudley's nursing scheme, in the twenty-fifth annual report, states that the assured annual income is seriously depleted from now on by the loss of a grant of £500 a year from the National Health Insurance Commissioners, through the funds from which it was drawn being entirely exhausted. The committee has, since 1918, had this £500 towards the work of six districts, and to replace the sum this year will require a considerable effort. The Irish Peasantry Society has generously promised £150 a year to establish a nurse at Bruckless, county Donegal, on the express condition that it is only given so long as the remaining twenty-five districts are kept open. A nurse is already installed there, and her services are deeply appreciated. The beginning of a new decade in the committee's existence is regarded as a fitting time for the launching of an appeal for fresh support. The loss of £500 a year mentioned above jeopardizes the work of the twenty-six nurses already established, and along with this anxiety there are insistent calls for nurses in new districts which cannot well be ignored. These emanate particularly from three areas; from Achill Sound the demand is for a return of the nurse after experience of her work in the years 1920-25, when it was found necessary to close the district, partly owing to want of funds and partly because a suitable residence could not be found; second, from Sneem in county Kerry; third, from Malin Head, county Donegal, for whose claim the committee pleaded in its last report. In these districts there are no people of substance to assist the movement, and any help in the form of money must come from outside:

## Vaccination in the Irish Free State.

The debate on the second stage of the Vaccination (Amendment) Bill was concluded on Friday, May 11th. The main feature of the bill was the provision of a clause for conscientious objectors. President Cosgrave spoke strongly against the bill, while Mr. de Valera, Leader of the Opposition in the Dail, supported it. During the debate nearly all the medical members of the Dail made speeches against the proposed measure. Dr. J. Ryan, one of the members for Wexford—the only county in Ireland where the antivaccinationists have any considerable support—stated that he believed in the protection afforded by vaccination, but as a considerable section of his constituents were opposed to compulsory vaccination he would vote for the bill. On the second reading the bill was rejected by 75 votes to 39. Before it was introduced and while it was before the Dail members were liberally supplied with the usual antivaccinationist literature from London.

## Correspondence.

## IMMUNITY FOLLOWING HERPES ZOSTER.

SIR,—In the recently published paper by Dr. Max Obermayer, of which a brief summary is given in the *British Medical Journal* for May 12th (*Epitome*, p. 79, No. 461), an objection is set up to the teaching that an attack of true herpes zoster confers lifelong immunity. But the objection is grounded on a case which appears to me a typical one of "recurrent herpes of the buttock." The patient (a medical man), aged 32 years, in the course of a few years (the first attack was in autumn, 1924) had had eleven recurrent attacks of left gluteal herpes. Such cases are analogous to cases of recurrent facial herpes on the cheek, and, like the latter, may be indistinguishable from cases of true herpes zoster, excepting by their recurrence. I am certain that recurrent herpes, occurring on either the cheek or the buttock or the thigh, has often been diagnosed (and sometimes published) as true herpes zoster, and, indeed, the etiology of recurrent herpes is obscure. But before the cause of recurrent herpes has been proved to be the same as that of true herpes zoster, arguments for the possibility of the recurrence of herpes zoster cannot be based on the recurrence of what is known in the literature of the subject as "recurrent herpes." I will here refer only to H. G. Adamson's paper on "Recurrent herpes of the buttock" in the *British Journal of Dermatology* (1911, xxiii, p. 322), and the articles by Dubreuilh and others quoted by him. To cases known to myself I may refer on another occasion.—I am, etc.,

London, W.1, May 14th.

F. PARKES WEBER.

## ORAL ADMINISTRATION OF PANCREATIC PREPARATIONS.

SIR,—It was with great satisfaction that I read Dr. Fuller's article in your issue of May 12th (p. 798) proving the uselessness of certain pancreatic preparations widely used in the treatment of diabetes, and pointing out the reason why they sometimes seem effective—namely, the simultaneous adoption of a restricted diet. The experience of all investigators who have carried out fully controlled tests is that oral pancreatic preparations are all quite useless. Professor MacLean and myself published in your columns last year a condemnation of all such preparations that we had tested.

Unfortunately such articles as Dr. Fuller's are probably read by only a small part of the medical profession and not by the public at all. On the other hand, ingeniously devised advertisements are universally distributed to doctors, and, as it is easier to have a pill than an injection of insulin, the use of these oral preparations still goes on widely, often with calamitous results, as the following case illustrates. This year one of my severe insulin cases was persuaded by friends and a "specialist" who undertakes the oral cure of diabetes to substitute her insulin by an oral preparation, with the result that she was soon rushed into hospital by the alarmed "specialist" in a deep coma.

In the last two months I have been assailed, as no doubt most doctors have, by advertisements extolling the virtues of certain pancreatic preparations for oral use in diabetes. I have satisfied myself by careful tests that they have no value whatever. But, though I may crave space to say so in your columns, I cannot circularize the whole of the medical profession (even if they would take my word for it), and no doubt these preparations will continue to be widely used, to the benefit of no one except the manufacturers.

It seems to me that the public should be protected against the harm that the widespread advertisement of such "remedies" may cause. No doubt the manufacturers often act with perfect faith in the efficacy of their preparations, but they are not competent to judge their value. It matters little, of course, whether the public wastes its money on the thousands of proprietary remedies for minor ailments which do neither harm nor good; but it seems monstrous that, in a severe disease for which there is the potent remedy insulin, useless preparations can be brought into such wide use as to supplant the proper use of insulin, and cause unnecessary ill health and death to many diabetics.

No doubt there are large financial and legal difficulties to be overcome before the public can be adequately protected. The American medical profession, however, is much better warned against such preparations than we in this country, largely owing to the publicity given to the subject by the American Medical Association. May I suggest that much might be done in this country if the British Medical Association gave a similar official publicity to the analysis and properties of such remedies?—I am, etc.,

London, W.1, May 12th.

R. D. LAWRENCE.

## TROPICAL AUSTRALIA.

SIR,—Sir James Barrett, by his letter on the above subject which appeared in the *British Medical Journal* of May 5th (p. 772), has kindly replied to my communication of January 7th (p. 30). He has given some interesting facts and figures, but I regret that he has not answered my question, while he has attributed to me a statement which I never made. I did not suggest—and anyone who reads my letter carefully will see that this is the case—that the white race in tropical Queensland is of Italian origin. Having been told that the white men who labour in the cane fields of the low-lying littoral of Queensland are very largely of Italian origin, I asked if this were true. I said nothing about Queensland in general. Having seen a good deal of the Queensland contingents both in the South African war and in the great war, I am well aware that this vast territory produces fine specimens of humanity.

The point is not in dispute. All I want to know is what percentage of white Queenslanders who carry out manual labour in the open, under the trying conditions obtaining in the coastal region, are Italians or of Italian origin. It should not be difficult to supply this information, so I appeal again to Sir James Barrett for a reply, as the matter is of considerable interest and importance from a scientific standpoint.—I am, etc.,

London, W.C.1, May 9th.

ANDREW BALFOUR.

## THE "CURE" OF PULMONARY TUBERCULOSIS.

SIR,—In a former letter (April 21st, p. 692) I criticized Dr. W. M. Crofton's "cure" of pulmonary tuberculosis, in so far as it concerned the use of a tubercle vaccine, from the point of view of a student and practitioner of Koch's classical methods. Dr. Crofton's figures in reply (May 5th, p. 773) induce me to make, in addition, a comparison between his system and that of Sir Almroth Wright, which is the most notable departure from Koch's method so far elaborated.

Working under the guidance of the opsonic index, Sir Almroth Wright developed a system of minimal dosage, designed not so much to effect actual immunity as to promote beneficial immunizing responses in the infected patient, and there is no doubt that his extraordinarily minute doses do actually bring about changes which are sometimes beneficial. The minimum effective dose of

Wright's school, for severe infections, has been placed at 1/500,000 mg., while the upper limits are somewhat similar to those of Dr. Crofton.

Dr. Crofton's figure 0.000000001 mg. is therefore 1/2,000 part of Wright's minimum effective dose, and Dr. Crofton's system of dosage would appear to be a variant of Wright's, in the downward direction.

What these figures really mean may be realized by an effort to visualize them. The quantity 0.000000001 mg. of tubercle bacilli is an amount in bulk at least two thousand times below the point of naked-eye visibility. To change the effort, one drop of Koch's B.E. would require to be added to a small swimming bath containing over 10,000 gallons of water in order to give in 1 c.cm. the equivalent of Dr. Crofton's initial "potent therapeutic dose," which "must not be exceeded as a primary dose in the immunization of established pulmonary tuberculosis."

This method certainly ought to be safe.—I am, etc.,

Wandsworth, May 7th.

ROBERT CAUSWELL.

#### DEAD AND INFECTED TEETH.

SIR,—At the recent congress of the Ophthalmological Society of the United Kingdom I described some of the findings in 100 consecutive patients, seen in private practice, who attained full normal vision after the prescription of spectacles. I omitted from the series thirty-nine patients who did not reach this standard of vision owing to some obvious pathological condition of the eyes. The results obtained have a bearing on the subject of "dead and infected teeth," concerning which there is a correspondence in your columns.

In the course of complete ophthalmic examination by modern methods certain slight changes were found in the eyes of some patients suggestive of toxic absorption due to the presence in the body of some septic focus. I attempted to elucidate the whereabouts of the focus if present. For those who had crowned teeth, or other obvious dental defect, dental radiographs and the opinion thereon of the patient's usual dental surgeon were obtained. In other cases the indication was to refer the patient to a surgeon, a physician, or a rhinologist, operations being required in four cases. Seven patients refused advice as to medical or dental investigation, and in eight cases the examination was incomplete. The dental cases may be summarized as follows:

	No. of Patients.
Referred to dental surgeons ... ..	42
Dental radiographs obtained ... ..	33
Apical abscesses shown by radiographs and in most cases confirmed by dental operation ...	22
Buried fragments of previously extracted teeth shown in radiographs ... ..	5
Unrupted teeth, mostly impacted ... ..	8

Lantern slides of a selection of the radiographs were prepared by Dr. Goldwell and Dr. Alchin, and were demonstrated at the congress by Dr. Livingstone of King's College Hospital Dental School, to whom, and to my dental colleagues at Westminster Hospital, Mr. Bowdler Henry and Mr. Frank Lawrence, I expressed my great indebtedness for help extending over several years; also to Sir William Willeox, who spoke at the meeting.

The paper will be published in the *Transactions* of the Ophthalmological Society, with full details of each case; the usual abstracts are being circulated to the medical journals, of which this letter is an abbreviation. The clinical results arrived at appear to be of importance to dental surgeons, as I suggest that the 100 consecutive private patients with full vision of my series may be considered as fairly typical of the social class which employs London consultants.

At the meeting of the Section of Odontology of the Royal Society on February 27th I stated my belief that the breaking down of resistance to absorption of toxic material from the teeth may be detected at an early stage by ophthalmic examination, and I enumerated some of the first signs of toxic absorption in the eye.—I am, etc.,

London, W.I., May 13th.

A. F. MACCALLAN.

SIR,—It was with great interest and hopeful anticipation that I read Mr. Jennings Marshall's letter in your issue of April 28th (p. 731).

With the first part of his letter I am in entire agreement, for I know from experience that it is usually the wrong type of case that is sent for extraction of all teeth as part of the treatment. I find that not a few medical men send their patients for complete oral radiograms, and where any areas of rarefaction are seen about the roots advise extraction of these teeth. This advice is given without any supporting clinical evidence that the teeth are pathological, or without consulting the patient's dentist. When the patient later visits the dentist the latter is often placed in a very difficult position.

One would have thought that the stage where x-ray evidence, unsupported clinically, was accepted had passed. I do not think that any practitioner would dare to order radical treatment in other conditions on x-ray evidence alone. Furthermore, I would respectfully suggest that the decision with regard to the dental treatment necessary in any particular case be either left to the dental surgeon or arrived at in consultation with him. Whatever procedure is adopted I consider it wrong to send a patient to the dentist with instructions as to dental treatment. Should there be instructions, these ought to be sent to the dentist direct, and not through the medium of the patient. This would avoid many an unpleasant situation, as I mentioned before, as frequently an explanation by the dentist will cause the medical man to modify his opinion.

This brings me to the second part of Mr. Marshall's letter—the part in which my hopeful anticipation received a set-back. He refers to the treatment of teeth in which the pulp cavity has been infected as a "surgical heresy." I fail to see his reason for this. Surely it is not a "surgical heresy" to render an infected organ aseptic and so enable it to be retained as a useful member. The treatment of molar teeth with septic pulps has, by very many practitioners, been abandoned as almost hopeless. This is owing to their being multi-rooted, the roots often being tortuous, rendering the proper cleansing and drainage of the root canals a practical impossibility. However, when it comes to teeth with single roots—for example, the incisors or canines—and where a radiogram shows these roots to be suitable, these can be treated quite successfully.

One would not expect a medical man to draw conclusions from such limited knowledge of any subject, such as I respectfully suggest the knowledge of dental surgery must be to a medical practitioner. A little knowledge may even be dangerous to the scientific mind.—I am, etc.,

GEORGE A. COWAN, M.B., B.Dent.Sc.

London, W.I., May 9th.

#### THE CAUSES OF ALCOHOLIC INEBRIETY.

SIR,—Long experience of inebriety in all forms makes me agree entirely with Dr. Carver (May 5th, p. 774) that the inebriate, whether alcoholic or morphinist, is in every case primarily the subject of a neurosis. The difficulty or otherwise of his cure depends on the curability of his neurosis, together with the fact that he has found the flight from his complex or complexes into alcoholism or morphinism so much easier and more satisfactory to him than facing reality, though he knows from painful experience the price he must pay for his temporary relief. Anyone who has had any considerable experience of the alcohol inebriate must have noted what Dr. Carver points out, and what I have commented on elsewhere (*Pathological Inebriety*; Ballière, Tindall and Cox), namely, the inebriate's disgust at the "dope" he finds necessary. I have often, unseen, watched the inebriate dally with a stiff dose of whisky for half an hour or so before making up his mind to toss it off like a nauseous draft of physic, heaping curses on himself and "the stuff" meanwhile. I consider the causes of such inebriety, then, to be: (1) neurosis; (2) the accidental discovery of the relief to be obtained in alcoholic or other narcotic euphoria; (3) the depressant reaction of the narcotic, which is more distressing or less bearable in the case of the neurotic than in a person of sound mental integrity, and so aggravates the already present urge of the neurotic complex as to

make a resistance to the mental and physical craving well-nigh irresistible. I entirely agree also with Dr. Carver that the alcohol or morphia addict has no desire to be incapably intoxicated, but is unable to control his narcotic dosage so as to maintain just the desired euphoria which will relieve distress without overstepping the mark. I have once only seen an addict who was able to exercise such self-control over the dosage of morphia; I have never seen it in regard to alcohol. In this particular case the addiction was of fifteen years' standing, during which period the addict had never exceeded 3 grains in the twenty-four hours, and had in consequence managed to keep his addiction secret even from his wife.

In regard to heredity, I am of opinion that it is the neurotic constitution which is hereditary and makes the subject of it potentially, but by no means necessarily, an inebriate.—I am, etc.,

Middleton St. George, May 6th.

J. W. ASTLEY COOPER.

#### SEA-SICKNESS.

SIR,—While there are few who will dispute Dr. Allan Bennett's treatment for sea-sickness (May 5th, p. 752), there are a great many who would join issue with him on the causal agencies of that disorder.

The vast experimental evidence on the labyrinth, apart from the indisputable witness afforded by trauma and disease, makes the vestibular centre of fundamental importance in vertigo of all kinds. The haphazard observations regarding a punctured drum and double mastoids are not pertinent, since in neither case was Dr. Bennett able to speak of the labyrinth, which, it is elementary to state, often escapes in such lesions. The vestibular centre is in certain types extraordinarily sensitive to all sorts of influence, both proprioceptive and exteroceptive, and so the illustrations which suggest an independent centre are also not pertinent, since in none of these is it denied that there may be almost any type of stimulus acting as a signalizer, and operating singly sometimes, but none the less effectively. The kinaesthetic, the optical, the olfactory, and the psychical may one and all be involved. It is therefore discursive to instance the case of the strong-minded person ascending a ship's gangway being overcome with nausea as showing the relative unimportance of the vestibular centre merely, because the kinaesthetic sensations are not directly involved.

There is no case of Dr. Bennett's that does not ultimately illustrate either the native sensitivity of the vestibular centre or how its threshold may not be lowered. It is superfluous to deny the interaction of other nuclei, but it is poor observation to suggest the pneumogastric as a sort of independent centre. Sympatheticotonia and vagotonia in severe cases of sea-sickness follow in disturbingly and antagonistic succession, or may in part act together. These represent merely the overflow from the neighbouring nuclei, the ultimate centre in every case being the vestibular nucleus.

Advice for the treatment of sea-sickness has become trite, nevertheless attempts to close the varying portals to signaling stimuli depend for their success on a study of the individual case; it may, in fact, be presumed that all Dr. Bennett had in mind was to emphasize what is in danger of being overlooked—that so far we have no remedy for *mal de mer*.—I am, etc.,

T. GWYNNE MAITLAND, M.D.

Cunard Building, Liverpool,  
May 8th.

SIR,—Very few ship surgeons will, I fancy, be able to agree entirely with Dr. Allan Bennett in regard to sea-sickness. Driving patients out of their warm cabins into the fresh air on deck, "however cruel it may seem," is absurd. In many instances in my personal experience—which has been considerable—going out on deck into the air has just precipitated a bad attack of *mal de mer* which might possibly have been avoided otherwise. The prostrate and helpless forms on the deck of a cross-Channel steamer on a rough day are sufficient evidence of the inefficacy of the compulsory fresh-air treatment. I have found that regular daily action of the bowels, commencing with a good

clear-out before starting on the voyage, plenty of water to drink, and the minimizing of stomach acidity and moderate eating and exercise are about as useful as any measures for preventing sea-sickness—if it can be prevented in any particular cases. When the attack threatens and the patient begins to feel ill, the only thing then to do is to go immediately to a warm and airy cabin and lie on the flat of the back—not the side, remember!

Little sips of a mixture in solution of sodium bicarbonate, liquor morphinae hydrochlor., and sp. chloroformi and ess. menth. pip. will help matters. In bad cases of acidity the stomach certainly should be washed out. Food and drink should not be pressed at all for twenty-four hours if the patient shows no inclination. In any case dry ginger ale (as suggested in the annotation) I regard as one of the drinks most likely to bring on a recurrence, and I have never permitted its use. The less aerated water a sea-sick patient has the better.

As for purgatives, salines alone are perhaps best on board ship. Before starting the voyage calomel at night followed by a morning saline would be preferable, but at sea the calomel is likely to cause a little too much liver disturbance and so produce nausea. Nearly everyone starting out on a long voyage feels sea-sick ("livery," they call it) for the first two days or so, due to changes of diet, exercises, and life in general, and, of course, also movement; but after this period is over only a very small percentage ever feel ill again if they follow the ordinary simple rules.

Bromides and atropine should not be relied on as preventives, and it should be borne well in mind that the frequent use of atropine may not only fail to prevent the sea-sickness, but may be harmful to the patient besides.—I am, etc.,

GEO. A. PEMBERTON WRIGHT,  
M.C.P. and S.Ont., L.A.H.Dub.,  
Late Staff Surgeon R.M.S. *Mauretania*.

#### ORGANIZATION OF DISCUSSIONS.

SIR,—An amenable feature of the highly successful Conference on Rheumatic Diseases at Bath was the rushing through of the papers. Many important contributions, the preparation of which must have entailed laborious hours of thought and work, had to be got through within a space of five minutes. This simply meant that the various speakers had to deliver their addresses at such a rate that made it difficult for their audience to follow them to full advantage. Furthermore, considerable sections of many contributions had perforce to be cut out. This necessity, without previous warning, was obviously disconcerting to the speakers. Thus the continuity of the subject-matter in many instances was lost. To take an instance: in the third session the time which remained for a general discussion on the subjects of three hours of mutilated papers was exactly five minutes. Small wonder that many whose views would have been of interest felt the futility of making any attempt. Surely the discussion, with its interchange of views and questionings of the principal speakers, should form an essential part of a "conference."

The remedy would be to have the contributions, which are already in print for the convenience of the press, made up in the form of a paper-covered brochure. These, on application to the honorary secretary a few days prior to the sessions, could be distributed to those interested. It would then be feasible to ask the speakers merely to deliver a précis of their observations, and to show slides or charts. These latter would then possess a greater interest to the hearers, who would have had opportunity of digesting the subject-matter. In a three-hourly session this procedure would leave probably one and a half hours for the discussion.

As a former local secretary of a Section at an Annual Meeting of the British Medical Association, I would suggest that if at the forthcoming meeting at Cardiff the Sections were conducted on these lines, it would be found to be of mutual advantage to all concerned.—I am, etc.,

Bath, May 14th.

JAMES LINDSAY.

\*\* If Dr. Lindsay had been local general secretary of an Annual Meeting he would know that what he suggests is not quite so easy as it sounds.

## BRITISH SPAS.

SIR,—I read in your columns that the British Spas Federation held its annual meeting at Bath on March 8th and 9th, and that one of the chief points discussed was the necessity for propaganda, especially in English-speaking countries. Is this shyness, lack of spirit of enterprise, or complete misunderstanding of the situation?

British spas will only be given due recognition when they attract visitors from all parts of the world. It is the Continental patient they should first of all attract. What they would give them as regards accuracy in treatment, excellence in sports, and the enjoyment of British summer they would receive back tenfold. Imagine a French colony invading Harrogate or Buxton with the merry determination of having a cure and a good time together. The very atmosphere of these spas would change, and the barometer would certainly go up a few points.

How much we do appreciate in France what our British friends have done for our spas! For instance, if Vichy boasts of the best-equipped sporting club in the country, it is them we have to thank. It is in a feeling of gratitude that two French hydrologists, Dr. Reboul and the undersigned, took the trouble to translate into French, and present to French medical circles, Nevillo Wood's book on British spas and health resorts; while in Paris and Lyons Dr. Villaret and Dr. Pierry, both professors of hydrology, have, each of them, devoted one of their curriculum lessons to British spas; and as hydrology is an obligatory quiz for an M.D. degree, candidates have to look at the hydrological map of Great Britain and to know something of the indications of your spas. But we cannot conduct propaganda on behalf of British spas without the help of British spas. Nothing is more international than a spa. Nowhere will one more surely find out that he cannot get without giving, nor can he give without getting.—I am, etc.,

GUSTAVE MONOD, M.D., M.R.C.P.,  
Past-President of the International Society  
of Medical Hydrology.

Vichy, May 7th.

FRACTURES OF THE CLAVICLE WITH  
DISPLACEMENT.

SIR,—In his article in the *Journal* of April 21st (p. 664) Dr. G. W. Milroy calls attention to the discomfort of plaster applied next the skin, and to the tendency of well-applied bandages to become loose, and he describes a modification of Sayre's method which has given him satisfaction.

Another method, and one not involving the use of an axillary pad, is to apply John Duncan's bandage (as figured, for example, in Thomson and Miles's *Manual of Surgery*) with two women standing by with needle and thread, who, as soon as the bandage is on, descend upon the patient and proceed to sew him into it, paying particular attention to every crossing. When they have finished, two broad circles of plaster, adhesive side inward, are applied on top of the bandage, one round the elbow and root of neck on the opposite side, the other horizontal and proximal to the wrist of the injured side. The women again fall to with needle and thread and sew the edges of the applied plaster to the Duncan's bandage. Fixation is so good that an Arab boy, thus trussed up, will run about and play the same day, and the combination wears well without attention.

Where roll plaster is not available something unyielding is required; I have used a horse-girth with an adult in India.—I am, etc.,

J. L. MARJORIBANKS, M.D.,  
Lieutenant-Colonel I.M.S. (ret.),  
Formerly in charge European General  
Hospital, Aden.

San Remo, April 24th.

## INFECTIOUS DISEASE IN SCHOOLS.

SIR,—The spring term has once more maintained its character for the mass production of illness in the schools. In one high-class preparatory school 63 of the 80 pupils spent some of the time in the sanatorium—43 for measles and 20 for influenza; there was one fatal case of double pneumonia. This is a distressing record; yet the school is particularly well situated, and great attention is paid to diet and other hygienic needs.

Seeing that the diseases causing these devastations are

of the air-borne variety, I made special inquiries of the sister in charge as to handkerchief habits. She said the handkerchiefs were for the most part extremely dirty and seemed to be kept anywhere. She herself allowed none, but supplied paper or bits of linen and burnt them. This method she considered successful as, except in the one case of pneumonia that could not be saved, there were no serious complications, and all the patients were well when they were discharged to their homes. It would be an interesting experiment to establish "hanky drill" in such schools, for nasal hygiene was, in this case, the only branch of personal hygiene which did not receive attention.

In certain schools where the handkerchief is looked upon as a valuable possession to guard the breath of life the control of infectious disease seems remarkable. An infant class in a poor district had no loss of attendance for illness for two successive years; the teacher had "hanky drill" daily, and kept a supply of suitable paper for the children during school hours, this being burnt at the end of the day. In a large day school for girls, where no one was allowed to be without a handkerchief and a pocket in which it could be kept free from contamination, there had been no serious epidemic for seven years. There must be many factors in the spread of air-borne diseases that cannot be safeguarded in such schools as these, so that it seems as though a deciding factor was the care and use of the handkerchief. In both schools there were many children of an age when they are usually susceptible, yet they escaped.

Handkerchief drill consists in clearing the passages as soon as possible after waking. If the first clearing is accomplished with paper in the lavatory the time spent in the drill at roll call is negligible. The important points are to keep both nostrils open wide and let out all that lurks inside. There is a widespread practice of stopping before the finish; this should be dealt with firmly, for what comes away at the end is what has been hoarded longest. There must be no following up the blow with a sniff; the innervating powers of the nose are all-powerful. The advantages include the negligible cost and the fact that the whole community can be dealt with at the same moment.—I am, etc.,

OCTAVIA LEWIN, M.B., B.S.

London, W.1, April 23rd.

## STERILIZATION OF THE FEEBLE-MINDED.

SIR,—Your notice of the bill passed in Alberta for sexual sterilization of the feeble-minded shows some misunderstandings of the position of those who support this method of attack on one of our disastrous social problems, and I should be grateful if you will allow me to bring before your readers some of the facts at present far too little known.

First, it is not sufficiently realized that the defects in practice which caused the withdrawal or disuse of sterilization laws in the United States were legal and technical, and not based on any impracticability, or, so far as the short experience of twenty years can show, want of tangible results. The conflict between Federation constitution and State constitution has, in the main, been the reason, and since the introduction into California of a reason, and since the introduction into California of a model statute, no fewer than twenty-five States had introduced, or reintroduced, an amended form before 1925. A recent case before the Supreme Court finally upheld the legality of these statutes brought up under that recently introduced into Virginia.

It is often contended, and you bring out the point very strongly, that sterilization can very seldom be of use in preventing procreation, for the reason that few cases of defectives are satisfactorily dealt with apart from detention in institutions. It is clear that the proportion will vary in different populations and will also largely vary according to the stage of culture of any given people; in dealing with a largely rural group a lower level of mentality can possibly be regarded as the normal than in a country like our own, where such a high proportion of places for employment require very considerable skill and intelligence. In any event, to-day in England the proportions of our problem are so tremendous that it may well be argued that no means should be spared to lessen the burden for future generations. We know that a consider-



able proportion of the defective children in special schools where these are best run (London and Birmingham) subsequently marry, and that their children are in many instances now forming the second generation of scholars. It is well in view of these facts to study the careful analysis of the treatment of the feeble-minded in California. Fifteen years' experience, covering now over 1,050 cases, gives an indication of the possible value of this measure. A very considerable percentage have been earning their living on parole, the most satisfactory cases being those where two feeble-minded and sterilized patients are married. A good many of these marriages have occurred.

From experience of individual cases I know how hard is the necessity in England of detaining in an institution, without an occasional holiday, patients who can certainly not be sent home without the safeguard of sterilization, but who in these circumstances might be trusted to the care of their relatives for a short period each year.—I am, etc.,

C. B. S. HODSON,  
Secretary, Eugenes Society.

London, S.W.1, April 25th.

\* It is not contended that sterilization may not be the proper procedure in a number of individual cases, but merely that the systematic sterilization of defectives is not, under existing conditions, a practical policy for the State; and that, under any conditions, the sterilization of a limited number of such persons (as now legalized in Alberta) would have little or no effect as a means of eradicating mental deficiency in a large community. A considerable proportion of higher-grade morons are not socially defective, and, after training in a suitable school, can safely be left, with a small amount of supervision, to earn a living by performing modest but useful tasks in ordinary surroundings. Whether it is a practicable proposition to insist, where two such persons propose to marry, that one of them shall submit to sterilization, is arguable. Clearly there is no safety (even in this limited field) in anything short of the systematic sterilization of all such boys and girls when they leave the special school at about the age of 16. This is not a practical proposition at present. For the rest, who are low-grade cases or who are socially as well as mentally defective, and who, therefore, are supposed to be cared for permanently in suitable institutions or colonies, sterilization is evidently unnecessary—except, as Mrs. Hodson contends, for the purpose of letting them have a short holiday each year outside the institution. This is a new argument, but surely it lacks a sense of proportion.

#### PHARYNGO-OESOPHAGEAL SPHINCTER.

SIR,—In a letter published in your issue of March 3rd (p. 375) Dr. Hurst refers to the "sphincter of Negus." Much as I should so important a fold, I regret that claim to that honour. I have made some observations as to the function of the crico-pharyngeal sphincter, but it was some years ago that I first learnt of the existence of this muscle band from the writings of Dr. Chevalier Jackson, who has referred repeatedly to its presence, and has, I am sure, taught very many laryngologists besides myself of its existence and importance. I beg to apologize to Dr. Jackson for apparent tacit agreement with the name, but I have only recently noticed the error, and take this first opportunity of correcting it.—I am, etc.,

London, W.1, May 5th.

V. E. NEGUS.

#### STREPTOCOCCI AND PUERPERAL SEPSIS.

##### Apology and Correction.

We must apologize to Mr. J. T. Ainslie Walker for a blunder, for which our printing office is responsible, which occurred in the short communication by him published under this heading in the *Journal* of May 5th (p. 788). In the concluding sentence of his quotation the phrase "a pure culture of *S. p. aureus*" was printed as "a pure culture of *S. pallida aureus*." We hasten to correct this grammatical and bacteriological monstrosity and to express our sincere regret to Mr. Ainslie Walker.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week considered bills for transferring the currency note issue to the Bank of England, with consequent legal changes in Northern Ireland, and has also debated the Estimates for the Ministry of Health and the Ministry of Education. (Owing to the space occupied by the reports of the Harvey Tercentenary and the Conference on Rheumatic Diseases, the report of the debate on the Ministry of Health Estimates is unavoidably held over.)

#### National Health Insurance Bill.

The National Health Insurance Bill was again before a standing committee of the House of Commons on May 10th, when the committee completed its consideration of the bill. Discussion was resumed on the schedule of proposed additional benefits to be substituted for the third schedule of the National Health Insurance Act.

Mr. NAYLOR proposed to add payments in respect of deceased members as an optional benefit. He suggested that some approved societies could provide a funeral benefit of £3 or even more.

Mr. CHAMBERLAIN said the amendment raised a controversy which had been decided in the original Insurance Act. The addition of funeral benefit would be at the expense of other benefits, and would be paying empty honour to the dead at the expense of the living.

The amendment was rejected.

Dr. FREMANTLE proposed to add as an optional benefit "the payment of the whole or any part of the cost of medical or surgical advice or treatment by any registered medical practitioner, not being advice or treatment within the scope of any other additional benefit or of medical benefit, under a special scheme approved by the Minister for the purpose." He said this amendment had been approved at a meeting of the Parliamentary Medical Committee, and represented the general opinion of the medical profession, who wished to extend the Insurance Act by degrees. The amendment would cover surgical advice or operations by surgeons who could not permanently be retained as part of the panel system. It would cover skilled consultation, which would prevent sickness and aid panel practitioners, and would also include special treatment, such as the x-ray diagnosis for which Dr. Vernon Davies had asked. Doctors rather objected to the fact that the first seven benefits in the schedule before the committee were really cash benefits. They looked on the insurance scheme as one for prevention and treatment, cash benefits being only secondary.

Dr. DRUMMOND SMITH, in supporting the amendment, said the Royal Commission on Health Insurance had recommended it as the first change necessary to provide an adequate service. The national health scheme was at present incomplete, leaving out the services of the specialist who might by early intervention prevent serious ill health. The health side of the scheme had not been emphasized as it should be.

Mr. MELLER denied that the Royal Commission had recommended specialist service as an additional benefit. It had recommended an extension of the medical service as a statutory benefit when the money was available. As a result of the granting of additional benefits, insured persons who went to hospitals for treatment which could not be given by the panel practitioner were now met with the inquiry, "Is not your society providing dental treatment and ophthalmic treatment?" If the insured person said, "I believe so," help from the hospitals was cut off. If Dr. Fremantle's proposal were added to the additional benefits the medical profession would put more pressure on insured people to make their societies devote part of their surplus funds for this benefit, and incidentally for the benefit of medical practitioners.

Dr. DRUMMOND SMITH intervened to say the Royal Commission had both recommended this extended medical service as a statutory benefit and had shown that it could be provided within the present financial scheme. Dr. Shiels explained that as the approved societies had opposed that recommendation of the Royal Commission, he now commended Dr. Fremantle's amendment as a substitute.

Mr. RHYNS DAVIES said Dr. Fremantle had given the committee the impression that all money accruing to the insured population should be handed over to the medical profession. Dr. Fremantle should remember that when a man fell ill he lost his wages. If this amendment were adopted by an approved society a panel doctor might say to an insured patient, "The disease from which you are suffering is one which I cannot treat as a panel doctor. You must come to me as a specialist." Even now, in surgeries all over the country, doctors were saying to panel patients, "The service you ask is not the ordinary service mentioned by law." Under the amendment the panel doctor could say, "You must ask me for specialist treatment. I can get paid for that under this new provision." Of the sixteen additional benefits already allowed, not more than six had been adopted or would ever be adopted.

Mr. BRIANT thought it would be disastrous if a panel doctor were to pose as a specialist as well and extract additional fees.

Mr. RHYNS DAVIES: They do it now.

Mr. BRIANT said he feared that unless further provision were made for obtaining specialist opinion many lives would be endangered. The tendency was for the panel practitioner to continue his ordinary treatment, whereas well-to-do people had specialist advice at an earlier stage.

Mr. CHAMBERLAIN said Mr. Rhys Davies had argued that the provision of a specialist service would lead to the exploitation of the insured person by the practitioner. That argument would apply as much to the provision of the service as a statutory benefit as to its provision as an additional benefit. The Royal Commission had decided that the advantages for the insured population of recourse to specialists would outweigh all the disadvantages. Specialist service was only prevented from becoming a statutory benefit because the approved societies strongly objected to the method which the Royal Commission recommended for providing it. A panel doctor could not pose as a specialist and extract fees from his patients as such unless he satisfied his Insurance Committee that the particular complaint was beyond the competence of an ordinary general practitioner, and that he was competent as a specialist to treat it. The schedule already authorized an approved society to select, as an additional benefit, specialist treatment in an institution. The committee ought to give the society the chance of getting the same specialist service through private practitioners. He was disposed to advise the committee to accept the amendment.

Mr. BROAD said that a panel practitioner's 1,000 or 1,200 patients might be distributed between forty or fifty societies. For the practitioner to have to turn over the rules of all those societies to see whether he could refer a patient to a specialist would be inconvenient. When specialist advice came to be provided it should be in some way pooled so that there should be no pecuniary advantage in pushing people on to specialists.

The committee agreed to the amendment.

Dr. FREMANTLE then moved to add as a further alternative benefit: "The payment of the whole or part of the services of a midwife or medical practitioner in cases of confinement." He denied that he was putting forward proposals in the interests of the medical profession. Statutory maternity benefit was in cash, and was in many cases eaten up by other needs, so that proper provision was not made for the attendance of a midwife or a medical man. He asked that approved societies should be allowed, as some in rural areas now were allowed, to provide the services of the midwife in addition to the payment of the cash benefit.

Sir KINGSLEY WOOD said standard maternity benefit had been increased by many societies, and the average amount paid was about 46s. There had been a tendency from the first for the whole of the sum to be demanded by the doctor attending the confinement, and as the amount of maternity benefit had increased the doctor's fee had tended to increase *pari passu*. A subcommittee of the Consultative Council was considering the methods by which maternity was dealt with under national health insurance, and it was undesirable at present to include in the list of medical benefits the item proposed by Dr. Fremantle.

Dr. SNIELS said Sir Kingsley Wood had taken adroit advantage of the prejudice of certain Labour members against the medical profession. Local administration of an adequate maternity service was the best solution of this problem. Those who were studying the problem were directing their attention increasingly to that end.

The amendment was negatived.

Dr. FREMANTLE then moved that "medical treatment or attendance for any person dependent upon the labour of a member" should be an additional benefit. This was the first additional benefit in the third schedule of the Act of 1924, but had been omitted from the bill. Possibly it had not been adopted by any society; it was strongly opposed by a large section of the medical profession, and was not for the benefit of that profession.

Sir KINGSLEY WOOD said the Royal Commission had reported that the benefit had never been adopted by any society in England. Sir Walter Kinnear had reported that it was not suited for an additional benefit. Its cost would be greater than any individual society could provide as an additional benefit. Sir Kingsley contended that no society had adopted the benefit because it was impracticable. If adopted at all, it must be as a national scheme, and would cost a very large sum.

Dr. SNIELS said the purpose of the amendment would be served if it demonstrated that the scheme was not really a national health insurance scheme, that it left out the dependants of the insured person, and that it established unequal health standards in the community.

The amendment was rejected. Mr. WHITELEY moved, and Mr. CHAMBERLAIN resisted, an amendment to bring out-patient treatment within the scope of hospital benefit. This was also rejected.

Dr. YEANON DAVIES moved to add at the end of the schedule of additional benefits: "Payments to women in the last weeks of pregnancy who have had to leave their employment on account of that condition." He said he put down the amendment partly as propaganda, but also to give any up-to-date society the opportunity of paying those women who had to leave their work for natural reasons. It would have a definite effect on maternal mortality.

Mr. CHAMBERLAIN said the committee could not ask societies to pay benefits which would be subject to employers' caprice in fixing the number of weeks. If a real demand were discovered the list of benefits could always be increased under paragraph 16, even after the passage of the bill.

There was a tie on this amendment, 17 members of the committee voting for it and 17 against. The chairman, Sir Robert Sanders, gave his casting vote against the amendment and it was lost. The schedule of additional benefits was then added to the bill.

The second schedule proposed minor and consequential amendments in the principal Act of 1924. An amendment was made prolonging the free period of insurance given to an insured person ceasing from contribution if at the time of so ceasing that person was already ill. A new subsection was inserted providing for the control of the Seamen's Special Fund. Further discussion arose

regarding the qualification of share fishermen for national health insurance benefits. Mr. CHAMBERLAIN said the Acts had to be twisted and strained to bring them in at all. Such men when making preparations for the next voyage and repairing their nets should pay their own contributions.

The bill was then reported to the House, the CHAIRMAN remarking that the committee had been a model one.

#### Small-pox.

On May 11th Mr. CHAMBERLAIN told Mr. J. Hudson that he had received no report on the adequacy of the accommodation and staffing of the Whitehouse Farm Small-pox Isolation Hospital, Huddersfield. He had made no recommendation regarding the character of the present outbreak in the Huddersfield area, nor regarding the necessity of improving and extending the hospital provision. Diagnosis of the cases was a matter for the notifying medical practitioner, who could consult the medical officer of health in any doubtful case.

#### Investigation of New Discoveries in Connection with Disease.

Answering Sir Basil Peto, on May 10th, Mr. CHAMBERLAIN said the General Medical Council was not concerned with the investigation of new discoveries in connexion with, and of new treatments for, disease. The Medical Research Council was so concerned. Sir BASIL PETO further asked whether there was any body of medical men in this country whose business it was to make such investigation officially, and, if not, how the Ministry of Health was advised of new discoveries and treatments. Mr. CHAMBERLAIN replied that the recognized method of bringing a new discovery to notice was publication of the scientific evidence for it in a technical journal. This allowed its value to science or practice to be confirmed or otherwise by other workers.

Sir BASIL PETO asked how the public could be informed, in view of the action taken by the General Medical Council in the case of any member of the profession who advised the public of a new treatment by a communication in the public press.

Lady ASQUITH, intervening, asked whether Mr. Chamberlain did not think that the less the public knew, read, and thought about disease the freer they would be from it.

Mr. CHAMBERLAIN said he could not admit that alleged new discoveries should not be submitted to technical examination. It was impossible for the Medical Research Council to take useful action unless it had the advantage of such publication as he had suggested.

On May 10th Mr. CHAMBERLAIN told Sir Basil Peto that he had lately received from a medical specialist particulars respecting new discoveries in treatment for asthma and goitre. The case was not one where the Minister could appropriately take action.

Mr. CHAMBERLAIN, in an answer on May 10th to Mr. W. M. Adamson, said the Ministry of Health had laid down no special conditions in connexion with the appointment of the county medical officer for Salop, but he had suggested to the Salop County Council that it should have regard to the standard salaries for such appointments which had been commended by the Ministry for the guidance of local authorities. The county council had deferred consideration of the matter.

#### Foot-and-Mouth Disease.

Answering Sir Robert Thomas, on May 10th, Mr. GUINNESS said his attention had been drawn to recent experiments showing that the virus of yellow fever was alive after being frozen for twelve days. The proposal that imported chilled meat should be kept in store for thirty-one days as a quarantine precaution against foot-and-mouth disease would make the meat uneatable. Mr. GUINNESS added that there was a risk of foot-and-mouth disease being imported in frozen or chilled carcasses, but there was as yet no proof. Dr. VERNON DAVIES asked whether Mr. Guinness would insist on the carcasses being imported with the head and feet attached. Mr. GUINNESS said that would be an illusory safeguard. Animals might be infected without lesions on the head or feet. Replying to Mr. Haslam, Mr. Guinness said the Argentine Government had appointed seventy additional veterinary inspectors to inspect cattle before dispatch to the freezing stations for slaughter. The veterinary staffs at these stations had been strengthened to administer the new decree forbidding the export to Britain of the carcasses of animals infected with disease or of any which had been in contact with them. All parties were making a real attempt to carry out the new law.

*Closing of Ministry of Pensions Clinics.*—On May 15th Lieut.-Colonel G. F. STANLEY told Mr. Neil McLean that the clinics for ear, nose, throat, and eyes at the Adelphi Hotel, Glasgow, were closed in accordance with the advice of the Ministry of Pensions' responsible medical advisers when the number of patients had fallen to an extent that rendered the maintenance of separate clinics by the Ministry no longer justifiable. Suitable arrangements had been made for the treatment of any cases at the local civil hospitals in accordance with the normal practice of the Ministry. Mr. McLEAN asked whether the cases were now being treated at the same place, but by another doctor. Lieut.-Colonel STANLEY said that he was not aware of that. All he was concerned with was whether the Ministry was justified in keeping these clinics open when there was not sufficient work to keep them occupied. The information which he was sending to the hon. member would show that although the clinics had been closed, the work was being carried on in the same place. There were nine ophthalmic cases in the whole of Glasgow, and only four

anal cases. That was not a sufficient number to justify keeping the clinics open. As far as he knew there were no nose and throat cases.

**Medical Examination of Prospective Emigrants to Canada.**—Mr. AMERY, replying to Mr. Haslam, on May 14th, said that in the first four months of this year 30,451 persons were requested by the Canadian authorities to present themselves for medical examination with a view to their settlement in Canada. Of these, 29,203 were examined. The remainder would probably be examined during the coming months. The numbers rejected on medical grounds, or unable to attend for examination for reasons of distance, inconvenience, and expense, were not yet known. Mr. Haslam asked if Mr. Amery would get into touch with the Canadian authorities and use his influence to see that no able-bodied man or woman who might be desirable was excluded. Mr. AMERY said the Dominions Office was doing all it could.

**Sale of Food and Drugs Acts.**—On May 14th Sir KINGSLEY WOOD, in reply to Dr. Vernon Davies, said that the Sale of Food and Drugs Acts were administered by the health authorities of certain counties. In some counties the public health committee or the medical officer of health, or both, took part in the administration of the Acts. He could not state the number of such counties.

**Leprosy in Palestine.**—Mr. AMERY, replying to Sir R. Thomas, on May 14th, said that in February, 1926, it was estimated that there were fewer than eighty lepers in Palestine. The disease appeared to be dying out naturally. In 1927 the Moravian Leper Hospital at Jerusalem had on the average 28.75 in-patients, and twenty-four lepers received out-patient treatment at Government dispensaries. The High Commissioner was satisfied that sufficient facilities existed in Palestine for the treatment of leprosy.

**Health of Prisoners in the Solomon Islands.**—A report to Mr. Amery on the condition of the Solomon Islanders in prison awaiting trial states that up to March 8th five deaths had occurred—two from dysentery and three from causes other than dysentery. Many of the prisoners were under-nourished and emaciated when they were brought in, all were kept under close observation by the senior medical officer, and their general health improved as a result of a regular and substantial diet. Apart from the outbreak of dysentery there had been little illness among the prisoners.

**Duties of Registrar of Deaths.**—Sir KINGSLEY WOOD, replying to Mr. Kelly, on May 15th, said that it was not the duty of the registrar of deaths to ask questions in cases where the cause of death was certified by the medical practitioner who attended the deceased person. Where the cause of death was not so certified, the registrar was required to refer the case to the coroner, and only to enter the cause of death according to information elicited by himself in cases where the coroner had deemed an inquest unnecessary. Even where the cause of death was medically certified, it was the duty of the registrar to refer the case to the coroner if he had information that death might have been due to causes falling within certain categories laid down by regulation. These categories included cases where death appeared to have been due to starvation or privation.

#### Notes in Brief.

Excluding lunatics in county and borough asylums, persons in receipt of domiciliary medical relief only, and casuals, totalling about 127,000, the greatest number of persons in receipt of Poor Law relief in England and Wales on any Saturday in the winter of 1927-28 was 1,255,251, on January 7th, 1928.

In 1927 the number of children in the London area who attended open-air classes was 1,680.

In the year ended March 31st, 1928, 202,930 widows' pensions and 15,560 orphans' pensions were granted in England and Wales. Included with the widows' pensions were 257,500 children's allowances.

Mr. Chamberlain has decided that houses completed by March 31st, 1929, shall, if otherwise eligible, qualify for subsidy at the existing rates.

### Medico-Legal.

#### £1,000 DAMAGES FOR A MEDICAL MAN.

A JURY at Leeds Assizes, on May 8th, awarded £1,000 damages to Dr. W. S. Henderson, medical officer to Sedburgh School, for the following libellous passage contained in a letter written by the father of a schoolboy to the headmaster of the school: "In my opinion his callousness and ignorance prove him to be quite unsuitable for the responsible position which he holds."

Dr. Henderson commenced his duties at Sedburgh School in October, 1926. In the following October one of the boys, Donald Ackerley, contracted scarlet fever and came under his care. Dr. Henderson treated the boy until he was sent home on December 14th, 1927, and on December 16th the father, Mr. R. C. Ackerley, wrote to the headmaster that two doctors had examined the boy and had diagnosed inflammation of the hip-joint. The letter continued: "It is by no means an uncommon complication arising from scarlet fever, so this makes Dr. Henderson's case worse than I thought." Then followed the words complained of. Counsel for the plaintiff added that upon the issue of the writ in the action the school

authority, taking the view that they could not have their dirty linen washed in public, called upon Dr. Henderson to resign.

Dr. Henderson, giving evidence, said that the boy had sometimes complained of pains in his hips, thigh, knees, and chest, and he considered they were due to muscular rheumatism, a symptom sometimes found in cases of scarlet fever. Dr. Maxwell Telling, professor of medicine at Leeds University, told the jury that he would have made exactly the same diagnosis and advised the same treatment as had Dr. Henderson.

The defence was a plea that the letter was written on a privileged occasion, and a denial that it bore the meaning the plaintiff alleged, but there was no plea of justification. A father's letter to a headmaster is written on a privileged occasion, but it is only a qualified privilege, which is lost on proof of malice, and the question whether or not the writer was actuated by malice is one for a jury to decide. Here, as Mr. Mortimer, K.C., for the plaintiff, said, not only had the defendant abused the privilege by going further than he ought to have gone, but he had not even sought to justify the allegations he had made, nor shown any sign of repentance.

Great sympathy for both sides was expressed by Mr. Justice Talbot in his summing-up to the jury. His Lordship pointed out that the evidence had demonstrated that there was no error in treatment, with a possible exception regarding a rise in the boy's temperature on his last day in the school infirmary.

The solicitors for the plaintiff were Messrs. Le Brasseur and Oakley, instructed by the London and Counties Medical Protection Society.

### Universities and Colleges.

#### UNIVERSITY OF CAMBRIDGE.

At a congregation held on May 12th the following medical degrees were conferred:

M.D.—J. P. W. Jamie, H. Galsborough.  
B.Clin.—J. J. Panting.

#### UNIVERSITY OF LONDON.

##### Recent Developments in Medical Education.

THE report of the Principal Officer on the work of the University of London during the year 1927-28 records a number of developments of some medical interest. Reference has already been made to the purchase of the Bloomsbury site, which was made possible by a very large contribution from the Rockefeller Foundation. That institution has also given £25,000 for the endowment of the department of pharmacology, and £50,000 for the endowment of the departments of anatomy and physiology, all at University College. Further large benefactions have been made to provide for the establishment of a chair of dietetics, which will be at first a part-time appointment and which, it is hoped, will be attached to the St. Thomas's Hospital Medical School. Regarding the medical education of women undergraduates the report refers to the appointment, by the Senate, of a committee to consider the question, and states that much of the preliminary work of inquiry has already been done. In the course of the past year academic diplomas in bacteriology and in biology have been instituted. The trust deed providing for the Geoffrey E. Duveen Lectureship in Otolaryngology has been varied to allow the establishment of a travelling post-graduate studentship in oto-rhino-laryngology and of a fund for the promotion of research in that subject.

Changes among the medical and associated teaching staffs have been numerous. At King's College Miss D. L. Mackinnon has succeeded Professor J. S. Huxley in the chair of zoology, and Mr. D. MacC. Blair has been appointed professor of anatomy in succession to Professor E. Barclay-Smith. In the medical schools Sir Frederick Andrews has retired from the St. Bartholomew's staff, and Professor E. H. Kettle is the first holder of a new University chair of pathology. The new readership in this subject is held at the Westminster Hospital Medical School by Dr. J. A. Braxton Hicks. Readerships in morbid anatomy and histology and in bacteriology have been instituted at the Middlesex Hospital and University College Hospital respectively. Three chairs have been added to the establishment of the London School of Hygiene and Tropical Medicine: Dr. W. W. Jameson has been appointed professor of public health, Mr. M. E. Delafield professor of chemistry as applied to hygiene, and the chair of biochemistry remains to be filled. Dr. G. S. Wilson becomes reader in bacteriology and immunology. At the School of Pharmacy the first holder of the readership in pharmaceutical chemistry is Dr. W. H. Linnell.

#### LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.

##### Medical Scholarships.

THE London Inter-collegiate Scholarships Board announces that an examination for six medical scholarships and exhibitions, of an aggregate total value of £513, will commence on June 26th. They are tenable at University College Hospital Medical School, the London (Royal Free Hospital) School of Medicine for Women, and the London Hospital Medical College. Full particulars and entry forms may be obtained from the secretary of the Board, Mr. S. C. Ranner, M.A., the Medical School, King's College Hospital, Denmark Hill, S.E.5.

## ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ORDINARY Council meeting was held on May 10th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

## Fellowships.

Mr. C. Thurstan Holland and Lieut.-General Sir Matthew H. Gregson Fell, K.C.B., C.M.G., were admitted Fellows of the College.

## John Hunter Medal.

Mr. Victor E. Negus was presented with the John Hunter Medal in bronze and a cheque for £50 for his investigations into the comparative anatomy and physiology of the larynx and the anatomy of the bronchi in their relation to surgery.

## Membership and Diplomas.

Diplomas of membership were granted to 152 candidates whose names were among those noted as granted licences to practise by the Royal College of Physicians in the list published on May 5th (p. 786). Diplomas in public health were granted jointly with the Royal College of Physicians to 18 candidates.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS  
OF GLASGOW.

At the monthly meeting of the Royal Faculty of Physicians and Surgeons of Glasgow, held on May 7th, George Henry Edington, M.D., D.Sc., was appointed as the representative of the Faculty upon the General Medical Council.

## The Services.

## TERRITORIAL DECORATION.

THE KING has conferred the Territorial Decoration upon the following officers of the Royal Army Medical Corps, T.F.: Hon. Colonel A. Thorne, V.D., Majors N. M. Ferguson, J. F. Edmiston, T. W. S. Hails, J. A. Stenhouse, and F. H. White.

## NAVAL MEDICAL COMPASSIONATE FUND.

THE quarterly meeting of the directors of the Naval Medical Compassionate Fund was held on April 26th, when Surgeon Vice-Admiral Arthur Gaskell, Medical Director-General of the Navy, took the chair, and the sum of £175 was distributed among the several applicants.

## Obituary.

WE regret to announce the death, at the age of 92, of Dr. HENRY JAMES ALFORD, which occurred at his home in Taunton on April 17th. He belonged to a well-known Somerset family, and his father, who also lived until over 90, preceded him in medical practice at Taunton, while one of his brothers was a surgeon. Dr. Alford received his medical education at University College, London; he obtained the diplomas M.R.C.S.Eng. and L.S.A. in 1858, graduated M.B. in 1861, and proceeded M.D.Lond. in 1872. After spending some years in practice with his father he was, in 1873, appointed medical officer to the old Taunton Board of Health. Four years later, on the incorporation of the borough, the new council came into existence, and he retained the office of medical officer of health to that body, continuing in this capacity until his retirement after forty-six years of service in 1919, when he had reached the age of 83. He remained in service in a consultative capacity to the time of his death. He was for a considerable period consulting physician to the Taunton and Somerset Hospital. Until a few months ago he remained in good health. His devotion to his office and to the affairs of his native town monopolized the greater part of his time and energy, but in his youth Dr. Alford gained some fame as an amateur actor, and throughout his life took a keen interest in local dramatic and musical works. Many years ago he was received into the Roman Catholic communion, and he was a devout member of that Church. The interment in St. Mary's Cemetery was preceded by a requiem service at St. George's Church, Taunton, conducted by the Very Rev. Canon Iles, and attended by the mayor, members and officials of the corporation, representatives of the medical profession and of the religious communities with which Dr. Alford was associated.

Dr. MATTHEW CURSHAM CORNER, who died on April 25th, in his sixty-ninth year, at his residence in Mile End, had throughout his life been identified with work in the East End of London. The son of a medical practitioner, he

received his professional education at the London Hospital, and in 1882 obtained the L.S.A. After serving as clinical assistant at the East London Hospital for Women and Children he took over his father's practice in the Mile End district, where he remained until his death. For forty-two years he was medical officer and lecturer to the East End Mothers' Lying-in Home, the institution in connexion with which he was, perhaps, best known, and to which he was latterly consulting physician. He was also for many years visiting or resident medical officer to the Tower Hamlets Dispensary, and had at one time or another been associated with the Royal Maternity Society, the East London Nursing Society, the Whitechapel Dispensary, the Trinity Almshouses, and the East End Emigration Society. He was honorary medical officer to the National Children's Adoption Association, and honorary consultant to the Stepney School for Mothers. Dr. Corner participated actively in professional affairs, and was a past-president of the North-East London Clinical Society. In the British Medical Association he had served as a member of the Metropolitan Counties Branch Council and as chairman, from 1922-26, of the Tower Hamlets Division. He was a justicer of the peace, and had served as chairman of the Mile End Petty Sessions and as a member of the Shore-ditch Children's Criminal Court. Among his publications may be noted one, entitled *A Defence of East London*, which gives the clue to his main interest in life—the welfare of that district where he was particularly devoted to any service designed to help its mothers and its children.

Dr. JOSEPH HORNS FENN, who died on May 3rd at Rusthall, Tunbridge Wells, at the age of 60, was the third son of the late Mr. Albert R. Fenn of Madrid. He received his medical education at the London Hospital, and obtained the diplomas M.R.C.S., L.R.C.P. in 1897. Dr. Fenn soon afterwards went to Mexico, where he became well known as a surgeon in mining centres and travelled extensively. During the war he held a commission as captain in the R.A.M.C., serving first on troopships to and from the Mediterranean and Australian ports. He was later transferred to the Royal Herbert Hospital at Woolwich, and then to the Military Hospital at Hounslow; as he had made a special study of tropical diseases he was subsequently appointed medical officer in charge of the Gravesend Military Hospital. After the war, and until incapacitated by a long illness, Dr. Fenn held an appointment under the Ministry of Pensions in the tropical diseases department. He retired four years ago to Rusthall, Tunbridge Wells, where he patiently bore the increasing limitations and sufferings following upon encephalitis lethargica. His death is much regretted by his many colleagues and friends. He was a member of the British Medical Association.

## Medical News.

THE annual oration to the St. John's Hospital Dermatological Society will be given at 5.30 p.m. on Wednesday May 23rd, at St. John's Hospital, Leicester Square, by Sir John Bland-Sutton, Bt., whose subject will be "The debt of dermatology to optical glass." On the same evening, at 7 o'clock, the annual dinner will be held at the Café Royal. Fellows intending to be present are asked to notify the honorary secretary of the society at 49, Leicester Square, W.C.2, not later than Tuesday, May 22nd.

Dr. JANE WALKER will open a discussion by the North-Western Tuberculosis Society on tuberculosis and employment at the Tuberculosis Offices, Joddrell Street, Hardman Street, Manchester, on Thursday, May 24th, at 3 o'clock. All medical practitioners interested are cordially invited to attend.

THE twenty-ninth annual meeting of the Lebanon Hospital for Mental Diseases, which is situated at Asfurieh, near Beirut, in Syria, will be held at Friends' House, Euston Road, N.W., at 3 p.m., on Tuesday, May 22nd. Sir Wyndham Deedes, late Chief Secretary to the Palestine Government, will preside, and a short address on "The importance of treating early mental disorder" will be given by Sir Maurice Craig. Sir Robert Armstrong-Jones and Dr. Bedford Pierce



will also speak. The Lebanon Hospital is the only institution of its kind in Syria, and provides training facilities for medical students at Beirut University. Its administration is on an international basis, with headquarters in London and associated committees in Holland, Switzerland, and America. Readers who are interested and who desire to attend the annual meeting may obtain particulars from the London office, 139, Marylebone Road, W.1.

THE opening ceremony in connexion with the Princess of Wales Dispensary for Children will be performed by the Queen, at 3.30 p.m., on Friday, May 18th. The hospital had its origin in a small dispensary started by a few medical practitioners in Church Street, Kensington, in 1840; in 1896 a small ward was added and the institution took the name of the Kensington Dispensary and Children's Hospital. Four years ago it became clear that a greater need existed for the hospital in North Kensington, then in its original situation, and that it would require a very considerable extension to provide the desired facilities. Under the patronage of H.R.H. Princess Louise, Duchess of Argyll—and largely at her instigation—a scheme was inaugurated which has resulted in the creation of the new hospital situated at St. Quintin Avenue, North Kensington, W.10. The first building scheme, comprising the out-patient department and one ward block, was started in November, 1926, and last summer the board decided to proceed with the second ward block. Out-patient work in the new hospital commenced in December, 1927, and the first in-patients were admitted soon after.

THE annual meeting of King Edward's Hospital Fund for London was held at St. James's Palace on May 15th, the Prince of Wales presiding. In his address he stated that £1,800,000 a year is now voluntarily subscribed to London hospitals. The Fund last year distributed £247,000, while, in addition, special grants from the legacies left by the late Mr. and Mrs. John Wells of St. Albans had been distributed since 1924, the total of £255,000 having helped to provide 1,600 additional beds. The Prince of Wales said there were now in London 900 "pay beds" for the professional and middle classes, and that the report of the committee appointed to inquire into the question of this class of hospital accommodation was in course of preparation. A fuller account of the proceedings of the meeting will be given next week.

THE summer session of the South-West London Post-Graduate Association opened on May 16th, and a lecture-demonstration will be given each week until July 12th. Two outings are included in the programme, these taking the form of visits to the King Edward VII Sanatorium, Midsbury, on June 12th, and to the Cassel Hospital for Functional Nervous Disorders, Penshurst, on June 27th. Full information may be obtained from the honorary secretary, Dr. R. J. Saunders, 10, Lyford Road, Wandsworth Common, S.W. 18.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on Friday, May 25th, there will be two demonstrations: the first, in gynaecology, by Mr. A. C. McAllister, at 10 a.m., at the Royal Waterloo Hospital, and the second, of the fundus oculi, by Mr. Lindsay Rea at 8.30 p.m., at the in-patient department of the West End Hospital for Nervous Diseases, Gloucester Gate, Regent's Park. Intending visitors to Mr. Lindsay Rea's demonstration are asked to apply first to the Fellowship of Medicine (Mayfair 2236). Special courses in June are as follows: June 4th to 16th, diseases of children; June 18th to 30th, chest diseases at the Victoria Park Hospital and gynaecology at the Chelsea Hospital for Women; June 25th to July 21st, neurology at the West End Hospital for Nervous Diseases, starting at 5 p.m. daily; and a course in medicine, surgery, and the specialties at the London Temperance Hospital. This last-named course is primarily intended for practitioners who have little spare time, and it has been arranged to take place in the late afternoons from 4.30 to 6 o'clock. Full particulars and copies of all special-course syllabuses are obtainable from the Fellowship of Medicine, 1, Wimpole Street, together with information on the general course of work.

THE house and library of the Royal Society of Medicine will be closed on Saturday, May 26th, and Monday, May 28th.

DR. E. GRAHAM LITTLE, M.P., has been elected an honorary member of the Norwegian Medical Society.

THE annual general business meeting of the National Incorporated Association of Dr. Barnardo's Homes was held on May 9th. The annual report showed that new admissions in 1927 totalled 2,025, of which 1,648 were permanent and 377 temporary. The average number of children in residence throughout the year in the cottages, households, and branches of the institution throughout the country was 7,716; of these children, 1,203 were under 5 years old and 422 were crippled, blind, deaf and dumb, or otherwise afflicted. The income for the year from all sources was £521,514 and the expenditure was £521,499.

TOWARDS the sum of £40,000 required for the establishment in London of a clinic for the treatment of rheumatic diseases £23,153 had been received by the British Red Cross Society up to the end of April. It is expected that the work of adapting and equipping the building chosen for the clinic will be begun shortly. A treatment fund has been opened at the instance of friendly societies and approved societies. The St. Marylebone Division of the British Red Cross has made a donation of £50 towards a Samaritan fund to assist those who cannot pay the full fees.

THE Treasury has made an order under Section 10 of the Finance Act, 1926, exempting radium compounds from Key Industry Duty from May 15th to December 31st, 1928. This step has apparently followed representations from certain hospitals to the Chancellor of the Exchequer. The imposition of the duty has been attacked as the cause of difficulty in securing supplies of radium salts, notably for the treatment of cancer. Very small amounts of radium are produced in Great Britain, and the world's supplies are obtained for the most part from the Belgian Congo.

THE annual medical cruise organized by the *Bruxelles-Médical* will start from Bordeaux on the mail steamer *Brazza* on July 29th. Visits will be paid to Corunna, Vigo, Oporto, Madeira, Tenerife, Las Palmas, and Ajaccio. The prices range from £45 10s. inclusive upwards. Further information can be obtained from the Section des Voyages de *Bruxelles-Médical*, 29 Boulevard Adolphe Max, Brussels.

AN international congress of open-air schools will be held in Paris from July 8th to 12th, under the presidency of M. Paul Strauss, with Professor Nobécourt as president of the Medical Section and Dr. Lesage as general secretary. Great Britain will be represented by Miss M. MacMillan. Further information can be obtained from M. Lemonnier, 37, Avenue Victor-Emmanuel, Paris.

A BILL to direct that the principal civil medical officer shall in future be known as and styled the director of medical and sanitary services has been passed by the Legislative Council of Hong-Kong. The change of title is being made in connexion with the reorganization of the medical and sanitary departments.

WITH a view to assisting German scientists in research an effort is being made by a German society to supply the universities and students of that country with medical and scientific literature of the war period and subsequently. Copies of the *British Medical Journal* and the *Lancet* for the years 1914 to 1924 are particularly required, single numbers being welcomed if complete sets cannot be obtained. Those who are willing to assist in this are invited to notify the *Notgemeinschaft der Deutschen Wissenschaft*, Berlin C.2, Schloss Portal 3. Expenses incurred in sending books and journals will be refunded.

THE health section of the League of Nations Health Organization has issued a pamphlet containing a list of its publications down to March this year. The booklet serves as an index to the activities of this body, and research workers and others will find it useful as a bibliography of the many routine reports and special studies undertaken by its Commissions. Brief details are given of the scope of each publication.

THE late Professor Gilbert has bequeathed a series of medico-historical collections to the history of medicine museum of the Paris faculty of medicine, with a sum of 40,000 francs for their instalment.

THE international congress of applied psychology will meet at the Palais-Royal, Paris, next October.

THE sixth international congress for combating tuberculosis will be held in Rome from September 24th to 28th, under the patronage of the Italian Government and the presidency of Professor Raffaele Paolucci of Rome, with Professor Léon Bernard as general secretary. Papers will be read by Professor Calmette on the filterable elements of the tuberculous virus, by Professor R. Jemma of Naples on the diagnosis of infantile tuberculosis, by Professor Morelli of Pavia on the pneumothorax treatment of pulmonary tuberculosis, by Dr. William Brand of London on the organization of antituberculous prophylaxis in rural districts, and by Professor L. Bräuer of Hamburg on the surgical treatment of pulmonary tuberculosis. The subscription for the congress is 100 lire, which is payable to the *Federazione Nazionale Italiana Fascista per la lotta contro la tubercolosi*, 12 Via Toscana, Rome. An exhibition of methods for dealing with tuberculosis will be held during the congress, which will be followed by excursions to Italian sanatoriums.

THE second quarterly issue of *Seuchenbekämpfung*, the Viennese journal dealing with the etiology, prophylaxis, and experimental treatment of infectious diseases in man and animals, is dedicated to Professor Richard Pfeiffer of Breslau, the discoverer of the influenza bacillus, on the occasion of his seventieth birthday.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the British Medical Journal alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the British Medical Journal must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the Journal, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the British Medical Journal are MUSEUM 9361, 9362, 9363, and 9364 (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

EDITOR of the BRITISH MEDICAL JOURNAL, Aitiology Westcent, London.

FINANCIAL SECRETARY AND BUSINESS MANAGER

(Advertisements, etc.), Articulate Westcent, London.

MEDICAL SECRETARY, Medisecra Westcent, London.

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Racillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

### QUERIES AND ANSWERS.

"COWAL" asks where he can find the best description of, or treatise on, orthodiagraphy of the heart and radioscopy of the chest and abdomen. He requires such an account as would appeal to the general physician with a special leaning towards cardiology.

#### HARDENING THE FEET.

DR. W. S. SODEN (Winchcombe) writes in reply to "H. R." (May 5th, p. 787): Soaking the feet in a 1 per cent. aqueous solution of picric acid hardens the skin well. A friend of mine always did this with a battalion in Sinai during the war with excellent results.

#### VITAGLASS.

DR. W. COLQUHOUN (Dunmurry, co. Antrim) asks whether there is any evidence for the assertion that vitaglass, after being subjected to the sun's rays for some time, becomes discoloured and impermeable to the ultra-violet rays.

#### INCOME TAX.

##### Purchase of Practice.

"H. K." bought a practice with a three months' introduction on equal sharing terms as from April 1st, 1928, and is taking a partner as from July 1st, 1928, on a three-fifths and two-fifths basis. How should his liability be assessed?

\* \* The gross assessment should be based on the amount of his predecessor's earnings for the previous year. This amount will be divisible thus:

Former proprietor 1/2 of 1/4...	...	...	=1/8.
Sell 1/2 of 1/4 + 3/5 of 3/4	...	...	=23/40.
Incoming partner 2/5 of 3/4	...	...	=3/10.

The appropriate personal allowances will, of course, be deductible from the respective shares. If the profits of the practice for 1928-29 should fall short of the profits for 1927-28 from some specific cause then "H. K." and his partner can claim an adjustment when the former amount is ascertained.

##### Motor Car Transactions.

"J. W. C." bought a car in June, 1924, for £300 and sold it in March, 1928, for £60, buying a car of a different make for £385. He claimed depreciation £40 for 1926-27 and £30 for 1927-28.

\* \* He can claim "obsolescence," but not "renewals," and also depreciation. The obsolescence claim should be for £300-£60-(£40+£30)=£170. (We are assuming that the depreciation was allowed, if it was not allowed the claim should be for £300-£60=£240.) The depreciation claim will be on £385 at 15 or 20 per cent.

"W. J." bought a car in 1922 for £863 and sold it in 1926 for £150, when he bought another for £1,922. He had another car, which he bought in 1914 for £688 and sold in 1927 for £20, buying in replacement another car for £319. What allowances can he claim?

\* \* Obsolescence allowance (1) as an expense of the year 1926, £863-£150=£713; (2) as an expense of the year 1927, £319-£20=£299. Depreciation allowance for the financial year 1927-28, £1,922 at 15 per cent.=£288, and for 1928-29 (£1,922-£288=) £1,634+£319—that is, £1,953 at 15 per cent., £293. It should, however, be stated with regard to the obsolescence allowance that in the circumstances the title thereto is not beyond dispute for years as for which depreciation is also claimed, and the claim for 1926 may be out of date.

### Depreciation on Car.

"RUSTICANUS" makes his accounts up to July 31st; he bought a new car on March 29th, 1928, and has claimed depreciation allowance for 1928-29 on the value of that car. The inspector of taxes, however, considers that the allowance should be made on the basis of the value of the car used at July 31st, 1927.

\* \* The course proposed by the inspector is the usual one and has been judiciously approved. In this case, however, there are some grounds for the view taken by our correspondent—for example, the unusual length of time elapsing between the close of his account and the commencement of the year for which the allowance is made. In the long run the difference should disappear, and the point is, perhaps, hardly worth pressing. One means of avoiding the result that has been reached would be to make the next professional account for the eight months to March 31st, 1928, and apply for the 1928-29 assessment to be made not on the agreed figures, but on the amount of the profit for those eight months plus one-third of the profits for the previous twelve months. On that basis the new car would automatically come into the depreciation calculation for 1928-29.

### LETTERS, NOTES, ETC.

#### THIRTY YEARS' SURVIVAL AFTER EXCISION OF TONGUE.

MR. J. MACKWEN (Glasgow) writes: The following extract from a letter sent me by Dr. J. Robson Turner, Paisley, is self-explanatory, and may prove of interest to some of your readers.

A patient told me he had been at the funeral of R. F., aged 81, who had an operation at your father's (Sir William Mackewen) hands for cancer of the tongue, thirty years ago. I thought the story so remarkable in the success of the operation, and the longevity of the patient, that I ought to draw your attention to it.

The man referred to by Dr. Turner had an excision of the whole tongue, together with the glands in the neck, performed as stated. He was said to have been of a silent disposition prior to operation, but he became very loquacious after it, and was ever ready to give the students examples of his powers of speech. It was generally believed in those days that removal of the tongue rendered the victim mute, and this patient's performance accordingly created much surprise. In those days likewise the phonograph was a comparatively recent and marvellous invention, and Dr. John Macintyre of Bath Street, Glasgow, took a record of this man's speech on a wax cylinder, using a recording needle, and, later, let my father and a visiting American surgeon friend hear the result over the telephone, which, likewise, was still something of a novelty.

#### SOME OLD MEDICAL BOOKS.

THERE were a few notable old medical books in Messrs. Hodgson's sale at their Chancery Lane rooms on May 16th, 17th, and 18th. Foremost in point of interest, perhaps, was a first edition of

Peter Lowe's "The Whole Course of briefly set downe the Cause, Signes, Curations of all sorts of Tumors, Wor- Dislocations and all other Diseases usually practised by Chirurgeons, according to the opinion of all our ancient Doctors in Chirurgerie," published by T. Purfoot in 1597. This book is not recorded in the Short Title Catalogue, so it must be extremely rare. There was also a copy of the "Regimen Sanitatis Salerni," the English translation by Thomas Paynell, published in 1575; and another of the sixteenth century, probably earlier than the foregoing, was the "Practica Geraldii de Solo super uno Almansoris." Of the seventeenth century may be noted a late edition (1626) of Thomas Vicary's "English-man's Treasure, with the true Anatomie of Man's Body, wherunto are annexed many secrets appertaining to Chyrurgerie"; W. Bale's "Briefe Treatise touching the Preservation of the Eyesight" (1654); "A Short Treatise showing the causes and remedies of that General Disease... termed by many the Plague of the Guts; but it is very probable to be the Dysenteria, or Red Flux," by N. H. (1658); "Fons Salmis, or the Fountain of Health Opened," by T. Monison (1665); and one or two others of minor interest.

#### SEA-SICKNESS AND TRAIN-SICKNESS.

"M.D." writes: To those who are prone to suffer from *mal de voyage*, whether in trains, steamers, or in motor cars, there is one simple precaution which I can recommend—namely, that for several hours before and during their travel they should avoid partaking of tea and eggs. Several people by doing so have been able to undergo in comfort and even with enjoyment journeys which, taken after a meal containing either tea or eggs, and, worst of all, both, have produced severe nausea and sickness. I hope this information may enable many others to enjoy journeys which in the past have been only painful necessities to be endured.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 52, 53, 54, 55, 58, 59, and 60 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenancies at pages 56 and 57.

A short summary of vacant posts notified in the advertisement columns appears in the Supplement at page 219.

# PULMONARY ASBESTOSIS IN SOUTH AFRICA.

(With Special Plate.)

BY

F. W. SIMSON, M.B., CH.B.ED.,

PATHOLOGIST AT THE SOUTH AFRICAN INSTITUTE FOR MEDICAL RESEARCH,  
JONANNESBURG.

It has been known for some time that workers exposed to the dusty atmosphere arising from some processes involved in the preparation of asbestos materials suffer from pulmonary disability. The mining of the mineral itself is probably not a source of danger, as asbestos is mined mostly in open quarries. After sorting, there remains waste rock which still contains fibre in payable quantity. Crushing of this rock causes a considerable degree of dust exposure, and exposure to the dusty atmosphere is still more exaggerated in the carding and spinning of asbestos in the mills.

Very little concerning the pathological changes in the lungs of persons working with asbestos has been found in the literature, and it was thought that a record of the following cases might be of interest.

On September 2nd, 1926, the medical officer of an asbestos mine in Southern Rhodesia forwarded to the South African Institute for Medical Research three small specimens of lung from a *post-mortem* case for histological examination.

## CASE I (No. 9026).

The subject was a male adult native, who had worked for twelve months in the asbestos mill, and, except for a short period before his death, had had a good record of health. For nine weeks before death he suffered from acute tuberculosis, and the *post-mortem* findings showed miliary tuberculosis involving the lungs, liver, spleen, and pericardium. The object of the histological examination was to ascertain if there was any evidence of fibrosis in the lungs which might be directly ascribed to the nature of his employment, since workers in the mill are exposed to a very dusty atmosphere.

Apart from the tuberculosis and associated fibrosis, sections of the lungs showed a certain amount of connective tissue change which had no obvious connexion with the tuberculous process. It was also found that curious golden yellow segmented structures, with rounded or club-shaped ends (Fig. 1), were embedded in this fibrous tissue, together with very minute, doubly refractile particles, the latter presumably silica. Although the curious segmented bodies were remarked upon, no further investigation was carried out at the time, and the new-formed fibrous tissue was attributed to the presence of silica.

## CASE II (No. 11016).

It was not until September 29th, 1927, when a portion of lung from a second case was sent by the medical officer from the same mill, that the foreign bodies and fibrosis were more fully investigated. This piece of lung was from a male adult native who had been employed in the mill for a period of two years. About September, 1926, he was admitted to hospital suffering from pneumonia, and had a long illness. He was discharged, and later (September 19th, 1927) readmitted in a dying condition. He was very emaciated, and had the physical signs of pulmonary tuberculosis with fibrosis. At autopsy the lungs were firmly bound down by adhesions, the root glands enlarged and hard, and the lungs on section hard and fibrous with an almost leather-like consistence. The mesenteric glands were also considerably enlarged.

Histological sections showed a generalized but moderate degree of fibrous thickening of the pleura, trabeculae, and alveolar walls. In addition, there was a much more marked fibrosis arranged in irregular-shaped nodules, chiefly related to the blood vascular system and bronchi. This fibrous tissue was cellular, the elements arranged in an irregular manner, and included some small lymphocytic accumulations (Fig. 2). There was no resemblance to the orderly, whorled arrangement and sharp definition of the silicotic nodule (Fig. 3). The bronchi were the seat of slight catarrhal changes, and many of the alveoli contained "dust cells" filled with phagocytized particles. There was no evidence of tuberculosis or acute pneumonic consolidation. Embedded in the fibrous tissues, lying free in alveoli (Fig. 4), and contained in phagocytic cells, there were numerous golden yellow segmented bodies (Figs. 5 and 6), a few large angular black bodies, and very minute doubly refracting particles. Phagocytosis was a very striking feature. Large numbers of the bodies were contained within ordinary mononuclear cells and irregular-shaped multinucleated giant cells

(Fig. 7). Phagocytosis was not confined to the smaller particles, but even large rods were seen completely enclosed and often bent in order to allow them to occupy the space within the cells (Fig. 7). It was thought that these foreign bodies, together with the crystalline matter, may have been the cause of the fibrosis, as the connective tissue, both in distribution and formation, was very suggestive of changes resulting from a dust occupation of the lungs. At the same time the history of pneumonia and protracted recovery must be taken into consideration, since an unresolved pneumonia with subsequent fibrosis is not an uncommon occurrence amongst natives working on the mines in South Africa.

## CASES III AND IV (Nos. 6419 and 6731).

Consultation of the records and previous histological sections of material from the same mine has revealed two additional cases, both of which showed lobar pneumonia. There was very little connective tissue increase, but the unusual structures (Fig. 8) and refractile crystalline particles were present. No history of length of service in the mill was obtained with either of these cases.

Further study of the golden yellow bodies showed a variety of shapes, but the most common forms had rounded or club-shaped ends and a segmented body tapering to a finely pointed tail. They were non-refractile to polarized light, soluble in strong acids, and, on raising to a red heat, turned black and tended to lose their outline. In sections treated with hot dilute hydrochloric acid and potassium ferrocyanide they gave a well-marked Prussian blue reaction. No pigment except these structures giving the iron reaction could be detected in the sections examined. Strong hydrochloric acid, having been tested for the presence of iron and found negative, was used to dissolve out iron from fresh sections. After treating the sections the hydrochloric acid gave a very distinct red-pink colour with potassium thiocyanate, and the red-pink colour disappeared on the addition of a solution of mercuric chloride. The sections were re-examined and showed that the majority of the golden yellow bodies had been dissolved out. From these tests it was concluded that the structures contained a large percentage of iron.

As controls, sections of lungs from a large number of miners on the Rand who had died from silicosis and tuberculosis were examined. Bodies such as have been described above were found in none of these, nor was the Prussian blue reaction or other test for iron positive except in those cases where the pigment was obviously of haematogenous origin. A single case of a miner was also investigated; he had worked for twenty-eight years in the haematite mines in the North of England, and subsequently for seven and a quarter years in the gold mines of the Rand, South Africa. The cause of death was carcinoma of the gall-bladder. Macroscopically the pulmonary root glands were enlarged, pigmented, and fibrosed. The pigment was dark rust-coloured and gave a marked Prussian blue reaction with dilute hydrochloric acid and potassium ferrocyanide. Occasional rust-coloured subpleural islets were visible. On section the lungs showed a slight diffuse fibrosis and a few large areas of fibrosis. The whole lung gave a marked iron reaction. Histological sections of the large areas showed moderately well defined, but irregularly shaped, masses of well-formed acellular fibrous tissue (Fig. 9). The alveolar walls were slightly thickened, and there was a moderate degree of connective tissue increase round the blood vessels and bronchi. A large quantity of pigment of a reddish-brown colour was contained in phagocytic cells and lying free in alveoli, alveolar walls, and between the fibres of the newly formed fibrous tissue. The greater part of this pigment gave the iron reaction. In addition, there was another variety of pigment, in much smaller quantity, in the form of crystalline refractile particles. The latter was intimately mixed with the iron-containing dust. This lung was especially examined to determine, if possible, whether the same peculiar bodies were being formed from a deposit of ferric iron dust as in the case of an asbestos dust which contained both ferrous and ferric iron. A careful and thorough search was made, but no particles with a similar appearance were detected (Fig. 10). At the time of the patient's death this case of ironstone phthisis was complicated by underground work in the gold mines on the Rand, but in 1919 it simulated, by x-ray photography and physical examination, an early case of silicosis;

and confirms the findings of Sir Kenneth Goadby<sup>1</sup> and Dr. Cronin.<sup>2</sup>

In addition to the human lungs showing asbestosis, Dr. Mavrogordato of the South African Institute for Medical Research has supplied me with the lungs of a guinea-pig which died in December, 1927, from causes other than asbestosis. This animal was exposed to an asbestos dust atmosphere experimentally. The length of exposure was two hours a day on each of fifty days. The first exposure took place on February 4th, 1925, and the last on April 1st of the same year. The asbestiform compound used for the experiments was a chrysotile<sup>3</sup> obtained from the mine in Southern Rhodesia. Histological sections showed a slight generalized fibrosis and an increase in pigment, but the interesting feature was the presence of the golden yellow bodies (Fig. 11), similar to those seen in the lungs of human pulmonary asbestosis.

A comparison between the human cases and the experimental animal showed that the fibrosis was more rapid and extensive in the human cases than in the experimental animal. This is readily explained by the difficulty in reducing the tough asbestos fibre to a uniformly fine powder, and to the presence of a comparatively small proportion of the rock dust which is usually associated with asbestiform compounds. For "dusting" animals a limited amount of dust is available, and of this only a small proportion contains particles of sufficiently small dimensions to permit of their reaching the lung alveoli. In silicosis<sup>4</sup> the size of the majority of the particles<sup>5</sup> which reach the alveoli is between  $1\mu$  and  $3\mu$ ; in the haematite lung, mentioned above, the particles appear larger, but even here are much smaller than the greater number of those prepared from asbestos for "dusting" experiments. In the working mill the conditions are very different from an asbestos dust atmosphere produced experimentally. Fine dust is continuously reaching the atmosphere, and only the very fine particles remain suspended for any length of time. These gradually increase in numbers until a maximum concentration is reached, then remain more or less constant during working hours. Thus it will be seen that, in order to produce changes in experimental animals showing the same degree of fibrosis in the same length of time, an atmosphere approximating that of the working mill will have to be obtained.

The amount of fibrosis in two of the human cases (Cases I and II) was quite definite, and, if due to the presence of asbestos dust, the initial rate of production was rapid when compared with present-day non-infective silicosis on the Rand. It is difficult to state a definite time for the production of an appreciable degree of fibrosis in pure non-infective silicosis, but modern observation tends to show that it is in the neighbourhood of ten years. In Case I a moderately marked fibrosis had taken place after one year of work in the mill, but this was complicated by tuberculosis. It is known that the rate of fibrous tissue production is very much greater in dust diseases complicated by infections, but even allowing for this the connective tissue increase in Case I was rapid. In Case II there was a still more definite fibrosis after two years of work in the mill with no evidence of tuberculosis.

Before this work was completed Drs. Cooke,<sup>6</sup> Stuart McDonald, and Oliver<sup>7</sup> published their papers dealing with pulmonary asbestosis, and previous to that a short article on the same subject appeared in the *Lancet*. The similarity between the case described and ours was suspected when the first article appeared, and our work goes far to confirm the findings. As in those recorded here, the asbestos dust responsible for the changes in the lungs in their case was a chrysotile. Whether other asbestiform compounds are capable of producing these changes it is impossible to say, as there appears to be no record of any such cases in the literature.

In the Union of South Africa<sup>8</sup> and Rhodesia there are many asbestos mines, from some of which chrysotile is obtained, but two other interesting varieties are found—namely, crocidolite and amosite. Amosite is a comparatively recent discovery, the chemistry of which has not been completely worked out, but it appears to be somewhat similar to crocidolite in composition. Both these com-

pounds contain a large percentage of ferrous iron. Analysis of four samples of amosite<sup>9</sup> showed between 32 and 44 per cent. of FeO, and eight samples of crocidolite<sup>10</sup> between 16.5 and 40.5 per cent. Up to the present there has been no examination of *post-mortem* material from cases of death among those working in mills where these minerals are treated. No such material has been made available.

Chrysotile or serpentinite asbestos usually contains 2 to 3 per cent. of FeO isomorphously replacing magnesia. The analysis of Dr. Cooke's case showed 3 per cent. of FeO, and the Rhodesian mineral, according to Mr. A. L. Hall,<sup>3</sup> 2.44 per cent. Dr. McCrae of the Government Chemical Laboratory, Johannesburg, analysed the FeO content of the asbestos used by Dr. Mavrogordato in his animal experiments, and found a much lower percentage—namely, 0.45. Apparently even with very small percentages of FeO the golden yellow bodies are formed in the lungs.

With regard to the unusual structure and chemical nature of the golden yellow bodies found in the lungs in pulmonary asbestosis, until many more cases have been examined and more experimental work has been done very little can be stated. There is no doubt that they are in some way associated with the asbestos, or, probably, more particularly with the FeO content, either of the asbestos itself or of the dust of the mill. This dust contains a much higher percentage of iron, which may be derived partly from the lode from which the asbestos is mined.

Three possibilities regarding the formation of the golden yellow bodies are worthy of mention:

(1) In the form of a gel, as suggested by Dr. Stuart McDonald.

(2) As particles of ferruginous quartz formed in the lungs under conditions similar to weathering, or ferruginous quartz changed in composition as a result of combination with constituents of the body fluids. In support of this it may be mentioned that crocidolite, which is an alkali silicate with ferrous iron, is especially liable to decomposition when exposed to weathering. Sodium is removed, the iron oxidized and hydrated to form limonite, and silica set free; there then results a ferruginous quartz which possesses the finely fibrous structure of the original mineral. It is extremely hard, and coloured a rich golden yellow. It is possible that a change such as this occurs with the small quantity of ferrous iron associated with chrysotile, and the colour of the bodies in the lungs is very suggestive.

(3) Phagocytosis of these structures is a very prominent feature in the lungs, and it was thought that the action of these cells may have been responsible, first, for some change in chemical composition, then a building up and moulding into the various shapes seen.

The fibrous tissue change in the lungs of the above-mentioned cases of workers in asbestos mills is probably the result of a reaction on the parts of the tissues to both the golden yellow bodies and a small quantity of silica.

Sufficient cases of pulmonary asbestosis have not been recorded to base an opinion upon the liability to secondary infection by specific inflammatory processes such as tuberculosis, but it is very suggestive that two of those now recorded, which have been examined histologically, have shown tuberculosis complicating the changes produced by an asbestos dust occupation of the lungs.

Besides these cases there is still further evidence in favour of tuberculosis being a complicating factor.

Dr. H. M. Murray reported a fatal case in the *Charing Cross Hospital Gazette* in 1900; and in the United States of America, from one source,<sup>11</sup> during the period 1907 to 1914 there were 13 deaths, 3 of which were from tuberculosis.

In 1910 Dr. Collis<sup>12</sup> reported on the relationship of asbestos dust to pulmonary tuberculosis, and found that 5 deaths from phthisis had occurred in five years amongst a staff of less than forty workers employed at a factory where asbestos is woven.

In conclusion, I wish to record my thanks to Dr. Mavrogordato for data and material from an experimental animal; to Dr. Irvine, chairman of the Miners' Phthisis Medical Bureau, Johannesburg, for material from silicotic cases and from the lungs of a haematite miner; to Dr. McCrae for his analysis of the FeO content of a sample of asbestos; and to Mr. P. Longmore for his valuable assistance in preparing the microphotographs.



FIG. 1.—Pulmonary asbestosis (Case I). Golden yellow bodies lying in the centre of a nodule of young fibrous tissue. ( $\times 850$ .)

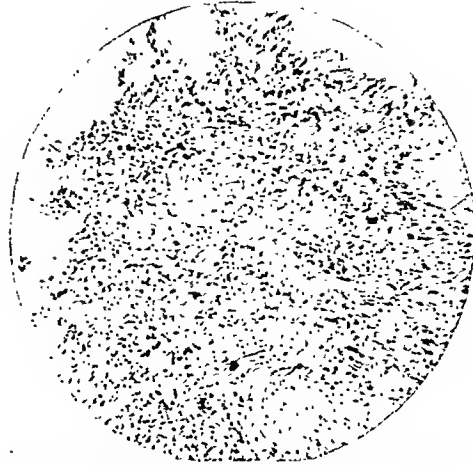


FIG. 2.—Pulmonary asbestosis (Case II). Irregular fibrotic nodule showing a moderate degree of cellularity. The bodies embedded in this tissue are just visible. ( $\times 250$ .)



FIG. 3.—Silicosis. Nodule showing orderly whorled arrangement and sharp definition characteristic of this type of fibrosis. ( $\times 250$ .)

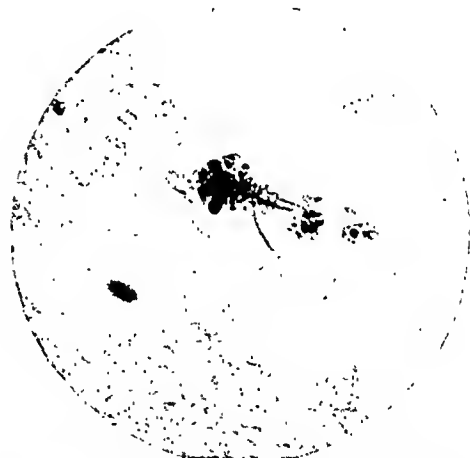


FIG. 4.—Pulmonary asbestosis (Case II). Small phagocytes containing granular dust and golden yellow bodies. One large body is lying free in the alveolus. ( $\times 850$ .)



FIG. 5.—Pulmonary asbestosis (Case II). Large golden yellow structures with globular ends and segmented body tapering towards one end. ( $\times 850$ .)

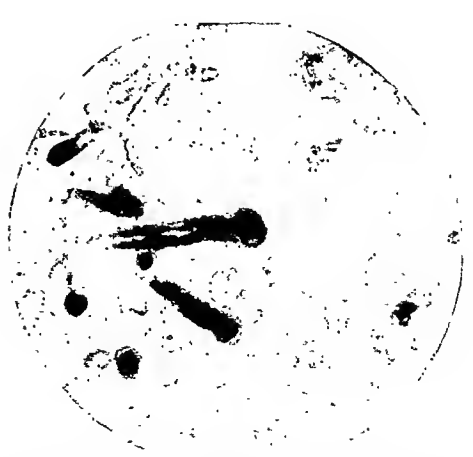


FIG. 6.—Pulmonary asbestosis (Case II). Large golden yellow structures with globular ends and segmented body tapering towards one end. ( $\times 850$ .)



FIG. 7.—Pulmonary asbestosis (Case II). Alveolus showing several large multinucleated giant cells containing golden yellow bodies. ( $\times 850$ .)



FIG. 8.—Pulmonary asbestosis (Case III). This lung showed acute pneumonic consolidation. Golden yellow bodies in phagocytic cells and lying free in an alveolus. ( $\times 850$ .)

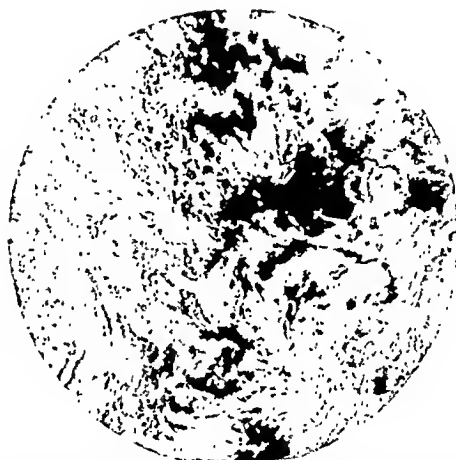


FIG. 9.—Haematite miner's lung. Showing well-formed acellular fibrosis and large masses of granular pigment. The greater part of this pigment gave the iron reaction. ( $\times 425$ .)

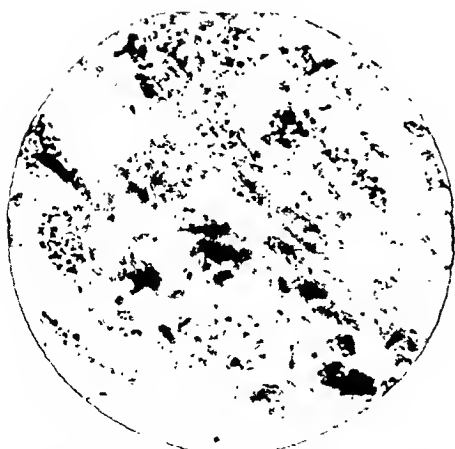


FIG. 10.—Haematite miner's lung. Showing appearance of ironstone dust and absence of golden yellow bodies. ( $\times 850$ .)



FIG. 11.—Lung of experimental animal. Showing golden yellow body and small phagocytes containing granular dust. ( $\times 850$ .)



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## ABDOMINAL PAIN AS EXEMPLIFIED IN ACUTE APPENDICITIS:

### A CLINICAL AND BIOLOGICAL CONSIDERATION.\*

BY

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### THE EVOLUTION OF OUR KNOWLEDGE OF ABDOMINAL PAIN.†

ALMOST the first considerable contribution to our knowledge of the mechanism of abdominal pain was made by J. Ross of Manchester<sup>1</sup> in 1887. Ross held that there were two kinds of pain in visceral disease—true splanchnic pain, felt in the affected organ; and associated somatic pain, referred to the cerebro-spinal nerves of the body wall. Lonnander<sup>2</sup> established the insensibility of the exposed gastro-intestinal tract to the ordinary painful stimuli, and attributed all abdominal pain to stimulation of nerves in the sensitive parietal peritoneum. Mackenzie, whose views form the orthodox teaching of the current textbooks, accepted Ross's views on somatic pain, but rejected splanchnic pain as non-existent. He believed that painful stimuli passed from the viscera through the afferent splanchnic nerves to the spinal cord, but were only appreciated by the brain as arising from the sensory nerves of the parietes. Mackenzie's theories of a viscerosensory and visceromotor reflex have been widely accepted, and will be discussed later. Hurst<sup>3</sup> in 1911 published observations which have restored our belief in true splanchnic pain; he proved that this type of pain is produced by a single adequate stimulus—namely, increased tension in the muscular wall of the viscus concerned. Yet Hurst does not reject Mackenzie's views on the viscerosensory and visceromotor reflex mechanism.

My purpose in this paper is to discuss the light which a study of acute appendicitis throws on the mechanism of abdominal pain; and since Mackenzie's theories were based very largely on his observations in cases of appendicitis, this disease may reasonably be used to test those theories.

### THE TWO PAINS IN APPENDICITIS.

The conventional teaching on the pain in acute appendicitis is that the attack is ushered in by pain referred to the region of the umbilicus or a little above it, and that after a few hours the pain becomes localized in the right iliac fossa or moves down into that region.

#### The Initial or Central Pain.

The first point that I wish to emphasize is that the initial pain is entirely different in character and in its mode of origin from the pain which appears in the right iliac fossa a few hours later. The initial pain is felt in the centre of the abdomen, and though the patient may refer it to the mid-line at or above the umbilicus, he often describes it as "all across," sweeping his hand evenly across the central region of the abdomen. It is, in short,

very imperfectly localized. The pain is often described by the patient as "like an ordinary bellyache, but more severe." It is frequently gripping in character and varies in intensity; the more severe spasms usually occur at more or less regular intervals, and last for a few seconds, during which the patient moans and writhes restlessly in bed. This early pain is entirely unassociated with any tenderness on palpation, and the patient may rub or press on his abdomen in a vain attempt to secure relief—a thing that he never does when the second pain has appeared.

This initial pain in appendicitis is, I believe, a true splanchnic pain, and, like all true splanchnic pain, is due to increased tension on the muscular wall of the viscus concerned. Some degree of obstruction to the lumen of the appendix, causing retention of inflammatory exudate distal to the obstruction, is an essential factor in its production. Sometimes—in fact, it is almost the rule in the most fulminating cases—we find a hard, laminated faecal concretion engaged in the relatively narrow base of the appendix, while distal to it a collection of foul pus under great tension runs the concretion home into the base. In this condition, so well described by Wilkie<sup>4</sup> as acute appendicular obstruction, the central pain in the umbilical region continues until general gangrene or localized perforation of the appendix relieves the tension within it and the pain disappears. In other cases a stricture at the base, the result of some former ulceration, gives rise to the same sequence of events. In others a kinking at the base combines with inflammatory swelling of the mucosa to occlude the outlet into the caecum. In yet rarer instances a foreign body is the occluding agent. A critical examination of the specimens removed in a large number of cases of early appendicitis has convinced me that wherever this splanchnic pain is present some degree of obstruction to the lumen, with retention of inflammatory exudate under tension beyond it, will be found. It is possible that the inflamed condition of the appendix lowers the threshold of painful stimulation and allows a relatively slight distension to cause pain; but without increased tension visceral pain is impossible.

Under certain conditions recurrent attacks of appendicitis may occur in which this splanchnic central pain is the only evidence of the disease, and great difficulty in diagnosis results. A striking instance of this difficulty was afforded by a man, aged 21, who gave a history of four severe attacks of epigastric pain, each lasting for a few hours, during the course of four months. There had been neither tenderness nor muscular rigidity during the attacks. Exploration a week after the last attack showed that the only viscus affected was the appendix, which was swollen and congested in its distal portion. There was a narrow stricture at the base, and, distal to this, a collection of thick yellow pus. In the ten months that have passed since the operation there have been no more attacks.

It is evident that this patient was suffering from recurrent attacks of acute obstructive appendicitis of too mild a type to cause perforation, and that his pain was of the pure splanchnic appendicular type. The reason for the entire absence of local pain and rigidity I shall discuss later, when dealing with the second pain. The brief intermittent colicky attacks of central abdominal pain so common in children, and described by physicians as "umbilical colic," are very commonly due to spasmodic efforts to expel a concretion or a nest of threadworms from the appendix, and form another example of pure splanchnic pain.

Although the splanchnic pain in acute appendicitis is felt in the umbilical or lower epigastric region, and not in the region of the appendix, it should not be described as referred or reflected pain, as no radiation of pain or reflex process is involved. The appendix is developmentally a part of the mid-gut loop. The brain can only appreciate painful stimuli arising from any portion of the mid-gut as vaguely situated in the centre of the abdomen, and stimuli of appendicular origin are no exception to the rule. It is characteristic of this splanchnic pain that it is dull and aching in character—as patients express it, "like an ordinary bellyache"—and vaguely localized; in other words, it is a form of Head's protopathic pain.

\*A short paper read at the Royal Infirmary, Manchester, and published in the *Lancet* abridged.

*The Second or Localized Pain.*

A few hours after the onset of the acute attack the second pain makes its appearance in the right iliac fossa. The initial splanchnic pain is usually still present, but it tends, either gradually or suddenly, to sink into insignificance. The new pain is entirely different in character from its forerunner. It is localized, severely at first, to the right side. It has a sharp or stabbing character. Any movement of the abdominal muscles, as in deep breathing, vomiting, or coughing, accentuates the pain, and the right iliac fossa becomes exquisitely tender on palpation. The patient no longer writhes in pain, but lies still in bed, resenting any movement and even complaining of the pressure of the bedclothes. The respiratory excursions of the lower abdominal wall are now increasingly limited.

Since the cutaneous and muscular phenomena interpreted by Mackenzie as the viscerosensory and visceromotor reflex have received such general attention, we must now consider them in detail.

**CUTANEOUS HYPERALGESIA IN ACUTE APPENDICITIS.**

Mackenzie's theory of a viscerosensory reflex was based on his observation that in certain abdominal diseases areas could be mapped out in which the skin of the abdominal

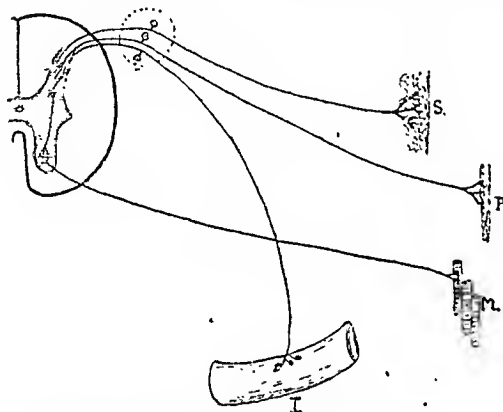


FIG. 1.—To illustrate Mackenzie's theory of a viscerosensory and visceromotor reflex. S=Skin. M=Abdominal muscles. P=Parietal peritoneum. I=Intestinal tract.

wall could not be lightly pinched up and drawn away from the underlying muscles without evoking pain. Impressed by the similarity between these areas and the skin areas mapped out by Head in cases of herpes zoster Mackenzie made the assumption that afferent stimulation through the splanchnic nerves from the inflamed viscera caused an irritable focus in its own centre of grey matter in the cord, as a result of which the sensory nerves from the skin supplied by the same spinal segment became excessively irritable. (Fig. 1.) Stimuli, such as a light pinch of the skin, which normally cause no pain, in the presence of visceral inflammation, so Mackenzie taught, become painful. Then, regarding his viscerosensory hypothesis as proved, he next argued that from these hyperalgesic areas we could, by comparison with Head's diagrams, deduce the segmental innervation of the affected viscera. He also laid great stress on the value of these areas of hyperalgesia in the diagnosis of acute abdominal catastrophes.

Sherren<sup>5</sup> attempted to systematize the matter by investigating the hyperalgesia present in a series of 124 cases of acute appendicitis. He found cutaneous hyperalgesia in 40 of these, and described a cutaneous triangle of hyperalgesia over the right iliac fossa in a majority of the positive cases. Sherren's views as to the mechanism of this reflex clearly conform closely with those of Mackenzie, for he believes that hyperalgesia is never present where the appendix is gangrenous or perforated, and goes so far as to teach that disappearance of the hyperalgesia may constitute an important indication for immediate operation. He also states that cutaneous tenderness does not vary with the position of the appendix.

It appears to me necessary to consider two points in connexion with hyperalgesia in acute appendicitis—namely, its value in diagnosis, and the mechanism of its production.

*The Value of Hyperalgesia in Diagnosis.*

There is a marked discrepancy between the statements of different observers as to the frequency of hyperalgesia in acute appendicitis. Sherren, in 124 cases, found hyperalgesia in 40, or 32 per cent. Robinson,<sup>6</sup> in 123 cases, found hyperalgesia in 26, or 21 per cent. Zachary Cope<sup>7</sup> found hyperaesthesia (not amounting to pain) in 110 of 185 cases, or 59 per cent. Further, both Robinson and Cope differ from Sherren in finding that hyperalgesia and hyperaesthesia occur quite frequently with a gangrenous or ruptured appendix, and with this opinion my own observations are in full agreement.

A phenomenon that can be detected by different observers with a frequency that varies from 21 to 59 per cent. would appear to be of but little help in diagnosis. Unless, given certain pathological conditions in the appendix, hyperalgesia can be detected as a constant phenomenon, I hold that it is merely of academic interest.

A further consideration which invalidates hyperalgesia as an aid to diagnosis is the extreme frequency with which it can be elicited over the appendix in the neurotic abdomen, or those cases simulating chronic appendicitis, where on exploration no evidence of organic disease in the appendix or any adjacent organ can be found.

*The Mechanism of Production of Hyperalgesia.*

All observers are agreed that when hyperalgesia is present in acute appendicitis it is found, in the vast majority of cases, in some part of the right iliac fossa only. If we accept Mackenzie's hypothesis that it is due to stimuli arising in the appendix and travelling by way of the splanchnics to the spinal cord, we should expect it, however, to be bilaterally symmetrical. The appendix is a portion of the embryonic mid-gut loop. It becomes fixed in the right iliac fossa relatively late in the development of the embryo, and long after it has received its splanchnic innervation. As a developmentally median organ its nervous connexions are presumably with both sides of the spinal cord, and consequently Mackenzie's hypothesis as to the origin of the hyperalgesia would appear to be at variance with anatomical evidence. Zachary Cope, in the article quoted previously, suggests that irritation of the sensitive parietal peritoneum may in many cases determine the presence of right-sided hyperaesthesia, yet he goes on to argue that some evidence is furnished by his cases to show that the appendix is supplied mainly by the tenth dorsal segment; thus he tacitly accepts Mackenzie's viscerosensory reflex.

My own conclusions are that the hyperalgesia is a phenomenon in which the splanchnic afferent nerves take no part. I believe that the nerves of the exquisitely sensitive parietal peritoneum affect their cutaneous branches by radiation, and that the process is precisely analogous

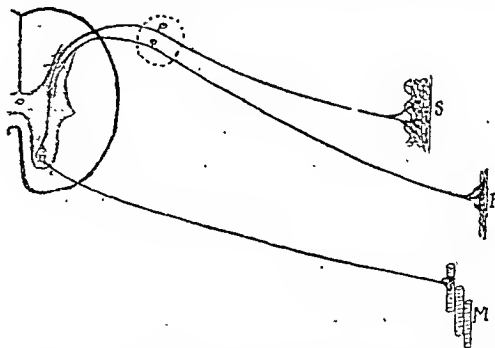


FIG. 2.—To illustrate the mechanism of peritoneo-cutaneous radiation, and the peritoneo-muscular reflex. S=Skin. M=Abdominal muscles. P=Parietal peritoneum.

with the cutaneous hyperalgesia along branches of the fifth cranial nerve so often present in toothache. (Fig. 2.) The communication or synapsis rendering this radiation possible probably takes place in the posterior root ganglia of the nerves concerned. On account of its inconstancy, however, the practical value of hyperalgesia in clinical medicine has been greatly overestimated.

### MUSCULAR RIGIDITY IN ACUTE APPENDICITIS.

We have, however, in connexion with the localized pain of acute appendicitis an objective phenomenon of prime importance because of its constancy under certain well-defined conditions. This is the deep tenderness on gentle palpation with the flat of the hand over the appendix, associated with reflex and involuntary muscular rigidity. In order to appreciate the extent and degree of this muscular rigidity it is necessary to have the patient lying at ease on his back, with the head well supported on a pillow. Gentle pressure with a warm hand on the unaffected left iliac fossa through a full respiratory cycle gives a standard of comparison. The hand is then transferred to the area of pain in the right iliac fossa, and again exerts gentle pressure through one or more respiratory cycles. The hard, unyielding contraction of the affected area of the flat muscles, the corresponding immobility of the muscle in full expiration, and the marked tenderness on pressure over the contracted muscle can then be readily appreciated and the extent of the rigidity determined. The area of muscular rigidity and tenderness corresponds accurately with the area to which the patient points when asked to indicate the position and extent of his pain.

### The Value of Muscular Rigidity and Tenderness in Diagnosis.

By noting the exact position and extent of the muscular rigidity and tenderness in an early case of appendicitis, at a stage when the initial splanchnic pain has given place to the sharper pain in the right iliac fossa, but before perforation and spreading peritonitis have confused the picture, it is possible to predict with the greatest accuracy the position in which the inflamed appendix will be found. When the appendix is curled up on the outer side of the caecum the maximum rigidity is found close to the anterior superior iliac spine; when the appendix is pointing upwards towards the spleen the maximum rigidity is nearer to the umbilicus than the conventional McBurney's point. In the rare undescended caecum the maximum rigidity is higher than usual, and corresponds with a point just below the lower margin of the right lobe of the liver. Where the appendix hangs over the brim of the pelvis the rigidity is in the lower part of the rectus muscle, well below and internal to a line joining the anterior superior spinae and the umbilicus. With a prolapsed caecum which has dropped low into the pelvis there may be no rigidity or tenderness on palpating the abdominal wall; but in such a case rectal examination will usually reveal marked tenderness on pressure by the finger from within towards the right side of the rectum. In this early stage the accuracy with which the inflamed appendix can be located is remarkable. One striking instance will suffice.

A woman, aged 50, became ill with "pain in the umbilical region and vomiting. When seen fifteen hours after the onset there was no abdominal rigidity or tenderness, but on rectal examination pressure towards the right wall of the pelvis caused intense pain. I diagnosed an inflamed pelvic appendix. For domestic reasons some delay ensued, and I saw her again twelve hours later. She had now typical tenderness and rigidity in the right iliac fossa, while the tenderness per rectum had almost disappeared. I remarked before operating that she must have a very mobile caecum, which had moved up out of the pelvis between my two visits, dragging the appendix with it. Operation disclosed precisely that condition. The caecum was so loosely attached that it could be lifted through the wound six inches above the abdominal wall, and the appendix, which was long and free from effective adhesions, was acutely inflamed and covered with flakes of plastic lymph. The appendix and caecum were found lying in the iliac fossa well above the brim of the true pelvis. From the condition found I have no doubt that the change in position that I had predicted had actually taken place.

### THE MECHANISM OF REFLEX MUSCULAR RIGIDITY AND ASSOCIATED DEEP TENDERNES.

The arguments that I have advanced against Mackenzie's hypothesis of a viscerosensory reflex apply with an even greater cogency to the theory of a visceromotor reflex by which he attempted to explain the phenomenon of protective rigidity in appendicitis. The almost invariably unilateral position of the rigidity makes the agency of the splanchnic nerves improbable, because, as I have argued above, the appendix is developmentally not a right-sided but a median organ; and the far greater constancy of muscular rigidity than of cutaneous hyperalgesia in acute

appendicitis lends greater strength to this argument. Mackenzie himself appreciated the difficulty, as he admits in his work on *Symptoms and their Interpretation*, where he says (p. 175, fourth edition): "I cannot satisfactorily account for the predominant symptoms from the appendix being so distinctly one-sided, seeing that it is developmentally a portion of the digestive tube." But even if we could accept the tacit assumption underlying Mackenzie's theory that there is a specially intimate connexion through the splanchnic nerves between the appendix and the right side of the spinal cord, how are we to reconcile it with the fact—which I have so many times verified—that the area of muscular rigidity and deep tenderness corresponds exactly with the position of the appendix? If the visceromotor reflex were a fact, the muscular rigidity produced by it would be constant in position, since it would be determined by the segmental innervation of the appendix, and would be entirely unaffected by the position in which the appendix happened to be lying in relation to the abdominal wall.

I find, then, that the clinical investigation of the distribution of muscular rigidity in appendicitis reveals facts that are entirely inconsistent with Mackenzie's visceromotor reflex theory. Nor am I aware of any physiological experiments which make it probable that such a reflex exists, nor of any anatomical evidence of a communication in the cord between splanchnic afferent and somatic efferent motor fibres. The whole theory appears to me to be an unsound extension of Ross's theory of somatic referred pain, based upon a mistaken interpretation of clinical and operative findings. Mackenzie did not appear to appreciate the exquisite sensitiveness of the parietal peritoneum to even slight degrees of inflammation. Had he done so I believe that so acute a mind as his would have perceived that in a peritoneo-muscular reflex lies the explanation of this protective muscular rigidity, and that the splanchnic afferent nerves have nothing to do with the reflex rigidity in appendicitis.

The cumulative effect of correlating pre-operative symptoms with operative findings in acute appendicitis has convinced me that the second or localized pain in the disease is entirely dependent on stimulation of the sensitive parietal peritoneum. (Fig. 2.) In cases such as the first one quoted above, where recurrent attacks of obstructive appendicitis gave rise to the epigastric splanchnic pain alone, the parietal peritoneum was shielded from the appendix by a fairly thick omentum; and as the degree of inflammation was too mild to penetrate through the thick walls of the appendix and the omentum the parietal peritoneum was not affected. This explains the complete absence of localizing pain or rigidity, and the difficulty in diagnosis. An appendix wrapped round by omentum and coils of small intestine as a result of some former attack will, in fat patients, often give rise to no characteristic right-sided pain or rigidity until it has perforated. This absence of rigidity is particularly liable to occur if the caecum and appendix are lying low in the true pelvis. But a degree of inflammation so slight as to cause but a little congestion of the outer serous coat of the appendix and a trifling fibrinous deposit will, provided it lies within reach of the parietal peritoneum, cause the most accurately localized tenderness and rigidity. Should perforation occur the rigidity and tenderness extend *pari passu* with the inflammation of the parietal peritoneum, while from the moment of perforation all the initial splanchnic pain disappears.

### THE PERITONEO-MUSCULAR REFLEX AND PERITONEO-CUTANEOUS RADIATION.

Since the parietal peritoneum is supplied by the same cerebro-spinal nerves as the overlying muscles and skin, the accuracy with which an inflammatory stimulus from within the abdomen is localized can be easily understood. It is necessary, however, to insist that a true nervous reflex mechanism through the governing centre in the spinal cord is involved. The tonic contraction of the affected area of muscles, recognized on palpation as a hardness that never relaxes during the whole respiratory cycle, makes it impossible for us to believe that we are pressing on the inflamed parietal peritoneum itself. The pressure required to appreciate the muscular rigidity is too light to have any

influence of that kind, and even on inspection alone the tonic muscular contraction may readily be appreciated, if we observe the limitation of respiratory movements in the lower rectus muscle.

The peritoneo-cutaneous radiation is best appreciated by a consideration of the shoulder-tip pain resulting from stimulation of the parietal peritoneum lining the under-surface of the diaphragm. In some observations on this shoulder-tip pain<sup>8</sup> I have drawn attention to the fact that whenever the sensory terminations of the phrenic nerve under the diaphragm are stimulated, either mechanically or by inflammatory exudate, a pain is felt over the corresponding shoulder in the area supplied by the third and fourth cervical nerves. This shoulder-tip pain is of special interest as proving a peritoneo-cutaneous reflection or radiation of the painful stimulus. By the descent of the diaphragm in the embryo this area of parietal peritoneum becomes widely separated from its corresponding skin area, and thus an embryological event, dependent on the development of the lungs, enables us to observe the working of the pain-producing mechanism. While I have proved the invariability of shoulder-tip pain where the diaphragm is stimulated, I have not found the same constancy of cutaneous hyperalgesia as tested by light pinching over the acromion process. In some cases the patients describe the pain as akin to rheumatism in the shoulder, and deny any tenderness on light pinching or deep pressure. In some instances tenderness is felt, but only on deep pressure on to the acromion process, while in others definite hyperalgesia is felt on light pinching.

It cannot be doubted that a similar radiation or spreading of painful stimuli from the parietal peritoneum to the skin overlying it via the spinal cord occurs in the anterior abdominal wall, though the proximity of skin to peritoneum has prevented its recognition. When the under-surface of the diaphragm in a patient under spinal anaesthesia is stimulated by the insertion of a gauze swab between the liver and the diaphragm, the patient complains of pain in the shoulder-tip area, but feels no pain locally. So, when the parietal peritoneum is stimulated I believe that the pain is felt in the skin and subcutaneous tissue alone. The exact position in the nervous system of the synapses necessary to produce this radiation is uncertain. The teaching of Mackenzie and Ross would lead us to expect to find it in the grey matter of the posterior horn of the cord, but there would appear to be a greater probability that it lies in the posterior root ganglia. (Fig. 2.)

If I have succeeded in proving my contention that the muscular rigidity in acute appendicitis is a reflex result of peritoneal stimulation alone, the diagnosis of acute appendicitis becomes a far simpler clinical problem. Mackenzie himself, obsessed by his theory of a visceromotor reflex, taught that it was impossible to separate the symptoms produced by the inflamed appendix from those produced by the inflamed parietal peritoneum. From my experience in teaching students I am sure that the widespread acceptance of Mackenzie's doctrine has introduced an unnecessary difficulty into the diagnosis of abdominal lesions. The student, picturing muscular rigidity as a reflex from the inflamed organ through the splanchnic afferent nerves, and conscious that peritonitis produces a similar effect, finds a hopeless impossibility in the task of distinguishing between the two processes, and is apt to regard abdominal diagnosis as very largely guesswork. But if he can be taught that true reflex involuntary rigidity is the result of stimulation of the parietal peritoneum, and of that alone, and that the only true pain felt in the gastro-intestinal tract is a splanchnic pain due to increased tension and exaggerated peristalsis, the investigation of a case of acute abdominal disease becomes relatively straightforward.

#### A BIOLOGICAL CONSIDERATION OF ABDOMINAL PAIN.

I will finally sketch in briefest outline what I conceive to be the biological or evolutionary aspect of abdominal pain. With the development of the alimentary tract and the peritoneal cavity a great responsibility for the protection of the abdominal viscera was laid upon the parietal peritoneum. To guard against bacterial invasion of the peritoneal cavity from without by penetrating wounds, or

from within by perforation of a hollow viscus, the parietal peritoneum was endowed with nerves of exquisite sensitivity to mechanical or chemical insult. Stimulation of this layer produced reflex guarding of the overlying muscles, with pain felt in the skin and on the surface of those muscles. At the same time another reflex—not dealt with in this paper, but also provided by the parietal peritoneum, the splanchnic provided to secure rest to the intestinal tract and so to avoid the diffusion of septic material by peristalsis.

Against the danger of intestinal obstruction another mechanism had to be elaborated. Violent peristaltic efforts of myogenic origin attempted to overcome the obstructing force, and their occurrence was registered by painful afferent stimuli through the splanchnic nerves, appreciated by the brain as spasmodic in character, and vaguely localized in the centre of the abdomen. This splanchnic pain would seem to be the more primitive in order of evolution. It is akin to protopathic pain in its dull character and in the absence of precise localization. Moreover, a considerable stimulus is needed before consciousness of pain is produced.

#### SUMMARY.

1. The evolution of our knowledge of the mechanism of abdominal pain is summarized.
2. The initial central pain in acute appendicitis is a true splanchnic pain, due to increased intra-appendicular tension.
3. The localized right-sided pain is due to irritation of the parietal peritoneum.
4. Cutaneous hyperalgesia is too variable in its incidence to be of value in the diagnosis of acute appendicitis.
5. The mode of production of cutaneous hyperalgesia is discussed. Mackenzie's viscerosensory reflex theory is criticized.
6. The mechanism of reflex muscular rigidity and the associated deep tenderness is discussed. Mackenzie's visceromotor reflex theory is criticized, and the role of the parietal peritoneum emphasized, protective muscular rigidity being ascribed to a peritoneo-muscular reflex.

I am indebted to Professor J. S. B. Stopford, M.D., F.R.S., for his kindness in drawing the diagrams illustrating this paper.

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## AN OPERATION FOR THE CURE OF PROLAPSE OF THE RECTUM IN THE FEMALE.\*

BY

FREDERICK J. McCANN, M.D., F.R.C.S.

THE aim of the operation herein described is to restore the muscular retentive mechanism which prevents the bowel prolapsing after each act of defaecation.

In July, 1913, a single woman, aged 51, came to see me; she had undergone an operation for rectal prolapse four years previously, the prolapsed portion of the bowel being excised. The operation was, unfortunately, a failure. The bowel still prolapsed for nearly two inches and the anal orifice surrounded by scar tissue admitted three fingers. She had complete incontinence of faeces, and was unable to earn her living as a nurse. Her condition was deplorable, and her nervous system had suffered considerably in consequence. She was reluctant to undergo another operation, but ultimately yielded to persuasion.

The bowel was returned and the patient was placed in the elevated lithotomy position; an incision was then made around the anal orifice anteriorly and laterally for three-fourths of its circumference. The perineum was incised in the middle line from the fourchette to the anal orifice; this incision was further prolonged anteriorly into the labium of each side for about an inch and a half. The lower end of the rectum was freed by dissection anteriorly and laterally, exposing the levator ani on either side, whilst the lower portion of the posterior vaginal wall was dissected upwards for about two inches. A V-shaped piece was then cut out

\* Abstract of a paper read before the Subsection of Proctology, February 8th, 1923. *Proc. Roy. Soc. Med.*, vol. xxi, No. 5, p. 891, March, 1923.

of the anterior rectal wall and the anterior margin of the anal orifice. The cut edges were united by catgut sutures, after tying the bleeding vessels. The scar tissue surrounding the anus was dissected out, and the anal orifice reconstructed to the requisite size by a series of catgut sutures passed so as to take a grip of the sphincter ani, and to avoid the mucosa of the bowel. A V-shaped piece was next removed from the posterior vaginal wall, followed by the suture of the levatores ani muscles in front of the lower end of the rectum. The cut edges of the posterior vaginal wall were then sutured together by catgut sutures, which were passed through the united levatores ani muscles, and when tied brought the latter in close apposition with the posterior vaginal wall. Silkworm-gut sutures were passed through the perineal tissues to coapt the divided perineal body, and further to coapt the already sutured levatores ani muscles. The skin edges were finally united with catgut, whilst a special silkworm-gut suture was inserted to prevent the anal orifice falling backwards.

The patient made a smooth recovery and regained complete control of her anal sphincter. She has, moreover, remained well up to the present date, and has expressed herself as being completely cured. She has been enabled to discharge her duties as a nurse and to lead a life of unusual activity. The result of this operation satisfies the time test, for the patient has remained perfectly well up to the present date—that is, for thirteen years.

On thinking over this operation I concluded that it was unnecessary to excise a portion of the rectal wall and anal margin (as that procedure only led to scar formation) instead of building up and strengthening the anal sphincter, which could be done much better without

and had her last confinement twenty-nine years previously. She had had slight rectal prolapse and loss of control ever since her last child was born. When she presented herself for examination the rectum protruded for four inches, and she informed me that the amount of rectal prolapse had been gradually increasing. There was no evidence of ulceration.

It is essential that such patients should have a preliminary period of rest in bed, not only for purposes of local cleansing, but because congestion is diminished in those who have struggled to be about. The prolapsed bowel should be returned, and if possible retained, which still further diminishes local congestion.

During the operation the elevated lithotomy position is employed in order to diminish the tendency to protrusion of the rectum. An incision is made around the dilated anal orifice anteriorly and laterally for three-quarters of its circumference. A mesial incision is then made from the anal orifice

to the fourchette, which, when deepened, splits the perineal body (Fig. 1). This incision is prolonged at its anterior extremity outwards and forwards into each labium. The anal sphincter and the lower end of the rectum are exposed by dissecting away the superjacent tissues, and the posterior vaginal wall is dissected upwards for about two inches (Fig. 2). Catgut sutures are now introduced grasping the sphincter ani, being passed on one side from within outwards under the sphincter muscle and avoiding the mucosa, and in the reverse order on the opposite side, and are then tied. A sufficient number of these sutures are introduced to restore the anal orifice to the normal size, and when a good grip of the sphincter muscle is taken by the sutures this muscle is strengthened and tightened; and a normal anal aperture is constructed. Sutures of catgut are further used to tighten the stretched

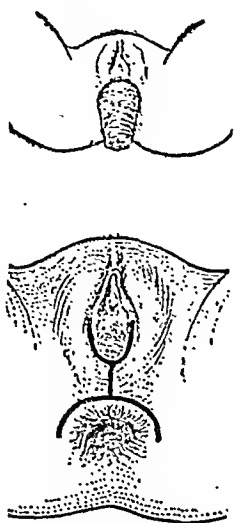


FIG. 1.—The smaller diagram shows the prolapse of the rectum. The larger diagram shows the line of the incision after the prolapse has been returned.

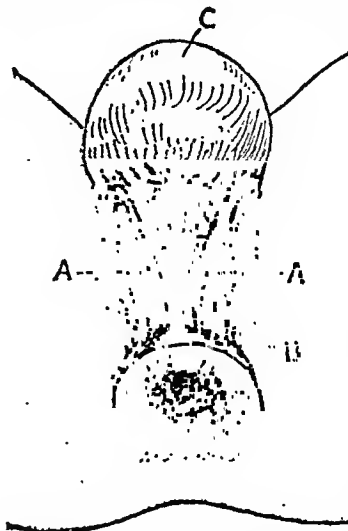


FIG. 2.—Levatores ani exposed together with the sphincter ani. The vaginal flap has been reflected upwards. A, Levator ani. B, Sphincter ani. C, Vaginal flap.

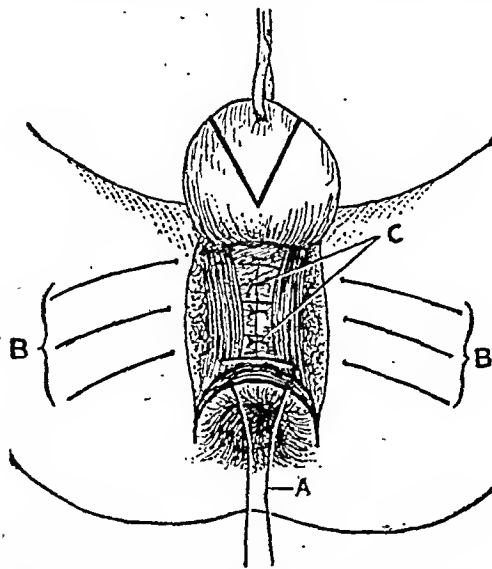


FIG. 3.—Sutures in position. V-shaped piece excised from vaginal flap. A, First of a series of catgut sutures to reconstruct anal orifice. B, Silkworm-gut sutures passed deeply through the levator ani and skin on each side. C, Fascial sutures of catgut. The levatores ani are further united with catgut.

removing any portion of the bowel; and although the functional result had been so good, yet I believed that avoiding a scar would be even better. I was able to put my ideas into practice when this patient brought her sister to me in October, 1924, and the operation I performed on her appears to be suitable for the majority of cases. This woman was 65 years of age, the mother of three children,

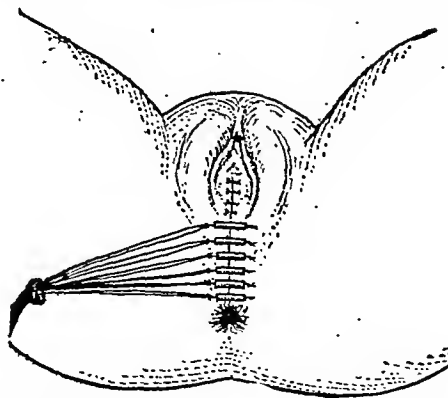


FIG. 4.—Operation completed. Silkworm-gut sutures tied through small pieces of india-rubber tubing.

or torn fascia over the lower end of the rectum and to reinforce any weak spots.

A sufficient number of silkworm-gut sutures are next inserted; these pass inwards through the skin and levator ani muscle on one side and outwards through muscle and skin on the opposite side. The levatores ani muscles are then united by catgut sutures. A V-shaped piece is excised from the posterior vaginal wall, and the edges united by catgut sutures, which, when passed, also take a grip of



the levatores ani muscels, in order to bring these muscels and the posterior vaginal wall into close apposition (Fig. 3). The skin edges are next united with interrupted catgut sutures and the silkworm-gut sutures tied through small pieces of india-rubber tubing, thus completing the operation (Fig. 4). The last or most posterior silkworm-gut suture is passed so as to prevent the anal orifice falling backwards, which is not infrequent after operations for complete rupture of the perineum. Catgut may also be employed for this suture.

A "sacral anus" is a complication which should not be encountered where the necessary precautions have been taken during the operation to restore the anal canal. After this operation I believe it is best to refrain from administering purgatives at least for some days in order that healing may remain undisturbed. Should the patient be uncomfortable in consequence of the bowel not acting, warm olive oil should be run into the rectum through a small india-rubber tube, and a dose of castor oil given by the mouth. The bowels should afterwards be kept acting by a gentle laxative.

The result of the operation described was completely satisfactory, the wounds healed well, and there was complete sphincteric control. The patient has been enabled to be about and lead an active life, whereas formerly she was more or less of an invalid, spending most of her time either in bed or on a couch, and being forced to give up her business in consequence of her physical suffering.

When writing this paper I received unexpectedly a letter from this patient, in which she states:

"I am writing to tell you the operation has proved a perfect success. It was some time before the bowels acted naturally, but now I am like another woman. I was a long time making up my mind to the operation, but I am glad I did, and I am very grateful to you for your care and skill. I only wish other sufferers knew the benefit."

Although this type of operation remedies the anatomical defects which seem to accompany this variety of prolapse, yet congenital predisposition is an etiological factor which cannot be overlooked, for these two women were sisters, and I am informed that another sister and two cousins suffer from rectal prolapse. Exercises to cause contraction of the levatores ani muscels and sphincter ani should be practised after this operation, and such exercises are still more necessary in the presence of congenital muscular weakness. Finally, this operation offers a prospect of cure, not merely to the surgical derelicts cast adrift because of the failure of other methods, but to those who bear their suffering not knowing that anything can be done for their relief, as well as to those who from knowledge of failures have lost faith in modern surgery.

## SPIRIT AND BIPP TREATMENT.

BY

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BARRY.

PROFESSOR RUTHERFORD MORISON's bipp treatment is not, I think, always clearly understood, and if employed haphazardly and without attention to detail may be disappointing. The following case, which recalls that of Dr. Monica Bell and Professor Morison (December 10th, 1927, p. 1077), shows a remarkable result obtained by the use of this procedure.

On December 7th, 1927, a feeble old lady of 77 was knocked down by a motor lorry and sustained a severe compound comminuted fracture of the lower end of the right tibia and fibula, involving the ankle-joint. She was brought into the Barry Surgical Hospital suffering from shock and haemorrhage. Although a rough tourniquet had been tied round the leg the wound was still bleeding, and there was evidence from the saturation of her clothes that the haemorrhage had been profuse. A large dose of morphine and atropine was administered, and a more efficient tourniquet applied. At the end of about one hour she was sufficiently recovered from the initial shock to justify operation.

Under gas and oxygen the wound was freely opened up and the bleeding points secured. The bone was found to be badly comminuted, and many completely detached loose pieces were removed; other fragments showing a reasonable attachment to the periosteum were left. Attention was now directed to the rest of the wound. The skin edges were excised, and badly lacerated portions of muscle and fascia were removed. Fortunately it was possible to save the anterior tibial nerve; this had been completely

stripped by the violence of the injury, but remained in continuity. The wound was now freely swabbed out with methylated spirit, after which it was carefully dried, one or two additional bleeding points being secured at the same time. (There is always a fair amount of bleeding after the application of spirit.) The wound was temporarily packed with dry gauze during the changing of the gloves and towels. On resuming, a small quantity of bipp was introduced into the cavity, and thoroughly rubbed into every available nook and cranny. Lengths of thick linen thread were carefully bipped, and by their means the skin edges were roughly approximated; owing to the loss of tissue accurate apposition without tension was not possible or desirable. The dressing consisted of long pads of gauze freely soaked in spirit, each pad being liberally sprinkled with boric powder. The pads were laid along the wound and did not encircle the limb. A top dressing of wool was temporarily held in position by a bandage.

The plasters were applied as follows. The first plaster extended from above the wound to above the knee—the knee being slightly flexed during the application. The plaster was reinforced with thin laths of wood. The second plaster encircled the foot below the wound. Traction was now made on the foot by means of a weight and pulley, and when alignment of the foot was perfect the intervening space was rapidly filled in with the third plaster. Before the plasters were firmly set a large window was cut out over the wound, and the whole case was divided longitudinally from top to bottom. This division was continued through the wool and bandages until the skin was exposed. This step was an important one in view of the possibility of subsequent swelling, and the very real danger of gangrene in a patient of this age.

The patient stood the operation well, and returned to bed in a fair condition. Before leaving the theatre 500 units of anti-tetanic serum were injected. I would now also employ anti-gas gangrene serum, but I did not have a stock in readiness at the time.

**Prognosis.**—The prognosis given to the relations was a bad one. Apart from the immediate dangers of shock and haemorrhage, there remained the possibility of gangrene, and later of severe sepsis with osteomyelitis. At best only healing by granulation could be hoped for, and a very poor functional result.

**Progress.**—The old lady remained very feeble and debilitated, but no special pain was felt in the foot, and the temperature caused no alarm. There was some trouble with the bladder and bowels. On the seventh day—more from curiosity than necessity—I removed the dressing. The wound was quite dry. The skin was healthy right up to the cut edges, between which lay a hard dry mass of congealed blood. I took out the stitches and dressed the wound with spirit gauze and powder. A week later a similar dressing was applied. From start to finish not a bead of pus or even serous oozing occurred. At the end of a month the splint was removed daily for massage, and a fortnight later discarded altogether. At the present time she can bend her knee to a right angle, and can voluntarily move the foot through 30 degrees. The wound is healed and the fracture firmly united.

### Comments.

The technique used in this case was almost identical with that instituted by Professor Morison at the Northumberland War Hospital. Points to notice are:

1. The full excision of the wound.
2. The liberal use of spirit.
3. The small quantity of bipp required. This must be well rubbed into the exposed surfaces and no excess left.
4. The use of bipped sutures; this prevents infection of the needle holes and the spread of sepsis from the skin to the deeper structures.
5. The dressing with spirit and boric powder.
6. The absence of any encircling bands round the limb.
7. The infrequent dressing of the wound.

The last requires courage, but is most essential if secondary infections are to be avoided.

## AN ATYPICAL CASE OF HYPERGLYCAEMIA IN GENERAL ANAESTHESIA.\*

BY

R. L. MACKAY, M.C., B.Sc., M.D. GLAS.

(From the Wolverhampton and Staffordshire General Hospital.)

THE unusual extent of the increase in the blood sugar during general anaesthesia in the following case, combined with the absence of glycosuria or of any untoward symptoms, make it worthy of record.

A woman, aged 50 years, was the subject of a major operation on account of gastric ulcer, hour-glass stomach, and chronic appendicitis. She was prepared for operation in the normal manner, having no food on the morning of operation, and receiving 1/4 grain morphine and 1/100 grain atropine about an hour previous to the administration of the anaesthetic.

\* This case is one of a series in a research towards the expenses of which a grant has been made by the British Medical Association.

Urinary tests before operation showed no abnormality as regards the presence of albumin or of sugar. Induction of anaesthesia was by chloroform-ether mixture, and then ether was employed to maintain the anaesthesia. Blood samples were taken from the finger before, and at intervals during and after, operation, and the blood sugar content estimated by MacLean's method. At the end of operation, which consisted of partial gastrectomy, gastro-enterostomy, and removal of the appendix, since shock was present, she received a rectal saline injection, containing 5 per cent. glucose. The first two urines passed by the patient after the anaesthetic were collected and tested for glucose by the fermentation test and by Fehling's test (Bertrand's modification). The result with each test was negative. Albumin, acetone, and diacetic acid were similarly found to be absent. The patient made an excellent recovery from the operation, and was discharged later from hospital in a reasonable state of health.

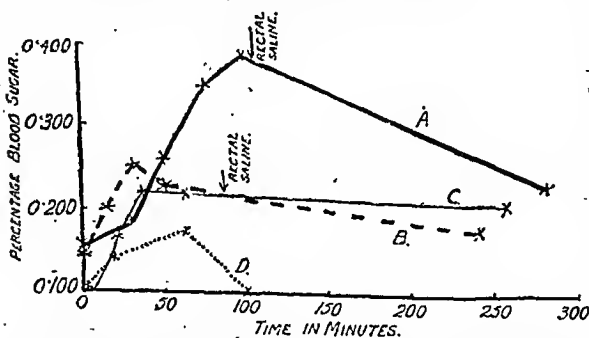
The time record for this case is as follows:

Time in minutes.	
0	First blood sample taken—0.150 per cent.
10	Induction of anaesthesia begun with CE mixture.
30	Change over to closed ether.
50	Second blood sample—0.181 per cent.
75	Third blood sample—0.260 "
85	Fourth blood sample—0.359 "
100	Anaesthetic stopped.
105	Fifth blood sample—0.386 per cent.
120	Rectal saline with 5 per cent. glucose.
280	Sixth blood sample—0.229 per cent.

#### Commentary.

This case, which forms one of a series in an investigation into the blood sugar changes in general anaesthesia, is interesting for the following reasons.

First, it is an example of the fact that general anaesthesia, whether by chloroform, ether, or CE mixture, is accompanied in practically every case by an increase in the concentration of the sugar in the blood, manifest within a very few minutes of induction, and continuing, within limits, throughout the period of anaesthesia.



A. Blood sugar curve of case as here described. Anaesthesia lasted for eighty-five minutes. Sugar absent from urine, both before and after anaesthesia. This curve, which is unusually high, may be compared with the two following curves, which are more typical of those found in the longer anaesthetics.

B. Blood sugar curve in a case of gastro-enterostomy, on a man aged 60, for malignant stenosis of the pylorus. Anaesthesia lasted for fifty-five minutes, and a rectal saline was given as in Case A. Urine did not ferment with yeast after operation.

C. Blood sugar curve in a case of hydatid disease of the liver in a man aged 35. Anaesthesia lasted for seventy minutes, and there was no glycosuria before or after operation.

For purposes of comparison there has been superimposed upon the above curves and on the same scale that of curve D, which shows the course of the blood sugar after a 50 grams glucose meal, as carried out by MacLean (1925).

Secondly, this case demonstrates, that the extent of the increase may be far above that caused by the giving of a 50 grams glucose test meal, as carried out by MacLean. This is well seen by comparison with MacLean's curve (curve "D" on the accompanying figure) and the curves of two other cases (curves "B" and "C"), in which anaesthesia lasted for about an hour. These latter curves are quite typical of the usual anaesthetic hyperglycaemia, and differ only from the case here described in the degree of hyperglycaemia recorded.

Thirdly, in this case the unusual amount of hyperglycaemia to 0.386 per cent. would lead one to expect some subsequent degree of glycosuria, if the doctrine of a renal threshold for sugar of about 0.180 per cent. is to be accepted in its entirety. But such glycosuria was proved absent in this case by the two chief tests for sugar. Like-

wise, in the two other cases the curves of which are shown here, although the renal threshold was exceeded for some considerable time there was no subsequent glycosuria. As urinary secretion is not usually suppressed in anaesthesia, curves such as these lead one to doubt the validity of the renal threshold value, or to postulate for the anaesthetized state the existence of some other factor as yet unexplained.

#### Summary.

A case of anaesthetic hyperglycaemia of great extent, and unaccompanied by glycosuria, is described.

I wish to thank Mr. Deanesly, F.R.C.S., honorary surgeon to the Wolverhampton and Staffordshire General Hospital, for permission to record the details of this case.

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## RUPTURE OF UTERUS EARLY IN THE FIRST STAGE OF LABOUR.

BY

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MEDICAL SUPERINTENDENT, DUFFERIN HOSPITAL, CALCUTTA.

THE following case is reported because it is of interest from several points of view. In the first place, rupture of the uterus apparently occurred early in the first stage of labour before rupture of the membranes, and without any of the usual causes, such as malpresentation or disproportion between the size of the child and the mother's pelvis. Secondly, the patient had had ten normal labours previously; all were of short duration and free from complications. Lastly, she survived the rupture, though hysterectomy was not performed until twenty-four hours had elapsed from the presumed time of its occurrence.

The patient, a European woman, aged 36, was admitted to hospital at 12.30 a.m. on October 6th, 1927, for labour at full term accompanied by severe abdominal pain. She stated that two days previously she had not been feeling well, so took castor oil, which resulted in four motions, and at 6 p.m. slight labour pains commenced. At midnight the pains were more definite, but were not severe enough to require medical aid of any sort. At 2 a.m. on October 5th, after two or three sharp pains, she suddenly felt an acute pain of a different sort; after this the child seemed to alter its position to the upper part of the abdomen, and within two or three hours its movements ceased. At the same time bleeding began from the vagina, and pain was felt on taking each breath. A doctor was called in the morning, and after an injection she slept; the bleeding became less, but on waking she felt no better. She vomited several times during the day, and from 3 p.m. the vomit was dark brown. The bowels did not act that day. As her condition was becoming so much worse she was brought to hospital at midnight.

The past history was that she had had ten children, the last one two and a half years previously. All the labours were quite normal and quick. She had never needed instruments. The last menstruation had occurred in February, 1927.

She was of medium height and nutrition, and was evidently in great pain on admission, especially in the upper part of the abdomen, which caused her to cry out all the time. The pulse rate was 110, and the tension was fairly good. The temperature was 100.4° F. and the respirations 30. The abdomen was markedly distended, especially above the umbilicus, where the outline of the dilated stomach was clearly seen; there was great tenderness all over it. The child was lying transversely across the middle of the abdomen, and was felt just under the abdominal wall; it could be moved about easily, but much pain was caused. No foetal heart sounds were heard. There was a small quantity of bright blood coming from the vagina.

The patient was so restless that a little chloroform was given for satisfactory vaginal examination. The cervix was found dilated, and the placenta lying above it was almost completely detached. The otherwise empty uterus lay on the right. On the left the membranes led out through a large tear in the lower part of the uterus and cervix, and the child could be felt lying in the ruptured bag of membranes among the intestines. Fresh bleeding was caused by the examination. A catheter was passed, and two ounces of slightly blood-stained urine were drawn off.

It was decided to open the abdomen, and the patient was prepared at once. By that time her pulse had risen to 132 and was decidedly weaker. She had vomited coffee-ground material once. Saline injections were commenced, and a 6-inch incision was made in the middle line, two-thirds being below and one-third above the umbilicus. The child, a full-term female of normal size, was

found lying free among the intestines in its bag of membranes, with the placenta still partly attached to the lower half of the uterus. There was a large rent extending from the middle of the vagina on the left side up through the cervix to about the junction of the middle and lower third of the body of the uterus; the left broad ligament had been split from far out on the lateral pelvic wall to close up against the bladder. There were only a few small clots in the abdominal cavity.

After removing the child with the placenta and membranes intact subtotal hysterectomy was performed, leaving the appendages, since they were healthy. The tear in the cervix and vagina was closed with a continuous catgut suture, and the stump of the cervix was sewn over in the same way. The abdominal wall was closed in four layers without drainage. The patient stood the operation fairly well. On her return to bed the stomach was washed out, as it had been found very distended. Within an hour after the completion of the operation, however, her condition became grave. She was restless, and her pulse had risen to 160, but by 8 a.m. she was improving, and by midday was decidedly better. By 2 p.m. the pulse rate had dropped to 130. The temperature was 98.6° F. and the respirations 30.

After this the patient made steady progress. There was a slight degree of fever for the first six days, up to 100°, and once to 100.5° F.; then the temperature became normal for three days, rose slightly on the two following days, and after that returned to normal. Her pulse was 100 to 120 for the first few days.

At the end of the first week slight thickening was felt in the upper part of the broad ligaments on either side, but there was very little tenderness. The patient took her food well from the first. The wound healed by first intention, and she was discharged well on October 24th.

The patient was seen a month later, and, except for moderate anaemia, was doing well. On vaginal examination the pelvic contents appeared quite normal, and there was no sign of cellulitis. The cervix was patulous on the left side on the site of the old tear.

The specimen was sent to the gynaecological museum of the Calcutta Medical College Hospital.

## THE PROMOTION OF CALCIUM RETENTION.

BY  
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THE success of calcium therapy is so dependent upon the degree of retention it achieves that satisfactory results can only be expected when the principles underlying calcium retention receive at least as much attention as its administration. Even in the discussions on the therapeutic uses of calcium salts at the Annual Meeting of the British Medical Association last July, this close connexion does not appear to have been sufficiently emphasized.

Unless the principles of calcium retention are given the consideration their importance deserves, failures and incorrect conclusions as to the value of calcium therapy are the inevitable results. In some cases there would be no retention of calcium, but, on the contrary, an increased loss, since it favours acidosis. When the dose of calcium chloride is as heavy as 10 grams a day—and as much has been given by one physician—it is not surprising that the results are so entirely disappointing as to bring calcium therapy into disrepute.

Acidosis is readily recognizable by the increased acidity of the urine, and the higher the degree of acidity the more lime the urine has withdrawn from the blood; as was shown by Schetelig in 1880 and confirmed more recently; the weaker also must have been the alkaline reaction of the blood from which the urine was excreted. It is therefore a logical inference that the losses of calcium are smaller (or the calcium retention is greater) when the degree of blood alkalinity is high. This degree corresponds under normal conditions with 0.3 per cent. of sodium carbonate (or bicarbonate in the venous blood). In other words, as the blood alkalinity decreases the calcium loss in the urine rises above the normal, which is 0.2 gram in twenty-four hours.

This leads to consideration of the question as to how the blood alkalinity is created and maintained in man and herbivorous animals. Carnivorous animals obtain their sodium carbonate from the interaction of ammonium

carbamate and sodium chloride; in man and omnivorous animals this occurs completely only under such conditions as prolonged hunger. The most common factor in alkalization in man and the herbivora is the oxidation of the alkaline salts of organic acids; potassium and sodium salts, especially of citric and malic acids, are contained in leaves, roots, tubers, and fleshy fruits. The potassium citrate and malate in such vegetables are converted into sodium salts by the sodium chloride contained in the meals. These salts, however, are lacking in meat and all kinds of seeds, which indicates the importance of a well-balanced diet. It is a very important and significant fact that milk contains sodium citrate; otherwise a baby would suffer from acidosis from the first day of its life.

Proteins, however, which form such an important part of present-day diet, favour a state of acidosis. Their sulphur contents appear in the urine as sulphuric acid and ester-sulphuric acid, and their phosphorus contents as acid phosphates. Therefore the physiological laws of a correct diet are observed by the usual practice of supplementing a dish of meat with potatoes, or cabbage and fleshy fruits. When, however, the meals consist of an excess of meat, beans, and bread, without any green vegetables or fruits, there would be no calcium retention, and ailments, such as gout, might gradually arise. It would definitely be a mistake to employ calcium chloride in such a case.

With animals, such as cattle and horses, which feed chiefly on hay, the use of calcium chloride produces excellent results by favouring growth, fecundity, and health. The normal dose of calcium chloride has been inferred from physiological laws, and fixed at 0.04 gram of the crystallized salt to 1 kilo of body weight, or 0.02 gram of the anhydrous salt. Hay contains alkaline salts of citric, malic, and other organic acids, which provide for calcium retention and counteract the acidosis produced by calcium chloride.<sup>1</sup> Therefore, when due consideration is given to the usual diet of man, calcium lactate is preferable to calcium chloride, since it does not favour acidosis, and far superior still to calcium lactate is the double salt of calcium and sodium lactate (Wulffing), since it favours calcium retention by being oxidized into carbonate. Many physicians have used it with most excellent results.

Is the calcium content of the blood a reliable index? There is still considerable adherence to the view that a deficiency of lime in the system can be recognized by determining the amount of calcium in the blood. It has, however, been proved by various workers, that this is decidedly unreliable, and Stewart<sup>2</sup> was right in calling that index unsatisfactory. Indeed, it has been commonly observed that, in various diseases which readily respond to calcium therapy, the blood calcium was normal, or higher than normal, and not lower, as one would expect. In other cases, again, the calcium index of the blood was below the normal. In short, the evaluation of the calcium content of the blood is not a sure guide for the application of calcium therapy. Such an examination of the blood calcium is, moreover, unnecessary, even if there is a developing disease which cannot be definitely diagnosed, since calcium can do no harm in any case, and frequently acts as a prophylactic.

The fact that a lack of lime in certain organs is sometimes coincident with a rise of blood calcium is accounted for when we remember that the calcium stored in the bones can be utilized to fill up deficiencies in other and more vital parts of the body. Since this transfer of calcium takes place through the blood, an increase of blood calcium may be observed in spite of a deficiency of calcium in certain other organs. Sometimes when there is not enough calcium in the food bone calcium will supply the material needed for calcification of tuberculous foci in the lungs, or it may serve to calcify weak arteries and thus increase their power of resistance against a rise of blood pressure. Even the teeth may be called upon to give up part of their calcium in certain cases; hence the suggestion by many women that the birth of each child costs the mother a tooth.

How unreliable an index is the evaluation of the blood calcium has recently been again demonstrated in cases of urticaria undergoing hospital treatment. Because the

blood calcium was found to be normal it was doubted whether calcium therapy would be of any use, and this in spite of the work of Wright and Beitman and the observations of numerous other authorities. Herzfeld and Lubowski<sup>1</sup> observed hypercalcaemia in 100 patients who suffered from neuralgia, chorea, tabes dorsalis, and chronic enteritis, yet calcium therapy has furnished splendid results in cases of neuralgia. Verglano, Looft,<sup>2</sup> and Tschember<sup>3</sup> have observed hypercalcaemia in a series of cases of tuberculosis; Loeper and Bechamp<sup>4</sup> in cases of nephritis, asthma, and pneumonia; Longo<sup>5</sup> in rickets, and Blum<sup>6</sup> in a case of osteomalacia. In all these cases, however, calcium therapy would have produced entirely satisfactory results, in spite of the contrary inference from the state of hypercalcaemia.

## REFERENCES.

- <sup>1</sup> Cf. Oscar Loew: *Der Kalkbedarf von Mensch und Tier*, fourth edition, O. Gmeinn, Munich. <sup>2</sup> *British Medical Journal*, October 29th, 1927, Report of Discussion of the Therapeutic Uses of Calcium Salts, p. 777 et seq. <sup>3</sup> *Deut. med. Woch.*, 1923, p. 603. <sup>4</sup> *C. R. Soc. de Biologie*, 1924. <sup>5</sup> *Ibid.* <sup>6</sup> *Ibid.*, vol. 69. <sup>7</sup> *Il Policlinico*, 1910, p. 455. <sup>8</sup> *Presse Médicale*, 1922, p. 223.

## Memoranda:

## MEDICAL, SURGICAL, OBSTETRICAL.

## PNEUMOCOCCAL PERITONITIS DURING THE PUERPERIUM: RECOVERY.

THE rarity of the occurrence of pneumococcal infections of the peritoneum would seem to justify publication of a case, especially since recovery ensued.

A woman, aged 24, was delivered of her first child on May 16th, 1927. The labour was conducted by Dr. C. Fraser, who simply eased the head over the perineum with forceps, under light chloroform anaesthesia. The labour was otherwise normal, and the placenta was expelled half an hour after delivery.

On May 23rd, seven days after delivery, the temperature rose to 103.2° F., and the pulse rate was 140. On the following day I was called to see her by Dr. Fraser, and gently brushed over the interior of the uterus with a gauze swab on a holder, but found no retained chorion; the uterus had scarcely involuted at all. I injected an ounce of sterile glycerin through a catheter into the uterine cavity, after the manner of Remington Hobbs. The patient was also given 5 grains of quinine bilydrochloride intramuscularly, and 60 c.cm. of polyvalent antistreptococcal serum, since the case looked like a streptococcal infection; but the report by Dr. H. M. Galt on the swab which I took from the cervix was that the film showed Gram-positive diplococci, while from culture were recovered diphtheroids, *Staphylococcus albus*, and a few coliform bacilli.

On May 25th the temperature had fallen to 99.4° F. and the pulse rate to 100, the patient being very comfortable. I contented myself by giving a further 5 grains of quinine and injecting another ounce of glycerin into the uterine cavity. On May 26th in the morning the temperature again rose to 103° F., and the patient complained of severe pains in the lower abdomen. Towards evening the abdomen had become rigid; vomiting had set in, and the pulse was uncountable.

It was obvious that the patient had general peritonitis, and the case looked hopeless. She was given an anaesthetic, and I opened the abdomen, and found the coils of intestine, as also the uterus, tubes, and ovaries, coated with a greenish covering of fibrinous exudate. I let out about two pints of turbid fluid. Three drainage tubes were inserted through the laparotomy wound, one to the right, another to the left, and a third down into the pelvis.

On May 27th her condition was better, although she vomited from time to time. Her pulse rate was 130 and her temperature 101° F. She was pouring out copious fluid through the drainage tubes. Dr. Galt's report of the turbid fluid taken from the abdomen was that the film showed large numbers of pneumococci, while on a trypticar medium an abundant and pure growth of pneumococci was obtained. On receipt of this report the patient was given 10 c.cm. of Pané's antipneumococcal serum.

On May 28th her condition had further improved; she ceased vomiting, her bowels acted, and she began to take nourishment. She was given another 10 c.cm. of Pané's antipneumococcal serum. On May 29th a further dose of the serum was injected; pus was coming freely through the drainage tubes.

From this point her recovery was uninterrupted, although her temperature did not become normal until the end of June. An abscess in the right forearm, which also proved to be pneumococcal, was opened on June 16th. She is now in good health.

I have ventured to report this case since pneumococcal peritonitis during the puerperium is rare. In making a search through the literature I have so far found only one case, although there must have been others, no doubt, where a bacteriological examination was not made. This case is reported by Professor C. Monekeberg<sup>1</sup> of Santiago du Chili. His case was fatal, and differs from mine in that pneumococci were found in the swab taken from the cervix;

pneumococci were also found in the mouth of the "sage-femme" who attended the woman in her labour, which may or may not have been the cause of infection. No laparotomy was performed in this case, but the necropsy revealed purulent endometritis, pneumonia, and peritonitis. The pneumococcus was found abundantly in the ascitic fluid, as in my case.

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## HAEMORRHAGE FROM THE DEEP EPIGASTRIC ARTERY INTO THE RECTUS ABDOMINIS.

THE following case is of special interest in view of the diagnostic difficulty experienced.

A man, aged 55, was admitted to the Kettering General Hospital with a provisional diagnosis of acute intestinal obstruction. He had continued his work until the morning of the day of his admission to hospital, when he had a sudden attack of pain in the umbilical region; the pain was definitely localized, increasing in severity with each respiration. On palpating the abdomen the left rectus was found to be markedly rigid, and there was also a certain amount of general abdominal rigidity; a definite painful area on pressure was present about the middle of the left rectus. The bowels had acted in the morning before the onset of pain; the abdomen was not distended, and the flanks were resonant. There were repeated attacks of feeling sick, but he was unable to bring anything up. The tongue was furred and the breath foul. The temperature was 98° F., and the pulse 108 (6 p.m.). An enema was given with good results. Operation was postponed, and the patient was kept under close observation. At 2 o'clock the next morning the temperature was 100.4° F., and the pulse 76; pain and rigidity still persisted. At 10 a.m. the temperature was 99° F., and the pulse 80. As the pain and tenderness persisted it was decided to operate. The abdomen was opened in the middle line above the umbilicus, and the middle third of the left rectus was found to be the seat of haemorrhagic effusion with apparently no other pathological lesion. The patient became worse under the anaesthetic, and, although the operation was short, stimulants had to be resorted to twice before he left the table. Death occurred on the fourth day after operation.

At the necropsy the haemorrhage into the rectus was found to have increased. The heart valves were apparently normal, but the myocardium was extremely friable; throughout the arterial system there was what appeared to be an advanced stage of general arterio-sclerosis.

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## TINEA INTERDIGITALIS PEDIS.

IN his recent address on ringworm and its treatment Dr. J. M. H. MacLeod mentions (*British Medical Journal*, April 21st, p. 656), among other varieties of ringworm affection, a type of "eczematoid ringworm of the extremities"—otherwise tinea interdigitalis pedis. Without discussing the question of which particular variety of epidermophyton is responsible for this most discomfiting and intractable affection, I desire to question the wisdom of part of the treatment recommended for it by the lecturer—namely, the advice to soften the skin by soaking in salt water or wading in sea water; and perhaps also the choice of medicament.

This affection manifests eczematous characters, and always appears to be readily curable in cold climatic conditions, but recurs somewhat unaccountably in the summer time, or more particularly under tropical conditions of living, when it is then most intractable. Any such conditions which result in undue moisture of the skin between the toes induce a fresh outbreak of symptoms, initiated by intense irritation and followed by vesication, painful fissures, and the appearance of white sodden patches of thickened epidermis between and beneath the toes. Moisture and warmth are the two factors necessary to promote development of this fungoid affection, which seems able to remain unnoticed in the epidermis for months before reappearing. Salt-water bathing is harmful, because it usually leads to moisture remaining between the toes despite careful drying, and sea wading especially so, because in addition it means spreading of the toes, with consequent causation of fissures made needlessly worse than they otherwise might have been. I would certainly dissuade any sufferer from sea wading or walking barefoot on a sandy beach if previous experience had not already made him wise. It has been demonstrated to me that a week's indulgence of sea bathing in the summer can precipitate the reappearance of this affection after

<sup>1</sup> *Gynécologie et Obstétrique*, Tome vi, 1922, No. 1.

having been entirely absent for many months during the winter, and in spite of the fact that a mildly antiseptic ointment—namely, 2 per cent. yellow oxide of mercury in vaseline—was used between the toes after careful drying, and the socks were sterilized by soaking in lysol solution. I have found that (a) dusting powders used with the idea of drying the skin between the toes are useless to prevent reappearance of this affection, whilst antiseptic powders continually used on sensitive skins lead to irritation, which it is most desirable to avoid; (b) any spirituous preparation, including salicylic acid in spirit, is unnecessarily severe, and, furthermore, aggravates cracking and shedding of epidermis; (c) salicylic acid ointments tend to a similar result.

After an exhaustive trial of many preparations I have found that the most satisfactory medicament is an ointment of 2 to 3 per cent. chrysarobin in vaseline, applied sparingly but often, after careful washing and drying of the toes. It is at the same time essential to excise the top from all vesicles, remove all loose epidermis, and clean up the edges of ulcers. This ointment soothes and softens the irritated skin, maintains its elasticity, precludes the penetration of undue moisture, induces healing without any aggravating effect, and the drug appears satisfactorily to penetrate the epidermis and kill the fungus proliferating in its substance. Moreover, its continued use renders soft and pliable the tough horny skin of the sole of the foot adjacent to the base of the toes, which is very necessary to promote the healing of ulcers, so prone to occur in this area: it seems probable that here also is the source from which there develops a reappearance of the affection months after its apparent cure has been effected.

Liverpool.

HUGH H. SKEOCH, M.B., Ch.M.Sydney.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### LEICESTER AND RUTLAND DIVISION.

##### NEW DEVELOPMENTS IN PHARMACOLOGY.

In a lecture given to the Leicester and Rutland Division on May 1st, with Dr. E. L. LILLEY in the chair, Professor W. E. DIXON discussed the trend of thought in the art of therapeutics. He deplored the lack of pharmacological initiative and research in this country, as a result of which for many years there had been dependence for new drugs and treatments on Germany, France, and America. He then gave a detailed description of two drugs which had recently come into prominence.

##### *A New Type of General Anaesthetic.*

The first, a tribrom-ethyl alcohol, was a new general anaesthetic known by the trade name of "avertin," the action of which had been determined precisely by Straub. It was a solid substance which at body temperature dissolved only to about 3 per cent. in water, but if more concentrated solutions were required it could be employed in a suspended form. To produce general anaesthesia in a patient weighing 11 st. about 10 grams of this substance was administered per rectum; this was rapidly absorbed—indeed, considerably more rapidly than water or saline solution—and the patient was anaesthetized and ready for the surgeon within ten minutes. With this anaesthetic operations had been performed lasting two hours or more without pain or any subsequent discomfort to the patient, and a considerable clinical literature was already available. At first, accidents happened after using it, but since the mechanism of its action had been better understood these had entirely disappeared. The drug after absorption acted on the central nervous system like the commoner anaesthetics, but within a few hours it was completely broken up in the body, the bromine being converted to sodium bromide. With an anaesthetic dose of 10 grams about 11 grams of sodium bromide was produced, and such an amount led to sleep lasting perhaps for thirty-six hours after the operation had been completed. The proportion of bromide excreted depended upon the amount of sodium chloride in the blood, and varied with it; it was well known that under normal conditions when the chloride

was constant the excretion of bromide was very slow, and, after a single dose, could be detected in the urine for several days. It was a simple matter, however, to get rid of this excess. In the case under consideration after the operation had been completed the excess of bromide should be eliminated by increasing the excretion of chlorides; this was effectively achieved by injecting from 5 to 10 grams of common salt, suitably diluted, into the rectum. One objectionable feature of this form of anaesthesia, as indeed of other forms of anaesthesia, was the production of some degree of acidosis. To combat this it was advisable to dose the patient before operation with sodium bicarbonate. The great advantages of this method of producing anaesthesia were obvious. The ease and certainty of producing the desired effect in a short time and for a long period, the absence of discomfort during administration, and the general comfort of the patient for several hours after the operation was completed, were some of them.

##### *Specific Therapy in Septicaemia.*

In discussing specific therapy Professor Dixon paid considerable attention to mercurochrome, the sodium salt of mercury dibrom-fluorescein; it contained about 26 per cent. of mercury and 21 per cent. of bromine, and had a molecular weight of 750, which was a molecule so large as to be approximating to the colloidal state in solution. The samples obtainable on the open market varied considerably in their toxicity; many experiments showed that rabbits succumbed to an intravenous injection of 10 mg. per kilo of body weight, but Professor Eyro had stated that he had a preparation which, while possessing therapeutic efficiency, did not kill rabbits in doses of 25 mg. per kilo. The lack of uniformity in many of the experiments with this compound might not be unconnected with this variability. Mercurochrome was non-astringent and non-irritant. Its antiseptic action in the test tube was high; thus *B. coli* and *Staphylococcus aureus* in urine were killed by concentrations of 1 in 1,000 within a minute. This fact had led to the prevalent view that it acted as a cure by directly destroying micro-organisms; this might be true in the case of local infections. Thus it might account for the cure of bladder troubles used in a strength of 1 in 1,000; or for posterior urethral injections (1 in 400); employing a catheter, or for local applications to the vagina in gonorrhoea where sometimes as strong a solution as 1 in 25 was required. Mercurochrome was given, however, mainly by intravenous injection to effect a cure of general infections, and remarkable clinical reports had been published by many different clinicians. Why so large a number of patients were cured after such injections was not understood. It had been suggested that the beneficial results were due to colloidal shock reaction, and in favour of this was the fact that the compound was rapidly excreted by the bile, and that no bactericidal properties were shown by the blood, the bile, or the joint fluids in those cases in which arthritis was a symptom of the infective process. Moreover, occasionally the injection was followed by a sudden rise in temperature, succeeded by a rapid fall and associated with other symptoms of mild shock, as in the gold treatment of tuberculosis. Clearly, then, the element of shock might not be without its significance. The lecturer, however, regarded the bacteriological findings of little importance in appraising its therapeutic value when compared with the findings of the physician. Several substances which produced a cure of specific disease had apparently little direct action on the causal agent. This was true, to mention only one example, for the complex-dye substance prepared by the Bayer Laboratory and by Fournau, which effected a cure of certain forms of trypanosomiasis. Ehrlich at first discarded atoxyl as useless in syphilis because its direct action on protozoa was negligible, though when its curative properties came to be recognized it formed the starting point from which salvarsan was ultimately evolved. Experiments made on animals inoculated with the pneumococcus or anthrax bacillus had shown that mercurochrome produced a considerable percentage of cures—50 per cent. or more—but even these results were not yet conclusive, since, although they had been confirmed, they had also been denied. Clinical reports were more definite and impressive. They



showed that in a large proportion of cases of septicaemia in which a pure culture of streptococci could be obtained from the blood injections of mercurochrome were followed by a cure. Young had reported the clinical results in 173 cases of septicaemia treated with mercurochrome, with a cure in 63 per cent. The papers by Dr. Young and his colleagues showed so many remarkable cures that the use of this remedy deserved a more extensive trial in this country. In septicaemia mercurochrome was given intravenously as a 1 per cent. solution in doses beginning with 2 or 3 mg. per kilo; from one to five doses at intervals of four to five days might be required to effect a cure. In desperate cases of septicaemia or other infections where the patient might die in a day or two 5 mg. per kilo, or even more, might be given. The objectionable results which might occur were stomatitis and, with large doses, transient albuminuria, though the latter effect was rare. The weak point about mercurochrome therapy at the present time was its variability in toxicity, and, therefore, possibly in its therapeutic efficiency; for this reason the maker should guarantee the molecular weight and the percentages of bromine and mercury, and should state its toxicity. Nevertheless, mercurochrome was not a dangerous drug to use, and its many users in other countries were convinced of its merit.

#### GUILDFORD DIVISION.

##### CLINICAL PATHOLOGY AND GENERAL PRACTICE.

At a meeting of the Guildford Division on May 3rd, with Mr. H. B. BUTLER in the chair, Dr. H. C. MATSON gave an address on some aspects of clinical pathology as an aid to the practitioner.

Dr. Matson first emphasized the great importance of the total white count in addition to the differential count in determining whether a morbid condition was septic or chronic. Both results should be combined to avoid wrong conclusions. Thus a differential count of 44 per cent. lymphocytes might indicate a slight condition of no importance, but if the total white cell count was 15,000 to 20,000 per c.mm., the probability was that an early lymphatic leukaemia existed; thus by omitting the total count an important diagnosis might be overlooked. It was necessary to remember that a physiological leucocytosis occurred after food; if a series of counts was required, the determinations should always be made at the same hour each time. An inquiry whether the patient was on a full diet or not was important. In the anaemias a complete white count was as necessary as a complete red count, since a leukaemia might easily be missed if the examination was limited to the total number of red cells, the haemoglobin, and the colour index. This was especially true of the acute leukaemias, as the process was often so rapid and the physical signs were practically absent, though the patient might be dead in a week. Passing to Vidal tests, the lecturer warned against paying too much attention to the leucopenia in typhoid infections, since a leucocytosis might often follow. Vidal tests should not be performed before the tenth day, since the agglutinins were not in evidence previously. For an earlier diagnosis than this a blood culture was required, and in the third week of the disease the urine and faeces should be examined. Patients vaccinated with T.A.B. might retain the agglutinins in their blood for so long as thirty years, and a period of seven years was quite common. In those who had suffered from typhoid and paratyphoid infections the blood might retain its agglutination power for the rest of life. It was probably always necessary to inquire whether the patient had suffered from these infections or had been vaccinated with T.A.B. They showed, as a rule, an agglutination of low titre, which should arouse suspicion. If the leucocytosis accompanied a positive Vidal reaction, a secondary infection superimposed on the original typhoid one should be suspected, or a developing typhoid cholecystitis, or perhaps peritonitis. It had been found that patients with endocarditis might give a positive reaction in low dilutions, and it had been asserted that miliary tuberculosis might act similarly. Controls should always be employed. Dealing with van den Bergh's reaction, Dr. Matson explained its uses in determining the cause of jaundice due to hepatogenous

conditions such as stone in the common bile duct, or neoplasm, and in toxic and haemolytic jaundice, where there might be a direct reaction, or a bi-phasic reaction where an obstructive and a toxic process were combined. He added that the test was very valuable in latent jaundice, and in some cases of pernicious anaemia. In blood grouping for transfusion it was very important to match the recipient's serum against the donor's red cells after the grouping process had been performed. The blood calcium estimation was becoming increasingly popular, especially in thyroid deficiency diseases. The value was low as a rule in skin diseases, and might be very low in cases of colitis; it was probably very high in arthritis deformans. The blood urea test was of great value to the surgeon as indicating the condition of the kidneys, and whether there was much impairment of renal function, especially in cases of enlargement of the prostate. Blood sugar tests were of little value if taken without reference to the time of day and to previous estimations. A glucose tolerance curve should always be constructed, commencing with the result obtained during a fasting period. Glucose should then be given, and the dose be repeated half an hour and one hour afterwards. In this way the patient's tolerance might be determined at once and the necessary dieting prescribed.

## Reports of Societies.

### INTRAVENOUS TREATMENT OF VARICOSE ULCERS.

At a combined meeting of the Sections of Dermatology and Surgery of the Royal Society of Medicine, on May 16th, with Mr. R. DAVIES-COLLEY in the chair, a discussion was held on the treatment of varicose ulcers by obliteration of varicose veins by injection.

The CHAIRMAN, introducing Professor Sicard, who initiated the method in 1916, mentioned that obliteration of veins had been attempted fifty years ago by the injection of ferric chloride, but the method had been given up because it had proved unsafe. He added that Professor Sicard and his colleagues had now removed the danger from this intravenous injection method, and had rendered it of great practical value.

Professor SICARD reviewed the factors concerned in the production of ulceration in the lower limb. The influence of varix, age, heredity, and derangements of the endocrine system were discussed, and the analogy between the action of pituitary extract on the veins and adrenaline on the arterioles was mentioned. These various factors caused weakness of the walls of the veins and of the supporting perivascular tissues, with incompetence of the valves of the veins. Syphilis alone or associated with any of these other factors was a fairly common cause of ulceration. Local factors, such as trauma, intrapelvic pressure, phlebitis, infection, and prolonged standing, played an important part. Professor Sicard classified ulcers in the lower extremity in four therapeutic groups: (1) Post-phlebotic ulcers with oedema of the limb. This type was certainly not suitable for injection, the only lines of treatment being rest, massage, and support. (2) Dirty serpiginous ulcers of long standing, with marked local dystrophy, were also unsuitable for injection, and could only be treated by rest, disinfection, vaccines, light, and surgery. (3) Ulcers with moderate or mild local disturbance, usually preceded by local dermatitis, were very much improved by sclerosing injections of the veins combined with local applications. (4) Mixed syphilitic and varicose ulcers, which were cured by antisyphilitic treatment combined with local obliterative injections. With the aid of microscopic drawings the pathology of chemical venitis and thrombosis was described, and the firm adherence of the clot to the endothelium was demonstrated. Professor Sicard said that with his colleagues Drs. Forestier and Gavrier he had demonstrated the passage of fluids from the superficial to the deep veins of the limb on slight muscular contraction, by means of the injection of opaque solutions such as lipiodol or sodium iodide into the superficial veins, followed by stereoscopic

x-ray photographs. These photographs were shown, and they illustrated clearly the passage of the lipiodol into the deep veins on slight muscular movement. He therefore always performed the injection in the supine position, instructing the patient to keep the limb absolutely still and flaccid. In this way the injected fluid remained in the superficial vessels and produced a much better thrombosis. Numerous lantern slides were shown of patients before and after treatment, to indicate the marked improvement in the appearance of the limbs and the healing of the ulcers. Examples of venectasia, extending to the pubis and upper abdomen, were also shown. Professor Sicard pointed out that these cases were not suitable for injection, since there was often obstruction to the deep veins, and also because they were difficult to sclerose owing to the rapid stream of blood through them. It was in these cases that accidents were liable to happen. A 20 to 60 per cent. solution of sodium salicylate in water was the most satisfactory; he gave 2 to 3 c.cm. in one dose, and he injected all the veins immediately proximal to the ulcerated area. The number and frequency of the injections had to be adapted to the individual case. Other solutions, containing quinine and urethane, sodium citrate, glucose, as well as hypertonic saline, had been used with less success. In conclusion, Professor Sicard said that the improvement was most marked in the early cases; when eczema was a predominant feature it rapidly improved. No complications had been encountered, and relapse was rare; when this did occur a second course of injections was invariably successful.

Mr. TWISTINGTON HIGGINS based his observations on 200 completed cases of varicose veins, in thirty-five of which there was active ulceration. He had used sodium salicylate, quinine and urethane, and 50 per cent. glucose, and found that sodium salicylate and the quinine solution were equally satisfactory. Discussing the parts played by trophic disturbances, trauma, and infection in the pathology of varicose ulceration, he said that the best results were obtained by the injection method, in cases in which the trophic element predominated, and the poorest results in those cases presenting a great deal of infection. The speaker considered it most important to disinfect and clean the ulcer before commencing treatment, because any risk of embolism was increased in the presence of a septic focus. He commenced injection well above the ulcer, and noticed that, owing to the great dilatation of the vessels usually present, many injections were necessary to produce sclerosis, and that there was a greater risk of local necrosis since the vessels were usually very thin-walled and near the skin. He had not met with a case of embolism, but from the investigations of Professor Sicard and his own observations on histological examination of a vein after injection, he thought that the risk was very small, because the clot of irritative endovenitis was very adherent. He mentioned that Professor Sicard had treated 2,960 cases without the occurrence of embolism. To remove any possible risk of this complication he emphasized the importance of preliminary treatment of septic foci and the avoiding of excessive muscular movements for about three weeks after an injection. Mr. Higgins felt strongly that the greatest use of sclerosing injections lay in the preventive treatment of varicose ulceration. Patients were much more ready to submit themselves to the injection treatment at an early stage than they were to undergo an operation. The out-patient department of hospitals bore testimony to this procrastination, patients often only seeking treatment when a large and foul seriginous ulcer was present. The pre-ulcerative stage was easily recognizable and the injection of the veins was of the utmost value in aborting the atrophic changes and re-establishing the nourishment of the tissues. The speaker, referring to perivenitis, necrosis, and cases with marked local reactions, said that these sequels were often due to faulty technique, though they sometimes occurred when the solution was injected correctly into the vein. Such complications occurred most often in severe cases, in elderly patients, in thin-walled veins, and in veins over bony prominences, such as the tibia and internal condyle of the femur. He thought that possibly the best treatment for these complications was excision. General toxic symptoms were rarely encountered; complaints of a little giddiness after sodium sali-

cylate were sometimes received, and patients often tasted the quinine soon after its injection. Mr. Higgins had one case of vicarious menstruation after the injection of quinine and urethane. Complete failure, in his experience, was uncommon, and a successful obliteration of the vein could be promised in every case after repeated injections. Secondary dilatations did occur and under dosage produced thickening of the veins without occlusion.

Sir SIDNEY ALEXANDER said that he had used 40 per cent. sodium salicylate solution, quinine and urethane solution, and sodium chlorido solution, but that he had obtained the best results with sodium salicylate. This solution produced a very marked immediate effect, and the thrombophlebitis occurred quickly. Patients, however, often had cramp soon after the injection. Quinine and urethane gave rise to little or no immediate discomfort, but about two or three days afterwards patients complained of pain in the legs, even worse than that occurring immediately after sodium salicylate injection. The speaker objected to the massive doses of glucose necessary to produce effective thrombosis. He used the horizontal position, but placed the patient with the leg hanging downwards for injection of the smaller veins. To prevent leakage, he immediately applied an isinglass plaster to compress the site of injection. Rest and local treatment of the ulcer were also necessary, and a word of warning was given concerning the use of quinine solutions during pregnancy.

Mr. DAVID LEVI reported the results of treatment of 60 cases. Of these 57 were cured, but 3 failed to respond to injections of 66 per cent. glucose. He had had one case of embolus following three injections of 66 per cent. glucose, and another patient had transient pain in the side. Mr. Levi showed microphotographs of the venitis following glucose injection, and pointed out the looseness of the clot. He therefore concluded that quinine solution was better. He had failed to produce experimental obliterative venitis in a rabbit's ear, even after obstructing the blood flow, and he therefore thought it was probable that the thrombosing effect of the injections only occurred in diseased veins.

Dr. GOLDSMITH pointed out that it was important to determine the direction of the blood flow in the veins in the upright position. A backward (centrifugal) flow produced oedema and stretching of the skin, with consequent ulceration. He thought that it was rational to expect that obliteration of such veins would aid the healing of the ulcer. He said that the advantages of the injection method over surgery were that injections could be given in cases of infected ulcer, and that the movement of the limb, allowed during the sclerosing process, played a very important part in the relief of the aching and the oedema. If the veins showed an upward flow they should not be injected, since they were not helping in the production of oedema of the skin. A history of phlebitis was also a contraindication to injection. The speaker only gave one injection at a time, since the height to which the thrombosis extended varied very considerably. He preferred glucose solution, since it was painless, non-toxic, and did not produce local necrosis. Glucose could be sterilized by boiling for half an hour without the production of toxic substances. He used a tourniquet in the erect position to demonstrate the vein, removing it after he had inserted the needle with the patient in the horizontal position.

Mr. R. T. PAYNE said he had treated thirty cases of varicose ulcer with sclerosing injections of quinine and urethane solution. All the ulcers were also treated with calamine lotion, and the patients were allowed to walk about during the course of treatment; all but one case showed signs of healing. He also used a tourniquet and compressed the site of injection for two minutes after withdrawal of the needle, and then applied strapping. The speaker thought that all the cases of local necrosis and perivenitis he had met with were due to this leakage of the solution after injection. He said that not only was there a distal flow in the veins, but that the capillaries shared in this back flow. It was the re-establishment of the capillary circulation which was of importance in the healing of an ulcer, and this could be attained by surgical extirpation of the veins and by firm bandaging, or by obliteration of the veins by injection.

Dr. BECKETT-OVERY said he had performed 500 injections with sodium salicylate. He usually produced six to eight inches of thrombosis, and had very little reaction. Dr. GARY mentioned that toxæmia was the chief factor in the production of varicose veins, since they made their appearance during pregnancy before the uterus was large enough to obstruct the blood return. He also referred to Lloyd's comparison between the characters of the clot in thrombosis and blood clot after bleeding.

Dr. FORESTIER, replying for his colleagues Professor Sicard and Dr. Gaugier, said that the ulcers suitable for treatment by injection were those with moderate dystrophic changes, and these due to syphilis as well as trophic disturbances. Post-phlebitic ulcers and the large dirty serpiginous ulcers were not suitable for treatment. Venectasia of the pubis and abdomen was also unsuitable. He agreed with Mr. Twistington Higgins that the greatest use of the method was in prevention of ulceration. He never used a tourniquet, and had never failed to inject a vein. There was a marked difference between the pathological histology of chemical venitis and infective phlebitis. He thought that at present it was an open question whether there was any difference between the thrombus produced by glucose and that produced by the other solutions, but he added that the only fatal cases reported in the literature followed the use of glucose. Necrosis of the skin had not occurred since sodium bicarbonate had been discarded. In conclusion, he emphasized the importance of a thorough examination of the patient before treatment, paying special attention to the blood pressure and to the examination of the urine for albumin.

### SKELETAL METASTASES IN CARCINOMA.

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on May 4th, with Dr. M. R. J. HAYES in the chair, Mr. F. J. HEURY reported a case of extensive carcinomatosis of the skeleton in a woman, aged 49, who had first noticed a lump in the left breast about a year previously.

Mr. HEURY said that six months later this lump began to ulcerate through the skin, and the patient began to suffer from severe rheumatic pains in the back and about the shoulders. She was in an extremely miserable condition, being very cachectic and scarcely able to move. A large fungating mass was present in the upper part of the left breast, and enlarged glands could be felt in the left axillary and supraclavicular regions. X-ray examination showed multiple areas of rarefaction and erosion in the spine, ribs, and pelvic bones. There was pronounced angular deformity in the lumbar region, due to collapse of the bodies of the eleventh and twelfth dorsal, and possibly of the first lumbar vertebrae. The general appearances of the vertebral column were very unusual; they were attributed to decalcification and in some cases to condensation, probably brought about by compression. Secondary deposits were also demonstrated in the humeri, scapulae, and femora. A blood examination was made, but revealed none of the abnormalities described by Piney as occurring in diffuse carcinosis of the bone marrow.

Dr. M. R. J. HAYES said that he had never seen such extensive metastases as in this case. He discussed the probable path of infection, and suggested that it might be a secondary infection through the blood stream. He referred to the care taken in America to perform a complete examination before an operation in cases of carcinoma of the breast. The condition in which he had found secondary deposits most common, and occurring at a very early date, was carcinoma of the prostate.

Mr. WALTER C. STEVENSON thought that one reason why surgery and radiation treatment succeeded in cancerous cases was that when the growth was removed the power of the patient to resist cancer was strengthened.

#### Surgical Uses of Radium.

Mr. WALTER STEVENSON, in a paper on some surgical uses of radium, briefly summarized 247 cases treated during the year 1927. Of these, 127 patients suffered from malignant disease and 120 from non-malignant conditions; his communication dealt chiefly with the latter. He suggested

that after cancerous cases had been treated the effect of radium treatment of cases met with in ordinary surgical or medical practice might well be investigated. He had found that prolonged radiation with small amounts of radio-active material appeared to have a pronounced effect in promoting the absorption of inflammatory products, entailing the period of sepsis, and relieving pain. He instanced the case of a large swelling in the neck which disappeared with mild radiation, the amount of pus formation being minimal. A case of chronic otorrhoea of four years' standing following a mastoid operation cleared up within three or four weeks of radiation treatment for seven hours. Immediate relief of the intense pain and rapid healing followed mild radiation for five days of an ulcer of the leg of about fifteen months' duration following a compound fracture. The consolidation of a united fracture of the femur in a rickety child appeared to be greatly hastened by radiation. He stated that with some of his colleagues radiation appeared to be the routine method of treating tuberculous peritonitis; certain of these cases had been treated after exploratory laparotomy when very extensive disease had been found. Mr. STEVENSON thought it probable that similar results would be obtained by  $x$  rays, but he added that the control of the dosage of radium was much better than in the case of  $x$  rays, and he instanced a case of recovery from tuberculous lung trouble which he had radiated without intermission for seven months.

Dr. M. R. J. HAYES believed that in cases of tuberculous peritonitis laparotomy was the best treatment; he was always chary of applying radiation to acute inflammatory conditions. In cases of cervical adenitis, if any of the glands contained pus, the patients should not be treated by radiation until an operation had been performed and the pus let out.

Dr. R. STURMF said that the indications for the use of radium treatment and treatment by  $x$  rays were not sufficiently known. It was possible by  $x$ -ray treatment in most cases to get as good results as were given by radium. In cases of keloid he preferred to use radium, and in cases of malignant disease of the mouth and oesophagus he employed combined treatment by radium and  $x$  rays. He had treated cases of tuberculosis of the larynx, boils, erysipelas, and actinomycosis successfully by  $x$  rays.

### MANCHESTER PATHOLOGICAL SOCIETY.

At the annual meeting of the Manchester Pathological Society on May 9th, with Dr. T. A. GOONFELLOW, the incoming president, in the chair, Professor J. S. DUNSTON gave a demonstration of venomous and non-venomous snakes. The mechanism of erection of the fangs and the action of the temporalis muscle in emptying the poison-secreting gland in venomous snakes were explained. The speaker added that the ordinary teeth were prehensile only, the victim being swallowed whole. The muzzle of the prey was swallowed first, since ingestion was easier in this way than in any other. Owing to the absence of mastication the opening of the trachea was placed far forward in the mouth, choking of the snake during deglutition being thus prevented. The venom contained a neurotoxin, as well as a proteolytic enzyme and a haemolytic body; the poisons were, to a large extent, specific. Mr. F. H. WESTMACOTT showed specimens and photographs from a case of chronic hypertrophic pulmonary osteo-arthritis, one of the first examples of this condition to be reported. Mr. R. D. MOTHERSOLE showed a specimen of a congenital buccal cyst, about the size of an orange; it was found lying on the mother's perineum after delivery, with which it had caused some interference. The pedicle had been attached between the lower lip and the jaw of the child, who was alive and well. Professor SHAW DUNN showed specimens of ulcers of the oesophagus, among them two examples of decubitus ulcers of the pharynx, caused by the pressure of the cricoid cartilage against the vertebral column. In one case this pressure had been due to a marked anterior curvature, the result of spondylitis. Dr. C. POWELL WHITE demonstrated a number of microphotographs illustrating various points in the histology of tumours, including an adenoma and an adenocarcinoma of the rectum from the same patient, and also an adenocarcinoma arising in the centre of an adenoma.

## Rebels.

### CLAUDE BERNARD'S "INTRODUCTION."

MR. H. COPLEY GREENE'S translation of CLAUDE BERNARD'S *Introduction to the Study of Experimental Medicine*<sup>1</sup> will help to make English readers acquainted with a work that should be in the hands of everyone who is engaged in medical research. The translation is excellent, and is preceded by an appreciative account of Claude Bernard by Professor Lawrence Henderson of Harvard and Paul Bert's article written at the time of Bernard's death. Although the *Introduction* made its first appearance in 1865 its value has not diminished in the lapse of years; indeed, it is difficult to believe that it will ever be out of date, because it expounds in a masterly way the fundamental principles of experimental research that hold for all time. It is, moreover, no mere philosophical dissertation, but a thoroughly practical guide to the research worker, explaining how discoveries have been and are to be made. Claude Bernard is insistent on the practical aspect; he sets aside theoretical questions of deduction and induction as unprofitable, and notes that although the Baconian induction has been made the foundation of all scientific philosophy, Bacon himself did not understand the experimental method; the hapless attempts that he made sufficiently prove it. Great experimenters appeared before all precepts of experimentation, as great orators preceded all treatises on rhetoric; Galileo and Torricelli admirably practised the experimental method which Bacon could never use, and it is the practice of experiment that Bernard explains in his book.

The need for a work of this kind at the present time is referred to by Professor Henderson. He points out that in the composition of modern scientific literature it is the custom to adopt a formal, rigid, and impersonal style which affords no insight into the personality and behaviour of the writer behind the printed page. The same is true of lectures; they are formal, logical, and impersonal. Yet what the novice in experimental research requires is an understanding of the working of the mind of the great investigator, and this is at the present time practically shut out from him; he has to initiate himself into mysteries which no one will explain to him. Of the real disadvantages resulting from this defect Claude Bernard has no doubt; he considered that the genius of inventiveness might be seriously diminished, or even smothered, by a poor experimental method. An inventive spirit and aptness of mind cannot be imparted by any means, but a good method enables such faculties as we possess to be turned to good account.

In Claude Bernard's *Introduction to the Study of Experimental Medicine* we are shown what are the essentials of a good method, and we have a vivid picture of himself at work by one of the most intelligent of modern scientists—a man of genius and a great physiologist. The numerous examples that he gives of his own experimental physiological investigations form an extremely instructive chapter, in which the working of his mind is portrayed in every detail and stage of the process—from the first inception in some, often chance or trivial, observation or hypothesis, and along lines often singularly circuitous and unexpected, up to the final goal of some important discovery.

The book is unique; there is no other like it, and apart from its scientific value it has literary merits which, at the time of its appearance, gained the applause of the French Academy.

### FUNCTIONAL REPRODUCTIVE DISORDERS IN WOMEN.

THE book on the functional disturbances of the female reproductive system<sup>2</sup> by Professor GASTON COTTE is designed to show what can be done in restoration of function, and does not concern itself with those conditions, such

as cancer, that call for radical treatment resulting in destruction of function.

Operations such as salpingectomy are not discussed, but those such as salpingostomy, which have for their object the restoration of function in a tube sealed by inflammation, are included. Similarly hysterectomy as a method of treatment for non-malignant conditions does not come within the author's theme, save in so far as he is concerned to advocate in women before the menopause the subtotal operation, with conservation of at least one ovary, when it is impossible to preserve the integrity of the reproductive tract. He has a very clear impression that the after-effects of this method are much less troublesome than those of the more radical operation.

The first, and much the longest, chapter is devoted to menstruation and its disorders, opening with a section on the sex cycle in the mammalia, which, taken as the biological foundation of the menstrual cycle in women, is considered in detail. In view of the author's purpose a full account of the physiological aspects and meaning of this function is given before going on to its disorders. These latter are confined to absence and deficiency, excess and irregularity of menstruation, dysmenorrhoea being considered under disorders of innervation. Treatment by medical means, especially organotherapy, and by physical and surgical procedures is discussed. He decries the excessive use of the curette, and in this plea will find much support. When, however, he proceeds to advocate various interventions on the ovaries largely based upon theories which are as yet incompletely established, he is on much more contentious ground. Resections of portions of ovarian tissue are advised, and it is suggested that if one ovary is found to contain atretic follicles and no corpora lutea, homoplastic grafting from the other should be practised. Many will hesitate to follow him in adopting speculative procedures of this kind, even if, as he points out, an application of radium may be tried in the event of a recurrence of symptoms. The next chapter covers disordered sexual relations—dyspareunia, vaginismus, and frigidity—and is followed by another on sterility and disturbance of embedding of the fertilized ovum, leaving aside the other disorders of reproduction during pregnancy, parturition, and the puerperium as being more particularly the concern of the obstetrician. Chapter iv is concerned with leucorrhoea and disordered secretion; chapter v with vascular disturbance; chapter vi with disturbances of innervation. The final chapter treats of ovarian insufficiency and the disorders consequent on castration. We doubt, however, if the method of treatment of dysmenorrhoea and "pelvic neuralgias" by division of the anterior hypogastric nerve of the sympathetic plexus after a deep dissection will meet with acceptance.

Our criticism of the book is that, though the author has set out with an excellent purpose, he has allowed his enthusiasm for avoiding mutilation and needless destruction of function to lead him to advance procedures which are unsupported by adequate experience of results.

### THE PNEUMOTHORAX AND SURGICAL TREAT- MENT OF PHTHISIS.

THE pneumothorax treatment of pulmonary tuberculosis is so important, and still so new and therefore subject to revisions and improvements, that everyone interested in it must be grateful for a second edition<sup>3</sup> of a book which has already become the standard authority on pneumothorax treatment in this country. In his preface Dr. CLIVE RIVIERE points out that the original fourteen chapters have grown into nineteen by the addition of separate chapters on such subjects as the reduction of adherent pleura, pleural contraction and its effects, the duration of treatment and its termination. In addition, such subjects as the division of pleural adhesions, small-volume pneumothorax, selective collapse, oleothorax, and pneumothorax in childhood have received separate and special attention. But what distinguishes the second from the first edition most prominently is the addition of a second part dealing

<sup>1</sup> *An Introduction to the Study of Experimental Medicine.* By Claude Bernard. Translated by Henry Copley Greene, A.M. New York and London: Macmillan and Co., Ltd. 1927. (Med. 8vo, pp. xix + 226.)  
<sup>2</sup> *Les Troubles Fonctionnels de l'Appareil Génital de la Femme.* Par Gaston Cotte. Paris: Masson et Cie. 1928. (Sup. roy. 8vo, pp. 570; 116 figures, 60 fr. sans majoration.)

<sup>3</sup> *The Pneumothorax and Surgical Treatment of Pulmonary Tuberculosis.* By Clive Riviere, M.D. (Lond.), F.R.C.P. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Cr. 8vo, pp. xxii + 311; 16 plates. 10s. 6d. net.)

with the surgical treatment of pulmonary tuberculosis. The author has, of course, avoided those technical and operative details which must inevitably belong to the sphere of the surgeon, and he has confined himself to giving a general survey of the subject for the benefit of the practitioner who, in the interests of the patient, ought to know the indications and chances of success of operative intervention. It is interesting in this connexion to read that "in the estimation of the Matsons and Bisaillon, one-third of the 'no free space' cases, and one-third of the cases of ineffective partial collapse, are suitable for thoracoplasty, and should have this chance offered to them."

#### PULMONARY TUBERCULOSIS.

Dr. G. T. HENRY's little book *Pulmonary Tuberculosis* is intended for the senior student, the post-graduate, and the general practitioner. The first thing that strikes one about it is the peculiar arrangement of the subject matter. The first chapter is headed "Diagnosis"; then come the usual chapters on pathology, symptoms, physical signs, and x-ray examination. Instead of these being followed by a chapter on diagnosis, the author has inserted special chapters on pleural effusion and fibrosis; and when diagnosis is considered, the two chapters devoted to it, headed "Evaluation of evidence" and "Differential diagnosis," are separated by a special chapter on tuberculosis in children. It is to be hoped that in a future edition a more logical order will be arrived at. Apart from this fault of structure, the book is remarkably good; it is clear, direct, and dogmatic, as a popular textbook should be, and is illustrated by some very useful diagrams. We note the inclusion of the old error, copied from one textbook to another for the last forty years, that the *Mycobacterium tuberculosis* is decolorized by alcohol. It is really time that this was given up; it is quite impossible to distinguish the saprophytic acid-fast from the tubercle bacilli by morphological and staining methods, and this should be taught authoritatively.

#### RARE DISEASES OF VERTEBRAE.

Dr. ANDRÉ LÉRI's volume on affections of the vertebral column\* may be taken as a sequel or second part of his book, *Études sur les affections des os et des articulations (colonne vertébrale exceptée)*, which also appeared in 1926, and was noticed in our issue of June 18th, 1927 (p. 1106). These "études," like those which formed the other volume, are all reprints from French journals, in many of which other authors have collaborated, some of whom are highly distinguished, such as Dr. Pierre Marie. The book is divided into five parts, the titles of which will give a clue to its subject matter. These are: I, Anomalies and "troubles" (that is, disorders) of development; II, Traumatic affections; III, Ankylosing disorders of the spine; IV, Localized vertebral rheumatism and its consequences; V, Miscellaneous affections. Of these, the first occupies more than one-third of the book, and includes interesting and often rare cases of maldevelopment, such as sacralization of vertebrae, lumbalization of sacrum, spina bifida, and various conditions which radiography has brought to the front of late years. Parts III and IV, on ankylosing diseases and rheumatic affections, occupy most of the rest of the book. Pott's disease is only referred to in a few pages in Part V on "Pott's" infantilism, in which will be found some interesting observations of cases of severe kyphosis, in which, as is familiar to many of us, there is some degree of arrest of sexual and general development.

Such a volume as this, and its fellow, is valuable as a work of reference, in which the practitioner who has come upon an unusual case may find a record of others of a similar kind, and some hints on their pathology and treatment. In general, however, Dr. Léri lays much more stress on pathology than therapeutics, for no descriptions of

operations or apparatus will be found in this work. Dr. Pierre Marie, who has written the preface, welcomes this book, indeed, as an attempt made by a physician to annex a new territory in a domain which hitherto has almost entirely belonged to surgery. Those who annex, or try to annex, their neighbours' possessions are apt to get into trouble, and Dr. Léri must not be surprised if surgeons fail to admit his claims, since he has not made them good by cures without the help of surgeons. Indeed, in the case of spina bifida with incontinence of urine, Dr. Marie has to admit that the collaboration of a surgeon has been needed to achieve good results.

#### AYURVEDIST MATERIA MEDICA.

Mrs. K. M. NADKARNI, the author of a well-known work on Indian plants and drugs, has issued what appears to be a very complete *Indian Materia Medica*—that is to say, a materia medica on Ayurvedist lines. The book will be of use to those who take an interest in native Indian matters, since it gives an insight into one of the more favourable and practical aspects of Ayurvedist medicine. Being restricted to Indian drugs its scope is necessarily limited in some slight degree, there being, for example, no mention of digitalis and streptococcus. The author, however, does not intend that his book shall replace the British materia medica, but that it may be used side by side with the latter. He hopes that his work may encourage the employment of the drugs prepared in the native bazaars, which are vastly less expensive than imported drugs, and employment of which would do something to meet the grinding poverty of the people. The book is, as we have said, frankly Ayurvedist, and the author expresses a wish, in his preface, that the Ayurvedist system were more closely and sympathetically studied. An article on the indigenous systems was published in this *Journal* in 1923 (vol. ii, p. 477), and was written after an impartial study of the subject, based solely on material furnished by a number of distinguished Ayurvedists. The conclusion reached was that Ayurvedism represents a stage in the development of medical science that is centuries behind the present level of knowledge. This conclusion implies no disparagement, for Ayurvedism is admittedly a subject of very great historical interest. Western medicine has passed through a similar stage, and it must be obvious to Ayurvedists that their science cannot remain stationary if it is to survive. It would be unreasonable to suppose that their ideas can be transformed in a day; the change is bound to be gradual, but of its importance for the welfare of the people of India there can be no doubt. It is possible that the main obstacles to further advance are the idea that science rests on authority, rather than on observation and experiment, and a failure to recognize that the *ipse dixit* of an authority, however venerable, is almost certain to contain an admixture of error, and is not unlikely to be a mere legend or play of the imagination.

#### NOTES ON BOOKS.

In *Rebuilding the Child: A Study in Malnutrition*,<sup>†</sup> Dr. FRANK HOWARD RICHARDSON of Brooklyn, New York, the author of *Parenthood and the Newer Psychology* and of *Simplifying Motherhood*, addresses parents, teachers, nurses, and doctors, but the simple, somewhat elementary, style is perhaps better fitted for the parents. Malnutrition, according to the editorial foreword, which tells the reader that this book appeared as a series of articles in the *Trained Nurse and Hospital Review*, is the great disease of the American school child, and is shown by underweight for age and height, the latter being the more important; in fact, Dr. EMERSON, who contributes the introduction, neglects the age factor altogether. The child has a pasty face with a tired, don't-care expression, the chest is flattened, the angles of the scapulae stick out like rudimentary wings, and the abdomen sags and is prominent from want of tone. Malnutrition is not ascribed to deficiency of food, but to five classes of causes—faulty health habits,

\* *Pulmonary Tuberculosis*. By G. T. Henry, M.A., M.D., Oxon., M.R.C.P. Lond. London: E. Arnold. 1927. (Cr. 8vo, pp. 212; 5 figures. 7s. 6d. net.)

† *Études sur les affections de la colonne vertébrale*. Par André Léri. Paris: Masson et Cie. (6 x 8½, pp. vii + 526; 115 figures. 7s. 6d. net.)

\* *The Indian Materia Medica*. Edited and published by K. M. Nadkarni. Bombay: K. M. Nadkarni. 1927. (Cr. 8vo, pp. xxviii + 1142 + lxxxviii. 18s. net.)

† *Rebuilding the Child: A Study in Malnutrition*. By Frank Howard Richardson, M.D., F.A.C.P. With an introduction by W. R. P. Emerson, M.D. London and New York: G. P. Putnam's Sons, Ltd. 1927. (Cr. 8vo, pp. xxvi + 319; 44 figures. 7s. 6d. net.)



faulty food habits, family strain, school strain, and physical defects—which are discussed in separate chapters. The subheading of the chapter on faulty health habits is "Americanitis." Among the directions given to parents in connexion with faulty food habits much stress is laid on the elimination from the diet of "added sweets," on stopping cream, and reducing the quantity of butter to scanty proportions. The method of treatment advised is inculcated by the system of the nutrition class, which Dr. Richardson had conducted for some years.

*Problems in Psychopathology*,<sup>8</sup> by Dr. T. W. MITCHELL, is based upon a course of lectures delivered to an audience drawn from members of the British Institute of Philosophical Studies. Following a chapter on the earlier development of psychopathology, the remainder of the book is devoted to an exposition and discussion of the theories of Freud. The writer, who is evidently now an adherent of the psycho-analytical school, writes with the clarity which characterizes his other contributions to psychopathology—and it is assuredly not an easy task to make the more recent views of Freud in respect to the development of the ego and the nature of the instincts comprehensible to the uninitiated reader. In concluding his book Dr. Mitchell states that the fundamental conceptions of psycho-analysis are those of conflict and repression, the unconscious, infantile sexuality, and transference; and he then proceeds to show how the post-analytical schools of Rivers, Jung, and Adler have arisen, and in what respects their tenets differ from those propounded by Freud.

A fifth and enlarged edition of Dr. W. D. ROSE's book on *Physical Diagnosis*<sup>9</sup> has now been published. This has been completely revised both as regards text and illustrations. Important changes appear in the section on the heart, where the clinical aspect of early heart failure has been especially emphasized, and the section on endocarditis also has undergone a good deal of careful alteration. Recent advances in the various methods of diagnosis have been incorporated in the text.

The favourable reception accorded to the first edition of the work by Dr. LEROUX-ROBERT on high frequency in oto-rhino-laryngology<sup>10</sup> has justified the preparation of a new issue. This does not differ in essentials from the first edition, but the author has taken the opportunity of calling attention to improvements in the elaborate instrumentation necessary. The surgical aspect is well described; this has established itself more firmly in England than the medical, which has perhaps been neglected unduly. The author again insists on the necessity of exact measurements in dosage. A work of this kind is necessary to those who employ high frequency in a scientific manner. To those who are content to work by rule of thumb it will not appeal so strongly.

*Lectures on the Biologic Aspects of Colloid and Physiologic Chemistry*<sup>11</sup> is a volume of half a dozen lectures given by different authors at the Mayo Foundation and the Universities of Minnesota, Iowa, Washington (St. Louis), and the Des Moines Academy of Medicine from 1925 to 1926. Their general theme is indicated by the title. The lecturers have all made original contributions to knowledge in various departments of colloid chemistry or physics, and their remarks carry with them that freshness of tone and presentation which is almost inevitably lacking in a mere review of the work of others, however painstaking and thorough. Clearly, the appeal of the lectures to individual readers will depend to some extent on personal tastes and interests. Professor Chambers's remarkably clear discussion of the properties of boundary membranes cannot fail to interest the cytologist; Professor Barton's discussion of the ultramicroscope will appeal rather to the colloidal chemist and the bacteriologist. To the general reader, perhaps, the most instructive lectures are the first, by Professor Millikan, on "The principles underlying colloid chemistry," and Professor Bovic's discussion on "The biological effects of light."

The former occupant of the office of bursar and lecturer at King's College for Women, Household and Social Branch, Miss F. E. FINDLAY SHIRRAS, has written an excellent little book, *Aids to Catering*,<sup>12</sup> with special reference to institutions. Her

chief object is to show that a large and attractive range of food can be provided at the common table, and at no greater cost or trouble to the kitchen staff than the more monotonous stodginesses that are too often found in schools and institutions. There are chapters that will be of help to the buyer, and information is given about meat, side dishes, stock, preserves and pickles, bread, and pastry of various kinds. There follow a calendar of seasonable food for each month of the year, hints on how to serve up the meat and fish, and finally the bills of fare of meals actually provided at the college for one whole year, day by day. An uncommonly attractive dietary is presented, good in balance, without hint of crankiness; and if the serving of it proved to be as good as the thought expended on the arrangement, then the girls in that college must have been a well-fed and contented group. The book is a good example of catering mixed with brains.

The number of medical men whose hobby is fishing must be very large; it is an excellent antidote to the cares of practice. The humorous novelist WILLIAM CAINE was a fisherman too, and his widow has collected into a book, *Fish, Fishing and Fishermen*,<sup>13</sup> sundry articles of his which first appeared in the *Field*, *Punch*, and other periodicals. Mr. Caine was a dry-fly fisher for trout—he preferred to call them trouts—and he regarded other forms of fishing as fit only for the baser sort of men. Even "dapping" with the dry fly inspired him to an essay. As a fisherman he was justly indignant at the pollution of streams by the manufacturer, and the fish-killing propensities of the beet-sugar enthusiast would have aroused his wrath. In an article on had form in fishing there is a conio diatribe against the man in the smoking-room who ventures to doubt the impressive statements of "fact" made by fishermen. Such a man is described as being at heart a "gudgeon-killer," who exchanges glances of the basest significance with his companion, "a doctor who dubs for eels by night with a ball of worms and worsted."

<sup>13</sup> *Fish, Fishing and Fishermen*. By William Caine. London: P. Allan and Co., Ltd. 1927. (Demy 8vo, pp. xli + 253; 1 portrait. 10s. 6d. net.)

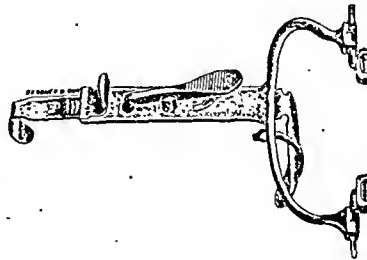
## PREPARATIONS AND APPLIANCES.

### A MOUTH GAG.

MR. NORMAN M. EADIE, Royal Hospital for Sick Children, Edinburgh, has designed a gag for tonsillectomy and other operations in the mouth which has given great satisfaction. It embodies the following advantages.

The teeth plates, with soft metal bearing surfaces, exert pressure on the molar teeth, which are not liable to injury, as is the case with the incisors.

The pressure being applied equally to both sides by means of easily adjustable tooth plates, the instrument is rigid and cannot rock from side to side; for edentulous patients this is a great advantage. The pressure being applied equally to both sides allows the tongue plate to remain accurately placed upon the tongue, which does not bulge out from beneath



it. The outer surfaces of the tooth plates act as effective cheek retractors. With the moulded tongue plate sufficient depression of the tongue is obtained without undue tension upon the faucial pillars.

An anaesthetic tube is provided; while the three sizes of tongue depressor give it an almost universal range.

The gag is made by Messrs. J. Gardner and Son, Edinburgh.

### AN ASEPTIC CLINICAL THERMOMETER.

We have received from Messrs. Coates and Cooper (41, Great Tower Street, London, E.C.3) a specimen of their "Simplex" aseptic clinical thermometer, manufactured in this country. The thermometer has a small screw-top holder which fits into a metal case. Into the lower end of the case is inserted a moulded glass container, which will hold enough antiseptic solution (such as 2 per cent. carboly) to bathe the lower end of the thermometer. There are slits in the outer case through which the presence of enough fluid in the container can be ascertained, and this is made easy if the solution is coloured. The whole appliance is no larger than a cigar, and has a clip for the waistcoat pocket. The thermometer can be unscrewed in a moment and withdrawn without removing the case from the pocket, and the antiseptic fluid can be replenished almost as readily. Leakage is prevented when the thermometer is in use by means of a rubber valve. A broken thermometer can be replaced by heating the composition in the screw-top holder. The price to the medical and nursing professions is 8s. 6d. complete.

<sup>8</sup> *Problems in Psychopathology*. By T. W. Mitchell, M.D. The International Library of Psychology, Philosophy, and Scientific Method. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1927. (Demy 8vo, pp. v + 150. 9s. net.)

<sup>9</sup> *Physical Diagnosis*. By W. D. Rose, M.D. Fifth edition, revised and enlarged. London: H. Kimpton. 1928. (6 x 9½, pp. 819; 310 figures, 3 plates. 42s. net.)

<sup>10</sup> *La Haute Fréquence en Oto-Rhino-Laryngologie*. Dr. Leroux-Robert. Deuxième édition, rev. et complétée. Paris: Masson et Co. 1927. (8 x 11, pp. 25 fr. sans majoration.)

<sup>11</sup> *Lectures on the Biologic Aspects of Colloid and Physiologic Chemistry*. Philadelphia and London: W. B. Saunders Company. 1928. (Post 8vo, pp. 214; 25 figures. 12s. net.)

<sup>12</sup> *Aids to Catering*. By F. E. Findlay Shirras. Introduction by Walter Rimmer, M.A. London: J. M. Dent and Sons, Ltd. 1927. (Cr. 8vo, pp. ix + 115. 5s. net.)

## THE NEW PSYCHIATRY.

MAUNDSELY LECTURE BY SIR JOHN MACPHERSON.

THE Maundseley Lecture, under the auspices of the Royal Medico-Psychological Association, was delivered at the British Medical Association House, Tavistock Square, on May 16th, by Sir John Macpherson, formerly Commissioner in Lunacy for Scotland and Professor of Psychiatry in the University of Sydney.

Sir John Macpherson defined psychiatry in its literal sense as the medical treatment of mental disorders, which necessarily implied scientific investigation of their nature and causes. The commencement of the twentieth century was marked by the advent of psychopathology, though its significance did not at first attract much attention. For many years previously the medical world had been interested in Charcot's studies of hysteria, but it was reserved for one of his pupils, Janet, to demonstrate that hysteria was a mental disorder and that its varied phenomena could be interpreted in psychological terms. Janet's contribution to psychiatry was the concept of dissociation. In some respects his definition of hysterical dissociation was not entirely satisfactory, because it implied a splitting up of consciousness and personality. It was highly improbable that there could be such a splitting up, for the cortical mechanism integrated as a single system. The vital process called consciousness was one thing; the outward expression of that process, which was called behaviour, was quite another. Behaviour might give the appearance of split consciousness because of changes in the integration of cortical processes; in the same way double personality depended upon different integrations within the cortical mechanism at different times.

Dissociation was a comparatively new term, though fifty years ago a similar condition was described by Hughlings Jackson, who taught that all morbid nervous phenomena were due to two factors—a negative factor consisting of loss of function at a higher level, and a positive factor consisting of over-function at a lower. The causes of dissociation resolved themselves into two co-operating groups, termed by the lecturer the *causa causans* group, including the whole familiar series of physical and physical agencies, and the *causa sine qua non* group, which in the present state of knowledge could only be referred to generally as the inherent instability of the cerebral mechanism.

*Freud and Orthodox Psychiatry.*

It was in connexion with the cause of dissociation that Freud joined issue, maintaining that functional dissociation was caused by conflict of opposing psychological forces, and that the resulting symptoms were due to attempts on the part of the organism to adapt itself to altered conditions. Superficially such a statement appeared incompatible with contemporary views, but Freud proceeded to erect upon it a system of psychology which in a remarkably short time had captured, if not the assent, at any rate the attention, of the civilized world.

The Freudian theory and method were more firmly established than some people appeared to believe, for they were unassailable by direct argument or dialectic attack. To say that the Freudian hypothesis was embarrassing to psychiatry was no more than the truth; to say that it was supplanting the other was to exaggerate. The present position might be more correctly described as an *imperium in imperio*. The field of psychiatry was infinitely wider than that covered by Freudian doctrines, and its relations with the medical and cognate sciences were too close to allow the possibility of the new psychology superseding it.

*The Foundations of Objective Psychology.*

After some discussion of the vital functions of the cortex the lecturer went on to consider the foundations of objective psychology. From Pavlov's recent researches it was learned that cortical inhibition (physiologically a state of rest) had a tendency to irradiate from its point of initiation, and by a process of induction to cause excitation in neighbouring areas, which excitation arrested the spread of inhibition. Thus the cortex might be visualized as a mosaic of inhibitory and excitatory areas within which the dynamic activities of irradiation and induction acted and reacted in endless variety. Certain changes in cortical equi-

brum resulted in sleep, in a kind of hypnosis, or in actual mental perturbation. That the depressed and exalted phases of the manic-depressive syndrome depended upon states of cortical inhibition and excitation had long been believed, but a more definite knowledge of the mechanism of these conditions was due to the researches of Pavlov. Once the cortical equilibrium was profoundly upset the effect did not pass away immediately, but might last for weeks and months, as was known from experience, and also again from the work of Pavlov on dogs.

There was no single symptom in the whole range of mental disorders which was not represented in the mental processes of normal people. We were dissociated from our surroundings when we were engaged in any absorbing occupation, when we forgot, and when we fell asleep. "When we dream, we are insane." As we were neither omniscient nor able to see into the future we were credulous, superstitious, and suspicious, and we developed many harmless delusions, the mechanism of which was the same as that of the delusions of the insane. We were only saved from insanity because our more or less efficient cortical mechanisms were able to correct our mental reflections and to inhibit our tendencies to abnormal behaviour.

*The Question of Certification.*

It was abnormal behaviour, the outward expression of cortical dissociation, that determined the necessity or otherwise of certification. The person who certified ought to be able to do so, not on the ground of abnormal behaviour alone, but also on the nature and cause of the cortical dissociation. Therefore medical education and experience were required for certification; the statutory appointment of a layman to revise the opinion of the medical certifier could be regarded only as a device to allay public suspicion. If proof was needed as to the prevalence of public suspicion it could be found in the provisions of the Lunacy Act, 1890, which showed less concern for the welfare of the insane than for the protection of the sane.

In any human system of the dimensions of lunacy administration it would be foolish to assert that mistakes and abuses could not occur; but the lecturer thought they must be extremely few in number. In his own experience he had never come across a single instance of abuse of certification or detention, but he had had cause to deplore the hardship imposed upon patients and their relatives by the reluctance of the medical man to certify. The same prejudices which influenced the framers of the Act of 1890 could be discerned in recent cases in the courts, not so much in the motives actuating the litigants as in the atmosphere of vindictiveness involving the proceedings. He had happened to be in a distant part of the Empire when newspaper reports of these cases were forthcoming; there they were received with amused surprise—amusement that courts of justice should deliberate for weeks over issues which appeared to present no great problems to the man in the street, and surprise that the Mother of Parliaments should not have devised less clamorous methods for the adjustment of disputes involving such pathetic and morbid details. He praised, by contrast, the simple and elastic administration of lunacy law in New South Wales, where it had recently been arranged that every large general hospital should make provision for the treatment of patients suffering from mental and nervous disorders. This was accomplished without legislative enactment.

The aims of the scientific spirit behind psychiatry, concluded Sir John Macpherson, could best be achieved by the admission of all cases of mental disorder to public hospitals without certification or judicial intervention. The great majority of patients and their relatives would welcome such an opportunity. There was sufficient legal machinery to deal with the small recalcitrant minority who would refuse to enter a hospital or remain in it. In addition to the existing mental hospitals advantage should be taken of every opportunity of utilizing the many scientific facilities of general hospitals by providing accommodation for the treatment of mental disorders in their vicinity. Such a provision, on an enlarged scale, was specially desirable in every centre of medical education. If mental patients had the opportunity of such informal access to treatment as was accorded to patients suffering from other diseases,

mental disorders would be robbed of some of the terror and opprobrium attaching to them; psychiatry also would be brought into closer relations with general medicine, whereby its scientific spirit would be widened and its therapeutic efficiency improved.

### CHRONIC ARTHRITIS.

THE publication of Dr. J. A. Glover's report<sup>1</sup> on chronic arthritis, with special reference to the provision of treatment, was mentioned in the *Journal* of May 12th, but in view of the recent conference on rheumatic diseases<sup>2</sup> at Bath, in which Dr. Glover took part, we now give a more detailed summary of this official document issued by the Ministry of Health.

This report, which is the third to deal with aspects of the problem of rheumatism, has been written in fulfilment of a promise given by the Minister of Health to a deputation from various approved societies, and the Chief Medical Officer, Sir George Newman, in a prefatory note, stresses the need for the organization of an adequate treatment in efficient centres if the very heavy claims on the funds of these societies are to be effectively reduced. Dr. Glover begins his report with a short section on the history of chronic arthritis, and then enters upon the difficulties of classification. The scheme used here is the same as in the previous report on the incidence of rheumatic diseases, and comprises rheumatoid arthritis (including infective polyarthritis), osteo-arthritis, gout, and a fourth group of "chronic joint changes unclassifiable." This scheme is amplified and discussed, and a table sets out the main points in differential diagnosis. The present report is mainly concerned with treatment, but a summary of some previous work on incidence is included, dealing particularly with insurance statistics, both British and foreign.

#### Etiology.

In the second section the more important problems in the etiology of chronic arthritis are discussed. Dr. Glover does not dogmatize on the question of heredity and diathesis, but quotes authorities supporting the various views. The prevalent idea is summed up in the statement that "the study of the family history of parents [<sup>2</sup> patients] will incline most people to the opinion that probably some hereditary influence does play a part in the production of chronic arthritis." The rather curious sex incidence of the various forms of the disease is next discussed, followed by some comments on the age of onset. There appear to be certain factors which play a part as predisposing causes in the production of chronic arthritis, and of these occupation, chill, dampness of houses or of localities, water supply, antecedent diseases, pregnancy, menopause, and mental stress are mentioned. The theory of focal sepsis is well reasoned. Here Dr. Glover observes: "We must regard chronic arthritis as an end-result, which may be caused by the results of the action of many different bacteria." After discussing the views of Timbrell Fisher, Hare, and other workers, he concludes that "the role of focal sepsis in the production of joint disease is not clearly known," but "the value of [the] theory of focal sepsis must, however, be interpreted chiefly in the light of clinical results." Disorders of metabolism are also held by authorities to play a part in a group of cases in which some inborn error or some acquired fault of metabolism is the primary cause. The results of various biochemical investigations in this field are summarized under the headings of basal metabolism, urinary analysis, and blood analysis, while the occurrence of achlorhydria and endocrine disturbances is also mentioned.

#### Treatment.

Coming to the main part of this report, Dr. Glover emphasizes from the start the importance of early diagnosis.

"When a patient presents himself or herself with any symptom or sign suggestive of chronic arthritis the practitioner has two clear and urgent duties, the first to attempt to differentiate the variety of arthritis present and the stage to which the disease has progressed, and the second, even more important, himself to begin that determined search for an infective focus, in which later he may probably have to invoke specialist aid."

The next steps consist of a specialized search for focal sepsis and the measures to be undertaken for removal. In an analysis of some 545 cases it was found that demonstrable foci were present in 70 per cent. In this large group dental sepsis was the predominating form, and the whole question of the teeth in chronic arthritic conditions is next dealt with in a thorough manner. The need for expert dentists and good dental radiograms is stressed and the dangers of wholesale extraction are not overlooked. On this point Dr. Glover wisely remarks:

"... whilst it has been necessary to sound a note of caution about wholesale or numerous extractions, it must be remembered that dentists are on the whole conservative, and that one tooth with hidden root sepsis left in the jaw may be quite sufficient to keep up a chronic arthritis."

Tonsillar sepsis, nasal sinusitis, and intestinal infections are next dealt with, and also urinary infection, especially in regard to the analogy of gonococcal arthritis. The septic focus having been dealt with, the question of vaccine therapy next receives attention under the headings of autogenous vaccines, stock vaccines, and non-specific protein therapy. The last, especially when carried out with T.A.B. vaccine, is urged by authorities for the early case, and certainly the results here set out appear to warrant its more frequent use. Dietetic measures, in some instances "feeding-up" and in others cutting down the diet, are described, and the theory of vitamin deficiencies is mentioned. Drug treatment is summed up in half a page, and the absence of any comment on this is itself of significance. Next comes a long section on physiotherapeutic measures in chronic arthritis, whereby heat and "other insults" may be applied to the skin and joints. The principles of hydrotherapy and balneotherapy are set out, and details of the chief methods employed are given with illustrations. The internal administration of mineral waters is very fairly dealt with, and despite the unproved doctrine of the specific action of mineral waters in the treatment of chronic arthritis, it is concluded "that spa treatment may and should play a very important part in the treatment of chronic arthritis." Surgical measures required in chronic arthritis are also discussed, and the difficulties of assessing the results of the treatment of chronic arthritis by any means are explained.

#### The Provision of Treatment.

It becomes obvious as the methods of treatment are set out that the provision of a team of workers is necessary from the outset, and that appropriate treatment, even if it can be obtained, is a matter of very considerable expense. The existing provision of treatment in the general hospitals, in the Poor Law infirmaries, and in the spa hospitals is discussed, and the urgent need for further facilities is manifest. The work already done by the general practitioner in the past receives appreciative notice, and for the future Dr. Glover writes:

"... the general practitioner will often have the opportunity of seeing such cases in the early stages when discovery and removal of the infecting focus and other appropriate treatment affords a greater chance than at the later stages of effecting a speedy and permanent cure. If the general practitioner is not content merely to relieve immediate symptoms; if he recognizes the necessity of searching for the cause, and if he exercises the tact, patience, and energy necessary to persuade the patient to submit to the necessary treatment, whether given by the practitioner himself or by others, invaluable time may be saved."

The need for physical treatment centres, as outlined in the annual report for 1925 of the Chief Medical Officer of the Ministry of Health, is insisted upon, and the possible provision of "arthritis units" to fulfil the purpose of research and observation as well as treatment is mentioned. Increased use of the existing spa hospitals for early cases is also urged. The out-patient clinics to be established, if funds permit, by the British Red Cross Society and the British Committee on Rheumatism are looked upon as the beginning of the provision of such clinics throughout the country, and the need for educating the public in preventive measures, especially with regard to dental sepsis, is emphasized.

In an appendix Dr. Fortesene Fox and Miss Margarethe Mautner describe the treatment of rheumatic diseases by physical methods in Germany.

<sup>1</sup> Reports on Public Health and Medical Subjects. No. 52. London: H.M. Stationery Office, 1928. Price 1s. 6d.

<sup>2</sup> British Medical Journal, May 19th, 1928, pp. 652-59.

# British Medical Journal.

SATURDAY, MAY 26TH, 1928.

## THE EARLY DIAGNOSIS OF CANCER OF THE RECTUM.

THE medical man whose patients can persuade him to give them offhand "something for piles" sounds the death knell of many an early case of cancer of the rectum; for it seems certain that, of all the types of cancer with which the surgeon has to deal, those occurring in the rectum and colon which are dealt with by excision at an early stage give better ultimate results than those arising in almost any other part of the body. The importance, therefore, of early diagnosis cannot be over-estimated or too often reiterated. The Subsection of Proctology of the Royal Society of Medicine recently held an interesting discussion on this subject (of which a report appeared in our last issue at page 846), and if there was one point above all others made most abundantly clear it was the imperative need for a routine digital examination in every case presenting rectal symptoms, no matter how trivial or unimportant they may appear to be. Everyone knows that this precaution is frequently neglected—the patient may resent it, the time or the surroundings may be inappropriate, the doctor may be hurried and overworked—and only too often the golden opportunity of recognizing a really early and curable case of cancer has slipped away. It is but too true that in far too many instances the patient does not consult a doctor at all until the growth has extended beyond all prospect of any curative treatment in our present state of knowledge, although it is satisfactory to learn that there is some evidence indicating not only that patients are coming to their doctors at an earlier stage of the disease, but that the medical profession as a whole is more alive to the necessity for earlier diagnosis and the value of early treatment.

Whereas the great majority of malignant growths of the rectum and recto-sigmoid are within reach of digital examination, and may therefore be classed as accessible or external cancers in the same sense as growths of the cervix uteri or buccal cavity, yet there is a proportion just beyond the reach of ordinary examination, and the detection of the growth calls for a little more care and skill. It is in just these cases that the proctoscope has proved of such great value; well named "an elongated finger with a human eye," it is so simple in use, so easy and cheap to maintain, and so convincing in its demonstration of those dangerous three or four inches of the lower bowel just beyond reach of the finger, that it is matter for surprise that it has not yet fully taken its place in the practitioner's armamentarium beside the otoscope, the laryngoscope, and the ophthalmoscope. It is certainly as easy to use as any of them, and there is further the comforting reflection that the differential diagnosis of diseases of the recto-sigmoid is simple, for all the published figures indicate that if any chronic ulceration is detected this is very much more likely to be cancer than anything else.

If a growth develops in a portion of the bowel beyond the reach of the finger or the simple proctoscope, its demonstration and its differential diagnosis present a more complicated problem, for the long

sigmoidoscope will be necessary, and its introduction may require an anaesthetic. Moreover, even when the growth has been thereby visualized it may still be necessary to establish its exact nature by microscopic examination, and its precise extent by means of the barium enema and x rays. The microscopy of small portions of growth, obtained by passing special punch forceps up the sigmoidoscope, has now been reduced to so fine an art that the pathologist skilled in this work can not only give a very confident opinion as to the innocence or malignancy of the piece of tissue removed, but can also in cancer cases form a full idea as to the relative degree of the malignancy to be expected. Dr. Dukes showed many specimens to the meeting which well demonstrated the help he had been able to afford to his surgical colleagues at St. Mark's.

But what of those regions of the bowel in which digital or ocular demonstration of the presence of a lesion is impossible? What of those extensive areas of the colon beyond the reach of the longest sigmoidoscope—the caecum, ascending and transverse colons, the splenic flexure, and the descending colon? Here one must to a large extent depend upon the careful weighing up of evidence less direct in character, and in doing so must not neglect the history to be obtained from the patient. As Sir William Wheeler emphasized in the paper with which he opened the discussion, the information to be obtained by careful cross-examination of the patient may be invaluable, and the evidence upon which he laid most stress was the history of a gradual change from normal bowel action to something abnormal. Persistence of such a symptom in spite of treatment should arouse suspicion and point to the need for further detailed investigation. Examination of the abdomen may give no help, for it is only in the later stages, when obstruction is established, that visible peristalsis, "ladder pattern" of the intestine, or a palpable tumour becomes manifest. Naked-eye examination of the faeces may also be quite negative, for it is only in extensive growths or those low down in the bowel that obvious blood or mucus is to be expected. Chemical examination of the faeces is, however, a different matter, for most authorities concur in the belief that occult blood, especially if found repeatedly, is very strong evidence indeed of at any rate some kind of ulcerative lesion of the gastric intestinal tract; on the other hand, its absence proves nothing.

What is the next step? The doctor is faced with a patient whose symptoms present nothing more striking than the recent onset of some slight trouble with the bowels of rather indeterminate character; occult blood has been detected in the stools, and physical examination is negative. Is he to wait and watch events, or is some further action necessary? Indubitably the latter; and equally without doubt it should consist in careful x-ray investigation by means of the barium enema, and not the barium meal. It seems necessary to be most emphatic about this, for the value of the opaque enema as compared with the opaque meal is not yet sufficiently appreciated by many of those who send patients to the radiologist. A barium meal administered to a patient with vague abdominal symptoms, and a report that "nothing abnormal is to be seen," may induce a wholly unwarranted feeling of security, for, as every radiologist knows, the passage of a meal may be hardly if at all delayed by a growth in the large bowel, which is revealed at once in a barium enema by its typical irregular filling defect, found constantly in all plates and at successive examinations. There are, of course, fallacies, both positive and negative: the positive

induced by faecal matter, spasm, or extrinsic tumours which mimic the appearance of carcinoma and must be guarded against by careful preparation of the patient and repetition of the photographs. The negative fallacies are largely dependent upon imperfect technique, insufficiency of the enema, or lack of appreciation of the fact that the ordinary photograph shows only one plane of structures like the colon and sigmoid, which have no fixed anatomy. It is obvious that a filling defect in a portion of bowel whose axis is parallel to the path of the x rays might show nothing abnormal on the plate. Dr. Graham Hodgson described how he had successfully overcome this particular difficulty by an ingenious method of taking oblique views.

The trend of the discussion on May 9th made it quite clear that the more general use of the proctoscope and the sigmoidoscope, together with the development of the barium enema, have put the diagnosis of cancer of the rectum and colon on a much more scientific basis. The combined work of the surgeon, radiologist, and pathologist has effected much, and will reach its fruition when the general public can be persuaded that not all rectal symptoms indicate "only piles."

### THE HARVEY TERCENTENARY.

THE celebrations of Harvey's publication three hundred years ago of the immortal *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus* have well illustrated the delectable doctrine that science knows no national or geographical boundaries. In March last the College of Physicians of Philadelphia, which rejoices in a wealth of Harveian treasures, paid its tribute, and was followed by Baltimore and Boston. Last week the Royal College of Physicians of London, as our columns have shown, organized a wonderfully successful celebration attended by delegates from twenty-one countries; and during the present week the Académie de Médecine of Paris, with that talent for graceful acknowledgement of pioneers in science which has in recent years been so much in evidence in generous recognition of British leaders such as Sydenham and Lister, has joined with her allies in commemorating the three hundredth birthday of Harvey's great achievement, which corresponds with the three hundred and fiftieth anniversary of his own birth. It may be recalled that the tercentenary of Harvey's birth was marked by a memorial fund to erect a statue at Folkestone, where he was born, and by a dinner in the College of Physicians' Library, when T. H. Huxley delivered a eulogy on Harvey's service to science and medicine.

The organization of this month's British commemoration was very appropriately in the hands of the Royal College of Physicians of London, whose chief glory is William Harvey, and it is specially fortunate that the President, Sir John Rose Bradford, whose early physiological work won him the Fellowship of the Royal Society, was able to correlate the activities of the College with those of the physiologists. Harvey's publication of his discovery of the circulation was even more important as inaugurating the modern method of experimental research, and the willing recognition by physiologists of this epoch-making event was a foregone conclusion. That the Fellows of the College are still obedient to the exhortation "to search and study out the secrets of Nature by way of experiment" was graphically shown by the convincing cinematograph films of Harvey's original physiological experiments as repeated by Sir Thomas Lewis and Dr. H. H. Dale, and exhibited to enthu-

siastic audiences at University College on May 15th and 16th. These demonstrations of the work which constituted "the new birth of physiology" were supplemented by other demonstrations bearing upon some more modern work on the circulation, both at University College, London, and at the meeting of the Physiological Society at Cambridge on May 19th with which a memorable week so fittingly concluded. It was a happy thought to include in the proceedings a luncheon party for the delegates at St. Bartholomew's Hospital (where Sir Wilmot Herringham gave a strikingly eloquent and comprehensive address on Harvey as a hospital physician), and visits to the two ancient English universities which also claimed Harvey at different periods of his active life. The success of the Harvey celebrations and the smoothness with which everything went were the result of much thought and attention to detail. The fact that this was a labour of love must not allow our debt to the Royal College of Physicians of London, its President, and Officers—and especially the Registrar, Dr. Raymond Crawford, fit representative of the scholar-physicians—to pass quietly into oblivion without an expression of gratitude.

The historical aspect of the three hundredth anniversary of Harvey's book has been admirably brought to the front by the publication of a facsimile of its first edition, presented to each of the delegates by the College of Physicians, and by the appearance of two further works—one old, a reproduction of the first English translation in 1653 of the *De Motu Cordis* (Nonesuch Press), and one new, *A Bibliography of the Writings of William Harvey, M.D.* (Cambridge University Press)—both due to the scholarly energy of a member of our profession, Mr. Geoffrey Keynes, the bibliographical authority on Sir Thomas Browne, Blake, and Donne.

### RESEARCH BY OBSERVATION.

"WHEN we are reduced to observation, science crawls," said Lord Moulton twenty years ago. "When and in proportion as you can use experiment, the science advances rapidly. . . ." In the early pages of this issue we publish an account of an inquiry by Mr. John Morley into abdominal pain as exemplified in acute appendicitis. Though the physiologists have taught us very much, yet for lack of adequate opportunity for experiment "pain" still escapes complete elucidation. Here, then, should be a legitimate field for research by observation, and we have to-day a restatement of a particular case which was set forth by Sir Henry Head in our columns some years ago.<sup>1</sup> "In the early stages," he said, "before perforation has taken place, widespread pains may be present in the abdomen, corresponding to the afferent supply of the upper parts of the digestive tract. Such pains are due to abnormal movements of the stomach and intestine, and express the reaction of normal parts to a lesion situated in some allied physiological system. But when the appendix becomes perforated and inflammation of the peritoneum ensues, these referred pains are replaced by local manifestations, accompanied by deep tenderness over inflamed parts." Mr. Morley would confine the source of the initial pain to tension in the muscular wall of the appendix itself, and in his arguments in favour of local peritonitis as the exclusive source of the later rigidity and local pain he omits one provided by Head, who noted that the absence of tenderness in the loin, both to superficial stimulation and to deep pressure, is proof that its origin is not segmental reference from the viscus. The second part of the thesis is an attempt, so far as the evidence from appen-

<sup>1</sup> *British Medical Journal*, 1922, vol. 1, p. 1.



dicitis goes, to disprove the existence of any viscerosensory or visceromotor reflexes. Localized tenderness and rigidity and localized pain, since in appendicitis another explanation is forthcoming, are not in his view the expression of such visceral reflexes. Mackenzie, he says, "did not appear to appreciate the exquisite sensitiveness of the parietal peritoneum to even slight degrees of inflammation," and accordingly failed to perceive the part played by a peritoneo-muscular reflex in protective muscular rigidity. But on turning up *Symptoms and their Interpretation* we find, a few pages later than the paragraph he quotes, this statement: "... appendicitis may give rise to symptoms which are entirely confined to the reflex group, until the inflammation extends to the abdominal wall, when another series of symptoms may arise which are produced by a different mechanism." Both Head and Mackenzie were alive, it seems, to the observations upon which Mr. Morley relies, but they were less prone to generalize, and readier to admit exceptions to the general rules established by clinical observations. Most surgeons, we think, will agree upon the great frequency of correspondence between their own similar observations and operative findings, but few perhaps will not have met disconcerting exceptions, even in appendicitis. Granting, however, that in general terms all Mr. Morley says is true, there are other observations to be considered. Is muscular rigidity, familiar as a clinical sign of gastric and duodenal ulceration, dependent on stimulation of the peritoneum? Surely not. Is there no muscular rigidity associated with tonic spasm of the ureteral muscle, though the peritoneum in contact with the ureter is not inflamed, and indeed belongs to what Cope calls the "non-demonstrative" area? What of the viscerosensory reflexes associated with cardiac disease, with bladder and prostatic lesions? What of the tenderness in the scalp related with visceral stimuli in the whole vagus field? If we call in aid, to support Mr. Morley, the deep tenderness over an area of pleuritic inflammation, there is still the difficulty that with the outpouring of fluid this deep tenderness disappears, and disappears, it may be, only up to the level of that fluid. A point of weight is scored by Mr. Morley in his insistence on the fact that muscular rigidity and hyperalgesia are purely right-sided, whereas, if visceral in origin, they should be bilateral, seeing that the intestine is developmentally median. It is curious, however, that laterality is, sometimes at least, recognizable in the case of ulcers of the stomach and duodenum; that we are able to differentiate colic in the ascending from that in the descending colon; that the areas of hyperalgesia of cardiac disorder show clear evidence of segmental distribution, with developmental sequence, and yet are often unilateral. It is a case, then, but not a conclusive case, that Mr. Morley presents against these reflexes. There will be a great measure of agreement with one deduction from these observations—namely, that hyperalgesia is not a trustworthy diagnostic sign; and there will be a considerable measure of sympathy with his expressed desire to simplify diagnosis for the student by the elimination of any reflexes that darken counsel.

#### THE INTERNATIONAL CONTROL OF DRUGS OF ADDICTION.

No great satisfaction can be derived from the discussions which took place during the sessions of the League of Nations Advisory Committee on the Traffic in Dangerous Drugs, held last month at Geneva. The Convention of 1925 remains unratified by a sufficient number of the requisite Powers to bring it into operation. The Control Board for which it provided, and upon which the Geneva conferences which drafted that Convention set so much store, has accordingly not been set up. Hence the machinery which the chairman of the second Geneva conference, M. Zahle, declared three years ago would initiate a

"movement which will accelerate from day to day and from month to month," still remains inoperative. The Hague Opium Convention of 1912, which the Geneva Convention of 1925 was to "greatly strengthen," is accordingly the only international instrument available for control of traffic in opium, cocaine, and similar habit-forming drugs.<sup>1</sup> Indeed, it was contended by the American delegates that the later Convention derogated from the spirit, if not the letter, of the earlier pact of 1912 in the matter of limiting the production of opium and in the suppression of opium smoking. The Advisory Committee is reported to have been staggered and appalled at the extent and the extension of the illicit traffic in the crude and the manufactured drugs. The chaotic state of the central government of China has been accompanied by the reversion of that country to the position of being one of the chief producers of opium. The Government of the Straits Settlements, it was alleged, was responsible for an increased consumption of smoking opium from 43,000 kilograms in 1925 to 55,000 kilograms in 1926, and the only justification vouchsafed appears to have been that if the Malay Government had not supplied the drug smugglers would not have failed to do so. Then, again, it was asserted that hundreds of kilograms of morphine were being exported from France, ostensibly to Germany. The German delegate, on the other hand, maintained that such imports had not been received, and it was suggested that the consignment had passed through Copenhagen to Russia for illicit use. The records of imports and manufactures of cocaine in Japan likewise attracted attention, and were said to amount to a total four times greater than the world average. The Japanese delegate somewhat irrelevantly replied that Europe had tried eighty years ago to convert Japan to opium smoking. As regards the world production of opium, this had been recently estimated at more than 8,000 tons per annum, whereas the most liberal estimate of the "legitimate" need is less than one-tenth of that amount. Another disquieting feature was the extensive manufacture of codeine. During the first Hague Conference on Opium in 1911-12 a good deal of discussion took place as to whether codeine, like heroin, should be included as a dangerous drug. The British delegates urged its inclusion; the German delegates opposed, and maintained that there was no evidence to show that codeine was a drug of addiction. One of the British delegates promptly cited a case of "codeinismus" from the columns of the *Klinische Wochenschrift*; but finally, to secure agreement, codeine was omitted from the Convention. Signor Cavazzoni, the Italian delegate, again reiterated his distrust of the "Board of Control," proposed by the Geneva Convention of 1925, as being too aloof from the organization of the League of Nations to be effective and trustworthy. He also again pressed for governmental supervision or ownership of all manufactories of dangerous drugs. An alternative proposal by the German delegate, Dr. Anselmino, was the creation of a great international drug syndicate or trust, with which the League of Nations should enter into organic relationship by way of representation. All these proposals, coupled with the admitted fact that the situation as regards the international control of dangerous drugs and the suppression of illicit traffic therein is getting worse rather than better, seem to point to the principle which has been consistently advocated in these columns, which has been supported persistently in America, and which is implied by British legislation—namely: (1) that the use of opium, cocaine, their products, and similar drugs for other than medicinal purposes is an abuse and not legitimate; and (2) that to prevent such abuse it is necessary to control production at the source, so that there will be no surplus for non-medicinal or illegitimate purposes.

<sup>1</sup> The agreement made between Powers having possessions in the Far East, signed at Geneva in February, 1925, and published in a White Paper (Cmd. 2035), relates exclusively to "prepared" or smoking opium.

## THE CASSEL HOSPITAL.

IN the report of the Cassel Hospital for Functional Nervous Disorders for the year 1927 the medical director, Dr. T. A. Ross, continues his policy of discussing only patients who have been at least twelve months away from the hospital. As an attempt is made, with considerable success, to keep in touch with former patients by getting them to report progress once a year, the results described are well tried, and have among hospital reports a peculiar value. This year's report, brief as it is, is full of interesting facts and suggestions. It furnishes, as in previous years, a striking justification of the methods of treatment employed at the hospital. In the group of patients for whom this institution is specially intended—the psychoneurotic group, of hysterics and anxiety states—the record is impressive, whether for percentage of improvement, consistency of results from year to year, or permanence, and this in spite of the fact that the claims of recovery or improvement are made with great caution, and the results are tested at length by the only criterion that is of nearly unassailable value—the test of the return to everyday life. In the present instance, of 102 psychoneurotic patients treated in 1926, 91 have so far replied to an inquiry about their health, and of those 70 reported themselves as well or much improved. This represents 77 per cent. of those replying, and contrasts with a percentage of 75 in 1925, 74 in 1924, 77 in 1923, and 68 in 1922, which was the first year to be so reported. These are remarkably consistent and well-sustained results, and in evaluating them it should be remembered that they have been brought up to date, and so give evidence of durability. They would be still more impressive if some indication were given of the duration of the illness before treatment was instituted. It has to be borne in mind that in some respects the Cassel Hospital population is a selected one—selected chiefly for its difficulty—for it is composed largely of patients who have been ailing for years, many of them for the greater part of their lives, and who have had many treatments with fleeting success. This may very well account for the pessimism of the report in regard to a small group—the obsessional group—of which there have been only twelve in the hospital since it opened. Experience in private and out-patient practice gives a more favourable impression of this type of illness, especially when it occurs in children and adolescents, than Dr. Ross has received from the Cassel Hospital material, which is mainly adult. From the figures quoted the therapeutic results in the chronic psychoneuroses, which are usually regarded so pessimistically, contrast very favourably with the results of treatment of other forms of chronic disability. In this connexion we note with interest that it is found to be a useful policy to have some former patients back for a brief second period of residence. Of 24 patients who returned under these conditions, 17 are now much better or well, so that the experiment seems fully justified. Such patients return usually to discuss the effect of putting into practice in ordinary life what they had learned in the Cassel Hospital, and to adjust any points in which they have failed to apply it satisfactorily. The idea of diagnosing dementia praecox in the early cases sent there has been abandoned; this is in accord with the most modern psychiatric teaching. It is not only unkind, but unscientific, to label patients "dementia praecox" merely because they present certain symptoms; the designation should be reserved for certain states of terminal dementia. For all earlier cases of this type the term "schizophrenic" is wisely preferred at the Cassel Hospital. It is of considerable interest that of the eight schizophrenics mentioned four are now well, and that most of them (Dr. Ross states) had to be discharged before recovery because they did not fit socially with the rest of the population, which is, of course, mainly psychoneurotic. He deplores the fact that it was impossible to provide special nurses to enable them to

prolong their stay sufficiently. Such patients undoubtedly feel themselves to be different from the psychoneurotic population, and the latter also are quick to recognize the difference. It would add still more to what is to be learnt from these very informative and constructive reports if more statistics could be given, such as the duration of illness, the number of hours of treatment, the length of the hospital residence, and the age of the patients. Some indication of the relative permanence of the results with each type of psychotherapy selected would further enhance their value.

THE LIFE-HISTORY OF EPIDEMIC ENCEPHALITIS  
IN THE CHILD.

FINDING that the prognosis in epidemic encephalitis in children has been insufficiently studied, Dr. Mary M. Stevenson records in the April issue of the *Archives of Disease in Childhood*<sup>1</sup> the results of her investigation of eighty-three cases, observed at intervals from 1918 to 1927. Twelve children had died, eight cases could not be traced, and sixty-three had been re-examined recently by the author. It was noted that 70 per cent. were boys, and the onset had occurred at ages varying from birth to 13 years. The disease began in most cases suddenly; after the acute illness there was a period of quiescence, followed later by the appearance of new symptoms. Mental alteration, nocturnal excitement, conduct changes, respiratory disturbances, the Parkinsonian syndrome, loss of accommodation, choreiform restlessness, myoclonic movements, and obesity occurred in that order of frequency. Fever was present at the commencement in most cases, and lethargy was a pronounced symptom in the majority. Of the motor disturbances described the most important were convulsions seen in the acute stage; choreiform restlessness, occurring both early and late; myoclonus, which appeared in both early and late stages and had persisted for years; and the Parkinsonian syndrome, occurring in the late stages only. The prognosis of Parkinsonism is extremely bad, the majority of cases being steadily progressive. The ocular symptoms included diplopia, strabismus, ptosis, nystagmus, loss of the reflex on accommodation, inequality of the pupils, and disc changes. Among the paralyses that of the seventh cranial nerve was the most frequent, and in six cases there were transient paralyses of the limbs. The reflexes varied, and in twenty-three cases pain of a severe neuralgic character was present during the early stages of the disease. Examination of the cerebro-spinal fluid showed it to be under slightly increased pressure, but clear. During the acute stage there was an increase of the cells for two or three months. The colloidal gold test of Lange was usually positive during the acute stage, although in the first week it was occasionally negative. During the chronic stage it was again negative. Nocturnal excitement with inversion of the sleep rhythm assumed a very prominent position in the sequels seen in this series; it lasted from one month to five years, the average duration being eighteen months. Derangements of respiration took the form of (1) attacks of rapid and noisy breathing, (2) continuous rapid breathing with occasional attacks of noisy respiration, and (3) apnoea. Respiratory ties, such as frequent clearing of the throat, nose-blowing, and sniffing, were also present. The onset of these respiratory troubles usually occurred between three months and three years after the start of the disease, and was a late manifestation. There is a tendency for these disturbances to disappear. Mental alteration was found in the majority of the cases, and tended to increase, in contrast with Shrubbs's findings. Changes in conduct were seen in forty-six patients; in most cases improvement has occurred.

<sup>1</sup> Vol. 3, No. 14. Issued by the British Medical Association. London: B.M.A. House, Tavistock Square, W.C.1. Yearly subscription (6 numbers), 25s. Single number, 4s. 6d.

Regarding the prognosis as to life, out of the author's series four children died during the acute stage and eight at varying periods after the acute illness. Only three of the whole series are normal; many are seriously crippled and need institutional treatment, thus demonstrating the seriousness of the outlook in epidemic encephalitis.

#### ARTIFICIAL PRODUCTION OF A FOWL TUMOUR.

Ever since Gyo and Barnard put forward their theory of the cancer "virus," a great deal of attention has been directed to the study of the Rous sarcoma of fowls, on which their argument wholly depended, and especially to the nature of the filterable extract of these tumours. Gyo claimed to have demonstrated that the extract contained two factors—the "virus" and the "accessory chemical factor"—neither of which was efficacious without the other; but the weight of scientific opinion has been unfavourable to this claim. It has even been doubted if the active principle of the fowl-tumour extract is of the nature of a virus, and Carrel has asserted that he has been able to produce tumours indistinguishable from the Rous sarcoma by injecting into fowls the pulp of chick embryos mixed with very weak solutions of arsenious acid or of indol. Carrel's claims in turn have been disputed by others, but Brebner<sup>1</sup> states that he has successfully repeated these experiments. But he has gone further. Impressed by the discovery of Warburg that tumours, placenta, and embryonic tissues have, in contradistinction to most other tissues, a greater glycolytic than respiratory property, he was impelled to try if the combination of placental extract and chick embryo pulp would have a similar effect to the Rous sarcoma extract. To this end he removed two placentae from a rabbit at or about full term, minced them finely, and mixed with them 10 c.cm. of saline. The mixture, after standing for thirty minutes, was centrifugalized, and the supernatant fluid added to the minced pulp of three eight-day-old chick embryos. This emulsion was injected into the pectoral muscles of two fowls. One of these fowls had developed a nodule by the twentieth day, and by the end of the forty-sixth day, when the bird died, it had a large nodule on the left side and a smaller one on the right. On dissection it was found that the tumours—grey-white in colour, firm in consistency, not very vascular—were actively invading the muscle substances. They showed no trace of embryonic tissue, such as cartilage, bone, or epithelial structures, as one would expect to obtain from the growth of the material injected. There were numerous metastases, especially in the lungs. The microscopic appearances were those of a sarcoma in which large cells predominated, with abundant cytoplasm and somewhat pale-staining reticulated nuclei—cells which were probably of mesoblastic origin—but the picture was by no means uniform, for dense cellular areas existed side by side with myxomatous areas, and there were a few giant cells and lymphocytes to be found. The metastatic deposits showed the same characters. The tumour was successfully transplanted into other fowls of the same breed, and had reached its fourth generation when the paper was written. The tumours were always progressive, had the histological characters of the original, gave rise to metastases, and proved fatal to the fowls in thirty-five days. Brebner further states that he repeated the experiments, using extract of guinea-pigs' instead of rabbits' placenta, and has produced similar tumours in six cases. So far he has not succeeded in propagating these tumours by filtrates or by desiccated material as in the case of the Rous sarcoma, but otherwise these fowl tumours are of a similar nature. No doubt this new observation will be thoroughly investigated by others; if it comes successfully through the test it will throw some light on the nature of the agent causing

these peculiar chicken tumours, and, incidentally, it will remove the foundation on which Gyo's theory was constructed.

#### B.C.G. AND NON-TUBERCULOUS INFANTS.

At a recent session of the Academy of Medicine in Paris Professor J. Lignières, while speaking in high terms of Dr. Calmette's B.C.G., deprecated its use for pre-immunizing infants who were not exposed to infective surroundings. Although he was convinced that B.C.G. was a powerful help in the struggle against tuberculosis, and ought always to be employed when contagion was to be feared, he thought that the introduction of a living organism into the tissues led to an infection which, though never producing the lesions of tuberculosis, might still be harmful. He pointed out that there was a large mortality in rabbits used for experiments with B.C.G.; that no trustworthy statistics were yet available on the vaccination of infants who were not exposed to tuberculous infection; and that, in any case, pre-immunization led to a prolonged infection of the lymphatic system by the B.C.G. Dr. Calmette reserved his reply to Professor Lignières until the session of the Academy on May 8th. Apparently he failed to recognize that Professor Lignières did not allege that the B.C.G. might produce tuberculous lesions in the vaccinated, and his answer was based mainly on this misunderstanding. He asserted, however, that experiments had shown that the mortality in rabbits was not due to injections of B.C.G., and he made the remarkable statement that in vaccinated infants the mortality from all causes was less than in the non-vaccinated. Professor Lignières again declared his admiration for the great discovery of Drs. Calmette and Guérin; he continued, however, to uphold his view that the use of B.C.G. should be avoided with healthy subjects brought up in non-tuberculous surroundings.

Dr. W. M. WILLOUGHBY, who has been medical officer of health for the Port of London during the past twelve years, was elected on May 17th by the Corporation of London to the post of medical officer of health for the City, in succession to Dr. W. J. Howarth, who retired recently owing to ill health.

THE first award of the Dalby Memorial Prize, for the best original work in otology during the previous five years, has been made to Dr. Otto Mayor of Vienna. The award is in the hands of the Council of the Royal Society of Medicine, acting on the recommendation of the president and vice-presidents of the Section of Otology.

THE annual general meeting of the Research Defence Society will be held at 11, Chandos Street, Cavendish Square, W.1, at 3 p.m. on Tuesday, June 19th. The Stephen Paget Memorial Lecture will be delivered by Sir Bernard Spilsbury, his subject being the work and responsibilities of a pathologist.

PROFESSOR HIDEYO NOGUCHI, of the Rockefeller Institute for Medical Research, died at Accra, on May 21st, from yellow fever. Professor Noguchi went to Accra last November to investigate this disease, and contracted the infection in the course of laboratory work.

SIR STCLAIR THOMSON has been elected a corresponding member of the Société de Laryngologie des Hôpitaux de Paris, of the American Stomatological Association, and of the Philadelphia Laryngological Society.

<sup>1</sup> Canadian Med. Assoc. Journ., April, 1928.

# The Harvey Tercentenary.

## BANQUET AT LONDON GUILDHALL.

THE Harveian celebrations in London concluded with a banquet given by the Royal College of Physicians at the Guildhall on Wednesday evening, May 16th. The reception by the President of the College, Sir John Rose Bradford, took place in the art gallery, and the company of nearly 500 Fellows and guests proceeded to tables in the great hall.

The President had beside him the German Ambassador and on his left the French Ambassador; other members of the Diplomatic Corps present were the Italian and Belgian Ambassadors, and the Austrian, Greek, and Finnish Ministers. The Government was represented by the Minister of Health and the Under Secretary for Scotland; the religious life of the nation by the Archbishop of York, the Archbishop of Wales, the Dean of Westminster, the Dean of St. Paul's, Cardinal Bourne, and the Chief Rabbi; law by the Lord Chancellor (Lord Hailsham), Viscount Sumner, Lord Wrenbury, Lord Blanesborough, Mr. Justice Rowlatt, Mr. Justice Maugham, Sir Ernest Wild, and Sir Thomas R. Hughes; industry and industrial science by Sir Alfred Mond, Sir Robert Hadfield, and Sir Charles Parsons; and the arts by Sir Frank Dicksee, Sir Reginald Bloomfield, and Sir Johnston Forbes-Robertson. The University of London was represented by Sir William Beveridge (the Vice-Chancellor) and Sir Gregory Foster; Edinburgh, by Sir Edward Sharpey-Schafer; Oxford, by Sir Farquhar Buzzard; and Cambridge, by Sir Humphry Rolleston. The three new Honorary Fellows who were able to be present (Sir Ernest Rutherford, Professor Pavlov, and Professor Wenckebach) were grouped near the President. Others on the principal table were Viscount Knutsford, Lord Somerleyton, the Earl of Crawford and Balcarres, Viscount Chelmsford, Lord Stanmore, Lord Riddell, and the High Commissioner for New Zealand. The great majority of the others present were medical men, including Lord Dawson of Penn; Sir Berkeley Moynihan, President of the Royal College of Surgeons of England; Sir James Berry, President of the Royal Society of Medicine; Mr. H. W. Carson, President of the Medical Society of London; Sir Robert Philip, President, Sir Ewen Maclean, President-Elect, and Dr. C. O. Hawthorne, Chairman of the Representative Body of the British Medical Association; Sir George Newman, Chief Medical Officer of the Ministry of Health; Sir Thomas Barlow, Sir Francis Champneys, Sir Anthony Bowlby, Sir John Bland-Sutton, Sir Wilmot Herringham, Sir James Fowler, Sir William Hale-White, Sir Thomas Horder, Sir Maurice Craig, Sir James Purves-Stewart, Sir Robert Armstrong-Jones, Sir William Wilcox, Sir Holburt Waring, Dr. Graham Little, M.P., and Dr. F. E. Fremantle, M.P.

### "The Memory of William Harvey."

After the loyal toasts had been honoured, the PRESIDENT, in few words, called upon those present to drink to "The Memory of William Harvey," and the toast was honoured in silence.

### "The Delegates."

THE MINISTER OF HEALTH, proposing the toast of "The Delegates," said that all would agree as to the greatness of the occasion which brought together so distinguished a body of men, including representatives from the universities and the learned societies of this country, of the British Dominions beyond the seas, and of numerous foreign nations. Many bore names which were held in honour throughout the whole of the scientific world. He noticed with particular pleasure the presence of Professor Castiglioni, representative of that University of Padua in which Harvey took his medical degree in 1602. Surely there could be no greater tribute to the influence of that wonderful treatise by Harvey than the fact that 300 years after its publication men of science should come together from all parts of the world to do him honour and acknowledge the debt they owed to him. Harvey's work was more than a discovery, it was a demonstration. So clearly did he state his problems, so skillfully did he marshal the evidence against the theories then current, so aptly did he illustrate by the results of his experiments the new theory which he put forward, that at one single blow he carried conviction to all his readers. Like another great scientist, Charles Darwin, he changed the whole current of men's thoughts. The present company had during the last two days listened to many appreciations of the work of Harvey from different aspects. The speaker was present that evening as the Minister for the time being responsible for the Department of Public Health, whose duty it was to prevent and avoid disease. Looking at Harvey's work from that point of view,

it seemed to him that the whole system of preventive medicine was based and founded upon his discovery. For what was preventive medicine? Was it not the science and art of providing for the population the food, warmth, exercise, and recreation that were necessary to maintain a normal healthy circulation, and on the other hand to remove and avoid those factors which favoured the onset of disease and impaired the resisting power of the body, which was itself dependent upon the same circulation? Harvey's pre-eminent place in medicine was given to him because he was the founder of modern physiology, and all the services which were carried on in the name of public health in this country, through the local authorities, medical officers, sanitary inspectors, health visitors, maternity and child welfare centres, clinics and hospitals, the health insurance system, even the housing programmes, were just various methods of securing and safeguarding the physiological balance of the life of man. Mr. Chamberlain concluded by saying that of the various factors which were working to-day for the peace of the world there was none which was more potent than the brotherhood of the healing art. Diseases knew no frontiers, took no account of nationalities, and those who were fighting in this great warfare knew full well that if they were to win the battle they had to pool their resources and to regard medical men and sanitarians of all nationalities as their comrades in arms. It was in this spirit that he welcomed the delegates.

Professor A. CASTIGLIONI said that the period during which, as a young man, Harvey listened with so much earnestness to the teaching of the greatest anatomist of the time, Fabrizio d'Aquapendente, was the greatest and most glorious in the history of the University. Galileo Galilei had laid the foundations of experimental science with his immortal words. Through the intelligence and foresight of the Venetian Republic the entire University, enjoying complete freedom in matters of education, was influenced by the spirit of this earliest and greatest of experimental philosophers. At the same university Andreas Vesalius, student and afterwards Professor, had established modern anatomy, and for more than forty years Padua was the centre of anatomical research in Europe. It was into this environment that William Harvey brought his high intelligence and profound powers of observation, and here he came to know of the discoveries of Realdo Colombo and Andrea Cesalpino. Italy could with pride testify that while England had the glory of being the country of William Harvey's birth, it was the ancient University of Padua which afforded this famous man his course of instruction in physiological thinking which prepared him for his great discoveries. The glorious Italy of the Renaissance, which in letters and arts carried high the torch of beauty and truth to illuminate mankind, remembered to-day with pride the work of William Harvey as that of a beloved pupil. The speaker said that he was giving voice also to the feeling of all Italians who were tied to England in a bond of long-standing friendship. They did not forget the opportune assistance rendered to their land at all times by a country which they loved and admired. In commemorating the work of William Harvey of immortal fame he took the opportunity to emphasize those ties of friendship and unity of purpose, and to recall all those brilliant men, at one time students at Padua, who had held prominent positions in the Royal College of Physicians of London. He also brought greetings and good wishes from this ancient school, which followed with pride and affection the successes of its sons in another land, and in the name of the University of Padua, and also in the name of all those Italians who followed with such interest the progress and glory of British science, he greeted the President and members of the Royal College with the words "*Vivat, crescat, floreat!*"

Professor W. H. WELCH of Johns Hopkins University also responded to the toast, saying that it was difficult for him to follow the eloquent address of Professor Castiglioni, who represented something very significant in the life of Harvey. He himself could put forward no such claim, but he did desire to express what he felt to be the good fortune of the delegates and guests in being allowed to participate in that commemora-

tion. There was something stirring in the thought that they assembled at the invitation and under the auspices of the Royal College of Physicians to celebrate an event unexampled in the history of human thought. The celebration had been in every way worthy of the event which it celebrated. The delegates had been received by the King, they had participated in some highly impressive and interesting ceremonies, they had visited not only the Royal College of Physicians, but Harvey's old hospital, St. Bartholomew's, and on the following days they were going to Cambridge and to Oxford. But he thought he was voicing probably the sentiments of very many of the delegates when he said that on the previous day, during the demonstrations at University College, they had felt themselves most vividly in the presence of the living Harvey. It was one thing to read about the fact that Harvey made this direct appeal to nature, that he really introduced independent scientific inquiry into the biological sciences, that he stood for biology in the same position as Galileo stood for the physical sciences, but to have this brought before the eye by demonstration was a singularly impressive experience. He thought that the prolonged applause with which the delegates endorsed the tribute paid by the President to Sir Thomas Lewis and Dr. Dale was more than ordinarily significant; they felt that they were applauding really the *persona propria*, as if Harvey had been before them and had conducted the demonstration. The delegates had also enjoyed the delightfully plain and simple and yet eloquent talk at Harvey's hospital by Sir Wilmot Herringham about Harvey the man. They realized what a man he was, a gentleman in every sense of the word, one who did not love to overthrow the spell of ancient authority, who did his work in a somewhat reluctant, slightly regretful way, one who was not altogether free himself from the trammels of mediæval thought, one who was not engaged in vituperation and did not light-heartedly abandon the old authorities. The speaker desired only to add how grateful he and his fellow delegates were to the Royal College of Physicians for having provided in so adequate a way this presentation of Harvey the investigator and Harvey the man. This visit would be one of the great experiences of their lives and an inspiration to them in future work.

#### "The Honorary Fellows."

The PRESIDENT next proposed the health of the newly installed Honorary Fellows, and repeated in substance the statement he had made at the reception at the College two days previously, which was reported in the *Journal* last week (page 867), explaining that the College had never had a roll of Honorary Fellows, though in history there were one or two who might by a stretch of language have been said to bear that title. Four most appropriate names had now been chosen for this honour: the Earl of Balfour, who in many directions had given great encouragement to medicine, Sir Ernest Rutherford, the distinguished physicist, Professor Pavlov, the doyen of physiology, and Professor Wenckebach, a man distinguished for the kind of work peculiarly associated with the genius of Harvey.

Professor WENCKEBACH addressed a few remarks in reply, modestly disclaiming any ability to speak for his great colleague Pavlov, but saying that Professor Pavlov's presence at that gathering was sufficient without any words. For his own part Professor Wenckebach felt himself singled out merely as one of a great army of practitioners in whose ranks he had served, and that the honour done him was really intended for them all. He was one of the hundreds of thousands of physicians who stood indebted to William Harvey, and not to William Harvey alone, but to the profession of medicine in Britain past and present.

Sir ERNEST RUTHERFORD also acknowledged the toast in graceful terms, saying that it was an idiosyncrasy of human nature that it appreciated most those marks of distinction which were least deserved. He felt, however, that his admission to the Fellowship of the College was attended by certain drawbacks, one being that he could no longer express his opinion of the merits of the medical profession with the same candour as heretofore. Harvey, he went on, was the first man to apply physics to medicine. It was true, as others had said, that all the essential facts on which Harvey based his great discovery were known before him. It was known that the blood flowed outwards in one direction, and inwards in another; but what he did, like Newton and others of whom the same was true, was to make a great generalization. All honour to the man who had the vision to do that! Harvey visualized the application of dynamics to the circulatory system. Sir Ernest Rutherford ended by asking his hearers what new scientific achievement they would most desire to see in their lifetime. A further generation would have made varied replies, but now,

with so many conquests made—flight, and wireless, accomplished, and television on the way—what remained but the achievement of the health of the community, and who could doubt that the disciples of Harvey would gain this also?

## Royal College of Physicians of London



Fellow 1607-1657  
Censor 1613-1625-1629  
Treasurer 1628-1629  
Lumleian Lecturer 1615-1636.

## Banquet at the Guildhall Wednesday 16th May 1928

#### "The Royal College of Physicians."

The ARCHBISHOP OF YORK, in proposing the last toast, that of "The Royal College of Physicians," declared himself on that occasion to be a layman of laymen, who had had probably less to do with doctors professionally than anybody else in that hall. Yet, after all, he might on that occasion represent the highest and most altruistic ideal to which the medical profession could possibly rise—that of a humanity so healthy that the occupation of the Royal College of Physicians would have gone. He had one link with the Royal College which he greatly valued. The principal founder and first President of the College, Thomas Linacre, became 440 years ago what he was happy to say he (the speaker) still was, a Fellow of All Souls' College, Oxford, and he hoped he might without presumption be regarded

as standing in the relation of founder's kin. That first President was indeed the precursor of the great man whose name was in all their hearts. It was but one hundred years before William Harvey began the experimental method of which he was the greatest illustrator, and Linacre as well as Harvey had the honour of graduating in medicine in the University of Padua, which had been represented with so much eloquence that evening. Linacre represented the union of medical science with letters and scholarship. He was the friend of Erasmus, Colet, and Thomas More. It was to be hoped that the connexion between the physician and scholarship and letters might be maintained. The study of humanities did give a unique distinction; he trusted that that old association between medicine and letters, that old succession of medical humanists who had done so much to give distinction to English life, would not be broken. Linacre also reminded him of the union between medical science and the Church, for he was during the last fifteen years of his life a clerk in holy orders. Then, as now and always, Theology was the queen of the sciences, and, like other queens, was apt to be somewhat jealous and dictatorial; for a considerable time she held Medicine under a somewhat painful constraint. But those days were passed; Medicine was now free, though he hoped that as there had been no divorce there would not even be any separation between the Church and Medicine, but a new comradeship based on freedom. They ought to be working together as fellow students in the spirit of science, with minds furnished as



became disciples of truth, and he could wish that the Royal College of Physicians would take the lead in a new scientific and independent inquiry on the subject of spiritual healing. He did not think there was any profession in the world where the connexion between science and humanity was more close than in the great profession of which the College was the head. There research, teaching, and practice were all fused together in one common enthusiasm, and he liked to think that at that very moment there might be, under the College auspices, some man, having the spirit of Harvey, on the very brink of some great new discovery. No sooner would any such discovery be made than it would be taken up by the great body of practitioners and applied in every cottage throughout the length and breadth of the land.

The PRESIDENT contented himself with but a few words in reply. He thought that those who had witnessed the demonstrations arranged at the College during that commemorative week would agree that this ancient foundation was not proving unworthy of the trust which evidently Harvey in his time reposed in her; the Fellowship of the College included many men on whom the mantle of Harvey obviously had descended.

[Our illustration is reproduced from the cover of the dinner programme, designed and executed by Mr. Emery Walker. This bust of Harvey overlooks the main staircase of the College.]

#### DELEGATES' VISIT TO OXFORD.

A large number of the delegates visited the University of Oxford on Thursday, May 17th, and were entertained at luncheon in Harvey's college by the Warden and Fellows of Merton. The party reached Oxford by train and were met at the station by the Regius Professor of Medicine (Sir Farquhar Buzzard), the Dean of the Faculty (Dr. Ainley Walker), and a number of other members of the University. They were conducted in cars to different centres, and the morning was spent in visiting the Bodleian Library, the Old Ashmolean Museum, the Lewis Evans collection, Magdalen College (hall, chapel, cloisters, and gardens), and Christ Church (hall, library, kitchens, and quadrangles). At the Old Ashmolean Museum Mr. R. T. Gunther, curator of the Lewis Evans collection, spoke of Harvey's work with Bathurst at Trinity College, where they studied the development of chicks in incubated eggs. At 1.15 p.m. the different parties re-united at Merton College, where they were met by the Professors in the Faculty of Medicine, and were received by the Warden and Fellows of the College. Luncheon was served in the College Hall to about one hundred guests. On a small table in the centre of the Hall were displayed some of the College books relating to the period of Harvey's wardenship, and a bursarial account showing his signature was exhibited. After the loyal toast had been honoured the Warden (Mr. Thomas Bowman) expressed in felicitous terms the pleasure felt by the College in welcoming and entertaining the delegates. Sir John Rose Bradford (President of the Royal College of Physicians) replied on behalf of the guests, emphasizing the important part played by Oxford and Oxford men in the early history of scientific and medical investigation in England. Subsequently the visitors had the opportunity of seeing the College library and gardens, and proceeded in small parties to spend the afternoon in seeing some of the other colleges and University institutions. A short account of Harvey's connexion with Merton, drawn up by Professor H. W. Garrod, Fellow of the College, was presented to each of the guests at luncheon. This recalled that Harvey went to Oxford with the King after the battle of Edgehill, and was incorporated M.D. in the University on December 7th, 1642. He was appointed Warden of Merton on April 7th, 1645, but in the following June, when Oxford surrendered to Fairfax, Harvey ceased to be Warden. Merton possesses very few records of Harvey's wardenship beyond two autographs, but the College Register contains a fairly full account of his appointment as Warden and of the circumstances leading to it, together with a copy of the letter of appointment. Four days after his appointment Harvey called the Fellows together in the Hall and delivered a speech, exhorting them to friendship and good-

will. He is believed to have spent most of his time at Oxford studying the incubation of fowls.

On Saturday, May 19th, by the invitation of Bodley's Librarian, the members of the Oxford Bibliographical Society viewed a collection of books exhibited to commemorate the tercentenary, at the Radcliffe (Science) Library, University Museum; and were addressed by Sir Farquhar Buzzard on Harvey's discovery of the circulation of the blood.

#### DELEGATES' VISIT TO CAMBRIDGE.

The last event of the week was a visit of the delegates to Cambridge on Friday, May 18th, where they were entertained at luncheon by the Master and Fellows in the Hall of Gonville and Caius College, of which Harvey was a member, graduating B.A. in 1597. The guests were received by the Master, Sir Hugh Anderson, M.D., F.R.S., who welcomed them in the name of the College, and recalled that its second founder, John Caius, was President of the Royal College of Physicians of London in 1555-61, 1562-64, and again in 1571-72. The thanks of the delegates and other visitors were conveyed to the Master and Fellows by John Cains's successor in the presidency, Sir John Rose Bradford. Some of those who travelled to Cambridge by motor car turned off by way of Saffron Walden to Hempstead, Essex, in order to visit Harvey's sarcophagus and memorial in the parish church, of which an account appeared in our issue of May 12th (p. 816), from the pen of the late Sir Dawson Williams. On the Saturday the Physiological Society met in Cambridge and held a luncheon party in the Hall of Downing College, in commemoration of the Harvey Tercentenary. Many of the delegates attended, and afterwards took part in the scientific proceedings held in the large Botanical Theatre and adjoining laboratories. Professor Joseph Barcroft presided at the luncheon with Professor O. Frank of the University of Munich on his right, Sir John Rose Bradford on his left, and Professor Ivan Pavlov facing him. The large company present included also Sir Humphry Rolleston, Regius Professor of Physic, Sir Archibald Garrod, Sir Charles Sherrington, Sir F. Gowland Hopkins, Professor H. R. Dean, Dr. W. E. Dixon, and Mr. J. H. Widdicombe, Senior Tutor of Downing. Professor Barcroft reminded the visitors that the Physiological Society was an informal and friendly body, whose members met chiefly to discuss work not yet ripe for publication. On this happy occasion, to celebrate the memory of the founder of modern physiology, the members welcomed their distinguished colleagues from abroad, and were delighted to have an opportunity of saying how much their writings and discoveries were appreciated in this country. After Professor A. V. Hill had given an account of the arrangements proposed for the Physiological Congress at Boston in August, 1929, the serious business of the afternoon began.

#### THE ROYAL SOCIETY CONVERSAZIONE.

The rooms of the Royal Society at Burlington House were filled with some interesting scientific exhibits for the usual spring *conversazione* on May 17th, when Sir Ernest Rutherford, O.M., Hon. F.R.C.P., President of the Society, received the guests, among whom were many of the delegates to the Harvey tercentenary celebration. Although there were many novelties to be seen, the repetition of some old experiments also drew interested groups; for example, there were some experiments in stereoscopic vision which were described in Dr. Robert Smith's *Opticks* in 1738, and again Faraday's studies of the crispations formed on liquids lying on vibrating surfaces were repeated by Sir William Bragg. The Royal Botanic Gardens at Kew sent for exhibition specimens of the plants yielding chaulmoogra oil, which is used in the treatment of leprosy. This oil is obtained from the seed of species of *Taraktogenos* and *Hydnocarpus*, tall trees occurring in the dense forests of India, Burma, and Siam. The British Mosquito Control Institute demonstrated the life-histories of various species of British mosquitos and the methods employed for controlling them. The Rothamsted Experimental Station

illustrated the biological control of insect pests and noxious plants. Something was shown of the attempt now being made to control the European earwig in New Zealand by the introduction in that country of its European parasitic foes, and the destruction of noxious plants by insects which attack them. Another exhibit of interest consisted of marine animals and bottom deposits obtained by the *Discovery* expedition. These were a collection of squids; crustaceans, and fish illustrating the development of luminous organs in pelagic animals, also the cores of deep-sea oozes, obtained with a new form of bottom-sampling apparatus, and preserved in the tubes in which they were collected. The Marine Biological Association showed a submarine photometer apparatus which has been used on its trawler to a depth of 70 metres. The Department of Zoology of the British Museum contributed some very interesting natural history exhibits. One of these showed a portion of the intestinal wall of a whale heavily infected with acanthocephalan worms. It was mentioned that of a school of killer whales recently stranded in Scotland, every individual was found to be infected with this parasite, but even when the intestine was almost blocked by the worms the whales appeared to be in good condition. Other specimens were the giant shipworm (*Kuphus arenarius*), which was obtained in the Solomon Islands, and anatomical preparations of the ostrich and allied birds to illustrate the structure of the feathers and the arrangement of bones and muscles of the wing, and to show that this family of birds are derived from ancestors that had not acquired the power of flight. Lord Rayleigh demonstrated how the peacock's feather fades if exposed to ultra-violet light, the green changing to blue, and the colour disappearing altogether with long-continued exposure, and Dr. L. J. Spencer showed the brilliant fluorescence of fluor spar and certain other minerals when exposed to this radiation. Dr. R. J. Ludford brought from the laboratories of the Imperial Cancer Research Fund a number of microscope exhibits to illustrate cell structure and intravital staining in tumour-bearing animals. He stated that mice given 1 c.c.m. injections subcutaneously of 1 per cent. trypan blue at intervals of a few days could be kept alive for several weeks. Within some of the cells, such as those of the kidney and liver, the dye collected in the form of diaplets in that part of the cytoplasm which coincided with the position of the Golgi apparatus. Areas of necrosis in transplanted tumours stained readily. There was a slight accumulation of dye in living sarcoma cells, but not in living carcinoma cells. Finally, there was a remarkable exhibit from the School of Pharmacy of the Pharmaceutical Society of Great Britain, consisting of specimens of the animal materia medica of the seventeenth century. At that time entire animals, as well as parts and excretions of animals, were largely used medicinally. In the *London Pharmacopoeia* of 1627 the bloods of fourteen animals, including that of man, were included. The Pharmaceutical Society recently came into possession of a number of these specimens, and some of the rarest and most interesting were shown. These included powdered mummy, which was supposed to resist gangrene; human skin, probably employed as a ligature; powdered shark's teeth, used for scorpion bites; the ends of tails of scorpions, given as a diuretic; callosities on the knees of horses, used for epilepsy; human blood, given as a sudorific and diaphoretic; calculi from the human bladder, given for stomach trouble; and human skull, powdered, considered good for epilepsy. During the evening Dr. Stanley Kemp gave an account of whaling in the Antarctic, with lantern illustrations of the methods used and of the scenery in the dependencies of the Falkland Islands.

### A BIBLIOGRAPHY OF HARVEY.

THE tercentenary of the publication of Harvey's *Exercitatio Anatomica de Motu Cordis et Sanguinis in Animalibus* has been piously commemorated under the auspices of the Royal College of Physicians of London, of which, to quote from Munk's *Roll*, he was "the brightest ornament"; but bearing in mind the proverb "*littera scripta manet*," there is every reason to welcome the three volumes which have most appropriately appeared to render the celebrations com-

plete, and especially Mr. Geoffrey Keynes's beautifully printed *A Bibliography of the Writings of William Harvey, M.D., Discoverer of the Circulation of the Blood*.<sup>1</sup> This fine product of the Cambridge University Press by a Cambridge graduate is so extraordinarily complete that some might like to imagine some inspiration from the late Sir William Osler, in whose study the first entry in the *Bibliography* was made on February 12th, 1927. There are five sections, giving detailed accounts of the Harveian writings, with interesting information about the actual resting places of the rare editions. As is only natural and right, nearly half the volume is occupied with the *De Motu Cordis*; then the *De Circulatione Sanguinis* (1649), or the two letters to John Riola the younger, and the *De Generatione Animalium* (1651) are similarly described. The fourth section, *Omnia Opera*, deals with publications of his collected works, and the fifth section, *Miscellanea*, contains notices of the necropsy on the famous Thomas Parr, reputed to be 153 years old, Sir George Paget's publication of a letter from Harvey to Samuel Ward, the Master of Sidney College, Cambridge, letters subsequently made public by Dr. J. H. Aveling and Dr. S. Weir Mitchell, and the well-known *Protections*, or notes for his Lumleian Lectures of 1616, brought out as an autotype reproduction by the College of Physicians in 1886. There is, in addition, an index of the recorded copies, the British Museum, with 35 entries, leading the College of Physicians of Philadelphia, which has 31.

Each section is introduced by a bibliographical preface full of scholarly lore—for example, the details of the cancelled title-page of the *De Circulatione Sanguinis*—and there are a number of well-executed illustrations and reproductions of title-pages. The *De Motu* and the *De Generatione Animalium* were both translated into English for the first time in 1653, but the responsible hand is unknown, and the suggestion that it was that of Dr. Martin Llewelyn, whose dedicatory poem to Harvey appears at the beginning of the latter translation, has not any evidence in its favour. The first English translation of the *De Motu Cordis* has just been edited by Mr. Keynes and issued by the Nonesuch Press. Of the first edition of the *De Motu* 17 copies have been tracked down; its Latin text has been printed twenty times, the last occasion in ordinary type being in 1824; but the College of Physicians has now had 250 copies of a photographic facsimile of the original edition prepared to commemorate the tercentenary.

### ROYAL MEDICAL BENEVOLENT FUND.

At a recent meeting of the committee forty-nine cases were considered and £659 voted to forty-one applicants. Since the beginning of the year £2,862 has been made in grants to urgent cases of distress. The demands for help increase; subscriptions are very urgently needed, and should he sent to the Honorary Treasurer, Sir Charles Symonds, 11, Chandos Street, Cavendish Square, W.1. The following are notes on a few of the cases relieved at the last meeting.

M.D.Durl., at the age of 76, with his wife blind and suffering from cancer, and without a penny saved, suddenly found himself out of employment. No provision had been made for old age, as since 1912 he had not been able to earn more than £300 a year. Before then he had educated two sons for the medical profession; one died during the war, and the other is delicate and is himself struggling to keep going. There were also two daughters to be educated. He will apply for the old age pension. The Fund voted £40.

Widow, aged 69, of L.R.C.P. and S.Ed. The applicant's husband died of cancer, leaving her penniless. He had been a salaried assistant, and on his decease the widow received only £35, the salary due to his death. The sale of furniture and a small gift of £20 had brought her total capital up to £150. The applicant is now living with a niece, the wife of a clergyman, who has only his stipend and is unable to support her. Voted £25.

Widow, aged 77, of M.R.C.S. Since her husband's death in 1884 the applicant has maintained herself as companion-housekeeper, but at 77 she is unfit for work, and her only income is the old age pension of £26 a year. Voted £35.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

<sup>1</sup> *A Bibliography of the Writings of William Harvey, M.D., Discoverer of the Circulation of the Blood, 1628-1928*. By Geoffrey Keynes, M.A., M.D., F.R.C.S. London: Cambridge University Press 1928. (8 x 10½, pp. xii + 67; 8 illustrations and 12 reproductions of title-pages. 21s. net.)

## THE LESSONS OF RARE MALADIES.

ANNUAL ORATION BEFORE THE MEDICAL SOCIETY OF  
LONDON BY SIR ARCHIBALD GARROD.

THE Annual Oration before the Medical Society of London was delivered on May 21st by Sir ARCHIBALD GARROD, K.C.M.G., D.M., F.R.S., whose subject was the lessons of rare maladies. Mr. HERBERT W. CARSON, President, was in the chair.

SIR ARCHIBALD GARROD said that in rare diseases were to be found the keys to not a few dark places in physiology and pathology. At the time of the First Empire, when the French universities were in the melting-pot, there were established in some of the medical schools professorships for the exposition of rare cases and diseases; and in the *Dictionnaire des Sciences Médicales* (1813) there was an article by Fournier on rare cases which extended to 120 pages. In British medical journals and transactions the speaker had found only two addresses on this subject—a series of Bradshaw Lectures by Sir James Paget in 1882, and a previous oration to the Medical Society by Sir Jonathan Hutchinson in 1889. Paget observed: "We ought not to set them [rare cases] aside with idle thoughts or idle words about 'curiosities' or 'chances.' Not one of them is without meaning; not one that might not become the beginning of excellent knowledge, if only we could answer the question—Why is this rare? or, being rare, why did it in this instance occur?" The study of what might be styled Nature's experiments was of special value, and many lessons which rare maladies taught could hardly be learnt in other ways.

There were two preliminary questions at the outset: Was it needful to draw a dividing line between rare cases and rare diseases? and What was meant by a rare disease? The answer to the first question was in the negative. Any example of a rare disease was a rare case, and a rare syndrome might be due to a lesion of a common kind in an uncommon situation. With regard to the second question, he did not propose to include in the category maladies which were common in hotter countries, but rare or absent from our own, nor infective diseases of lower animals rarely met with in human subjects, nor maladies the common occurrence or rarity of which depended upon the prevalence or absence of dietary defects. The truly rare maladies touched upon in this oration were such as were seldom seen in men living on any part of the globe or under any conditions of life. As to the criterion of rarity, he took it that between those common illnesses which went far to fill the hospitals and those so uncommon that the recorded examples could be counted upon the fingers every degree of rarity was represented; yet it seemed to him that the bulk of diseases fell into one or other of the more extreme categories, and that comparatively few were "somewhat rare."

*Departures from Type.*

One of the chief reasons why rare maladies could teach so much was because they called attention to the ordinary things otherwise accepted as a matter of course. We took for granted our own asymmetry—regarded it as natural that the liver should lie to the right and the spleen to the left. A case of transposition of viscera set us thinking, pondering as to the underlying cause of the more usual arrangement. Many rare maladies had as their underlying causes more or less abrupt departures from type such as were usually spoken of as mutations, which were transmitted to offspring, either as dominant or recessive characters. Such departures often threw light upon problems of heredity, on the development of the body, or of the living processes of which the body was the seat, and on the liabilities of individuals to special forms of disease. Some unfavourable mutations were anomalies of structure, manifesting themselves as malformations, such as claw-hand or excess of

digits; others were functional mutations, and these, like interferences with a delicate and complicated machine, might bring about results which, however undesirable, threw valuable light on normal working. Thus from the study of some rare maladies much knowledge was gained of diathesis, the constitutional factor in the causation of disease. Idiosyncrasies also—those special sensitivities to certain protein substances, to pollens, foods, and drugs—had a share in the causation of some rare syndromes.

*Addison's Researches.*

The orator took as his first example the least rare of rare maladies, Addison's disease, specially to call attention to Addison's pamphlet (1855), which was a model of scientific clinical medicine, controlled by morbid anatomy. In the preface to that epoch-making monograph in which he set forth his researches Addison described it as "a first and feeble step towards inquiry into the functions and influence of the adrenals, suggested by pathology": for it was clear to him that it was the seat and not the nature of the lesions which determined the symptoms. From that "first and feeble step" had grown up our knowledge not only of the functions of the adrenals, but also of the other endocrine glands, and of the hormones which they secreted. As more had been learned about them they had been recognized as the regulators of the metabolism of the tissues, also of height and weight, temperature, and blood pressure. It had become increasingly evident that the several ductless glands, acting, some as mutual opponents and others as allies, formed a balanced mechanism, which set limits to the various functions, and by readjustments of which the phenomena of puberty and of the climacteric were brought about. The most recent advances in endocrine studies; the isolation and synthesis, first of adrenaline itself, and lately of thyroxine; the study of their physiological actions, and the utilization of insulin, might rank among the greatest achievements of medical science, and all might be traced back, directly or indirectly, to Addison's researches.

Passing to inborn errors of metabolism, the orator mentioned alcaptonuria, a rare anomaly, which behaved as a characteristic Mendelian recessive character, and was wont to occur in several brothers and sisters, whose parents were usually normal but were in a large proportion of cases first cousins. By the study of this malady from the standpoint of chemistry, and by the administration to its subjects of a variety of aromatic compounds, much light had been thrown upon the katabolism of proteins; it had also shown how a metabolic product might have the power of staining certain living tissues in a selective manner, and, further, that, a trifling deviation from the normal in metabolism and the presence in the tissues of small quantities of an intermediate product, normally destroyed, might so lower the resistance of tissues that, after the lapse of many years, there was developed, under the stress and strain of daily life, a characteristic form of osteo-arthritis. Another still rarer malady was congenital porphyria, or haematoporphyria, which stained the bones a deep brown colour, and had taught us much regarding the action of light upon the living organism.

*Tissue Anomalies.*

The orator's next example was taken from that group of tissue anomalies which included the familial-hereditary affections of the nervous and muscular systems to which Gowers gave the name of "abiotrophies." These illustrated a point upon which Hutchinson laid much, perhaps too much, stress—namely, the affinities between morbid states and their tendency to merge into each other. Thus in a particular family tissue anomalies might crop up in different members, in one some form of muscular atrophy, in another myotonia atrophica. The muscular dystrophy and myotonia had in the observed cases been limited to the collaterals of one generation of a family, seldom developing before the age of 25; but cataract, which was associated with the syndrome, had been traced back through four or five generations. Some recent investigators held that the underlying factor in the disease under discussion was a widespread defect of the endocrine glands, and that what was a pluriglandular syndrome. It

might well be that other affections of this group, the abiotrophies, would prove to be local manifestations of much wider maladies, and that the link between the calcareous deposits and the digital anomalies in myositis ossificans might be found in a generalized defect of the mesenchymatous tissues, of which these were merely the most conspicuous signs.

He next touched upon the very rare and curious disease first described by Gaucher in 1882, and known by his name—a form of enlargement of the spleen, met with in a child, and characterized by the presence in the splenic tissue of numbers of large hyaline cells which stained but feebly. Before long it was realized that this was no form of malignant growth, and that the changes were by no means limited to the spleen, the liver becoming greatly enlarged and the haemopoietic tissue generally being involved. In recent years it had been shown that the peculiar Gaucher cells, found in all the affected parts, owed their swollen and hyaline appearance to the presence in them of a chemical substance, kersasin, a member of the class of galacto-lipins. One of the latest theories was that here one had a perversion of the metabolic process, and that kersasin was a product of abnormal metabolism. The subjects of such maladies as the abiotrophies and Gaucher's disease furnished striking examples of constitutional liabilities. It was because they were uncommon individuals that they were predestined to suffer—in other words, the patient rather than the malady was rare.

#### *Maladies Still Obscure.*

In conclusion, the orator spoke of some rare maladies the lessons of which had been learnt only in part or not at all. The syndrome known as intermittent hydrarthrosis had features which might be described as uncanny. Effusion into the knee-joint here recurred with a regularity comparable to that of some forms of malaria, and was clearly not connected with the life-history of any parasite. An exactly similar periodic hydrarthrosis was sometimes met with in cases of arthritis of various kinds. There was undoubtedly a connexion between the cutaneous lesions of the erythema group and affections of the joints—witness the familiar serum sickness. Again, periodicity was met with in other maladies of the anaphylactic group, in erythemata occasionally, in asthma often, and in Henoch's purpura almost always; but in none of these conditions was there any such accurate periodicity as in hydrarthrosis. The most likely explanation was that each attack desensitized the patient for a time, at the expiration of which the trouble recurred.

Another very uncommon syndrome was sulphæmoglobinæmia, clearly an acquired malady, with no indication of family or hereditary occurrence. Its chief problems still awaited solution. Chloroma was another rare malady which presented important unsolved problems. Another of the most obscure of rare diseases was that malady involving the bone marrow, of which the copious excretion of the Benico Jones protein was the diagnostic sign. That weird mixture of infantilism and premature senility which Hastings Giffard described under the name of "progeria," and the developmental anomalies of bony structures, of which achondroplasia, oxycephaly, and hypertelorism might be cited as examples, had not yet revealed their secrets, but would repay investigation. Of all these it might be said that they tended to prove the truth of Harvey's dictum that "Natura is nowhere accustomed more openly to display her secret mysteries than in cases where she shows tracings of her workings apart from the beaten path." The orator hoped that there would always be some who would seek to guess the riddles and to learn the lessons of the rarer maladies.

At the annual meeting of the Medical Society of London, which preceded the oration, Dr. John Walter Carr was elected president for 1928-29, Dr. J. E. H. Roberts a new vice-president, and Dr. Anthony Feiling and Mr. R. Davies-Colley honorary secretaries. It was stated that the society now numbered 626 Fellows, including 15 honorary Fellows. The vote of thanks to Sir Archibald Garrod for his oration was proposed and seconded by Sir James Berry and Dr. J. W. Carr respectively.

## THE BRITISH PHARMACOPOEIA.

### PROPOSALS FOR A STANDING COMMITTEE.

THE report of the subcommittee on the *British Pharmacopœia*, appointed by the Committee of Civil Research at the instance of the General Medical Council, was published on May 17th.<sup>1</sup> In its fifty-seven pages it gives a brief account of the evolution and present position of this official publication, records the criticisms directed against the existing machinery for its production and revision, and submits a series of proposals for its future conduct and constitution. The subcommittee, which came into being on July 18th, 1926, was directed in its terms of reference:

To make inquiries, to collect information, to receive evidence, and to make recommendations on the question whether it is desirable to make any, and if so, what, alterations in the existing law or practice relating to the preparation or publication of the *British Pharmacopœia* and to its adaptation to the requirements of the British Empire.

The members of the subcommittee were as follows:

The Right Hon. H. P. Macmillan, K.C. (Chairman).  
The Right Hon. Lord Dawson of Penn, G.C.V.O., M.D.  
Sir Donald MacAlister, Bt., M.D., President of the General Medical Council.  
Dr. H. H. Dale, F.R.S., Director of Department of Biochemistry and Pharmacology, Medical Research Council.  
Mr. Edmund White, Past-President of the Pharmaceutical Society of Great Britain.  
Dr. H. G. Dain, Chairman, Conference of Representatives of Local Medical and Panel Committees, British Medical Association, 1919-24.

The subcommittee's task fell naturally into two main branches—consideration of the legal position of the *Pharmacopœia* and consideration of the machinery for its compilation and revision in the light of current difficulties. So far as the first question is concerned, it concludes that no change involving legislation is necessary, and the bulk of the proposals put forward therefore relate to the method by which it is considered the *Pharmacopœia* should be produced, and the considerations which should govern its composition. In view of the fact that no change in the law is suggested, the subcommittee states: "We recognize that . . . the carrying into effect of our recommendations will depend on their acceptance by the General Medical Council, but we are hopeful that the scheme which we propose will commend itself to the Council." The scheme referred to provides for the appointment by the General Medical Council of a selection committee consisting of persons nominated by the Council itself, by the three pharmaceutical societies, and by the Medical Research Council. This selection committee will nominate a *Pharmacopœia* Commission, a permanent body, which will be charged, under the general direction of the General Medical Council, with the actual work of preparing future issues of the *British Pharmacopœia*. Provision is made to secure the co-operation, where it is desired, of representative bodies in the Dominions and in India.

#### *Difficulties in Securing Co-operation.*

At this point we may recall the chain of events which led to the institution of the inquiry now completed. At the autumn meeting of the General Medical Council in 1925 it was announced that preparations had been made to proceed with a revision of the *British Pharmacopœia*, 1914. Communications had been addressed to the various Governmental authorities interested, at home and in the Dominions, and to universities and medical corporations in this country, inviting relevant suggestions, while the Pharmaceutical Society of Great Britain had been asked to co-operate by nominating members of a pharmaceutical advisory committee and a committee of reference in pharmacy. The Council, therefore, proposed to proceed on the lines which had governed the earlier revisions. Difficulty was experienced, however, in securing assurances of the requisite expert assistance, and it became clear that pharmacists generally objected to the perpetuation of a system which involved the performance by them of a large part of the work required, while the responsibility for editing the *Pharmacopœia* was retained by a committee of the General Medical Council. An interesting account of

<sup>1</sup> Cmd. 3101. London: H.M. Stationery Office or through any bookseller. 1928. 1s. net.

the position by Professor A. J. C. (he then held the chair of College, London) was published in the *British Medical Journal* on January 2nd, 1926 (p. 30). In it he gave a critical analysis of the methods employed in the preparation of the *British Pharmacopoeia* and of the *United States Pharmacopoeia*, the tenth revision of which had just been completed. As a result of the criticisms directed against its procedure, the General Medical Council convened a conference between the members of its Pharmacopoeia Committee and representatives of various medical, scientific, and pharmaceutical bodies, and at a meeting on February 23rd, 1926, a free discussion took place. The outcome of these proceedings was the appointment of the subcommittee whose report is now under review.

#### *Defects in the Present System.*

This document surveys the evolution of the *British Pharmacopoeia* from the earliest times, giving particular attention, of course, to the part played by the General Medical Council in the execution of its responsibility for the production of this work under the Medical Acts of 1858 and 1862. A review is given of the methods of preparation adopted for each successive edition from 1864 to 1914, in the course of which period the system now in the melting-pot was gradually built up. Reference is then made to certain developments which have taken place since 1914, such as the passing of the Therapeutic Substances Act, 1925, and the subcommittee proceeds to comment on the machinery of the General Medical Council in this period, stating that:

"The functions of the Pharmacopoeia Conference and the committees of reference set up to assist in the preparation of the fifth *British Pharmacopoeia* came to an end on its publication. The Pharmacopoeia Committee of the General Council continued to meet at intervals, and presented half-yearly reports dealing with matters referred to above (e.g., the Therapeutic Substances Act), and any other topics arising which affected the *British Pharmacopoeia*. But no systematic or continuous work was undertaken with a view to the next revision, and no digests of material were compiled. . . . In 1921 the Pharmacopoeia Committee received an offer of co-operation in matters of common pharmaceutical interest from the Chairman of the Committee of Revision of the *United States Pharmacopoeia*, which was cordially accepted, and this was followed by the transmission of advance copies of material compiled by the United States Committee dealing with proposed omissions and additions, drafts of new monographs and the like."

After giving a survey of the more recent events mentioned above the subcommittee submits a detailed study of the legal status of the *Pharmacopoeia* throughout the British Empire, and goes on to review the criticisms of the existing regime placed before it by interested parties. This criticism, the report states, was directed against both "the method of production and the resulting product." With regard to the criticism of what may be termed the non-expert status of the Council the subcommittee remarks:

"It was pointed out that the General Medical Council has a number of most important public duties, judicial and administrative, to perform, and that its members are selected not with a view to their fitness or capacity to take part in the production of the *British Pharmacopoeia*, which is only one of their functions among others, but rather because of their general ability and professional standing."

The subcommittee found that one of the main objections to the existing system came from those who had assisted in the production in the past, and who were dissatisfied with the status accorded them in relation to their work. This was not confined to the pharmaceutical societies: the complaint was general that the experts in the various branches of science whose collaboration was essential did not enjoy a responsible status such as they claimed their services merited.

The report proceeds to consider the nature of the *Pharmacopoeia*, introducing its discussion with the note:

"In early times pharmacopoeias were little more than descriptive lists of medicines in use by the profession, and their compilation was generally the work of medical men. But a modern pharmacopoeia must be much more than this. It must contain not only a carefully scrutinized list of current drugs of repute, but also authoritative standards whereby the purity and efficacy of these drugs may be tested."

The definition suggested by the British Medical Association\* is quoted:

"The *Pharmacopoeia* should contain, so far as practicable, all those drugs and preparations which experience shows to be in common use by medical practitioners and which in the interest of the public require a standard method of preparation, or a standard of strength, or a standard of purity; provided that such drugs and preparations have a therapeutic or diagnostic value, or are pharmaceutically necessary."

The members of the subcommittee came to the conclusion that it was unnecessary for them to discuss in detail the sphere of the *Pharmacopoeia*, as this was a matter for those charged with the preparation of future editions, and they therefore concentrated their attention on the question of securing that this work should be undertaken by those best fitted for it. The result of their deliberations on this matter has already been indicated, and is given in greater detail in the summary printed below. With regard to the period of publication, it is suggested that the revision should be so arranged that the successive issues of the *British Pharmacopoeia* should appear in the middle of the intervals of the issues of the *United States Pharmacopoeia*, which is already published every ten years. Considerable weight is attached to the establishment of an adequate secretariat with suitable staff and equipment, in view of the importance of co-operation with other parts of the Empire and with the United States, and the growing international aspect of pharmaceutical enterprise. The report indicates that the subcommittee has been assured that the important work of research, often of a voluntary nature, which has so frequently been provided in the past by experts with laboratory facilities at their disposal, will be given to the proposed Pharmaceutical Commission increasingly, if it is established.

In making investigation into the question of the adaptation of the *Pharmacopoeia* to the needs of the Empire communications were addressed to a number of the Dominions and Dependencies, and for the most part their answers indicated that they were either satisfied with the existing system or were prepared to accept a revised *Pharmacopoeia* without representation on the body responsible for its production. Various Canadian interests, however, held that Canada should have a voice in revision, but the Canadian Government, although twice approached, did not find it possible to appoint an authoritative representative to discuss with the subcommittee the best means of adapting the *British Pharmacopoeia* to Canadian requirements. General suggestions for adapting the *Pharmacopoeia* to regional needs are given in the report.

#### *Conclusions and Recommendations.*

The report gives the following summary of the principal conclusions and recommendations of the subcommittee:

(i) That it is not necessary or desirable to make any alterations in the existing law relating to the preparation or publication of the *British Pharmacopoeia*.

(ii) That the General Medical Council set up forthwith a Selection Committee to be charged with the duty of selecting persons to form a new body to be designated "The Pharmacopoeia Commission."

(iii) That the composition and functions of the Selection Committee be as follows: (a) The Selection Committee should consist of four persons nominated by the General Medical Council, three persons nominated jointly by the Council of the Pharmaceutical Society of Great Britain, the Council of the Pharmaceutical Society of Ireland, and the Council of the Pharmaceutical Society of Northern Ireland, and two persons nominated by the Medical Research Council; the representatives in each case to be chosen by the nominating body either from among or from outside its membership. (b) The chairman of the Selection Committee should be appointed by the General Medical Council from among their four representatives. (c) The Selection Committee so appointed should select persons representative of the various appropriate departments of knowledge and experience to form the Pharmacopoeia Commission. (d) The number of persons selected to form the Pharmacopoeia Commission should not be prescribed, but should be left to the discretion of the Selection Committee, who should have power from time to time to select additional persons for permanent or temporary membership, including representatives

\* A "watching" committee was appointed by the British Medical Association in July, 1926; a memorandum was prepared for presentation to the subcommittee, and evidence on behalf of the Association was given by Dr. J. W. Bone and Dr. G. C. Anderson, Deputy Medical Secretary.



of India or the Dominions. (c) The Selection Committee should submit to the General Medical Council for approval the name of one of the selected persons to be chairman of the Commission.

(iv) That the manner of appointment, composition, and functions of the Pharmacopoeia Commission should be as follows: (a) The Pharmacopoeia Commission should be appointed by the General Medical Council, its members being persons whose names are submitted to the Council by the Selection Committee. (b) The Pharmacopoeia Commission should be a permanent body with an office and suitable secretariat, and the work of collecting and collating material, preparing reports, and conducting correspondence with a view to the preparation of future issues of the *Pharmacopoeia* should be carried on continuously. (c) The actual work of preparing future issues of the *British Pharmacopoeia* should be undertaken by the Pharmacopoeia Commission under the general direction of the General Medical Council; on each revision the completed volume should be submitted by the Commission to the General Medical Council for approval; and when approved it should be issued as heretofore with the authority of the General Medical Council. (d) The Pharmacopoeia Commission should have power to appoint subcommittees, and to include among the members of such subcommittees experts in any particular branch, whose assistance may be desired, although they may not be members of the Commission.

(v) That in future the *British Pharmacopoeia* should: (a) Be revised and reissued at stated intervals of ten years, supplements being issued between the successive editions as required. (b) Contain only standard drugs in general use throughout the Empire.

(vi) That where it is desired in any part of the Empire to sanction the use of particular local drugs, or alternative preparations not included in the *British Pharmacopoeia*, this should be left to be effected by the Governments concerned by the issue of local supplements or addenda.

(vii) That the Governments of the Dominions and of India be requested by the General Medical Council, through the appropriate channels, to set up or cause to be set up responsible and representative committees to co-operate with the Pharmacopoeia Commission in the revision of the *British Pharmacopoeia*, if they desire and are willing to take part in the work.

(viii) That, at any rate until the results of the publication of the next revision are seen, the funds necessary for carrying on the work of the Pharmacopoeia Commission be provided by the General Medical Council, who should receive the proceeds of all sales of the *Pharmacopoeia*, a separate account being kept.

## Scotland.

### William Mackenzie Memorial Medal.

The first award of the recently instituted William Mackenzie Memorial Medal, "In recognition of valuable contributions to ophthalmology," will be made to Dr. A. Maitland Ramsay, honorary director, James Mackenzie Institute for Clinical Research, St. Andrews; consulting ophthalmic surgeon, late surgeon, Glasgow Royal Infirmary and Ophthalmic Institution. The presentation will take place in Glasgow in the autumn, on a date to be arranged, and on that occasion Dr. Ramsay will deliver an address.

### Chair of Genetics at Edinburgh.

Dr. F. A. E. Crew has been appointed by the University Court of Edinburgh University to be professor of animal genetics and director of the University Department of Research in Animal Breeding under an ordinance founding this chair, which received the approval of His Majesty on May 7th. The chair was founded by a donation from Lord Woolavington, supplemented by a grant from the International Education Board, New York. Professor Crew is a graduate of Edinburgh University, where he took the degree of M.B. in 1912. During the war he served with the R.A.M.C. in India and France, and on demobilization took up a post as assistant in the Natural History Department of the University. In 1920 he was appointed director of the newly-formed Animal Breeding Research Department, then housed in High School Yards. He has organized much research and contributed many papers to the literature on this subject. In 1926 Dr. Crew was William Withering lecturer at the University of Birmingham, and in 1928 Milroy lecturer at the Royal College of Physicians, London. Among the works which he has published have been volumes under the titles of *Animal Genetics*, *Organic Inheritance in Man*, and *Heredity*.

### Conference of Health Visitors.

The Scottish Association of Health Visitors, Women Sanitary Inspectors, and School Nurses held the 9th annual conference in the City Chambers, Edinburgh, on May 12th, when Lady Leslie Mackenzie presided. Dr. William Robertson, medical officer of health for Edinburgh, who welcomed the delegates on behalf of the Town Council, said that within the last twenty years the task of the visitor had become less depressing than it used to be because social conditions were gradually improving and the people were taking a much greater interest in themselves and in their families, and housing conditions were being remedied. The work did not now consist merely in visiting slums, but it was still the duty of health visitors to reduce the number of apathetic and indolent people who paid no heed to the simple things that mattered in regard to health. In the next thirty years most of the efforts made by health visitors would be preventive rather than remedial. Dr. Ernest H. Connell opened a discussion on psychology and nursing, and claimed that they lived in a psychological age. Dr. David McKail (Glasgow) said that in some quarters of Glasgow the attitude of the people was to do nothing in the presence of illness, and to take up the bad mental attitude of saying, "It is in the family." The health visitor had a big work in front of her in helping to educate such people. Councillor Mrs. Millar (Edinburgh) said that the juvenile delinquency committee had found that in practically no family where a health visitor was attending was a juvenile delinquent found. The delegates in the afternoon visited several of the hospitals of the city. On the previous evening they had attended a reception in the City Chambers, given by the Corporation, where they had been received by Bailie Hay in the absence of the Lord Provost.

### Teeth of the Working Classes.

At the annual meeting of the Edinburgh Dental Hospital and School Professor P. S. Lelean moved the adoption of the directors' report. He said that national decadence was shown in no way more decisively than in the condition of the teeth. From 95 to 97 per cent. of school children in Britain suffered from dental caries. Referring to 60,000 recruits for the army seen annually, the official report declared that on an average six teeth were decayed, of which two needed immediate extraction and four required treatment to make the recruit dentally fit. This was the condition of the mouth in the young, relatively vigorous recruit; what, then, must be the condition of a debilitated, ill-nourished mother of the slums? The Edinburgh Dental Hospital had made a magnificent attempt to stem this tide of decay and to put right the appalling condition of the teeth of the working classes. Last year in the hospital 12,000 teeth had been conserved, 1,600 dentures had been fitted, and 22,000 treatments had been given by the 132 students attending the school. The speaker considered that it was pathetic that the total contributions of the public in Edinburgh would only suffice to maintain the institution for one week in the year, and that £8,000 was still required to pay for the additions to the hospital which had been opened last year.

## England and Wales.

### Training and Employment of Midwives.

The Minister of Health has appointed a departmental committee whose terms of reference are: "To consider the working of the Midwives Acts, 1902 to 1926, with particular reference to the training of midwives (including its relation to the education of medical students in midwifery), and the conditions under which midwives are employed." The committee is appointed with the concurrence of the Central Midwives Board, and its appointment forms part of the measures for dealing with the problem of maternal mortality and morbidity which were referred to by the Minister when introducing the Estimates of the Ministry of Health in the House of Commons on May 15th. The members of the committee are as follows: Sir Robert

Bolam, M.D. (chairman), Dr. J. W. Bone, Dame Janet M. Campbell, M.D., Lady Cynthia Colville, Dr. W. A. Daley, Dr. J. S. Fairbairn, Dr. T. Eustace Hill, Miss Alice Gregory, Mr. A. B. MacLachlan, Dr. F. N. Kay Menzies, Mrs. Bruce Richmond, and Miss Katherine J. Stephenson. The secretary will be Mr. W. H. Howes of the Ministry of Health, to whom all communications relating to the work of the committee should be addressed.

#### King Edward's Hospital Fund for London.

The Prince of Wales presided at the annual meeting of the King Edward's Hospital Fund for London, held at St. James's Palace on May 15th, to which a brief reference was made in our last issue (p. 883). After reading a message from the King, in which His Majesty expressed his gratification at the results achieved by the special distribution of £255,000 received from the estates of the late Mr. and Mrs. John Wells, which had helped the hospitals of London to provide 1,600 additional beds and to meet other urgent requirements, the Prince of Wales stated that the accounts showed a better result than had been anticipated in November, when the League of Mercy announced that it would give the Fund £17,000 instead of £15,000, so that the ordinary distribution could be increased to £247,000. This year they had already had a gift of £10,000 for general purposes from an anonymous donor, and their capital had been increased by a donation of £10,000 from Mr. J. J. Crosfield. Referring to the statistical report on the hospitals of London His Royal Highness said the total voluntary contributions to the 140 hospitals amounted to something like £1,800,000 a year. In the report, for the purpose of helping hospitals to control their expenditure by providing comparative figures of cost, quantities consumed were now given as well as money spent. The inquiry by the Pay Beds Committee into the question of hospital accommodation for the middle and professional classes was nearly finished, and the conclusions would be based on a study of pay beds as they now existed in London. Grants from the Wells legacies, which began in 1924, had for four years enabled the Distribution Committee to take each urgent scheme as it came along, at any time of the year, and give it a grant. In addition to other work, three new hospitals had been built and four had been rebuilt on new sites. In conclusion, the Prince referred to the loss the Fund had suffered by the deaths of Lord Cave, Sir William Church—who was a member of the council for twenty-seven years—and Sir John Craggs. Lord Revelstoke, honorary treasurer, presented the accounts, saying they had been able to carry forward £2,700 as a balance to next year, and gave an interesting account of the origin of the Wells legacies. The report of the general council submitted by the Earl of Donoughmore, chairman of the Management Committee, after referring to several matters already mentioned, stated that the total sum distributed during the last ten years, including all special payments, was £3,360,688. The British Charities Association again gave £15,000 last year, while an anonymous donation of £8,000 was received. Special consideration has been given to various aspects of the accidents problem, arising out of increased road traffic, and particular attention has been directed to the burden thrown upon hospitals provided to meet local needs by cases arising from this cause. The Fund is engaged in inquiries with a view to preparing practicable proposals to lay before a conference of the various parties concerned. A report on the new edition of the Fund's statistical report was approved. This edition is the first to be based on the new regulations under the revised uniform system of hospital accounts, and contains much valuable data relating to income, expenditure, and working costs in 139 institutions. The proceedings terminated with the moving of a vote of thanks to the Prince of Wales for presiding and for his continued interest in the Fund.

#### The Hospital for Sick Children and the Foundling Hospital Site.

The need for the reconstruction of the Hospital for Sick Children, Great Ormond Street, London, has been recognized for some time past, and consideration is being given to the question of securing a new site. Early this year the board of the hospital was approached by the

Foundling Estate Protection Association with the proposal that the Foundling Hospital site should be purchased jointly, the forecourt to be preserved as an open space for the public and the Children's Hospital to be rebuilt where the "Foundling" buildings now stand. Mr. Stanley Hall, F.R.I.B.A., has reported that to rebuild the Sick Children's Hospital on its present site would be attended with grave disadvantages as regards air, light, and health conditions generally, and at a general court of governors on May 16th it was stated that the Council of King Edward's Hospital Fund, in view of the architect's report, would raise no objection to efforts being made to secure a new site, provided that the board was satisfied with the prospect of securing adequate funds. A committee has been formed from the board of management and from the Foundling Estate Protection Association, which is in negotiation with the owners of the property, and if the result of these negotiations is satisfactory an appeal on a large scale will, no doubt, be launched. Almost the only critics of the scheme were described as those who advocate other plans for the exploitation of the Foundling Estate.

#### Prevention of Tuberculosis in Childhood.

In a memorandum of the tuberculosis group of the Society of Medical Officers of Health reference is made to a useful form of preventive work which has been adopted in Shropshire. Infective tuberculous women who are pregnant are admitted to a sanatorium until just before labour, when they are transferred to a special open-air ward at a maternity hospital. After her confinement the patient returns to the sanatorium, and the infant is sent for one year to the County Home for Ailing Babies, where four beds are reserved for these cases. Attempts are made at the end of the year to board out the babies for a further period with relatives of the patient. Emphasis is laid also in the report on the importance of tracing sources of infection, it being borne in mind that the notified case is often not the chief danger. Removal of potential patients from a source of infection is advocated, either, as in France, by the Graucher system, or by making use of a residential open-air school. Attention is called to the valuable work which the general practitioner can render as regards steps being taken for the prevention of infection, and also for the education of the lay public. A closer degree of co-operation is advocated between the tuberculosis department, the school medical department, and maternity and child welfare centres. The opinion is expressed that the prevention of tuberculosis would be facilitated by extending Insurance Act benefits to the dependants of the insured.

## Ireland.

#### Appointment of Dispensary Medical Officers in the Free State.

UNDER the Local Authorities (Officers and Employees) Act, 1926, a dispute has arisen between the Department of Local Government and Public Health and the South Cork County Board of Public Assistance with regard to the appointment by the latter body of a dispensary medical officer who was not one of its officials, and served under another health authority. In connexion with the matter the Local Government Department, in a letter to the local body, pointed out that as none of the existing medical officers in the employment of the Board was desirous of accepting the office, the vacancy should be reported to the Local Appointments Commissioners. In reference to the minute of the Board requesting the Minister to sanction the appointment of Dr. Nyhan, the Minister desires to state that he is unable to meet the wishes of the Board. If it were possible for the Board to nominate a particular officer from outside their area, a condition of affairs would arise that practitioners generally would be denied opportunity for preferment on grounds of their experience or attainments. After most careful consideration, the Minister has decided, in the general interests, that, where an appointment is not proposed from existing officers of a local authority, the making of the

appointment should be placed in the hands of the Local Appointments Commissioners, who have suitable machinery for assessing the relative merits and qualifications of eligible candidates.

#### Medical Benefits (Northern Ireland).

In the Northern House of Commons when a money resolution in connexion with the National Health Insurance Bill was proposed, Labour and Nationalist members urged the inclusion of medical benefits under the Act. Mr. Kyle (Labour) said that unless they got an assurance that such benefits would be included, he thought every measure of this kind should be opposed to the utmost. There was nothing impossible about the proposal, he said, and the Local Government Commission were within an ace of reporting in favour of it when they were stampeded by members opposite in favour of the dispensary system. He declared that under the present system there was an inducement to doctors to certify people who were not incapable of work. Mr. J. Devlin and Mr. Healy supported the proposal. Mr. J. M. Andrews, Minister of Labour, said that at the present moment it would be inadvisable to adopt the suggestion. There were special difficulties in connexion with the matter, and it would be very foolish, in the interests of the poorest of their people, to make any drastic decision. He did not think that the dispensary system was unpopular, and they must be careful that in doing away with that system they did not do the people an injury instead of a benefit. The resolution was agreed to, and the Bill was carried through its remaining stages and passed.

#### Return of Empty Medicine Bottles and Cases.

At Cavan Circuit Court, Messrs. Evans Sons Lescher and Webb, Ltd., Liverpool, sought to recover £26 9s. 9d., value of unreturned empties in connexion with the supply of medicines, the defendants being the Cavan Board of Health. A sum of £15 was lodged in court to meet the claim. Eighteen dispensary districts were involved, and sixteen doctors were in court. Dr. O'Rourke, Ballyconnell, said that dispensary doctors should not be asked to return empties. It was not in the terms of their appointment. There should be something in the nature of a clearing house. A decree was given for £24 7s. 9d., with £5 expenses.

## Correspondence.

### THE PATHOGENESIS OF ACUTE PRIMARY GLAUCOMA.

SIR,—In a paper on the relation between capillary pressure and secretion, published in the *Proceedings of the Royal Society*, May 29th, 1912, M. Flack and I stated that "the increased tension in glaucoma is due to increased imbibition and secretion of fluid, resulting from an altered metabolism of the ocular tissues, leading to compression of the veins, and to a rise in the capillary-venous pressure; and therefore intraocular pressure. . . . Acute glaucoma resembles an inflammatory condition in any other part of the body."

Dr. Maitland Ramsay, in his address published in the *British Medical Journal* of May 12th (p. 789), ascribes the disease to a toxin producing congestive changes—a similar view. He assumes that there is normally, both in the eye and in the glomeruli of the kidney, an excess of pressure sufficient to overcome the osmotic pressure of the plasma proteins and produce filtration. This is a view combated by me and my co-workers, M. Flack and J. McQueen. Duke-Elder, by his recent ingenious observations on the retinal veins and arterial pressures, has not, in my opinion, secured any evidence which proves his assumption of the existence of a capillary pressure much above that of the intraocular fluid.

Tamura, in Japan, recently has confirmed our view concerning the glomerular capillary pressure. The excess of this over that of the fluid in the Malpighian capsule does not suffice to produce filtration. The whole question of

capillary pressure and filtration is dealt with in a paper now ready for publication by James McQueen and myself. This will appear in the *British Journal of Experimental Pathology*.

By secretion of fluid we mean the control of the amount and nature of the fluid by the living cells and endothelial membranes. It is these which are altered by metabolic changes and toxins. It is not the push of a capillary pressure, but the penetrability of the endothelial membranes and the pull of the tissue cells, which is of first importance.—I am, etc.,

London, N.W., May 17th.

LEONARD HILL.

SIR,—The interesting lecture by Dr. Maitland Ramsay on the pathogenesis of acute primary glaucoma raises of necessity the problem of the genesis of the intraocular fluids. Let me quote:

" . . . . . 'hat the tissue fluids come from the . . . . . ugh the walls of the capillaries, and . . . . . that the intraocular fluids obey the same physico-chemical laws. He believes, therefore, that the aqueous humour is a dialysate, and has brought forward evidence to prove that it is neither a secretion nor a filtrate. His work has put the physiology of the intraocular circulation into line with the circulation in the body as a whole."

This seems to me to be going somewhat fast. I am afraid there are some hedges and ditches in the course, but I am ready to be instructed how to take them. Let me state the problems.

As regards the filtration theory, it rests on the belief that the pressure in the capillaries of the eyeball is a filtering pressure—that is, above 48 to 55 mm. of Hg. It is generally agreed that the intraocular pressure is somewhat lower, by 1 or 2 mm. of Hg, than the pressure in the retinal veins. Taking the intraocular pressure at 25 mm. of Hg, on the filtration theory there would be a loss of pressure (pressure gradient) between capillaries and veins of more than 22 to 28 mm. of Hg. Elsewhere in the body the loss of pressure between capillaries and veins is 1 to 2 mm. of Hg. Loss of pressure in the arteries is due to change of arterial lumen—its narrowing—and the main loss of arterial pressure in the body is in the arterioles. There is no evidence of any peculiarity in the lumen of the capillaries of the eyeball to make this enormous reduction of pressure between capillaries and veins. It seems more probable that the capillary pressure in the eyeball is 1 to 2 mm. of Hg above the vein pressure, as elsewhere in the body. Consequently no filtration pressure exists in the capillaries of the eyeball.

The secretory theory denied the existence of a filtration pressure. The mechanism of secretion remained more or less a mystery. Now we have the dialysis theory. A very notable experiment in dialysis was carried out by Abel, who passed the blood from an artery through collodion tubes to a vein, the collodion tubes being placed in a bath of saline. The saline solution is later analysed for the substances that have entered it from the blood by diffusion—amino-acids, etc. It will be noted that what enters the saline solution are the crystalloids it does not contain originally or contains in less concentration. Were the bath distilled water, all the various salts, etc., of the blood would pass through the collodion membrane.

It is attractive to think of the tissue fluid as an Abel's bath, and similarly with the aqueous humour of the eye. But the bath in the case of the eyeball must be renewed. Six cubic millimetres of aqueous fluid per minute is estimated to be made in the eyeball. Consequently six cubic millimetres of salt- or crystalloid-deficient water has to be made per minute in the eyeball from somewhere to allow of dialysis occurring; and perhaps more, because the six cubic millimetres estimate does not include what passes out through the canal of Schlemm and what may be absorbed into the capillaries of the eyeball, because if there is no filtration pressure in the capillaries of the eyeball, and the pressure gradient between capillaries and veins is 1 to 2 mm. of Hg, then the osmotic pressure of the blood in the capillaries is unbalanced practically, and water will pass into the capillaries of the eyeball from the aqueous humour.

I do not wish to undervalue the evidence gained by

experiments on haemorrhage. There the tissue cells mobilize water deficient in salts which passes into the capillaries to restore blood volume. But if in the case of the eyeball the ciliary processes, for example, produce a salt-deficient water, they might, it seems to me, just as easily produce a normal intraocular fluid; and now we are back again at a secretory theory. The most important hedge to be taken in the course is an accurate direct measurement of capillary pressure in the eyeball. But it is a pleasure to know there are workers in the saddle.—I am, etc.,

Stilesowen, May 12th.

JAMES M. McQUEEN.

### IMMUNITY FOLLOWING HERPES.

SIR,—Dr. Parkes Weber, for whose encyclopaedic knowledge of the literature of disease I have the highest regard, expresses in your issue of May 19th (p. 875) doubt as to the possibility of second attacks of true herpes. I think everyone will agree that in the vast majority of cases one attack of herpes does confer immunity. Yet I have seen at least three cases of recurrence of true herpes. The first was a surgeon whom I saw many years ago with an attack of herpes frontalis on the left side. There was distinct scarring. Twenty years later I saw the same surgeon suffering from an attack of frontal herpes on the right side, and, on my expressing surprise, he told me that some years before this attack, and after his previous attack of left frontal herpes, he had had an attack of herpes in the deltoid region, and he showed me the scarring which had resulted.

The second case was that of a lady whom I saw in consultation with the late Dr. Lewis, a case of severe herpes in the distribution of the right fifth nerve. A year before, Dr. Lewis told me, she had had an attack of herpes zoster, the scarring from which was still very marked.

The third case was a hospital patient who had an extensive eruption of herpes zoster. When I told him it was "shingles" he said that ten years before he had had an attack of shingles in the neck, and on examining his neck I found marked scarring of the nature of which I could have no doubt.

I may mention, incidentally, with reference to the third attack experienced by the surgeon that his daughter, a fortnight after the attack developed, became ill with chicken-pox.—I am, etc.,

London, W.1, May 21st.

JAMES TAYLOR.

### VACCINES IN THE TREATMENT OF GONORRHOEA.

SIR,—Dr. McCrea's article on the above subject in the *Journal* for May 5th (p. 755) deserves the careful attention of the venereologist, and for a variety of reasons, all of which have a very direct bearing upon the successful treatment of male gonorrhoea in the clinics working under the Ministry of Health scheme.

From my own experience when in charge of the venereal diseases clinic at Warrington, and in private practice, I can thoroughly endorse Dr. McCrea's general conclusion that the routine administration of vaccines in acute male anterior gonorrhoea not only reduces the number of complications, but materially shortens the time the patient is under treatment.

At the Warrington clinic from 1921 to 1924 vaccines were given as a routine, and during that period there was not a single in-patient admitted suffering from gonorrhoea or any of its complications. During this time the vaccines used were those of the residual type, prepared by Dr. C. E. Jenkins, the pathologist to Salford Royal Hospital. In the year 1924, when vaccines were not given as a routine, there were 119 in-patient days on account of gonorrhoeal complications.

Dr. McCrea's figures show; however, a surprisingly high incidence of posterior extension of the disease, both in the vaccine and the non-vaccine series—81 per cent. in the former and 88.5 per cent. in the latter. Under the routine treatment hereafter described the proportion of such cases approximates 25 per cent., and on investigation these are

found to have committed some indiscretion in treatment, exercise, or drink. A proportion of 80 per cent. is certainly not unusual where reliance is placed upon the patient treating himself with a syringe, and no vaccine is sufficiently potent to counteract the damage wrought by that most dangerous of all urological instruments.

The routine treatment I adopt for a case of acute anterior urethritis (duration two to seven days) is as follows:

(1) Alkaline diuretic mixture.

(2) Wearing of a proper suspensory bandage of the type made and provided at the City of Salford Municipal Clinic.

(3) Vaccines every seventh day for nine weeks.

(4) *Daily irrigations into the bladder from the commencement*, with the lowest pressure sufficient to overcome the resistance of the sphincter muscle. For the first three weeks the irrigations are of potassium permanganate, increasing in strength from 1 to 3 grains to the pint twice or thrice daily. In the next three weeks the solution used is oxyganide of mercury in similar strengths, given twice daily. In the seventh, eighth, and ninth weeks pieric acid is used, increasing in strength from 1 to 3 grains to the pint, and administered once a day. In the tenth week silver nitrate, 1 in 10,000, is used on alternate days, and during this week the urine and the prostatic secretion are examined. From the commencement of treatment, upon every occasion the patient attends, smears are taken if available, and the urine is examined at each visit. During the eleventh and twelfth weeks treatment is entirely suspended, the patient merely attending for urine examinations daily. In the thirteenth week there is given a prophylactic injection of vaccine or of nolan, and specimens are taken for examination in twenty-four and forty-eight hours.

Criteria of cure are: no discharge, no pus in morning urine, no gonococci recoverable from urethra or prostate, no abnormal prostatic smear, urethra normal on urethroscopic examination. Permission to marry is not given till the patient has been negative for six months after the cessation of treatment.

I have found that under this regime approximately 75 per cent. of acute gonorrhoeas remain anterior in site and are free from all clinical and bacteriological signs of the disease by the tenth week. In no such case has a relapse been observed in the six months succeeding the cessation of treatment. This is to be attributed to the following factors: (1) routine vaccines; (2) bladder irrigation from the beginning; (3) change of solution every week as to strength and every third week as to kind; (4) absolutely forbidding the patient to use a syringe; (5) irrigation at least once daily for the first four weeks; (6) if the patient is unable to attend at least once daily he is provided with a correctly designed home irrigator, in the use of which he is thoroughly and practically instructed.

In patients who appear with a discharge of two days' duration or less, a more intensive line of treatment is adopted. This consists of:

(1) Routine vaccines; (2) during the first week posterior irrigations with potassium permanganate (1 grain to the pint) thrice daily; (3) after each irrigation the patient lies on the couch and 20 minims of warm iodogol are injected into the anterior urethra, the penis clamped, and the iodogol gently massaged along the canal. This is retained for at least fifteen minutes. In 50 per cent. of such early cases there are no clinical or bacteriological signs of the disease at the end of five weeks. The iodogol is discontinued at the end of seven days and the ordinary routine is carried out for the remainder of the time, except that from the fourth week onward the patient only irrigates once on alternate days.

I am convinced that the syringe is the main cause of posterior involvement, and that in clinic treatment it should, as is the case in the Salford Municipal Clinic, be relegated to the museum. Treatment is available in this clinic for males and females every day from 8.30 a.m. to 8.30 p.m., and for four hours each on Saturday and Sunday. It would seem only possible to give the man with gonorrhoea adequate modern treatment in an establishment which is open twelve hours daily, and where the treatment is carried out by a whole-time staff of highly trained orderlies. Vaccines are decidedly worth while, but of much greater moment is the discarding of the syringe in favour of copious posterior irrigations from the beginning.

The method adopted in this clinic for the examination of pus in the second urine after prostatic massage is that described by Dr. Cuthbert Dukes in the *British Medical Journal* of March 10th (p. 391), any count over 100 being regarded as abnormal.—I am, etc.,

E. TYTLER BURKE,

Venereal Diseases Medical Officer for the City of Salford.

May 7th.

## THE ORIGIN OF ISCHAEMIC CONTRACTURE.

SIR,—Ischaemic contracture only occurs where tight bands have been applied round the injured part, never where the fragments have been merely replaced and kept at rest. In my view it is these tight bands which cause the trouble, and I never use them. To reduce the displacement and then fix "the arm up in full flexion by passing adhesive plaster round the doubled-up limb," as was done in the case described, is a thoroughly bad method, though Professor Hey Groves, in his article published in the *Journal* of May 12th (p. 807), characterizes it as "universally approved." It is this "universally approved" method which causes all the trouble. It should be entirely given up. Instead, after the displacement is reduced, either by manipulation or open operation, the wrist should be tied to the neck in Thomas's knotted sling, leaving the arm, elbow, and forearm free.—I am, etc.,

PAUL BERNARD ROTH,

Orthopaedic Surgeon, and with Charge of  
Fractures, Miller General Hospital.

London, W.1, May 14th.

## THE INTRAVENOUS INJECTION OF INDIGO-CARMINE.

SIR,—In the *British Medical Journal* of December 10th, 1927 (p. 1087), Mr. W. W. Galbraith is reported as employing, in the investigation of patients suffering from renal tumours, "an intravenous injection of 5 c.c. of a 4 per cent. solution of indigo-carmin."

Surely 4 per cent. is a mis-report for 0.4 per cent., since a 4 per cent. solution of indigo-carmin involves a contradiction in terms, indigo-carmin being soluble only up to 0.8 per cent. The mistake should not be allowed to pass without remark, for others might be tempted to adopt the stated technique; and, as this would have grave risks, I hope that I may be allowed to quote from a recent short article in the *Clinical Journal* (April 11th, 1928), in which I reported the only case which I have witnessed of the intravenous injection of 4 per cent. indigo-carmin.

The patient, "a woman of 41, who was being cystoscoped under general anaesthesia, suddenly became of green-yellow colour shortly after the intravenous injection of 2 c.c. of 4% indigo-carmin, and became collapsed." Various restorative measures were employed, and the patient slowly improved.

"On coming round from the anaesthetic she complained that she could not see, but this disquieting phenomenon fortunately disappeared within 24 hours."

"20 c.c., or less, of 4% indigo-carmin may be used for intramuscular injection in testing renal function, or in order to find the ureteric orifices, during cystoscopy; but the dye is more commonly and conveniently given intravenously as a 0.4% solution. It should not be intravenously administered in a preparation of much greater strength than this, as it is soluble only up to 0.8%. In greater concentration the dye is no longer in solution, but in suspension, and, although then suitable for intramuscular injection (since the muscular tissues filter off the particles), is unsuitable for direct injection into the blood-stream, as embolism may occur."

"Macalpine, speaking of indigo-carmin, says that 'shock, dizziness and pallor have been recorded as resulting from its use at too great strengths,' and cites two cases in which 'a 4% solution was used by mistake. In addition to some slight vomiting, the skin—especially around the eyes and over the scrotum—became a bright indigo blue. One of the patients also suffered from transitory convulsions, due doubtless to minute emboli of undissolved dye lodging in the cerebral capillaries.'"

"Although, as in the instance above quoted, recovery ensued, such cases emphasize the importance of noting the exact position of the decimal point before administering intravenous injections."

—I am, etc.,

ALEX. E. ROCHE, M.D., M.Ch., F.R.C.S.

London, W.1, May 10th.

\*\* The report was printed in the form in which it came to us from the Royal Medico-Chirurgical Society of Glasgow.

## MEDICINE, LAW, AND THE PUBLIC.

SIR,—Some time ago a judge of the High Court upbraided and lectured a medical witness who asked for his fee before he was sworn. The learned judge must have known that the witness was within his rights. The witness presumably thought himself justified in asking to be paid before giving evidence.

Quite recently a jury has gratuitously expressed the opinion that a defendant doctor should have called in another doctor to hear the plaintiff refuse the treatment advised. Surely this is impertinence in every sense of the word.

Now we have a coroner and his jury criticizing the methods of one of our greatest hospitals in that a resident medical officer, on his own responsibility, sanctioned the transfer of a patient to another institution. The coroner would pass, without criticism, similar action on the part of a practitioner outside the hospital, but in the case of the hospital he recommends that such a transfer be authorized by two resident officers acting in consultation and then sharing the responsibility.

These three incidents call for reflection. What is the meaning of it? It is true that many learned judges of to-day treat the medical profession as one to be respected and deserving of consideration. On the other hand, there are some highly placed members of the legal profession who resent the rise and progress of our profession. For centuries the law has had high places, large emoluments, and good social status among its attractions; while the profession of medicine has been in a lowly state. The progress of medicine has altered the relationship, and it is possible that the profession of law resents the change. Can it be what novelists and psychologists call the "inferiority complex"?

With regard to juries, we have to remember that they are composed of members of the public. The public, when in good health, are not in sympathy with doctors. Their conversation in railway carriages and other places is largely about ailments. Remedies are freely suggested, mostly unorthodox. Osteopaths, chiropractors, herbalists, Continental charlatans are all recommended as being so much better than our doctors at home. All classes drink patent medicines, advised by their friends or the chemist, for the cure of ailments that have not been diagnosed. These advisers would hesitate to recommend a particular motor car, on the ground that they did not understand enough about it. But the much more complicated mechanism of the human body does not daunt them. So many of the public have learnt to read and so few to think. There is the risk of an ignorant valetudinarian public expressing unjustified opinions from the jury box.

What is to be done about it? Very little can be done in court, and nothing can be done with the public. But the members of both professions who meet in friendly fashion to discuss matters of medico-legal interest might consider the matter. If a good example were set by the leaders of the legal profession it might permeate through all the courts, possibly even to the coroner's.—I am, etc.,

May 8th.

F.R.C.P.

MEDICAL RESPONSIBILITY FOR LUNACY  
CERTIFICATION.

SIR,—There has been not a little anxiety lately in the minds of the medical profession regarding the risk of liability for the certification of alleged lunatics.

This risk would be avoided if the procedure were so altered that the doctor was not obliged to take upon himself the invidious position of being the agent to declare that so-and-so is a fit and proper person to be shut up in an asylum and deprived thereby of all civil and personal rights. The doctor's true function is not to imprison people, but to give advice as to the treatment most conducive to recovery.

As matters now stand, the doctor, when called in, has in most instances to depend on hearsay evidence from those in touch with the individual who is said to be affected. He has often but little opportunity of discovering for himself what amount of truth there is in the assertions made. Not being himself a witness of what has occurred, he may have extreme difficulty in drawing up a certificate based on personal observation.

In the memorandum presented by the British Medical Association to the Royal Commission on Lunacy all cases of mental instability are divided into two classes: (1) those for whom detention is a necessity; and (2) those for whom



it is not; the criterion for certification being that the individual can be proved to have so conducted himself as to render detention a necessity.

It is evident that the parties who can themselves give first-hand proof as to the conduct they have witnessed are the proper people to appear before the magistrate, and to state what they know. The magistrate can then weigh the evidence, thus carrying out the true function of a judicial authority, while the doctor is at the same time secured from liability.

The individual concerned should, in fairness, be represented by a friend; but there need be no publicity in the matter.—I am, etc.,

London, May 12th.

S. E. WHITE, M.B., B.Sc.

#### THE HARVEY CHAPEL AT HEMPSTEAD.

SIR,—May I add a note to my late friend Sir Dawson Williams's article on William Harvey? He stated that lapping in lead seemed to be peculiar to the Harvey family. It was common to all the better class from Henry VII to about 1675. Henry VII, his wife, and James I are all in shaped lead coffins in the vault in Westminster Abbey; Sir Henry Vane is in a very much more elaborate one in Shipbourne Church, near Tonbridge. I have seen one for a child so shaped that it would stand on its feet. The case was made by casting in two halves. After having been banded and sometimes embalmed, the corpse was laid in the lower half, and the body-shaped top was then soldered to this, and as a rule, a lead or silver inscription plate was soldered to the breast. The inscription on Harvey should read:

DOCTOR  
WILLIAM + HARVEY  
DECEASED + THE + 3  
OF + JUNE + 1657  
AGED 79 YEARS.

The bound volume of the 1767 edition of his works was encased in lead, and the hermetically sealed bottle containing the engrossed parchment account of the day's proceedings in another lead case. Both were placed at the foot of Harvey's coffin in the sarcophagus. These details are from the privately printed account (1883) of this second funeral of Harvey by the late Dr. William Munk, librarian to the Royal College of Physicians.—I am, etc.,

F. WILLIAM COCK, M.D., F.S.A.

Ashford, Kent, May 16th.

#### PHARYNGO-OESOPHAGEAL SPHINCTER.

SIR,—I have often deplored the fact that British discoveries frequently remain unrecognized and unappreciated until they are re-imported under a foreign name. Mr. Negus's letter (p. 879) seems to me to add one more to the list.

Although the discovery of this muscle has been attributed to Killian, Jackson, and others, it is, I believe, the fact that it was first described long years ago by Sir Everard Home, one of John Hunter's illustrious successors, and his beautiful dissection of it can still, I think, be seen in the Royal College of Surgeons Museum.

It is true to say that with the advent of oesophagoscopy its clinical importance has been pointed out by Chevalier Jackson, but although I yield to none in my admiration for Dr. Jackson and his work, I think that the credit for its actual discovery must remain with Sir Everard Home.—I am, etc.,

London, W.1, May 18th.

WALTER HOWARTH.

#### CAUSES OF THE DECLINE IN TUBERCULOSIS MORTALITY.

SIR,—Often in the last seventeen years the *British Medical Journal* has published for me views in direct conflict with what Sir Robert Philip enounced at Bath on April 20th.\* I have urged that as against phthisis (bovine tuberculosis is another question) the statesman's supreme weapon is the enhancement of the standard of living of the poor—in two words, of real wages. Sir Robert so far

appears to agree; where we part company is that I argue that history here and elsewhere tendencies that the best, perhaps the only, way of raising real wages is by the policy known as *laissez faire*. There are gaps in Sir Robert's argument that seem wholly to invalidate it. May I hope that he will resolve my doubts?

1. He begins from 1871; why not from 1841? There is nothing in history to equal (though there are a score of instances of minor degree corroborative) the fall of the phthisis mortality which followed Peel's daring reform of the tariff from 1842 onwards. As Koch has said, that fall was greater before the cause was known or anything public done than since. By 1880 the mortality had fallen by more than 50 per cent.; if the decrease had really been accelerated the disease would have been extinct by now. Sir Robert thus omits to quote the most brilliant success known, and that due to a distinctively *laissez faire* policy, in its proper, as well as its vulgar, sense.

2. He omits to mention the slackening of the rate of decline in this century. The rate had become practically stationary when Professor Karl Pearson was able to prophesy a rise in 1915. So, in 1912, did I. Professor Pearson tells me that the interruption of the war was fatal to his data; to mine it was an immense reinforcement. The crude death rate in 1917 was nearly double—in 1918 more than double—that of 1905.

3. He pointedly leaves out the war figures. I submit that you can find in them the solution of the problem. The tables of all countries which keep records show that an economic change—that is, of real wage rate—registers itself on the phthisis curve in the third year. Thus the long, slow fall of real wages from 1896 to 1910 shows itself in the gradual slackening of the decline of mortality; the rapid fall from 1912 to 1914 in the rise from 1915 to 1917. If the theory were correct, a fall should begin in 1918. It did, as the Registrar-General points out. As if to clinch the point, the rate for the year was raised above 1917 by the influenza outbreak of 1918; but the excess was due to deaths in asylums, and the disease had picked out people uninfluenced by wage fluctuations, as small-pox picks out the unvaccinated in a school. The quinquennium is the only one in our records which fails to show a decrease on its predecessor; the increase is the biggest we have known, and follows as the prophesied effect, or at least *si fallor*—the sequel of the biggest effort the State has made.

4. He bases the triumph of State activity on the rates of 1919-24, and does not explain why the great and sudden improvement had taken place. But the State was no more active in 1919 than in 1913, perhaps less so. In wages, however, there had been a startling difference ever since 1915.

We who advocate a drastic curtailment of State activities do so because we know from history that State gifts to the poor are always at the expense of real wages and always tend to demoralize. If this needed proving, the course of events this century should have made us wary. Only the other day the House of Commons took it for granted that the Insurance Act had resulted in wide demoralization—the only difference of opinion was as to whether it was among doctors or patients—in the year of lowest mortality with the highest morbidity.

I submit that, when all the factors are considered, the question is whether State intervention, so far from diminishing phthisis, has not retarded the efforts of a greatly advanced science and the results of a vast improvement in social habits and conventions, which together might by now, of themselves, have extinguished the disease.—I am, etc.,

Bath, May 2nd.

B. G. M. BASKETT.

#### Medico-Legal.

##### MISDEMEANOURS AND PROFESSIONAL DISCIPLINE.

THE appeal of *Pickup v. The Dental Board*, which was dismissed by a court consisting of the Lord Chief Justice, Mr. Justice Avory, and Mr. Justice Shearman on May 10th, has an interest for the medical as well as the dental profession. Again and again, in cases before the General Medical Council, it has been argued on behalf of the respondent that the Council has no power to erase his name on account of conviction for a misdemeanour when such misdemeanour is not of the class which is triable on indictment, but the Council has consistently overruled such objections, being advised that the word "misdemeanour" in the Medical Act is used in the widest sense. The case recently decided was an appeal against the order of the General Medical Council, on the recommendation of the Dental Board, that the name of one James Pickup should be erased from the *Dentists Register* on the ground that he had been convicted of misdemeanours within the meaning of Section 13 of the *Dentists Act*, 1878. The case was reported when it came before the General Medical Council in the *Supplement* to our issue of December 10th, 1927 (p. 227). In

\* See *British Medical Journal*, April 23th, p. 721.

dismissing the appeal the Lord Chief Justice said that the contention of the appellant that the expression "misdemeanour" in Section 13 meant misdemeanour triable on indictment could not be supported. This was clear from the words of the section. There was a proviso to the section stating that when the offences were of a trivial nature they might not be held to disqualify a person from practising dentistry. Thus it seemed to be contemplated that the misdemeanours in the section were not confined to indictable misdemeanours, but would include others, even those which, by their trivial nature, made the application of the proviso proper. The other justices concurred.

In his address from the chair of the Dental Board on May 8th, before this case had been decided, the Right Hon. Sir Francis Dyke Acland referred to this impending judgement, and said that he trusted a judgement would be obtained as to the offences which might properly be termed misdemeanours and which would be of service to the General Medical Council as well as to the Board.

#### FORGERY OF A DEATH CERTIFICATE.

At the Old Bailey, on May 18th, Charles Forbes, who was alleged to have posed as a registered medical practitioner in the West Central district of London for seven years, pleaded guilty to forging and uttering a death certificate, and was sentenced to nine months' imprisonment, without hard labour. It was stated that the certificate was issued in respect of an old woman who had been under the care of the accused. The defence alleged that Forbes had qualified as a medical practitioner, but that his name had been removed from the Medical Register thirty years ago after he had been convicted of fraud. According to a statement made in the course of the earlier police court proceedings, Forbes described himself to the registrar of births and deaths as a graduate of Aberdeen University; the registrar, after supplying the accused with a book of certificates, came into possession of a letter which aroused his suspicion and communicated with the General Medical Council.

### Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE Currency and Bank Notes Bill was read a third time in the House of Commons on May 22nd, on which day the House of Lords read the Equal Franchise Bill a second time after a division. The report and the third reading of the National Health Insurance Bill were set down for May 23rd. On May 24th the House of Commons rose for the Whitsun recess till June 5th, when the Finance Bill will come up for second reading.

The Parliamentary Medical Committee met at the House of Commons on May 22nd and considered questions to be raised on the report stage of the National Health Insurance Bill. It was reported that on the third reading of that bill Mr. Chamberlain might indicate that he hoped at a future date to propose the provision of medical and midwife's attendance in childbirth as a statutory benefit under the national health insurance scheme.

#### Ministry of Health Estimates.

In the House of Commons, on May 15th, a vote to complete the sum of £20,774,000 for the Ministry of Health was considered. Mr. CHAMBERLAIN explained that the Estimate showed an increase of nearly £1,000,000 over last year. Practically half of the gross estimate of £21,700,000 was needed for the housing branch of the Ministry. With regard to slums, the most urgent feature was overcrowding. He saw, however, ground for hope in the fact that although only 14,000 houses were affected in the schemes submitted for slum clearance during the war, every year over 500,000 houses were built. The estimates showed a small increase under each of the headings in connexion with which the Ministry of Health distributed Departmental grants to local authorities for certain services. There were four of these services: treatment of tuberculous disease, maternity and child welfare work, venereal disease, and welfare of the blind. Generally it might be said that the increases were due to the normal development of the services. But this did not exhaust the functions of the Ministry of Health. He had always regarded the Ministry as a sort of general headquarters staff, whose duty it was to collect information regarding the fight against disease and make it available to all concerned in the campaign. A great deal of research had been carried on in regard to cancer, which was perhaps the largest single cause of mortality. That research had dealt with the causes and treatment of cancer both in this country and abroad. They had not yet been able to put their fingers upon any fact or series of facts which would allow them to say that they had solved the problem of cancer—very far from it—but all the time they were encroaching upon the field of the unknown; all the time they were advancing their knowledge. The Ministry of Health had mapped out a sort of scientific survey of what could be done to-day in the effective treatment of cancer, and they had followed that up with a careful

and exhaustive inquiry into a large number of cases of cancer. They had also done something to bring into prominence certain methods of treatment which they had ascertained, from information derived from this country and abroad, had proved particularly effective in the treatment of cancer. These were methods of radiology—the use of radium itself and so-called x-ray therapy. These methods were costly, and were not easily adopted by all authorities, but they believed that by proper organization more effective use could be made of the equipment which they actually possessed. They were keeping in the closest touch with a great number of other agencies—the British Empire Cancer Campaign, the public health authorities throughout the country, and the local cancer committees working in some of the great provincial centres. While they could not say that they were even in sight of a cure or of a method of prevention of cancer, nevertheless they were on the right path, and one day—no one could say when—they might actually turn the corner and find themselves in the presence of the goal which they sought.

Encephalitis lethargica was a disease in regard to which central action was particularly necessary if they were to make progress, because this disease was fortunately not sufficiently common yet for any hospitals or any private practitioners to have seen very many cases of it. During the past two years there had been about 1,500 cases a year in this country. The Ministry had instituted an exhaustive inquiry into about 3,000 cases of sleepy sickness. It had been carried out by Dr. Parsons, one of the officers of the Ministry of Health, and the results of the inquiry showed that only about 25 per cent. of the cases recovered; about 35 per cent. died, and the remaining 40 per cent. were more or less disabled mentally or physically. The valuable part of this inquiry was that for the first time they knew what were the proportions of the persons attacked by this disease who recovered, died, or were permanently injured. They knew the different forms of injury which sufferers from encephalitis lethargica might sustain; they knew how those things proceeded, and they had got for the first time some inkling of what were the best ways of treating the disease. The inquiry came very opportunely after the passing of the Mental Deficiency Act, because in the light of the inquiry they might hope that that Act might be put to more effective use. The inquiry disclosed a considerable variety of cases, and it must be understood that the treatment which might be effective and desirable for one case might be quite wrong for another. The Mental Deficiency Act would enable them to classify cases and treat them in the best manner. He thought that the popular impression that encephalitis lethargica was tending to decrease was correct, but, of course, sufficient remained to make it a very serious problem, because the effects of the disease were frequently permanent, and a person once affected remained a charge upon the community perhaps for the rest of his life.

There were really two distinct groups of diseases which came under the heading of rheumatism—acute rheumatic fever, which so often attacked children and which was frequently associated with heart disease, and chronic rheumatism of the joints and muscles, which frequently disabled industrial workers. Last year approved societies spent on sickness benefit and medical benefit for rheumatic insured persons £5,000,000, and in the same year 5,250,000 weeks' work were lost owing to the incidence of rheumatism among insured persons. They calculated that rheumatism accounted for one-sixth of the whole industrial invalidity of the country. With regard to rheumatism he was told that the treatment which afforded the best hope was one of prolonged rest in institutions, and the Ministry of Health during the past two or three years had tried to encourage the provision of hospital accommodation set apart specially for this purpose. To-day, for the first time, we had actually got from 400 to 500 beds specially earmarked for the treatment of acute rheumatism. As regarded chronic rheumatism, the first thing required was advice, because the causes of this rheumatism were many and various, and it might, and very frequently did, spring from some local centre of infection. It might be the teeth that were wrong, or the tonsils, or the intestinal tract. In the absence of advice, people accepted rheumatism as though it were a sort of act of God, which could not be prevented, and for which nothing could be done. Yet, under the advice of the specialist, it might be traced to some quite easily removable cause, and the suffering might be almost instantaneously relieved. A great deal was being done for that. In the case of the children there was the school dental service, which employed something like 600 dentists, and was treating about 1,000,000 children a year. In the case of the elder insured persons there was the dental benefit, to which approved societies were now devoting some £3,000,000 a year, with a result which he hoped would show itself in a lessened demand upon the funds in the future from rheumatism, and the consequent incapacity to work. At present approved societies were paying about £250,000 a year to two hospitals for the treatment of their patients, and another £200,000 a year was being devoted to convalescent homes in connexion with which, in some cases, there was now being developed spa treatment. But they felt that something more than this was required, and that there were forms of treatment, especially those connected with radiant heat and light, which had shown very promising results experimentally, and which the Ministry desired to see extended for the benefit of a larger part of the population. The Red Cross Society was now trying to organize the setting up of an experimental clinic of this kind in London, and as soon as that was ready he proposed, by regulation, to authorize approved societies to make a contribution to that clinic and to obtain treatment for their members there. The committee would realize that the full development of a preventive and curative system in connexion with rheumatism must mean the expenditure of very large sums of money. It might be that in the present financial state of the country it was not possible to carry on that development as rapidly as we should wish, but we were at last beginning to realize the nature of the disease with which we had

to cope, and the extent to which it was crippling our people, and, as that knowledge became more widespread, he thought that we should see a willingness to devote to the improvement of those conditions whatever money might be found necessary.

The Ministry of Health had now been established for nine years, and as far as one could measure the progress of the public health by the general vital statistics the record of the Ministry was not unsatisfactory. The general death rate in those years had gone down from 14 per 1,000 to 12.3, and the infant mortality rate had dropped from 89 to 70 per 1,000. But there was one figure which showed no improvement—it concerned a very vital subject. That was the maternal mortality. It was a terrible thing to think that 100 mothers, one died in childbirth. That was not really the full measure of the injury that was being done. One must not only remember what happened to the family when the mother was taken away, but one must think of those other mothers who might not die, but who emerged from their confinement permanently injured in their health and unable really to fulfil the full duties of motherhood. He felt that the time had come when a great new effort ought to be made to bring down those figures of maternal mortality and to improve the health of these mothers. There were many things we did not know yet about the causes of maternal mortality, but we did know something. We knew that these figures persisted steadily throughout the country, but, nevertheless, they were not universal. There were places where we could find much lower figures. They would be found in those cases where there was the most careful antenatal and post-natal supervision, and where the people themselves had the greatest opportunities of learning what was necessary for them to preserve their health and the lives of their infants. The Ministry of Health was taking up this question very seriously. He was now endeavouring to institute a new inquiry into the causes of maternal mortality. He was trying to enlist in that service the general practitioners throughout the country, as well as the local authorities; and the British Medical Association had assured him that it was deeply interested in the question, and would use all its influence to get its members to give every assistance possible to his inquiry. Under this scheme a local medical officer of health would make inquiry into every case of maternal mortality which occurred, wherever it might be, throughout the country. They would make this inquiry on a plan which would be laid down by a committee at the Ministry of Health on the lines of the Cancer Committee. Their returns would come in quarterly to that committee, the information would be classified, and the committee would draw what conclusions it was possible to draw from the information obtained. All that information would then go back again to the local authorities, and would be made known to those responsible for the conduct of the infant welfare centres and the maternity hospitals. He was also setting up a committee to inquire into the whole position of midwives—into their status, training, and remuneration. After all, the success or failure of any efforts made to improve the conditions of childbirth in the country must largely depend on the midwives, on whom a great responsibility rested. Midwifery was a hard and arduous profession; it was not a well-paid profession; and if we were to get the right class of women to enter that profession we must make the conditions such that this class of people would be attracted. If we could indicate with any confidence to the people of this country what were the precautions necessary to take if we were to remove this menace from our midst, he could not believe that the national conscience would allow the lives of the mothers to be sacrificed merely for the sake of a few extra thousands of pounds.

In the ensuing debate Dr. FREMANTLE said that while he admitted that there was still a great lack of houses, he thought the accounts given were exaggerated. Taking the census of 1911 as a basis—and it was the only sure one—our housing shortage to-day was only about 40,000 houses. He did not think that the position was getting worse in regard to overcrowding; speaking generally, it would be found that the position was very slowly improving.

Dr. WATTS congratulated the Minister of Health, and remarked that ever since Mr. Neville Chamberlain had been at the head of the Ministry he had shown not only a knowledge of administration, but of medicine, and a mastery of scientific fact quite unusual in a layman. He felt that the Ministry was becoming referred to another department, perhaps the Home Office. The medical service in connexion with the Factories Act might be removed from the Home Office to the Ministry of Health. Thus they would co-ordinate, under the Ministry of Health, the entire health services of the country. With regard to tuberculosis, we were still spending some millions of pounds a year on the upkeep of sanatoriums. However useful they might be from a preventive point of view, or for the segregation of tuberculous people, they were, from a curative point of view, of little use. Some portion of the money available might usefully be devoted to investigating other methods which, in the opinion of several medical members, offered a much better prospect of cure.

Mr. SCARLETON asked if Dr. Watts found, from actual evidence, that sanatorium work was not producing results commensurate with the expenditure on it.

Dr. WATTS: From the curative point of view, most decidedly. The sanatorium method, he said, could only show 14 per cent. of cures, which was very low, whereas other methods showed 70 or 80 per cent. of cures. He also wished to call attention to the serious increase of small-pox, and the question of vaccination. For some time past a great number of people had not only not had their children vaccinated, but had not taken the trouble to make the necessary declaration of a conscientious objection. The result was that the law in this respect was practically a dead letter. He hoped that something would be done in this matter, because those of them who knew small-pox, and were acquainted

with its history, realized that previous epidemics had always been preceded by sporadic outbreaks of a mild character, which had suddenly burst forth into a virulent epidemic, which had carried away thousands of people and crippled thousands of others. That was a very real danger which he anticipated if vaccination was not going to be more general in this country. This was the only country in the civilized world where vaccination was not carried out. He had had an example of the way in which other countries dealt with this question when, last autumn, he went to Brazil with a delegation from the Commercial Committee of the House of Commons. They were freed from all troubles in regard to passport and customs examinations, but the Brazilian Ambassador said to them: "There is one obligation from which I cannot free you, and that is the obligation to be vaccinated." All the delegation had to be revaccinated before leaving this country.

Dr. VERNON DAVIES said that the greater part of the debate had been taken up with housing and slums, but very little had been said on the question of health, yet that was fundamentally the duty of the Minister of Health. The Minister spoke about cancer and the progress that had been made in its treatment, referring particularly to radium treatment. He seemed to create the impression that the Ministry of Health was anxious to help the radiologists to deal with cancer, and that it was very hopeful as to the results. He (Dr. Davies) wished to impress upon the House and upon the country that the only safe treatment for cancer was early and complete operation. In late and inoperable cases radium treatment might prolong the life of the patient, or perhaps give him a little more ease. Whatever they did, they should not get into their heads the idea that radium would cure cancer. It could not do it at the present time. It was only a help, and he was afraid that the rather hopeful tone of the Minister of Health might create a wrong impression in the country, and thus prevent some of these poor people from seeking medical advice in the early stages when something could be done.

He was glad that the Minister dealt with rheumatism. This question had come to the fore lately, and all who read the address of the Chief Medical Officer of the Ministry of Health were very much impressed. It proved that the Minister had in his department a full knowledge of rheumatism and of its bad economic, social, and physical effect. The Minister said that there were 400 to 500 beds in the country earmarked for the treatment of rheumatism in children. That number was almost ludicrous when they knew that with young children the huge majority of those who got rheumatic fever or acute rheumatism developed heart disease, and that it was essential that they should be given absolute rest for a long time. It seemed pitiable that, in the whole of this great country, with the thousands of free beds in our Poor Law institutions, something could not be done to see that these poor children could be taken to hospital and kept there until they were fit for a more or less useful life.

The question of maternity always roused the sympathy of the House, and he was certain that the Minister was fully alive to the importance of this subject, but he was not sure that they were using the material they had at hand to the best advantage. They heard of a shortage of midwives, but it must be borne in mind that the midwife's life was a very difficult one—a very hard life and poorly paid. Yet he had known of many cases where midwives were thoroughly trained and yet could not get a sufficient amount of work for the reason that the better-class patients now went to nursing homes and the poorer-class patients went to Poor Law hospitals. He knew more than one midwife who was seriously concerned as to how she was going to carry on her livelihood on account of these claims at both ends taking away the patients which she previously had. That was a point which the Minister would have to bear in mind, especially if he was going to increase the number of midwives. Another question which he wished to bring before the House was that of milk. A great campaign was going on in the country by which everybody was advised to drink more milk, and everything was being done to show people the advantages of milk, and, of course, the Ministry were doing all in their power in conjunction with the Ministry of Agriculture to impress these plans on the public. They had got to know recently that milk was a perfect food, that it was rich in vitamins, and that it was the only suitable nourishment for young children or suckling children. It was also a very useful food for adults, and they were doing all they could to see that this country produced good pure milk at a cheap price. At present there was a great deal of milk adulteration going on. The adulteration was of a lower standard in the towns than in the counties, and the only conclusion he could come to was that in the counties the administration of the Sale of Food and Drugs Act was usually carried out by the police authorities, who acted by a rule-of-thumb method. They administered the Act rather from the point of view of saving the purchaser's pocket and seeing that he got full value than from the point of view of health. That was a grave mistake. The function of the Ministry of Health should be not to save the pockets of the people, but to look after their health. When one considered that, with the records in their department of the enormous adulteration that had gone on, they had apparently done nothing, that fact must be weighed in the balance against the many acknowledged excellencies of the department. He suggested that the administration of the Sale of Food and Drugs Act in regard to foodstuffs, and milk in particular, should be taken out of the hands of the police and put in the hands of the local health authority.

Sir BASIL PETO said attempted abortion was a material contribution to maternal mortality. Septic peritonitis almost always supervened upon attempted abortion. He suspected that the prevalence of venereal disease was also closely associated with it. He asked that the restrictive regulations for welfare centres and ante-natal centres should be relaxed and that medical officers in charge should have unfettered discretion to give or withhold

information on birth control. He was told that, though there was some diminution in syphilis, gonorrhoea was on the increase. Yet the official system of the Ministry refused to allow the civil population access to preventive measures from which the army and navy admirable results had followed. Could the Minister now declare, as he had done in 1925, that the prevalence of venereal disease was diminishing?

Mr. PETHICK LAWRENCE asked what the Government had done to classify the maternal death rate. Had they figures to show what deaths resulted from carelessness of doctor, midwife, or nurse; from poverty or malnutrition, or from the fact that some women ought never to have had a child at all? When it was certain that, if a woman had a child, that child would be diseased or defective, or if that woman's life was going to be imperilled by bringing a child into the world, doctors in clinics supported out of public money should have the right to give information. Women in all classes were determined to have this information, and if it could not be given them scientifically by appointed officers of the State, they would get it in ways less correct, and possibly more injurious. Undesirable forms of information, when disseminated among women, were difficult to eradicate, and some doctors now had a grave problem in trying to alter what had been passed from one to another among the poorer women of the country.

Mr. BLUNDELL dissented, contending there was no evidence to show that the failure of maternal mortality to diminish was due to the failure of ante-natal clinics to give information about birth control.

Mr. SCRYMGEUR asked whether there was to be an outcome from the report of the Royal Commission on Lunacy. The practice of relegating people suffering from mental depression to an institution where there were others more seriously affected was deleterious. Parliament was dealing with venereal disease in too timid a fashion.

Sir KINGSLEY WOOD said that until the House of Commons came to a contrary decision the Minister of Health and the department intended to maintain the present formula that maternity and infant welfare centres should only deal with expectant or nursing mothers, that it was not the function of an ante-natal centre to give information on birth control, and that exceptional cases where avoidance of pregnancy seemed desirable on medical grounds should be referred to a private practitioner or to a hospital. It would be a great pity if over 2,000 centres attended by about a third of the women who gave birth to children were involved in this controversy. Sir Kingsley spent most of his speech in answering the criticisms of the Government's housing policy. He also dealt with allegations concerning the death of a child at Chester-le-Street which had been alleged to be hastened by malnutrition. He contended that inquiry had not confirmed this allegation.

The vote for the Ministry of Health was carried by 203 to 99.

#### *Treatment of Mentally Deficient Prisoners.*

The House of Commons, on May 21st, considered, in Committee of Supply, the vote for £275,969 for the expenses of prisons in England and Wales. Mr. RHYNS DAVIES moved a reduction of the vote by £100, and asked how many cases of encephalitis lethargica there were at the moment in the gaols. One of the biggest tragedies in this country was that there was no appropriate institution to which to send cases of that kind.

Sir VIVIAN HENDERSON (Under Secretary to the Home Office), replying to various questions raised in the debate, said that every effort would be made to improve the accommodation at the prisons, and to improve the recreation and workshop facilities. With regard to sleepy sickness, it was stated, in the medical part of the 1926 report of the Prison Commissioners, that during the period under review no case of the onset of encephalitis lethargica occurred during detention in prison or in any Borstal institution. It showed that the whole question was being carefully watched by the medical officers concerned. Where any question of mental defect was considered by the medical officer of the prison to exist, steps were now being taken to transfer those persons to a prison which was specially adapted or where special treatment was given. Birmingham was one of those prisons. The Prison Commissioners were following up this question and trying to eliminate prisoners apparently suffering from any mental defect. Such prisoners were dealt with very much more leniently and received a different type of treatment from that given to the ordinary prisoner. Whether they were dealt with in the same way as if they were sent to a mental institution he could not say offhand. He had not been able, personally, to look into the matter, but it had not been overlooked, and was being dealt with to a certain extent. The Mental Deficiency Act, passed last year, also covered a certain amount of the recommendations of the Young Offenders Committee in regard to this question. In the prisons every step was taken to see that where clothing was handed over from one man to another it was thoroughly and properly disinfected, and that in no case was it in a condition where it could give any disease to anybody. In the last two years there had been a very considerable improvement in the diet, particularly in variety. He did not honestly think that there was any reasonable ground for complaint on that score. At a later stage in the debate Sir V. Henderson said that special steps were now taken, where a man was committed to prison and the prison doctor thought he was of a low state of mental efficiency without actually being certifiable, to transfer that man to a special prison. That was a new departure which was being carefully watched, and, if successful, would be further developed.

The amendment was negatived and the debate adjourned.

*Recommendations of the Royal Commission on Lunacy.*—Answering, on May 17th, questions by Mr. Snell and Sir Nicholas Grattan-Joyce, Mr. CHAMBERLAIN said he appreciated that early legislation was desirable in pursuance of some, if not all, of the recommendations of the Royal Commission on Lunacy and Mental Disorders, but owing to the other commitments of the Government he could not say when it would be practicable to introduce a bill.

*Certification of Mentally Deranged Persons.*—On May 21st Sir KINGSLEY WOOD replied to Sir F. Hall, who asked if his attention had been called to cases which had occurred from time to time in recent years in which mentally deranged people who would ordinarily be under restraint had, owing to the liberty allowed them, committed suicide; whether he was aware that in some of these cases doctors and magistrates had refused to sign certificates owing to their fear of possible legal proceedings, and whether he would appoint a departmental committee to consider and advise whether any amendment of the law relating to the certification of lunatics was desirable. Sir Kingsley said that the answer to the first part of the question was in the affirmative. The Minister of Health saw no necessity for the appointment of a departmental committee to consider the matter, as the Royal Commission on Lunacy reported upon difficulties of this kind and made a recommendation for an amendment of the law.

*Report of the Voluntary Hospitals Commission.*—Replying, on May 17th, to a question by Mr. Lunn, Mr. CHAMBERLAIN said the final report of the Voluntary Hospitals Commission, of which Lord Onslow was chairman, was in the printer's hands, and the work of the Commission would be concluded with the issue of the report. Excluding contributions towards specific grant-aided services, the total Exchequer grants in aid of the general expenses of voluntary hospitals since 1918 amounted to £500,000; and the distribution of this sum by the Commission was completed on March 31st, 1924. There had always been cases of voluntary hospitals in financial difficulties, but a great improvement had happened in the last few years, and in the absence of a further contribution from the Exchequer it would be no use to keep the Commission in being. Colonel ACLAND-TROTTE suggested that the voluntary hospitals should be relieved of all rates. No answer was returned.

*Motor Accidents and the Voluntary Hospitals.*—Sir KINGSLEY WOOD told Mr. Lunn, on May 22nd, that the Minister of Health hoped that the report of the Voluntary Hospitals Commission would be issued this month. The Minister of Health must receive and consider the report of the Commission before deciding whether, in view of the great increase in cases caused by motor accidents which had to be dealt with by the hospitals, he would call a conference between representatives of the voluntary hospitals, insurance companies, and other organizations concerned, for the purpose of drafting a scheme to cover the expenses of the treatment of cases caused by motor accidents. Mr. Lunn asked if Sir Kingsley knew that last year there were more than 100,000 motor accidents, which cost voluntary hospitals more than £500,000, and that thousands of people awaited treatment for whom these hospitals were created, but who could not be treated because of motor cases which were going into the hospitals and paying nothing for their treatment. Sir Kingsley WOOD said that those facts might be true, and when the Ministry of Health received the final report of the Commission he hoped it would be able to give this matter further consideration.

*Fees of Doctors Summoned to Urgent Cases.*—Answering a question on May 16th, Sir KINGSLEY WOOD said he had not seen the evidence given at an inquest at Shoreditch on Ernest March, of Rochford, Essex, at which an allegation had been made that a doctor, summoned to attend this man, refused to do so because his fee could not be paid by the person summoning him. It appeared from a press report that the coroner was not satisfied that the facts were as alleged, and the Minister of Health did not consider it desirable to introduce legislation making it compulsory for doctors to attend urgent cases and for their fees to be paid from public funds. Sir Kingsley added that he did not think the Shoreditch case was anything more than an exceptional one.

*Pensions Hospitals.*—On May 22nd Lieut.-Colonel G. F. STANLEY told Mr. Robinson that the staff employed in area war pension offices outside London numbered 1,471, and that employed in Ministry hospitals and clinics in the provinces, in Scotland, and Northern Ireland numbered 1,647. Arrangements had had to be made to vacate two hospitals—Craigleith, Edinburgh, and Castle Leazes, Newcastle-on-Tyne, which were too large for their requirements—provision being made for the patients in substituted institutions of the Ministry at Edenhall and Dunston Hill. Apart from these cases, it was not possible to say what local offices, clinics, or hospitals it might be found necessary to close during the present financial year.

*Prevalence of Venereal Disease.*—Sir KINGSLEY WOOD, replying to Sir B. Peto on May 22nd, said that syphilis and gonorrhoea were not compulsorily notifiable, and the only information available as to their prevalence in the civilian population was that obtained from the treatment centres provided by local authorities. The returns received from these centres showed that since 1920 there had been a considerable reduction in the number of persons treated at the centres, although the figures for the last two years showed a small increase over those for 1925, which was probably due to recent improvements in the facilities provided at some of the centres and to continued propaganda as to the dangers of these diseases. He was not aware that the present policy in dealing with these diseases involved any denial of access to preventives through chemists. The restrictions imposed by the Venereal Diseases Act,



1917, applied only to written or printed notices or instructions in regard to the use of preventives. Sir B. Peto asked whether the diminution and recent increase, to which Sir Kingsley had referred, applied equally to both diseases or only to one. Sir KINGSLEY said that there was a slight difference between the two diseases, but he did not think the increase was a very large one.

**Small-pox.**—On May 21st Sir KINGSLEY WOOD, replying to Mr. Groves, who asked the Minister of Health whether, seeing that when small-pox contacts were isolated the inspector filled in a printed form giving information on various points, including when the contact was last vaccinated, and that such forms came into the possession of the medical officer of health, he would say why they were not used for the compilation of information as to the vaccinal condition of small-pox contacts who subsequently developed small-pox, said that the Minister was advised that it was not the usual practice to isolate small-pox contacts. Mr. Groves's question therefore did not arise.

**Expenditure on Cancer Research.**—Mr. CHAMBERLAIN, replying to a question on May 22nd, said that the provisional number of deaths registered during 1927 as caused by cancer was 51,079. The expenditure borne on the vote of his department during the five years ending March 31st last which was directly assignable to cancer research was £8,843. In addition the Exchequer grant administered by the Medical Research Council was applied to the promotion of research into this and other diseases.

**Compensation for Insanitary Premises.**—On May 22nd Mr. CHAMBERLAIN told Sir R. Gower that compensation on the basis of site value applied only to premises which were included in a scheme as confirmed on account of the sanitary condition of the houses, or because those premises were dangerous or prejudicial to health. He was of opinion that the provisions of Section 46 of the Housing Act, 1925, were, in some respects, unsatisfactory, and he had under consideration proposals for amending them.

**Water Supply of Schools.**—Answering Dr. Vernon Davies, on May 17th, Lord EUSTACE PERCY said he was in constant communication with the Minister of Health about schools which had no water supply. Lord Eustace also told Mr. March that he had no particulars showing how many of the fifty-two schools in Herefordshire which were without water in 1925 were still unprovided, nor how many public elementary schools in England and Wales had no sanitary accommodation but privy middens.

#### Notes in Brief.

On March 31st, 1928, there were 5,944 physically defective children on the rolls of special schools in London, compared with 5,347 on March 31st, 1924. In Birmingham the corresponding figures were 1,165 and 1,101.

The Minister of Health is not prepared to postpone the operation of the regulation prohibiting the use of preservatives in cream.

The number of cases of overcrowding and other insanitary defects in workshops notified to local authorities by factory inspectors were 3,334 in 1925, 3,051 in 1926, and 2,775 in 1927. The reports of the medical officers of health showed that twenty-five workshop occupiers were prosecuted for sanitary offences in 1925 and 1926.

## The Services.

### DEATHS IN THE SERVICES.

Major-General Sir Samuel Hickson, K.B.E., C.B., Army Medical Service (ret.), died at Bournemouth on March 22nd, aged 68. He was born on November 12th, 1859, the fourth son of the late Captain R. M. Hickson of Dingle, Kerry, and educated at Trinity College, Dublin, where he graduated B.A., M.B., and B.Ch. in 1884. Entering the R.A.M.C. as surgeon on May 30th, 1885, he became brevet lieutenant-colonel on August 22nd, 1902, lieutenant-colonel substantive on May 30th, 1905, brevet colonel on January 2nd, 1913, and colonel on July 7th, 1914, retiring on December 26th, 1917. He served in the Mashonaland campaign in South Africa in 1896-97, and he was mentioned in dispatches in the *London Gazette* of February 18th, 1898, and received the medal with a clasp; in the South African war in 1899-1901, in operations in the Orange Free State and in Cape Colony, was mentioned in dispatches in the *London Gazette* of July 29th, 1902, and gained the Queen's medal and King's medal, with two clasps to each, and a brevet lieutenant-colonelcy; and in the recent war of 1914-18, when he was thrice mentioned in dispatches, in the *London Gazette* of October 19th, 1914, December 24th, 1917, and December 30th, 1918, and received the C.B. and K.B.E. He was appointed honorary surgeon to the King in 1913, received the C.B. in 1915, and the K.B.E. on January 1st, 1919; also the honorary rank of major-general on May 8th, 1919. He married, in 1903, Elizabeth Constance, widow of R. Fry, and younger daughter of the late Rev. Canon Belsher of Cork.

Dr. George Dougal McReddie died at Greenhithe, Kent, on May 10th, at the great age of 91. After taking the M.R.C.S. and the M.D. Brux. in 1877, he entered the unenvied medical service in India, and served for thirty years in the North-West Provinces, now the United Provinces of Agra and Oudh. As he retired over thirty years ago there can be none left on the active list, and not very many on the retired list, who served with and remembered him.

## Obituary.

### ARTHUR MANKNELL, M.B., B.S.,

Past-President, Yorkshire Branch, British Medical Association.

It was with a distinct feeling of a personal loss that the medical profession in Bradford heard of Dr. Manknell's death, which took place on May 13th. He had been working within a week of the end, and its suddenness increased the profundity of the blow.

Arthur Manknell was born at Leeds in 1866. He received his early education there, and then proceeded to the Yorkshire College, whence he graduated M.B.Lond. in 1891 and B.S. in 1893. He also obtained the M.R.C.S. and L.R.C.P. diplomas in 1891. When the Yorkshire College became the University of Leeds Manknell received the M.B., Ch.B. *ad eundem* of the new institution. After graduating he held the appointments of senior house-surgeon and ophthalmic and nasal house-surgeon at the General Infirmary in Leeds, and then went to Bradford as assistant to the late Dr. David Gyder of that town. On the death of the late Dr. S. C. Hirst of Craisterdyke, near Bradford, Manknell took over the latter's extensive practice, and carried it on with ability and success till his untimely decease. He was an excellent general practitioner, careful, conscientious, and considerate, with the welfare of his patients ever at heart, and was held in high esteem by them. In religion he was a sound Churchman, and took an active part in the affairs of his own parish, wherein he had held office as churchwarden, and also of the diocese, wherein he served on various committees. He took nothing for granted, but worked *de visu*, and thus his utterances were always authoritative.

Among his professional brethren Manknell was held in great and deserved regard. Nothing was too much trouble for him; he worked early and late, often at considerable sacrifice, in promoting the interests of the profession, and his presence was always looked for and desired at meetings. Perfectly definite in utterance, he gave his views on any subject clearly; ambiguity was foreign to him. His advice was much sought after in various matters, being sound, weighty, well matured, and to the point, and he was as a tower of strength to a younger man who had a difficulty to solve. But it is for his great and loyal devotion to medical politics that Manknell will be chiefly remembered. Always an active member of the Bradford Division of the British Medical Association, he was till the day of his death one of its chief pillars. He had been its chairman, and he had also held the office of president of the Yorkshire Branch. He was representative of the Bradford Division from 1912 to 1914, and again from 1921 to 1927. He had also served on a number of central committees and subcommittees of the Association, including the Public Health and the Medico-Political and Parliamentary Committees, and for the past nine years had been a member of the Council. In committee and Council meetings his quiet common sense and close attention to business were highly appreciated by all. Manknell was also one of those instrumental in the success of the Annual Meeting held at Bradford in 1924, on which occasion he held office as president of the Section of Medical Sociology. He took a prominent part in the meetings which preceded the inauguration of the National Health Insurance Act, but when that measure became law Manknell accepted office as chairman of the Local Medical and Panel Committee, and was still chairman at the time of his death. He will be difficult to replace, as the experience he had garnered conducted much to the smooth working of the panel system in Bradford. He had also been president of the Bradford Medico-Chirurgical Society, and served on its council.

The funeral service, which took place at the Bradford Cathedral prior to the interment at Nab Wood cemetery on May 16th, was attended by a large concourse of his medical colleagues, the general public, and the representatives of institutions with which he had been connected. The Bishop of Bradford, in the course of his address, testified very feelingly to the loss which the Church, the medical profession, and the public had sustained. Dr. Manknell is survived by his widow, his son, and his daughter. The gap which he has left among us in Bradford will be hard to fill. *Valde defensus est.*

J. B. D.



Dr. ANDREW GILMOUR, whose death occurred suddenly at Wimbledon, on May 13th, in his fifty-second year, was a native of Edinburgh, and was educated at George Watson's College and the University in that city, graduating M.B., Ch.B. in 1898. He proceeded M.D. in 1902, and in the same year obtained the diploma in public health. In 1912 he was admitted M.R.C.P.Ed. He devoted the greater part of his career to work in the public health service after serving as a medical officer throughout the South African war. He spent some ten years in Paisley, being appointed assistant medical officer for that burgh in 1909, and later school medical officer. On the reorganization of the Scottish educational system in 1919 the county became the administrative unit, for this purpose he was appointed senior school medical officer to the Renfrewshire Education Authority. Soon afterwards he accepted office under the Hindley Urban District Council, where he remained till 1922, when he was appointed medical officer of health for the borough of Wimbledon, holding also the posts of school medical officer, medical superintendent of the isolation hospital, and borough bacteriologist and analyst. During the late war he held a commission in the R.A.M.C., serving in Gallipoli, Salonika, France, and Belgium. He was a Fellow of the Royal Institute of Public Health, and of the Society of Medical Officers of Health, and a member of the British Medical Association. His funeral service was attended by the Mayor and many members of the Corporation of Wimbledon, and of the various civic departments and institutions with which he was associated. Among the mourners was his brother, who is also a medical practitioner. Dr. Gilmour is survived by his widow and a young son. A colleague writes: He was one of the few who, though advancing in age, do not lose any of their enthusiasm for their work. Public health work was his hobby throughout his life, and much of his spare time was occupied in formulating schemes and reports for the improvement of the efficiency of his department. Such keenness often brings with it extremism, but there was no suggestion of this in him, and all his public health judgements were brewed and well thought out. At the borough isolation hospital he did some of his best work, for fevers was a branch of medicine in which he was most interested. He was among the earliest to take up the use of anti-scarlet fever serum, and was keeping careful records of its efficacy. Quite recently he equipped and started working the borough bacteriological laboratory, in which he spent much time and took considerable interest. To the general practitioner he was always ready to give freely his best help and advice, and his loyalty to his colleagues and to his profession as a whole will long be remembered. As a man he was rather sensitive, and for this reason was occasionally misunderstood. But those who had the privilege of being admitted to his friendship found a charming personality and a heart of gold, always kind and ready to help to his utmost those in trouble or difficulty.

Dr. ARTHUR STAYT DUTTON, who died in London on March 25th, had been an invalid for some years before his death, which occurred at the age of 63. He received his medical education at St. Thomas's Hospital, obtaining the diplomas L.R.C.P. and M.R.C.S. in 1892. A considerable part of his professional life was spent in Oxford, although in his later years he resided mainly in London. He contributed to the proceedings of several professional societies, and was a frequent correspondent to medical journals; he was the author of a book, published in 1908, entitled *The National Physique*. He was keenly interested in research work, and even in his last illness maintained his contact with professional affairs. He is survived by his widow.

Dr. THOMAS DRYDEN NICHOLSON died on April 29th, after a short illness, at his residence at Brampton, Cumberland; he had spent the greater part of his professional life in the Shap district in the neighbouring county of Westmorland. He was born at Greystoke Gill in 1864, and obtained his medical education at Edinburgh, graduating M.B., C.M. in 1890. He subsequently commenced practice at Bolton-on-Dearno in Yorkshire, and held the post of honorary

surgeon to the Montague Cottage Hospital, Mexborough. In 1899, however, he removed to Shap, where he carried on a practice covering a very extensive and thinly populated area under arduous conditions for over twenty years, holding during this period a number of public and other medical appointments. About eight years ago he moved to the milder climate of Brampton, where the conditions of medical practice were less exacting. He was appointed honorary surgeon to the Brampton and District War Memorial Cottage Hospital. Dr. Nicholson served on the council of the Border Counties Branch from 1923 to 1926, and on the Executive and Ethical Committee of the English Division of that Branch from 1925 to 1927. He took a keen interest in public affairs, and was for long a prominent member of the North Westmorland Conservative Association. He was a member at one time of the Shap Urban District Council, and in 1912 was appointed a Justice of the Peace for Westmorland. One of his favourite recreations was boxing. He is survived by his widow, two sons, and two daughters.

Dr. REGINALD SPENCER PEARSON, who died suddenly at his residence in Lambeth on May 1st, was a native of Cumberland, where he was born in 1866, being the son of a clergyman. He received his medical education at Owens College, Manchester, obtaining the diplomas M.R.C.S.Eng. and L.R.C.P.Lond. in 1890, and subsequently, in 1898, the D.P.H. After a period of service as medical officer of health to the Wigan rural district, he commenced practice in North London, where he remained for about ten years. For family reasons he then moved to Leighton Buzzard for a time, being medical officer to the Linsdale rural district, and on his return to London he settled down in the Clapham district, where he built up an extensive practice. He served also as medical officer to Spurgeon's Orphanage, to the Church of England Home for Waifs and Strays, and to St. Joseph's Catholic Home, Clapham. He was a Fellow of the Medical Society of London and a member of the British Medical Association, in which he served on the executive committee of the Lambeth and Southwark Division. On the London Panel Committee he represented the insurance practitioners of Lambeth. During the past few years Dr. Pearson took an active interest in municipal affairs, and ten years ago he secured a seat in the borough council of Lambeth, in which he held the office of mayor for a period which ended only last November. He was among the most popular and most conscientious of municipal workers, and devoted himself particularly to public health affairs, being notably active recently in connexion with child welfare. An earnest churchman, he had been for several years one of the churchwardens of Lambeth Parish Church. He was also a keen Freemason, and took a considerable interest in sport. At the funeral service, held at the Lambeth Old Parish Church, there were present many representatives of the borough of Lambeth, of the church, and of the medical profession. Dr. Pearson is survived by his widow, three sons, and a married daughter.

Dr. ELIZABETH PARK YOUNG PATERSON died in a Glasgow nursing home after a brief illness on May 2nd, at the age of 33. She was a native of Clydebank, and received her medical education at the University of Glasgow, graduating M.B., Ch.B. in 1918, and obtaining the D.P.H. in 1925. After a succession of resident posts in Glasgow—in the Royal Infirmary, the Sick Children's Hospital, the Maternity Hospital, and the Eye Infirmary—she held an appointment under the Ayrshire Education Authority, and subsequently spent about two years in ante-natal work in Leeds. She then returned to Clydebank, where she commenced practice, and was appointed medical officer to the old Kilpatrick Parish Council. Two years ago she was appointed an assistant medical officer for maternity and child welfare work on the staff of the Glasgow public health department. She was a member of the British Medical Association. A colleague writes: Dr. Elizabeth Paterson was deeply interested in child welfare work, and brought to it an appreciation of practical difficulties gained by experience in varied branches of practice. She had a kind heart and sympathetic manner, but to this was added a

shrewdness and firmness born of knowledge of human nature. Of the esteem in which she was held by her friends and colleagues it is unnecessary to write. This was well demonstrated by the large attendance at the funeral service held in Radnor Park United Free Church, Clydebank, of which Dr. Paterson was an active member. The profession was well represented, and there were present members of both the medical and nursing staffs of the Glasgow public health department.

Dr. HARRY MORTLOCK WALLER, who died suddenly at Nuneaton on May 17th, in his fifty-seventh year, entered the profession late in life, and received his medical education at St. Bartholomew's Hospital, obtaining the diploma L.M.S.S.A. in 1918. He subsequently held a medical appointment under the Ministry of Munitions, and spent several years in the Far East, where he was at one time medical officer to H.H. the late Rajah of Sarawak and to the Sarawak Government, and served for a period as principal medical officer of that territory. On returning to England he practised in various districts—notably in Cheshire, Carnarvon, Nottingham, and Cardiff—and for the last three years had been resident at Nuneaton. He had served as a medical referee under the Ministry of Pensions, and acted for a period as honorary surgeon to the Griff division of the St. John Ambulance Association. A short time ago he decided to retire, and had just completed the disposal of his practice when he had a seizure which proved fatal. Dr. Waller, who was a member of the British Medical Association, is survived by his widow and two daughters.

## Universities and Colleges.

### UNIVERSITY OF LONDON.

The title of Professor of Experimental Pathology in the University has been conferred on Dr. Archibald Leitch in respect of the post held by him as Director of the Research Institute at the Cancer Hospital, London.

The title of Reader in Pathological Chemistry in the University has been conferred on Dr. C. R. Harington in respect of the post held by him as Lecturer in Pathological Chemistry at University College Hospital Medical School.

Dr. Geoffrey Hadfield has been appointed as from May 1st, 1928, to the University Chair of Pathology, tenable at the London School of Medicine for Women. Since 1919 he has been pathologist, bacteriologist, and clinical pathologist to the Bristol General Hospital.

Dr. Percival Hartley has been appointed as from August 1st, 1929, to the University Chair of Biochemistry, tenable at the London School of Hygiene and Tropical Medicine. Since 1922 he has been on the staff of the National Institute for Medical Research, Hampstead.

Dr. F. D. Turner has been appointed a Governor of the Royal Grammar School, Colchester, and Dr. M. E. Delafield as representative (in respect of University College) at the International Convention of Cancer, to be held in July next.

The Dunn Exhibitions in Anatomy and Physiology for 1928 have been awarded to Mr. J. D. H. Bird of King's College.

Dr. Robert Knox has been recognized as a teacher of radiology at the Cancer Hospital. Probationary recognition has been granted to Mr. G. P. Crowden as a teacher of physiology at University College for a period of two years from March, 1928.

It has been resolved to institute, in accordance with the regulations on University titles, a Readership in Morbid Anatomy and Histology, tenable at the Middlesex Hospital Medical School, and a Readership in Bacteriology, tenable at University College Hospital Medical School.

Dr. W. W. Jameson has been admitted to the Faculty of Science as from January 1st, 1929.

The regulations in the Faculty of Medicine for internal students have been amended by the addition at the end of the first paragraph, under the heading "Second Examination for Medical Degrees, Part II," on page 251 of the Red Book, 1927-28, of the following: "either as an internal or as an external student."

The regulations for the First Examination for Medical Degrees have been amended by the addition of the following paragraph at the end of the section headed "General Biology," on page 245 of the Red Book, 1927-28, and page 218 of the Blue Book, September, 1927:

Candidates will be required to bring to the practical examination note-books containing a record of their previous practical work for inspection by the examiners if desired. These note-books must be notes made by them in the laboratory.

Dr. John Favcett has been elected chairman of the Committee of the Medical Members of the Senate for the remainder of the year 1927-28; Sir John Rose Bradford, P.R.C.P., has been the appointed vice-chairman of University College Committee for the year 1928-29.

### NATIONAL UNIVERSITY OF IRELAND.

The following degrees and diplomas in the Faculty of Medicine were conferred at University College, Dublin, on May 12th:

M.D.—G. T. Irceen, W. H. B. Maganran.  
M.B., B.Ch., B.A.O.—S. J. Savage, G. A. O'Reilly, L. P. Youngsao, P. J. Ald, L. Brennan, Frasn Carroll, W. E. Channing, J. D. Grant, J. A. Henry, M. J. Kovany, W. P. Lapple, J. J. McCarthy, T. S. McDavitt, F. A. McDonald, J. F. S. McLaughlin, M. T. O'Reilly, Maude F. Tenny, M. G. Walsh.  
D.P.H.—M. J. Sheehy, Kato A. Moran, V. L. Coghlan, Hanora Casey, Josephine Conway, W. R. Cusson, Margaret M. Purcell.

### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The following 25 successful candidates, out of 84 entered, having passed the requisite examinations between January 2nd and 7th, have been admitted Fellows:

Eliso V. Crowe, A. Cumming, F. W. Duthie, P. Garson, B. Gluck, C. D. Gossage, C. Grantham-Hill, G. A. Hardwicko, A. Hobson, L. W. Houghton, C. W. Isaac, J. R. Learmonth, F. I. Lewis, E. O. Lloyd, Beatrice H. Lunn, C. R. McCash, B. L. McFarland, S. McMahon, J. C. Mekie, R. G. Phillips-Turner, F. E. Stagner, S. M. Vassallo, G. I. Wilson, C. L. Walker, J. F. Zohrab.

### Bathgate Memorial Prize.

The Bathgate Memorial Prize, consisting of bronze medal and set of books, has, after a competitive examination in materia medica, been awarded to J. I. Meikle.

### ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

At the spring examinations, held under the conjoint scheme, the following have passed in the examinations noted:

FINAL QUALIFYING EXAMINATION IN MEDICINE, SURGERY, AND MIDWIFERY.—G. P. A. Condon, P. Daly, E. P. Mahood, T. L. G. Malone, R. J. McCloskey, J. F. Power, P. B. Walsh.  
D.P.H.—F. J. Ryan.  
D.P.M.—G. N. W. Thomas.

### ROYAL COLLEGE OF SURGEONS IN IRELAND.

The following candidates have been approved at the examinations indicated:

PRELIMINARY FELLOWSHIP.—R. L. Forsyth, M. B. Lavery, T. R. Lundy.  
FINAL FELLOWSHIP.—D. V. O'Connor.

## Medical News.

THE Samuel Augustine Courtauld Institute of Biochemistry of the Middlesex Hospital will be opened on Thursday, June 14th, at 3.30 p.m., when Sir Archibald Garrod will deliver an address.

THE Macalister Lecture before the London Clinical Society will be delivered at the London Temperance Hospital, Hampstead Road, N.W.1, on Thursday, June 7th, at 8.45 p.m., by Sir Berkeley Meynham, P.R.C.S., on medicine in art. All medical practitioners are invited to attend with friends. Those intending to be present are asked to notify Mr. H. P. Winsbury White, honorary secretary, 51, Harley Street, W.1.

THE next Chadwick Lecture will be given at the Chelsea Physico Garden at 5 p.m. on Thursday, June 7th, by Professor W. E. Dixon on narcotic plants. Sir William Collins will preside. Admission is free. Further information about Chadwick public lectures may be had from the secretary, Mrs. Aubrey Richardson, at the offices of the Chadwick Trust, 204, Abbey House, Westminster.

AN evening reception will be held at the house of the Royal Society of Medicine (1, Wimpole Street, W.1) on Monday, June 4th. The guests will be received by the President and Lady Berry at 8.30 o'clock, and at 9.15 Mr. C. Leonard Woolley will give an illustrated address on recent excavations at Ur of the Chaldees. Objects of interest will be shown in the library, and there will be music and light refreshments.

At the meeting of the Society for the Study of Inebriety to be held in the rooms of the Medical Society of London (11, Chandos Street, Cavendish Square, London, W.) at 4 p.m. on Tuesday, July 10th, Dr. H. M. Vernon will open a discussion on the scientific control of alcoholism.

THE annual meeting of the Sheffield Branch of the Medical Women's Federation will be held in the Medical Library, The University, Sheffield, on Saturday, June 30th, at 3.30 p.m., when a lecture will be given by Dr. Letitia Fairfield on child guidance, or American methods of dealing with mal-adjusted children. Non-members of the Federation will be cordially welcomed.

THE fifth annual congress of the Incorporated Association of Hospital Officers will be held at the Royal Horticultural Hall, Westminster, on June 1st and 2nd, with Sir Arthur Stanley in the chair. The subjects to be discussed are wireless in the hospitals, including its effect upon patients and the broadcast appeals, and hospitals as centres of education. The annual dinner of the association will be held at the

Hotel Cecil on the evening of June 1st. From May 29th to June 1st, in the Royal Horticultural Hall, there will be a hospitals and institutions exhibition.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on Wednesday, May 30th, Mr. Ogler Ward will give a clinical demonstration in urology at St. Peter's Hospital, at 2 p.m., and that on Thursday, May 31st, at 4.30 p.m., Dr. H. C. Semou will give a clinical demonstration at the Royal Northern Hospital. Special courses will be given in June as follows: at the Children's Clinic and other hospitals a course in diseases of children, June 4th to June 16th; at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, a course in diseases of the chest, and at the Chelsea Hospital for Women a course in gynaecology, both from June 18th to 30th; at the West End Hospital for Nervous Diseases, a course in neurology from June 25th to July 21st; a practitioner's course in medicine, surgery, and the specialties at the London Temperance Hospital from June 18th to 30th, in the late afternoon. It may be recalled that the general course of work continues throughout the year and may be begun at any time. Special arrangements are made for part-time study. Full particulars may be had from the Fellowship of Medicine, 1, Wimpole Street, W.1.

A POST-GRADUATE course in genito-urinary diseases, consisting of weekly lectures on special subjects, will be given in June and July at St. Paul's Hospital, Endell Street, W.C.2, whence details may be obtained. No fee will be charged and the lectures are open to any medical practitioners and students who may care to attend. The first lecture will be given on Thursday, June 7th, at 4.30 p.m., and subsequent lectures at the same hour on either Wednesdays or Thursdays until July 26th.

THE annual meeting of the Society for the Relief of Widows and Orphans of Medical Men was held on May 16th, when the annual report and financial statement were presented and the officers were elected for the ensuing year. The annual report showed that during 1927 four members were elected, three died, and one resigned. The society had a total membership of 303, with invested funds amounting to £139,400. The sum of £4,782 was distributed in grants among the fifty-one members and seven orphans, and on December 31st fifty widows and one orphan were in receipt of grants. A subcommittee has been formed to consider the question of membership of the society with a view to its expansion. Membership is open to any registered medical practitioner who at the time of his election is resident within twenty-one miles of Charing Cross. Should he remove outside the radius he nevertheless remains a member of the society, provided he conforms to the by-laws. Further particulars and application forms for membership can be obtained from the secretary of the society, 11, Chandos Street, Cavendish Square, W.1.

AT the annual meeting of the Infants Hospital, Vincent Square, Westminster, on May 21st, it was announced that a big extension scheme, involving an expenditure of £250,000, is to be undertaken. Ground has been acquired adjoining the present site, and it is hoped to commence reconstruction soon. The scheme provides for more than doubling the number of cots available, for creating a new maternity block, for enlarging and modernizing the surgical section, for greatly increasing the out-patient accommodation, and for making new quarters for the nursing staff. Sir Gower Berry, chairman of the committee of management, who presided, intimated that as a memorial to his wife he proposed to make a gift to the hospital of £50,000, payable over the next seven years, to cover the entire cost of a new maternity block.

THE opening of the extension of the Mildmay Mission Hospital in Austin Street, Bethnal Green, took place on May 19th. Lord Radstock, who presided, recalled the origin of the hospital, saying that more than sixty years ago, when London was visited by a terrible plague of cholera, the Rev. W. Pennecfather and a staff of trained deaconesses set on foot in Bethnal Green a work for the benefit of the suffering. The mission then inaugurated was now known as the Mildmay Mission Hospital. It was unique among hospitals in that it had sent out at least 75 doctors and 120 nurses into the foreign mission field, and 350 women had received at the hospital a measure of practical training to fit them for tending the sick at home or abroad. The extension was then dedicated by the Rev. Colin C. Kerr, rector of Spitalfields, and formally opened by Lady Cooper. The x-ray department, which was the gift of Sir H. Percy Shepherd, was opened by him. Mr. Herbert S. Shipton, chairman of council of the hospital, said that nobody, except himself, knew how very much was owing to Dr. Henry White, the medical superintendent, and Miss Woodhouse, the matron. The sum which it was necessary to raise for this scheme was £22,764, and up to the previous evening the amount received had been £19,051.

THE report of the National Baby Week Council for 1927 records the various measures employed, with considerable success, by this body in the advancement of the ideals for which it stands. Many of its efforts have been duly noted from time to time as they occurred. The number of baby weeks, health and baby weeks, baby competitions, and other local propaganda activities assisted during the year was 564; an experiment in propaganda work in rural districts, conducted by the Cambridgeshire Federation of Women's Institutes, yielded satisfactory results in spite of the difficulties attending such efforts in thinly populated areas. Film displays, the use of which has been considerably extended, have also proved valuable in bringing home to those interested the need for instructed motherhood. The council's 1928 campaign again provides for the celebration of National Baby Week during the first seven days of July, in the course of which the usual programme of conferences and competitions has been arranged. As in former years, while regarding all aspects of maternity and child welfare as important, the council urges that attention should be given especially to three selected problems. These are: (a) immunization as a means of protecting young children against disease; (b) prevention of maternal mortality, with special reference to ante-natal care and to the provision of maternity homes and hospitals; and (c) new developments in maternity and child welfare work.

THE committee appointed by the Royal Medico-Psychological Association has received very encouraging promises of support for the memorial volume to the late Sir Frederick Mott, and it is hoped that the book may be ready in the early autumn. The title suggested is "Contributions to Psychiatry, Neurology, and Sociology. Dedicated to Sir Frederick Mott by his Colleagues, Friends, and former Pupils." The publication has been entrusted to Messrs. H. K. Lewis and Co., Ltd.

APPLICATIONS are invited by the University of Glasgow before April 1st, 1929, for the Harry Stewart Hutchison Prize of about £50, which is offered for the best original research in a branch of medical science relating to children. The prize is open to medical graduates, of not more than ten years' standing, of all British and colonial universities. Further information with regard to this prize will be found in last week's advertisement columns.

THE Board of Education has published in pamphlet form a list of certified special schools, recognized institutions for the training of the blind and other defective children, and nursery schools in England and Wales. The schools are grouped according to type and arranged in counties, details being given of the accommodation available and the average attendance in 1926-27 in each case. Copies of the list may be obtained from H.M. Stationery Office, price 1s.

THE Cambridge University Press announces for early publication Part II of Professor Joseph Barcroft's work on *The Respiratory Function of the Blood* and a revised edition of Dr. F. D. Drewitt's *Romance of the Apothecaries' Garden*.

INFORMATION regarding the special study tour for medical practitioners to the spas and health resorts of Italy, to which reference was made on May 5th (p. 787), may be obtained from the Italian Travel Bureau, 16, Waterloo Place, Regent Street, S.W.1, where bookings may be effected and all arrangements completed. The tour will extend from September 5th to September 21st, covering a number of places of interest in Lombardy and Piedmont, including the Italian Riviera and the Italian lakes.

THE eighth international congress of dermatology and syphilography, which was to have taken place in 1915, three years after the congress held in Rome in 1912, will meet at Copenhagen from August 5th to 8th, 1930. Further information can be obtained from the general secretary, Dr. S. Lomholt, Raadnisplads 45, Copenhagen.

THE French league against the venereal peril will hold a congress at Nancy from May 29th to 31st, when the following subjects will be discussed: the history of syphilis, the education of the public, the antisiphilic dispensary, and organization of means for combating inherited syphilis. Further information can be obtained from Dr. Spillmann, Faculté de Médecine, Rue Lionnois, Nancy.

DR. TAILLENS, professor of diseases of children at Lausanne University, has been nominated Chevalier of the Legion of Honour. Professor Manuel Quintela, formerly dean of the faculty of medicine of Montevideo, has been nominated officer of the Legion.

THE 125th anniversary of the birth of the chemist Justus Liebig, who was born at Darmstadt on May 12th, 1828, is to be celebrated by rebuilding with the original material the house in which he was born, and the addition to it of a museum.

TRACHOMA is prevalent in Tokyo, where there are now over 330,000 cases in a population of about two millions.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM 9861, 9862, 9863, and 9864* (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:

EDITOR of the *British Medical Journal*, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER  
(Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*); telephone: 62550 Dublin, and of the Scottish Office, 6, Drumshugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*); telephone 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### CRAMP AFTER SCIATICA.

DR. S. A. EWING (Melbourne, Australia) writes: In reply to the query of "K." in your issue of March 10th (p. 430) for suggestions as to the relief of cramp following sciatica, for such or any form of cramp complete relief will often follow the wearing of woollen socks into which the pyjamas are tucked at bedtime. Those wearing stockings may find it advisable to carry them well above the knees. Undue exercise should be avoided, though with the above method immunity may result even after moderate fatigue.

#### MEDICAL FACILITIES ON MOHAMMEDAN PILGRIM SHIPS.

"PORT SAID," who is returning home from the East after a voyage as ship's surgeon, is desirous of having the experience of any member of the profession who has acted as surgeon on board a Mohammedan pilgrim ship to Jeddah. He would like to know the sickness and death rate, if any, and what sick comforts were allowed and given on board; also if the sick pilgrims were treated with kindness by the ship's officers. His own experience of a single voyage has been wretched, and he wonders what the case has been with others.

#### TREATMENT OF CHRONIC NASOPHARYNGEAL CATARRH.

"C. C." invites suggestions for the treatment of chronic nasopharyngeal catarrh in a patient suffering from chronic phthisis. Various douches and sprays have been tried without benefit. Nasal surgeons whom he has consulted do not advise surgical treatment.

#### A HOSPITAL STERILIZER.

DR. R. H. S. MARSHALL (Oswestry) asks for information as to the best "sterilizer" which would take clothes and bedding and be suitable for an isolation hospital of twenty-four beds, chiefly used for scarlet fever and diphtheria. Central heating is already installed, and gas is laid on, but not electricity. He would like to know type, approximate cost, and where it can be obtained.

#### RADIOGRAPHY OF VISCERA.

DR. F. F. ROBERTS (Cambridge) writes: "Cowal" (May 19th, p. 884) will find the information he requires on orthodiagraphy of the heart in a small book by Vaquez and Bordet, *The Heart and Aorta: Studies in Clinical Radiology*. The English translation is published by Messrs. Humphrey Milford, Oxford University Press. There are, of course, a number of works on radio-scopic of the chest and abdomen. A standard work, and the best which I have seen, is Assmann, *Klinische Röntgendiagnostik der inneren Erkrankungen*. Unfortunately there is no English translation. A good account of the alimentary canal is also given in *The Roentgen Diagnosis of Diseases of the Alimentary Canal*, by Carman (published by Messrs. Saunders).

#### INCOME TAX.

"P. H." inquires what will be the position of a man who retires on a pension of £320 per annum, having an income of £200 from dividends, taxed before receipt, and entitled to an allowance for one child and a dependent relative.

\* \* If the wife be living the total allowances due for 1928-29 are: Personal £225, earned relief £53, child £60, dependant £25

total £363. There will therefore be no tax due on the £320 pension, and repayment of tax can be claimed against the dividend to the extent of (£363-£320=) £43 at 4s. and (£200-£43=) £157 at 2s.—that is, £24 6s. in all.

#### Repayment of Loan.

"X. Y. Z." is paying about £100 a year out of his earnings in repayment of a loan obtained for the purchase of a share in a partnership. He asks: "Am I liable to be assessed on this sum of £400?"

\* \* "X. Y. Z." is, of course, assessable on his earnings—that is, on income, not on outgoings; the real question is, Can he deduct the £400 in reckoning the amount of his earnings? The answer is that he cannot. That payment is an application of his income, and not an expense incurred in earning it. The amount represents a payment of capital, and cannot be deducted by him or be assessed to tax as income of his partner.

### LETTERS, NOTES, ETC.

#### SEA-SICKNESS.

DR. F. GREENE KELLY writes: As a ship's surgeon of some years' experience I quite agree that so far we have no remedy for mal de mer, though the patient can greatly assist matters by taking calomel at night, followed by a saline next morning. Whether anything be gained by remaining on deck in the open air or being confined to the cabin largely depends on individual idiosyncrasy. I have had patients who, as long as they were confined to their cabin, showed no improvement until they were brought on deck; exactly the reverse occurred in those cases which tried the "fresh air treatment." The same applies to the drugs applied as remedies; sodium bicarbonate, bromides, atropine, and tincture of iodine have been employed with very varying degrees of success.

#### INFECTION AMONG CHILDREN IN CASUALTY DEPARTMENTS.

DR. THOMAS BLEZARD (Mansfield) writes: The correspondence on the possible spread of small-pox by "casuals" brings to my mind a state of affairs which existed—and very likely still exists—at a large general hospital where I once did "locum" as house-physician. As at most general hospitals, the casualty department was always crowded with mothers bringing children suffering from almost any complaint. While waiting to be seen the mothers naturally mingled generally, and the children did likewise. Later, in very obvious scarlet fever rash might be noticed on a child; it was then isolated and was soon on its way to an isolation hospital. But did this action negative any possible—and in my opinion probable—chance of infection to the other children in the waiting room? In my short stay I came across scarlet fever, measles, and, I think, diphtheria. It is possible that the resilients found other types of infectious disease. Whether small-pox has been met with in this way I cannot say, but it is a possibility not to be ignored. Probably similar conditions prevail in many general hospitals where poor people take their sick children to the casualty department before calling in a doctor. Some method should be adopted whereby children with rashes or sore throats would be isolated on entering the hospital and would not mingle with other patients. The casualty officer should be notified at once of such cases.

#### MEDICAL GOLF.

AT the annual meeting of the Manchester and District Medical Golfers' Association, on May 16th, the challenge cup was won by Dr. J. S. Brown of Wigan. The Walter Gold Medal for the best scratch score was won by Dr. T. D. Burt of Gorton, who had a gross of 78. Dr. C. R. J. Boland of Ancoats Hospital, Manchester, grossed the Walter Silver Medal for the best gross score by players with handicaps of 10 and upwards.

#### TREATMENT OF INJURIES ROUND THE ELBOW-JOINT—A CORRECTION.

IN the report received by us of Mr. J. F. H. Stallman's clinical demonstration to the Gloucestershire Branch, which was published in our columns on May 12th (p. 802), there appears to have been an error. Mr. Stallman was quoted as saying that, in his opinion, all injuries round the elbow-joint should be treated by prolonged immobilization in plaster. We are asked to explain that his statement with regard to prolonged immobilization in plaster applied only to myositis ossificans, and that his reference to injuries round the elbow-joint was to the effect that, no matter how trivial, they should be treated with proper respect.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 227.



## Observations

ON

## NASAL AND ORAL FOCAL SEPSIS IN THE ETIOLOGY OF GASTRO-INTESTINAL AND PULMONARY INFECTIVE DISEASES.\*

BY

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AND

F. A. PICKWORTH, B.Sc., M.B.,

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(Pathological Specimens and Report.)

The term "focal sepsis" is usually applied in its clinical sense to established pyogenic infection such as occurs when an initial infective invasion, having overcome systemic and tissue defensive reaction, persists as a chronic localized infection. Nevertheless in patients with nasal passages choked with polypus, or copious purulent gingivitis round the necks of living teeth, or periapical dental abscess, one often looks in vain for systemic complications; the copious outpouring of polymorphonuclears seems a measure of successful local resistance to the focal infection. Chronic bacterial toxæmia and subinfection is most prone to arise from chronic latent focal infections, such as frequently occur in nasal sinusitis, with relatively non-purulent discharge (sinus infection without pus in some degree does not exist), or periapical dental sepsis, often with no pus at all. Hence the existence of a causal focal sepsis in pulmonary or gastro-intestinal infection is often to be discovered only by careful investigation.

Sepsis of the mouth, pharynx, and nose may affect the lower respiratory tract or gastro-intestinal tracts (a) by direct spread of infection along the mucous membranes, through the larynx and trachea; (b) by the blood stream or lymph-vascular infection; (c) by inhalation of septic particles or secretions, or by the swallowing of enormous numbers of organisms.

## GASTRO-INTESTINAL INFECTIONS.

## Organisms Swallowed.

That patients may swallow immense numbers of septic organisms with impunity is certain, for the normal acid gastric secretion is a potent antiseptic barrier; but if the mass infection is continued it fairly frequently results in gastric catarrh or gastritis, with hypochlorhydria, constipation, diarrhoea, or recurring colitis. It would seem likely that naso-oral infection may originate local gastric or duodenal ulcers; or, in a relaxed sphincter of Oddi, or, as more commonly appears to happen, appendicitis. Again, such gastro-intestinal infections may be indirectly determined by toxæmia with resulting endocrine exhaustion.

## Infection Conveyed through the Blood Stream.

In such cases pyogenic organisms apparently display an elective affinity for the regions involved—for example, the gastro-intestinal tract—which the researches of Rosenow have gone far to explain and to prove.

It appears, at any rate, a reasonable assumption that, in many cases, a chronic subinfection is commonly set up in the gastro-intestinal tract, although in many a patient a relative auto-immunization renders him merely a "carrier" until, perchance, exposure to cold or some intercurrent factor determines an exacerbation of what is really a long-standing infection. When eight years ago, in 1920, in a contribution to this society, I urged the importance of nasal sinus infection as a causal factor in appendicitis, and also of gastric and duodenal ulcers, an analysis of 90 consecutive cases of sinusitis in my own practice showed that no fewer than 14 had undergone appendicectomy, 2 had operation for duodenal ulcer, and

2 patients had gastric ulcer. Further evidence was included in my 1925 Semov Lecture.

I now turn to quite recent observations of the general surgeon and physician in support of my thesis that naso-oral focal sepsis is to be reckoned among the primary sources of gastric and duodenal ulcer, cholecystitis, and appendicitis. Mr. A. H. Burgess,<sup>2</sup> writing on chronic ulceration of the stomach and duodenum, after referring to the work of Rosenow and of Wilkie, says that "these researches emphasized the importance of a careful search for any focus of infection in the teeth, tonsils, nasal sinuses, or elsewhere before operation." Professor Wilkie<sup>4</sup> stresses the frequent simultaneous association of gall-bladder and appendix infection, "not consecutive but simultaneous blood-borne infections, usually of streptococcal type." Dr. Izod Bennett,<sup>5</sup> writing on the treatment of gastric ulcer, says that "oral sepsis is probably the most important cause of gastric and duodenal ulcer." As long ago as 1900 Dr. William Hunter<sup>2</sup> urged the importance of oral and nasal sepsis as causes of serious gastric and intestinal disease. How can one reconcile the large percentage of gastric and duodenal ulcers that Hugh MacLean<sup>6</sup> cured by "intensive alkaline treatment" with the current view that absolute or relative hypochlorhydria, and therefore diminution of the antiseptic barrier in the stomach normally ensured by the free hydrochloric acid there, leads to the uninhibited swallowed pyogenic organisms infecting the gastric mucosa or that of the duodenum? Are there two distinct groups of gastro-duodenal ulcer—those due to hypochlorhydria, non-infective, with ulceration from the surface, and those due to blood-borne infection, in which, as in Pickworth's specimens of G. S., the infecting organisms invade the deeper layers of the gastric mucosa and not the surface epithelium? It seems probable that appendix infection results from swallowed organisms, for there the intestinal contents are normally alkaline, while infective gastro-duodenal ulcers are often blood-borne, and thus the frequent concomitance of appendicitis and gastro-duodenal ulcers of infective origin might be explained.

Of the specimens of sphenoidal sinusitis that Dr. Pickworth brings before us to illustrate the purport of this paper, those from G. S. might be justly termed a "human parallel of Rosenow's experiments," for in this case a chronic diplococcal infection has been traced, invading the sinus mucosa from the surface, and spreading to the pituitary capsule and gland; in the same case similar diplococci are also demonstrated in the deeper layers of the evenly spaced haemorrhagic patches in the gastric mucosa. Furthermore, in this and other specimens the diplococcal infection, traced to the pituitary, explains the evidences of endocrine disturbance, since the superjacent hypothalamus is the region held to control many of the basal metabolic processes. (See Fig. 9.) These observations of Pickworth, corroborating similar researches by Logan Turner, Reynolds, and others, point to infection by the blood stream as being the most likely pathway of many sub-infections, rather than infection by inhaled or swallowed organisms. Why organisms in the blood stream should have an elective affinity for certain regions or organs we do not know, but that such elective affinity is shown Rosenow's researches leave little room for doubt. Furthermore, this same elective affinity of certain strains of infective organisms for certain tissues is supported by clinical experience—as, for instance, in epidemic influenza, which in one epidemic tends to involve the lungs, in another the gastro-intestinal tract, and in yet another shows a proclivity to cerebro-spinal complications.

## Dr. Pickworth's Specimens of Sphenoidal Sinuses and Gastric Mucosa.

These demonstrate, macroscopically and microscopically, the association of infective conditions of the sphenoidal sinus with (a) lesions of the stomach mucosa, and (b) changes in the pituitary gland. (Several other specimens shown are excluded by limitations of space.)

*Specimen G. S.*—This shows peculiarly evenly spaced haemorrhages in the stomach mucosa. The haemorrhages are near the surface, superficial to small thrombosed blood vessels. The mucosa, except from the haemorrhages, is of good colour.

\* Read at meeting of the Bath and Bristol Branch of the British Medical Association at the University of Bristol on March 28th, 1928.



resembling a leopard's skin (Fig. 1). The thrombosed vessels contain diplococci (Fig. 2), although very sparsely distributed. The sphenoidal sinus (Fig. 3) shows a much thickened membrano containing large masses of cocci invading the deeper tissues, usually without, but occasionally with, lymphocytic infiltration (Figs. 4 and 5). These cocci are apparently identical with those invading the stomach and also the pituitary capsule and gland.

*Specimen W. J.* (Fig. 6) shows haemorrhages in process of absorption, and represents an intermediate stage between the above specimen and the following.

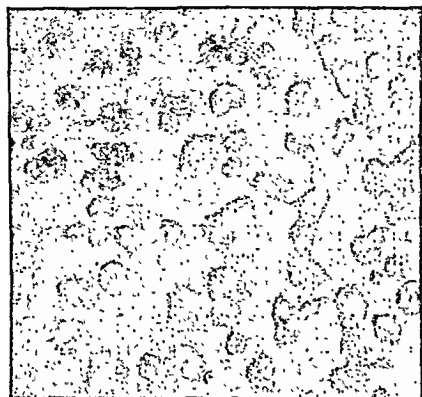


FIG. 1.—Stomach mucosa (G. S.). Multiple superficial haemorrhages beneath which were thrombosed vessels containing diplococci.

*Specimen A. L.* (Fig. 7) shows multiple deep pitting—really small ulcers—and an occasional dark area shading off into the surrounding tissue. This is probably an example of resolution of the "leopard's skin" condition, in which the haemorrhages and thrombosed vessels have been digested with accompanying attempt at repair.

The partial resolution seen in specimens W. J. and A. L. indicate that the haemorrhages of G. S. are not merely a terminal condition.

*Specimens J. C. and M. R.* are examples of sphenoidal sinusitis, one associated with capillary haemorrhages (diapedesis), the other with multiple pin-head lymphocytic nodules in the gastric mucosa. (Illustrations of these specimens not reproduced.)

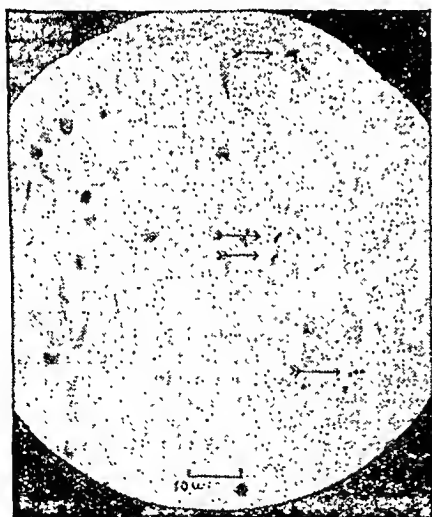


FIG. 2.—Stomach (G. S.), showing organisms amongst blood corpuscles from thrombosed blood vessel. These organisms are of similar microscopic appearance to those seen in the sinus membrane.

#### PULMONARY INFECTIONS.

The rhinologist has long been familiar with the anaemia, cough, expectoration of mucus, sometimes streaked with blood, loss of appetite, wasting, nocturnal fever, and sweats that may occur in chronic purulent nasal sinusitis, often with localized bronchitis, and while in earlier and less marked cases early tuberculosis is mimicked, in old-standing cases they rather suggest advanced pulmonary tuberculosis. Moreover, these chronic septic sinuses are prone to cause recurrent pulmonary infections, till in turn a subinfection of the lung becomes a chronic focal infection. Dr. Young<sup>2</sup>

says very truly: "Nasal sepsis may give rise to symptoms and signs curiously mimicking those of early apical tuberculosis—with definite signs in the lungs, particularly at the apices, which clear up when the nasal condition has been effectively treated."

My experience of sinus infections leads to the conviction that in many patients with constant recurrence of bronchitis the source of infection lies in the chronic sinusitis, where the established infection with relative auto-immunization renders the patient a sinus "carrier"; in

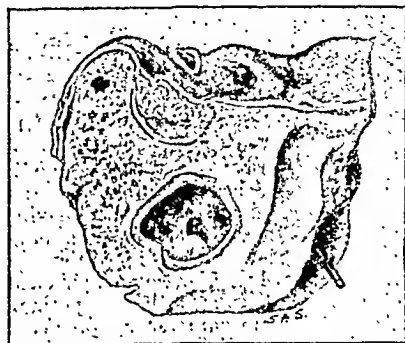


FIG. 3.—Sphenoidal sinus (G. S.). The mucosa was thickened and showed invasion by organisms. (See Figs. 4 and 5.)

course of time, the same seems true of pulmonary subinfection, when the patient becomes a lung "carrier."

We know that in chronic pyogenic infections of the mucosa of the sinuses the organisms may invade the submucosa and, with quiescent intervals without symptoms, activate from time to time under the influence of climatic conditions or the symbiosis of a hetero-infection—as, for instance, influenza, measles, etc. There is reason to believe the same obtains in pulmonary infections, and this explains some of the pulmonary complications following general anaesthesia, which are not by any means always due to infection from above, but may be due to sensitization



FIG. 4.—Sinus membrane (G. S.), showing masses of organisms invading the membrane.

of pre-existing lung infection, though any established focal sepsis in the nose and mouth is a constant menace to the lower respiratory tract. It is hardly necessary to discuss the recognized fact that tonsillar sepsis or tuberculosis may spread to the hilum and peribronchial tissues of the lung, and it appears certain that lung complications of a nasal sinus infection are often the result of blood stream infection.

Familiar experience of the catarrhal infection known as the common cold illustrates the tendency of the naso-oral catarrh to spread to the lower respiratory tract, particularly in certain individuals whose colds always spread to the

chest; in these there is often an acquired liability to frequent recurrence, and, moreover, in the same pulmonary area each time. Now, as Batty Shaw<sup>1</sup> observes, we are not sure the recurrent attacks in such patients are the result of reinfection from outside, while many become chronic bronchitis, and are, in fact, "carriers." "The infection is a reinfection from within."

That bronchiectasis is very frequently due to secondary infection from naso-oral sepsis is now accepted, and it is probable that early and less marked forms of bronchiectasis are not seldom present, when signs and symptoms are as yet too indefinite to permit of an exact diagnosis, perhaps due to pressure in coughing acting on a bronchial musculature and tissues weakened by infective processes.

It should hardly be necessary to emphasize the importance of recognizing and removing focal infection of the mouth or nose in cases of pulmonary tuberculosis. But there would seem to be good grounds for suspecting that sometimes patients with such focal infections, with pulmonary complications diagnosed as phthisis, despite the failure to find tubercle bacilli in the sputum, are in reality not tuberculous at all, but examples of sepsis infection. Such pulmonary cases may be clinically indistinguishable from the so-called phthisis without tubercle bacilli; they benefit greatly, and may become cured by sanatorium methods; but such methods are immensely assisted by the recognition and removal of the causal focal infection, without which every method of treatment is prone to prove abortive.

Curiously enough, reports on the sputum, which may be teeming with virulent pyogenic organisms, are usually returned "negative" unless a few stray tubercle bacilli can be identified, often only after repeated examination. Yet, even in cases that are truly tuberculous, the association of other pathogenic organisms is by no means a negligible factor. In every case of clinical pulmonary tuberculosis, whether tubercle bacilli are demonstrable or

surgeon, or the laryngologist, yet seldom if ever conjointly. The following are three good examples in which the case-histories suggested focal infection.

The first came under my care last October. He was a man, aged 61, in active pursuance of his profession, which brought him constantly before the public. Apparently fit when I saw him then, he had on so many occasions of recent years been laid up with attacks of febrile nasal catarrh, which "laid him out" and caused severe financial loss, that he was in constant dread of their seemingly inevitable recurrences. Twenty-seven years previously, in 1800, he had left antral empyema due to diseased teeth. These were extracted, the alveoli opened, and a gold tube inserted; through this daily lavage was carried out for about ten years, when, being considered no longer necessary, the tube was removed and the opening allowed to close. Two years later, in 1912, he consulted a colleague for sensations in the antral region, but transillumination was negative and he was reassured. Again, four years later, occasional colds and laryngitis and slight cacosmia made him seek a further consultation; but once more transillumination and likewise a skiagram were both negative. In 1921, with a severe febrile attack abroad, he had a septic abscess on his foot, and again in 1922 and 1923 slight cacosmia.

In January, 1923, he underwent appendicectomy in London for acute appendicitis, and five weeks later an operation on his gall-bladder was performed by the same surgeon.

In April, 1927, he felt and looked ill and neurasthenic. He could not concentrate, and had difficulty in memorizing, which for him in his work was most unusual. A few weeks later he had a severe feverish cold; he was in bed ten days, as he had a pneumonic patch and rusty sputum—streptococci were cultured from a pharyngeal swab. Regaining his relative auto-immunization he returned to

work; but six months later, though in fair health, he was still in constant dread of further breakdowns.

Now the history of his recurring febrile colds, appendicitis, cholecystitis, and phases of poor memory, pointed so strongly to a focal infection that, despite the absence of any nasal abnormality or catarrh, using the suction syringe, exploration of the left antrum revealed a pure growth of pneumococcus with slight phagocytosis, though his right antrum was sterile. It would seem that this pneumococcal focus was the causal factor of his septic pneumonia, probably of the previous appendicitis and cholecystitis, and likewise of the recurring febrile attacks that had proved so disastrous in his career. Yet his various medical attendants had apparently failed to inquire for those data in the long history which, taken as a whole, seem to afford such a useful diagnostic guide.



FIG. 5.—Sinus membrane (G. S.), showing organisms invading membrane with cellular reaction (the large dark masses are lymphocytes).



FIG. 6.—Stomach mucosa (W. J.). Haemorrhages as in Fig. 1, but showing early stage of resolution.

not, careful inquiry for the existence of focal infection ought never to be omitted.

#### The Importance of Case-History in Focal Sepsis.

It is very instructive to observe how a patient's medical history alone, taken over a long period, may in itself suffice to suggest some chronic septic infection, ever and anon cropping up, with quiescent intervals due to relative auto-immunization, but manifesting its existence by recurrences which, on each of several occasions, have separately engaged the attention of the physician, the

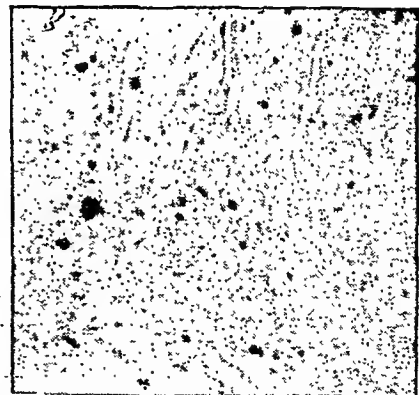


FIG. 7.—Stomach mucosa (A. L.). Haemorrhages as in Figs. 1 and 6, but showing later stage of resolution. Many haemorrhages have entirely disappeared, leaving superficial erosion and deep pits.

Miss D., aged 46, suffered from chronic rheumatoid arthritis in shoulders, wrists, fingers, and knees, of twenty-seven years' duration, beginning at the age of 14. She also had chronic rhinitis of much the same duration, yet, although she consulted laryngologists, there was never sufficient evidence to warrant any operative treatment till 1916, when the sphenoidal sinuses were proved to be infected with *Staphylococcus aureus* and *Streptococcus brevis*. Meanwhile, however, she had recurring colitis, and removal of the appendix was followed by pneumonia. From the time her sphenoidal sinuses were opened and drained the arthritis definitely improved and her health has remained uninterruptedly good ever since.

W. M., aged 29, had severe influenza in 1901, appendicitis in 1903, and appendicectomy in 1907, followed by prolonged insomnia and mental depression. He returned to work, but in 1911, after a mild attack of influenza, headaches, and depression with suicidal impulses, culminating in delusional insanity, he was again unable to work. He was found to have staphylococcal infection involving all his nasal sinuses. The sinuses were radically operated on to eliminate all the focal sepsis, and after some months he



FIG. 8.—Sphenoidal sinus (M. L.), showing perforation of pituitary fossa from sphenoidal sinus. Note especially the bony ridge within the fossa indicative of long-standing infection.

lost his delusions, regained his mental balance, and returned to work. He remained in uninterrupted health, and has occupied the position of bank manager for sixteen years.

These three cases, after a long history of nasal infection with ever-recurring complications—extending over several years, and including arthritis, appendicitis, pneumonia, neurasthenia, and insanity—completely recovered, and the oft-recurring infections abruptly ceased with the removal of what certainly would appear to have been the common causal factor of all their illnesses, nasal, pulmonary, and abdominal. The appendicitis cannot be regarded as mere coincidence, and each case in its entirety is a clinical picture representing the long-drawn-out history of a chronic low-grade focal infection.

Now, if these naso-oral focal infections do cause such serious complications, their early recognition and prompt



FIG. 9.—Pituitary stalk (M. L.), showing diplococci at a, b, and c. This suggests a new path of infection of the hypothalamic region of the brain from a sphenoidal sinusitis.

removal may prevent these subinfections of the pulmonary and gastro-intestinal tracts, for a latent focal infection is truly "a wolf in sheep's clothing." How much serious illness could be prevented by regarding chronic septic infections more seriously without waiting for dangerous complications to point the moral!

If I have wandered into the domain of the physician and surgeon my purpose has been to show how even the rhinologist, ploughing his lonely furrow, is by his work so interlinked with his colleagues that no territory can be regarded as lonely, and that in medicine there is but one field, which ever calls for team work.

#### REFERENCES.

- <sup>1</sup> Practitioner, April, 1921. <sup>2</sup> Ibid., July, 1920. <sup>3</sup> British Medical Journal, November 26th, 1927, p. 938. <sup>4</sup> Ibid., March 24th, 1928, p. 492. <sup>5</sup> Ibid., February 4th, 1928, p. 168. <sup>6</sup> Ibid., April 14th, 1928, p. 619. <sup>7</sup> Proc. Roy. Soc. Med., xxi, No. 5, 1928. <sup>8</sup> British Medical Journal, December 26th, 1925, p. 1212.

## AN OUTBREAK OF PARATYPHOID B FEVER PRESENTING NOVEL FEATURES.

BY

A. GRAHAM-STEWART, M.B., CH.B. ABERD.  
With Notes on the Bacteriological Aspects

BY

PHILIP MANSON-BAHR, M.D., F.R.C.P.,  
AND

T. R. GODDARD, M.R.C.S., L.R.C.P.

THE subject of the present study was a limited outbreak of paratyphoid fever which occurred in May, 1925, in a preparatory school, and which, in certain aspects, presented novel features. The boys, numbering sixty, assembled for the summer term on May 5th; some ten days later cases of fever began to occur, and continued to do so till May 29th, when the epidemic ceased. In all, twenty-three cases were notified, while none of those attacked was dangerously ill. The incubation period of this particular epidemic could be accurately ascertained as being from ten to twenty-four days.

The early symptoms were not of a serious nature; for the most part they consisted of a transient headache and a high temperature (102° to 104° F.), coupled with an extraordinary appearance of well-being. At first the headache, the high temperature, and the relatively slow pulse suggested influenza. By the fifth day from the commencement of the epidemic "rose spots" were already visible. At this time, too, a positive agglutination to *B. paratyphosus* B was obtained, and a blood culture performed gave a positive growth of this organism. The diagnosis was therefore clinched.

#### CLINICAL SYMPTOMS.

In contradistinction to other zymotic diseases the absence of any distressing features at the commencement of the illness was a point to be noted. Save for a few days at the end of the first week appetites and spirits appeared to be unaffected. In the early stages this very absence of symptoms may be misleading and cause delay in diagnosis. The pulse-temperature ratio was typical of the enteric group. In one boy with a temperature of 105° F. the pulse rate registered 100, in another with 101° F. it was 80, and in a third with 104° F. it was 96. In one of the cases transitory dizziness was complained of, and in 15 per cent. there was vomiting. In one only was there a rigor, and, with the exception of headaches, no other complaints. The onset of the paratyphoid fever was sudden; there were no prodromal symptoms. Constipation was the rule, and the motions did not in the least betray the nature of the illness. The tongue was coated with a thick white central fur. In only one case, a boy with a temperature of 105° F., was mild delirium noted.

**The Exanthem.**—The first spots appeared at the end of the fifth day; after that 75 per cent. of the cases developed a roseolar rash confined to the chest, abdomen, back, and flanks. In one case the rash was so generalized that the body was covered, with the exception of the soles of the feet, the hands, face, and neck. In 25 per cent. no rash whatever developed, and in a few instances its appearance was delayed till the fourteenth day.

**Pyrexia.**—In typical cases the fever was of a remittent type for fourteen days; in some cases for seventeen or eighteen days; in the milder forms it lasted from seven to ten days. Defervescence took place by lysis. Palpable enlargement of the spleen was noted in every case from the fifth day onwards. In some the splenomegaly was obvious, and extended four fingerbreadths below the costal margin. In a third of the cases epistaxis was noted. No complications were observed save a severe general myalgia and cardiac dilatation in one boy who had previously suffered from an enlarged heart. Bronchitis and pulmonary complications were completely absent.

## TREATMENT ADOPTED.

Treatment was based on general lines. The diet was not excessively rigid; it consisted of three pints of milk, reinforced with plasmon, biscuits and rusks, bread-and-butter, custards, raw eggs, milk puddings, and a tablespoonful of glucose. Lemonade was freely given.

**Drugs.**—A 2½ minim capsule of oil of cinnamon was given every two hours, and 5 grains of urotropine three times daily. In order to counteract the constipation an ounce of petrolagar was given twice daily. At the termination of the illness the faeces and urine of each boy were examined bacteriologically three times, and in only one case was a positive culture of *B. paratyphosus* B obtained.

## PREDISPOSING CAUSE.

The limited nature of the outbreak, its occurrence amongst a proportion of the schoolboys, the absence of any other ascertainable source of infection, the probability that all twenty-three cases were infected from the same source, at the same time, rendered it almost certain that some article of food was responsible for the outbreak. After eliminating other possible articles of food, suspicion fell on one particular Italian cream cheese, which was eaten on the day of assembly, May 5th. A very careful search for a possible carrier was undertaken, but proved useless.

Two previous outbreaks of fever due to eating cheese have been recorded. Ford and Walker<sup>1</sup> record an epidemic of paratyphoid fever in Missouri; it consisted of forty-four cases and extended over twenty-eight days. Macaniky<sup>2</sup> in the Dover epidemic of July, 1922, which affected 126 individuals in forty-three families, expresses the opinion that the infection was due to Gaertner toxins contained in cheese.

## LABORATORY INVESTIGATIONS.

**Blood Culture.**—Blood culture was performed in five instances, and was successful on the fifth and eighth days of the illness.

**Serum Agglutination Tests.**—The first batch of cases consisted of seven boys who had been ill for eleven days; the second consisted of four boys, two of whom had been ill for five days and two for three days. The serums of all the above strongly agglutinated emulsions of *B. paratyphosus* B when tested out on "Garrow's agglutinator" in dilutions of 1 in 10 upwards. The clinical appearances of the sick boys coincided with the results of the agglutination tests. Following upon the outbreak, the blood of the remaining boys, together with that of the masters, domestic staff, and outside attendants (eighty-four persons in all), was tested, with a negative result; but in two apparently healthy boys, who at the time were playing in the fields, the serum was found to agglutinate *B. paratyphosus* B in a dilution of 1 in 10, while the spleens of both were definitely enlarged. Both of these boys, who, as a result of the test, were regarded with suspicion, developed paratyphoid B fever within the next five days. On the other hand, in the case of eight other boys who developed paratyphoid fever during the ensuing five days no agglutination was obtained; but, after a further lapse of a fortnight, when again tested, a positive agglutination in dilutions of 1 in 80 to 1 in 160 was obtained. In one instance a positive agglutination against typhoid, paratyphoid A, and paratyphoid B was obtained, and it was satisfactory to ascertain on inquiry that this boy had received a triple inoculation some two months previously in Egypt.

The object of setting forth an account of this epidemic in detail is to show that, with the technique employed, the investigation of such an outbreak can be concluded within the comparatively short period of forty-eight hours. It is doubtful whether by any other technique results of such importance could be obtained with like certainty and speed. The main points elicited were: (1) The trustworthiness of this method of macroscopic agglutination when applied on a large scale. (2) The fact that in two instances the blood serum gave a positive agglutination to *B. paratyphosus* B at a considerable period before the symptoms of the disease developed, and that it was in one instance accompanied by a palpable enlargement of the spleen in the incubation period of the disease.

## Method of Determining the Serological Reactions of Patients and Contacts in the Epidemic of Paratyphoid B Fever.

Agglutination tests were performed on Garrow's agglutinator, a method we have practised with satisfaction since the perfection of the apparatus in 1916, and subsequently we employed it as a means of diagnosis throughout the great war. The simplicity of the instrument, and the ease with which all the necessary material for performing agglutination tests can be carried about, rendered it invaluable for use under conditions of active service. Garrow's agglutinator<sup>3</sup> is to some extent based on Broughton-Alecock's<sup>4</sup> slide method. This method of "agglutination forcée" alone makes possible the performance of a large number of tests in a minimum of time. The reaction is macroscopic and easily visible to the naked eye. When controlled by the tube method of agglutination it has shown itself to be equally specific, though it must be admitted that the "end-point" never reaches so high a titre as in the former method. False or "pseudo-reactions" are apt to occur only when very low dilutions of the serum—that is, under 1 in 10—are employed.

The formalinized bacillary emulsions used were prepared from type cultures supplied from the National Collection of Type Cultures at the Lister Institute, and were adequately tested, as regards their agglutinability, before the investigation was commenced.

The object of testing the entire school population for agglutinins of paratyphoid B fever was based upon the supposition that such a reaction will normally occur in a carrier of the infection. It is quite true that if a person has suffered from a mild attack of paratyphoid B fever, and continues to excrete the organisms, his serum will probably agglutinate the paratyphoid B bacillus, but this does not necessarily take place in the "symptomless carrier," who, though not showing any clinical signs of infection, nevertheless harbours the organisms, so that the agglutination test does not always provide a sure means of detecting such a "carrier."

The serum of eighty-four individuals was submitted to the test, and the method of applying it on such a large scale was as follows: The blood required was obtained by pricking the pulp of the finger with a sterilized "bare-tip" needle. By gentle massage along the length of the finger sufficient blood was obtained to fill an ordinary capillary tube with a bulbous enlargement in its middle.

The sick boys were visited in their rooms in order to collect the sample of blood. The remainder of the school-boys, masters, and domestic staff were paraded. As each individual came forward the finger was pricked and the blood collected in the capillary tube. The tube ends were then carefully sealed with sealing wax, and finally each tube was labelled with the respective individual's name. In this manner samples of blood from the entire school were rapidly obtained. The next step consisted in centrifugalizing the blood in order to obtain clear serum. The capillary tubes containing the blood were placed in both buckets of the centrifuge, so that the process of centrifugalizing the whole of the specimens was thus rapidly carried through. It may be pointed out here that the amount of clear serum required for the test, when using the Garrow agglutinator, is very small, two drops being ample.

After obtaining the serum, dilutions were made with normal saline; one drop of the diluted serum of each individual was placed in each of three adjoining divisions on the Garrow's slab, and to these were added respectively one drop of typhoid bacillary emulsion, one drop of paratyphoid A emulsion, and one drop of paratyphoid B emulsion. Since the slab is divided into thirty separate divisions it was possible to put up the serums of ten individuals against the typhoid and paratyphoid A and B emulsions at one and the same time. The slab was then transferred to the box and rotated for three minutes by means of a special mechanism, thus bringing the serum into intimate contact with the bacillary emulsion. As a rule the results are sharp and clear. In the case of a positive reaction the mingled drops of bacillary emulsion and serum are seen to contain innumerable whitish particles

consisting of agglutinated masses of the germs. In the case of a negative reaction, the emulsion is smooth and free from particles. In this manner the whole of the eighty-four serums were quickly tested and those giving a positive reaction carefully noted.

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## NOTES ON THE TREATMENT OF ORAL AND RECTAL CANCER BY RADIUM.

BY

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By the courtesy of my colleagues at the General Hospital, Birmingham, and with the help of the Birmingham Branch of the British Empire Cancer Campaign, I have been enabled to treat a number of cases of advanced oral and rectal carcinoma with radium. The radium has been loaned to the hospital by the Medical Research Council, and I am indebted to this body for permission to publish these notes, which embody much that has been previously communicated to the Council in the last report from the department. The figures deal with cases treated over a period of two years (1926-27), but include a few cases treated before this date which have been kept under continued observation and treatment during the period stated.

### CANCER OF THE MOUTH.

The number of cases admitted to the department was 39. Of these, 2 have been treated too recently to be included in these notes, 1 proved to be a simple naevoid tumour of the tongue and was easily cured by radium, 7 were unsuitable or refused treatment; 29 cases are thus left available for consideration.

**Age and Sex Incidence.**—The average age of the patients was 59 years; the youngest was 46 and the oldest 70; all except two had passed the age of 50. Males greatly preponderated, there being 27 to 2 females. It is difficult to account for this, because dental sepsis appears to be equally common in both sexes in hospital practice.

**Predisposing Factors.**—Dental sepsis is undoubtedly a predisposing factor. Severe dental sepsis was present in 20 cases (69 per cent.), and in 9 of these there was a direct history of prolonged irritation at the site of the ulcer by a jagged tooth; moderate dental sepsis was present in 7 cases (24 per cent.); there was no history or sign of dental sepsis in 2 cases (7 per cent.). It would thus appear that dental sepsis is a powerful factor in the causation of epithelioma of the mouth. There can be no doubt that mouth cancer is more frequent among patients of the hospital class, who rarely, if ever, use a toothbrush and who seek no advice for dental caries. The importance of syphilis as a factor in the production of the disease was not brought out in this series of cases. In only 5 of the 38 cases of new growth admitted was the Wassermann reaction positive, and in only one of these five was a syphilitic lesion of any type found; this was marked lingual leucoplakia, a carcinoma developing on a thickened patch in the centre of the tongue.

**Microscopical Verification.**—A section was obtained in 27 out of the 29 cases considered; all were squamous epitheliomata. The two cases not submitted to section were clinically unmistakable cases of cancer, and have proved fatal. It is essential in an investigation of this kind that no doubt should exist as to the nature of the disease; the reason for omission in the two cases was the inaccessibility of the growth and the danger of continued bleeding after the section had been taken.

### TREATMENT.

All the cases treated were advanced and inoperable, and many were in poor general condition. In the present state of our knowledge it does not seem fair to submit early cases to this method of treatment.

### Treatment of the Primary Growth.

A complete dental toilet was first carried out. Of the 29 cases, 5 had some preliminary treatment to the growth; in 2 a partial excision to remove sloughing tissue was performed. This in no sense of the term approximated to a surgical excision, but was rather of the nature of a wound toilet. It was later found that treatment of the ulcer by pure formalin gave a better result, the formalin acting as a caustic and leaving a clean ulcer after the sloughs had separated. This preliminary treatment was carried out in the remaining three cases.

In the majority of cases the radium needles were inserted under general anaesthesia administered by a catheter through the nose. In a few cases local anaesthesia or infiltration of the lingual nerves was employed, but this fails to give sufficient anaesthesia to allow of ease of manipulation of the tongue, jaw, and soft parts generally. The needles used were 5 mg. tubes screened with 0.5 mm. of platinum, but it is probable that tubes of smaller power would be preferable and less likely to cause radio-necrosis.

Some idea of the "mass" of the growth was first obtained by palpation, and the number of needles inserted varied with this. The needles, threaded with the strongest vaselined silk obtainable, were inserted deeply into the tissues at least 1 cm. from the growing edge. If the ulcer was very extensive two or three needles were placed beneath the floor of the ulcer parallel with its surface and at a depth of 2 or 3 cm. Special care must be taken to place the needles as far away from bone as possible. It is difficult to protect the bone sufficiently in cases where the floor of the mouth is involved, and in two cases some necrosis of the mandible followed treatment. Adequate protection of the alveolus by moulded lead sheeting has proved difficult owing to the close proximity of the ulcer to the bony alveolus in most cases of epithelioma of the floor of the mouth.

The needles were kept in position for forty-eight hours in most cases, but in a few they were left in for seventy-two hours. The number of tubes inserted varied with the size of the growth, but as these were large in most cases eight tubes was the average number used in the mouth. This represents an average dose of 1,920 mg. hours for the primary growth. In many cases a second and even a third dose was given.

Some degree of local reaction followed in most cases; this consisted in local swelling, superficial necrosis of the epithelium at the site of the needle punctures, and general reddening of the tissues around the irradiated zone. A very considerable degree of reaction occurred in 9 cases where a very extensive growth was treated, and probably the dose given was excessive. Radio-necrosis is a most troublesome complication, especially if bone is involved, and must be avoided by careful screening, guarding against overdose, and care in the position of the needles. In the early cases especially too massive doses have been administered.

### Treatment of the Glandular Fields.

Where the glands were enlarged but operable a block dissection of the neck was undertaken on one or both sides, depending on the site of the ulcer and the nature of the glandular enlargement. Radium needles were implanted in the wound, especial care being taken to place the tubes at such intervals that the whole field was irradiated. This procedure was employed in 9 cases. In the remaining 20 cases the glands were badly infected and quite inoperable in 18, and not infected so far as could be ascertained in 2. These 20 cases were treated by irradiation alone, needles being embedded in the tissues of the neck through a trocar. Ten to fifteen needles were used over a period of forty-eight to fifty-six hours. Most cases had two applications to the glands at intervals of three months, while a few had three or more. Where possible the irradiation of the primary growth and the neck was carried out concurrently.

### RESULTS AND REMARKS.

Of the 29 patients treated and kept under observation for two to three years, 10 (34.5 per cent.) died, 11 (38 per cent.) showed no improvement, and 8 (27.5 per cent.) had improved. Three of the deaths were due to intercurrent disease—cardiac failure, acute appendicitis, and perforated duodenal ulcer. In 9 of the 21 patients comprising those



who died and those who were not improved the primary growth had been apparently checked and healed, but the glandular deposits had continued to progress. Of the 8 cases definitely improved, one patient has been treated by irradiation alone and is apparently free from recurrence over a period of three years and four months; in 3 cases the ulcer has healed, no recurrence can be detected, and microscopical examination of the scars left shows no tumour cells present. In 4 cases healing of the ulcer has followed and the glandular deposits lessened in size in all, completely disappearing to palpation in 2.

There can be no doubt that the primary growth reacts better than do the glandular deposits; this is certainly due to the fact that an intensive cross-fire action can be more easily obtained. Small doses over a prolonged period of time are preferable to large doses acting for a short period. The 5 mg. tubes are probably too large a dose for very prolonged insertion, and a trial is to be made of less powerful needles. The best results are to be expected from growths of the tongue itself, and especially those of the anterior two-thirds; epitheliomata of the floor of the mouth and the pharyngeal portion of the tongue are especially difficult to treat on account of the difficulty of access and also of the danger of necrosis. The warty exuberant type of epithelioma gives a better result than the ulcerative type, which unfortunately is the more common. No anaemia, as shown by a series of blood counts and haemoglobin estimations, has followed even the most massive doses, nor has the cholesterol content of the blood been affected. The greatest care in regulation of the dose, screening, and placing of the needles is essential to prevent radio-necrosis.

It is possible that a combination of lead colloid and radium represents the ideal treatment, since the lead may help to check the glandular deposits while having less effect on the primary growth. An extensive recurrent growth treated on these lines improved considerably. It is to be noted that all the cases treated were past all surgical intervention, and it is probable that earlier cases would react much more favourably than the above figures indicate.

#### RECTAL CANCER.

The number of cases of rectal cancer admitted to the department was 33. Of these, 26 were suitable for radium therapy and 7 were unsuited (5 were hopelessly advanced and almost moribund; one was operable and the growth was excised; and one was treated by lead owing to liver deposits). Of the 26 patients, 22 were males and 4 females. The average age of the patients was 57. All were advanced and inoperable, in most cases there was extensive infiltration of surrounding structures, especially the bladder, prostate and perirectal cellular tissues.

Microscopical examination of tissue removed showed the presence of adenocarcinoma in 23. In the remaining 3 patients sections were not obtained owing to the inaccessibility of the growth. All these were clinically typical carcinoma, and in none of the three did any improvement occur under radium treatment.

#### TREATMENT.

All patients were advised to have a preliminary colostomy, for two reasons: first, to allow of exploration of the abdomen, as it is obvious that secondary deposits in liver or peritoneum prohibit any local treatment such as irradiation; and secondly, for the purpose of keeping the growth as clean as possible.

Needles of 5 mg. and occasionally of 10 mg., screened by 0.5 mm. of platinum, were used. In 5 cases the coccyx was excised to allow of implantation of the radium needles directly around a posterior growth. In 16 cases some needles were implanted deeply into the perirectal cellular tissues by puncture of the perineum and ano-coccygeal raphe with a trocar. This procedure requires rigid asepsis and constant dressing if it is not to be followed by perirectal suppuration. This occurred in two cases, resulting in fistulae which never healed. In all cases needles were implanted deeply into the growth from the rectal surface in addition to the two procedures mentioned previously.

Owing to the large mass of these advanced rectal growths and the necessity for getting an intensive cross-fire action a considerable number of needles are inserted, fifteen or twenty 5-mg. needles being required. The rectum tolerates

these large doses well if a preliminary colostomy has been performed and the tubes are not placed too closely together. It has been found advantageous to pack the bowel lumen with rubber tissue to keep the needles embedded in the growth well apart. This also helps to protect the intact mucosa below the growth from the effects of too close proximity to the needles, and also allows of the free discharge of blood and infected fluids from the surface of the growth.

In all, the 26 cases had forty-seven exposures, as follows:

- 1 had 4 exposures, totalling 15,300 mg. hours.
- 5 had 3 exposures, with an average of 14,626 mg. hours in each case.
- 8 had 2 exposures, with an average of 9,375 mg. hours in each case.
- 12 had 1 exposure, with an average of 4,180 mg. hours in each case (treatment is not complete in all these cases).

#### RESULTS AND REMARKS.

Of the 26 patients in this category, 13 are dead and were not improved in any way, 8 are alive but show no improvement, 5 (19 per cent.) are definitely improved. Of the 5 showing improvement, 2 were irradiated twice and given a total of 9,600 and 8,900 mg. hours respectively; 2 were irradiated on three occasions and given totals of 16,080 and 16,920 mg. hours; one was irradiated on four occasions and given a total of 15,300 mg. hours.

In two of these cases the improvement was most noticeable. In one case, where the growth was very low down and easily accessible, a very complete irradiation was possible from all angles. The growth entirely disappeared, leaving a fine pliable scar, sections of which failed to reveal any tumour cells. The second case was an exuberant warty adenocarcinoma; this also completely disappeared, leaving a fine scar. These two patients have been kept under observation for eighteen months and remain satisfactory. In the three remaining cases the improvement was slight but definite, the growths becoming smaller, harder, and more fibrous as compared with previous sections.

Cancer of the rectum is a much less favourable field for radium therapy than is the tongue. The reason for this is the difficulty of access and still more the intense septic element which, in spite of the most careful preparation of the patient, is almost inevitable. Further, it is difficult, indeed probably impossible, to reach the upper part of the glandular field with any extension of the surgery of access, the glands along the inferior mesenteric artery being quite out of reach. For any satisfactory result, then, the growth must be early, low down, and the glandular field but little involved.

I desire to acknowledge the help of my colleagues Dr. Lamb and Dr. Teall. Dr. Lamb has undertaken all the investigation of pathological material and has also investigated the blood before and after irradiation; Dr. Teall has been of great assistance with advice of a technical character. Without them this work could not have been carried out.

#### A CASE OF DUPLICATION OR SUBDIVISION OF THE TESTICLE.

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With Histological Note by

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DUPLICATION, real or supposed, of the testicle would seem always to have excited considerable interest in both lay and medical circles. There is no doubt that the condition must in early times have been presumed on very insufficient grounds; within recent years even the diagnosis has been made on a slender foundation. It seems a truism to state that authenticity can be established only by histological examination of the abnormal structure. It is now known that the condition does exist; but whether authentic or presumed it must be regarded as of very rare occurrence, and it is for this reason that the following example is recorded.

#### Clinical History.

The patient, a healthy youth aged 16 years, employed as a telegraph messenger, was sent into the Western Infirmary in March, 1924, with a swelling in the left scrotum. The swelling

was observed on physical examination for entrance to the Royal Navy, but its existence had been long known to the patient, and it had never caused him any trouble.

On examination the right testicle was felt in the scrotum, and apparently was normal. A smooth, rounded, mobile swelling the size of a marble was found in the scrotum above the left testicle. Elements of the cord were felt passing to it, and it was thought to be a displaced globus major, as the normal epididymis could not be demonstrated in the subjacent testicle. At operation the testicle and the abnormal swelling were found occupying a common tunica vaginalis. The lower body, regarded as testicle proper, was ovoid, and measured over 3 cm. in length by 2.3 cm. transversely, and 2.6 cm. antero-posteriorly. The upper body was globular, with a diameter of over 2 cm. It was freely mobile, and only indirectly attached to the lower by a pink strap-like structure several centimetres in length and 0.6 cm. across. The vas deferens was felt arising from near the lower pole of the testicle. The tunica vaginalis extended up along the spermatic cord to well within the inguinal canal, but it did not communicate with the abdominal cavity. The two bodies and intervening strap were covered by serosa on anterior and lateral aspects; the upper body was more completely invested and was pedunculated. The malformed organ being of doubtful utility the tunica and its contents were removed. Recovery was uneventful, and he was discharged on the twenty-first day.

#### Dissection of Testicle.

When the tunica was laid open and pinned out (Fig. 1) the upper body was seen to be attached to it posteriorly by a pedicle, a little over 2 cm. long, which passed upwards as a vascular plica extending to the upper end of the tunica. Seated on the lower part of this body was a small cup-like structure, 1.75 cm. by 0.75 cm., the expanded upper end of a strap, 4.5 cm. long, 0.6 cm. broad, and 0.4 cm. thick, resembling normal epididymis and passing down to lie behind the lower pole of the ovoid testicle. This strap was attached to the tunica vaginalis posteriorly by a fold like a mesorchium, measuring in its greatest breadth 1.2 cm., and incorporated medially with a vascular plica which extended up from the testicle. The latter body, the long axis of which was directed upwards and forwards, stood well out from the tunica vaginalis, to which it was attached posteriorly for about two-thirds of its length by a reflexion of serosa. From its upper pole a plica extended upwards medial to and blending with the pedicle of the upper body. Its postero-inferior pole showed a cup-like thickening, fully 1 cm. deep, which gave the testicle the appearance of an acorn. The lower end of the epididymal strap seemed to be spread out on the lower pole of the testicle, and from this pole the serosa was reflected in characteristic folds. Medially the serosa was smoothly reflected over the vas deferens and spermatic vessels; laterally it formed a deep gutter-shaped recess, about 2.5 cm. long, behind the lower part of the epididymal strap.

Further dissection (Fig. 2) showed that the epididymal strap passed down behind the testicle and bent sharply upwards and inwards to become the vas deferens. Vasa efferentia were present as stringy connexions between the strap and the lower pole of the testicle. The veins were arranged in two main groups: one from the upper body with addition of a convoluted vessel from the epididymis, the other from the testicle, forming a looped plexus.

#### Histological Report.

Dr. Blacklock examined portions of the testicle, of the strap, and of the upper body, and he reported as follows:

"*Lower Swelling.*—This is enclosed in a capsule composed of an outer layer of fibrous tissue in which are found numerous vessels, and an inner layer of non-striated muscle in which the vessels are less numerous. Inside these structures composing the capsule typical testicular tissue is present, and here and there evidence of spermatogenesis is found. Many of the gland spaces contain a mucoid secretion. The interstitial tissue and cells appear normal in character and in amount. In some of the sections small ducts corresponding to vasa efferentia are found between the testicle and epididymia.

"*Cord between Upper and Lower Swellings.*—This structure shows in its outer parts fibro-muscular tissue in which are present many small vessels (chiefly veins) and a few nerves. Its central part is composed of typical epididymis tubules lined by columnar ciliated epithelium, collections of spermatozoa being found in some of the lumina. Non-striated muscle is seen whorling around the ducts.

"*Upper Swelling.*—The part projecting furthest into the sac (tunica vaginalis) is composed of testicular tissue in all respects similar to that in the lower swelling, though the evidence of spermatogenesis is not so marked. This part is also surrounded by an outer fibrous layer and an inner non-striated muscular layer, which make it distinct from the outer part, which is composed of typical epididymis tubes. In the epididymis part typical ducts lined by columnar ciliated epithelium are present, and these are surrounded by whorls of non-striated muscular tissue in which are some fine vessels. Between the inner (testicular) and outer (epididymal) parts are found numerous fine ducts lined by a low columnar ciliated epithelium, and corresponding to the normal vasa efferentia."

#### LITERATURE OF SUPERNUMERARY TESTICLE.

Before commenting on the findings in the above case

I would like to refer briefly to the literature of supernumerary testicle. There is so wide a diversity in the cases published that a consideration of the literature entails a classification of the papers into different groups, ranging from generalizations to the more precise investigations of more recent years.

A. *General.*—Lucas-Championnière, in a clinical lecture delivered at the Hôtel-Dieu, reviewed briefly the subject of numerical anomalies from legendary to scientific times. He found that in proportion as exact scientific observations came to be made the numbers of cases reported tended to diminish. He referred to the legendary belief in the superfluity of individuals thus endowed. In 1911, some eleven years after the publication of this lecture, Conzette<sup>2</sup> wrote on the subject. He referred to Cruveilhier and Sappey

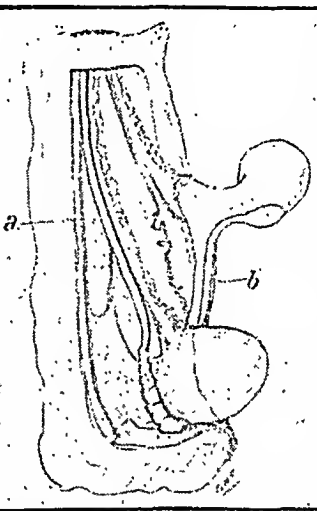


FIG. 2.—Parts viewed from medial side, with tunica vaginalis dissected to show vas deferens and blood vessels. a, vas deferens; b, strap-like epididymis.

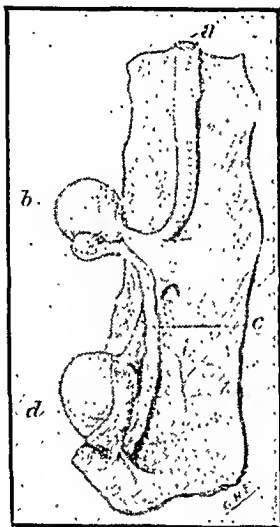


FIG. 1.—Parts removed, viewed from lateral side with tunica vaginalis laid open. a, Spermatic cord; b, upper testicular body; c, strap-like epididymis; d, lower testicular body.

not having met with a case in fifty years, expressed his opinion as to the rarity of its occurrence, and then went on to discourse upon legendary supervirility, to which, however, he seemed disposed to give credence.

B. *Pseudo-duplication.*—Marsh<sup>2</sup> republished in 1911 a case (originally published in 1898) of a boy, aged 3 years, on whom he had operated for congenital inguinal hernia on the left side. At operation two testicles in a common tunica vaginalis were found in the scrotum. The child died after operation, and *post-mortem* dissection showed one vesicula seminalis, situated on the left side, and larger than normal. From it passed a very thick vas to about half an inch from the internal ring, where it divided. The two branches passed down the inguinal canal into the scrotum; one to each testis. The right spermatic artery arose normally, but crossed the middle line and joined the left at the internal ring to form a single vessel, which divided again into two before reaching the external ring, and passed one to each testicle. The condition seems comparable with Lowe's<sup>3</sup> case. In that case there was no *post-mortem* examination, and it was considered by the Editor of the *British Medical Journal* as an example of true dichotomy of left with non-descent of right testicle. Banks<sup>4</sup> has recently reported a case similar in some respects. He terms the condition "transverse ectopia" of the right testicle down the left inguinal canal; and Keith, who had an opportunity of examining the specimen, considered it the result of fusion and persistence of the Müllerian ducts. Banks gives four references to cases recorded by other observers.

C. *External Examination without Operation.*—A certain number of observers have recorded cases on the strength of external examination only. Davis,<sup>5</sup> in 1895, reported a case with three testicles in the left and one in the right scrotum. All were apparently perfect, with sensibility to pressure. Tomory<sup>7</sup> described (1898) the case of a boy, aged 3½ years, with both testicles in the scrotum, and in addition a rounded insensitive body in the left inguinal canal; the body was larger than a testicle. Fischer,<sup>8</sup> in 1916, recorded a freely movable swelling in the region of the right external ring. It was possessed of testicular sensibility, and

could be pulled down into the scrotum, with a corresponding movement in the normally situated testicle. The subject was 65 years of age, and the scrotum contained two apparently normal testes. Dar<sup>9</sup> reported, in 1918, a case in which there were five alleged testicles in the scrotum, and he reproduced a photograph of the parts. In 1921 Ayer<sup>10</sup> published clinical details of a case of supernumerary body above the left testicle. Testicular sensibility was present, both globus major and globus minor were felt, and a distinct cord traced alongside of the normal as far as the internal ring. A photograph shows the body on the left of the peno-scrotal junction, and of smaller size than the normally situated testicle below.

**D. Demonstrated by Operation: No Histological Examination.**—Turner,<sup>11</sup> in 1900, recorded the case of a child aged 34 years. On the right side there was an encysted hydrocele of the cord; further down a supernumerary testicle with cord, which blended above with the spermatic cord; and lowest of all the testicle proper with hydrocele of its tunica vaginalis. In 1910 DeFranceschi<sup>12</sup> reported a case of triorchismus in a youth aged 18 years. The supernumerary body lay in the upper part of the left inguinal canal, and its cord blended with that of the normal testicle. The body was removed and showed naked-eye characters of testicular tissue, but it was mislaid before histological examination could be made. Widhalm's case<sup>13</sup> differed from the above. He reported, in 1911, a case of left-sided double testicle, the right testicle being apparently normal. On the left side were: (1) omentocoele, (2) two cysts of the cord, and (3) hydrocele of the tunica vaginalis. On opening the tunica vaginalis two testicles were found side by side, having a common epididymis and two vasa deferentia. Coudert and Deroque,<sup>14</sup> in 1924, reported an operation on a supposed strangulated left inguinal hernia in an infant aged 7 months. A violet-tinted tumour appeared, resembling strangulated testicle. The cord was dissected and showed two elements, one passing to the strangulated testicle and the other to the normal gland lower down. The supernumerary body, which was strangulated by torsion of its pedicle, was removed. It showed complete macroscopic appearances of a testicle. Histology was not completed at the time of publication (nor has it yet appeared, August, 1927).

**E. Operation and Histological Examination.**—While the demonstration by operation is a step forward towards establishing the nature of unusual scrotal contents, the authenticity of supernumerary testicle rests on histological examination. Judged by this standard I have found in the literature only eight cases which emerge satisfactorily from the test. In chronological order they are as follows:

(1) 1897. Lane.<sup>15</sup> Youth, aged 17. Cherry-sized body situated above right testicle, and suspended from spermatic cord by a pedicle. Supernumerary body removed and showed microscopically tubules in which spermatogenesis was present.

(2) 1899. Lössen<sup>16</sup> (quoted by Haas, *infra*). In right-sided hydrocele sac of man, aged 28, two bodies, one above the other, each with appearance of testicle and epididymis. Cord showing epididymal tubules united the epididymes. Single vas deferens passed off from lower pole of lower epididymis. Both testicles showed spermatogenesis.

(3) 1907. Mariotti.<sup>17</sup> In patient, aged 28, with ostensibly a large left inguinal hernia, two cords were found after opening inguinal canal. The larger cord passed to a normal epididymis, the smaller ended in a bean-sized swelling which, after removal, showed normal reddish testicular tissue supported by fibrous tissue radiating from the tunica albuginea. The fibrous tissue appeared under the microscope to be rich in cells and free from fibroblasts. (Original paper not available; above details from *Zentralbl. f. Chir.*)

(4) 1910. Lerat.<sup>18</sup> Small, nut-sized, ovoid swelling, mobile, in left inguinal canal of a boy, aged 15 years, in whose scrotum were two normally placed testicles, identical in size. The swelling was diagnosed as cyst of cord; but operation showed it to be a testicle in an open processus vaginalis, and attached by epididymis to normal spermatic cord, which traced down to normal testicle, with its own tunica vaginalis. Examination of supernumerary body showed seminiferous tubules, without spermatozooids in tubules or canal of epididymis.

(5) 1922. Haas.<sup>19</sup> In a boy, aged 9 years, with double inguinal hernia, both testicles were in respective inguinal canals. In left canal there was, in addition, a pea-like body with vas deferens distinct from that of testicle proper. Histological examination showed highly atrophic testicle and widely open epididymis. Spermatogenesis is not mentioned, and was presumably absent.

(6) 1923. Jeannin and Delater.<sup>20</sup> Left inguinal hernia and painless cyst of cord, in man aged 21 years. Both testicles in scrotum, left smaller than right. Operation showed supposed cyst to be solid, and having consistence and colour of a testicle. Epididymis and vas not identified. Histologically tissue was testicular, with active spermatogenesis.

(7) 1924. Lecène.<sup>21</sup> Patient, aged 23 years, with congenital right inguinal hernia, and with two normal well-developed testicles in scrotum. On opening hernial sac a body, size of small olive, found hanging by a slender cord from the spermatic cord 5 or 6 cm. above the testicle. Thought to be subserous lipoma; afterwards found to be a small testicle resembling an ectopic organ. Histological examination showed testicular tissue without spermatogenesis.

(8) 1925. Holder.<sup>22</sup> Patient, aged 45 years, with two normal testicles in scrotum, had acute gangrenous process in left groin. Supposed inguinal lymph gland excised and found microscopically

to be testicular tissue, with epididymis and vas deferens, and showing active spermatogenesis.

**F. Abdominal Supernumerary Testicle.**—Oudendal's case,<sup>23</sup> reported in 1922, though hardly coming within the scope of the present paper, is of interest, and may be briefly referred to. It was accidentally discovered during *post-mortem* examination on a subject, age not given, whose external genitals were apparently normal. Within the abdomen was a third testicle, depending by a stalk from the ileum about 30 cm. above the ileo-caecal valve. The body measured 18 by 21 mm., and showed the histological characters of testicular tissue. There was no vas deferens, and spermatogenesis was not observed. The accidental observation of supernumerary testicle in the abdomen was later noted by Nieberle<sup>24</sup> in the case of a gelded pig, aged about 9 months, in which nodules were scattered widely over the parietal and visceral peritoneum. Some of the larger nodules were in the mesentery of the large bowel, others were irregularly distributed. Microscopically the nodules showed the characters of testicular tissue, without spermatogenesis.

#### Remarks on the Literature.

If we confine ourselves to Class E, in which the diagnosis was confirmed by histological examination, we find only 8 cases. Of these, 5 occurred on the left and 3 on the right side. In only 4 was spermatogenesis found; it was absent in 3, and in 1 its occurrence was doubtful. As regards the type of malformation, the pedicle or cord of the supernumerary organ sprang from the spermatic cord in 3 (Lane, Lerat, Lecène); it was presumably attached to the spermatic cord in 2 (Mariotti, Haas); in 1 there was a spread-out epididymis (Lössen); and in 2 the epididymis and vas were not identified.

The occurrence of abdominal supernumerary testicle does not seem to be of clinical interest generally. It is only likely to come under notice if it be the seat of inflammation or neoplasm, and should be kept in mind as a possible finding in the course of a laparotomy.

In addition to the observation by Nieberle (*supra*) in the pig, mention should be made of Gerhartz's<sup>25</sup> two examples in frogs. In one the accessory organ discharged its secretion through the duct of the main gland; in the other the accessory had no connexion with the main organ, although the development of the sperm had reached the same stage.

As regards Class D, it is recognized that in some cases the diagnosis cannot be more than presumptive. Presumption may be strengthened by a study of the records of specimens whose authenticity has been proved by histological examination.

#### Summary.

The specimen here recorded is an example of duplication of the body of the testis. It is to be regarded as an abnormal subdivision or duplication of that part of the intermediate cell mass which gives origin to the body of the testicle. The Wolffian duct has apparently developed normally to form the vas deferens and epididymis, and the epididymis is elongated so as to serve the two separate masses of testicular tissue. Both masses show spermatogenesis—a noteworthy finding, since in a number of cases of duplication the supernumerary organ has been found defective in that respect, a condition of affairs comparable with what often occurs in ectopic testis. The specimen would seem to be similar to that of Lössen (*vide supra*), and one of the less frequent varieties.

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## THE DIAGNOSIS OF BRANCHIAL CYST;

WITH A NOTE UPON ITS REMOVAL.

BY

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It is common to find a branchial cyst mistaken for breaking-down tuberculous cervical glands. Eleven cases have come under my observation where this error had been made, and in not a few of these treatment for tuberculosis had been persisted in.

Branchial fluid, on being aspirated, looks just like tuber-



FIG. 1.—Typical branchial cyst. Note relationship to upper third of the sternomastoid.

culous pus, a coincidence which, combined with an implicit trust in the bacteriological report, is the fundamental basis of this confusion.

"No tubercle bacilli found; cultures sterile." We have rightly come to look upon this familiar report as confirmatory evidence of tubercle. But it should be borne in mind that branchial fluid is also often sterile.

In about 10 per cent. of cases tubercle bacilli are found in tuberculous pus. In such cases it would appear ridiculous to suggest the possibility of an alternative diagnosis. The following exceptional case proves the contrary. A branchial cyst was removed by operation, and its wall, subjected to histological examination, revealed stratified squamous epithelium upon a basis of lymphoid tissue. The fluid aspirated before operation, and the contents of the specimen after operation, showed numerous tubercle bacilli. Doubtless organisms can penetrate the epithelial envelope from its ensheathing lymphoid covering, which in turn is connected up with the cervical lymphatic system.

Breaking-down tuberculous glands are exceedingly common. Branchial cyst is comparatively rare. The difficulties which surround the diagnosis of the latter are admittedly formidable, but they are by no means insurmountable.

*Clinical Features.*

Branchial cyst usually makes its first appearance in early adult life. The onset is often curiously abrupt, after which the cyst begins slowly to increase in size. Recurrent attacks of inflammation in the cyst are usual.

Branchial cyst is nearly always related to the upper third

of the sterno-mastoid (Fig. 1). It is usually found coming from the deeper planes of the neck around the anterior border of this muscle.<sup>1</sup> But as the sterno-mastoid is thinned and flattened over the cyst this relationship is seldom clear until the muscle has been rendered taut.

If a swelling answering to the above description is found the absence of enlargement of the cervical glands when the neck is systematically palpated should raise in the examiner's mind the question, "Is this a branchial cyst?" This question can be promptly settled by the following simple confirmatory test.

*Confirmatory Test for Branchial Cyst.*

After the skin has been sterilized a little of the fluid

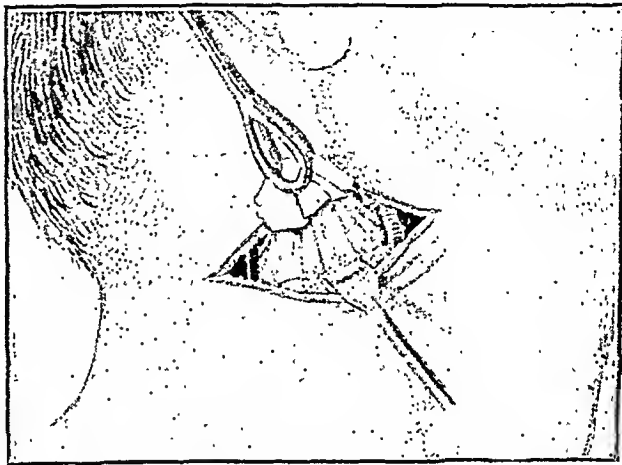


FIG. 2.—The cyst has been rendered flaccid by aspiration of half its contents, which considerably facilitates total enucleation.

is aspirated. It will usually run quite easily through a needle of an ordinary hypodermic syringe. A drop of the aspirated fluid is placed upon a slide, and covered with a cover-slip. The slide is then examined under the microscope with a one-sixth power lens. The presence of numerous cholesterol crystals at once makes the diagnosis certain. Fig. 3 is a photomicrograph of a drop of fluid removed from a branchial cyst for the purpose of confirming the diagnosis.

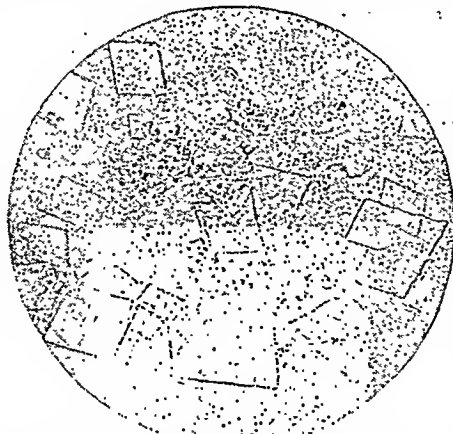


FIG. 3.—Photomicrograph of branchial fluid. The abundance of cholesterol crystals is characteristic.

*Removal of a Branchial Cyst.*

A branchial cyst should be completely removed by dissection. It may be conveniently exposed by a transverse incision following the line of the creases of the neck. Except in small, superficially placed cysts it will be found best to divide the sterno-mastoid. Beneath this muscle the spinal accessory nerve will be found bearing a constant relationship to the cyst wall. The nerve should be isolated.

Branchial cysts often run deeply into the neck, and may extend upwards as far as the base of the skull. In this respect they resemble an iceberg, for the greater bulk of the mass is beneath the surface. It is most desirable to remove the cyst intact. If the cyst bursts halfway through the operation dissection is

rendered difficult, surrounding structures become endangered, and the end-result may prove unsatisfactory, for even a small piece of secreting epithelium left behind may give rise to a sinus which persistently discharges. Complete dissection of an intact cyst is almost always possible, and the operation is very much simplified if the following technique is adopted.

After carefully cleaning the superficial aspect about half the contents of the cyst are removed by aspiration. The

puncture hole thus made is covered with a piece of gauze about the size of two postage stamps. The gauze and the cyst wall are then picked up with a pair of sponge-holding forceps (Fig. 2). The gauze minimizes leakage and prevents the forceps slipping. Gentle traction may be made with the forceps at first in this direction and then in that, and the cyst wall is cleared by gauze and blunt dissection, aided here and there by a few touches of the scalpel. As dissection proceeds and the deep parts of the cyst are reached it will be found convenient to apply a second pair of sponge-holding forceps. Using these means the intact cyst may be completely enucleated.

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## TONSIL-SUCTION FOR DIAGNOSIS AND TREATMENT.

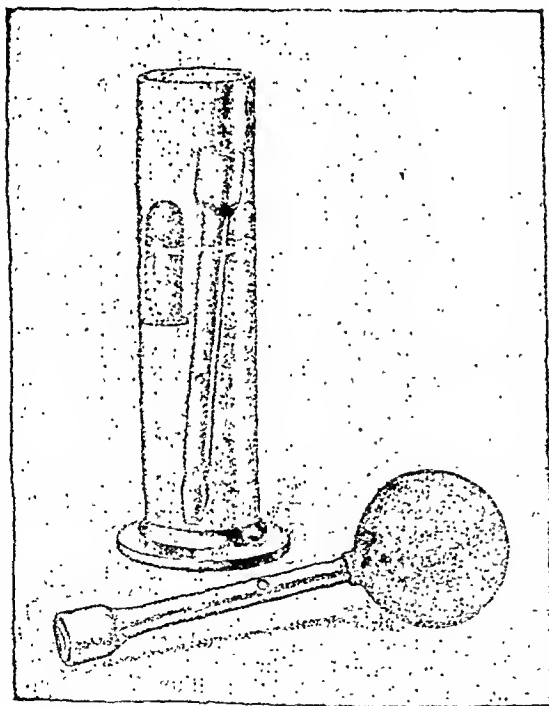
BY

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### INSTRUCTIONS FOR USE.

#### In Diagnosis.

The patient sits facing a good light and removes dentures. The diagnostic tonsil-sucker is warmed in hot water to prevent condensation. With the stem against the angle of the mouth the sucker is pressed firmly against the opposite



tonsil, the suction ball is well squeezed, and then released with the finger over the air-hole on the stem. The tonsil is thus extroverted, and any pus in its crypts is seen—yellow on the red tonsil—inside the glass funnel. The glass funnel is now given a combined pull and a slide towards the cheek, so that the pus is picked off by the incurved glass edge; excessive suction will prevent the sliding movement. This needs a little knack. Repeat to ensure that all pus is removed.

The pus can be microscoped (for polymorphs and germs), and the patient is requested to see it and smell it (it is usually offensive) in the funnel to convince that treatment is necessary.

#### The Therapeutic Tonsil-sucker.

This glass funnel is similar to the diagnostic one, but has a wider mouth, thicker rim, and its edge is not

incurved. A rubber finger-stall (medium thickness) is wetted and slipped over the glass funnel. It should form a flat diaphragm across the funnel mouth. On this the antiseptic cream is thickly spread. This is pressed against the tonsil and strong suction applied. The crypts of the extroverted tonsil are thus thickly smeared with the antiseptic cream. Pressure is then relaxed (by opening the vent-hole); the tonsil subsides into its usual shape, carrying the antiseptic into the crypts and spaces from which the pus has been evacuated. This manoeuvre should be repeated thrice in rapid succession before withdrawal.

After use the glass funnels should be cleaned and kept in the glass jar of weak carbolic provided. The rubber ball acts as stopper to the jar. The finger-stalls can also be cleaned and kept in this solution, and used again. For more rapid sterilization I use a saucepan.

The antiseptic cream contains mercury oleate, bismuth, kerosene (for its creeping qualities), and vanishing cream. Better formulae are being searched for.

As an extra safeguard, the portion of the glass tube which enters the patient's mouth is enclosed in a sleeve of rubber tubing.

Treatment is repeated at least once a week until no more pus is found. Then the interval can be lengthened to 10, 14, 21, or 28 days. The course is usually longer in older patients than in younger, though the health may be benefited long before the pus is all gone. Tiredness, pallor, anorexia, rheumatism, and other subinfective toxic symptoms often quickly disappear. In quinsy and acute tonsillitis it will probably be found that septic fluid can be sucked out and tension relieved with a larger glass funnel having a layer of cambric tied flat across its mouth.

### Illustrative Cases.

#### CASE I.

Dr. N., aged 35. Had bad tonsillitis after sleeping in a damp bed in 1919.

Tonsillitis recurred with rheumatic pain and swelling in ankles, finger-joints, and back in March, 1927. I saw him first five months later; the fingers and ankles were still swollen, with flat feet. Though the tonsils looked normal I could suck liquid pus out of them having the same smell as the nasty taste he was getting. This pus was largely composed of polymorphs, with only a few pneumococci, bacilli, and diplococci.

At first I cleaned the tonsils twice a week by suction, later weekly, then monthly, and left various antiseptics in the crypts—for example, thymol iodide and kerosene, bipp, iodoform and kerosene, and ung. hydrarg. molle. The amount of pus rapidly diminished, and in about two months there was little or none. His rheumatism also quickly diminished, and he was able to do his practice throughout.

On December 20th he reported himself as very well and without rheumatism; the tonsils contained no pus and remain free (May 2nd). He can taste iodoform when he drinks anything hot eight hours after treatment, proving that the antiseptic is buried in the crypts. He thinks this diagnostic and therapeutic method has a great future.

#### CASE II.

Miss M., aged 32. Had poor health with frequent colds, sore throats, and abdominal pains and occasional rheumatism. In November, 1925, beads of cheesy pus were sucked from both tonsils. On December 20th there was no pus. In December, 1926, two beads of pus were found in the left tonsil. In April, 1927, she could squeeze beads of foul pus from her tonsils and could feel it accumulating. In May I started treating the tonsils by suction with euthymol and aristol. In July (eight treatments) her rheumatism had gone and the tonsils were almost clear of pus, but her adenoids were still sore and dirty. In September she had to have her adenoids out, and obviously this opportunity of removing the tonsils had to be taken, though they were clear of pus both by suction and in microscopic section.

#### CASE III.

Mrs. A., aged 57, had suffered from rheumatic neuritis in the left arm for three years. Had "always" had rheumatism in the hands and ankles, and frequent pain and swelling in the tonsillar glands. Had quinsies twenty years ago, and all teeth extracted ten years ago. Her father was crippled with rheumatism for twenty years. Pus was sucked from the tonsils. Suction treatment was started on June 22nd (menthol, aristol, calomel, glycerin). After nine treatments (September 2nd) there was no pus in the left tonsil and the glands had ceased to swell. She looked well, but was still rheumatic.

Between September 27th and October 11th she was given three injections of contramine. On October 18th the pus in the right tonsil was nearly all epithelial debris; there were no polymorphs. On November 1st the rheumatism was wonderfully easier, and on November 29th there was no pus in either right or left tonsil.

On January 3rd, 1928, friends remarked on the wonderful change



in her condition. On January 29th she had mild cholecystitis, which soon yielded to hexamine. There was a little pus on the right tonsil and slight rheumatism in the left shoulder, but nothing like it used to be.

The chronic ill health and rheumatism of this patient was certainly very greatly improved *pari passu* with improvement in the tonsils.

#### CASE IV.

Miss P., aged 23. This patient had chronic appendicitis. Pus was cleared from her tonsils in seven treatments during two months without influencing the kinked appendix, which was excised as soon as it was convicted. After an untreated interval of three and a half months the tonsils were still clear of pus.

#### CASE V.

Miss H., aged 25, was a keen athlete, but now too tired, even in the morning, for anything. She had tuberculous dacrylitis as a child. There was offensive pus in both tonsils. I thought her tiredness was due to septic absorption, presumably from the tonsils. The pus contained few polymorphs; no pathogenic germs were recognized. On November 26th treatment by tonsil-suction (iodoform, bismuth, and kerosene) was started. After much rest and five treatments she was much better and could skate; there was still slight pus in the right tonsil. On February 1st the tonsils were clean. Ten days later there was a little pus, but her health was better than it had been for six months. On March 30th she said she was "never tired"; there was very slight pus in the right tonsil.

Besides rest, this patient had no other treatment except (later) ultra-violet rays and arsenic, so that it looks as if her ill health had been due to septic tonsils.

#### CASE VI.

A woman, aged 50, with seven months' constant asthma, which promptly vanished with one cleaning of the tonsils, and the pus almost cleared up in three treatments.

Two other severe and very chronic asthmatics (complicated) also not benefited (so far).

#### CONCLUSIONS (PROVISIONAL).

Although pus may be demonstrated by this method in many young adults in good health, yet it can hardly be doubted that, when they get older—to the fibrositis age—and less resistant, the infection will accumulate and conquer their resistance, and they will get rheumatism in some form.

I have been using tonsil-suction diagnostically for three years, and should estimate that in patients with fibrositis pus can thus be demonstrated in their tonsils in 90 to 95 per cent. of cases, acting as a focus of subinfection. The tonsils may look quite normal and yet contain pus. The ordinary method of expressing pus with a spatula may be far more painful; one patient said it was agonizing, whereas my method was merely unpleasant. It is a more searching method, and the pus can be seen (and smelt) by the patient. That is an important advantage. If there are infected teeth or sinuses these should first be put right, as the tonsils may then clear themselves.

The method needs trying on a much larger scale and bacteriologically. I have been almost limited to private patients in a consulting practice; so that in these six patients alone has the treatment had a proper trial, except in one lady of 57, where the issue was confused.

In the septic tonsils of adults, the risk of serious hæmorrhage after tonsillectomy should be minimized by a preliminary course of tonsil cleaning by suction.

The method is at any rate quite harmless; two of my cases indicate the importance of cleaning the tonsils after a quinsy (or tonsillitis?) and seeing that they remain clean. Six to twelve treatments have usually cleared the tonsils of pus.

My plan is to make the intervals longer as soon as pus ceases to be found; but I cannot yet say whether a few treatments annually will be necessary to keep the tonsils free from pus. Perhaps better pastes will be more effective. Evidently tonsillectomy is the best cure when possible and safe; but in adults it is practically a major operation, and in many patients it is out of the question. Painting tonsils containing deep pus is evidently fatuous. Hence an alternative is most desirable, and seems to be provided by this method, which is available to the general practitioner.

The glass funnels are much more subtle than they look—like golf clubs—and I have had to stand long over the very skilful glass-blower to get them right. Messrs. Roynolds and Branson, Leeds, are the makers.

## INTRATRACHEAL INHALATION AND INSUFFLATION OF CHLOROFORM BY MEANS OF A FLEXIBLE METAL CATHETER.

BY

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Some fifteen years ago I wrote a paper on the intratracheal insufflation of chloroform by means of a gum-elastic catheter. This catheter did not last long, and had to be continually replaced. For some time now, however, Mr. W. S. Kerr, honorary surgeon to the nose, ear, and throat department of the Royal Infirmary, Sheffield, and I have used, instead of the gum-elastic catheter, one made for the most part of flexible metal, and this has given every satisfaction to both the surgeon and the anaesthetist.

The method of administration differs somewhat from the old procedure. The instruments used include a flexible metal catheter, an adapter, a Junker's apparatus, complete with tubes and bellows, and an anaesthetic mask for induction.

The flexible metal catheter is made by Mayer and Phelps in two sizes, No. 12 and No. 16; it is rigid at either end for about two inches, the remaining part being flexible. (See figure.) The internal non-flexible part has an opening at the side, in addition to the end opening. The external non-flexible part, which during action is wholly outside the mouth, is a copy of the internal, except that the external end is somewhat funnel-shaped. The openings at the side are of the same lumen as the catheter, or possibly slightly larger. A blunt metal stylet is provided, the length of which is less than the length of the catheter; this provides rigidity to the catheter during introduction.

The metal adapter (see figure) is made to fit into the funnel-shaped end of the catheter by one end, whilst the other end is attached to the rubber exit tube of the Junker apparatus. The lumen of the adapter is either No. 12 or No. 16 catheter size, according to which size is in use. One Junker's apparatus has all its tubes No. 12 catheter size, and the other all its tubes No. 16 catheter size, for employment with the appropriate size of catheter.

The following method is adopted to induce and maintain anaesthesia.

Preliminary medication is by means of morphine and atropine, which should be injected at least half an hour before induction is commenced. Anaesthesia is induced by means of chloroform dropped on to a mask; this should be fairly deep, because otherwise the patient may come round during the introduction of the catheter into the trachea. When the patient is fully anaesthetized the catheter is at once introduced into the trachea with the aid of a bronchoscope, the stylet being within the catheter.

The catheter having been introduced through the vocal cords, the stylet is at once withdrawn and the catheter attached, by means of the adapter, to the rubber exit tube of the Junker apparatus. There may be some coughing at this stage if the patient has not been sufficiently anaesthetized, but this can soon be remedied by placing the finger over the hole in the rigid portion of the catheter outside the mouth and pumping chloroform vapour into the lungs by means of the bellows of the Junker apparatus. I usually at this stage give three pumps with the bellows, while my finger is over the hole, and then remove my finger so that the patient may have a breath of air, and repeat this procedure until the patient is again completely anaesthetized. I do not think there is any danger, at this stage, to the alveoli from excess pressure by this pumping, as there is plenty of room outside the catheter in the trachea to act as a safety valve.

The surgeon now completely plugs the throat around the



catheter with sponges, so that the alveoli now get the full effect of any excess pressure from the bellows, which must be used, therefore, very lightly. In practice it will be found that as soon as the sponges have been placed in position the pumping of chloroform vapour into the lungs is no longer necessary, as the patient will draw chloroform vapour through the Junker apparatus on inspiration, when the finger is placed over the external hole in the catheter. I therefore remove the bellows from the Junker apparatus, and the patient inspires chloroform or air as desired by the anaesthetist. The anaesthetist must never forget that he now has that which the patient breathes absolutely under his control, just as is the case in the administration of nitrous oxide and oxygen. He has therefore to find out the ratio of air to chloroform vapour required by each patient to keep them in a satisfactory stage of maintenance.

I usually start, when the stage of maintenance has been reached, with three inspirations of chloroform vapour inhaled by the patient through the Junker apparatus to one inspiration of air inhaled through the side opening in the catheter outside the mouth; in other words, the finger is placed over the side opening in the catheter while the patient takes three inspirations of chloroform vapour, and the finger is taken away from the opening whilst the patient takes one inspiration of air. What actually happens when the finger is taken away from the opening, after the three inspirations of chloroform vapour, is that an expiration is the immediate result, followed by an inspiration of air, then another expiration through the opening, and then the finger is again placed over it to permit the three inspirations of chloroform vapour, and so on. This I find is the average ratio of chloroform to air which suffices to keep a patient in the stage of maintenance and in a good condition. Some patients, however, require more air to keep their blood a good colour than others, and, on the other hand, there are some who require a

bigger proportion of chloroform vapour to air to keep them fully anaesthetized. The deeper the anaesthesia the lighter the breathing, and the lighter the anaesthesia the deeper the breathing during the stage of maintenance.

The anaesthetist should keep a constant watch on his Junker bottle, in order that he may note the force with which the chloroform vapour is drawn through. This is a most excellent index of the force and depth of the patient's inspirations. Should the bubbling of vapour through the Junker become light I invariably take this as an indication that the patient requires more air, and accordingly see that he has it.

The advantages of this method are:

1. The maintenance of a perfectly clear airway.
2. The prevention of blood entering the air passages owing to the complete plugging of the throat around the catheter.
3. The absolute control of the amount of anaesthetic inhaled by the patient.
4. The patient inhales at each inspiration, by his own efforts, the amount of anaesthetic or air which the anaesthetist thinks he requires. Pumping by means of the Junker bellows is dispensed with.

This variety of anaesthesia is undoubtedly the best method to adopt in all operations on the upper jaw or nose, and I have not the slightest doubt that anaesthetists who use it will be pleased with the result.

Mr. W. S. Kerr, at whose suggestion the flexible metal catheter was made, and at whose request I have written this paper, is very well satisfied with the results from the surgeon's point of view. My thanks are due to him for suggestions given to me in compiling this paper, and also to Messrs. Mayer and Phelps for making the catheter and adapter.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### CONGENITAL HEART-BLOCK.

The occurrence of two cases of congenital heart-block in one family is so unusual as to deserve being placed on record.

A married woman, aged 21, was delivered of her first child, a female, in 1922. This child has been under my observation since birth; her ventricular heart rate has varied from 40 to 60 beats a minute, and the pulse has always been regular in force and rhythm. During the first few years of life the child lacked energy, and was cyanosed at times, particularly in cold weather; she walked slowly, refused to be hurried, never ran, and was quite content to lie still for long periods. This state of affairs gradually disappeared, and now, at the age of 6, she appears to the casual observer as an ordinary healthy child, able to run about and up hills with no more distress than the average child. There is now no cyanosis. The ventricular heart beat when last noted was 42, and regular in force and rhythm. The cardiac dullness is increased to the left, and the apex beat is in the fifth space, one inch outside the mid-clavicular line. On walking up and down stairs three times the ventricular beat remained regular and did not alter; there was no apparent increase in the cardiac dullness, and the only effect of this exertion was a slight temporary increase in the respiratory rate. The systolic blood pressure is now 115 mm. Hg; I have not been able yet to determine the diastolic pressure in this child owing to the small size of the arteries at her age.

The heart has apparently accommodated for its slow beat by an increase in size and force of beat sufficient for the present for all ordinary purposes, but it would appear wise to conserve energy by avoiding as far as possible undue stress.

Subsequent to the birth of this child two normal boys were born, each at an interval of two years. In March, when examining the mother, who was eight months pregnant, I noted the foetal heart rate was 39; at subsequent examinations the rate varied between 40 and 60. A female infant was born normally on March 17th. Immediately after birth the pulsation of the cord was 63 and slightly irregular, with occasional forcible beats; this soon steadied to a regular even rate of 48. The baby cried strongly; its weight at birth was 7 lb. There are at present no murmurs, no evident enlargement of the heart, and no cyanosis, but the mother states that there were frequent attacks of blueness during the first fortnight. At the age of 1 month the baby is doing well and appears normal, except for the ventricular heart rate. There have been no miscarriages. The mother suffers from

Mikulicz's disease—a chronic swelling of the parotid glands with occasional severe attacks of swelling of all the salivary glands, for no particular reason, but so severe as to need morphine for the relief of the pain. She is slightly deaf as the result of middle-ear disease in childhood, but is otherwise healthy. The father is normal, except for the loss of a leg, the result of war wounds. There is no history or evidence of any venereal disease, and no history of heart trouble among the relations.

Apparently the development of congenital heart-block, or perhaps the failure to develop normal conductivity, is developmental in origin, and it is pure coincidence that two cases of such a rare disease as congenital heart-block have occurred in the same family.

R. D. AYLWARD, M.R.C.S., L.R.C.P.

Tunbridge Wells.

#### A CASE OF SOMATIC TAENIASIS.

DR. ROBERT HUTCHISON, on March 3rd, 1928 (p. 335), warned us against diagnosing rarities, but they do sometimes occur, as is shown by the following report of a case of generalized tapeworm infection.

A strong young man became an invalid, his first complaint being severe headache. Malaria was thought of and eliminated, but early pernicious anaemia was considered possible. The patient then said that his fingers and thumbs tingled, and pains ran down his legs; he staggered when he walked. As there was nothing to account for his symptoms he was thought to be malingering, but he then became really ill. His left leg swelled and his temperature rose, but after a few days he recovered. He commenced work, but shortly afterwards had a fit. These fits recurred and were thought to be hysterical, but I doubted this etiology. His speech became hesitating. He looked at times an invalid, but at other times I saw him walking briskly and normally. He then brought to my notice some lumps under his skin, which were tender and about the size of a large pea. I thought that these lumps might clear up the mystery of his disease. I was asked to certify him as insane, but at my examination I discovered he had double vision, and so I decided that the case was physical, not mental, and this despite the fact that he had auditory hallucinations. At length a lump was excised, and examined. The pathologist reported that it was a cyst containing larval worms, probably the cysticercus stage of pork tapeworms.

Thus the mystery was solved; it was a case of visceral cestodes. The rarity of this condition is mentioned in the article on diseases caused by cestodes in Osler's *Textbook*

of Medicine. The diagnostic difficulty was considerable; in one of his "fits" the patient presented the appearance of a case of acute heart failure. Had a lump been examined in 1922, when the patient was in the army, there would never have been any mystery. Probably they were taken for fatty tumours, which, I am told, are sometimes tender.

Kilnhurst, near Rotherham.

C. J. HILL AITKEN, M.D.

## PROFUSE HAEMATEMESIS SECONDARY TO AORTIC AND MITRAL INCOMPETENCE.

THE case here recorded is, I think, of sufficient interest to warrant publication.

I was called one evening to a boy, aged 16, whom I found rather collapsed. Beside the bed was a pail containing about eight ounces of dark clotted blood. The haematemesis, I was told, had followed exertion; the patient had attempted to push a tram of coal, and immediately felt faint, and later began to vomit blood. He complained of little pain. He had never previously complained of epigastric pain, and had never suffered from discomfort or vomiting after food. I had treated him for aortic and mitral disease, following rheumatic fever. There was no history of haemophilia.

The temperature was 98° F. and the pulse (100) of Corrigan type. Epigastric pulsation was marked. There was no marked tenderness or rigidity in the epigastrium, and no tenderness anywhere. The lungs were clear. The heart apex was in the sixth interspace in the nipple line. A mitral systolic murmur, conducted to the axilla, was heard, and also an aortic diastolic in the second right interspace; it was conducted down, and was heard loudest in the mid-line in the fourth interspace.

During the examination the patient had another attack of vomiting, consisting of dark clotted blood and mucus, amounting to about a pint, and complained of feeling faint. I administered morphine hypodermically, and ordered ice to suck, pending removal to hospital. About half an hour later, in my presence, he again vomited a large quantity of blood (a pint to a pint and a half). Two hours after removal to hospital he vomited six ounces of blood. He was collapsed, the pulse 160, small and thready, the temperature 97° F., and the respiration sighing.

Rectal salines were administered every three hours, morphine hypodermically, and ice to suck. The patient revived a little, but was very restless. Next day he again vomited a small quantity of blood-streaked mucus. The systolic blood pressure was 100 mm. of mercury, and the diastolic 40 mm.; pulse pressure 60. Normal horse serum was injected, with morphine, and salines by the rectum every six hours. On the third day a radiograph was taken, but showed nothing abnormal.

Vomiting ceased after the second day, but the stools remained tarry for eight days after admission to hospital. The patient was given nutrient enemata as long as melaena persisted, and nothing by the mouth except ice to suck. After the eighth day milk combined with barley water and calcium lactate was given, and this was followed later by milk puddings and fish. He had no discomfort. A fractional test meal revealed no degree of hyperchlorhydria.

An uninterrupted recovery followed. The patient was discharged at the end of the third week. Before discharge another radiograph was taken, but nothing was observed apart from slight dilatation of the stomach.

Since discharge the patient has never felt better; he has regained a stone in weight, does not complain of any discomfort, the murmurs have become less marked, and the pulse slower, but still of Corrigan type, yet not so markedly water-hammer as before the haemorrhage occurred.

It may be worth while to mention that a claim was lodged by the patient under the Workmen's Compensation Act, but compensation was not granted.

Cwm, Monmouthshire.

F. O'SULLIVAN, M.B., B.Ch.

## British Medical Association.

### CLINICAL AND SCIENTIFIC PROCEEDINGS.

#### CAMBERWELL DIVISION.

At a meeting of the Camberwell Division of the British Medical Association, held at the St. Giles's Hospital, Camberwell, on April 24th, a discussion was opened by Dr. GUY BOUSFIELD on methods of combating diphtheria.

#### Diphtheria in Camberwell.

Dr. GRAHAM FORBES gave a survey, illustrated by charts, of the prevalence and incidence of diphtheria in Camberwell during the ten years 1918-27, dealing particularly with the

\* Dr. Graham Forbes last year gave a similar account of diphtheria in Hampstead, a summary of which was published on June 25th, 1927 (p. 1144).

incidence in the elementary schools. Diphtheria notifications in the borough, he stated, numbered 8,120 for all ages in this period, equal to an average attack rate of 3.03 per 1,000 (taking the 1921 census population), as compared with an average attack rate of 2.7 per 1,000 for all London. There were included in this total 2,632 cases under 5 years (attack rate 11.0 per 1,000) and 4,200 cases between 5 and 15 years (attack rate 8.0 per 1,000); for the combined age group under 15 years the Camberwell attack rate was 9 per 1,000, or slightly above the London attack rate for the decade of 8.7 per 1,000.

During the ten-year period the average annual death rate from diphtheria for all ages in the borough was 1.84 per 10,000, the rate for all London being 1.64 per 10,000. The average yearly death rate in the Camberwell age groups under 15 years was 6.2 per 10,000, against 6.0 per 10,000 for all London. In 1923, the year of heaviest diphtheria mortality in Camberwell, the case mortality was as high as 20.6 per cent. among children under 5, being 5.1 per cent. in the age group 5 to 15 years, and 8.2 per cent. for all ages. In 1927 the percentages had fallen to 4.2 in the age group under 5, 2.9 in the age group 5 to 15, and 3.16 for all ages. The year of the heaviest case mortality for all London was 1922, when it amounted to 7.4 per cent.

#### Incidence among School Children.

Comparing the attack rates in the school population, Dr. Graham Forbes showed that there had been a considerable divergence between the experience of Camberwell and that of London as a whole, but that as a rule the incidence had been higher in the borough. The average annual attack rate in Camberwell schools in the decade was 7.36 per 1,000, as compared with a mean rate of 6.8 per 1,000 for all London. The disease had fallen far more heavily upon children in the infant departments (between 4 or 5 and 6 or 7 years), with an average annual attack rate of 12.45 per 1,000; among children aged 7 to 13 years the average in 1918-27 was 4.69 per 1,000. Among older children the incidence of diphtheria in Camberwell had maintained a fairly constant level, but among infants the attack rate had fluctuated between 6.7 per 1,000 in 1919 and 18.9 per 1,000 in 1926. The steady rise in the school incidence from 1921 to 1926 had been almost confined to the infant departments, where in 1927, although there had been a considerable fall in the incidence for all ages, the attack rate was still at the high figure of 15.38 per 1,000.

#### Distribution of Diphtheria in Camberwell.

Study of the incidence in the four electoral areas into which the borough was divided, when viewed separately for the ten-year period, helped to focus local outbreaks peculiar to each of the four areas and their occurrence in the different years, as well as to show the extent to which prevalence had varied in each area, corresponding, it had been found, with the degree of population density. Those differences were displayed in the following table, arranged in order of highest school incidence and population density.

School Attack Rates per 1,000 School Population, 1918-27.

Area.	Camberwell North.	Peckham.	Camberwell North-West.	Dulwich.	Whole Boro.
Yearly average:					
Infants ... ..	13.4	13.2	12.5	9.4	12.45
Boys and girls ..	5.3	4.3	4.2	4.7	4.69
Combined ... ..	8.2	7.4	7.0	6.3	7.36
Population density*	177	125	120	60	105

\* Number of persons of all ages per residential acre.

Dr. Forbes said he need not dwell on the obvious significance of the heavy toll levied among children of the infant departments. The facts spoke for themselves, and pointed to the need for the fuller use of the means of protection at that susceptible period of life such as was being offered to parents at the infant welfare centre in Camberwell. He wished, in conclusion, to endorse the remarks of Dr. Bousfield with regard

to the value and importance of the Schick test and diphtheria immunization as the means of prevention, before which all other measures of controlling the spread of the disease hitherto available to the medical officer of health became insignificant and futile.

#### *Progress in Preventive Work.*

It was most encouraging to watch the progress of the new preventive work in London, and to note that, whereas eighteen months ago only two out of the twenty-nine metropolitan boroughs had introduced it in their infant welfare centres (Holborn and Westminster), there were now no fewer than twelve or thirteen boroughs which had begun or were shortly to begin the work. Others were recognizing its necessity as time went on. In Camberwell, as they were fully aware, Dr. H. W. Barnes, the medical officer of health, was successful in obtaining the sanction of his council to start preventive work in the welfare centre at 140, Camberwell Road in December, 1926, since when Dr. Bousfield had immunized some 1,200 children in the whole borough. That number represented only about one-twentieth of the most susceptible child population in Camberwell under the age of 5 years, and it would obviously be entirely premature to expect any influence on the general incidence and mortality of diphtheria from the immunization of so small a proportion of the unprotected children in the borough. In the protection against diphtheria, before any effect on the attack and death rates in a community could be claimed or expected, it was necessary to achieve the immunization of at least the majority of those susceptible, and to allow considerable time to elapse before conclusions could be drawn. Even in New York, where so much preventive work had been carried out and over 500,000 children had been inoculated in the past ten years, there remained over a million children non-immunized and mainly of pre-school age. Consequently it was not surprising that in the marked recrudescence and severity of the disease which 1927 had provided in the United States there should have occurred a rise in the diphtheria incidence and mortality above those of recent years, with so large a proportion of the child population in New York and other cities still unprotected. Immunization among the restricted populations in residential schools, institutions, and hospitals in Great Britain and other countries of the world had, however, afforded sufficiently sure results on which to rely when emphasizing its value and advocating its adoption and extension.

The employment in Great Britain for some years past of "toxoid-antitoxin," and now "toxoid," in which the toxin had, by exposure to the action of formalin, been rendered harmless but still potent to excite immunity response, had replaced the earlier use of toxin-antitoxin, and safely insured against such rare accidents as had occurred in the past in other countries where the latter was still being used. Notably was this the case with the recent disastrous events at Bundaberg in Queensland, the cause of which was still under investigation by the special commission.

## Reports of Societies.

### NARCOLEPSY.

At a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on May 12th the President, Dr. G. E. NESBITT, showed a woman, aged 29, married, with three healthy children, who exhibited typical symptoms of the remarkable conditions known as narcolepsy.

Dr. Nesbitt said that he was indebted to Kinnier Wilson, whose graphic description of three cases he had heard last year, for ability to recognize this case. The patient presented herself at his out-patient department with a history of five or six years of attacks of "loss of power in herself," during which she became excited or laughed. These attacks were followed by an uncontrollable desire to sleep. She had had no illness of importance till she contracted influenza during the 1918-19 epidemic. Some time afterwards she struck the top of her head violently against the frame of a low door. This was followed by almost constant pain in the head, which she described as "terrible," and which was

said to have been relieved last year by a visit to a holy well. Soon after the injury the other attacks began, and had persisted since. Dr. Nesbitt added that the patient was a very intelligent woman; she gave a most picturesque and striking account of her curious affection, which she had previously despaired of making anyone understand, and she also quite appreciated its occasionally humorous aspect. A strong emotion, particularly laughter or mental absorption, but not fright, caused her to "flop" in a heap; her eyes shut and her head dropped. She lost all power in her limbs, and behaved "like an infant child when you stand it on the ground." Before she actually fell to the ground the attack passed off, but it recurred quickly, each time more severely. She finally had to sit down on the footpath or wherever she happened to be, and had the greatest difficulty in getting home. She felt exhausted and must get home to sleep, which she did for a variable period up to several hours. She had difficulty in rousing herself if she was disturbed during this sleep, but could do so by a strong effort. If awakened too soon there would be another attack. She sometimes suffered from attacks when she went to bed at night, but these were slightly different in character from the day attacks, probably due to the fact that she was already in bed. When the attacks occurred in the daytime she did not have them at night, and she was not able to bring one on voluntarily. No abnormal physical signs had been so far detected in the case, which appeared to be one of the so-called idiopathic narcolepsy. Some theories of the disease were then discussed by Dr. Nesbitt, including its relation to Parlor's theory of sleep. He added that an excellent summary was to be found in *Brain*, Part 3, vol. xlix (1926) by W. J. ADIE, who stated that the published cases numbered only about forty in all.

Dr. E. T. FREEMAN referred to a paper, by Sir James Purves-Stewart, in which it was suggested that the pituitary gland had some connexion with narcolepsy. Dr. BRIAN CRICHTON mentioned the case of a girl whose father had contracted encephalitis lethargica; about six months later she had developed curious symptoms. When amused she was unable to control the facial muscles, and she constantly dropped asleep while sitting in a chair. He raised the question of prognosis in these cases. Dr. C. MURPHY, referring to treatment, asked if Dr. Nesbitt thought that bromide and luminal, which were so efficacious in the treatment of cases of epilepsy, would be useful in cases of narcolepsy.

The PRESIDENT, replying, said that he thought Dr. Crichton's case was one of narcolepsy. The treatment was very unsatisfactory. Bromide, luminal, and all medications for epilepsy were unavailing, and treatment by suggestion also was useless. He had recently read of a case which had been treated by strychnine, opium, and caffeine, but without any effect.

### *Congenital Pyloric Stenosis.*

Dr. BRIAN CRICHTON read notes on a case of congenital pyloric stenosis, and showed x-ray photographs.

Mr. W. PRANSON, who had operated on the patient, said that there were two types of stenosis; in one the pylorus was very thick, pale, and vascular, and in the other there was no thickening of the pylorus and no enlargement, but the lumen was thick. In the present instance the pylorus had been situated right up in the liver, and lay very far back. Surgery in this condition had not, until recent years, been very satisfactory, and a great many different surgical procedures had been adopted from time to time. The most recent operation was that of Ramstedt, which was simple to perform. The patient had vomited for a few days after the operation, had then passed a mass of barium per rectum, and had not vomited again. He thought that it would have been wiser to have washed out the stomach before the operation, and got rid of the barium.

The PRESIDENT inquired about the operative mortality associated with this condition, as he thought that in a large proportion of cases the operation was not successful. Referring to the alternative treatment—Javage—he asked what action was to be expected from it except emptying the stomach.

Dr. C. M. SAUNDERS referred to a case with visible peristalsis and constipation which had been treated on medical lines. The patient had been given fluid by the rectum, and intraperitoneally with atropine and adrenalin; after about three months' treatment she recovered completely.

Dr. D. J. CANNON said that he had only operated on one case of congenital pyloric stenosis. In this case he had performed a gastro-enterostomy, and the child had died. He referred to a book by Dr. Barrington-Ward, in which there was a chapter on pyloric stenosis; it was stated that from 1907 to 1917 the medical mortality was 80 per cent., and that in 1925 the surgical mortality was 25 per cent., but in 1926 it had fallen to 4 per cent. It was also advised that patients should have gastric lavage and infusions of 5 per cent. glucose before operation, and that gas and oxygen should be used as the anaesthetic. He referred to the danger of intraperitoneal haemorrhage in these cases.

Dr. CHERTON, replying, said that the mortality in Scotland was 44 per cent. for both medical and surgical treatment. He thought that Dr. Still's figures were more favourable for medical treatment. If the child was seen in time, and was in a good condition, he thought that the chances of recovery by medical treatment were very favourable, but it must be realized that medical treatment including two washings out daily, and some children did not stand this well. It must also be remembered that with medical treatment some time was required to achieve a satisfactory result. The surgical mortality in these cases had fallen considerably in recent years.

Mr. PEARSON, replying, said that if a case was going downhill on medical treatment he thought it was a great mistake to wait till the patient was moribund before operating. Some of these cases had been operated on under spinal anaesthesia, but he thought that this method would be dangerous.

#### *Pituitary Infantilism.*

Dr. E. T. FREEMAN showed a case of pituitary infantilism of Lorain-Levi type.

Dr. Freeman said that this patient, who was a woman, aged 23, was 4 ft. 7 in. tall, with the general appearance and physical development of a child of 10 years old. She presented the following features: (1) Skeletal undergrowth—the body was of childish stature and ossification, but its parts were in due proportion, except the nose, which was remarkable for its size and aquilineity; (2) genital infantilism; (3) absence of adiposity; (4) normal or perhaps a slightly low sugar tolerance curve; (5) very small sella turcica; (6) normal basal metabolic rate; (7) normal renal efficiency (blood urea 28 mg. per cent., uric acid 3.3 mg. per cent.); (8) no persistence of the thymus; and (9) a very severe anaemia. Dr. Freeman remarked that the first three features were constant and characteristic findings in the condition. The fourth showed normal or perhaps slightly decreased action of the posterior lobe of the pituitary. The fifth was variable, as a large sella might be the site of a cyst which the gland had atrophied. The sixth was investigated to exclude a thyroid factor, the seventh to exclude the possibility of renal dwarfism, the eighth to exclude lymphatism, while the ninth was apparently a complication. When the patient was first seen pallor was the outstanding feature, and she had 3,300,000 red cells per c.mm. with 33 per cent. haemoglobin; on treatment with iron, arsenic, and liver the red cells improved to 4,650,000 and the haemoglobin to 45 per cent. The speaker added that it was an interesting speculation how far the anaemia might be responsible for the underdevelopment, but five months' treatment, while improving the anaemia, had not altered the height or weight in any degree. He thought that the anaemia was partly attributable to the fact that the patient scarcely ever left the house.

The PRESIDENT asked what was the expectation of life in these cases, and Dr. C. MURPHY asked if there had been any change in the patient's mental condition.

Dr. FREEMAN, in replying, said that these patients seldom lived very long. Some of them died within three to five years, but in such cases there was supposed to be some focal abnormality. The present patient's mentality was normal.

## STREPTOCOCCAL CELLULITIS.

At a clinical meeting of the Devon and Exeter Medical-Chirurgical Society on April 26th, with the president, Mr. A. L. CANDLER, in the chair, Mr. WAYLAND SMITH showed a case of streptococcal cellulitis occurring in a farmer aged 35.

Mr. Wayland Smith said that the patient had been admitted to hospital with a septic wound on the back of the left hand, cellulitis of the arm, and a temperature of 103° F. Localized abscesses formed subsequently in the arm and axilla, and cultures from the pus yielded a medium chained streptococcus; the blood culture was negative. One month later the man complained of sudden pain and swelling in the right ankle and wrist, and there had since been limitation of movements in the wrist and fingers. Mr. Wayland Smith remarked that the condition in this hand had not been unlike that met with in tenosynovitis of gonococcal origin, and there had been no sign of pus formation. A special feature of this case was the tendency to flare up after all the inflammatory symptoms had apparently subsided. The intense toxæmia, as evidenced by deep cyanosis and delirium, was also worthy of note. At the present time the wounded hand was actually in a better condition than the other. Mr. Wayland Smith emphasized the importance, from the point of view of prognosis, of identifying the type of streptococcus in these cases. He added that as regards treatment he was now relying on massage and radiant heat.

The PRESIDENT recalled Rosemayer's work on gall-bladder infections in connexion with the selective properties of the various streptococci. He quoted experiments in which organisms recovered from an inflamed gall-bladder, and also from a gastric ulcer, had produced similar lesions when injected into a dog. Mr. Candler commented also on the treatment of the present patient, and said he would be very unwilling to wrench the joints under an anaesthetic.

#### *Clinical Cases.*

Dr. JACKSON showed a case of tumour of the left cerebello-pontine area. Decompression had been performed by Mr. Worthington and the patient was now in fair health. Dr. W. GORRAN discussed tumours of the auditory nerve and the very low malignancy which was a characteristic feature. He commented on the wisdom of trephining on the left side as in the present case, so as to avoid disturbance of Broca's convolution. He also cited cases illustrating depression as a means of preservation of sight. Dr. FAYLE SEALE showed three cases of infantilism of Mongoloid type; Dr. EAGEN and Dr. GORRAN discussed the value of thyroid treatment in this condition in conjunction with the necessary institutional supervision. Dr. SEALE also showed a case of "hormonal imbalance" in a girl, aged 14, who had enlarged glands in the neck and premature sexual development, menstruation having commenced at the age of 10. Other diagnoses suggested were Hodgkin's disease and tuberculosis of the suprarenals. Mr. B. DYBALL showed a case of hydronephrosis in a man aged 28. A radiogram revealed the right renal pelvis as being twice the normal size. At the operation it was found that the pelvis of the kidney was covered with a leath of varicose vessels. Mr. Dyball also showed a doubtful case of abdominal tumour in which the diagnosis lay between aneurysm of the abdominal aorta, or of the coeliac axis, pancreatic cyst, and bone tumour. Dr. GORRAN suggested sarcoma was more probable, since the tumour had decreased in size and was not tender; there was no modification in the pulses, the murmur which was heard over the tumour was slight, and he could not detect definite expansile pulsation. Dr. F. A. RORER showed a case of marked cyanosis in a man, aged 45, which continued for some twenty years. The heart was much enlarged transversely and the liver was increased in size. Mr. NORMAN LOCK showed a case of mastitis in a youth aged 20. Mr. DYBALL read notes on a case of retroperitoneal fibroma in a woman aged 37, and on a case of sarcoma of the ileum which had caused intestinal obstruction. Dr. RORER reported a case of pyelophlebitis, in which the cause was found, on necropsy, to be a gangrenous appendix associated with multiple abscesses of the liver and general peritonitis.



## Rebelsus.

### MEDICAL HISTORY.

IN his *Short History of Medicine, introducing Medical Principles to Students and Non-Medical Readers*,<sup>1</sup> Dr. CHARLES SINGER, who is so widely recognized as a writer on this subject and on the evolution of scientific thought, follows his previously expressed ideal in treating medical history from the point of view of ideas and not biographically; and accordingly this work tells the story of the scientific elements in medicine, other aspects being passed over in a silence which (as he points out in an eloquent preface) must not be interpreted as the silence of contempt. Among the graceful acknowledgements there is a rather retiring dedication of the work to Dr. E. T. Withington. Dr. Singer is a vitalist, and this, as he admits, may modify his treatment of the subject matter, but others may feel that this is rather a refreshing attraction.

The history is very suitably considered in six periods: Ancient Greece; the heirs of Greece, from 300 B.C. to about A.D. 200, including the Alexandrian School, of course, and Galen; the Middle Ages; the rebirth of science, extending from 1500 to about 1700; then the period of consolidation up to about a hundred years ago; and lastly, occupying more than half the volume, the period of scientific subdivision. In an attractive account of ancient Greek medicine, which grew out of the obscure Minoan civilization, Dr. Singer recalls that the duration of progressive and scientific medicine lasted for eight hundred years, whereas our own system has been developing for little more than four and a half centuries. The wisdom of Hippocrates is illustrated by selections from the *Aphorisms*, and his honest accuracy of clinical description by cases now recognizable as diphtheria and as showing Cheyne-Stokes respiration. The influence of Aristotle on biological conceptions and his vitalistic view of the activity of the soul—which he termed "entelechy," and is here translated as the "indwelling perfectibility" or "purposiveness"—are well brought out, and Harvey's views on fertilization are shown to be practically identical with those of Aristotle two thousand years before. Passing on to the rebirth of science and the renaissance of medicine, which is of special interest in this year of the tercentenary of Harvey's *De Motu Cordis*, the revival of anatomy under the independent mind of Leonardo da Vinci is described, Harvey's work is well summarized, and the subsequent influence of the microscope clearly shown. The period of consolidation was marked by the rise of clinical teaching and of morbid anatomy under the influence of J. B. Morgagni, who is rightly described as introducing the "anatomical concept" into medicine, but it also saw the early study of vital statistics and Jenner's vaccination. The difficulty of naming and dividing the several periods has been very happily solved, and perhaps more especially the last period, extending up to the present time. Dr. Singer's admirable survey embraces recent developments; for example, such varied subjects as preventive medicine, cellular pathology, anaesthesia, bacteriology, the advance of surgery, the new psychology, endocrinology, and vitamins are passed in review.

This well-written and beautifully illustrated work closes with an epilogue, in which the present-day tendencies, needs, and risks are considered in a philosophical tone, and a warning is thrown out against the adoption of too optimistic an outlook. Although data accumulate apace, their correlation, which is the crying need, lags; many, the author says, consider that the general level of medical research has fallen of late years, and there are, as everyone must admit, lamentable gaps in our knowledge. That this book deserves a popular success there can be no doubt, and it is published at a most reasonable price.

<sup>1</sup> *A Short History of Medicine, introducing Medical Principles to Students and Non-Medical Readers*. By Charles Singer, M.D., D.Litt.Oxon., F.R.C.P. Oxford: The Clarendon Press, 1928. (Demy 8vo, pp. xxiv + 348; 143 figures. 7s. 6d. net.)

### FOODS AND FOOD ANALYSIS.

THE late Dr. A. WYNTER BLYTH and Mr. M. WYNTER BLYTH's textbook *Foods; their Composition and Analysis*,<sup>2</sup> passed through six editions, the last of which appeared in 1909, and now it has been revised and partly rewritten by Mr. H. E. COX, public analyst for Hampstead. The work is primarily intended as a manual for the use of analytical chemists, and the greater portion comprises detailed descriptions of methods of analysis of foodstuffs and of the procedures for detecting adulteration. The first part of the book has a more general interest, for it contains a very interesting history of the adulteration of human food. The history of this sordid aspect of commerce dates back to classical times, but apparently adulteration of bread was a fairly chronic social problem throughout the whole of European history. This section concludes with a summary of the present law regarding adulteration, and in particular the regulations regarding the use of preservatives (1924) are given *in extenso*. The Acts regulating the sale of food and drugs are given in appendices at the end of the volume. The value of a work of this kind, which is a reference manual of practical technique, can only be determined by experience of it in practical use, but the book appears to give a full detailed account of all the important methods of analysis, and recent practices, such as the electrolytic estimation of arsenic, have also been included. Certain sections would, however, have been benefited by a more drastic revision. For example, 100 pages are devoted to milk, cream, and butter. In this section a most interesting history is given of the humoral theories of milk secretion, and of such out-of-the-way subjects as witches' milk. There are, however, scarcely half a dozen references to work done subsequent to 1904. Moreover, Koch's views on bovine tuberculosis are quoted *in extenso*, in particular the view that the infection of human beings by bovine tuberculosis is a very rare occurrence. The book states that this view is contested by other pathologists, but it would have been better either to give a proper presentation of the modern views on this important subject, or else to have omitted it altogether.

*Oils, Fats and Fatty Foods*,<sup>3</sup> by E. R. BOLTON, with a chapter on vitamins by Professor J. C. DRUMMOND, is a second edition of *Fatty Foods*, by Bolton and Revis, which appeared in 1914. The author explains in the preface that the intensive study of fatty foods necessitated by the fat shortage in the war resulted in great progress in knowledge, and particularly in a marked increase in the standard required for refined fats and oils intended for human consumption. This advance has resulted in a considerable expansion of the book, but the author points out that comparatively few new analytical methods have been devised; the advance having consisted chiefly in the improvement of existing methods. The book gives a full account of all the chief methods, both physical and chemical, employed in the testing of oils and fats. One curious fact that is brought out is the enormous variety of fats that are used in the production of margarine. It is somewhat disquieting to learn in regard to this (p. 110) that "there is in a large number of cases absolutely no method of arriving at proof that the constitution of any sample of butter fat is due to sophistication and not to natural causes." The whole book bears evidence of careful selection, for full details are given of the best methods of analysis, and no space is wasted on methods that are solely of historical interest. Professor J. C. Drummond contributes an interesting chapter on fat-soluble vitamins—namely, vitamins A, D, and E—and gives a short account of the chief facts that have been established regarding these substances. This chapter can be recommended to any who want to find a short, clear, and accurate summary of our present knowledge of this subject.

<sup>2</sup> *Foods; their Composition and Analysis*. By the late Alexander Wynter Blyth, M.R.C.S., F.I.C., and Meredith Wynter Blyth, B.A., B.Sc., F.I.C. Seventh edition; revised and partly rewritten by Henry Edward Cox, M.Sc., Ph.D.Lond., F.I.C. London: C. Griffin and Co., Ltd. 1927. (Med. 8vo, pp. xxv + 619; 90 figures. 30s. net.)

<sup>3</sup> *Oils, Fats and Fatty Foods*. By E. Richards Bolton, F.I.C., F.C.S. With a chapter on vitamins by J. C. Drummond, D.Sc., F.I.C. Being a second edition of *Fatty Foods*. By E. Richards Bolton and Cecil Revis. London: J. and A. Churchill, 1928. (Roy. 8vo, pp. xvi + 416; 34 figures, 12 plates. 30s. net.)

## DERMATOLOGY.

WE have received the fourth edition of Dr. DARIER's well-known *Précis de Dermatologie*,<sup>4</sup> undoubtedly one of the best textbooks on the subject in any language. It has now been before the medical public for just on twenty years, and although grown in size maintains its characteristics. We may remind our readers that it consists of two distinct portions, approximately equal in size, the first devoted to a description of the morphology of the lesions which are the fruit of pathological changes in the skin; and the second (nosology) an account of the cutaneous diseases of which the etiology is at all events in some measure understood. This arrangement involves a certain amount of repetition, but not so much as might be supposed; because those numerous conditions of whose etiology we are entirely ignorant (psoriasis is the best example) are described only in the first part. Like Brocq, with whom, no doubt, he must often have discussed these matters, Darier refuses to dignify such things as eczema, psoriasis, and urticaria with the title of diseases; he regards them as mere clinical syndromes of doubtful, obscure, or complicated origin. Those pathological conditions alone are considered diseases, and worthy of a place in nosology, which have a definite etiology; whether microbic, physical, or chemical. This arrangement at least avoids the difficulties of classification—always a bugbear to dermatologists—and has permitted the author to write a lucid and instructive manual of his subject.

Dr. Darier describes his book as a "précis" of dermatology, of which the nearest English equivalent is "summary," and states that he wishes it to serve as an introduction to the authoritative treatises (les traités magistraux) on the subject. This "summary" consists of over eleven hundred closely printed pages; how long, then, should a treatise be? As a matter of fact, except for the omission of references to original papers, this is a treatise, and a very good one. The only criticism we have to make is that the new edition is somewhat awkward to handle, because the thickness of the volume is excessive in proportion to the size of the page, which is the same as in the first edition, though that had less than half the present bulk. The illustrations, over two hundred in number, are clear, though rather small.

## TRAUMA AND COMPENSATION IN OBSTETRIC AND GYNAECOLOGICAL CASES.

THERE are many excellent works dealing with obstetrics and gynaecology; Dr. LINDSAY, in his book on *Trauma and Compensation in Obstetric and Gynaecological Cases*,<sup>5</sup> has, however, provided information and guidance not to be found in these works. It must be almost unique for an obstetrician and gynaecologist to have had the advantage of a medico-legal training such as Dr. Lindsay acquired as assistant to the professor of forensic medicine in Glasgow University, and his cases bear out the thoroughness of this training. His book fills a gap in medico-legal literature. Starting with a description of the type of medical report required, he deals, among other points, with pregnancy and the ability to work, trauma in relation to abortion and premature birth, information obtained from the examination of the newly born child, and trauma in relation to various gynaecological conditions. The book is full of practical points and well illustrated with cases. We strongly recommend it to anyone dealing with compensation work.

## ACUTE APLASTIC ANAEMIA.

IN a monograph on *Acute Aplastic Anaemia*<sup>6</sup> Dr. HAYES SMITH describes in full detail his daily notes and impressions on a case in a child of 2 years. His thesis is that the activity of the bone marrow as a haemopoietic organ is controlled by a liver hormone, and that the primary fault in acute aplastic anaemia is a toxin acting on the liver and inhibiting this hormone action. In this

case the deficient hormone was replaced by injections of liver substance which were followed by an immediate bone-marrow response and a quick return to a normal blood picture. Clearly all depends on the correctness of the diagnosis, and a pleasing feature of the paper is the full and careful way in which the blood examinations by Dr. C. J. Young are recorded; but not everyone will be ready to accept a diagnosis of aplastic anaemia on the absence on two occasions of platelets and polymorphonuclear leucocytes, when the haemoglobin value was only once as low as 58 per cent. and the patient was not sufficiently incommoded to be kept in bed. The author realizes the danger of drawing conclusions from one case, but he points out that observations on a single rare case have left their impress on medicine. A short glossary is given at the end, but no one who needs to be told that haemopoiesis means blood formation and that thrombocyte is a synonym for blood platelet can possibly read Dr. Hayes Smith's views with any profit. In any future edition we hope that the author will correct the slip that makes "noxus" the singular of "noxa."

## ELECTRICAL DANGERS.

THE small book on the accidents and dangers of electricity,<sup>7</sup> by Dr. PAUL DUHEM (électro-radiologiste des Hôpitaux de Paris), gives a very practical and concise account of the subject. The author was inspired to take up this work by the accident to Dr. Jangeas, who was killed instantaneously whilst conducting the screen examination of a patient. The accident was caused by the formation of a short circuit owing to the non-insulation of certain wires. The author starts by discussing the physiological action of electric currents, and particularly the cause of death in electrocution. The text is illustrated throughout by the citation of accidents which have frequently occurred from strange and sometimes mysterious causes. Other chapters deal with the etiology, the symptomatology, and the results and complications which may follow from a shock which does not kill. The two concluding chapters are on treatment and on preventive measures. As regards the latter, it is clearly shown that ignorance and carelessness play an important part in many accidents, but that defective wiring and apparatus have frequently much to answer for.

Radiologists and electrologists will find a good deal of useful and practical material in this book, but it is by no means written for them and doctors alone; it should be useful, in these days of electricity, to practically everyone.

## HARVEY'S WORKS IN ENGLISH.

IN reviewing last week Mr. GROFFREY KEYNES's admirable bibliography of the writings of William Harvey we mentioned that he had edited also, with a view to the tercentenary celebrations, the first English text of Harvey's anatomical exercises. This charming volume has been printed and made in Holland with the types of Joan Michael Fleischman and of Christopher van Dijk, and is published by the Nonesuch Press.<sup>8</sup> It contains the English translation of the *De Motu Cordis* and the *De Circulatione Sanguinis*, of which the first edition was published by Richard Lowndes at the White Lion in Duck Lane, London, in 1653, and the second in 1673. In preparing the present text Mr. Keynes has collated these two editions, and has done such polishing as seemed necessary. The two plates illustrating the function of the valves in veins which accompanied the original Latin edition of 1628 were omitted from the first two English editions, although the references to them remained in the text; to remedy this defect an excellent drawing has been made from the life by Stephen Gooden for the present edition, and engraved on copper by C. Sigrist. These and other matters are explained in the editor's postscript and textual

<sup>4</sup> *Précis de Dermatologie*. Par J. Darier. Quatrième édition, revue et augmentée. Paris: Masson et Cie. 1928. (Gr. 8vo, pp. xviii + 1102; 223 figures. Paper cover, 85 fr.; bound, 100 fr.)

<sup>5</sup> *Trauma and Compensation in Obstetric and Gynaecological Cases*. By Douglas Marshall Lindsay, M.D., F.R.F.P., and S. Glas. Edinburgh and London: W. B. Jones and Co., Ltd. 1928. (Demy 8vo, pp. 172. 7s. 6d. net.)

<sup>6</sup> *Acute Aplastic Anaemia*. By A. Hayes Smith. London: H. K. Lewis and Co., Ltd. 1928. (6 x 9), pp. viii + 80; 3 charts. 6s. net.)

<sup>7</sup> *Accidents et Dangers de l'Électricité*. By Dr. Paul Duham. Paris: Gauthier-Villars et Cie. 1928. (5½ x 8 in., 2 + 74; 7 figures. 10 fr.)

<sup>8</sup> *The Anatomical Exercises of Dr. William Harvey: De Motu Cordis, 1628; De Circulatione Sanguinis, 1628*. First English text of 1653 now newly edited by tercentenary celebrator Groffrey Keynes. On the occasion of the 300th anniversary of the text of *De Motu Cordis* by the Nonesuch Press. (5 x 8½), pp. xvi + 202. 25s.)

notes. The volume is one which everyone who possesses it will value, both for what it contains and for the pains lavished upon its production by editor and printer alike. For eighty years Robert Willis's English rendering of Harvey's anatomical exercises has held the field; now, thanks to Mr. Geoffrey Keynes's scholarship and industry, we have the text of Harvey's own time, printed on good paper and beautifully bound.

### NOTES ON BOOKS.

THE 1927 issue of the *Handbook to British Malaya*,<sup>9</sup> edited by Mr. R. L. GERMAN of the Malayan Civil Service, is an unusually attractive guide, and supplies, especially in the section on life in Malaya, answers to many questions of real practical importance to aspirants for employment there which are too often overlooked in similar publications. The chapter on hygiene and sanitation shows the unusually high proportion of specialist appointments available on the European establishment of the various medical departments. Apart from the staff of the King Edward VII College of Medicine, Singapore, which numbers 11, the total medical establishment of 42 in the Straits Settlements includes 9 specialist posts, and the establishment of 91 in the Federated Malay States, 22. Entry to the College of Medicine, which gives a full six years' course and confers a diploma registrable in the United Kingdom, is restricted to candidates born or educated in Malaya; the number of students in 1926 was 113. Registration of births and deaths is compulsory throughout British Malaya, and is in course of adoption by the native States. Vaccination is compulsory before the age of 7 years, and the effective operation of the Quarantine and Prevention of Diseases Acts is evidenced by the relatively low incidence of zymotic diseases. Maternity and infant welfare work is now firmly established, both in Singapore and the Federated States. Progress is being made with the prevention of malaria under the direction of the Federated Malay States Malaria Advisory Board, and there is a Public Health Education Committee for the spread of information of general health interest. The main causes of death are malaria—characterized as "preventable, but at a cost"—venereal diseases, dysentery, and diarrhoea. Ankylostomiasis, almost universal among the Asiatic population, gives rise to symptoms in a relatively small number of cases, and has the low death rate of 0.5 per 1,000. The general health of the European population is said to be good, though cases of neurasthenia have recently increased "here as elsewhere." The book is lavishly illustrated with photographs of real beauty, and there is an adequate map.

Alive to the importance of establishing definite knowledge on the distribution of those mosquitos which are vectors of human and animal disease, about which accumulated facts up to the present time are very meagre, the South African Institute for Medical Research has had under consideration for some time a scheme for a mosquito survey of South Africa. A beginning has been made, and the booklet now published by the Institute entitled *A Mosquito Survey of Certain Parts of South Africa*,<sup>10</sup> by INGRAM and DE MEILLON, deals with the results of investigations made in portions of the Northern Transvaal and in the coastal belt of Zululand. The text is written very much in the form of a diary, and its value lies strictly in its local application. At the end descriptions are given of new mosquitos collected in Zululand, and of the larvae and pupae, not hitherto described, of certain other mosquitos.

The Department of Health of Canada has published a diamond jubilee edition of *The Canadian Mother's Book*,<sup>11</sup> (first edition 1923) by Dr. HELEN MACMURCHY, chief of the Dominion Division of Child Welfare. The book is printed in clear type with wide margins, and is illustrated by photographs of delightful-looking babies which are certain to catch the mother's eye and to hold her attention. Simply and appealingly written, it contains all information needed by an expectant mother. The right method of treating the baby when it arrives are next dealt with. Plain medical directions based on scientific knowledge are apt to be "dry as dust" when put into simple language, but Dr. Macmurehy has succeeded in infusing a note of happy joy into her little book. It is certain to arouse interest and enthusiasm in all who have the maternal instinct.

<sup>9</sup> *Handbook to British Malaya, 1927*. Published by authority and compiled by R. L. German. London: The Malay States Information Agency, 1928. (6s. x 8½, pp. 191; illustrated. 2s. 6d. net; post free, 3s.)

<sup>10</sup> *A Mosquito Survey of Certain Parts of South Africa* (Part I). By Alexander Ingram, M.D., and Botha De Meillon, B.Sc. (Honours). Institute for Medical Research, No. 1 in Institute for Medical Research.

By Helen Macmurehy, M.D. Tor. Blue Books, Mother's Series, No. 1. Canada. Ottawa: F. A. Acland.

The *Handbook of Photomicrography*,<sup>12</sup> by H. LLOYD HIND and W. BROUGH RANGLES, which was first published in 1913, has been revised, many sections having been rewritten in order to bring the information up to date. In giving an account of modern methods the practical requirements of students and medical practitioners have been carefully kept in mind. Such subjects as stereoscopic photomicrography, cinematomicrography, and colour photomicrography have been treated simply but effectively. The wealth of illustrations indicates the widespread application of photomicrography to various sciences and industries, and it is pleasing to note that British instruments figure very largely. The book can be recommended to those who are concerned with a subject of increasing importance and interest.

Dr. MUNN CRAWFORD has written a useful little *Materia Medica for Nurses*.<sup>13</sup> Only drugs in common daily use are dealt with, and in addition to the important preparations, doses, action, and uses of each drug, a note is appended of the symptoms of and treatment for an overdose of some of the more poisonous. The book is clearly written, the descriptions of the actions of the drugs are made as interesting as the subject allows, and the author's aim of producing a handbook useful both for examination purposes and for reference has, we think, been achieved.

*Getting Well and Staying Well*,<sup>14</sup> by Dr. JOHN POTTS of Fort Worth, Texas, is one more example of a type of book that has of late years been growing very common in America—a book written for both doctor and patient. It deals, of course, with pulmonary tuberculosis. The great objection to this class of book is that it is too elementary for the doctor and too advanced for the patient. On the whole, the present volume is better than most we have read; but we find it difficult to imagine that any doctor in this country would put it into the hands of a lay person.

Dr. ESDAILE's book *Economic Biology*<sup>15</sup> was written for students of social science who study applied biology. It is really a kind of "materia domestica"—a collection of facts concerning animals and plants which are, or may be, closely associated with man and his household. It is not, however, merely a dictionary in which the angry householder may look up a method of exterminating furniture beetles, but an orderly guide for systematic biological studies, the types chosen for special investigation being creatures familiar to us in our homes.

Major HASSAN SUHRAWARDY's *Manual of First Aid for India*,<sup>16</sup> first published in 1925, has reached a second edition, and therefore seems to have met a public want. As its name implies, it is specially adapted for use in India. It fulfils its purpose, and should be of service to the class of workers for whom it is intended, though there is perhaps somewhat more anatomy and physiology than necessary. Fracture of the lower jaw is, no doubt, usually compound, but it is hardly correct to say (p. 74) that it is always so. The general get-up—plates, paper, and type—is good. No publisher's name appears on the title-page; presumably the book may be obtained through the author at the office of the Chief Medical Officer, East Indian Railway, Calcutta.

<sup>12</sup> *Handbook of Photomicrography*. By H. Lloyd Hind, B.Sc., F.I.C., and W. Brough Rangles, B.Sc. Second edition, revised. London: G. Routledge and Sons, Ltd.; New York: E. P. Dutton and Co. 1927. (Demy 8vo, pp. xii + 295; 76 figures, 44 plates. 16s. net.)

<sup>13</sup> *Materia Medica for Nurses*. By A. Munn Crawford, M.D., F.R.F.P.S.G. London: H. K. Lewis and Co., Ltd. 1927. (Cr. 8vo, pp. viii + 85. 3s. 6d. net.)

<sup>14</sup> *Getting Well and Staying Well*. A Book for Tuberculous Patients, Public Health Nurses, and Doctors. By John Potts, M.D. Introduction by J. B. McKnight, M.D. London: H. Kimpton. 1927. (Post 8vo, pp. 223. 8s. 6d. net.)

<sup>15</sup> *Economic Biology, for Students of Social Science*. By Philippa C. Esdaile, D.Sc. Part I, Harmful and Useful Animals. London: University of London Press, Ltd. 1927. (Demy 8vo, pp. xv + 175; 150 figures. 7s. 6d. net.)

<sup>16</sup> *A Manual of First Aid for India*. By Major Hassan Suhrawardy, M.D., F.R.C.S., D.P.H. Second edition, revised and enlarged. (Price R.1.)

### PREPARATIONS AND APPLIANCES.

#### THEOSOL AND CITOBARYUM.

We have received samples of the following drugs, which are sold in this country by Messrs. H. R. Napp, Ltd.

"Theosol" is theobromine calcium salicylate (manufactured by Messrs. Knoll). The chief advantage claimed for this compound over the Pharmacopoeial compound theobromine and sodium salicylate is that the former is less soluble, and hence passes through the stomach to be dissolved in the intestines. This obviates gastric irritation.

"Citobaryum" is a preparation of barium sulphate prepared by Messrs. E. Merck, Darmstadt. The special advantage claimed for the preparation is that it is in a very finely divided state. Hence it forms a creamy fluid, which is free from objectionable grittiness and sediments slowly.

# British Medical Journal.

SATURDAY, JUNE 2ND, 1928.

## THE FUNDAMENTALS OF A MEDICAL SERVICE.

WHETHER the medical services of the British Isles should rest on a public or a private footing is from time to time a topic of debate in both the lay and the medical press, and, whatever plan may be put forward as likely to keep the balance adjusted, it is usually urged that the one thing needful to bring the facilities of modern medicine within reach is organization, co-ordination, or team work, as it is variously called. It is rather remarkable that organization, which is, after all, merely an administrative process, should occupy such a prominent place in these discussions, and many who lay great stress upon it might perhaps be at a loss to explain why they concentrate so much upon the form and pass the substance by. Their reason, however, is not far to seek. They take the fundamentals for granted, and are justified in so doing, for these fundamentals are an educated medical profession and an enlightened public, both of which this country possesses, the former guaranteed under statute, the latter rapidly increasing in number as information spreads.

Under the Medical Acts the General Medical Council, which keeps the register of duly qualified medical practitioners, has also a duty as regards their education. The medical curriculum, which the Council supervises, affords not only a scientific training, but also, by including special medical subjects and providing a final clinical training in medicine, surgery, midwifery, and children's diseases, turns out the young graduate reasonably well equipped to begin the practice of medicine. Many, in addition, take a hospital post in order to extend their experience. The general practitioner, too, has become increasingly conscious of the need to keep himself abreast of the medical thought and progress of the day. This is so well known to the general public that unqualified practice, although not illegal, is at a disadvantage, which is further accentuated by the exclusion of the unqualified from the insurance service of the nation. The brass plate on the qualified doctor's door conveys to all comers the information that the name it bears is that of a person who has received a recognized training in the art which he claims to practise.

As regards the public its medical enlightenment is now quite appreciable. New forms of treatment and reports by scientific medical workers on research and kindred subjects figure prominently in the lay press in news items or leading articles, and the health propaganda movement—as a rule discreet and well informed, and more so in the past year or two—does much to acquaint people with the applications of medical knowledge to everyday life, and with the facilities offered by local authorities for treatment in

special cases. We are far from asserting that the doctor in this country has reached his zenith, or that the British public is beyond the need of further health instruction, but as regards the position at the present time, it is not too much to say that the fundamentals of an efficient medical service are with us, and that organization is the principal pre-requisite for bringing them into effective working.

In the United States, with fewer traditions and a new population of mingled breed that has yet to learn good American ways, the arrangement and control of the medical service present other difficulties. There is much to be done on the fundamental relations, for all is not well, as it would appear, between the American profession and the public. In a recent work Mr. H. H. Moore<sup>1</sup> remarks that the populace of the United States owns a divided allegiance on the one hand to legitimate medicine, and on the other to false cures. A doctor in Philadelphia found that 34 per cent. of his patients had been attended by some unqualified practitioner within three months of his own attendance upon them. A former Health Commissioner of New York City compiled a list of fifty-seven pseudo-medical cults, including such portents as Biodynamic-chromatic-therapy, Naturology, and Zodiac-therapy. The more reputable departures from the normal, such as Osteopathy, Chiropractic, New Thought, Applied Psychology, and Christian Science, number more adherents than the regular profession. The irregular practitioner would also seem to be making his way into official life: in 1923 three medical officers of health in Minnesota were osteopaths.

Under such conditions it is easy to understand that the public may require enlightenment in order to discriminate between the right and the wrong type of doctor. The *Chicago News*, giving guidance on the point, proposed two useful tests. The first was that the name of the good doctor was rarely seen in print, and the second that in making examinations he required the patient to remove clothing which might interfere with the detection of signs and symptoms. The New York State Department of Health, again, advised patients by wireless that they should not be unduly impressed by an elaborate consulting room. That advice of this kind should be necessary is an interesting commentary on the standing of the doctor in the estimation of the unenlightened sections of the American public. An adjustment of these fundamentals is a pre-requisite before organization can be effective.

Thanks largely to the continued efforts of the American Medical Association and the Association of American Medical Colleges, much has already been done in the United States to raise the general status of the medical profession. As we noted twelve months ago, in an article on medical education and practice in America,<sup>2</sup> the 400 medical schools, many of which were illusory, have now been reduced to 79, and the efficiency of those that have survived is secured under regulations. This is a noteworthy step

<sup>1</sup> *American Medicine and the People's Health*. By Harry H. Moore, Public Health Economist, United States Public Health Service. New York and London: D. Appleton and Co. (5½ x 8½, pp. xxii + 647) 16 plates. 21s. net.)

<sup>2</sup> *British Medical Journal*, May 28th, 1927, p. 979.

forward, but, medical licensing has, regrettably, failed to move in concert. In most States the irregular healer is licensed on the same footing as the well-trained graduate, and the law may regard with equal favour the Zodiac-therapist and the finished product of a high-grade medical school. It is little wonder if the citizen is in doubt as to what the brass plate—or its American equivalent—stands for, and needs the guidance of the daily press and wireless when he is choosing his medical attendant. More than organization would appear to be required to produce an efficient medical service in America. The question of licensing is fundamental, and should be adjusted first. There should be no place for Zodiac-therapy or other forms of remedial magic in a country possessing the genuine medical resources of the United States.

#### THE LISTER INSTITUTE.

THE annual general meeting of the Lister Institute of Preventive Medicine was held on May 23rd, when the governing body presented its thirty-fourth annual report to the members. In recording the death of Lord Iveagh last October it is recalled that the endowment of the Lister Institute in 1898 was the largest of his benefactions for the advancement of medicine by research, and enabled the objects for which the Institute was founded to be pursued on a scale that had previously been impossible. Reference is made also to the death of Sir Dawson Williams, whose place as representative of the British Medical Association on the council has been filled by the appointment of Professor W. E. Dixon. The various sections of the report give evidence of continued activity in all the many branches of research undertaken in the departments of the Institute. Acknowledgement is made of the financial support given by the Medical Research Council, the Department for Scientific and Industrial Research, and the British Empire Cancer Campaign to skilled investigators working at the Institute. The Medical Research Council provides salaries for the staff of the National Collection of Type Cultures, and for three workers in the Department of Experimental Pathology, and it has entrusted the Department of Biochemistry with a lengthy inquiry into the vitamin content of Empire products and the effect of preservation and storage thereon, the cost being defrayed by a grant from the Empire Marketing Board. In the Department of Bacteriology Professor Ledingham has extended his studies on vaccinia and variola, Dr. Eagles completed an investigation of rough and smooth forms of streptococci from scarlet fever sources, with special reference to variations and virulence, and Dr. Arkwright's work on bacterial variation and the antigenic structure of bacteria has been continued. Dr. Koronchevsky and his fellow workers have investigated testicular and prostatic hormones and the effects of lipid ovarian extract and parathyroid extract on nitrogen metabolism. Further researches have been made by Dr. Harriette Chick and Miss Roscoe into the two active constituents of water-soluble vitamin B, provisionally called B<sub>1</sub> (the antineuritic) and B<sub>2</sub> (the so-called "antipellagra" vitamin). Their experiments on nutrition indicate that conclusions regarding the biological value of casein and other proteins now stand in need of revision. Both vitamin B<sub>1</sub> and B<sub>2</sub> are present in yeast, and information is accumulating regarding the distribution of vitamin B<sub>2</sub> in different whole cereals and their constituent parts. Other vitamins and their sources have also been studied during the year, and in this connexion the biological action of light has received close attention. In their work on cancer

Drs. Lumsden and Stephens have found that, by combining the use of antiserum with adrenaline, about 50 per cent. of rat sarcomata could be made to disappear, and that the rats so cured were immune to subsequent implantation of sarcoma and also of rat cancer. It appears that antibodies specifically lethal to malignant tumour cells can be produced, and that local treatment by an implanted tumour growing in a rat will yield a vaccine which causes active tumour immunity in the animal treated. Investigations of foot-and-mouth disease have been continued throughout the year in a laboratory and animal house set apart for the purpose. Lastly, we may recall that (as noted in our issue of May 5th) the Institute has accepted an invitation from the International Committee for the Study of Infantile Paralysis to take part, with five other scientific bodies in America and Europe, in a joint attack upon the problem of poliomyelitis.

#### PROFESSIONAL ORGANIZATION.

It is highly desirable that members of the medical profession should not overlook the important and very interesting Herbert Spencer Lecture, delivered at Oxford on May 18th by Professor A. M. Carr-Saunders, on *Professions: their Organization and Place in Society*.<sup>1</sup> It has been published by the Clarendon Press as a booklet containing only some thirty pages of reading matter, but these pages are full of wisdom and contain much food for thought. The theme of the lecture and the general nature of its argument may be indicated by a short, but necessarily inadequate, summary. A profession is defined as "an occupation based upon specialized intellectual study and training the purpose of which is to supply skilled service or advice to others for a definite fee or salary." Further, a profound distinction between manufacturers and dealers on the one hand, and professional men on the other, is that the latter "do not buy and sell material goods as an essential feature in the performance of their functions." It is useful to bear this in mind when claims are made, as is sometimes the case, that opticians, druggists, and pharmacists are members of "professions." Even chiropodists would seem to have a better claim unless any of them are vendors of boots also. As soon as a profession emerges, its members, moved by common interests, form a professional association. Moreover, the tendency is towards the dominance of a single association in each profession. Minor rival associations always tend to die out. This is apart from those associations which deal solely with the science or subject-matter of their profession; these may be numerous. Two of the chief objects of a professional association as here understood are "to bring up the qualifications of all who hold themselves out as practising the craft to a certain minimum standard, and to enforce the rules of honourable conduct." Some features of such codes of ethics are common to all professions; for example, (1) the rule against advertising; (2) "making the fee or salary paid for service rendered the sole remuneration or advantage which a practitioner receives"; (3) prohibition of the abrogation of one's position as responsible adviser in order to facilitate and cover the actual delegation of responsibility to an unqualified person. When examined, such codes or rules are found to be entirely in the public interest. Some criticisms may be made, "but they are small evils from the point of view of the public compared with the state of things which obtains when the competent and responsible members of a profession fail to achieve these objects." A third object of a professional association is to raise the status of the profession, and "it is impossible to ignore the fact that the status of the professional

<sup>1</sup> *Professions: their Organization and Place in Society*. By A. M. Carr-Saunders, M.A., Professor of Social Science in the University of Liverpool. Oxford: The Clarendon Press; London: H. Milford, Oxford University Press. 1928. (Med. 8vo, pp. 31. 2s. net.)



man must be dependent on the salary or fees which he receives." It is easy to suggest that selfish motives are predominant in this connexion; but "if a just conclusion is to be reached it must be remembered that the activities of the associations are restricted to raising the minimum remuneration to a certain level. To the public there is free choice of practitioner. It is merely sought to ensure that, when a practitioner is engaged to perform a particular service, he shall not be paid less than a certain amount." It may be argued that in some cases the minimum is set too high, but it is a legitimate claim and a useful thing to attempt to fix minimum terms, to do this by collective bargaining, and to enforce it by joint action through an organization. When a professional organization has reached a certain stage a further motive and object appears—namely, to see the profession fully and adequately used wherever it can be of service to the State or others. "The advancement of the status of the profession and the extension of the craft in the public interest do on the whole go together"; and "a further development takes place when the State turns to professional associations for advice and assistance." Professor Carr-Saunders goes on to examine the charges against professionalism, which amount to this—that "whatever may be the declared objects of professional associations, in actual practice conservatism of outlook as exemplified by animosity against new methods, selfishness as illustrated by exclusiveness and by interest in status and remuneration, and rigidity of practice as shown by professional etiquette are predominant." These, when investigated, are found to be based upon misunderstanding or upon a perverse insistence on some admitted defects. The nature of the defence has been indicated, and is further explored. Lastly, Professor Carr-Saunders considers the future of the professions, the propriety of any professional register, and the desirability or otherwise of complete or some degree of closure to unregistered persons. He concludes that, as properly defined, there must be an extension of professionalism for commercial and industrial purposes. "Professional associations have something to offer towards the solution of certain of the problems which face commercial corporations. Towards the solution of the problem of efficiency they offer the ideal of adequate qualifications being demanded of those who undertake specialized functions. . . . Taking all in all, the growth of professionalism is one of the hopeful features of the time. The approach to problems of social conduct and social policy under the guidance of a professional tradition raises the ethical standard and widens the social outlook."

#### EDUCATION COMMITTEES AND THE SALARIES OF MEDICAL OFFICERS.

It appears from the programme for the forthcoming annual meeting of the Association of Education Committees at Bath that a motion will be submitted on behalf of the executive committee in the following terms: "That this association protests against the action of the Ministry of Health in withholding Government grant from local authorities if the demands of the British Medical Association are not conceded. The association objects strongly to such a decision being arrived at without previous agreement with the local authorities concerned." It is no part of our business to defend the actions of the Ministry of Health, but this motion appears to indicate a wilful misunderstanding of the position. The adjective is justified by the fact that in the *Supplement* to our issue of January 28th last we published an article on the subject, in which it was explained that some scale of minimum commencing salaries was agreed by the Ministry of Health to be necessary, as both the Ministry and the British Medical Association, as well as local authorities, had found that the public

health service was not attracting medical practitioners of the right qualifications and status. It was explained further that the present scale does not represent the "demands of the British Medical Association," but is a modified scale (in many respects lower than that originally suggested, and leaving a good deal of latitude, within limits, to local authorities), arrived at after consultations between representatives of the Ministry of Health, of the Association of Municipal Corporations, of other associations of local government authorities, and representatives of the British Medical Association and of the Society of Medical Officers of Health. The scale received in general the support of the Ministry and of the Association of Municipal Corporations. Our article further set out that an offer of conference with the Association of Education Committees (*inter alios*) with a view to modifications of the scale then proposed had been refused by that association; and that an offer by the British Medical Association to agree to an appeal committee consisting of representatives of the medical profession and of local government authorities, with a representative of the Ministry of Health as chairman, with a determining voice, was turned down by the Association of Education Committees and by the County Councils Association. We have no knowledge as to whether the Ministry has actually withheld grant from any local authority on the ground that the scale has not been complied with; but it is true that the scale is now operating in more than 82 per cent. of the vacancies occurring in the public health service, and that among the remaining 18 per cent. there are a number of instances in which the local authority is carrying on its service by means of temporary expedients only. In these circumstances there would seem to be an element of perversity in the action of the executive committee of the Association of Education Committees, which might perform a more useful public service by frankly accepting the principle of a scale of minimum commencing salaries for public health medical officers, and either consenting to the establishment of a conciliation committee for cases referred to it on either side, or making practical suggestions for some reasonable modification of the details of an accepted scale. Such suggestions would certainly receive courteous consideration.

#### A TEST FOR PREGNANCY.

ALL will agree with Dr. A. C. Siddall<sup>1</sup> that a simple and satisfactory test for the presence or absence of pregnancy would be most valuable, not only to the obstetrician, but also to every general practitioner. He remarks that at present perhaps the best-known test for pregnancy is that of Aberhalden, but he agrees with Smith and Shiploy, who tried to bring it within the realm of practicability, and concluded that it is of no value for the diagnosis of pregnancy. He mentions the verdict of De Leo that the epinephrine-glycosuria test, Kammtzer's phloridzin test, the dextrose test, and Fahracs's red blood cell precipitation test are merely of academic interest, and also the statement of Hunt and Long that no laboratory method has yet been devised which is absolutely and infallibly diagnostic of the presence or absence of pregnancy, with the exception of radiological examination in the later months. Experimental work in this field has been hitherto dominated by two ideas—namely, that pregnancy causes a specific protein (ferment) to appear in the maternal blood, and that during the early months of gestation there is a tendency to glycosuria. Siddall suggests a test, however, which is based on a different idea from these. Early in 1926 he advanced the hypothesis that if the enlargement of the uterus and breasts of a pregnant woman is due to the

<sup>1</sup> Siddall, A. C.: A Suggested Test for Pregnancy, based on the Action of Gravid Female Blood Serum on Mouse Uterus: Preliminary Report. *Journ. Amer. Med. Assoc.*, February 4th, 1928.

presence of a hormone in the circulation, then corresponding changes should occur in the uterus and breasts of a test animal which had received injections of blood from the pregnant female, whereas the blood from non-pregnant women should give negative results. Binz, in 1924, had observed that, after injecting female mice with the blood of pregnant women, a transverse enlargement of the mouse's uterus resulted, and this result was confirmed towards the end of 1926 by Trivino and Fels. Franek and his co-workers, in a series of papers dating from 1926, have also demonstrated the presence of the female sex hormone in the circulation, not only during pregnancy, but also during the menstrual periods. These results seem to indicate that the blood of non-pregnant females might also have some effect on the uterus of the test animals. Siddall's observations, however, show that this is so small as not to invalidate his method as a test for pregnancy. His test animals were immature non-castrated virgin female white mice of less than 20,000 mg. weight. One cubic centimetre of the patient's blood serum is injected subcutaneously into an immature virgin white mouse once daily for four or five days. On the sixth day the animal is killed, the weight of the mouse is divided by the weight of the uterus plus ovaries, and the resulting ratio provides the criterion for a positive or negative conclusion, a ratio below 400 being positive and a ratio above 400 being negative for pregnancy. Fifty-seven patients were submitted to this test, of twenty-six pregnant patients, twenty-five gave a positive mouse test, while of nineteen non-pregnant patients eighteen gave a negative mouse test, and twelve were incomplete cases. Such evidence requires confirmation in a larger series of patients with controls, and it is to be hoped that further information will be forthcoming.

#### CARDIAC MALFORMATIONS AND ENDOCARDITIS.

If malformations arise in the development of an organ, disease either in that part of the body or in closely related systems is a common sequel. Instances of this process are not far to seek. Congenital defects of the bowel or mesentery frequently conduce to acute abdominal conditions; a misplaced kidney or an aberrant artery of supply may be the first cause of hydronephrosis and ultimate destruction of the organ; and congenital stenosis of the pulmonary artery only too often results sooner or later in pulmonary tuberculosis. The recent work of Clere and Lévy<sup>1</sup> has shown that congenital heart disease is responsible for many of the recorded cases of heart-block in young subjects, while French workers also have been the chief advocates of the view that pure mitral stenosis such as occurs mostly in women without any history of acute rheumatism is due to a congenital cardiac defect which has gradually increased. Although infection of the endocardium is generally regarded as a sequel of valvular deformities as distinct from other defects, it has been shown by Horder, who in 1909 described illustrative cases, that infective endocarditis may arise in conjunction with either a defective interventricular septum or a patent ductus arteriosus. The same writer, in his Lumleian Lectures<sup>2</sup> two years ago, directed attention to the minute structure of the cardiac valves, particularly of the aortic cusps, stressing the likelihood that slight congenital abnormalities might be important predisposing factors in infective endocarditis. Numerous observers over many years have remarked upon the increased incidence of this disease upon congenitally abnormal valves, but that this doctrine represented at best only a part of the truth became apparent in the years immediately following the war, when it was found that infective endocarditis in a subacute form was taking 80 per cent. of its victims from among the most robust

men who had served an average of three years in the most strenuous military occupations. Conversely, although this disease in civilian life was known to be preceded in perhaps half the cases by chronic simple endocarditis, few of the many soldiers at home or overseas presenting minor valvular lesions developed the so-called endocarditis lenta. With the aim of elucidating the part played by congenital abnormalities in the production of endocardial infection, Gladys Wanchop<sup>3</sup> has collected from the London Hospital records fifty-two cases of bicuspid aortic valves and nine of pulmonary valve defects. The latter were found to be commonly combined with more severe congenital lesions, and did not in themselves conduce to endocarditis. Among the infections of the aortic group rheumatic endocarditis occurred five times, in each case affecting the abnormal valve, while the mitral was affected four times; in rheumatic endocarditis generally the incidence is greater on the mitral valve. Infective endocarditis was the cause of death in seven cases; except in one case, where the tricuspid valve only was involved, the abnormal aortic valve was the one attacked. These records brought to light, therefore, an incidence of 11.5 per cent., as contrasted with the estimate of 23 per cent. by Lewis and Grant. The latter figure is comparable, since additional predisposing factors were present in some of the cases. While interest centres principally upon the liability of bicuspid aortic valves to infective endocarditis, it is noteworthy that in the series under review rheumatic infection, fibrosis, atheroma, and calcification were found rather more often than in anatomically normal valves. Less than half of the patients lived more than forty years, but, on the other hand, the fifth decade showed a higher mortality than any other. The important deduction from these observations is that a bicuspid aortic valve does predispose to infective endocarditis, and the findings of earlier investigators go to show that other minor cardiac defects, congenital or acquired, are likewise etiological factors. Since physical strain is clearly at times an activating agent, its prevention would seem to be an important prophylactic measure in those whose hearts show signs of endocardial abnormality. Because it is obvious that some individuals with valvular defects are attacked while others remain immune, it would be a valuable advance in clinical medicine if a means of distinguishing the two groups could be found. Identical organisms may in some cases of infective endocarditis be isolated both from the blood and some source of sepsis in the body. The careful eradication of any possible focus is therefore an imperative prophylactic measure in those who possess congenital or acquired endocardial defects.

#### THE GENERAL MEDICAL COUNCIL'S SESSION.

THE General Medical Council completed its session by sacrificing the whole of Bank Holiday to the hearing of disciplinary inquiries. Our report of the proceedings is continued in this week's *Supplement*. Had the Council adjourned over Whitsuntide, as on a previous occasion, and assembled again at a later date, it would have incurred an expenditure of some hundreds of pounds for railway fares, and with a decrease of revenue from registration fees, and income tax to pay, the Council finds itself obliged to cultivate strict economy. The disciplinary inquiries were unusually numerous, but in the result only three practitioners had their names erased from the *Medical Register*—one for conviction for a felony, another for committing adultery with a married woman with whom he stood in professional relationship, and a third for maintaining, also during professional relationship, a friendship of an improper character with a married woman. In two other cases—two arising out of convictions for drunkenness and the

<sup>1</sup> *Ann. et. Mém. Soc. Méd. des Hôp. de Paris*, March, 1928, p. 490.

<sup>2</sup> *British Medical Journal*, April 3rd, 10th, and 24th, 1926.

<sup>3</sup> *Quart. Journ. Med.*, April, 1928, p. 383.

other out of advertising to attract patients—the facts were proved, but judgement was suspended until a later session. In two cases the charges were found not proved, and in one other, although the facts were proved, mitigating circumstances were allowed, assurances accepted, and the case dismissed. Whatever may be said about the disciplinary work of the Council, the severest critic cannot deny its expeditiousness. Few courts of law could have disposed of so much difficult and delicate business in six days. Another thing to be said is that no practitioner appearing before the Council is prejudiced because he is not legally represented. It conveys no reflection on the legal profession that while all three practitioners whose names were erased were represented by counsel, two of the three who were successful in their defence had neither counsel nor solicitor. Certainly no one will dispute the advantage of legal representation; if it does not affect the result, at least it shortens the hearing. But the point is that the Council is indulgent to the practitioner who appears on his own behalf. A feature of recent sessions has been the increase in the number of cases in which the charge is that of committing adultery during professional relationship. The Council applies no rigid rules to these cases, judging each one, properly, on its merits. The session was remarkable for the appearance of a dentist against whom it was alleged that he had taken advantage of his professional position to commit adultery with a married woman. The professional relationship was denied by the practitioner, but the Council upheld the findings of the Dental Board and directed that the name should be erased. A sad circumstance marked the end of the Council's session. On his way back to Edinburgh a very respected member of the Council, Sir James Hodsdon, died in the train. He had spoken more than once in the Council on the day preceding his death. We hope to publish an obituary notice in an early issue.

#### HISTORICAL EXHIBITION AT CARDIFF.

It is a debatable point whether men are most interested in the very new or the very old; the attitude of the lay press and the public towards such things as the discoveries at Luxor and the excavations at Pompeii seems to suggest that there is an archaeological streak in most people. Tut-ankh-Amen had his day "in the news" equally with Lindbergh and Adolpho Menjou. It may be anticipated, therefore—since medical practitioners are constituted much as other men—that a widespread interest will be taken in the historical exhibition which it is proposed to arrange in connexion with the Annual Meeting of the British Medical Association at Cardiff in July next. It is intended that the exhibition should be specially illustrative of Welsh folk-medicine, which, as in other Celtic countries, has a long lineage, rich in tradition and in history, from the days when the Druids, among the various orders of learned men, practised medicine and magic. An account of some of the outstanding manuscripts and relics relating to Welsh folk-medicine was published in the *Journal of March 24th* (p. 509), and in the same issue there appeared a letter, signed by the President-Elect and others, asking for assistance, notably from practitioners resident in Wales, in the collection of articles suitable for this exhibition. The enterprise is being promoted by the officers of the History of Medicine Section, with the co-operation of the authorities of the National Museum of Wales and the National Library of Wales. Information regarding the theory and practice of folk-medicine, human or animal, and regarding the existence and ownership of illustrative objects, will be welcomed by the organizers. Communications should be addressed in the first instance to the Honorary General Secretary of the Annual Meeting, Dr. G. I. Strachan, 20, Windsor Place, Cardiff.

#### A SURGICAL OUTPOST IN THE HEBRIDES.

##### EXTENSIONS AT THE LEWIS HOSPITAL, STORNOWAY.

IN the extreme north-west of the British Isles, forming a curved breakwater which shelters the mainland from the North Atlantic, lie the Outer Hebrides—a region desolate yet picturesque where, in the phrase of the country, "The sea is all islands and the islands are all lochs." The most northerly part of the chain—Lewis, and its appendage Harris—contains most of the population. On the east coast of Lewis, some six hours' steaming from the mainland across the tempestuous Mince, is Stornoway, the leading town in the islands and the centre of the herring industry. The formal opening there on May 10th, by Dr. Walter Elliot, Under Secretary of Health for Scotland, of an extension to the Lewis Hospital, mentioned in the *Journal* on May 12th (p. 821), marked the inauguration in its complete form of a surgical service for the Outer Hebrides, which was begun in 1924 by the appointment of a consulting surgeon by the Scottish Board of Health. The development of this service is of more than local interest, for it is a departure in State medicine which may well have important effects in the organization of the profession throughout the country.

To explain the origin of the scheme it is necessary to go back to the commencement of national health insurance. When this came into operation it was realized that in the remoter parts of the Highlands most of the adult population would not come under the system; crofter-fishermen could have no status as insured persons as they received no wages. In addition, the supply of doctors was limited. The Highlands and Islands (Medical Service) Commission, 1912, issued a masterly report which analysed the entire medical requirements of this unique area. As a result of its recommendations an increased number of medical practitioners were appointed, district nurses were provided, and it was contemplated that, when funds should suffice, improved hospital and dental services would be instituted. The war delayed the fulfilment of these conceptions, but in 1924, with the appointment of consulting surgeons for Lewis and for Shetland, the first stage of a complete surgical service for the Highlands was begun.

The Board of Health's nominee for the surgical post in Lewis, Mr. J. Ewart Purves, F.R.C.S., by arrangement with its managers, was made superintendent of the Lewis Hospital, Stornoway. This institution was founded by public subscription in 1896, and after an extension in 1912 contained some twenty beds. Both in staffing and in the character of the work done it was, however, essentially a cottage hospital. The people of the island (who number nearly 35,000) had a great repugnance to the idea of going to hospital; institutions were regarded as the last refuge of medical treatment, and the removal of a patient as a severe aspersion upon the humanity of his relatives. The doctor who recommended it was taken as giving a hopeless prognosis, and his advice was followed by lamentations from the patient's friends. In fact, the situation was much the same as that in the cities fifty years ago. Under the old régime the Lewis Hospital was not used to anything like capacity, and frequently it had no patients at all. A prevailing belief in those days was that there was no need for a modern hospital system. It was argued that the simpler habits of this pastoral people of crofter-fishermen exempted them from the morbid conditions of the large centres, and that apart from the services of the practitioner (who still has in one parish some five thousand people to look after) no specialized aid was necessary.

##### The New Hospital Arrangements.

Within a few years the whole situation has changed. The presence of a surgeon consultant and the existence of a modern hospital has produced a supply of surgical conditions for treatment, and even with the institution working at full pressure there are as a rule two patients on the waiting list for each bed. Compared with the swollen queues which line the waiting rooms in the city infirmaries

this may seem insignificant, but many of the island patients have waited long periods even before consulting their doctors. With modern appliances available the number desiring admission is increasing greatly.

When the surgeon was appointed it was realized that for the larger needs of a surgical clinic x rays and other diagnostic aids were essential, and at the same time the increased staff and more efficient management called for greatly improved quarters. With Treasury assistance, the Board of Health authorized the managers to proceed with a scheme for enlarging the hospital and adding certain necessary items of equipment. This extension is now complete and the building has been transformed from a small cottage hospital into a modern clinic—scientific, workable, and compact. It has not been found possible at present to increase very greatly the number of beds; there are now twenty-four, and four cots.

The new wing contains a larger kitchen and greatly improved quarters for the nursing and domestic staff. Owing to the exposed situation of the building a steam heating system has been found necessary. An oil engine with dynamo and batteries gives current for lighting and x rays. The x-ray equipment consists of a "universal" couch which can be moved into any position for screening and photographing, and Philip's "metalix" tubes of fine focus. There is a Potter-Bucky diaphragm, and the whole outfit consumes 5 kilowatts. The apparatus is housed in a commodious room at the end of the building, with ventilating fan, annexes for developing, dressing rooms with shower-baths and lavatories. The National Physical Laboratory has certified the entire system. There are two mercury vapour lamps for general irradiation, and appliances for both local and general diathermy are installed. An enlarged and modern theatre replaces the former cramped operating room, and a laboratory of adequate compass will make clinical research more convenient than before. Under the present arrangements the medical officer of health acts as anaesthetist when necessary, and the whole forms a complete surgical unit. The general experience of cases is said to be similar to that in one of the large infirmaries twenty years ago, and some conditions are seen in a very advanced form reminiscent of the older textbooks.

Figures of the hospital work for two periods—before and after the appointment of the surgeon—illustrate the great change which the institution has caused in the medical practice of the island. For the ten years prior to 1924 an average of seventy patients were admitted each year. In the first whole year of the new surgical service, before the extensions to the building and the installing of the x rays, 376 patients were treated and 375 operations performed. In this period, too, there were over 1,000 out-patient consultations—an entirely novel branch of the hospital's activities. Patients are seen upon the recommendation of their doctors; surgical cases form most of the admissions, although others are not refused. About one-third of the admissions are cases of emergency.

Eye cases which require operation are sent to the mainland. Abdominal work forms a major part of the clinical material, and it is noteworthy that pneumococcal peritonitis is unusually common here in children. Malignant disease, unfortunately, is seen in the later stages, and gynaecology is a large field of practice which is at present unexplored. Cases of difficult labour are beginning to appear upon the hospital list, and the small private ward in the extended institution will thus prove useful. In former days the treatment of tonsils and adenoids in children as recommended by the school medical officer was rarely undertaken, but this is now an important part of the work among children.

#### Communication Difficulties.

The idea of medical practice which prevails in Lewis is one which is largely coloured by the times, here not very far distant, when there were only two medical men to undertake the whole work of the island, and they travelled on horseback many miles over their professional domains at infrequent intervals. In those days each doctor was literally a consultant, in that he was only summoned when the illness had resisted the efforts of the local wise men. Seventh sons enjoyed peculiar prestige in the healing art. In each district even to-day there is some person who is regarded as having special skill in treating fractures and deformities. At the present time, although each

parish has its competent doctor under the Highland medical service, the old traditions linger and it is not unusual for a doctor to be asked to visit a serious case only once in its currency. There are no telephone call boxes or regular means of communication, and the doctor is sent for by telegram, except at night, when some neighbour may set out to track many miles over the moors. In such circumstances the work of a surgical specialist is not easy; there is a tendency for cases to be sent in for operation only as a last resort.

It is difficult for a doctor whose practice lies in, say, some pleasant suburb of Surrey, to contemplate how he would feel if cut off from his friends by a thirty hours' journey from the mainland (including six hours' steaming over a villainous stretch of water), with no opportunities for medical discussion, no colleagues on the telephone, no opportunities for seeing other men's operative work. The city surgeon stops into his theatre and finds all prepared. His mind is freed from extraneous considerations; his sole concern is with the details of his operative technique, and his responsibility may be lightened by collaboration with specialists. But the work of his colleague in the Hebrides is more varied and strenuous. First the patient must be seen and any necessary diagnostic test performed. The surgeon may then have to spend half an hour in persuading the relatives that operation in, say, a perforated gastric ulcer, is a matter of urgency. Having once decided to operate he must arrange for the theatre—perhaps the water supply will be off—to be made ready and go out to find an anaesthetist. (None of the medical men in the island have the telephone.) This has proved so difficult in some cases that local and spinal anaesthesia have been developed and are now utilized whenever possible. Details which in most mainland hospitals are hardly noticed assume here great significance. Success in such a field is achieved only at the cost of much effort in ways which do not fall strictly within the realms of surgery. On one occasion an operation was performed under novel circumstances. At night-time and on Sundays all the telephone lines are connected to the lighthouses at various points around the coast. A message was received from one of these that the surgeon was required for an urgent obstetrical case. Within half an hour his car was on the road with anaesthetist, trained sister, and operating equipment. After a journey of more than fifty miles over some of the roughest country in Britain, including a gradient which is notorious, half an hour's sea-crossing, and a few miles' walk over the moors, the patient was reached, and a craniotomy performed successfully within three hours of the original telephone message. It is a sad comment upon a conflict of bureaucratic interests that on this occasion the telephone was used irregularly. The correct procedure would have been to wait until Monday morning and send a telegram!

#### A Threefold Success.

In a great measure, the conspicuous success of the service must be ascribed to the confidence with which the surgeon has come to be regarded. The idea of anaesthesia is now taken with more composure, and patients appear demanding operations for the most unusual conditions. To an observer this undoubted triumph is the more interesting, as from the very first it was the determination of the present surgeon never to be content with less than the highest pitch of efficiency in nursing, equipment, and his own efforts. His policy has been justified by results. It must be rare that such a campaign of practical education has achieved its aim in so brief a period. The successful establishment of the service here outlined is a threefold triumph. Politically, it reflects departmental continuity in the best sense—the surgical needs of the Highlands were first realized by a Liberal administration before the war; the first surgeon was appointed under the Labour Government; the grant for the further extensions to the Lewis Hospital was made under the present Conservative regime. It is also a demonstration of our professional adaptability, and shows that the influence of the State need not have a sterilizing effect. Lastly, it is a personal victory for the surgeon who has carried an idealist conception successfully into the region of fact.

## Ireland.

### Royal College of Surgeons: Charter Day Dinner.

A LARGE and distinguished gathering was present at the Charter Day dinner of the Royal College of Surgeons in Ireland, which was held in the College, St. Stephen's Green, Dublin, on May 19th, with the President, Mr. Andrew Fullerton, C.B., C.M.G., in the chair. The toast of "The King" having been honoured, the President proposed the health of the Governor-General, and expressed the regret of all present at the reason for his Excellency's absence that night, and their hearty wishes for his speedy and complete recovery. Proposing the toast of "Prosperity to Ireland," the President said he might be forgiven for avoiding any reference to the misery and strife and bloodshed which characterized the years which all lovers of the country hoped had passed away for ever. A brighter era appeared to be dawning for the country, North and South, and there were evidences that a sane attitude was being taken by the large bulk of the Irish people, who, weary of turmoil and unrest, were prepared to settle down to peaceful pursuits. Ireland was a magnetic country, as anyone who visited other places and conversed with travellers and sportsmen knew. Lord Glenavy, chairman of the Senate in the Irish Free State, responding, said that the prosperity of their country was bound up with the prosperity of its professions, and on that account, and in the best interests of Ireland, he delighted in hearing that their great College was so prosperous and flourishing. This was a thing, he thought, in which the country should take more pride. He meant not so much the honoured position that, in conjunction with other professions, the medical profession had always held and maintained at home and abroad, but what he thought was too often overlooked was the great reputation which their profession had consistently maintained in its personal integrity and character. Professor R. J. Johnstone, who also responded, said how much he and his colleagues in Belfast felt the gesture of kindness which that most distinguished College had paid to them in electing their old friend the Professor of Surgery in Belfast as its President for last year and for this year. He was glad to hear that their President was upholding during the tenure of his office the best traditions of surgery. The profession in Northern Ireland, he said, although separated from the Irish Free State by a boundary, guarded by stern guardians on both sides, still hoped and prayed and worked for the prosperity of Ireland, and delighted when their colleagues in the South were prosperous. Sir Conway Dwyer, who proposed the toast of "The Guests," said he thought that one of the most useful purposes that the annual dinner served was that it brought to their minds the assurance that that old College held an important place in the esteem and affection of their citizens. The barrier between North and South did not appear to apply to the medical profession, and it was to be hoped that in the future the disappearance of that barrier would be complete. Might he express the pious hope that, although North was North and South was South, yet in the future a happy meeting would take place? He was sure that they all earnestly hoped that a time would come when memories evoked by the name of a certain river might be forgotten, and that that same river would be esteemed only, and mentioned only, as one of the best salmon rivers in the country. The Rt. Hon. James McMahon expressed on behalf of the guests their feelings of regard and esteem for the President. As a fellow Belfastman he felt pride in the manner in which Professor Fullerton had upheld the dignity and lofty traditions of that great College. Dr. R. W. Leslie (Belfast) said that they rejoiced in the fact that the College had chosen a Belfastman as President; the profession in Belfast knew his gifts, his worth, and his work. The Council of the College was to be congratulated on its wisdom in entending facilities to Belfast graduates for obtaining their preliminary examination for Fellowship of the College, and he was certain that as a result a greater number of Northern students would endeavour to enjoy and share in the glorious traditions of that great

College. Sir John Moore, who also responded, said that they were all glad that the vexed question of medical registration had been settled, and he was most anxious that men at present abroad might have facilities, should they so desire, of practising in the Free State, when they retired from service in the British army and navy. He hoped that the present attempt to separate the nursing profession into North and South would not mature; the Queen Victoria's Jubilee Nurses had done splendid work in Ireland among the people, and especially the poor, and he would regard it as a disaster to separate these nurses into two institutions. Lord Glenavy, on behalf of the vice-president and members of the Council of the College, presented to the President a massive silver salver, accompanying the gift by a very high tribute to Mr. Fullerton.

### Provision for Mentally Defective Children in Northern Ireland.

This subject has come before several public boards lately. In the Northern Senate, on May 22nd, it was raised, and the Minister for Education said that the Education Act contained powers for dealing with the education of mentally defective children. It was proposed to hold a conference with the Association of Education Authorities. The question was bound up with that of the provisions required for the care and maintenance of mentally defective persons up to the age of 16. This could not be dealt with apart from the recommendations on the subject contained in the report of the Departmental Commission on the Local Government Administration, which was at present under consideration.

## England and Wales.

### Sheffield School of Medicine Centenary.

THE centenary of the Medical School in Sheffield is being celebrated this year, and it is interesting to record, in the manner of the times, the way in which the inauguration of this institution was announced. In the *Sheffield Mercury* of July 12th, 1828, appeared the following reference to the proceedings a hundred years ago: "On Wednesday afternoon last the first stone of the Medical Institution which is being erected in Arundel Street, corner of Surrey Street, was laid by Dr. Knight, after which the subscribers and their friends partook of a most sumptuous dinner at the Tontine Inn, Dr. Knight in the chair. Several very appropriate toasts and excellent speeches were given during the evening, by which the conviviality of the meeting was kept up till a late hour." Although instruction had been given by individual medical practitioners in Sheffield to their "pupils" for some years before that date the faculty of medicine of the University has selected this year for the celebration of the centenary, since it was in 1828 that a medical school with a corporate governing body first came into being. There, in honour of the occasion, the University will, on Wednesday, July 11th, hold a congregation, at which the Chancellor of the University, the Marquis of Crewe, will preside. Delegates from the medical faculties of other universities and representatives of the city and the University will be entertained at an official luncheon to be given by the faculty of medicine. It is hoped that as many past and present students of the medical school as possible will attend, as well as members of the profession in Sheffield and the district, and others interested in the welfare of the school. In the evening a conversazione will be held in the University, when many interesting scientific and other exhibits will be shown. The faculty is about to publish a history of the Medical School in Sheffield, written at its request by the late Dr. W. S. Porter.

### Post-Graduate Courses in Tuberculosis.

Two post-graduate courses, organized by the Joint Tuberculosis Council, will be given in the summer months, the first at the Lord Mayor Treloar Cripples' Hospital, Alton, Hampshire, from June 25th to June 30th, and the second at Cambridge, from July 2nd to July 7th. The arrangements for the Alton course have been made by the medical



superintendent, Sir Henry Gauvain, who will himself give the greater part of the lectures and demonstrations, and will deal with hospital organization for surgical tuberculosis, heliotherapy in surgical tuberculosis, tuberculosis of the spine, tuberculous adenitis and peritonitis, etc. Dr. Jones will lecture on tuberculosis of the hip, and Mr. Duke-Elder on tuberculous disease of the eye and treatment by ultra-violet light. "Bacteriology in tuberculosis" will be the subject of an address by Dr. Bannerman, and Mr. Fairbank will speak on differential diagnosis of bone and joint lesions. In the course of the week there will be a demonstration by Dr. Wood at King George's Sanatorium, Bramshott, including light treatment in adults, and the closing day will be given up to a demonstration at Sandy Point, Hayling Island, illustrating sea-bathing as a therapeutic measure.

The programme for the Cambridge post-graduate course has been arranged by Dr. P. C. Varrier-Jones, and an inaugural address will be given by Sir Humphry Rolleston, Bt. Professor J. B. Buxton is to provide a demonstration on tuberculosis, Professor G. H. F. Nuttall a demonstration of parasites, and Dr. G. S. Graham-Smith a lantern demonstration on flies. "Chemotherapy and the tubercle bacillus" and "The mental factor in tuberculosis" will be the subjects of lectures by Professor W. E. Dixon and Dr. J. T. MacCurdy respectively. Dr. W. Paton Philip is to speak on the diagnosis of pulmonary tuberculosis, and Dr. Louis Cobbett will discuss the influence of diet on the decline of the disease. An all-day visit will be made to the Papworth Village Settlement, under the guidance of Dr. Varrier-Jones, medical director, and at the closing session on the morning of Saturday, July 7th, Professor H. R. Dean will demonstrate the anatomical and microscopical changes present in tuberculosis. Information regarding the courses may be obtained from the Honorary Secretary, Joint Tuberculosis Council, Post-Graduate Courses, The Larches, Farnham Royal, Bucks.

#### Proposed Child Guidance Clinic for London.

An offer has been made to the London County Council by the Child Guidance Council for the establishment of a child guidance clinic in London to which maladjusted or delinquent children could be referred with a view to the establishment of harmony between the child and his environment. Clinics of this type are already established in Canada and the United States. The London Education Committee, in considering the proposal, points out that the idea is not altogether new, and has been carried out in London and elsewhere increasingly of recent years. Special schools, were first of all instituted for children suffering from physical disabilities, then for the mentally defective, with special classes for the dull and backward. In the matter of delinquent children, it has been the custom to obtain reports from special officers, care committees, and others, to arrange for special examinations by the school medical officer, and perhaps by the psychologist employed by the London County Council, and in this way the juvenile court receives assistance, as also does the superintendent of any residential school to which such children may be sent. Altogether, as much child guidance work is carried out in London as in any city in the world, though it has not been organized as formally as in some parts of America. Under the American plan the full history of the case is obtained to enable those working with the child to have a clear picture of the conditions under which he has lived. A report describing the work of a typical school guidance clinic (at Cleveland, Ohio) was laid before the Education Committee by Dr. Letitia Fairfield, who states that the great feature of the American work is the staff conferences on each case. At these the various clinic officers who have examined the case, representatives of the referring agencies, and perhaps the school teachers, may be present; comments are made, and a plan is drawn up for treatment, sometimes an elaborate one if family complications are to be relieved and harmony restored among an excitable group. Dr. Fairfield reported that "in view of the very lively dread of psycho-analysis in certain quarters, it may be said here that I did not find anything approaching analysis being carried out in

any clinic. Most of the staffs were not Freudians, but behaviourists, and even in the few cases where the psychiatrists belonged to the analytic school they did not think the procedure suitable for clinic conditions." The Education Committee is recommending to the Council that the offer of the Child Guidance Council for the establishment of a clinic be accepted, subject to certain conditions, that as an experiment for three years it be recognized as a school clinic, that children be referred to the clinic by the school medical officer, subject to the consent of their parents or guardians, and that visits to the clinic by the medical staff of the London County Council be allowed at any time.

## Scotland.

#### Gifts to Scottish Hospitals.

Two substantial money gifts to Scottish hospitals, both for the endowment of maternity institutions, have been announced recently. At the opening by Lady Chamberlain, on May 17th, of a new nurses' home at the Glasgow Royal Maternity Hospital it was intimated that Mr. Archibald Walker of Newart Castle, Ayr, had given a sum of £40,000 for endowment purposes to the hospital. The directors of the Dundee Royal Infirmary were informed at a recent meeting that for the further endowment of the new maternity hospital Mr. F. B. Sharp, a Dundee manufacturer, who resides at Cupar, in Fifeshire, and his sister, Miss Christina Sharp, had given annuity bonds of £14,000 and £6,020 respectively. Last year the two made an endowment gift of £28,000, and two years ago Mr. Sharp, with his brother, the late Mr. R. B. Sharp, gave £30,000 to build and equip the hospital.

#### Edinburgh Hospital for Sick Children.

The annual meeting of the Royal Edinburgh Hospital for Sick Children was held on May 8th. Mr. Colin M. Black, W.S., chairman of directors, who presided and moved the adoption of the report, referred to the fact that the hospital was unable to meet out of ordinary income the ordinary expenditure incurred in the hospital and convalescent home, and that legacies and special donations had to be used in the past year to make up a balance of £5,750. The report records the receipt of legacies in the past year amounting to £8,840. With regard to the patients treated, the average daily number during 1927 was 114 and the average duration of residence 17 days. The total number of patients treated in the wards and in the out-patient department was 38,803, compared with 33,354 in the previous year. In the hospital 1,106 operations had been performed, and in the out-patient department 1,395 minor operations. A special feature had been the artificial sunlight department, where the total number of treatments had been 8,919, as compared with 2,688 in 1926. In the ear and throat department attendances had numbered 2,439, as compared with 2,106 in the preceding year. Attention is drawn in the report to a special study which is at present being conducted by the hospital into the problem of rheumatism in childhood and adolescence, especially in regard to the production of cardiac disease.

#### Central Midwives Board for Scotland.

At the recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Dundee, and Aberdeen, there were 129 candidates, of whom 121 passed. Of the successful candidates, 20 were trained at the Royal Maternity Hospital, Edinburgh, 55 at the Royal Maternity Hospital, Glasgow, 10 at the Royal Infirmary, Dundee, 4 at the Maternity Hospital, Aberdeen, 5 at the Queen Victoria Jubilee Institute, 7 at the Elsie Inglis Memorial Hospital, 2 at Stobhill General Hospital, 3 at Belshill County Hospital, 2 at the Cottage Nurses' Training Home, Govan, and the remainder at various other institutions.

## Correspondence.

## MYCOSES.

SIR,—With reference to Dr. Rupert Hallam's interesting paper on mycotic infections of the hands and feet in your issue of May 19th, I should like to be allowed to emphasize the extreme frequency of these infections in the tropics, and in general in all countries with a warm moist climate, such as Louisiana and Mississippi in the United States, certain parts of Southern Italy, Spain, and the Balkans. In New Orleans more than 30 per cent. of the medical students suffer in the late spring and summer from epidermophytosis of the toes. The condition has, of course, been known for years in Ceylon, Southern India, Singapore, and Hong-Kong, where it is known by a variety of names—"mango toe," "Hong-Kong toe," "Cantlie's foot-tetter," etc.—and a description of it was given by Chalmers and myself in our *Manual of Tropical Medicine*. It is caused, as proved by Sabouraud and Whitfield, by the same fungi that cause ordinary dhobi itch (*tinca cruris*, *tinca inguinalis*), the principal species of these fungi being *Epidermophyton cruris* Castellani, 1905 (synonym, *Ep. inguinalis* Sabouraud, 1907), and *Epidermophyton rubrum* Castellani, 1909. Both these organisms were first found and described by me in Ceylon in cases of dhobi itch. They are also the causative agents of certain cases of mycotic pruritus ani.<sup>1</sup>

I should like to call attention to another as yet little known mycosis which is far from rare in the tropics and in temperate zones, including this country, but is often overlooked—namely, furunculosis cryptococcica vel moniliacea (pyosis cryptococcica vel moniliacea). I described this condition several years ago,<sup>2</sup> and recently I again gave a description of it in the Gehrman Lectures on mycoses, delivered by me before the University of Illinois, and published in the *American Journal of Dermatology and Syphilology*, February, 1928 (p. 205).

The condition clinically is often indistinguishable from ordinary furunculosis, the patient presenting on various regions of the body lesions identical with ordinary boils. It runs an exceedingly chronic course. In some cases the scalp is principally or solely affected (folliculitis decalvans cryptococcica). In these latter cases the eruption usually begins as a follicular pyosis of the scalp, each pustule being pierced by a hair. The pustules may be somewhat flattened or conical; in addition to the pustules there are often fairly large infiltrated patches which later on open and discharge through several openings like carbuncles. The hair in the affected areas falls off, and patches of baldness, at times permanent, may be seen.

Pyosis cryptococcica responds very satisfactorily to potassium iodide given in full doses, but not to staphylococcus vaccines. I shall be glad to supply workers interested in the subject with cultures of the fungi I have isolated from various cases.—I am, etc.,

ALDO CASTELLANI.

Ross Institute and Hospital for Tropical Diseases, London, May 22nd.

## THE TREATMENT OF MALIGNANT DISEASE BY COLLOIDAL LEAD.

SIR,—The report of Dr. Stanley Wyard on this subject, published in the *British Medical Journal* (May 19th, p. 838), is a highly significant, indeed a surprising, document, and as such calls for some comment from me. Certain past events into which I need not now enter make it a matter of strange taste for Dr. Wyard to have entered the field of criticism in regard to our work, and it may be doubted, in view of his own statements, whether Dr. Wyard ever seriously attempted to give the treatment a fair trial. Alternatively, or as well, we must question his clinical and scientific acumen, for a more unscientifically conducted investigation on which to base conclusions to the discredit of our work could hardly be conceived.

<sup>1</sup> *British Medical Journal*, December 1st, 1925, p. 1037.

<sup>2</sup> See *Journ. of Trop. Med. and Hygiene*, December 1st, 1924.

1. Why did Dr. Wyard use lead hydroxide after all our warnings to the contrary? True he does not include the cases so treated in his table of results; but the impression produced on the mind of an impartial observer, let alone that of Dr. Wyard, would have been deplorable. No doubt his views concerning the danger of the method were largely inspired by the effects following the use of a very toxic material.

2. The method of preparation of the so-called "colloidal lead" administered by Dr. Wyard, which he would have his readers believe was similar to our own, is grotesque. As I do not consider it necessary at the present juncture to discuss the full extent of his errors in this respect, I will merely remark that "shot" are not composed of pure lead, but contain what is believed to be an activator (arsenic) of malignant growth. This may surprise Dr. Wyard; nevertheless, it is a fact. What a poor return for the efforts of Professor Lewis and his associates in 1926 to teach Dr. Wyard how a lead colloid should be prepared!

3. The statements are made that "Examination of the blood really helps very little," and "We found that the number of red cells showing punctate basophilia was no evidence whatever for or against continuation of treatment"—statements which leave us bewildered. We can only conclude that Dr. Wyard's methods of observation are less refined than those of ourselves and others.

4. On examination of the table of results we note that of 56 patients treated with "colloidal lead" as many as one-half were under treatment for less than seven weeks, and of these, 17 died within that short period. A number—it is impossible to say from the data given exactly how many, but not less than 14 per cent.—died after a single dose. Forty-six of 56 patients did not receive the minimum complete course (0.5 gm. Pb), and 40 of these 46 received less than 0.4 gm. Pb. It is characteristic of Dr. Wyard's methods that, in regard to the only case which appears to have been suitable for treatment, and which has improved to so great an extent as to merit special comment, he should throw doubt on the diagnosis.

As Dr. Wyard draws from this assembly of clinical and scientific errors the conclusion that "there is no support for the statement that colloidal lead exerts a beneficial influence upon the progress of a malignant growth," perhaps I may be allowed to state my own conclusion from the same data—namely, that Dr. Wyard is neither competent to treat cases of cancer with lead nor to express an opinion on this subject.—I am, etc.,

Liverpool, May 21st.

W. BLAIR BELL.

## TREATMENT OF PROSTATIC ENLARGEMENT.

SIR,—I was much interested in the letter from Dr. C. E. Dennis of Melbourne, commenting on mine, published in your issue of April 21st (p. 691) and to note that his experience in the treatment of prostatic enlargement by radiotherapy agrees with mine.

It seems to me a most regrettable fact that British surgeons and practitioners do not recognize the great benefits that x-ray treatments can give in suitable cases. It is the same thing in the field of gynaecology where menorrhagias, metrorrhagias, menopausal haemorrhages, etc., are subjected to curettage, or a major abdominal operation, before radiotherapy has been given the trial that, in suitable cases, is always suggested on the Continent and in America prior to surgical intervention. No x-ray specialist of experience claims that radiotherapy is a panacea for all these conditions, but it is so often successful in effecting a cure that I plead that patients should be given the chance of relief by the simple and painless use of x rays more frequently than is at present the case. Regular consultations between the surgeon and the radiologist, and the mutual recognition by both of the expert knowledge in their own specialty possessed by each, is the only way in which the best interest of the patient can be attained.—I am, etc.,

J. CURTIS WEBB,

Consulting Radiologist, Gloucester  
Royal Infirmary.

Cheltenham, May 21st.

## DEAD AND INFECTED TEETH.

SIR,—In answering some points in Dr. Cowan's letter of May 19th (p. 876) I feel it would be best to confine myself to practical and scientific issues. With regard to instructions sent via the patient, the desirability of entrusting dental cleansing entirely to the dental surgeon's judgement, or, in doubtful cases, of arriving at decisions in consultation with him, must surely be obvious; it is certainly one's own practice to regard a dental practitioner, not as someone to whom "instructions" are sent, but as a colleague to whom one makes courteous requests. The extraction of teeth on x-ray "evidence" alone, and, conversely, their retention simply because of its absence, should be condemned; the widespread and growing subservience to radiography throughout the whole range of medicine and surgery as the supreme and infallible diagnostic instrument is a grave menace to the clinical skill of the rising medical generation.

It is not a surgical heresy to render aseptic a living organ; it is a surgical heresy to retain in the body a mass of dead tissue, difficult primarily of sterilization (vide Dr. Cowan's own admission), and, even if that be temporarily achieved, extremely liable thereafter for ever to infection as a *locus resistencie minoris*. There can be no exception to the principles of the practical application of pathology in however small a branch of the surgical art. I can only urge that the article leading to this correspondence should be re-read.—I am, etc.,

London, W.1, May 22nd.

C. JENNINGS MARSHALL.

## SEA-SICKNESS.

SIR,—Like Dr. Bennett (May 5th, p. 752) Dr. G. H. Orlic<sup>1</sup> has discounted the labyrinthine theory of sea-sickness. He found that a metabolic change was predominant, and that a "condition of acidosis is present before vomiting commences," which gets worse as vomiting sets in and continues. According to him the administration of glucose "causes diuresis, abolition of acetonaemia, and a fall in the ammonia excretion, resulting clinically in the relief of symptoms."

The change in the blood, it seems to me, can only be explained by an impairment of the hepatic function, primary in time. Either the pneumogastric nerve sends down impressions to the hepatic cells, inhibiting them, the reason and mechanism of which are rather difficult to see, or else the impairment is due to a change in the blood flow through the hepatic capillaries, occasioned by fall of pressure in the epigastrium, the result of the sudden descents with the ship pitching. The feeling one has when on board a pitching ship is the queer sensation, experienced especially in the abdomen, of removal of the pressure supporting the body when, after the rise, the ship falls: it is like the beginning of a descent in a lift. Even though changes in the brain occur, tending to cause nausea and vomiting, changes in the abdomen, produced locally, it seems to me, are much more likely to be causal of these visceral symptoms.

In this respect I note with interest the postural treatments advocated by Dr. Bennett, and by Dr. Wright (May 19th, p. 877). In severe cases the former places his patient in a warm salt-water bath for half an hour or an hour or more. "The relief is great and remarkably prompt. . . . The specific gravity of the water is 1020, and the body is supported very lightly." Moreover, the water, in virtue of its inertia, does not respond to the rolling and pitching as does the bath itself. Dr. Wright also advocates warmth and postural treatment. The patient is "to go immediately to a warm and airy cabin and lie on the flat of the back—not the side, remember!" I wonder why the patient must lie on the back and not on the side. Does it affect labyrinthine changes, or does it affect the pressure in the abdomen? It certainly influences the latter, as observations of the pressure in the rectum and in the stomach show that the pressure within the abdomen is greater when lying at ease on the back than when lying at ease on the side. (In the case of the stomach, this holds when the pressure on the back is

compared with the pressure when on the right side; if the patient lies on the left side the weight of the liver comes into play and higher pressures than when on the back are found.)

The efficacy of this postural treatment seems to support the idea that a visceral circulatory disturbance is in play: the effect of administering glucose further supports that conjecture. Glucose, presumably, can have no effect on labyrinthine disturbances; that it greatly helps the liver in its work, especially in states of impaired hepatic activity, we know. Thus we come to the opinion that the hepatic disturbance is due to a diminution of blood flow through the liver, occasioned by the successive sudden falls of intra-abdominal pressure. At first sight, however, it would seem that a fall in epigastric pressure, by decompressing the hepatic capillaries, would result in a greater capillary flow of blood through the liver. But there is evidence which indicates that with decompression of capillary beds a corresponding constriction of the supplying arterioles occurs—limiting the blood supply to the insufficiently supported capillaries, and, conversely, that with increased compression of capillary beds, a reflex dilatation of the arterioles concerned is produced—allowing a greater blood pressure to play upon the capillaries. These, being now more compressed, can withstand a greater blood pressure, and thus, unless the capillary compression is too great, a greater blood flow through the organ or part occurs. The portal vein and its branches are remarkable for their musculature: of what use is this unless to control the blood flow through the liver? That the degree of constriction of these vessels, as that of the hepatic arterioles, is particularly related with the blood pressure within the hepatic capillaries seems to me a reasonable supposition.

—I am, etc.,

Rugby, May 19th.

R. H. PARAMORE, F.R.C.S.Eng.

## PHARYNGO-OESOPHAGEAL SPHINCTER.

SIR,—In your issue of May 19th (p. 879) Mr. V. E. Negus writes to repudiate any connexion with what Dr. Hurst has called "the pharyngo-oesophageal sphincter of Negus." Mr. Negus offers an apology to Professor Chevalier Jackson, implying that that distinguished endoscopist's name ought to be associated with that misnamed sphincter rather than his own. I doubt if Professor Jackson will be flattered, as there is no such structure as a pharyngo-oesophageal sphincter; and it is certainly not synonymous with the crico-pharyngeus muscle, the Continental name for the lower division of the inferior constrictor, the role of which in health and disease was originally elucidated by the late Professor Killian in 1908. Even seven years later, when Professor Jackson published his large work on *Peroral Endoscopy*, he had only partially grasped Professor Killian's views on the action of the lower (that is, the crico-pharyngeal) portion of the inferior constrictor muscle, as he nowhere in that work alludes to the sphincteric function of the crico-pharyngeus, which Killian first so clearly expounded and illustrated.

Neither does Mr. Negus, as far as I am aware, in so many words allude definitely to the crico-pharyngeus as a sphincter. This muscle is, of course, purely a pharyngeal structure—the lowest muscular band—and is the sphincter of the lower end of the pharynx; it is altogether distinct from the gullet, and is not incorporated with the circular fibres of the latter; and, moreover, the pharynx and gullet belong to two distinct types of musculature both morphologically and histologically, as the circular fibres of the gullet are partially of the unstriped variety. What is really, however, to the credit of Mr. Negus is that he has made the suggestive pronouncement that a hitherto unrecognized function of the crico-pharyngeal portion of the inferior constrictor (which Killian called the sphincteric portion) is to keep closed the lower end of the pharynx during inspiration and thus preventing aerophagia—that is, the entry of air into the gullet at each respiratory intake.

Mr. Walter Howarth (May 26th, p. 922) thinks that credit should be given to Sir Everard Home for having discovered the crico-pharyngeus, but I may remind him that the anatomy of the pharynx, including its inferior constrictor muscle, with its two origins from the thyroid

<sup>1</sup> *Lancet*, 1927, ii, 811.

and cricoid cartilages respectively, was taught to students of medicine in Italy and elsewhere centuries before Home. It was Killian solely who taught us the sphincteric function of the muscle and the part it plays in pouches and in functional and other conditions.—I am, etc.,

London, W., May 24th.

WILLIAM HILL.

#### THROMBO-PHLEBITIS MIGRANS.

SIR,—Perhaps a lack of lucidity in my previous letter accounts for Dr. Jeudwine's presentation (May 12th, p. 824) of my statement as an argument against—whereas I had intended it as an argument for—the possible infective nature of thrombo-phlebitis migrans. When I said that most of my cases of pulmonary thrombosis (infarction) occurred in close chronological proximity with cases of such conditions as pulmonary embolism after operation and confinement, I meant that pulmonary embolism, whether it appears during an attack of influenza or after injury, operation, or confinement, has a habit of occurring during the epidemics of what we call "influenza." The inference, therefore, is that influenza or infection is connected with the thrombosis.

Leaving out of account such questions as whether the thrombosis is due to gelation of protein particles, and whether the thrombosis is always *in situ* and is never transferred (embolism), we still have to find out what *initially* causes the blood changes which lead up to the thrombosis; what, in other words, is the "primary condition" of which Dr. Jeudwine speaks. There is only one such definite condition that I know, and this is the presence of heart disease. Thrombosis, however, in the absence of the latter, may occur in any type of patient—last June I saw pulmonary thrombosis in a girl aged 8.

Dr. Jeudwine says that thrombo-phlebitis migrans cannot be regarded as primarily a bacterial infection, and that the true explanation is arrived at by the work of Mr. J. E. R. McDonagh. But surely Mr. McDonagh stated in his article that it is "in all the intoxications and infections" that "some of the protein particles in the plasma . . . undergo hydration." This, then, is no argument against the infective theory.

While I admit that in some cases of thrombo-phlebitis it is difficult to trace the original infection, in other cases the latter is very plainly observed. A few such cases are as follows.

(1) A man, aged 45, had acute tonsillitis; the temperature came down, but three days later there was extensive pulmonary thrombosis with expectoration of a large amount of dark haemorrhagic sputum resembling plum jam. Later jaundice and intense haemolytic anaemia supervened.

(2) A man, aged 37, had acute tonsillitis; he appeared to improve, but five days afterwards dyspnoea and cyanosis came on suddenly; he later spat up dark blood sputa, and subsequently became jaundiced. On the very same day when this man had his pulmonary thrombosis a woman had a pulmonary infarction after ovariectomy. She spat up dark haemorrhagic sputum, and died twenty days later of a second embolism.

(3) A man, aged 28, had acute tonsillitis on February 15th, 1926. Sixteen days afterwards there was otitis media, and on March 10th there was transient "nephritis" (renal thrombosis). On March 30th there was pulmonary thrombosis with characteristic blood sputa. Later there was thrombosis in one arm and intense anaemia.

(4) A woman pregnant for seven months had a pulmonary infarction with characteristic sputa; the initial label was "pneumonia." Thirteen days later I saw a man who, during an attack of influenza associated with a very localized pleural rub, expectorated very light blood sputa, which much alarmed his wife. These two cases occurred during the maximum prevalence of influenza in 1926.

(5) A woman who had influenza during the puerperium (her husband had influenza at the same time) developed a pulmonary thrombosis and expectorated some blood sputa on the nineteenth day.

(6) A woman, aged 39, had a slight attack of influenza before being confined. She died suddenly and unexpectedly on the eighth day of an aseptic puerperium. A partial necropsy disclosed an *ante-mortem* clot in the iliac veins. The chest was not opened, but there can be no doubt as to the cause of death. Eight days later a man aged 23, who had had a cold before operation, had a typical pulmonary infarction four days after operation for hernia. Influenza was again prevalent.

These are just a few cases culled at random. I have notes of many more which, when less experienced, I diagnosed as "pneumonia." I was in those days sur-

prised to find the patients walking out on the tenth day after no more than symptomatic treatment, in which the supply of electrons did not figure.

I have made no reference to the renal, cerebral, and mesenteric thromboses which I always see at the same seasons as I see the pulmonary thromboses. I refuse to believe that their occurrence together in point of time is always a coincidence, and I believe it is to be explained by the effect of some air-borne infection upon the blood.—I am, etc.,

Aberdare, May 14th.

AMBROSE W. OWEN, M.D. Lond.

#### THE "CURE" OF TUBERCULOSIS.

SIR,—Dr. Carswell hints that 0.000000001 mg. H.T.S. is so absurdly small a dose that it could not be effective. Will he give it and the subsequent doses a trial?

The dose of an antigen, as in the case of any other drug, depends on its potency, 0.000000001 mg. H.T.S. corresponds to 0.0001 c.m.m. A.T.; the equivalent dose of a potent streptococcal antigen is one million, approximately 0.0003 mg.

If Dr. Gunter adds to his good work by using autogenous catarrh antigens he will find that he will have to modify his third and fifth conclusions.

I was most interested in Professor Greenwood's paper. About twenty years ago Karl Pearson investigated the statistics of tuberculosis and pointed out that the fall was not as significant as it appeared to be, since the fall in the tuberculosis death rate was not so great as that in the general death rate—in fact, the tuberculosis death rate was tending to rise in its relation to the general death rate. Is this the case now? Some time or other an administrative area will be handed over for the practice of immunization methods of tuberculosis treatment. There will be an inevitable fall in the case incidence and mortality. I should very much like to know from Dr. Greenwood what the proper method of correction of the absolute figures should be so as not to give a false appearance of success.—I am, etc.,

W. M. CROFTON.

University College, Dublin, May 21st.

#### INJECTION TREATMENT OF VARICOSE VEINS.

SIR,—From this distance it is impossible to reply at once to all the correspondence regarding the injection treatment of varicose veins, but the three letters from Dr. Douthwaite, Dr. Ronald Thornhill, and Mr. E. W. Dewey (March 24th, p. 522) can be answered as one.

In the first place I would say that the expense of the oily compounds of arsenic is here not excessive, and even if it were the patients would have no objection to the cost if they cured varices. In my experience there is no danger in their use if the ordinary precautions are taken.

The chief theme of all the letters is to rebut my statement that varices of veins are of syphilitic origin. In my book on pathology it is stated that the diseases of veins are the same as those of arteries. Now only Dr. Thornhill makes out any case as to some other cause for varicose veins. He tabulates the causes as pressure—namely, pregnancy, standing, constriction of the limb (due to a tourniquet, I presume), or similar conditions. Surely Dr. Thornhill is not serious in suggesting that the pressure of pregnancy or constriction or standing is the cause of varicose veins. They may be the determining factor, but never the cause in a healthy subject. Should the varices persist after the "cause" has been removed, then certainly there must have been a predisposing cause, otherwise the incidence of varicose veins during pregnancy would be appalling. The copying by authors of causes of diseases from one book to another without sufficient analysis is well known, and it is only by personal observation with an open mind that one can narrow down the true causes of a disease. Would anyone venture to state that the cause of pneumonia is catching cold if the pneumococcus is not present?

Mr. Dewey's case is quite comprehensible, but an argument drawn from one case cannot be set against a general experience of a large number of cases dealt with and

cured without a single failure. Would it be asserted that I have been unfortunate in meeting only syphilites?

My method is to inject at the very lowest point of the vein below the last varix, and where it is of the vine-branched type to put some of the injection into each branch at the same sitting at the lowest point always. I then bandage the limb, as far as the varix extends, for a few days, when it is found to have vanished. With this I give Hutchinson's prescription for mercury by the mouth for three months. In varicose ulcers I inject below the ulcer with a very fine needle and apply some simple dressing, keeping the leg elevated for fourteen days, when it will have healed up with the formation of a strong scar, which does not again break down.

Treatment by operation or "embolic injections," if I might use the term, throws the burden on to the deeper veins. It has always been acknowledged that the result of operation causes the varix condition of the deeper veins to be exaggerated. By the embolic treatment there is always the fear that a portion of clot may break away, sometimes with fatal results, and there is also the pain which follows the injection.—I am, etc.,

Uppington, South Africa, April 24th.

W. M. BORCHERS.

#### TYNDALL v. ALCOCK.

SIR,—I read Professor E. W. Hey Groves's article on this case in the *British Medical Journal* of May 12th (p. 807), and I certainly fully agreed with it, and have much sympathy with Dr. Arnold Alcock, who seems to me to have done all that any of us have been taught to do in the sort of elbow injury described so graphically by Professor Hey Groves. Mr. P. B. Roth now enters the field (May 26th, p. 921), and, as so often happens in our profession, goes exactly counter to Professor Hey Groves, and I think without reason, because Dr. Alcock never stated that he treated his case with acute flexion of the elbow-joint and tight bandages, etc.

Ischaemic contraction is certainly a very rare accident and requires to be carefully guarded against, of course; but the actual point at issue in Dr. Alcock's case is, Did he, or did he not, exercise every reasonable care in the treatment of the case for which he was brought into court and mulcted in such heavy damages? I maintain, as a hospital surgeon of very extensive experience, that he did all that any of us were ever taught to do in a case of the sort, that the verdict against him has been most unjust, and that as a profession we should do all that can be done to see that he receives fair play.—I am, etc.,

Meath, May 26th.

EDWARD THOMPSON, F.R.C.S.I.,  
Surgeon, Tyrone County Hospital.

#### MEDICAL FREEDOM.

SIR,—Remarks made at a recent inquest by a coroner about a doctor who was supposed to have refused to attend a dying man seem to call for some comment. According to the *Observer* of May 6th:

"Dr. Edwin Smith, the coroner, in returning a verdict of 'death from natural causes,' said: 'I am not at all sure that the General Medical Council should not take up a case of this kind. A doctor is not, it is true, under a legal obligation to go to a person not already in his charge, no matter how urgent, but there is the strongest possible moral obligation when a case is one of urgency.'" (The italics are mine.)

Coroners, under the shelter of their court, frequently give voice to sweeping recommendations on matters fundamentally affecting the State or some of its members, and to some extent get the support of the uneducated part of public opinion. Dr. Smith in this case admits that the doctor's action, if it was as he was told, was neither criminal nor tortious, yet by laying stress on moral obligation he suggests that possibly the General Medical Council might interest itself in this matter, and thus put the doctor under the peril of losing his status as a registered medical practitioner. Although generally no other citizen is forced to practise his profession or occupation, and although at common law the doctor need not, yet Dr. Smith seeks to limit the freedom of the latter by calling into operation the body which governs the conduct of the profession, and thus undermine the principle and wisdom of the common law.

Now doctors are notoriously charitable, and there are very few who would not fulfil, without fear of punishment,

the moral obligation suggested by Dr. Smith—so few, indeed, that limitation of their freedom to sell their labour like anyone else would, to that extent, place the remainder in a position of quasi-slavery, contrary to the spirit of freedom natural to, and so wisely used by, the average Englishman.—I am, etc.,

Warrington, Surrey, May 16th.

W. S. RUSSELL THOMAS.

#### Obituary.

##### HIDEYO NOGUCHI, M.D.

IN the death of Hideyo Noguchi at the early age of 52 medical science has lost one of its most famous research workers. His was a name known to medical men throughout the world, and justly so; for his elaboration of the methods of culture of spirochaetes, particularly those of syphilis and relapsing fever, opened up to investigation fields which had not hitherto been explored.

Born in Japan in 1876 Noguchi was educated at Tokyo University, and at the early age of 25 proceeded to America to take up the post of assistant lecturer in pathology at Philadelphia. Two years later he was appointed research assistant to the Carnegie Institute, and later joined the staff of the Rockefeller Institute. There he acquired for himself an international reputation and brought lustre on this great centre of medical research.

Noguchi's early work on the blood, agglutinins, opsonins, haemolysins, snake venoms, and kindred subjects led him to a study of the serological diagnosis of syphilis, a line of research which culminated over sixteen years ago in his successful culture of *Treponema pallidum*, which spirochaete he shortly afterwards demonstrated to be present in the brain in general paralysis and in the spinal cord in tabes. These observations proved conclusively the syphilitic origin of these diseases. The methods of culture were extended to all known pathogenic forms, in addition to others which are merely saprophytic, like those in the mouth. He paid particular attention to the spirochaete of Weil's disease, many human and rat strains of which he investigated. For this type of spirochaete he introduced the name *Leptospira*, now in general use. In the midst of this work time was found for a study of the virus of vaccinia, it being shown that a bacterium-free virus could be cultivated in the testis of the rabbit.

Noguchi's acquaintance with the experimental side of leptospiral infections led him to Guayaquil in 1918 to study yellow fever, which had long been suspected to be a spirochaetal disease allied to infectious jaundice. There, at the end of 1918, and later in Mexico, Peru, and Brazil, he cultivated from the blood of supposed yellow fever cases a leptospira morphologically identical with that of Weil's disease. A long series of careful serological and animal inoculation experiments convinced him that the organism differed from *Leptospira icterohaemorrhagiae* of infectious jaundice, and regarding it as the long-sought-for etiological factor in yellow fever he gave it the name *Leptospira icteroides*. He even believed that he had transmitted it from guinea-pig to guinea-pig by means of the mosquito vector of yellow fever. A vaccine was prepared from cultures and an antiserum in horses, and reports submitted appeared to indicate that these were protective and curative in outbreaks of the disease. Doubts, however, began to creep in. Other workers could not confirm the serological findings, and in West Africa particularly British workers failed to discover the leptospira. Finally, the West African Yellow Fever Commission of the Rockefeller Foundation, on which Adrian Stokes sacrificed his life, announced the susceptibility of the Asiatic monkey and the absence of leptospira from human cases and that experimentally produced in monkeys. Though fully occupied with investigations on Oroya fever and verruga peruviana, and his recently isolated bacillus from cases of Mexican trachoma, which was giving experimental promise in monkeys, and though a relatively sick man, Noguchi proceeded to Accra in November, 1927, to study the African yellow fever on the spot. It was in the midst of this investigation, which he was carrying out with his accustomed thoroughness and care, that he was stricken:



with the disease and died. Had he lived he would have been the first to announce the results of his labours and to acknowledge any errors of judgement he may have made. With his unrivalled technical ability he could not have failed to add to our knowledge of yellow fever, even if he had had to withdraw from the position taken up by him after his researches in South and Central America.

Though at the present time the yellow fever researches appear most prominent, and undue importance is liable to be attached to the presence or absence of a leptospira in the disease—a disease which has been practically wiped out from the New World as a result of data obtained before Noguchi even commenced its study—it must not be forgotten that in many other directions this indefatigable investigator made valuable additions to scientific knowledge. He studied the serological and cultural relationships of the various leishmania and allied insect flagellates, and was the first to differentiate these clearly by serological reactions. Working with Ohira, he even found time to attempt with success the culture of the oral *Trichomonas* of man. In 1923 he was investigating the serological and immunological reactions in Rocky Mountain spotted fever, and from the transmitting tick of this disease cultivated a rickettsia-like organism. In a series of more recent papers he described the cultivation of the virus of Oroya fever, and proved by monkey experiment that the causative organism, *Bartonella bacilliformis*, was common to this disease and verruga peruana, thus establishing, if the observations are confirmed, the identity of the two diseases—a fact which has been the subject of considerable controversy. He was also successful in transmitting the infection by means of the tick *Dermacentor andersoni*—an observation which may throw light on the etiology of the disease in South America. Noguchi's latest researches had to do with trachoma, and only a brief reference to them has yet appeared. In the midst of his work at the Rockefeller Institute—work in which his time was more than fully occupied—came the results of the Yellow Fever Commission in West Africa. All other work was put aside, and he set out upon what has proved to be his last journey of investigation.

Noguchi was a pioneer, and his output on original lines was enormous; and though, like his conclusions regarding the organism of yellow fever and those on rabies and poliomyelitis, some of his deductions may require qualification, his influence on scientific thought during the past quarter of a century has been all to the good, and has been the direct means of stimulating research in many directions. Had he lived there is no knowing what important additions he might have made to scientific knowledge. His death appears to be peculiarly tragic, for in what must have been a futile attempt to discover leptospira in West African yellow fever medical science has been deprived of a mind which was particularly adapted and equipped for dealing with many of the problems confronting it to-day.

A. C. E. HARRIS, M.B., F.R.C.S.,  
Birkenhead.

We regret to record the death, on May 18th, of Dr. Alfred Charles Edward Harris, at the age of 77. Dr. Harris received his medical education in Edinburgh, where he graduated M.B. in 1872 and obtained the L.R.C.S.; six years later he became F.R.C.S.

He went to Birkenhead some fifty years ago and soon built up one of the largest practices in the town. He held various appointments, including those of honorary consulting medical officer of the Wirral Children's Hospital, and honorary consulting physician to the Borough Hospital. He was for some time a member of the town council, and had been a magistrate since 1894. At one time he was president of the Royal Medical Society of Edinburgh and a staff surgeon of the old Royal Naval Volunteer Reserve. At the outbreak of war he rejoined his unit and assisted in the examination of recruits. He always took a very active interest in the work of the British Medical Association, and was a member of the Lancashire and Cheshire Branch Council from 1883 to 1900 and from 1911 to 1920; he was vice-president in 1893, and president in 1903. Dr. Harris

was also chairman of the Birkenhead Division in 1904, a representative in the Representative Body in 1913, and deputy representative from 1918 to 1920.

We are indebted to Sir JAMES BAUN for the following appreciation:

By the death of Dr. A. C. E. Harris of Birkenhead the medical profession has lost a worthy member and I have had covered a warm and unbroken friendship of over half a century. He was a man of sterling merits, incapable of any mean act, and was always highly respected and esteemed by his professional brethren. Dr. Harris retired from practice just before the war on account of failing health. When, in October, 1925, I had the pleasure of moving the congratulatory address to him on the attainment of his jubilee of membership of the Liverpool Medical Institution, his state of health did not permit him to be present, but the warmth of the reception of my motion was most enthusiastic, and he much appreciated the congratulations of his fellow members. He was always a keen controversialist, an able debater, and as an after-dinner speaker he had few rivals. He took considerable interest in local politics, and for some time was a member of the Birkenhead Corporation; at one time he was an ardent Liberal, but with him the welfare of the State was of more importance than that of party. As a Justice of the Peace he devoted much time to the work of the bench, especially after he retired from practice, and this work he continued almost to the end. He had very few hobbies outside his professional work, and unfortunately hard and persistent work was the main cause of his breakdown in health. He rarely committed his thoughts to writing, but he was an omnivorous reader of all classes of literature, had a well-stocked library, and kept himself well abreast of all advances in medicine. Of all the practitioners I have met in consultation he was the one I liked best. You could always feel that he had the confidence of his patients, and that the consultation was not forced on him, but that he was the primo mover, and in the selection of the consultant he had only the welfare of the patient at heart. Dr. Harris was very happily married, and during his long period of impaired health he owed much to the assiduous care of a devoted and beloved wife. He leaves a widow, a son, and three grandchildren to mourn their loss.

Dr. WILLIAM SNODGRASS, who died in Glasgow on April 23rd in his seventy-second year, was born of Scottish parents in the United States of America, but soon afterwards was brought to the Renfrewshire town of Paisley, where he received his early education at the John Neilson Institution; proceeding thence to the University of Glasgow. He graduated M.A. in 1878, and became a schoolmaster for a brief period. Subsequently he resumed his studies at the University and entered upon his medical career, graduating M.B., C.M., with honours, in 1886. In 1900 he was admitted to the Fellowship of the Royal Faculty of Physicians and Surgeons of Glasgow. After spending some time in physiological study at Berlin he was, in 1887, appointed Muirhead demonstrator in physiology at Glasgow University, and in this department he worked for ten years in close association with Professor McKendrick in a partnership which resulted in several important publications; and he was for some years an examiner in physiology for the Royal Faculty of Physicians and Surgeons. Histological preparations made a special appeal to his orderly mind, and his thoroughness as a teacher was widely appreciated. Dr. Snodgrass ultimately gave up this work to devote himself to his growing practice, which had developed rapidly. During his later years he took a prominent part in professional affairs. He was a member of the Royal Medico-Chirurgical Society of Glasgow and of the British Medical Association, in which he served as a member of Council for four years, from 1919 to 1922; he was also at one time an active member of the Scottish Committee of the Association, and had been chairman of the Glasgow North-Western Division. Among his colleagues he enjoyed an affectionate popularity, and his death has caused general regret. He is survived by his widow and two sons, one being a practitioner in Glasgow.

MR. WILLIAM JAMES FOSTER, F.R.C.S., who died suddenly at Boscombe, Hampshire, on May 11th, spent the greater part of his professional life at Reading, where he was in practice for over thirty years. He received his medical education at St. Mary's Hospital, London, and obtained the diplomas L.R.C.P. and M.R.C.S. in 1890, being admitted to the Fellowship of the latter body two years later. After service at St. Mary's Hospital as obstetrical officer, house-surgeon, and clinical ophthalmic assistant, he commenced practice in Reading in 1893. His association with the Royal Berkshire Hospital began six years later, when he was appointed assistant surgeon; he became full surgeon in 1914, and on his retirement in 1924 was appointed consulting surgeon. In the development of x-ray work in Reading Mr. Foster was a pioneer, and was mainly responsible for building up that department at the hospital. During the war he held a commission as captain in the R.A.M.C., and had charge of one of the main surgical blocks of Reading War Hospital. He was president of the Oxford and Reading Branch of the British Medical Association in 1922. He is survived by his widow and a married daughter; a younger daughter who entered her father's profession died while in resident charge of a hospital at Quetta. A colleague, "G. H. R. H.," writes: The friends of Mr. Foster in Reading were shocked at learning that he had passed away. He was an able surgeon, and up to the time of his retirement kept himself well abreast of the remarkable advances surgery had made during his professional life. He took a keen interest in the Royal Berkshire Hospital, both from the professional point of view and as a member of the board of management. His opinion as a radiologist was greatly appreciated by his colleagues, as, in addition to his report as an x-ray specialist, he was able to give an expert surgical opinion on the case under discussion. Foster was one of the straightest of men, and his death leaves among his friends a void which will never be filled.

## The Services.

### DEATHS IN THE SERVICES.

Major William Hunt, O.B.E., M.C., R.A.M.C., died in Queen Alexandra's Military Hospital, Millbank, on April 24th, aged 37. He was born on October 24th, 1890, and educated at Trinity College, Dublin, where he graduated as M.B. and Ch.B. in 1915. Immediately after qualifying he took a commission as lieutenant in the Special Reserve of the R.A.M.C., on October 6th, 1915. He took a permanent commission as lieutenant and temporary captain on June 1st, 1919, became captain on April 6th, 1919, and received a brevet majority on July 13th, 1922. Since February, 1919, he had been seconded for service with the Egyptian army, and, till he recently came to England, had been senior medical officer at Khartoum. He served throughout the last three years of the great war, was mentioned in dispatches in the *London Gazette* of December 21st, 1916, and December 24th, 1917, and received the Military Cross and the O.B.E.

Lieut.-Colonel Robert Drury, R.A.M.C.(ret.), died on January 23rd, aged 80. He was born on October 1st, 1847, and educated at Galway and in the Dublin School of the Royal College of Surgeons in Ireland, graduating as M.D. in the Royal University in 1870, and also taking the L.R.C.S.I. in 1871. Entering the army as assistant surgeon on September 30th, 1871, he became surgeon lieutenant-colonel after twenty years' service, and retired on May 3rd, 1902. He served in the South African campaigns of 1879-81, in the Zulu war, and in the operations against Sekukuni, receiving the medal with a clasp; also in the Transvaal campaign, or first Boer war.

Lieut.-Colonel Richard John Baker, Bombay Medical Service (ret.), died on January 13th, aged 69. He was born on December 29th, 1858, the son of John Baker, J.P., of Balrothery, county Dublin, and educated at Trinity College, Dublin, where he graduated as M.B. in 1880, having taken the L.R.C.S.I. in the previous year. Entering the I.M.S. as surgeon on April 2nd, 1881, he attained the rank of lieutenant-colonel after twenty years' service, and retired, with an "extra compensation pension," on August 12th, 1909. He served on the North-West Frontier of India in the Zhoib campaign of 1884—a small frontier "show" for which no medal was given. When the great war began in 1914 he rejoined for service, and was employed in the York Place Hospital at Brighton.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

### National Health Insurance Bill.

ON May 23rd the House of Commons considered the National Health Insurance Bill on report, and thereafter read it a third time without a division. Opening the report stage, Mr. CHAMBERLAIN moved an amendment authorizing the Minister to make provisional special orders excluding from the operations of the National Health Insurance Act particular persons. Sir KINGSLEY WOOD explained that clauses had been added to the bill to enable share fishermen to come under the National Health Insurance Act, and the proposed new clause would enable the Minister to exclude persons who were owners of fishing boats on their own account. Dr. VERNON DAVIES said the Minister was asking for a blank cheque. The new clause was added to the bill.

Mr. RHYNS DAVIES moved a new clause to permit an approved society with separate branches partially to pool its surpluses for mutual aid. Sir KINGSLEY WOOD said the clause should be rejected. National health insurance had never been so national as to-day, nor had so much money ever been distributed under it. Mr. KELLY said the proposal would allow the poorer branches to provide additional benefits. The proposed clause was rejected by 230 to 117.

After a further amendment dealing with share fishermen had been discussed and withdrawn, Dr. FREMANTLE moved an amendment to Clause 4, which deals with subscriptions by approved societies to charitable institutions. He proposed to add the words "or for the support of district nurses." These words had appeared in the 1924 Act, but had been omitted. If they were not inserted some approved societies might think they were no longer allowed to contribute to that purpose. Dr. DRUMMOND STIRLIS seconded, and the House agreed to the amendment.

Mr. RHYNS DAVIES moved to leave out Clause 13, which amends the sections of the principal National Health Insurance Act regarding the mercantile marine. Sir KINGSLEY WOOD explained that the clause provided for the schedule system in place of a stamped card system. There would be a voyage card giving short particulars of each seaman, but no stamps. Under the bill all seamen would be eligible for pension out of the Seamen's Pension Fund, as well as under the Contributory Pensions Act, at 65. The amendment was withdrawn.

On Clause 19 Sir KINGSLEY WOOD said Mr. Chamberlain and he would desire, if they could find a practical plan which would not unduly burden the national exchequer, to make the benefits of the national insurance scheme and of the contributory pensions scheme available to the small shopkeeper and people of that type. Under the clause people who for the first time would be covered for national health insurance purposes included hay-cutters working at picco rates; people working for timber merchants and forage merchants; stonebreakers and quarrymen; subcontractors in building and other trades; hedgers, ditchers, drainers, and thatchers; porters in wholesale fish, meat, and vegetable markets; slaughtermen and men of that kind.

Other administrative amendments were made, and Mr. CHAMBERLAIN then moved that the bill be read a third time. He said it endeavoured not to extend the scope of the national health insurance scheme, but, within its present financial limits, to improve the machinery and to give some relief where required. The bill offered generous treatment to persons who, by reason of genuine unemployment, had fallen into arrears with contributions. Discussion on the administration of additional benefits had resulted in agreement that there were some kinds of benefits, in the nature of medical benefits, which were not suitable for administration by insurance committees or even by approved societies. They had to contemplate in future, particularly in the administration of clinics, an arrangement under which there would be a joint representation of the professional men concerned in carrying out the service and of the approved societies. In the regulations to be made under the bill a more satisfactory administration of these benefits should be set up than in the past. A definite statement had been embodied in the bill of the right of the insured person to a free choice of dentist or doctor. A proviso specifically stated that regulations were not to restrict the right of any insured person to obtain treatment from any practitioner, clinic, or other institution with whom arrangements in respect of that form of treatment had been made in accordance with the regulations. He shared the regret that it had not been possible to include an arrangement whereby a specialist service could be provided for insured persons. That would be the greatest improvement which could be made at this stage to the general scheme of national health insurance. He hoped that in course of time this provision could be arranged, but approved societies generally had not accepted the recommendation of the Royal Commission that the specialist service should be obtained by pooling of surpluses. Therefore it was impossible to put that forward in the bill, but a little advance had been made towards it in the schedule of additional benefits. That dealt with payments to approved charitable institutions where insured persons might get the benefit of specialist treatment.

Mr. RHYNS DAVIES said every official of an approved society would be glad to see the bill become law.

Dr. VERNON DAVIES said the medical profession viewed the bill with some suspicion, and were not quite certain as to what might be its result. Owing to friction between the approved societies and the medical profession it was found necessary in the first National Health Insurance Bill to include statutory provisions concerning medical benefit. The medical profession retained that statutory right up to the present bill, but the Minister of Health had now withdrawn it and had given the profession the promise

of departmental regulations instead. The profession felt that a statutory provision was of much more value to it. The bill would enable a future Minister of Health to make regulations enabling the co-operative societies to start a clinic for eyes, ears, nose, or throat, and then to appoint their own doctors. The medical profession was anxious that the national health insurance scheme should be a success, and recognized that that could only be secured by co-operation between the approved societies, the profession, and the State.

Dr. DRUMMOND SHIELDS said the bill did not go far enough. If the Royal Commission suggested a method by which specialist services could be carried out, why did not the Minister of Health seek to carry it out? The Minister had been guilty of lack of courage in not tackling this question. So long as these services were not provided the national health insurance service gave the mass of the population an incomplete and inadequate medical service. In committee the medical members had tried to assure that the wives of approved persons should have, in confinement, adequate midwifery service. At present maternity money payment was, quite naturally, often used for other purposes, and confinements took place without medical or midwifery attendance. The Ministry of Health had in hand schemes dealing with this matter, which the medical members had not pressed on the report stage of the bill because they understood some effort was being made by the standing joint committee to achieve progress in this direction. The problem of maternal mortality was complicated and difficult, but everyone agreed that one thing to be done was to provide adequate midwifery attendance at the time of confinement. Dr. Shields commented on the fact that dental benefit was not provided until an insured person had been a member of an approved society for five years. By the school dental service a child could get dental treatment up to the age of 14, but then from 14 to 16 and up to 21 there were seven years without an effective dental service. Dental service should be given early. He had made representations to the Minister, and they were being favourably considered. Could the Minister say whether anything had been decided on which would make it possible for young people to obtain attention for their teeth immediately after they became insured persons? The bill showed a tendency to concentrate too much on the financial side of the scheme and on money benefits rather than on providing an efficient and comprehensive medical scheme for the insured person.

Dr. FREMANTLE said that medical members of Parliament looked at insurance bills not in relation to the pockets of the medical profession, but to the health of the community. In preventing disease and reducing sickness the bill of 1911 had not been so successful as was hoped. They had to remember that the insurance bill was watertight, so far as finance was concerned. What the House had to do was to rearrange the distribution of the fund. Members would find that the first seven of the new additional benefits were cash benefits. All through the cash benefit loomed larger than the benefits in kind. (Labour members: Why not?) The original insurance scheme was a balance between financial relief in time of distress and technical treatment for the cure, and still more for prevention, of the causes of that distress. They were glad the Minister had appointed a committee on maternal mortality, but statutory benefit for maternity, which was originally 30s. and no professional attendance, had been increased to an average of 46s. and still no treatment. It was not true that the people who received this money got the best treatment which could be provided. The Government in committee had opposed the proposal that additional medical benefit should be given in professional attendance by midwife or doctor. Those who looked after the health of the community hoped that they would get more of a professional and proper use of the funds of the insurance scheme. In that hope they welcomed the bill.

Mr. JOHN said the Association of which Dr. Fremantle was a member succeeded in removing from the original Act a clause which would have made possible a better system of maternity, specialist, and general medical treatment than was given in the bill. That clause enabled the workers of the country to form medical schemes and to co-ordinate different forms of medical treatment. Schemes in existence which would be wiped out under this bill—co-ordinated maternity, dental, surgical, and medical treatment. The Medical Aid Society had brought pressure to bear upon the Ministry of Health, and the possibility of co-ordinating these medical services was now being removed. The bill was then read a third time.

In a reply to Mr. Rhys Davies, on May 23rd, it was stated that in 1927 the amounts of the State grant on the non-cash benefits paid by approved societies in England and Wales were: dental, £438,300; ophthalmic, £53,510; hospitals, £56,760; convalescent home treatment, £15,950; surgical appliances, £9,520; convalescent or distress, £1,610; nursing, £730; providing convalescent homes, £720; repayment of contributions, £220. The total was £559,300, against £226,620 in 1926 and £169,020 in 1925. The State grant for dental benefit in 1925 was £97,150, and in 1926 £185,590; for ophthalmic benefit, £12,860 in 1925 and £25,250 in 1926, and for hospitals £48,760 in 1925 and £37,090 in 1926.

#### *Tuberculous Patients in Small-pox Hospitals.*

Mr. CHAMBERLAIN told Dr. Vernon Davies, on May 24th, that twenty-one small-pox hospitals had been used during the past three years for the treatment of tuberculosis, in one case for the summer months only. Tuberculous patients had been removed from these to provide accommodation for small-pox cases. At least three would not again be used for tuberculous patients, alternative accommodation having been provided or being in course of provision.

Dr. DAVIES asked whether Mr. Chamberlain knew that some of the tuberculous patients had to return to their own homes as no

savatorium accommodation could be provided for them. Mr. CHAMBERLAIN said some disadvantage attached to the use of small-pox hospitals for tuberculous patients, but when it was necessary for these hospitals to revert to their original use every effort was made to find other accommodation for the displaced patients. It was primarily for the local authorities to consider what steps should be taken to avoid some of these patients having to return to their own homes.

Dr. DAVIES asked whether Mr. Chamberlain thought that if the Vaccination Acts were more rigidly enforced he would be able to use some of this accommodation for cases of tuberculosis which were of a more serious nature than cases of small-pox at present.

Mr. CHAMBERLAIN said they could not entirely neglect the possibility of the occurrence of small-pox as to be able to dispense with small-pox hospitals.

*Education of Mentally Deficient and Delicate Children.*—On May 24th, answering Mr. Hollins, Mr. CHAMBERLAIN said that of the 125 local authorities under the Mental Deficiency Acts 21 had made direct provision of institutional accommodation for mentally deficient children. Others had provided for the accommodation of such children by contracting with the managers of privately owned institutions or with Poor Law authorities. All tuberculosis authorities included in their schemes provision for the institutional treatment of tuberculous children. Education was provided for tuberculous children who made more than a brief stay in a sanatorium, and education and training suited to their capacity was provided for all mentally deficient children while in an institution. Arrangements existed between the Ministry of Education, the Ministry of Health, and the Board of Control for co-ordinating the services in respect of mentally defective, delicate, and tuberculous children. Of local education authorities 2.5 per cent. provided nursery schools, 3.1 per cent. residential open-air schools, 12.9 per cent. day open-air schools, 2.2 per cent. residential schools for mentally defective children, and 23.6 per cent. day schools for mentally defective children. In addition, in areas such as London and Manchester classes attached to public elementary schools had been started more or less on open-air lines for young or delicate children.

*Stabilization of War Pensions Rates.*—Major TRYON (Minister of Pensions) announced in the House of Commons, on May 23rd, that, although existing rates of war pensions were safeguarded till 1931, the Government was considering the conditions under which stabilization of present rates of all pensions and allowances under Great War Warrants could be effected. Major Tryon hoped to be able to make a full statement before the end of the parliamentary session.

*Sheep Dip.*—Mr. GUINNESS, replying to a question on May 23rd, said that so far as he was aware there were no Home Office regulations regarding workers engaged in the manufacture of sheep dip or in dipping sheep. No Home Office regulations or instructions were given to persons purchasing sheep dip, the sale of which was governed by regulations made by the Privy Council under the Poisons and Pharmacy Acts. Mr. Guinness summarized these regulations, and added that the Ministry of Agriculture, under the Sheep Scab Order of 1928, required that all packages containing dips must be labelled with a label approved by the Ministry, stating the proportion in which the dip should be mixed and mentioning if it contained arsenic. The Ministry had widely distributed a leaflet advising persons how to use sheep dips.

#### *Notes in Brief.*

The Bethlehem Hospital Bill, which has passed the House of Lords, was formally read a second time on May 21st and sent to the Committee on Unopposed Bills.

The largest number of ex-service men, excluding those in mental hospitals, in receipt of hospital treatment at any one time during the first quarter of 1928 was 11,400.

On December 31st, 1927, in England and Wales, 14,260,000 persons were entitled to benefit under the National Insurance Acts. Of these, 9,210,000 men and 4,620,000 women were on the registers of approved societies.

Asked about the danger to the civilian population of an escape of phosgene or of other poisonous gases, Sir WILLIAM JOYNSON-HICKS announced that investigations were being made into the storage of gases under pressure.

Nine outbreaks of foot-and-mouth disease occurred during March; four during April, and eleven during the first three weeks of May. Of these, twenty were attributable to local infection from other outbreaks, and the source of the rest remains obscure.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

SIR E. FARQUHAR BUZZARD, K.C.V.O., M.D., Regius Professor of Medicine and Student of Christ Church, has been elected to an honorary Fellowship at Magdalen College, of which he was formerly a commoner.

### UNIVERSITY OF CAMBRIDGE.

Dr. ALFRED ERNEST BARCLAY, of Christ's College, has been appointed University Lecturer in Medical Radiology and Electrolology until October 31st, 1930.

At a congregation held on May 25th the following medical degrees were conferred:

M.D.—E. P. Hicks.  
M.B., B.Chir.—W. J. Moody, H. A. Clegg.

### UNIVERSITY OF LONDON. UNIVERSITY COLLEGE.

THE examination for the Bucknill Scholarship (160 guineas) and for two exhibitions (value 55 guineas each) will begin on June 26th. The subjects of the examination are chemistry, physics, botany, and zoology. The scholarship and the two exhibitions are tenable at University College, London. Entry forms may be obtained from the Secretary of University College, and must be in his hands not later than June 9th.

### UNIVERSITY OF LIVERPOOL.

THE Council of the University has received with regret the resignation by Professor J. W. W. Stevens of the Sir Alfred Jones Chair of Tropical Medicine, which he has held since 1913.

## Medical News.

SIR WILLIAM BEVERIDGE, K.C.B., Vice-Chancellor of the University of London, will distribute the prizes at St. Thomas's Hospital Medical School, in the Governors' Hall, on Wednesday, June 20th, at 2.30 o'clock. Academic dress will be worn, and there will be tea and music on the terrace.

SIR MAURICE CRAIG will take the chair at an "At home" in connexion with the Nurses' Missionary League on Thursday, June 7th, at 3.15 p.m., in the Church House, Great Smith Street, Westminster, when the Bishop of Blackburn will give an address. Invitation cards can be obtained from Miss Richardson, 135, Ebury Street, S.W.1.

THE Section of Urology of the Royal Society of Medicine will hold a special meeting on June 28th and 29th. On the afternoon of the first day there will be operations at St. Peter's Hospital, and at 8.30 p.m. Professor Juracz of Poznan will read a paper on movable kidney, to be followed by a discussion. On the second morning special instruments will be demonstrated, and at 2 o'clock there will be operations at St. Thomas's Hospital.

THE National Institute for the Deaf has arranged for a conference of delegates from universities, education authorities, special schools, and welfare societies for the deaf to be held at University College, London, on June 6th, at 2 p.m., with a view to placing the higher education and further technical training of the deaf and dumb on a more effective basis. We referred on September 18th, 1926 (p. 36), to the organization of the National Institute for the Deaf and the facilities then in existence for treatment. Further information may be obtained from the secretary of the Institute, 2, Bloomsbury Street, W.C.1.

THE annual pond life and general microscopical exhibition of the Royal Microscopical Society will be held in the lecture hall at 20, Hanover Square, W., on Wednesday, June 6th, from 7.30 to 10 p.m.

THE Committee of Inquiry on Lead Ethyl Petrol conferred, on May 25th, with Surgeon General Cumming, head of the Public Health Service of the United States of America. Dr. Leake, one of the senior officers of that service, was also present. The extensive researches which have been conducted in America by the Public Health Service and others for the purpose of ascertaining whether there was any risk of lead poisoning by the use of ethyl petrol were fully discussed. A further meeting will be held at the Office of Works, St. James's Park, S.W., on Wednesday next, June 6th, at 11 a.m., to take evidence from Sir William Pope, F.R.S., Professor H. B. Baker, D.Sc., F.R.S., and Professor G. I. Finch. The proceedings will be open to the public.

THE purpose of the eighth World's Dairy Congress, which is to be held in Great Britain this year, is "to effect an international exchange of the latest knowledge of the science and practice of dairying, and of the value of the use of milk and its products in the human dietary." The headquarters of the congress, which has been organized by a special committee in London acting in association with the International Dairy Federation, will be at the Central Hall, Westminster, from Tuesday, June 26th, to Saturday, June 30th, when the main work of the conference sections will be completed. On the following Monday and Tuesday sessions of the congress will be held at Reading, where the University is the seat of the National Institute for Research in Dairying, and the remainder of the week will be devoted to a tour in Scotland. On returning south special arrangements have been made for delegates to visit, on July 10th, 11th, and 12th, the Royal Agricultural Society's Show at Nottingham. Sir George Newman is president of the section concerned with milk consumption, administration, and control, which will meet on June 29th at the Central Hall, Westminster; among the papers are several of interest to those concerned with

dietetics or public health. A special section, meeting at Reading University on Monday, July 2nd, will deal with dairy bacteriological technique, the subject for discussion being the relative values of different methods of testing the cleanliness of milk. Membership of the congress is open to Government official delegates, representatives of local authorities and associations, and others interested. Particulars may be obtained from the organizing secretary, 28, Russell Square, W.C.1.

DR. D. S. DAVIES, who retired recently after forty-two years' service as medical officer of health for Bristol, was on May 24th presented with an oak bureau and bookcase from the members of the staff of the health department. The presentation was made by Dr. B. A. I. Peters, who expressed the hope that their former chief, now that he had retired, would be able to give the medical profession the benefit of his very extensive knowledge of epidemiology. In returning thanks Dr. Davies referred to the development in public health organization which had taken place in his service. At first the only hospitals belonging to the health authority were two wooden sheds close together in a stone yard, one labelled "fevers" and the other "small-pox." When they first built their isolation hospitals there was considerable difficulty in inducing parents to allow their children to go; they thought experiments were going to be made on the children. Tributes to Dr. Davies's work and to his personal qualities were paid by representatives of his former colleagues, lay and medical.

THE Chartered Society of Massage and Medical Gymnastics has published a register of members, covering the period from its incorporation by Royal Charter in 1920 to March this year, and containing the names and addresses of all massencers and massencers recognized as such by the society. Additional qualifications—for example, in medical gymnastics, in medical electricity, or as teachers—are noted, and the possession of other qualifications as nurses, midwives, dispensers, etc., is indicated. As a supplement to the alphabetical list there is a geographical list, giving the names of members under the postal district or place in which they reside. The register is published by the society at 157, Great Portland Street, W.1, price 4s.

THE report of the school of medicine of Shantung Christian University for the year ending June 30th, 1927, contains a short account of the progress of medical education until the end of March in that year, when it became necessary for all British and American subjects to leave. The school of medicine was closed by the authorities, but the hospital was carried on under Chinese management. Plans were well advanced for building a new hospital, but it is thought unlikely at present that the necessary money will be obtained. Emphasis is laid in the report on the importance of including more Chinese medical practitioners on the staff. The medical school was reopened in September, 1927, with twenty new admissions, as well as the majority of the old students, so that the work of training the Chinese in Western medical science is being continued.

A POST-GRADUATE course in malariaology will be held in Rome from July to September, which will include excursions to malarial districts. Further information may be obtained from the secretary of the Scuola, R. Clinica Medica, Policlinico Umberto I, Rome.

THE International Congress of Oto-rhino-laryngology will be held at Copenhagen, under the presidency of Professor Schnitzelgrew, from July 20th to August 1st, when the following questions will be discussed: radical, partial, or palliative operations in suppurative otitis media, introduced by Neumann of Vienna and Tapia of Madrid; septicaemias of pharyngeal origin, introduced by Forrer of Rome and Offenord of Marburg; diathermo-chirurgical treatment of malignant growth, introduced by G. Holmgren of Stockholm and Dan Mackenzie of London; anatomy of the ear and its influence on aural suppuration, introduced by J. Mouret of Montpellier, Portmann of Bordeaux, and Wittmack of Hamburg. Further information can be obtained from the general secretary, Dr. Mijeville, Place Vintimille 11, Paris, 9<sup>e</sup>.

DURING the first twelve weeks of 1928 more cases of meningococcus meningitis were reported in the United States than were recorded during the corresponding periods of 1926 and 1927, the figures being 1,179, 562, and 698 respectively. The highest prevalence is reported for the Mountain States and the lowest for the South Atlantic States.

As we go to press we learn with deep regret of the death from yellow fever of Dr. William Alexander Young, director of the Medical Research Institute of the Gold Coast, where Professor Noguchi was working at the time of his death. It is believed that Dr. Young contracted the disease in the course of a necropsy upon Professor Noguchi. We hope to publish an obituary notice in an early issue.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring **REPRINTS** of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to **ADVERTISEMENTS**, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 9561, 9562, 9563, and 9564** (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:  
**EDITOR** of the **BRITISH MEDICAL JOURNAL**, *Aitiology Westcent, London.*  
**FINANCIAL SECRETARY AND BUSINESS MANAGER** (Advertisements, etc.), *Articulate Westcent, London.*  
**MEDICAL SECRETARY**, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Racillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### MIGRAINE.

"M.R.C.S." who suffers severely from migraine, would be glad to hear from any fellow-sufferor whether luminal is of use as a prophylactic, and, if so, whether sodium bromide should be taken at the same time.

#### CIGARETTES AND SUCKLING.

"A. F. S." asks if excessive cigarette smoking on the part of a nursing mother would be injurious to a six-weeks-old infant and be likely to cause vomiting and general ill health.

#### ULTRA-VIOLET RAYS FOR ACNE.

Dr. T. M. GUTHRIE (Rock Ferry, Cheshire) asks what form of ultra-violet ray treatment is the best for chronic indurated acne of back and shoulders. Is a course of exposures at 36 in. for one and a half to two minutes to the rays of a mercury vapour lamp sufficient, or is something more stimulating needed, such as the Kromayer lamp actually pressed on the skin or held quite close?

#### ANGOSTURA BITTERS.

"T. D." asks: (1) What is the chemical nature of angostura bitters, and what, if any, are its active or toxic constituents? (2) What are its physiological or pathological effects? (3) Are there any known authentic cases of poisoning, chronic or acute, occurring as a direct result of the consumption of angostura bark?

\* \* \* The chief ingredient of angostura bitters is the angostura bark, also called cusparin bark. A good deal of work has been done on cusparin in times past, and numerous alkaloids have been found in it, but we are not aware of any evidence suggesting that the bark can be regarded as in any way toxic. It was formerly thought to have febrifuge and antiperiodic properties, but its virtues are, in all probability, merely those of an aromatic bitter tonic. We have been unable to find any record of a case of poisoning, acute or chronic, as the result of consuming the bark in any form. Two recipes for angostura bitters are given in *Pharmaceutical Formulas*, issued from the office of the *Chemist and Druggist*. Each contains angostura bark and alcohol as the principal ingredients, with cardamom seeds, cinnamon, and orange peel as flavourings. The second formula includes also cinchona bark and gentian root.

#### INCOME TAX.

##### Renewal of Car.

"A. C. R." sold his car in July, 1927, and is being allowed £640 as obsolescence, that amount wipes out his Schedule D income, if not his entire taxable income, and therefore he receives no benefit from the children's and life assurance allowances. Can he spread the deduction over, say, the next two years?

\* \* \* No; the amount must be treated as an expense of the year in which the replacement was effected. "A. C. R." can, however, carry forward the loss resulting from so treating the expense and deduct that amount from the income of 1928, and

can also claim to have the personal and similar allowances for 1928-29 granted from his other income—by repayment, if necessary.

#### Claim to Three Years' Average.

"J. M." commenced practice on September 30th, 1924, having terminated his assistantship two months earlier. He was assessed for 1925-26 on the amount of his earnings for that year—presumably as having commenced a new practice. Can he claim to be assessed on the basis of the three years' average for 1927-28?

\* \* \* The average can be claimed under certain conditions by "any person who for the year 1926-27 was assessed and charged under Schedule D . . . upon an average of a period of three years or more. . . ." (Finance Act, 1926, Section 29 (3).) If, as we understand, "J. M." was regarded for income tax purposes as having started a new practice, he will have been charged to tax for 1926-27 on the basis of his first year's earnings and not on "an average . . . of three years." In such circumstances he is not within the relieving section quoted above.

### LETTERS, NOTES, ETC.

#### BRONCHO-PNEUMONIA IN CHILDREN TREATED BY INJECTIONS OF EMETINE.

Dr. T. DOUGLAS ROSS (Glasgow) writes: In your issue of May 19th (p. 844) Dr. C. Robertson Wilson recorded the results of treatment of fifty cases of broncho-pneumonia with injections of emetine hydrochloride. He notes that, while in some cases the febrile period seemed to be shortened by emetine, in others the drug had no apparent effect. I suggest that his successful cases (apart from some that might have done well with no medicine) were examples of the homeopathic action of emetine, and that the cases which did not respond needed some other drug, according to their particular symptoms. Fifty children with broncho-pneumonia differ widely one from the other. One may show anxiety, restlessness, an after-midnight aggravation of symptoms, and excessive prostration—indicating arsenic. In another, intense thirst for big cold drinks would suggest phosphorus; if with this thirst there is profuse head sweat, verruca viridis is indicated. In my experience ipecacuanha is needed fairly frequently, especially at the commencement of pneumonia in children, when nausea and vomiting are prominent, the respirations are rattling from excess of mucus, and the cough is spasmodic, almost suffocative. When this rattling is present in cases nearly moribund, and the child seems almost suffocated with its bronchial secretions, tartar emetic is preferable, and often saves a life.

#### WHOLESALE EXTRACTION OF TEETH.

Dr. R. N. BURTON (Invercargill, North Queensland) writes: Is it not time that a halt was called in regard to the indiscriminate extraction of teeth on insufficient grounds? On a number of occasions I have seen patients urged to have all their teeth removed, the only local indications being a slight retraction of the gums or a slight gingivitis. A brief discussion with any patient who has had all his or her teeth extracted would, I am sure, convince any medical man that there are grave mechanical and other disadvantages attached to the wearing of dentures. I am convinced that in many cases where the trouble is attributed to a patient's teeth this is a refuge and not a diagnosis. I would suggest that before advising the serious step of wholesale extraction a doctor should satisfy himself that the teeth in question are definitely loose, or that apical sepsis is clearly demonstrated by x rays. If there is any doubt as to the cause of the malady (and I submit that in many cases where the patient's teeth are blamed there is grave doubt), instead of ordering a wholesale extraction of teeth the patient should be given the benefit of that doubt and treated on general lines, and instructed to return in, say, six months' time for another examination.

#### INTRAVENOUS TREATMENT OF VARICOSE ULCERS.

At the combined meeting of the Sections of Dermatology and Surgery of the Royal Society of Medicine on May 16th, reported in our last issue at p. 897, the chair was taken not by Mr. Davies-Colley, but by Dr. J. M. H. MacLeod, President of the Section of Dermatology.

#### HARVEY TERCENTENARY BANQUET.

PHOTOGRAPHIA, LTD. (17, Cheshamside, E.C.2), ask us to say that their flashlight photograph of the Harvey tercentenary banquet in the Guildhall may be obtained in three sections, No. 1 being the centre section, No. 2 that on the president's left, and No. 3 that on his right.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 44, 45, 48, 49, 50, and 51 of our advertisement columns, and advertisements as to partnerships, assistantships, and locum tenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 235.



## An Address ON MATERNAL MORTALITY FROM PUERPERAL SEPSIS.\*

AN ANALYSIS OF THE FACTORS OF CONTAGION, TRAUMA,  
AND AUTO-INFECTION.

BY

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PHYSICIAN, EDINBURGH ROYAL MATERNITY AND SIMPSON MEMORIAL  
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It is unnecessary in these days to emphasize the tragic importance to the community of the large mortality amongst young women which is incurred yearly through child-bearing and childbirth. In these islands the maternal death rate is about 4,000 each year; between 1911 and 1926 inclusive there were 66,421 deaths from these causes in England and Wales. Septic infection is by far the most important single cause. According to the official figures for 1926 the total maternal mortality for England and Wales was 5.14, and the sepsis mortality 1.60, per 1,000 live births.

This loss by death, however, is in some ways not the gravest consequence of child-bearing, for we have come to realize that, for each mother so lost, there are many more whose health is in varying degrees chronically undermined by the damage they have sustained in childbirth. Infection and mechanical damage thus acquired are amongst the main causes of the frequent chronic ill health which dates from childbirth. We can assess within accurate limits the loss by death, but of the incidence of persisting invalidism of child-bearing origin we have no exact knowledge. We know with certainty, however, that many of the common gynaecological disorders, the uterine haemorrhages, the leucorrhoeas, the pelvic pains, the displacements, etc., and many general disturbances, debility, indigestion, neurasthenia, rheumatism, etc., are to be traced to the lesions of childbirth. It is probably not an over-statement to say that about 60 per cent. of hospital gynaecology is a legacy from vitiated child-bearing, and of this a very large part falls into the category of infection.

Septic inflammation of the genital canal during labour or in the puerperium may, as a useful basis for analysis, be considered as falling into one or other of three clinical types according as it is caused by (1) contagion, (2) trauma, or (3) auto-infection.

In the case of *contagion* we are dealing with an invasion of the passages by a virulent septic micro-organism, which is introduced from without. Here, as in other infective diseases—for example, scarlet fever, erysipelas, typhoid, or tetanus—our etiological quest is dominated by the consideration of the nature, virulence, and source of the infecting microbe. This type of puerperal infection is seen in its simplest form when it occurs after a normal, easy labour, with an absence of trauma of the maternal passages, and in this category are to be classed the epidemic scourges of the maternity hospitals of a former day.

Puerperal sepsis due to *trauma* is, in its essential etiological features, entirely different from that caused by contagion. Here the factor which dominates the issue is a lacerating or contusing damage of the walls of the birth passages, and the source and nature of the infective organisms become a matter of comparatively secondary importance. By this is meant that it is the trauma of the soft parts that determines the risk of sepsis. The infecting microbes which can determine the infection in such a case are notoriously widespread in nature. They may be considered as being derived exogenously or endogenously; in either case they may conceivably consist of micro-organisms which only cause disease when settling in devitalized tissue. The point of clinical importance, however, is that these somewhat theoretical matters concerning the origin of the microbe are overshadowed by the vital issue of trauma.

The third clinical type of puerperal fever is that caused by *auto-infection*. Here the micro-organisms which set up

the pelvic inflammation are, in some cases, present in the genital canal before labour begins—for example, in an infected cervix. In other cases they reach the genital passages from some distant source by direct spread or by implantation—for example, from the bowel—or they may travel by the blood stream from areas of focal infection in teeth, tonsils, etc. Auto-infection, like contagion, operates in its simplest form when it supervenes in a normal spontaneous birth in which there has been a minimum of interference and trauma.

The essential distinction between these three clinical types of puerperal infection is in no way undermined by the consideration that, in some cases, two of the factors concerned may be operating together. Where, for example, trauma has occurred the fact of contagion or of auto-infection may constitute an important contributory agency. Before we can hope to grapple with the menace of puerperal fever a knowledge of the manner and degree in which these three factors operate is necessary. Until we have this knowledge much of our effort must be largely haphazard. My purpose in this paper is to draw attention to some considerations which, although they claim no finality, point to possible avenues of approach to this intricate problem.

### AUTO-INFECTION.

The importance attaching to this mode of infection becomes apparent when we note that within recent years many observers have attempted by its means to explain infection occurring in those spontaneous cases which have not been examined at any stage of labour. Further, it is clear that, if operating in an appreciable ratio, it would go far to explain the persisting high death rate from sepsis despite the application of the aseptic principle; Victor Bonney and others have urged its importance with considerable force and plausibility, and its possible significance is referred to in the recently published report of the Committee appointed by the British Medical Association (*Supplement to the British Medical Journal*, April 28th, 1928, Appendix iv, p. 165). Undoubted examples of auto-genous infection can be cited—for instance, puerperal fever arising during scarlet fever, erysipelas, etc.

A consideration of the available data, however, suggests that as a factor in the death rate autogenous invasion probably plays a minor part. In a subsequent part of this paper I shall refer to some facts which emerge from a study of the practice of the maternity hospitals during the pre-Listerian days, and shall adduce evidence that in these old lying-in institutions puerperal fever was a negligible cause of death during those periods when contagion was obviously in abeyance. Equally suggestive evidence may be found in an analysis of the records of many extensive maternity practices at the present day. The extern practice of the Edinburgh Maternity Hospital shows a consecutive series of about 5,000 spontaneous births with 2 deaths from sepsis; the extern department of the Birmingham General Hospital records 888 cases with an absence of sepsis mortality; whilst there is the record of 47,503 deliveries, both normal and abnormal, in the unselected practice of the East End Maternity Hospital in London with 5 deaths from sepsis, or 1 in 9,500. The practice of the Queen Victoria's Jubilee Institute midwives is likewise instructive. During 1927 there were 53,502 deliveries with 6 deaths from sepsis in normal spontaneous births, or 1 in 8,900 of the total. If we include all the deaths in this record of 53,502 cases which can directly or indirectly be attributed to sepsis, and including normal and abnormal cases, we get a maximum figure less than 0.5 per 1,000. To the production of this figure all causes have contributed.

The fact which seems to emerge clearly from these data is that the very small sepsis rate in these large and unselected bodies of women is an argument against self-infection operating alone being an appreciable component of the sepsis death rate in the rest of the community. It is especially important that our ideas on this question be clarified, because much of the uncertainty and confusion in the minds of those who are anxiously seeking a remedy for the present state of affairs springs from the difficulty in assessing the true significance of this factor.

Much recent bacteriological research has been directed to the elucidation of these questions, more especially in an

\* Communicated to the Edinburgh Obstetrical Society, May 9th, 1928.

attempt to relate the vaginal and cervical flora with the incidence of puerperal sepsis. As a result of this work we must now concede a comparatively frequent occurrence of streptococci in the genital passages of pregnant women, but, although it is established that puerperal infection is commonly caused by strains of streptococci, there is no evidence that the streptococci frequently present in the genital canal can play any part in initiating this infection. The fact of their frequent presence, combined with the rarity of puerperal sepsis in the absence of other factors which have a determining role, such as trauma, implies that this streptococcal flora possesses practically negligible primary virulent properties. Another finding which bears directly on this question is that, although severe puerperal infection is usually caused by a haemolytic streptococcus, the type present so frequently in the genital canal is of the non-haemolytic variety (Bigger and FitzGibbon,<sup>1</sup> Lockhart,<sup>2</sup> Colebrook<sup>3</sup>). Recently Burt-White and Armstrong<sup>4</sup> record the finding of streptococci of various kinds in the cervix of 40 per cent. of 55 pregnant women examined. In one only did the strain present the characters of *Streptococcus pyogenes*, the common cause of puerperal fever. In 15 of these cases, including the one harbouring *S. pyogenes*, the women were followed through their puerperium, and in none did symptoms arise.

We thus see that the consensus of bacteriological study is against the view that the bacteria of the genital canal play any primary part in puerperal sepsis. These observations are entirely in keeping with, and at the same time corroborate, the clinical observation of large series of deliveries to which I have directed attention. Whilst along such lines the inference would seem to be well established, we must, however, not entirely shut our minds to the possibility that the normally innocuous denizens of the genital canal may, under certain conditions, assume pathogenic properties—for example, after trauma and devitalization of tissue.

The data, when so marshalled, would seem to warrant as a reasonably safe conclusion the view that auto-infection as a primary factor plays a quite unimportant part in the death rate from sepsis, and that in our search for essential causes we must address ourselves to the remaining factors of contagion and trauma.

#### CONTAGION.

Contagion is known to play a part in puerperal sepsis at the present day, as witness pelvic infection following contact with the virus of scarlet fever, or the epidemic deaths which occasionally occur in maternity homes and hospitals. To study the features of this type of infection satisfactorily, however, we have to turn to the records of the pre-Listerian lying-in hospitals. Epidemic waves of the disease were, as is well known, the scourge of these institutions. For example, "in the large hospital at Vienna, out of 21,120 women delivered from 1840 to 1846, 2,260 died; or about 1 in every 10 mothers delivered perished, chiefly from puerperal fever."<sup>5</sup> In 1774 at the Hôtel-Dieu, Paris, every patient attacked died—altogether about half the patients confined in the hospital.<sup>6</sup>

The striking lesson for us is that, in these old hospitals, puerperal fever would seem to have been so predominantly a matter of contagion that other factors were largely negligible. I have been strongly impressed with this somewhat remarkable fact during a recent study of the records of the old Edinburgh Maternity Hospital. From 1823 to 1844, out of 3,906 women delivered in this hospital, 75 died from all causes. The records are not complete enough for an accurate differential analysis of the causes of death for this whole period, but in one of his striking papers on puerperal fever Sir James Young Simpson<sup>7</sup> gives accurate data for the period from 1823 to 1837, when there were 47 deaths among 2,890 women delivered; 36 out of these 47 deaths were, according to Simpson, due to puerperal fever. When we turn to the records we find that the distribution of these deaths is instructive. We discover that 50 occurred in three years, when obviously contagion was rife. On the other hand, during the four years 1826 to 1829 inclusive there were 821 successive births without a death. We may deduce from this that during this period

of fifteen years, when contagion was eliminated, there was little or no mortality from puerperal fever.

The records of other hospitals exhibit the same facts. Thus Collins, the master of the Dublin Lying-in Hospital, reported a series of 16,654 births during the seven years dating from November, 1826, with 88 deaths from puerperal fever, all occurring during the first three years. He says that "for the four remaining years of my mastership we did not lose a single patient from this disease,"<sup>8</sup> which implies 8,000 or more successive cases without a death from puerperal fever.

In retrospect it cannot but impress us as remarkable that, despite the dangers lurking within the walls of these older hospitals, and the consequent wholesale sacrifice of women during the eighteenth and nineteenth centuries, no widespread attempt to disestablish the system is apparent. Every now and then, it is true, a warning voice is raised in reputable medical circles.\* Furthermore, we know that the women midwives engaged in a bitter contest with the men midwives on this and other questions.

The fact that contagion was the dominating cause of puerperal fever in those days is brought out also by a study of the records of the outdoor practice of the hospitals. In this connexion the records of the Edinburgh Maternity Hospital from 1826 onwards, which I have recently had an opportunity of studying, are instructive. At that period the indoor department was limited to destitute cases, and the arrangement by which abnormal cases were removed to hospital did not come into operation till well beyond the time which these records cover. The outdoor practice may, therefore, be taken as representing the average type of midwifery of the class of women concerned. This was carried out by the students attached for service to the hospital and by the midwives, who, as we know, at this period had little or no scientific training.

Between 1826 and 1857 there were 15,144 successive deliveries with 61 deaths—that is, a rate of 4 in 1,000. The cause of death is given in 44, and in 19 it is stated as puerperal fever—that is, about 43 per cent. If we assume that this figure applies throughout the series the sepsis deaths would represent under 2 per 1,000 deliveries. I have shown that, in the indoor department, there were considerable periods without any mortality from sepsis, clearly due to the chance absence of contagion. The same is true of the outdoor practice. Thus there is a record of 3,288 successive births during the nine years from 1839 to 1847 with no sepsis deaths. The elimination of this element brings the total death rate during this period down to 5 in 3,288, or about 1.5 per 1,000.

The figures I have just quoted, embracing as they do a fairly extensive record of what may be taken as the average midwifery in Scotland about a hundred years ago, naturally challenge comparison with the practice of the art at the present time. Before any legitimate comparison is possible, however, it must be recognized that the above figures refer to deliveries and abortions, and do not include deaths from such complications of pregnancy as hyperemesis and ectopic gestation, which appear in the ordinary maternal mortality returns of the present day, and which constitute about 10 per cent. of the deaths in the Registrar-General's Report for Scotland. The births in Edinburgh during the years 1924 to 1926 numbered 24,173, and the maternal death rate was 5.6 per 1,000. By deducting 10 per cent. we get an amended rate of 5.1 per 1,000, as against the comparable rate of 4 per 1,000 in the case of 15,144 deliveries in the outdoor practice of the Edinburgh Maternity Hospital about a century ago.

The limited figures just quoted support the belief that during the past hundred years there has been no depreciation in maternal mortality, and this is in accord with the national statistics. For Scotland the decennial mean figures from 1855 to 1914 are 4.9, 5.1, 5.2, 5.3, 4.6, and 5.6 per

\* Thus, in discussing the second annual report of the Edinburgh Maternity Hospital, December 18th, 1845, a contributor to the *Monthly Journal of Medical Science* (vol. vi, 1846, p. 269) points out that the death rate in the hospital was 1 in 25 women delivered, whereas the death rate in the outdoor practice of the hospital was 1 in 331. He then remarks that "the question, therefore, naturally arises whether it would not be better to improve the comforts of the poor women at home during their confinement, rather than advise them to enter the hospital. . . . At best, they are of questionable propriety, as they are so apt to become foci of deadly disease."

1,000 births, and the mean for the period 1915 to 1922 is 6.2. Likewise the proportion of deaths from sepsis during this period has shown little change—namely, 1.7, 1.8, 2.0, 2.5, 1.9, 1.7, 1.7.

To realize the significance of these findings we must visualize the manner in which childbirth was managed in the pre-Listerian days and how this differed from our modern methods. The first fact of which we must remind ourselves is that our predecessors had no knowledge of aseptic or antiseptic procedure. It is abundantly clear that it is to this we must attribute in the main the ravages of puerperal contagion, for they examined freely during labour, and, in cases of retained placenta, they had no hesitation in introducing the hand into the uterus. Abdominal expression of the placenta by the Credé method did not, in point of fact, come into use till about 1867. The other important fact regarding the practice of those days is that it was based firmly upon the teaching of Harvey, Smellie, Hunter, Denman, and others, who insisted that child-bearing was a physiological process, which must be left to Nature, and which was apt to be vitiated by interference on the part of the accoucheur. This was to be stringently withheld until Nature's effort had unmistakably failed. Instruments of any sort were the last refuge. Simpson, for example, in the Edinburgh Maternity Hospital, used the forceps in 1 in 472 labours, and other hospitals had a similar record. In studying these old records and noting what to us seems almost the extremity of patience with which the tedious cases were managed, one is tempted to wonder how far the factor of exhaustion and delay may have contributed to the frequency of infection. This, however, does not seem to have been a factor of any moment, for Collins, in discussing this very point, reports that in 71 out of his 88 deaths from puerperal fever the labour was completed within twelve hours.

These old records have a further bearing on the subject-matter of our discussion, for, as we know, there was little regard paid to the danger of repeated vaginal examination. Despite this, and the obvious and common contamination of the genital passages which must have then occurred, there was a negligible mortality from sepsis except where virulent contagion was present. This suggests that the microbes introduced by such contamination had little infectiveness in the case of labour conducted with a maximum regard to physiological needs.

The records of these pre-Listerian times would seem to suggest that, although contagion was a common cause of death, trauma was a factor which operated comparatively rarely, and this we must attribute to the principles which then underlay the practice of the art. I have shown that so strongly was this the case that at times the results obtained by our forefathers were such as compare favourably with the best practice of the present day.

It would clearly be to our advantage could we analyse the factors that stand behind the present high rate of sepsis as satisfactorily as is possible in these older records. Unfortunately in modern times the subject is hedged around with difficulties and uncertainties that make the study baffling in its complexity.

#### *Contagion as a Factor in the Present Sepsis Death Rate.*

How far contagion or trauma, or both combined, are responsible for the death rate from sepsis at the present time we have no accurate means of discovering. If we address ourselves first to contagion we have, however, certain data which are worthy of analysis. In this connexion we have to remember that virulent contagion notoriously may act where there is a minimum of interference, and the invasion of the genital canal may even occur when there has been no vaginal examination at all, the microbes being then conveyed to the vaginal opening on the fingers or dressings of the medical attendant or nurse, or in some other way. In pre-Listerian practice the high death rate was dependent upon such infection of the normal case, and the extent and severity of the danger were reflected accurately in the ratio of such cases involved. In any large practice the criterion of the normal case provides a sufficient index of the degree in which this factor is operating. It is clear that the omission of the abnormal and instrumental case from such an analysis does not vitiate the

result *qua* simple contagion. If the sepsis rate in such cases be increased because of the major interference employed it is legitimate to attribute such increased risk to the interference and the possible trauma incurred.

We have, at the outset, to remark that the massive sepsis of the pre-Listerian days, when surgical contagion repeatedly overwhelmed the surgical and maternity wards and often spread into extra-hospital practice, is no longer with us, and it would seem certain that the elimination of this virulent and spreading contagion must necessarily have led to a lessening of this contact factor in modern practice. Despite this, however, we know that contagion does still operate—as, for example, where the scarlatinal virus is transmitted to a parturient woman, or where two or more women are clearly infected from one common source. The exact extent to which infection so conveyed is responsible for modern sepsis is, however, more difficult to define than in the case of the older records. Whilst this is so, we are not altogether without evidence. The figures I have already quoted in connexion with auto-infection are again of service here. In the outdoor practice of the Edinburgh Maternity Hospital, for example, during four years there have been about 5,000 normal deliveries with 2 deaths. During the year 1927 there were 53,502 deliveries in the practice of the midwives of the Queen Victoria's Jubilee Institute in England and Wales with 6 deaths from sepsis in normal births—that is, 1 in 8,900 total deliveries, or about 0.1 in 1,000. This total figure refers, of course, to all cases, normal and abnormal. If we exclude the forceps cases we get a figure approximately equal to 1 in 8,000 or 0.12 in 1,000. This indicates the rarity of contagion in the practice of midwives, and when we remember that in England and Wales over 50 per cent., and in Scotland over 30 per cent. of the maternity service of the community is in their hands, we have ample reason for the belief that, in this proportion of the country's service at least, contagion is of comparatively minor importance. Then we have a record of 47,503 successive cases in the outdoor and indoor practice of the East End Maternity Hospital, with a total of 5 deaths from sepsis, or 1 in 9,500 cases. It is, of course, not necessary to conclude that all the sepsis deaths in these records are due to contagion. The figures are quoted with the object of indicating the maximum possible mortality from this cause when this is operating alone.

I have given these data not because they demonstrate necessarily any superiority in the practice of the institutions concerned over that obtaining throughout the rest of the community in respect of this matter of contagion, but for the reason that they constitute the only large series of figures available. It is not easy to conceive any reason why this small ratio of contagion should be appreciably different in the rest of the community not covered by these precise records. In other words, such an analysis as I have given leaves in one's mind the impression that contact infection, while it does admittedly still occasionally operate to maintain the incidence of fatal puerperal sepsis, is probably a factor of comparatively minor value, and that to explain the persistently high rate in modern practice we have to direct our attention to other factors.

#### *Contagion in Present-day Hospitals.*

To the enduring benefit of labouring women we have to acknowledge with ungrudging gratitude that the era inaugurated by Lister has brought assurance into obstetric practice, and in no way is this more strikingly manifest than in the enhanced safety of the modern maternity hospital and in the surgical procedures on behalf of the mother and child on which we now embark with confidence. At the same time the magnificence of this great new instrument is apt to blind us to the fact that even in the hospital system of our own times there are still perpetuated in some degree the risks with which our forefathers battled in vain. There is still intrinsic in it the danger incidental to the assembling of numbers of parturient women within four walls. The reality of this risk is at once apparent when we recall that, whilst the main practice of such hospitals is concerned with normal childbirth, it is also largely engaged in serving, and in attracting to itself, often from a wide district, the abnormal, which is often synonymous with the

frankly or potentially infected case. This is especially true of the large central hospitals, where the fact of numbers naturally multiplies the risks. A study of this problem has long convinced me that these risks are by no means negligible, for, even when the technique of the hospital is good, the risk of the leakage from infected to clean case can never be completely blocked, more especially at times when the hospital practice is working at high pressure.

In support of these contentions I may quote the figures of one well-known hospital, for which I am indebted to the registrar. During four years, in 4,278 normal spontaneous deliveries there were 72 cases of puerperal fever with 5 deaths. In yet another well-known hospital during one year there were reported 11 instances of puerperal infection in spontaneous births with 3 deaths in cases in which the birth is described as quite normal. The report of another large hospital shows that, out of 27 deaths from puerperal infection in one year, there were 4 deaths in women in whom the birth was spontaneous and uncomplicated. These hospitals are all actively engaged in abnormal midwifery in addition to catering predominantly for the normal birth, and there can, I think, be no doubt that in the majority of the instances cited the infection is transmitted by contagion from abnormal to normal case. But the added risk to the normal by no means exhausts the dangers of a hospital, for it is obvious that the difficult and abnormal case which has suffered trauma is itself especially liable to succumb to contagion. Similar instances of hospital contagion are related in the Royal Society of Medicine Report on Puerperal Sepsis<sup>6</sup> and in Dame Janet Campbell's *Protection of Motherhood* (1927, p. 18).

The problem is thus seen to be a complicated one, and, although I do not on this occasion intend to enter into a full discussion of the means required to block this risk of leakage, I would remark that an imperative need of every hospital and home is a complete separation at every stage of the normal and the suspect case. The admission, the examining, the labour rooms, and the wards of the two sets of cases must be rigidly isolated from one another, and the same rigid separation must apply to the nursing. The risk of patient-to-patient transmission is further lessened by the adoption of the small ward principle, especially for the abnormal delivery. In many instances we know that maternity hospital buildings are inadequate, and, in their present state, are unable to meet the demands which a rigid application of the modern ritual of prevention implies.

I feel that, although the consideration of such questions introduces matters of some delicacy, it is urgent that they be reviewed in the frankest possible manner at this time, because, as we all know, there is a strong advocacy in some quarters of an increase in maternity hospital accommodation as one means towards remedying puerperal mortality and morbidity (Janet Campbell, Munro Kerr, Johnstone, and others). Whilst finding myself in sympathy with this attitude, I must admit that I consider any such widespread experiment as having elements of danger, except it be carried out with the most stringent regard to the safeguards I have mentioned. The exact proportion of the total sepsis death rate which this hospital contagion implies we have no means of determining. That, however, we may safely consider it as comparatively small is indicated by the meagre share of the total births which occur in hospital. The maternity hospital beds officially known by the Ministry of Health to exist in England and Wales number only 2,280 in 149 institutions (Janet Campbell, *Protection of Motherhood*, 1927, p. 64).

#### TRAUMA.

I have already stated that the factors behind the persisting sepsis rate are complex. One example of this suggests itself to the mind. It is often urged that we have lost to parturient women the advantages of a century's progress because we have vitiated child-bearing by a too great recourse to instrumental delivery. It is true that interference with the natural process, by instrumental or other means, was in the old days employed at the most in only one out of several hundred cases, and that, even under the best conditions nowadays, such physiological child-bearing is only rarely found. Even in the case of the practice of the Queen Victoria's Jubilee midwives, who, it may be argued, deal with the most normal class of case, the forceps

deliveries number about 6 per cent. of the total, and in the East End Maternity Hospital, where physiological child-birth is rigidly aimed at, the instrumental rate is over 2 per cent. Over the rest of the community we may safely conclude this rate is still higher.

Faced by this indisputable evidence it is not surprising that many have urged that trauma is at the back of modern sepsis. It cannot be denied that there are cases—and every member of the staff of a maternity hospital can quote instances—in which unjustified interference has led to disaster. On the other hand, to argue on the basis of such individual cases—which usually spring from lack of experience and well-intentioned though over-anxious zeal—that trauma inflicted by malpraxis is the essential cause of the persisting death rate is to lose sight of other factors which may have a wide-reaching significance.

One of these factors concerns the possible change in the fitness of women for child-bearing and childbirth as compared with their sisters a century ago. During this period there have been gross changes in the mode of life and feeding of the community. Moreover, we have to consider the possible and special bearing of rickets. It is not improbable that the increased protection of child life, which constitutes one of the most remarkable features of modern social hygiene, may have increased the proportion of those with skeletal defect who survive into adult life. As an obstetrician practising amongst the same class of women as those with whom Sir James Young Simpson had to deal nearly a century ago, I am convinced that the need for intervention on mechanical grounds is now greater than it was then, when forceps were employed only in 1 in every 472 cases.

Whilst it is thus undoubtedly arguable that traumatization has played in recent times an increasingly important part in puerperal sepsis—and the data analysed earlier in this paper would seem by a process of exclusion to lead the evidence incriminatingly in this direction—it is at the same time not improbable that at the back of it there are some structural factors not wholly within our control, and therefore not wholly preventable by us as obstetricians. Whilst making these somewhat sombre admissions we have at the same time good cause for hope, for, as I have exemplified by the instances I have quoted, there are many indications pointing towards a better and possible provision for the parturient woman if we are prepared to take advantage of them. The practical conclusion to which my studies have led me is that, whilst auto-infection can be largely displaced from the platform to which it has been raised by some, and whilst contagion likewise probably plays only a secondary part, to trauma from interference it would seem we have to ascribe the chief agency in the maintenance of sepsis, although we are not warranted in assuming that the main burden of responsibility is to be placed on the medical attendant.

The fact that, with a well-organized maternity service, a greatly diminished mortality rate is obtainable points clearly the way to progress, and suggests that the immediate problem for the community is the provision of better machinery for bringing to the help of labouring women the knowledge we possess, rather than the pursuit of a mark-time policy which awaits the outcome of further research.

In support of this contention I would instance the experience of the Queen Victoria's Jubilee Institute, which last year had the splendid record of 53,000 deliveries with a mortality of .72, or 1.3 per 1,000. It is to be noted that these figures refer to the combined practice of midwife and doctor, for medical practitioners were called in to the aid of the midwife in 25 per cent. of the cases. It is a very successful and encouraging example of team work. The midwife's task is only made possible when it is united to the knowledge that she has the doctor behind her in case of need, whilst, on the other hand, the fact that the routine management of the practice is in the hands of the midwife makes for the possibility of a more physiological attendance of the normal case than is to be expected from the practitioner, with whom midwifery is often a disturbing item in the course of a busy day interspersed with urgent calls, and from whom, moreover, regardless of every other consideration, there is too often demanded a speedy termination of labour. It may be argued that the small death rate

in this large practice is dependent upon the fact that the midwives' cases are to some extent selected. This is not denied, and that this selection is not inconsiderable is suggested by the very low death rate in the series from puerperal convulsions and albuminuria—from 0.1 to 0.2 per 1,000, as contrasted with a death rate over the rest of the community of from 0.6 to 0.8 per 1,000. Making every allowance, however, for these facts the record is full of encouragement, and points to the advantages to be obtained from a wider extension of the midwife-doctor system.

The signal advantages of such combination are even more convincingly demonstrated by such an institution as the East End Maternity Hospital in London, where the bulk of the cases are conducted by midwives, and abnormal cases are treated by medical practitioners on the honorary staff. This institution conducts over 2,000 cases yearly; about half being in the hospital. There is a well-organized ante-natal system, and the forceps rate is under 3 per cent. Despite the fact that the practice is amongst the very poor, and that it is practically unselected, it has a mortality rate standing at a little over 1 per 1,000 cases. For four years, in a total of about 9,000 cases, it sank to the extremely low level of 0.67 per 1,000. Sepsis is practically eliminated from this practice, and there can be little doubt that this is due mainly to the excellent administration, the careful supervision, and the low instrumental rate.

It is to be specially observed that the admirable results obtained in the case of these extensive practices flow entirely from the method and machinery employed. There is installed by comparatively simple means a system by which—and this is especially noteworthy in such an institution as the East End Maternity Hospital—the physiological management of labour is encouraged, the abnormal case is seen betimes, and difficulty and danger are thereby anticipated and prevented. The record of this institution and its almost complete freedom from sepsis is one of the most cogent arguments in support of the contention that the dominating factor behind sepsis in ordinary midwifery is trauma. So remarkably successful has this hospital been in its effort to expel from its doors not only sepsis, but also the other complications of labour and the puerperium—for example, eclampsia—that we might at first sight feel ourselves compelled to attribute the result to some unduly favourable circumstance in the material of their practice. Against this, however, it may be urged that the official records show that the death rates of the communities in which this hospital carries on its work are several times greater than that exhibited by the indoor and outdoor practice of this institution.

It cannot, I believe, be denied that the evidence furnished by an enlightened and critical analysis of all the various forms of maternity effort we have reviewed goes to support the contention of Fairbairn and others that "a country's maternity service is best built on the foundation of a service of midwives with medical help in difficult cases." Before this ideal can be universally realized much must be done in the way of education of the public and in the reorganization of the present machinery of practice. Doctors can do a great deal in both directions; and there is ample evidence to hand that in these objects they can count on the help of the central and local authorities. The problem in any area can only be satisfactorily dealt with by strenuous local effort.

The high death rate in some areas invites the suggestion that on occasion the subject may become eminently a matter for the active interest and participation of the local body.

#### CONCLUSIONS.

1. Autogenous infection is a minor primary cause of fatal puerperal sepsis.
2. Contagion is probably of comparatively secondary importance. The well-established risks of contact infection in hospitals call for care in the extension of the hospital system of maternity service.
3. There is evidence that trauma is the most important cause of the death rate from sepsis. This is not entirely a problem involving the medical attendant; it has implications of a wider nature.
4. The immediate need is an improved machinery for maternity practice based on a midwife-doctor combination.

From the standpoint of immediate policy the importance of this overshadow all other considerations—for example, "research"—and there is reason for the hope that by this means alone a lessening of the death rate is possible.

5. Improved education of the public, the midwife, and the student, and the assistance of the central and local authority, are all necessary for the creation and working of a satisfactory machine.

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## A Lecture

ON

## PUERPERAL SEPSIS.

DELIVERED TO THE BLACKBURN DIVISION OF THE BRITISH MEDICAL ASSOCIATION

BY

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In considering the present state of affairs relating to puerperal sepsis, it would seem that during the last twenty years no progress has been made, in spite of our knowledge of antiseptics and of bacteriological research. In support of this statement I may mention that—

1. No fewer than 3,000 British mothers die every year in childbirth.
2. Of a number of patients examined at a certain welfare centre, 50 were still bleeding at the end of several weeks, of whom 20 came from one hospital.
3. At a similar centre 42 cases returned septic, of whom 28 had been treated by general practitioners and 6 at maternity hospitals.
4. Dr. Harold Miller's investigations at Pittsburg show that of 1,000 women examined as soon as possible after the sixth week following labour no fewer than 70 per cent. showed some degree of erosion of the cervix.
5. Of the fatal cases, 80 per cent. afford a history of operative or manipulative intervention.
6. Inflammation dating from some previous confinement or miscarriage is present in 70 to 80 per cent. of gynaecological cases.

What do we understand by the expression "puerperal sepsis"? In this connexion we may consider the definition of puerperal sepsis enunciated by the Ministry of Health and based on the suggestions of the Royal Society of Medicine—namely, that puerperal sepsis is (a) a fever; (b) a bacterial infection of the raw surfaces left after labour.

Is it a fever? It is true that some cases of puerperal sepsis may be attended by pyrexia, but this is the exception rather than the rule. In support of this it may be submitted that (1) all practitioners meet with many instances of yellow vaginal discharge unassociated with pyrexia; (2) in a large percentage of cases of secondary haemorrhage a high temperature never develops; (3) a patient may die from secondary haemorrhage or gangrene of the uterus without any pyrexia; (4) of 340 patients delivered in a maternity ward in 1926, 83 suffered from uterine sepsis—one-half of these septic cases exhibited pyrexia and the other half secondary haemorrhage.

Is it a bacterial infection of raw surfaces? If so, the inflammatory changes occurring as the result of retention of placental tissues or blood-clot and lack of free drainage are lost sight of, and the significance of these changes in the etiology of uterine disease fails to be recognized.

Immediately after labour or miscarriage a cascade of blood and serum exudes from the raw surfaces for a period



of some days' duration. If there be any interference with the outflow of this fluid symptoms and signs entirely due to pent-up secretions will manifest themselves.

I may summarize the main sites of obstruction as follows:

1. *In the Uterus.*—The two main sites in the uterus are the wall and the cervical canal. As regards the uterine wall, the flow of lymph may be impeded by inflammatory products, by injury caused by the finger or curette, by the use of strong styptics, or by too hot douching. Similar obstruction in the cervical canal may be caused by retained blood-clot, pieces of membrane, placental fragments, or the swollen and congested cervical mucous membrane.

2. *Outside the Uterus.*—Interference with the outflow may be caused by a loaded rectum, an overdistended bladder, oedema of the vaginal walls subsequent to pelvic cellulitis, and by swelling and oedema of the perineum.

A loaded rectum plays an important part in damming back the uterine secretions, the symptoms being due, not to absorption from the bowel, but to pressure from the loaded bowel preventing the secretions from being discharged. The following reasons may be adduced. (1) An overloaded bowel must distend anteriorly and not posteriorly. (2) On examination, the finger passes over a distinct hillock and the cervix is above and behind the lump. (3) In 200 cases the height of the uterus was measured before and after an enema. It was observed that the uterus descended on each occasion after the bowel was evacuated. (4) In 1918 the records of 100 patients examined in the maternity wards showed pyrexia in 18 per cent. of cases between the second and fifth days. In 1926 this percentage was only 5 following regular washing out of the bowels for the first three days. (5) In the case of one patient in the maternity ward who had temperature and pain the loaded rectum was emptied and 5 c.cm. of pus was drawn off from the uterus; an uneventful recovery followed.

#### **PATHOLOGY OF PUERPERAL SEPSIS.**

We now turn to the question of the pathology of uterine sepsis. It is probable that if every student studied microscopical sections taken from cases of this disease he would arrive definitely at the decision that the uterus must be drained. The following is a summary of what is found.

1. *Normal Endometrium.*—In a normal case the surface is covered by a continuous line of columnar cells. The gland acini are similarly lined, are fairly uniform in size, and are more or less circular when seen in cross section. The gland lumina are empty and their mouths opening into the uterine cavity are patent. The stroma is composed of slightly elongated connective tissue cells with intercellular fibrils. The stroma cells are loosely packed together, not widely separated as in an oedematous uterine wall. The blood vessels are small and few. There is no evidence of haemorrhage or necrosis.

2. *Acute Endometritis.*—Here the surface is devoid of covering columnar epithelium. In its place are masses of fibrin and exudate together with large decidual cells, some still living, others necrotic. There are small collections of extravasated blood and numerous polymorph leucocytes. The glandular elements are absent. In other words, the mucosa has become necrotic and has largely disappeared. Hence we find, immediately under this layer of necrotic debris and decidual cells, the somewhat oedematous fibromuscular wall of the uterus. There is great dilatation of blood vessels, which appear much more numerous than usual, and some of these vessels contain polymorph leucocytes and are thrombosed. There are numerous collections of polymorph leucocytes studded about in the muscle; some of these foci are virtually small incipient abscesses. Finally, the muscle fibres are swollen and somewhat more separated than usual.

3. *Chronic Endometritis.*—In this condition the covering of columnar epithelium is practically normal. The gland acini are all more or less dilated and larger than normal, but they are irregular in their shape. The mouths of those which are visible open on the surface, are somewhat narrowed, and the lumen in many instances is no longer empty, but contains inspissated secretion, occasional frag-

ments of shed epithelium, occasional leucocytes, and occasional erythrocytes; these contents connote chronic inflammation. The stroma cells are much more widely separated than normal by oedema. There is a slight capillary enlargement and also small stromal haemorrhages. Lastly, there is a general sprinkling of leucocytes, chiefly mononuclear, but occasionally polymorphonuclear.

#### **TREATMENT.**

In the first place let us consider the nature of some of our present methods of treatment and the reasons for their failure.

1. *Expectant or Conservative Treatment.*—This method has frequently caused bitter disappointment. It leaves too great a task to Nature, because in more than half these cases there is evidence of pent-up uterine secretion. It fails to keep the cervical canal clear. In the canal may be seen pieces of blood-clot, placenta, or membrane, which give rise to the symptoms and signs of obstruction. No one can say that the best method of treating secondary haemorrhage is to leave the uterus alone. Even with the aid of drugs such as pituitrin and ergot, and of the well-known douche tin, the patient is frequently no better off. It is often followed by intermittent pyrexia, and it leaves the uterus with no standard of cure.

2. *Curetting.*—I cannot do better than quote the words of Sir Bernard Spilsbury: "In all bad cases of uterine infection there is presumptive evidence of the introduction of some material, surgical or other, into the uterus." There are too many instances of a flare up where this surgical method has been employed. Cases have been numerous in the past where this method failed to stop secondary haemorrhage.

3. *Dilatation and Swabbing with Strong Styptics.*—This method often fails because there is a likelihood of severe reaction following the application of strong corrosives.

4. *Douching.*—It has been demonstrated that douching does not relieve the uterus of its pent-up secretions. This was illustrated some years ago by the case of a woman whose uterus was drained and subsequently douched; the temperature rose, but she was later cured by treatment with glycerin.

5. *Hot Intrauterine Douche.*—This method is often followed by symptoms and signs of septic absorption. It injures the tissues and prevents drainage.

6. *Scrums and Vaccines.*—These seem to have no effect if the tissues of the uterus are not drained.

It therefore appears to be established that, judging from the number of curettings performed, our treatment in the past has left us without a proper standard of cure. What, then, is the ideal method of treatment? Is there a method that can be applied again and again without being followed by an exacerbation of the fever or disease; each application fulfilling the purpose of an aid to the drainage of tissues in a state of stasis—a method that alleviates pain, relieves congestion, and by so doing stops secondary haemorrhage, and finally restores the functions of the uterus? I am certain that there is, and that method is the mode of treatment by glycerin which I have described.

In considering the indications for treatment it is necessary to think of the ante-natal clinic, the labour room, and the lying-in ward.

1. *The Ante-natal Clinic.*—It is important to see that all methods of investigation and treatment are carried out. The necessity of accurately measuring the pelvis is generally recognized, but there is also the question whether any toxins are present, as evidenced by albuminuria. I wish particularly to emphasize the importance of the presence in certain cases of bacteria in the urinary and genital tracts; this also applies to septic conditions. If bacteria are present, treatment should be employed to eliminate them, or, at any rate, to diminish their number. If these conditions are not fulfilled, pathological organisms may show their presence during labour without any vaginal examination having been made.

2. *The Labour Room.*—With regard to infection during labour, there is a type of case in which labour starts with

a rise of temperature, often to a considerable height, and with perhaps a rigor, and in which an accompanying urinary infection may lead to failure to recognize a uterine infection. Here the false belief may arise that, because organisms and cells have been found in the urine, the diagnosis is complete. If there has been any internal manipulation we prevent sepsis by administering an intra-uterine injection of 120 c.cm. of glycerin as a prophylactic. In the case of retention of the placenta, if ordinary methods have failed we inject 60 to 100 c.cm. of glycerin into the uterus. In many cases this has aided expulsion of the placenta without recourse to manipulation. In the presence of excessive haemorrhage manual removal must, of course, be performed at once. As regards post-partum haemorrhage, we employ the same treatment, injecting 60 to 100 c.cm. of glycerin into the uterus, and have found this method most successful. If the haemorrhage shows no sign of ceasing under the treatment it is advisable to explore the uterus for retained products.

3. *The Lying-in Ward.*—In connexion with sepsis a much higher standard must be arrived at, and the fact must be realized that not every case of sepsis gives rise to pyrexia. If, however, the patient shows, for example, a temperature of 99° F. and a pulse rate of 80, the uterus should at once receive treatment. It is unwise to look for some septic focus other than the uterus, and, having established a diagnosis of influenza, pneumonia, bacilluria, mastitis, mumps, or femoral thrombosis, to treat the case as such, forgetting the uterus. It seems extraordinary that in just the few days of the early puerperium all these diseases should attack the woman, and that they should ignore her during the remaining three hundred and sixty. A few illustrations may be advisable.

(a) *Influenza and Pneumonia.*—I need not dwell on the fact that two of the gravest complications that we have to contend with during the puerperium are influenza and pneumonia. We know the severity of the symptoms and that patients often die within a few days. The reason for this seems to be that the patient has a double infection. It is difficult sometimes to decide which is the primary infection or whether a general infection is present, but we are convinced of the existence of the latter when the lochial discharge is prolonged and profuse; we know then that the patient has a poor chance of recovery. We have seen several cases in which the patient has died during the early puerperium, and on section the uterus has shown acute inflammatory changes.

(b) *Phthisis.*—Quite recently I was asked to see a case of phthisis. During pregnancy the patient had had no temperature, but on the second day of the puerperium it rose. The doctor who examined her thought that her symptoms were due to her chest. She had three attacks of shivering during the first week, and on examination the lochia were found to contain *B. coli* and streptococci. The urine was sterile.

(c) *Mumps.*—I have found that when the parotid gland becomes swollen and tender during the puerperium the uterus generally escapes attention. On January 2nd a patient was sent into hospital on the tenth day after delivery with swelling and tenderness of the right parotid gland. Three days later this was followed by enlargement and tenderness of the right breast. The uterus showed signs of sepsis.

(d) *Femoral Thrombosis.*—In this class of case we are convinced that the uterus is septic and should be treated accordingly.

(e) *B. coli Infection.*—A short time ago I was asked by a gynaecologist attending a case of bacilluria complicating the puerperium why the temperature failed to drop. I told him that Dr. Donaldson had examined the urine in 100 cases of pregnancy and had found *B. coli* in 25 instances, in all of which there was infection of the lower genital tract. I suggested that he should wash out the uterus with glycerin. This was done, with the result that the temperature shortly afterwards subsided. In all these cases our experience tends to show the existence of a double infection.

(f) *Mastitis.*—In cases of pronounced mastitis it is in our experience customary to find an underlying uterine infection, and it is advisable to treat the uterus.

#### SIGNIFICANCE OF PAIN AND TENDERNESS IN UTERINE SEPSIS.

In a normal puerperium, whether in a primipara or a multipara, there should not be irregular contractions of the uterus. Some years ago I was impressed by the case of a multipara who was stated to have had irregular pains during the second night following delivery. The vagina was thoroughly swabbed and the uterus syringed out with glycerin, thereby getting rid of a considerable amount of blood-clot. The pain disappeared immediately after treatment. The only conclusion to be derived from this case was that pain is the cardinal symptom and tenderness the cardinal sign of an obstructed viscus; in other words, the condition was uterine colic and obstruction. The cause of the obstruction was obviously the blood-clot; moreover, pathologists state that the contact of blood-clot with raw surfaces for some hours produces inflammatory changes in a brief period. This and other cases definitely prove that after-pains are pathological and not physiological.

Pain and tenderness are not by any means confined to the maternity wards, but they tax all the ingenuity of the surgeon in the gynaecological department; numerous cases reach hospital labelled "pelvic peritonitis," "abdominal influenza," and "appendicitis." Given a case of well-marked peritonitis of the lower abdomen it is, in the experience of every surgeon, difficult to diagnose whether the appendix or the tubes are at fault, and on occasion one is certainly justified in opening the abdomen. But the point I wish to emphasize is whether we have brought every method of investigation and diagnosis into play, because in many instances, after opening the abdomen, surgeons find not appendicitis, but an acute inflammatory condition of the uterus, tubes, and pelvic peritoneum. These cases should be approached in a careful and methodical manner. The history is of importance, since the origin of the trouble may date from some inflammation in the uterus left after labour, abortion, or gonorrhoeal infection. The points in the history are:

1. If at any previous labour or miscarriage the lochia has persisted beyond the seventh day suspect uterine sepsis. This sign may have been present years before, and it connotes infection from an infected surface.
2. Intermittent temperatures preceding or accompanying menstruation indicate an endometrium infected by organisms, and a condition of stasis.
3. Dysmenorrhoea, whether appearing for the first time or becoming progressively acute with each menstrual flow, indicates sepsis.
4. Backache, discharge, erosion, and metrorrhagia following labour or miscarriage indicate sepsis.
5. A visual examination of the cervix and a bimanual examination should be made.

#### Typical Cases.

1. A woman came into hospital some weeks after a miscarriage with prolonged red lochia. She had been in the ward three days with a temperature of 99° F. when one evening she was suddenly seized with acute abdominal pain and vomiting; the temperature was 103° F. and the pulse 120. The lower abdomen was acutely tender, and there was rigidity. On bimanual examination the uterus was found to be enlarged, boggy, and tender, with impaired mobility and fullness in the lateral fornices, especially on the right side. The mucous membrane of the cervical canal was swollen and oedematous, and contained thick mucus. There was obviously an acutely spreading peritonitis, and pain and tenderness of the uterus—the symptoms and signs of an acutely inflamed viscus. It might be said that there were two wells of water being slowly filled, one in the uterus and one in the pelvic peritoneum. It is usual in these cases to watch the abdomen for the overfilling of the second well, and then to operate; but it occurred to me that if I drew the water from the first well—in other words, pent-up secretion from the uterus—the second well (the peritoneum) might be able to deal with itself. I therefore gently washed out the cavity of the uterus slowly drop by drop, using only about 1 c.cm. of glycerin. I put the patient back to bed and sat her up in the semi-Fowler position. In two hours I found that the temperature had fallen to 99° F. and the pulse to 90. The acute abdominal pain had gone, but there was a feeling of soreness. The diagnosis could only be acute uterine colic and obstruction with adnexal inflammation. The patient slept for five hours and made an uninterrupted recovery without the abdomen having been opened.

2. Another patient was sent in some months after confinement as a case of appendicitis with a history of sudden pain in the right iliac fossa and vomiting. The temperature was 101° F. and the pulse 112. Abdominal examination revealed pain and tenderness low down in the right iliac fossa. Bimanual examination

showed an enlarged, tender, and boggy uterus with distinct tenderness in the right lateral fornix. A little glycerin was injected into the uterus, and four hours later the temperature and pulse rate fell and the patient was free from pain.

Another factor of importance is the abnormal prolongation or excessive degree of the red lochia, which is a significant sign, liable to menace health or even to cause death. If the uterine products are expelled after the third stage of labour, provided there is no sepsis, the red lochia should change from the fourth to the sixth day. Again, if the uterus is empty and is washed out with glycerin for the first few days, the lochia soon cease.

I was much impressed by a case of pneumonia complicating labour which was sent into hospital. The patient was delivered and died on the fifth day afterwards. As the lochia were excessive sections of the uterus were cut, and it was found to be full of small abscesses and most congested; in other words, the patient died not only of pneumonia, but also of secondary haemorrhage. It is evident, therefore, that if pneumonia and influenza complicate the puerperium there is usually a general infection. These events can explain at any rate one of the causes of the high mortality in epidemics such as influenza.

The importance of secondary haemorrhage is indicated by the following cases.

A patient had been ill for eight weeks after her confinement, the temperature ranging between 100° and 101° F. and the pulse between 110 and 120; she had a double femoral thrombosis. The doctor who had been called in said that the uterus was normal; but the second consultant informed me that the patient had had two haemorrhages since her confinement. The surgeon took this to be evidence of secondary haemorrhage, and the uterus was immediately treated with glycerin, with the result that the temperature quickly fell.

Another patient bled for six weeks after her confinement; this sign is evidence of sepsis. She was curetted, but the bleeding still persisted. A year afterwards she was curetted again, with the same result. She received x-ray treatment three times a week for three months, but the haemorrhage continued. She was then given a general anaesthetic and the uterus was washed out with sp. vini methyl. and glycerin. She received half-hourly treatments morning and evening, and the haemorrhage stopped in five days. Daily treatments were continued for another ten days, and then she had her first normal period for two years. She has now quite recovered.

As the result of these investigations I am convinced that there is a dividing line where the red blood from a healthy wound ceases and the haemorrhage from an inflamed surface begins. It is difficult to be sure when secondary haemorrhage commences, but usually it is in the neighbourhood of the fifth to the seventh day. If women are not to be allowed to fall into a state of chronic invalidism the inflammatory surface must be treated with a drug like glycerin, which relieves the inflammation producing the haemorrhage.

Septic miscarriage is comparable with puerperal sepsis, differing only in that the former is more liable to be due to retained products of conception. No attempt is made to remove any retained products, except when pieces present at the os, or there is severe haemorrhage. By far the worst cases admitted to St. Mary Abbots Hospital have been those where attempts have been made to remove retained products either by the finger or the curette. The cause of the rise of temperature is retained septic secretions and not necessarily the products themselves. This fact has often been demonstrated by draining the uterus, when the temperature falls before the expulsion of the contents.

The following statistics illustrate the work carried out at St. Mary Abbots Hospital.

Total number of patients delivered since 1921 ...	1,657
Cases exhibiting temperature 99° F. and over ...	134
Cases of secondary haemorrhage (past two years ... 644 cases) ...	102
Number of deaths from puerperal sepsis ...	Nil
Number of anaesthetics administered after third stage of labour ...	2
(a) Dry labour—general peritonitis—laparotomy within 40 hours of delivery—recovery.	
(b) Secondary haemorrhage following manual removal of placenta—curetted for retained piece—nil found—report of curettings: acute endometritis.	
Number of abortions and miscarriages (2 years) ...	192
Cases with retained products (2 years) ...	104
Cases with curettings (2 years) ...	10
Number of explorations (2 years) ...	10

## CONCLUSIONS.

We have arrived at the following conclusions as the result of the research work carried out at St. Mary Abbots Hospital during the past few years.

1. The definition of puerperal sepsis laid down by the Ministry of Health is inadequate and erroneous.

2. As regards the first part of the definition, puerperal sepsis is not by any means invariably accompanied by a rise of temperature. Pyrexia is merely a sign in the course of a septic process, and this is one of the main reasons why a large number of cases of puerperal sepsis are allowed to pass unrecognized through our best maternity hospitals.

3. The second part of the definition requires amending also. Inflammation can be caused by agents other than bacteria. Retained blood-clot and fragments of membrane or placenta will act as foreign bodies and will lead to inflammatory changes in the uterus.

4. Pain and tenderness must be recognized as the commencement of uterine colic and obstruction. Pain and tenderness are never physiological, but are invariably pathological after the third stage. Moreover, so long as the symptoms and signs of acute uterine colic and obstruction are not added to the list of abdominal inflammations, and are not treated as soon as these signs appear, so long will patients be subjected to abdominal explorations, whereas they might have been saved.

5. It will soon be no longer the fashion for women to bleed for weeks, months, or even years after their confinements, because students will be taught that glycerin will relieve the inflammation which produces the haemorrhage.

6. The uterus never was, and never will be, cleaned in one attempt.

7. After curetting and swabbing with strong styptics the uterus must be drained for the succeeding few days.

8. The best time for treatment is in the early days of the puerperium.

9. Every septic case following labour or miscarriage should be investigated by the health visitor and reported to the medical officer of health.

10. A special ward should be attached to every maternity hospital so that every septic case could be transferred and treated, and, if necessary, treated after leaving the hospital, since many women take their discharge on the fourteenth day and before they are cured.

11. A doctor who is skilled in the detection of the early symptoms and signs of puerperal sepsis and the modern treatment thereof must in future be attached to every large maternity hospital.

## REFERENCE.

<sup>1</sup> *British Medical Journal*, December 31st, 1927, p. 1223.

## PUERPERAL SEPSIS AND SENSITIVENESS TO STREPTOCOCCAL TOXINS.

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THE anomalous distribution of puerperal sepsis has long puzzled epidemiologists. It is stated that women in good surroundings have suffered more frequently from this disease than the poor, and that rural districts show a higher incidence than towns. The number of cases in hospitals and nursing homes is likewise in excess of those occurring among women delivered in their own homes. True a greater number of abnormal cases, requiring manipulation, are to be found in institutions, and similarly the incidence of septic cases among primiparae has been considered due to the difficulties which necessarily attend a first labour.

It is especially significant that great advances in obstetric technique have done little to lessen the incidence of puerperal sepsis. That puerperal sepsis is caused by the *Streptococcus pyogenes* is now generally accepted, but a source of virulent *S. pyogenes* must be present before the disease may develop. Where is it to be sought?

As already shown in a recent paper by R. R. Armstrong and myself,<sup>1</sup> streptococci are not by any means invariably

inhabitants of the cervical canal during pregnancy. The true virulent disease-producing *S. pyogenes* occurs very rarely in the female passages, in all probability only when a woman has been recently associated with a source of infection. It seems that infection is not necessarily by actual contact, although the exact means of transference is at present obscure. Proof of this is furnished by the clinical histories of local and institutional epidemics of puerperal sepsis. Again, our experiments prove that a woman does not necessarily succumb to puerperal sepsis, even though she be actually harbouring the infection.

Neither first pregnancy, difficult labour, nor aggregation of cases in institutions in which the relative density of *S. pyogenes* infection is inevitably high, will account fully for the capricious incidence of puerperal sepsis. Our general knowledge of infection and response suggests that in this, as in other diseases, individual reaction and personal immunity against the infecting micro-organism are important safeguards. This view receives support from the work of Okell and Parish, who believe that all the disease-producing strains of *S. pyogenes* are identical, in the sense that their main aggressive weapon is a toxin, which is the same for all strains.<sup>2</sup> Hence an attack, during her girlhood, of streptococcal sore throat, of cellulitis, erysipelas, or even scarlet fever, may be expected to have conferred on a woman a greater or less degree of protection against the most virulent and fatal form of streptococcal infection, puerperal septicaemia. It is a recognized fact also that a woman who has once suffered from puerperal sepsis is seldom or never attacked in subsequent pregnancies.

Attempts in the laboratory, with experimental animals, to demonstrate and measure antistreptococcal immunity have proved quite unexpectedly unsuccessful. Yet the value of some foreknowledge of the reaction of a primipara to *S. pyogenes*, with the implied possibilities of prophylactic immunization before delivery, is beyond dispute.

The investigation to be described was initiated to test the reaction of pregnant women to the scarlatinal toxin, without any preconception as to results. An experiment at St. Bartholomew's Hospital by Sir Frederick Andrewes<sup>3</sup> on a number of hospital students showed that a proportion were sensitive to scarlatinal and other streptococcal toxins. This experiment did not altogether make clear the correlation of toxin-sensitiveness with a past history of scarlet fever or streptococcal infections. With the accumulation of data the test on women has come to assume positive significance, as each has been followed through her pregnancy, labour, and puerperium.

A supply of standardized scarlatinal toxin, prepared at the Wellcome Research Institute, was kindly furnished by Dr. C. C. Okell, whose pioneer work on the toxins of the *Streptococcus pyogenes* group is generally recognized and acclaimed. The preparation has been used in all tests. Four intradermal injections, respectively one-fifth of a cubic centimetre of a dilution of 1 in 1,000, 1 in 3,000, and 1 in 6,000 of toxin with control, were made into the skin of the palmar surface of the forearm. A positive reaction consists in the appearance within twenty-four hours of an erythematous patch, varying somewhat in size with the intensity of the reaction and the dilution employed, from one-quarter of an inch in diameter to an area one inch or more in length. In about half the cases gradation in response is apparent, corresponding with the strength of toxin employed. But in many cases there is little to choose between the high and low dilutions. In general practice it will probably be found sufficient to employ only a dilution of 1 in 1,000 to discriminate between reactors and non-reactors.

The tests were made on women at St. Bartholomew's Hospital and the City of London Maternity Hospital. One hundred cases have been tested, and their labours and puerperia observed. Of these 100 women, 27 were toxin-sensitive, while 73 did not react to any dilution. The cases may be grouped as follows.

#### (a) Women Giving Positive Reactions.

Of 27 women, 8 experienced morbid puerperia, according to the British Medical Association standard. In only 2 cases were the cervixes swabbed, but each yielded a pure

growth of *S. pyogenes*. The high percentage (30 per cent.) of morbidity is remarkable when it is considered that 6 of the 8 women passed through normal labours without any interference, while the other two sustained only slight post-partum haemorrhages. The details of each case may be summarized.

1. Normal labour; morbid puerperium.
2. Normal labour; post-partum haemorrhage; temperature 100° F.; second to eighth days, maximum temperature 102° F.
3. Normal labour; morbid puerperium; temperature 100.2° F., fourth and fifth days.
4. Normal labour; morbid puerperium; *S. pyogenes* isolated from cervix.
5. Normal labour; morbid puerperium; post-partum haemorrhage; *S. pyogenes* isolated from cervix.
6. Normal labour; morbid puerperium.
7. Normal labour; morbid puerperium.
8. Normal labour; morbid puerperium.

The remaining 19 women passed through normal puerperia; 18 of these experienced normal labours, one was delivered by forceps.

#### (b) Women who did not React.

In this group there were 73 women. Two of these experienced morbid puerperia, but in each case the constitutional disturbance was very slight, and in neither could *S. pyogenes* be found in the cervix or blood. The series was of special interest in that it contained many abnormal cases in which sepsis was to be expected, yet, as will be seen from the summary below, no such event occurred.

1. Severe post-partum haemorrhage; admitted pulseless. Manual removal of placenta performed after blood transfusion. Normal puerperium.
2. Patient delivered on district; severe post-partum haemorrhage, associated with a morbidly adherent placenta which required manual removal. Patient collapsed for some hours. Slight rise of temperature on third, fourth, and fifth days; lochia offensive. Cervical culture gave growth of *S. salivarius* and staphylococci.
3. Caesarean section; normal puerperium.
4. Caesarean section; normal puerperium.
5. Severe tear of perineum; normal puerperium.
6. Severe tear of perineum; normal puerperium.
7. Normal labour; temperature slightly raised in puerperium; haemolytic streptococci not found in cervix.
8. Severe pyelitis of pregnancy; secondary anaemia, red blood corpuscles 2,400,000 per c.mm. Placenta praevia. Transverse lie; artificial rupture of membranes; later, internal version. Temperature slightly raised in puerperium, maximum 100° F. on fifth and seventh days. No streptococci found in cervix.
9. Concealed and external ante-partum haemorrhage; artificial rupture of membranes, vagina plugged; puerperium normal.
10. A multipara with contracted pelvis. Interspinal diameter 9 in., intercrural 10 in., external conjugate 6½ in. Transverse lie; external version; difficult delivery with forceps after long second stage lasting six hours. Normal puerperium.
11. A case of severe post-partum haemorrhage; manual removal of morbidly adherent placenta. Normal puerperium. Cervical culture showed *Staph. albus*, *B. coli communis*, and *S. salivarius*.
12. Case of ante-partum eclampsia; persistent right occipito-posterior, delivered as such with forceps. Puerperium normal till twelfth day, when rigor occurred; patient developed pyelitis and *B. coli communis* septicaemia. No streptococci in cervix or blood on repeated examination.
13. A case of severe post-partum haemorrhage. Manual removal of placenta performed. Normal puerperium; cervical swab sterile.

No case has yet occurred, so far as is known, of a woman, sensitive to toxin, who has harboured the *S. pyogenes* in her genital tract without developing puerperal fever. Since the observations recorded above a morbid puerperium has occurred in a woman, who failed to react to toxin, from whose cervix the *S. pyogenes* was isolated. This woman, when tested three weeks before delivery and again at the time of delivery, was suffering from suppurating scabetic sores of the hands and feet. These sores may well have been infected with pyogenic streptococci. Unfortunately cultures were not taken.

The conclusion that toxin-sensitiveness indicates susceptibility to puerperal sepsis is not disturbed by this observation, however. There seems no reason to doubt the existence of a degree of resistance to *S. pyogenes* infection sufficient to neutralize the dose of toxin employed for

intradermal inoculation and to prevent a severe septicaemia, but insufficient to prevent a local infection of the uterus; just as every grade of susceptibility to scarlet fever or tonsillitis is well recognized.

No skin tests on women actually suffering from puerperal fever have been made, but it is hoped to undertake these as opportunities arise. A fatal case of *S. pyogenes* septicaemia in a man, recently tested, proved vigorously toxin-sensitive. In a few instances toxins prepared from strains of *S. pyogenes* from puerperal sources have been tested simultaneously with the standard scarlatinal toxin, and so far with the same results, thus supporting Okell's findings.

It is realized that one hundred cases are insufficient to afford conclusive proof of the significance of the toxin test. The investigation is being pursued, therefore, and it is hoped soon to have further evidence. Finally, it may be stated that the possibilities of the toxin-sensitive test as a guide to preventive treatment against *S. pyogenes* infections have not been overlooked. If the conclusions reached receive support, the time may come when prophylactic immunization of toxin-sensitive women will be practised as a routine. But the indications for such immunization, the optimum time in relation to labour, the means employed—by active dosage with toxin or by passive immunization with antitoxic serum—have yet to be studied.

#### Summary.

1. Of 100 pregnant women, 27 were sensitive to a dose of 1/5 c.cm. of a dilution of 1 in 1,000 scarlatinal toxin injected intradermally.

2. Eight, or 30 per cent., of the "toxin-sensitive" women experienced morbid puerperia. From the cervixes of those examined a pure growth of *S. pyogenes* was obtained. Labour was altogether normal in 6 of these cases and normal in the remaining 2, except for slight post-partum haemorrhage.

3. Of 100 pregnant women, 73 gave no reaction to scarlatinal toxin; two of these exhibited morbid puerperia (British Medical Association standard), but in neither case could streptococci be found in the cervix or blood.

4. Thirteen of the non-reacting women, or 19 per cent., sustained difficult labours but healthy puerperia; 6 of these were examined bacteriologically, but in no case was *S. pyogenes* found.

#### Conclusions.

1. The optimum dose of scarlatinal toxin for intradermal test is 1/5 c.cm. of a dilution of 1 in 1,000 strength.

2. Women who react positively to intradermal inoculation of scarlatinal toxin are more liable to develop puerperal sepsis than non-reactors.

3. Difficult labour, with or without laceration, predisposes to puerperal infection only in so far as the risk of introduction of *S. pyogenes* is thereby increased, provided an external source of infection be present.

The work was carried out during the second year of my tenure of the Lawrence Scholarship at St. Bartholomew's Hospital. My thanks are due to Dr. R. R. Armstrong for active collaboration and advice throughout the inquiry.

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<sup>1</sup> *Proc. Roy. Soc. Med.*, 1928, vol. xxi, p. 28. <sup>2</sup> *Lancet*, April 14th, 1928, p. 748. <sup>3</sup> *St. Bartholomew's Hospital Journal*, September, 1926, p. 181.

## A YELLOW FEVER VACCINE.

BY

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BEIT MEMORIAL RESEARCH FELLOW IN TROPICAL MEDICINE.

(From the Wellcome Bureau of Scientific Research.)

THE urgent necessity of some method of protective vaccination against yellow fever has been strikingly demonstrated by the occurrence of epidemics of increasing severity in West Africa, and also by the recent tragic deaths of three distinguished investigators from this disease. Consequently it seemed of interest to see whether a protective vaccine could be prepared by using any of the methods employed in the case of other diseases caused by filterable viruses, and in particular those recommended by Todd (1928) for fowl plague, Laidlaw and Dunkin (1928) for dog distemper, and Bedson, Maitland, and Burbury (1927) for foot-and-mouth disease.

The strain of yellow fever employed was isolated from a case at Dakar, and has been maintained by passage in rhesus monkeys and mosquitos until the present time (see Sellards and Hindle, 1928). Although the minimal dose of virus has not been estimated the subcutaneous inoculation of 0.0001 gram of the liver of an infected monkey produces death in four to five days, and sixteen monkeys have been inoculated with the virus, with fatal results in every case. The results of Stokes, Bauer, and Hudson (1928) in West Africa have also shown that the infection is almost invariably fatal in rhesus monkeys, and therefore in the following experiments the possibility of natural recovery from the disease need hardly be considered.

#### Formalinized Vaccine.

Part of the liver and spleen of monkey H 10, which had died from the disease, was ground up in a mortar with broken glass, and the resulting paste mixed with five parts its weight of normal saline, to which was added sufficient formalin to make a strength of 1 in 1,000 formaldehyde. The emulsion was filtered through muslin and kept in the ice chest at 0° to -5° C. until used. This vaccine has been tried on only one monkey, with the following results.

Rhesus H 13 was inoculated subcutaneously with 1 c.cm. of formalinized vaccine on April 19th, 1928. It showed a rise of temperature of two to three degrees on the fourth and fifth days, but no other obvious reaction. On April 27th it was inoculated subcutaneously with 0.2 gram of infected liver from monkey H 11, which had died from the

disease, and after an incubation period of three days had a mild attack of yellow fever, with four days of fever followed by a subnormal temperature and then a return to the normal. Two untreated control monkeys, inoculated subcutaneously at the same time, one with 0.001 gram and the other with 0.0001 gram of the liver of monkey H 11, died of yellow fever after five and five and a half days respectively.

This vaccinated monkey was again inoculated on May 24th with approximately 1 gram of liver material from an infected monkey, and again showed nothing more than a slight febrile reaction, which was probably the result of the large dose administered. Further experiments with this vaccine are in progress.

#### Phenol Glycerin Vaccine.

Part of the liver and spleen of the same monkey (H 10) used in the preparation of the above-described vaccine was treated in a different manner. The organs were cut up into small pieces and washed well with normal saline in order to remove all traces of blood. The tissue was then ground up in a mortar with broken glass, and the resulting paste mixed with four times its weight of the following mixture:

Glycerin	...	...	...	...	600 c.cm.
5 per cent. phenol	...	...	...	...	100 c.cm.
Distilled water	...	...	...	...	300 c.cm.

The emulsion was then filtered through muslin and kept at room temperature for seven days, after which it was placed in the ice chest. This vaccine has been tested on seven monkeys, with the following results.

Rhesus H 12. This monkey was inoculated subcutaneously on April 19th, 1928, with 1 c.cm. of phenol glycerin vaccine which had been kept in the ice chest for twenty-four hours, and, except for one day, when it had a poor appetite, the animal showed no reaction as a result of the inoculation. Eight days later it received a subcutaneous injection of 0.2 gram of infected liver material from monkey H 11, but showed no reaction. Six days later it was again inoculated with 1 gram of infected liver, and on May 24th, five weeks after vaccination, received yet another inoculation of 1 to 2 grams of liver material from two monkeys which had died from the disease.

This monkey, therefore, has been inoculated on three separate occasions with enormous doses of the virus, but in no case was any rise in temperature observed, and the animal has remained in perfect health.

These results were so favourable that it was decided to



put this vaccine to as severe a test as possible in order to see whether its use could be recommended for protection against yellow fever.

On May 15th six rhesus monkeys were each inoculated subcutaneously with 1 c.cm. of vaccine which had been kept in the ice chest for four weeks. None of these animals showed any febrile reaction, although, as usual, their temperatures were taken every morning and evening.

On May 24th these six monkeys, and also four untreated controls, were each inoculated with approximately 1 gram of infected liver material from two monkeys that had died of the disease, one only four days after inoculation. In order to eliminate any personal equation, the inoculations were kindly performed by Dr. C. M. Wenyon, who was unaware which of the monkeys had been vaccinated and which were controls.

All the controls died of yellow fever with typical symptoms, one after four days, two after four and a half days, and one after five days.

One of the vaccinated monkeys which had received a double dose of the virus—about 2 grams—also died of yellow fever, but the other five monkeys have remained uninfected.

In view of the enormous doses these animals received it is evident, therefore, that phenol-glycerin vaccine, prepared from the liver and spleen of infected monkeys in the manner indicated above, is likely to afford a simple means of protection against yellow fever in human beings. Further work is in progress on the duration of the protection in monkeys, and also on the length of time the vaccine will maintain its efficiency.

In conclusion, I should like to express heartiest thanks to Dr. C. Todd for many helpful suggestions, and to Dr. C. M. Wenyon, F.R.S., for providing me with accommodation, and also for much valuable assistance.

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## TWO CASES OF HAEMATURIA CAUSED BY INSULIN TREATMENT.

BY

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AND

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So few cases have been recorded in which haematuria has been produced by insulin injections, or at least occurred during insulin treatment, that the following two cases seem worthy of mention.

## CASE 1.

A youth, aged 19, developed mild diabetes in August, 1927. This was easily controlled by diet without insulin until he developed severe tonsillitis and pharyngitis on November 7th. He was admitted to hospital at midnight on November 9th in a precomatose condition. He received 120 units that day, which completely abolished the glycosuria and reduced the ketonuria to the merest trace. On November 10th and 11th he received 50 units a day. In the urine passed at noon and in the evening of the 11th a considerable amount of blood was present—smoky appearance and red deposit. The blood was much less on the morning of the 12th, had almost disappeared at noon, and in the evening not a single red blood cell could be found. Again three days later (November 15th) blood appeared in the noon and evening samples of urine, but had disappeared by the next morning, and never returned. On November 17th the insulin was gradually reduced, and was discontinued altogether a fortnight later.

Throughout his period in hospital the urine contained no other abnormal constituent, albumin and white blood corpuscles appearing only when the blood was present and in commensurate amounts. The kidney function tests were normal, and casts absent. There was no history of previous haemorrhages in the patient, nor a family diathesis. He had a perfectly compensated mitral lesion due to previous rheumatism, but no other disease complicating the diabetes. The pharyngitis (pneumococcal) was almost better when the first attack of haematuria occurred and

quite better at the date of the second. The insulin used was Burroughs Wellcome's, and was being used on other patients without producing haematuria. No drug which might have produced haematuria was given.

## CASE II.

A boy of 18, a severe diabetic, was admitted to King's College Hospital on March 5th, 1928, very emaciated and in a condition of severe ketosis. Slight proteinuria was present, probably as a result of the ketosis, because it disappeared when the glycosuria and ketosis were cleared up by large doses of insulin. On the sixth day of insulin treatment (25 and 18 units morning and evening) an obvious haematuria occurred in the specimen of urine passed at noon, four hours after the morning dose. Slight proteinuria and a few white blood cells were present, strictly commensurate with the amount of blood, and no casts were seen. A few red cells were present in the urine passed at 6 p.m. After this no further haematuria or proteinuria occurred. The kidney function tests—blood urea and urea concentration tests—were entirely normal. At the time of the haematuria a slight ketonuria was present (negative ferric chloride test), but much less than on the few days following admission. No septic focus was discovered and no drugs other than insulin were given.

Only seven cases of haematuria occurring during insulin treatment seem to be recorded in the literature. The condition must therefore be very rare, as it is not likely to be overlooked in a diabetic. All except our own two cases have occurred during the earlier days of insulin treatment—in 1923 and 1924, when impurities in the insulin were more frequent, especially abroad, and might have accounted for the haematuria. Thomson<sup>1</sup> mentions two cases in 1923, but gives no details except that they were on large doses of insulin. Henderson<sup>2</sup> also records two cases in 1923, in diabetic men aged 32 and 59, with no evidence of kidney disease and no complications; and another in a boy admitted in coma, in which case a few hyaline casts were present. The haematuria lasted only one day. Gudemann<sup>3</sup> reports two cases; one of a man aged 50, who, after having been on insulin continuously for some months, suddenly commenced to have attacks of haematuria, which disappeared when the insulin was discontinued and reappeared whenever insulin was administered. This case was complicated by tuberculosis of the lungs, and arterio-sclerosis was found in the kidneys at necropsy. His second case of haematuria was also complicated by tuberculosis. Haemorrhages from other parts of the body have been recorded<sup>4</sup> as occurring from the use of insulin—intestinal haemorrhage, cerebral haemorrhage, and two cases of death in coma, in which meningeal and lung haemorrhages were found. In these latter cases, however, there is no real evidence that the haemorrhages were caused by the insulin and were not merely incidental to its administration.

An analysis of all the few cases of haematuria in which any details are published does not reveal any common factor which would explain the occurrence of the haematuria occasionally produced by insulin. These were all, however, on large doses of insulin, and no case seems to have arisen where only small doses of insulin were being used. Concurrent infections were present in some cases, but not in all. The records are not detailed enough to gather whether a heavy ketosis was present in all the cases—an important factor, because it is well known that the excretion of ketone bodies will irritate the kidney at least to the extent of causing some protein and casts to appear temporarily from an otherwise normal kidney. Under such conditions insulin might be more likely to produce haematuria. In our cases ketosis had been severe, but had almost disappeared by the time of the first attack of haematuria, and was completely absent at the time of the second. Curiously enough all the cases recorded so far have occurred in males. It seems to occur both in the old and the young, so that arterio-sclerotic changes in the kidney have probably little to do with the production of haematuria by insulin.

Most of these attacks of haematuria have been trivial and of short duration, and have caused no inconvenience, except some alarm, especially to the doctor. There seems no reason, therefore, from the practical point of view, for discontinuing insulin either temporarily or permanently where it has caused haematuria.

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## AMBULATORY TREATMENT OF VARICOSE ULCER.\*

BY

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VARICOSE veins are met with in men and women in all grades of society, but varicose ulcer is almost entirely confined to the wives of working-class men—women who, as a rule, have had large families, and who have to work all the waking hours all the days of their lives. So injured are some of these women to the pain that they hesitate to have the ulcer healed lest some other and greater misfortune should overtake them.

Our experience, gained during the past twelve months, shows that most ulcers of the leg can be healed, and over 90 per cent. can be cured; it favours a special clinic for ulcers of the leg, since it is difficult to give these patients the attention they require in the ordinary course of a mixed clinic.

In each case of chronic ulcer a complete history is taken and a description of the ulcer is recorded for future reference. The Wassermann reaction is always determined, and should this be positive appropriate treatment is given. Varicose veins are treated by injection, and their cure has rendered the prognosis for varicose ulcer much better than formerly.

## INJECTION OF VARICOSE VEINS.

This operation is performed in the out-patient clinic; and the following solutions are used.

1. Quinine hydrochlor.	...	...	...	4 grams
Urethane	...	...	...	2 grams
Aqua dest.	...	...	...	30 c.cm.
2. Sodium salicylate	...	...	...	111 grains
Novocain	...	...	...	5 grains
Aqua dest.	...	...	...	444 minims

The initial dose of either of these is 1 c.cm., and if no idiosyncrasy is observed 2 or 3 c.cm. can be injected at future sittings; it is advisable that 1 c.cm. should be given at each puncture, and at intervals of about two inches on the vein. The injections are given weekly.

**Technique.**—The patient is seated at a convenient height with the foot of the leg to be treated on a rest. The site for the injection is painted with iodine, and a tourniquet is applied above the selected site. When the needle of the syringe has been introduced into the vein the tourniquet is released and the forefinger of the left hand is placed on the distal side of the needle to compress the vein, the middle finger being used to compress the vein above the needle. The middle finger is then firmly separated from the forefinger so that the underlying vein will be emptied. The injection is made and, before the needle is withdrawn, a pad is so placed that compression will prevent the solution from passing along the needle tract. The fingers and pad are kept in position for three to four minutes, after which they are released and collodion is applied to the puncture.

It is not advisable to inject veins very near the ulcer, lest infection of the thrombus supervenes. Hard edges of ulcers are freely scarified, and if, as frequently happens, there are aneurysmal dilatations on the veins immediately above the ulcer, they should be opened and allowed to bleed empty. Following scarification a dry gauze and wool dressing is applied for twenty-four hours.

The "ulcer and leg" is now dressed with Unna's zinc-gelatin, which dressing is kept on for one week; at the end of this period the dressing is removed, the leg is cleansed, and a new dressing is applied. The formula for the zinc-gelatin is:

Zinc oxide	...	...	...	10 parts
Gelatin	...	...	...	6 "
Glycerin	...	...	...	14 "
Aqua	...	...	...	24 "

This forms a stiffer dressing than the usual formula for this preparation and is strongly recommended.

**Technique.**—The patient is seated at a convenient height and the foot is placed on a rest. The zinc-gelatin, warmed to make

\* Read before a meeting of the Lancashire and Cheshire Branch of the British Medical Association.

it liquid, is painted on the leg and ulcer with an ordinary paint-brush and a gauze bandage is applied—two or three layers of bandage are employed. It is important to note that the entire ulcer is covered with the dressing, no window being left.

Those who have not tried this dressing often object to a discharging ulcer being covered, but it can be done with confidence, and though the ulcer may, as frequently happens, be bathed with pus, when the dressing is removed the edges of the ulcer will show a tendency to heal, which will eventually go on to complete cure. Such a procedure will rapidly cure varicose ulcers.

A word of warning is necessary with regard to the injection of very small varices which are met with in many patients. If such cases are injected the patient should be put to bed for twenty-four hours following the injection, since swelling ensues, and gangrene with the formation of a slow-healing ulcer is liable to occur.

We have during the past twelve months treated nearly seventy ulcers, with marked success in every case. Ulcers of long standing—in one case of twenty-three years—have healed, and still remain so. Patients are asked to report at regular intervals after discharge, so that we may observe the result.

## THE TREATMENT OF PROGRESSIVE MUSCULAR ATROPHY BY PARATHYROID, CALCIUM, AND VITAMIN D.

BY

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CAPTAIN I.M.S.

By the administration of parathyroid extract, calcium, and vitamin D recently in the Presidency General Hospital, Calcutta, results have been obtained in two cases of non-infective progressive muscular atrophy which, while they have not attained a degree exceeding mediocrity, perhaps, are nevertheless striking and gratifying.

The method of treatment employed at the outset was the hypodermic injection of parathyroid extract 1/10 grain daily, together with cod-liver oil 1 ounce twice daily by the mouth, and calcium chloride in solution 15 grains three times daily. Later this treatment was modified: ampoules were substituted for the tablet form of parathyroid extract, colloidal calcium took the place of calcium chloride, and osteolin, 4 minims twice daily, was given in addition to the cod-liver oil.

## CASE I.

The first patient, admitted on November 26th, 1927, was an Anglo-Indian, aged 34, who gave a history of sixteen years' duration of gradually progressing muscular weakness and wasting. This case was clinically of the pure lower motor neuron type, weakness and wasting being especially marked in the ulnar muscles of both hands and forearms, the biceps and triceps of both sides, the muscles uniting the scapulae to the spinal column, the muscles of the back, and the anterior tibial muscles with marked foot-drop. Weakness without appreciable wasting was present in the hamstring muscles of both sides. A somewhat remarkable feature of the case was excessive wasting of the sterno-mastoid muscles, amounting to almost complete absence. With the exception of the sterno-mastoids all the muscles reacted to faradism. The gait consisted of a peculiar goose-step, owing to the weakness of the hamstrings and the foot-drop. There was considerable lordosis; the patient had to be assisted to his feet, and could not walk unaided.

The treatment above outlined was begun on December 12th, 1927. About three weeks later he surprised all concerned with the statement that he was improving. It was found, however, that he could dorsiflex both feet just a fraction of an inch. Further slow progress occurred, and at the present time he can approximate his scapulae in the mid-line posteriorly with the hitherto completely paralysed rhomboid muscles, exert quite an appreciable grip with both hands, and can flex and extend both arms at the elbow against some slight resistance, which he could not do previously. He sits more erect in a chair, and there is unquestionably great improvement in general health and muscular tone. There is but little change in his gait, though he walks with greater steadiness, and has somewhat greater facility in lifting his toes from the ground.

## CASE II.

In the case of the second patient, a European aged 40, admitted on January 5th, 1928, the progress of the disease had been far more rapid, the first sign of weakness having occurred less than three years previously. This was a case of amyotrophic lateral sclerosis with profound wasting and *main-en-griffe* deformity of both hands, with ankylosis of the metacarpophalangeal joints. There was extreme general wasting and spastic paralysis of the

bulbar muscles; the palatal reflex was absent. Swallowing was very difficult, and the jaw hung pendulous; liquid food had to be placed inside the mouth and was slowly gulped down. This was succeeded by fits of coughing when the food proceeded towards the air passages. The wasting of the intercostal muscles was extreme, and respiration was a painful process. To add to the patient's discomfort there was a troublesome laryngitis and bronchitis, giving rise to an incessant gagging noise on respiration. The patient was entirely helpless, and beyond straightening out his legs when they were flexed he could scarcely perform any voluntary movement. He could shake his head for "no" and say "ah" for "yes," otherwise he was incapable of speech. He was naturally regarded as being very near his end.

Within ten days of his starting the treatment his wife stated that she noticed an indefinable improvement in his condition, and within a month definite changes for the better had appeared. The patient was with some difficulty able to approximate his lips and to raise his head from the pillow, and could swallow his food without inconvenience. A conversation could be carried on with him with a certain amount of difficulty. At the present time he cannot phonate well, but he can form even three-syllabled words with his mouth, and it is quite easy, if one has patience, to understand what he has to say. The most remarkable advance, however, has occurred in the use of his jaw muscles. He can now chew his food without any difficulty and swallow quite easily. Another unquestionable improvement is manifest in the use of the lower limbs, for he can now flex and extend both legs at the knee-joint, and can also dorsiflex both feet.

The general nutrition of this patient has improved remarkably. The weight has not been recorded owing to the discomfort weighing would have caused, but the improvement has been visible. On admission he gave the impression of being in imminent danger of death, and the change for the better is beyond all doubt.

These clinical observations appear to indicate that there is an element in the treatment which is concerned most closely with nerve-cell metabolism. It will be noted that in both the cases atrophy had proceeded to such an extent that complete recovery could not be expected, for in the first there was a sclerosis of neural tissue extending over a period of sixteen years, and in the second a progress to almost the terminal stages of the disease in a relatively short period. There is no doubt that in early cases in which wasting has only just commenced, and where fibrillation is still active in the weakened muscles, something approaching a complete cure might be expected. Even in severe cases it appears feasible to suppose that the onward progress of the disease may be arrested.

There is a group of cases of quite another nature in which a trial of this form of therapy would appear to be justified. I refer to the group of mental illnesses, and especially to dementia praecox, in which the whole symptomatology from the beginning to the most distressing end argues a cell atrophy which, invisible and molecular though it may be, is nevertheless sufficient to cause complete disintegration of the higher association tracts. Paranoia might almost be included in the same category.

I have to thank Major E. O'G. Kirwan, I.M.S., the surgeon-superintendent of the Presidency General Hospital, Calcutta, for permission to refer to the cases concerned.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### LIGATURE OF THE INNOMINATE ARTERY FOR INNOMINATE ANEURYSM.

In the *British Journal of Surgery* (vol. ix, No. 35) Sir Charles Ballance collected the recorded cases of ligature of the innominate artery; he writes: "All the cases recorded in the following paper, except my own, are of ligature of the innominate for subclavian or carotid aneurysm." His own cases comprised four, of which two patients died shortly after operation, one died two and a half years later, and the remaining one could not be traced. Aneurysm of the innominate artery cured by proximal ligature of the artery is therefore sufficiently uncommon to make the publication of the present case of interest; it is, moreover, the first successful case to be reported from Leeds.

A man, aged 37, received in 1918 a bullet wound at the root of the neck on the right side immediately above the centre of the clavicle. The bullet was removed at a casualty clearing station from just above the inner end of the clavicle, and the wound rapidly healed; but a small hard swelling remained at the

site of entry, and another as large as a small egg in the notch above the manubrium sterni. Since being wounded he has had a husky voice and frequent attacks of pain in the neck, and headache without vomiting. In 1925 he suddenly lost the vision of the right eye, which partially returned later.

A week before Christmas, 1926, the central swelling began to enlarge rapidly, and this was accompanied by much pain both at this place and in the back of the neck. He was admitted to the Ministry of Pensions Hospital in Leeds in January, 1927. There was a tender pulsating swelling as large as a big pear filling the notch above the sternum and extending in an ill-defined manner to both sides of the neck; the central part of this swelling was purple in colour and almost as thin as tissue paper. He complained of pain in the root of the neck, in the occipital region, and behind both ears. There was difficulty in swallowing, especially fluids. The right pupil was contracted, and the right radial and carotid arteries could only be felt pulsating feebly; the huskiness of the voice was found to be due to right recurrent laryngeal paralysis. There were no sensory changes in the hand or arm. He was short of breath, had a pulse of 92, and a temperature of 99.4° F. As the swelling was rapidly increasing in size I decided to operate without delay, and performed the following operation on January 24th, 1927.

The manubrium sterni was removed after carefully separating the thin aneurysmal sac, which was closely adhering to the upper border. The aneurysm was found to spring from the innominate at its bifurcation, leaving rather less than half an inch of the main trunk intact at its origin from the aorta. A ligature of No. 2 chromic gutgut was passed round this part of the innominate and tied with sufficient tension to approximate the walls closely. The recent acute symptoms were obviously due to a leak in the upper and right side of the sac. The clot was turned out, when vigorous bleeding occurred from the distal end of the subclavian. A finger was applied to the open mouth while sutures were being inserted on the inner side of the sac; after tying these all haemorrhage stopped. It was impossible to obliterate the greater part of the sac, and inadvisable to attempt removal, as it was firmly adherent; it was therefore packed.

The patient stood the operation remarkably well, but the wound took some weeks to heal completely, owing to the packing. The right arm was useless at first, but has since fully recovered, though there is, of course, no radial pulsation. When last seen, in June, 1927, he was very well, with no sign of recurrence. All that remained was a small hard mass where the aneurysm had been, and a depressed scar at the place from which the manubrium sterni was removed. He has, of course, still the huskiness of his voice, and vision is limited to the central part of the field, in which he can only distinguish objects rather mistily. He is quite free from pain.

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#### ACUTE APPENDICITIS FOLLOWING TYPHOID FEVER.

THE relation between acute appendicitis and typhoid fever has always been an interesting point and the cause of some confusion in diagnosis. Acute appendicitis following typhoid fever must be a rare condition—I have no means here of verifying this—and the following case may prove of more than ordinary interest.

A young man was admitted to the Colony Hospital, Grenada, on April 21st, 1927, with a history of four days' continued fever. His doctor regarded him as a case of suspected typhoid fever, but was doubtful of the diagnosis, as there was an old history of (?) malignant malaria in Demerara several months previously. He was isolated and kept under observation, and eventually was notified as a positive typhoid case five days later. His illness ran a typical course up to the twenty-fourth day, a deferrescence by lysis having occurred. On the evening of this day (May 10th) his temperature suddenly rose to 100.6° F., with pulse rate quickened to 114, and he began to complain of acute abdominal pain. It is noteworthy that his pulse rate ranged from only 76 to 100 during the height of the typhoid fever.

I ordered a soap enema and the result was copious, but there was no relief from the pain; he was slightly distended. Palpation of the appendix region revealed a well-defined enlarged appendix with bulbous extremity, which was tender. The matron of the hospital palpated the appendix and could make out its outline distinctly. On the morning of May 11th I operated, and removed an acutely inflamed appendix with, as we had expected, an enlarged tip; it was adherent in its whole length to the caecum. The wound healed by first intention, and though the patient ran a temperature for some eight days afterwards his recovery was uneventful and he had no more pain.

The patient's prolonged convalescence was entirely due to his enteric condition. No blood counts were performed during his typhoid phase nor at the occurrence of the appendicitis; they might have been of interest, but the abrupt acceleration of the pulse rate was significant. I regard this as a genuine case of appendicitis occurring at the end of the third week of typhoid fever, and the wonder is that there are not more instances of the same condition to record.

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## Reports of Societies.

### MATERNAL MORTALITY DUE TO PUERPERAL SEPSIS.

At the meeting of the Edinburgh Obstetrical Society on May 8th, with the president, Dr. HAIG FRANKSON, in the chair, Dr. JAMES YOUNG read a paper entitled "Maternal mortality from puerperal sepsis: an analysis of the factors of contagion, trauma, and auto-infection," which is published at page 967.

Dr. FORDYCE, in the discussion following this paper, regarded the question of segregation of confinement cases in hospitals as an important one, and doubted whether it was advisable for normal cases to be confined in hospitals where there was only a limited amount of space. He thought that forceps delivery in selected cases prevented the trauma which might otherwise be caused by a very delayed labour. He regarded the statistics of puerperal sepsis of one hundred years ago as not very reliable.

Professor HENDRY referred to three cases of pyrexia due to extraneous origins—namely, infective rhinitis, commencing whitlow, and a septic wound on the skin of the patient's husband; these showed the importance of contagion. He supported very strongly Dr. Young's principle of separate accommodation in maternity hospitals for cases sent in after intervention outside. With regard to trauma, primigravidae seemed to be more liable than multiparae.

Dr. MILLER showed by statistics of the Royal Maternity Hospital that the incidence of pyrexia in patients delivered instrumentally was much larger than in those whose delivery had been spontaneous. He had found a marked variation in the bactericidal power of the blood in pregnant women, which might explain the variation in individual susceptibility to infection.

Dr. J. M. BOWIE regarded trauma as of great importance in puerperal sepsis. He thought that the whole machinery of maternity service in this country needed overhauling. Reorganization might be effected in two ways: (1) by the present system of trained midwives working alone in normal cases and assisted by doctors in difficult cases; or (2) since midwifery work appealed to many doctors a new race of specialists might rise, who would confine themselves to it.

Dr. KEEPLE PATERSON attributed great merit to prolonged antiseptic douching after delivery even in normal cases, but thought it of greater value after manipulative intervention.

The PRESIDENT thought that haemolytic streptococci might be rendered temporarily inert by the normal vaginal secretion, but in certain circumstances they might regain their haemolytic action. He urged the segregation of complicated cases, but to do this a large hospital was required. He did not think that trauma was only due to instrumental intervention, since normal labours were often associated with very severe trauma. He considered the co-operation of midwives and medical practitioners an excellent practice.

#### Clinical Reports.

Dr. CHARLES GRAHAM described in detail ten cases of Caesarean section which he had performed for various indications, such as contracted pelvis, eclampsia, disseminated sclerosis, and an impacted transverse lie. Attention was drawn to the number of cases of Caesarean section coming under the notice of a busy country practitioner. His results had not been attended with any maternal mortality.

Dr. C. W. SOMERVILLE described three confinements which were complicated by measles, encephalitis lethargica, and diabetes respectively. In the case of measles the patient developed the disease at the onset of labour, which however, passed off normally with the aid of "twilight sleep." The child had no rash when born, and did not develop the disease, although the mother nursed her child for the first two months of its existence. The puerperium was uneventful. The case of encephalitis with labour was also normal with regard to the labour; the encephalitis was of the Parkinsonian type. The child was apparently quite

healthy. The case of diabetes was diagnosed three months before labour was due, and the patient was treated with 60 units of insulin daily until labour started. The labour itself was rather difficult, since the head had rotated into an occipito-posterior position, and the patient had to be kept under light chloroform anaesthesia for nearly two hours before delivery was effected. Chloroform was not feared as the case had been so thoroughly treated with insulin. The mother nursed her child for six months without any detriment either to herself or to the infant.

### NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

At a meeting in Leeds of the North of England Obstetrical and Gynaecological Society on April 27th, with the president, Mr. H. LEITH MURRAY (Liverpool), in the chair, Mr. J. E. STACEY (Sheffield) described a specimen of bilateral tarry ovarian cysts. Mr. Stacey said that the histological characteristics of the tumours were identical; marked hyperaemia and production of numerous capillaries were a feature of the sections. The cavity was lined in patches with a poor type of columnar epithelium, which gave place in some areas to a more endothelial-like character, and was entirely absent in other parts. Deep to the epithelial layer was a stratum of golden pigmented polyhedral cells with many of the characteristics of lutein tissue cells. Areas of this had been stained by the Prussian blue reaction, and in no part showed the presence of iron. This layer of lutein cells was invaded irregularly by bands of hyaline tissue arranged radially to the cavity of the cyst. In places the cells were separated from one another, producing a mosaic effect; in others they were tightly bunched together. No convolution of the lutein tissue was present in any part of the wall. The characteristics of lutein tissue cells in the walls of these cysts demonstrated their difference from the endometrial cysts described by Sampson, and marked them out as follicular in origin. But for the lack of convolutions and of two distinctly defined types of cell—granulosa lutein and para lutein—Mr. Stacey would have placed this case in the third class of tarry lutein cysts described by Wilfred Shaw—namely, the tarry corpus luteum cyst—since the hyaline degeneration in the wall, a marked feature in this type, was present. But in the absence of these two primary characteristics (convolutions and two types of cells) he classed the case as one of unusually large tarry theca lutein cysts. Mr. Stacey thought that insufficient attention had been paid to Wilfred Shaw's communication to the sixth British Congress of Obstetrics and Gynaecology, held in Manchester in 1927. (Reference was made to this in our columns on May 21st, 1927, p. 924.) A large part of this paper had been devoted to a consideration of tarry cysts of the ovary, and Mr. Stacey suggested that endometrial implantation cysts had very often been mistakenly so called when really they were of follicular origin. Shaw's three types were the tarry theca lutein cysts, the tarry granulosa lutein cysts, and the tarry cysts derived from corpora lutea. Each of these types had been described as possessing characteristic features, but from superficial resemblances between each Mr. Stacey thought it must require a very large number of sections taken from many parts of an ovary, and even many areas of the wall of the same cyst, before it was possible to place accurately any tarry cyst in its right group. Moreover, tarry cysts of more than one type had been found in the same case, and in one specimen described by Shaw, complicating matters still further, an endometrial cyst of Sampson had been associated with a tarry theca lutein cyst. Naked-eyo appearances in no way helped in the diagnosis between endometriomata and tarry cysts of follicular origin. Sampson had described no endometrial cyst as large as the follicular tarry cyst here recounted, but this was no criterion, since Dougal in 1925 had reported one 10 inches in diameter. In the case related the anatomical and clinical features were identical with many another case described as endometrioma, and only a careful histological examination in the light of Shaw's and other recent papers had determined the correct origin of the

tumours. In Sampson's description of endometrial cysts he said that in the final condition there was very little left of the lining of the cyst beyond a few irregular cubical cells; deep to this was what remained of a differentiated layer of stroma, and, when this was present, large pigmented cells were found in it. The surrounding ovarian tissue was converted into a layer of hyaline tissue. This alone was sufficient to show how easy it could be to mistake the two conditions of endometrioma and follicular tarry cysts.

#### *Spontaneous Rupture of Uterine Sarcoma.*

The President and Mr. A. A. GEMMELL (Liverpool) described jointly a case of uterine sarcoma which had ruptured spontaneously, giving rise to acute abdominal symptoms.

A sterile married woman, aged 48, was admitted with the diagnosis of "acute abdomen" to a surgical unit in the David Lewis Northern Hospital, Liverpool, on March 7th, 1927. She complained of acute abdominal pain with nausea and vomiting, and great frequency of micturition. The pain was referred to the lower abdomen, and had been present for a few hours only; the bowels had moved on the morning of admission. She gave a history of vomiting with pain in the right iliac fossa three weeks previously; this soon passed off, and she had been fairly well since. Menstruation had been somewhat irregular, although in no way excessive, for a year previously; for the preceding three months, however, it had been regular. The patient lay in bed with the abdomen much swollen and the left leg flexed. The temperature was normal, and in spite of the pain her pulse was only 80. By catheter 34 ounces of urine were drawn off without relief to the pain. Vaginal examination showed a rounded tender and apparently fixed swelling filling the pelvis. She was accordingly transferred to the gynaecological unit. A diagnosis of ovarian cyst with twisted pedicle was made, but under an anaesthetic the mass was defined as uterine; it seemed probable, therefore, that there was acute, presumably red, degeneration of a uterine fibroid. The patient appeared healthy, with a moderate amount of subcutaneous fat.

At operation the posterior wall of the uterus presented an enlargement filling the pelvis; the mass was lightly adherent at one spot and had burst at its lower pole. There was a small quantity of free blood in the peritoneal cavity, and some absolutely loose fragments, totalling probably half an ounce, in the pouch of Douglas. The peritoneum of the lower abdomen and pelvis showed no secondary growths. A subtotal hysterectomy with removal of both appendages was rapidly performed. The specimen weighed 12½ ounces, and even after removal was judged to be a uterus containing a degenerating fibroid which had burst its capsule. The rupture had occurred over an area of about two square inches: the peritoneal edges were retracted and fully exposed the softish lobulated and apparently oedematous substance of the growth. The tumour was moderately firm—not in any way brain-like—and it was slightly yellowish. Microscopical examination proved it to be a mixed-celled sarcoma (small round cells, spindles, and giant cells) with areas of necrosis. The growth was definitely infiltrative in the muscle, and at no point was any suggestion given of malignant metaplasia of a fibroid. The endometrial cavity lay distinct from the mass and was separated from it by a varying amount of the muscularis. The loose fragments stained well and showed no necrosis. The patient left hospital on March 27th, and pelvic and abdominal examinations were then normal, but on April 15th she was readmitted with symptoms of threatened intestinal obstruction and considerable cystic swelling of the lower abdomen. An exploratory laparotomy released several pints of slightly blood-stained fluid and showed innumerable nodules of malignancy, more particularly in the pelvis, but also in the abdomen. Sections of several of these demonstrated malignancy similar to the original growth. The patient, who had obviously lost much weight since her discharge from hospital nineteen days previously, went downhill very fast, and without any further symptoms of obstruction died on May 12th.

#### *Parovarian and Ovarian Cysts in Pregnancy.*

Mr. W. Gough (Leeds) read notes of a case of parovarian and ovarian cysts removed during pregnancy.

A married woman, aged 32, had had one child four years previously. The last menstrual period finished January 4th, morning sickness began in February and was severe. About the middle of March she felt "a lump" in her left side; there was no pain. Inspection showed a rounded swelling above the pubes passing upwards and to the left more than half-way to the umbilicus. It was softish and fluctuant; behind and to the right a rounded mass was felt deep in the pelvis. On vaginal examination the cervix was found to be very high, placed anteriorly, and continuous with the abdominal swelling; behind it was a hard rounded mass the size of a fist, very slightly movable. It felt so hard that a diagnosis of sacral chondroma had been made. Slight elasticity could, however, be detected, and Mr. Gough had therefore diagnosed a cyst. The tumour was so obviously in the way of delivery that operation was decided on. The tumour proved to be a right parovarian cyst adherent in the pouch of Douglas; there was also a cyst of the ovary, the size of a duck's egg. The appendage and appendix were removed.

Mr. Gough said that the points of interest in the case were:

1. The diagnosis of the nature of the tumour and the reason of its extreme hardness. Rectal examination had proved of value.
2. The question of correct treatment. He had no doubt that in this case operation was the right thing.
3. The after-history. The vomiting continued after the operation as severely as before. He did not place any value on the theory that some cases of hyperemesis gravidarum were reflex in origin, but he was disappointed that there had been no improvement in the condition.

#### *Imperforate Anus.*

Mr. J. W. BUNNS (Liverpool) described a case of "imperforate anus."

A married woman, aged 31 years, had had three normal labours. She complained of the womb "coming down," and much discomfort on walking. On inspecting the anus it was seen that except for a small area of skin the anus was absent. The vulva, including the clitoris, was normal. About one inch inside the vagina on the posterior wall a transverse slit with crenated edges was seen, which opened directly into the rectum. Above this slit there was a well-marked septum, which separated the vagina from the rectum. On bimanual examination the uterus felt slightly enlarged, retroverted, and freely mobile; the tubes and ovaries were normal. The coccyx was missing and the sacrum felt deficient. The tissue between the vaginal orifice and the pigmented area felt very thin. On straining, the uterus and bladder passed outside the vulva. In spite of this condition the patient definitely stated that except on one occasion, when she was in the Maternity Hospital and had been given enperients, she had never experienced any discomfort arising from loss of control over the bowels.

The case presented a distinct problem as to the best line of treatment to adopt so as to cure the proctodia and, if possible, provide a degree of sphincteric control over the rectum. Anterior colporrhaphy was performed and the bladder pushed up. The cervix was amputated by removing a large cone of tissue, and the raw area thus made was covered in by vaginal flaps. Next the lower two inches of the rectum were dissected free and a new anus was provided in the middle of the pigmentation of the skin. The free end of the bowel was drawn backwards through this anus and was united to the skin margins by interrupted catgut sutures. The perineum was then constituted by bringing the lateral tissues together in the midline as in the ordinary perineorrhaphy. At the end of three weeks, when the vaginal wounds had healed, the abdomen was opened, the uterus ventro-fixed, and both tubes cut across, ligatured, and arranged so that the cut ends of each tube were separated by the corresponding round ligament. The patient made a very good recovery from both operations and left the hospital in excellent condition. She had very good control over the bowel and could retain a simple enema.

Mr. BUNNS said that it was somewhat difficult to understand how this control over the bowel had come about. The tissues of which the new perineum was constituted could not have contained much active muscle tissue, and he presumed that the original sphincter ani must have been either absent altogether or else atrophied. The pulling backwards of the bowel might have kinked it so much that abdominal pressure was required to overcome the obstruction, and so a certain amount of control was acquired indirectly.

#### *Placenta Accreta.*

Mr. A. Gough (Leeds) described a case of placenta accreta.

A primipara, aged 26, had delay in the second stage of labour; the child was easily delivered with forceps. It was then noticed that there was no loss of blood, and only after three hours did there appear a slightly blood-stained discharge. There was no descent of the umbilical cord. After-pains occurred, but the uterus did not contract as usual into a hard round ball. Pituitrin and ergotin were given, and attempts were repeatedly made to express the placenta, but without success. Having recently heard of two disasters following the removal of very adherent placentas—one patient dying immediately from shock and haemorrhage, the other a few days later of septicaemia—Mr. Gough decided to leave the placenta in the uterus and to await events. The cord hanging from the vulva was kept dusted with boric powder. Next day there was no change, and the temperature remained normal; Credé's method was again tried without success. On the third day the temperature was 100° F., but the patient's condition was otherwise satisfactory; attempts to express the placenta again failed. On the fourth day the temperature had risen to 102.8°, and there was general malaise. The lochia were of average amount and not offensive. It was then decided to empty the uterus. Under ether anaesthesia the placenta was found to be adherent in one or two places, but it was readily removed. The uterine cavity was washed out with copious irrigations of a 1 in 300 solution of



lysol. The temperature rose to 103.5° F., but on the next day had fallen to normal and the patient made a good recovery. Soon afterwards, however, signs of pulmonary tuberculosis appeared and she spent some months in a sanatorium; this might possibly have had some etiological significance.

Mr. Gough thought it might be questioned whether this was really a case of placenta accreta. It was clearly a morbidly adherent placenta, but perhaps not one of the most adherent. Generally the diagnosis of placenta accreta had been made after an unsuccessful attempt at its manual removal. What was the proper course when the placenta could not be delivered in the usual way? Most English textbooks stated that it must be removed manually after a certain time—one or two hours. Any important post-partum haemorrhage was, of course, an indication for the immediate emptying of the uterus. In this case, with no loss of blood for three hours and then only a minimal loss, the safer course was the one adopted. The forcible scraping away of the placenta in fragments entailed a grave risk of perforation of the uterus, shock, haemorrhage, and the later development of septic complications. A risk of leaving the placenta was, Mr. Gough supposed, that separation might follow and post-partum haemorrhage occur when no help was at hand; but it seemed unlikely that a closely adherent placenta would suddenly become detached. This fear might have some weight when dealing with a patient in a remote country district, but in an institution it could be entirely disregarded. Then there was the risk of sepsis being favoured by the retention: it occurred in this case, but was evidently of the sapraemic type.

#### *Drainage in Wertheim's Hysterectomy.*

Professor FLETCHER SHAW (Manchester) read a paper on the value of drainage in Wertheim's hysterectomy. He said that until recently his mortality from this operation was 20 per cent. Even a mortality of 12 per cent. which Bonney had in his second series was a dreadful responsibility for any surgeon, especially since so many of the patients who did recover had a very painful and prolonged convalescence. He had tried every suggestion for combating shock, sepsis, and urinary sepsis without much improvement until he found that Professor Werner in Wertheim's old clinic in Vienna still drained the pelvis by a small wick of gauze running down into the vagina. In the early days this was the universal practice, but Dr. Shaw had ceased to do this after the first few years, because several patients developed ureteral fistulae, due probably to the fact that a much larger quantity of gauze was left in the pelvis than was done by Professor Werner. Since his visit to Vienna Professor Fletcher Shaw had had the opportunity of performing this operation upon nine patients, all of whom recovered. He admitted that this limited series of cases did not permit dogmatism, but what had impressed him much more than the want of fatalities was the straightforward, easy convalescence of most of these patients. So, although the series was small, he thought he should bring his experience before the other members of the society, since he believed he had gained more improvement from this small step than from any other which had been suggested.

Mr. CARLTON OLDFIELD said that twenty years ago he had employed the gauze pelvic drain. He had, however, discontinued its use, and his results were better than formerly. Mr. MILES PHILLIPS did not use the gauze drain. He considered the most important factor in success following the operation was absolute haemostasis.

### OTO-LARYNGOLOGY.

THE summer meetings of the Sections of Laryngology and Otology of the Royal Society of Medicine were held on May 31st and the two following days. On the first day Mr. J. F. O'MALLEY presided over the Section of Laryngology, and the presidents of subsequent meetings were Mr. H. BARWELL (Laryngology) and Dr. FRASER (Otology).

#### *Vasomotor Affections of the Internal Ear.*

Professor G. PORTMANN (Bordeaux), in a paper on vasomotor affections of the internal ear, said that vasomotor disturbances could be regarded as some of the most impor-

tant pathological elements in internal ear affections; they depended directly on the sympathetic system. Recently, in association with colleagues, he had experimented on the action of the sympathetic in reference to the labyrinth, the experiments consisting of either pericarotid sympathetomy or the injection of vasomotor drugs, compression of the vertebral and common carotid arteries, and the warm bath test. For a long time otologists had been impressed by the action of the sympathetic on the labyrinthine circulation on the one hand, and on the other by the secretion of the endolymphatic fluid. Having observed a typical angiospasm of the anterior labyrinth in a patient with Raynaud's disease, Lermoyez drew attention to the similar structure of the two situations (the digital and the labyrinthine), and summed up a particular labyrinthine affection as "the vertigo which makes one hear"; it appeared to be a spasm of the internal auditory artery. Professor Portmann submitted the following comparative table of the two conditions:

Ménière's Disease.	Lermoyez's Syndrome.
Good hearing.	Good hearing.
Sudden vertigo.	Gradual deafness.
Sudden and decreasing deafness.	Sudden vertigo.
Slow recovery.	Quick return of hearing.

Angiospasm could well explain the onset of vertigo and the disappearance of the deafness, both depending on the removal of the barrier of the labyrinthine artery. The pathogeny of Ménière's disease was still debatable; Ménière's own view was that it was caused by intralabyrinthine haemorrhage, while all who had tried to solve it gave an important place in causation to vasomotor troubles. Many facts pointed to vertigo being essentially a phenomenon of irritation; it disappeared with destruction of the labyrinth; and irritation of the internal membranous ear or of the vestibular nerve was required to produce a giddy sensation. A strident noise by irritating the original filaments of the cochlear nerve might also cause vertigo reflexly through vaso-dilatation. How was this irritation of the vestibular nerve produced? No satisfactory answer could yet be returned to this question, but whatever the mechanism, Ménière's disease was closely connected with vasomotor phenomena, and therefore with the sympathetic equilibrium. Vertigo was produced by the sudden vaso-dilatation following the spasm in the syndrome of Lermoyez, but that which accompanied ischaemia of the labyrinth disappeared on sympathetomy, the consequence of which was a vaso-dilatation of the labyrinth. Deafness seemed to accompany ischaemia of the anterior labyrinth by vaso-constriction. The angiospasmic syndrome of the labyrinth included tinnitus, deafness, vestibular hyperexcitability, sympathetic hypertony. The causes of vago-sympathetic troubles were very diverse, and might be mechanical, endocranial, toxic, or plainly psychic. He attached great importance to the action on the regulating apparatus of the endocrine glands, especially the hormone of the suprarenal gland.

#### *Otosclerosis.*

Dr. LOWNDES YATES read a paper entitled "A working hypothesis for research in otosclerosis." He said he regarded as instances of this condition cases in which Bezold's triad symptom-complex was present with a patent Eustachian tube and no demonstrable adhesive process in the middle ear or evidence of a former perforation of the membrane. From the point of view of audiography he considered that there were three types of ear disease: (1) nerve or internal ear deafness; (2) otitis media with indrawn membrane and limitation of its movements by adhesion to the promontory; and (3) acute otitis media, subacute otitis media; and otosclerosis, in which there could be observed a gradually increasing departure from the graph.

Professor OTTO MAXEL (Vienna), the recipient of the Dalby Memorial Prize, in a paper on the pathology of otosclerosis, said that in this disease the original bone of the labyrinth capsule became absorbed, and bone marrow was formed in which osteoblasts were plentiful; the new bone, thus imperfect in character, overgrew the oval and the round windows. In otosclerosis the lesions were

multiple, and fibromata in other parts could be regarded as distant manifestations of the same process. He had found in these cases a synchondrosis, also bony growths on the petrous bone. In ten out of fifty cases of deaf-mutism examined he had found typical areas of otosclerosis; while in fifteen out of thirty cases of otosclerosis there was a maldevelopment of the inner ear, with anomalies of the cochlear framework. Pathological investigation showed that it was most probably a hereditary disease; he opposed the view that it was inflammatory in origin.

Dr. A. A. GUAY said he agreed with nearly all Professor Mayer's contentions. He believed the disease could only occur in a person who had a personal tendency towards it, though it was not inherited in every case. In further research on the subject not only the temporal bones, but also the brains, should be included in the investigation. Mr. G. J. JENKINS argued that otosclerosis was a different disease from osteitis deformans, and that the former could not be regarded as an atavism, since it progressed, and no atavistic manifestation showed progression. Mr. SOMERVILLE HASTINGS said he had seen cases of what was clinically middle-ear deafness change into good examples of otosclerosis. Mr. J. ADAM (Glasgow) illustrated the multiplicity of lesions which otosclerotics bore by relating those occurring in a family, and including atheroma, scoliosis, kyphosis of the spine, and fragilitas ossium. Sir JAMES DUNDAS-GRAUNT deprecated a hurried diagnosis of otosclerosis, or taking too gloomy a view as to the outlook; he had known cases become stationary, and had even seen improvement in some. The PRESIDENT (Dr. Fraser) demonstrated on the epidiascope histological specimens in which he pointed out, in otosclerotic cases, areas which seemed to be obviously inflammatory, so supporting his view that this disease was of inflammatory origin.

#### *Dysphagia due to Pharyngeal Paralysis.*

Mr. W. M. MOLLISON, in a paper on dysphagia due to pharyngeal paralysis, said that patients frequently presented themselves because of difficulty in swallowing, but this was not often due to paralysis of the pharyngeal wall, yet in the last few years he had seen several such cases. Unfortunately the symptom could not be treated with much chance of success. Complete unilateral paralysis of the vagus caused unilateral paralysis of the palate, pharynx, and larynx, but there was only slight interference with swallowing. When laryngeal paralysis was complete the cord was flaccid, both adductors and abductors being paralysed. It was possible to imagine a small haemorrhage occurring in the middle of the nucleus ambiguus which would damage the fibres to the pharyngeal plexus, and as the effects of the bleeding became localized, the effect might be restricted to the palate, or to the pharynx or larynx. The causes of pharyngeal paralysis could be classified as: (1) central, (2) intracranial, (3) extracranial, and (4) peripheral, such as from diphtheria or lead poisoning. The prognosis in the condition when due to diphtheria was favourable, but it was grave when the disability was caused by progressive muscular atrophy and amyotrophic lateral sclerosis; it was somewhat better in acute bulbar paralysis. Mr. Mollison gave details of the cases he had seen, including two in which the lesion was at the base of the skull, one from a bullet wound there in the war, the other from tuberculous glands.

#### *Intrinsic Cancer of the Larynx treated by Laryngo-fissure.*

Sir STCLAIR THOMSON gave an account of the results in 70 cases of intrinsic laryngeal carcinoma treated by laryngo-fissure. The series extended over twenty-eight years, and he had been able to trace every case. His object at the operation was to remove all the tissue between the subglottic space and the ventricular band, leaving only the external perichondrium. The danger area was, undoubtedly, the subglottic space. Of the 70 patients (only 10 of whom were hospital cases) 34 were still living at periods of three to nineteen years after their operations. There were eighteen deaths from causes other than recurrence of the disease. Two patients died from bleeding because, apparently, they had been given heroin; it was

against his wish and practice that these patients should be given heroin, morphine, or similar drugs. Eleven of the patients developed malignant disease elsewhere than in the larynx; most recurrences took place within the first year. If in borderline cases (in which there was a tendency to exteriorization) there was a recurrence, he advised laryngectomy. He regarded the outlook as grave in subglottic cases, and when there was fixation of the cord: for example, in nine cases in which the cord was fixed, only four patients lived more than three years after operation. It was possible to perform the operation under local anaesthesia; if a general anaesthetic was preferred, the narcosis should not be deep. He neither used cocaine beforehand nor plugged the larynx. He repeated the appeal which had been frequently urged that these cases should reach the laryngologist at that earlier stage when operation was distinctly hopeful.

#### *Miscellaneous Papers and Discussions.*

Mr. A. T. RAKE read a paper on achalasia and degeneration of Auerbach's plexus. He said that the vagus supply preserved the normal oesophageal tone and supplied the cardiac sphincter. A lesion of the vagus nerve fibres disturbed the mechanism of relaxation of the cardia, which must precede the entry of food into the stomach. In some cases of achalasia the plexus was about twice the normal size, the whole structure being infiltrated with small round cells. In the chronic stage there were around the fibrous plexus large blood vessels having thickened walls. He considered the condition inflammatory, not vascular.

Dr. ARTHUR HURST said that in some of the cases of this condition hypertrophy of the cardiac sphincter was found, but not in all. It was, he considered, parallel to Hirschsprung's disease in that there was an absence of normal sphincteric action. Dr. A. BROWN KELLY said the fibrotic changes in cases of cardiospasm were first demonstrated by Dr. Munro Cameron. The speaker thought that degenerative changes in Auerbach's plexus gave rise to inco-ordination of the myotonic reflex in the region involved, and that in consequence the distant longitudinal layer was not reached by stimuli.

Dr. LOWNDEN YATES read a paper on methods of estimating the liability to post-operative haemorrhage from unsutured wounds. He said that in three-fifths of the cases of spontaneous epistaxis he had seen there was a considerable prolonging of the clotting time from six minutes as a minimum to as long as fifty minutes. The administration of calcium did not reduce this. To a patient in this category who also had acidosis he gave sodium bicarbonate, and following that the clotting time became normal; in epistaxis cases as soon as the sodium bicarbonate had rendered the urine alkaline there was a like benefit. When there was a septic focus and this was removed the clotting time again became normal. Not every type of compensated acidosis was associated with an alteration in the clotting time. Examination of the clotting time of blood taken from the ear before operating enabled him to take measures to prevent what otherwise would be trouble from post-operative haemorrhage; moreover, patients who had excessive haemorrhage were more liable than others to secondary haemorrhage afterwards. The latter was often attributed to the surgeon when the fault lay with the clotting time.

Dr. P. WATSON-WILLIAMS, in a paper entitled "Familial infectivity of chronic sinusitis," alluded to the fact that the members of some families seemed to have an inborn predisposition to catarrhal infections. When a child in such a family had chronic nasal sinus infection he usually also had enlarged tonsils and adenoids, and even after these had been surgically removed lymphoid tissue in other regions became infected and symptoms recurred. He showed charts of remarkable families with multiple disabilities of the kind.

Dr. SALISBURY SHARPE, in a paper on the influenza ear, urged that in the hulging brought about by influenza and seen frequently during epidemics of that disease, myringotomy ought to be carried out instead of leaving the swelling to burst spontaneously, since early intervention prevented secondary infection. Haemorrhagic myringitis he regarded as pathognomonic of influenza as the causal agent.

## Reviews.

### MEDICAL ETHICS.

A HISTORY of medical ethics does not at first sight seem a particularly inviting enterprise, nor one at all likely to serve any practical end. Such a conclusion may be that of the natural man, but it is contested by Professor CHAUNCEY D. LEAKE of the University of Wisconsin, and he is not without opportunities. Professor Leake, it seems, has for some material for a historical study of the rules and regulations which have at various dates been accepted as governing, in a scemly fashion, the attitude and conduct of medical practitioners. As a minor contribution to this purpose he now issues a new edition of Dr. Thomas Percival's *Medical Ethics*,<sup>1</sup> a book which first appeared in 1803 and which had in its day considerable success. With Percival's writings he has printed the code of ethics adopted by the American Medical Association in 1847, and revised in 1903 and in 1912. His book is therefore a historical record of professional customs and rules at different dates. But the dates selected are comparatively modern, and they tell us little or nothing of the origins or of the development of medical ethics. Moreover, the interval between Percival's book and the American code is relatively short, and it cannot be said that the later one, as compared with that of earlier date, displays, at least in principle, any decided change. What Dr. Percival wrote more than a hundred years ago is substantially what is taught and practised at the present day. Further, as Professor Leake's ambition is to explore the "origins" of medical ethics, in the belief that such an inquiry will make the subject "better comprehended," his present publication, however interesting in itself, does not much advance his aim. In relation to "origins" it has this cardinal defect—it does not begin at the beginning, for, though there are a few references to earlier authors, the discussion of these is decidedly scanty. Whether the full story, when it is told, will repay the labour involved in the telling remains to be seen.

In the meantime, Professor Leake, in three brief introductory essays, expounds certain general views to which his studies have so far led him. First, as a layman, he expresses deep sympathy with the "commonly stated high ideals of the medical profession," though he laments the tendency of "organized medicine" to resist any attempt "to change its present relation to society." What change he desires is not very evident beyond the claim that what is usually named "medical ethics" ought to be named "medical etiquette." In his view, Percival's code, and presumably, also, the present practice, are concerned merely with the conduct of physicians towards each other, and their purpose is to promote "the dignity and pecuniary advancement" of the individual physician and of the profession as a whole. In other words, they are trade union rules designed to secure material prosperity for the profession. Guides to etiquette they may be, but "ethics" is concerned with "professional morality" and with "the interests of humanity as a whole," and not with the small beer of "professional courtesy." The misapplication of the terms, it is argued, has unhappy consequences, for by it regulations which are based essentially on selfish interests appear to the practitioner to be informed by the noblest and most altruistic motives. Something may doubtless be said on the verbal issue between "ethics" and "etiquette," but here we have no hesitation in maintaining that all professional rules and customs must in the end justify themselves by the sanction of the public interest, and we believe that this sanction is not wanting.

Professor Leake, as a layman and a philosopher, contemplates the medical practitioner as drawn in one direction by the temptations of his own pocket, and in the opposite direction by the welfare of the patient, and almost inevitably deciding for the former, seeing that "true idealism is quite impossible in existing conditions." This, of course, is to reason *a priori*. A certain propensity of human nature

is assumed, and from this is deduced an inevitable consequence. The parallel argument is that, as an absolute monarch is all-powerful, he is certain to cut off the head of any subject who annoys him. Motives and decisions in life are not quite so simple as this reasoning implies. If Professor Leake will combine with his philosophical studies some experience of the practical life of the doctor, he will, we feel sure, be able to learn that the fashion in which the artist makes a livelihood is not unworthy of the art which he practises or of the large interests which he serves. To affirm that as physicians have a pecuniary interest in treating the physical ills of humanity they cannot sincerely desire to see mankind in perfect health, is just as sound and just as misound as to argue that judges cannot desire that litigation should cease, or soldiers war, or policemen crime, or parsons impiety. It is the existing situation, not some remote development, that governs conduct, and the situation presented to the physician offers only two possibilities. The one is to take advantage of ignorance and helplessness and emotional susceptibility, and the other is to follow decent, natural human instincts and professional traditions and pride of craftsmanship. When, as we believe is almost invariable, the doctor takes the straight course, he does not boast the "nobility" of his action, or label it "idealism," or urge his "concern for the ultimate welfare of society." He has a much simpler explanation, and this he prosaically terms "playing the game." Before Professor Leake completes his larger volume he would do well to appreciate this robust and widely spread influence in the sphere of professional conduct.

### PHYSICS OF X RAYS AND RADIUM.

IN *Physics in Medical Radiology*,<sup>2</sup> by SIDNEY RUSS, L. H. CLARK, and B. D. H. WATERS, the authors have obviously attempted to produce a book dealing with the subject which can be read and understood by medical men; radiologists, and electrotherapeutists mainly, who of necessity should have at any rate a basic knowledge of that physics which is in relationship to the apparatus and the radiation they use for medical purposes, both diagnostic and therapeutic. There are now three universities—Cambridge, Edinburgh, and Liverpool—in which there is an organized post-graduate course of instruction in radiology and electrotherapeutics. In each of these the physics allied to the main subjects of the course is taught by university physicists, and this book should prove of great use, both to the teachers and the students—the teachers inasmuch as it deals with and indicates quite clearly that part of physics which is required; the students because, if they are well up in the material of this work, they will have that knowledge of the subject which is not only necessary for examination purposes, but also for use later on in carrying out radiological medical work on a scientific basis. Knowledge of this subject is of the greatest importance, especially in the treatment of disease by deep x rays or radium. In short, without technical and detailed knowledge of the physics of x rays and radium it is neither safe nor satisfactory to carry out such treatment, and this applies both to the operator and the patient.

In reading this book it is very evident that the authors have endeavoured to place themselves in the position of their anticipated readers. Physics is not an easy subject for the ordinary medical man, and especially so after he is qualified; the material of many books is so very technical that it is difficult to follow. No errors have been made in this respect; indeed, almost throughout the book is both easily read and easily understood, and we have nothing but praise for the manner in which each division of the subject is set forth. In its main construction there are some seventeen chapters, an appendix on the X-Ray and Radium Protection Committee's third revised (1917) report, and an appendix dealing with a hospital radium service, whilst a list of reference books and an index bring it to completion. The book is well printed on good paper, and the numerous illustrations, diagrams, and tables contribute greatly to the easy elucidation of the text. A certain

<sup>1</sup> *Percival's Medical Ethics*. Edited by Chauncey D. Leake. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox, 1927. (Post 8vo, pp. xiv + 251; 11 plates. 12s. 6d. net.)

<sup>2</sup> *Physics in Medical Radiology*. By Sidney Russ, D.Sc., L. H. Clark, Ph.D., and B. D. H. Waters, M.Sc. London: Chapman and Hall, Ltd. 1928. (Demy 8vo, pp. xii + 234; 72 figures. 12s. 6d. net.)

amount of mathematics has been found to be essential, but in this respect the authors have been very kind, and although mathematics as applied to physics is generally somewhat difficult to grasp, at any rate as regards the ordinary medical man, the mathematics of Professor Russ and his co-authors is comparatively easy and understandable. When all is so good it is difficult to single out anything as especially worthy of mention, but there are two excellent chapters—one on radio-active emanation and active deposits, and the other on dosage in radium therapy, illustrated with some useful tables and diagrams. In addition there is a chapter on photography, light, and x rays which is full of interesting material.

While the backbone of the work is the physics of x rays and radium, other subjects are not neglected. At the beginning there are chapters on current electricity, the electrical conductivity of gases, electro-magnetic waves, and so on. At the end there are chapters dealing with electric motors, high-tension generators, high frequency, diathermy, and other currents. In all, the volume comprises 234 pages, with about 72 figures and 25 tables. It can confidently be recommended to anyone interested in the subject, and it should be invaluable to those working for one or another of the diplomas in medical radiology and electrotherapeutics.

#### EXPERIMENTAL EMBRYOLOGY.

THE distinguished professor of Columbia University, THOMAS HUNT MORGAN, in his monumental work, *Experimental Embryology*,<sup>2</sup> indicates the various phases which have ranged from the mechanical conceptions of Roux, through the colloid chemistry aspirations of Loeb, to the accurate experimental work of Spemann. The history of experimental embryology during the last thirty years is depressing to British readers, for no experimental zoologist has emerged in this country to follow in the steps of the giant morphologists of the Victorian age; and since the publication of the classical *Unsere Körperform und das Physiologische Problem Ihrer Entstehung* of W. His in 1874 no book of outstanding merit has appeared in the English tongue. Recently de Beer at Oxford has published *An Introduction to Experimental Embryology*—a hopeful sign.

Professor Morgan has written a scholarly introduction to the experimental method in this exploration of a new field. He is cautious as to the significance of statistical data, he tries to hold the balance between the morphological and the physiological approach, and he welcomes the working hypothesis as "an attempt to find an answer to some feature of a complex situation in terms of better understood relations, which, from a mechanical standpoint, means reference to accepted chemical or physical principles."

The first part of the book deals with chemotaxis, fertilization, self-fertilization, sterility, and polyspermy. This is followed by a description of the changes, both physical and chemical, in the fertilized egg, especially cleavage and the localization of the median plane. The changes in the chromosomes are carefully studied, and the genes are not accepted as in any way resembling strings of enzymes. It is suggested that the genes may be built upon a common radicle, and that these radicles may be somewhat similar or even identical in species which closely resemble one another. The description of organ formation, asymmetry, and the localization of organs in the egg before cleavage is admirably told. The development of whole and partial embryos from isolated blastomeres leads on to the problem of the fate of the various cells of the blastomere, and to a consideration of all the experimental work which has led to the production of abnormal embryos by mechanical and chemical interference. Artificial parthenogenesis is described from the days when Aristotle stated that "bees produce drones without copulation" to the days of the spectacular work of Morgan, Loeb, Wilson, and Lillie in America, of Herlant in Belgium, and Delage and Bataillon in France. Reference to Mendelian inheritance concludes the work, and it is definitely stated that the characters of embryos and of larval stages follow Mendel's laws. The progress made in the production of species hybrids is

remarkable, especially as regards cross-fertilization in different species of amphibians, sea-urchins, and bony fishes. In the case of the last, species belonging to different genera and families have been crossed—as, for example, the cod and the flounder. The hybrid always follows the mother, meets a critical age at gastrulation, and develops abnormally. In larval forms only has it been possible to find the length of time necessary for the genes of the sperm to affect the cytoplasm of the segmenting egg. That such paternal genes do influence the cross is shown by later generations from such a cross. It is to be hoped that the vistas revealed by Professor Morgan will stimulate the younger school of British zoologists. Spemann and Ross Harrison have recently lectured in London. Morgan, Conklin, and Brachet would be welcome.

#### DIAGNOSIS AND TREATMENT IN PULMONARY DISEASE.

DR. FRANK E. TYLECOTE and DR. GEORGE FLETCHER have written a short book on *Diagnosis and Treatment in Diseases of the Lungs*,<sup>4</sup> designed chiefly for the senior student and the young practitioner. Roughly speaking, one-half of the book is devoted to pneumonia and pulmonary tuberculosis, the remaining half to other diseases of the chest. The book is straightforward and simple, and calls for little comment. We would, however, draw attention to two statements, which might well be rectified in a subsequent edition. On page 141 the mortality from the different types of pneumococci is given in a statement that has been extracted from Muir and Ritchie's *Manual of Bacteriology*. Unfortunately, in the process of extraction the authors have omitted a highly important fact—namely, that the most virulent of the pneumococci is Type III. As it reads at present, it would appear that Types I and II are the most virulent; which is untrue. We would suggest either that they remedy this omission or, better still, give the actual mortality figures for the different types, which have recently been published on a large series of cases by Cecil, Baldwin, and Larsen (*Arch. f. Int. Med.*, 1927, vol. 40, p. 253). The second misleading statement is on page 193, where it is said that the greatest death rate—presumably from pulmonary tuberculosis—is during the first twenty years of adult life. The context certainly suggests that the authors mean pulmonary tuberculosis, though it is clear that they refer really to tuberculosis in all its forms. This point might well receive attention.

#### ENDOCRINOLOGY.

THE work on hormones and internal secretions<sup>5</sup> by Dr. F. LAQUER is the nineteenth volume in a series of reports on scientific progress that are being published by Messrs. Steinkopff, under the editorship of Dr. LIESEGANG. This useful series of monographs covers a wide range of scientific subjects, and each volume is intended to summarize the important work done in the subject under review since 1914. The editor remarks that the volume of modern scientific literature is such that it is impossible to study fully the original work in more than a relatively narrow field of learning. There are few subjects encumbered with a more voluminous literature than endocrinology, and the present monograph is therefore very welcome. The author summarizes the important recent work in about 100 pages, and concludes with a selected bibliography of 1,200 references. The book deals chiefly with the physiology and chemistry of the endocrine organs, but a short account of the clinical aspect also is given. Considerations of space have prevented any discussion of methods, or any full statement of conflicting evidence in disputed points. The author, however, summarizes disputable problems in a very impartial manner, and the volume forms a convenient summary of present-day knowledge and an excellent guide to recent literature in endocrinology.

<sup>4</sup> *Diagnosis and Treatment in Diseases of the Lungs*. By Frank E. Tylecote, M.D., D.P.H.Vict., F.R.C.P.Lond., and George Fletcher, M.A., M.D.Glas., M.R.C.P.Lond., D.P.H.Camb. London: Mifford, Oxford University Press, 1927. (Cr. 8vo, pp. vii + 270. 7s. 6d. net.)

<sup>2</sup> *Experimental Embryology*. By Thomas Hunt Morgan. New York: Columbia University Press; London: Mifford, Oxford University Press, 1927. (Med. 8vo, pp. xi + 766; 1 plate, 263 figures. 37s. 6d. net.)

<sup>5</sup> *Wissenschaftliche Forschungsberichte. Naturwissenschaftliche Reihe*. Herausgegeben von Dr. Raphael Ed. Liesegang. Band. xix. Hormone und Innere Sekretion. Von Dr. Fritz Laquer. Dresden und Leipzig: T. Steinkopff, 1928. (6 x 8½, pp. viii + 136. R.M.8.50.)

## TESTS FOR COLOUR BLINDNESS.

THE type of test for colour blindness based on the method of Stilling is a well-known and exceedingly useful method of detecting the presence of this defect and eliciting its nature. The test consists in presenting to the subject an alternately irregularly arranged and confused assortment of coloured dots, among which, in another colour readily the confusion colours worked into the peculiar pattern are a series of dots arranged in the form of a letter or numeral. To a colour-blind subject whose defect includes the confusion colours worked into the peculiar pattern, the whole appears an inexplicable maze; but if the ability to see and detect the colour in question is normal the subject will be able to read the hidden letter.

There are many variants of the original tests of Stilling, two of the best known of which are those of Ishihara and Edridge-Greene. Professor HERTZ also has devised an excellent series of these "pseudo-isochromatic tables for the testing of the colour sense," which has now come out in its seventeenth edition.<sup>6</sup> If anything, these tests err on the side of being too simple. They may be well supplemented in the detection of red and green blindness by the tables of Dr. WÖLFELIN,<sup>7</sup> which are more difficult of analysis and are very well conceived.

## NOTES ON BOOKS.

THE scope of the *International Health Year-Book, 1927*, has, with its third issue,<sup>8</sup> been enlarged by the inclusion of reports from a number of sources which had not hitherto contributed, and the 800 pages of this useful work of reference now contain particulars relating to health in twenty-seven countries, including the leading member-States of the League of Nations, the United States, and the Union of Socialist Soviet Republics. In the sections devoted to the national reports there is a wealth of statistical detail relating to demography and vital statistics, supplemented by accounts, of varying length and value, of the finance, organization, and administration of public health services. The details given relate to the year 1926, and it should be noted that the earlier issues bore in their title the year with which they dealt, while the present issue bears the date of publication. Special sections are devoted to industrial hygiene in Germany, Belgium, and Great Britain, and to certain international organizations, and the concluding chapters give an account of the activities of the Health Organization of the League of Nations in 1927—this body is, of course, responsible for the publication. It may be pointed out that no particulars are given regarding Scotland or Northern Ireland. The Irish Free State supplies its own independent report, while that furnished by the Ministry of Health relates only to the area within its own jurisdiction—that is, to England and Wales. Probably the omission of any specific indication that this is the case will not mislead anyone in Great Britain, but readers in other countries unacquainted with our constitutional peculiarities may mistake the part for the whole.

The second volume of the seventh edition of the well-known textbook on bacteriology<sup>9</sup> by Professors K. B. LEHMANN of Würzburg and R. O. NEUMANN of Hamburg has been brought up to date by inclusion as far as possible of the latest literature. The work is divided into two unequal parts, the first and smaller part being devoted to general bacteriology, while the second part, which forms the bulk of the volume, is concerned with the various groups of bacteria. There are three appendices, dealing respectively with the smallest filterable viruses, the most important pathogenic protozoa, and the bacteria of definite regions and objects.

*Latin Names of Common Plants*<sup>10</sup> is an entertaining little book by Dr. F. DAWTREY DREWITT, who wrote the charming *Romance of the Apothecaries' Garden at Chelsea*. Dr. Drewitt is distressed that botanists tread the footsteps of medical men into the morasses of false quantity, instead of following the more pure-minded zoologist. Why, he asks, should cyclamen

he called "sicklymen" when cyclone have not become "sickle" and "sicklone"? If helium is rightly pronounced, why not *heliotope*? Most dictionaries give the pronunciation of *oenothera* correctly; but one *encyclopædia* gives *oenothera*. Such errors as *lycopodium* can only be compared with the medical man's pronunciation *paræsis*, instead of the equally easy *paræsis*. Dr. Drewitt admits that the use of some false quantities has become so firmly ingrained that we cannot expect alteration. Thus it is hardly likely that *crocus* will ever come to be pronounced *krōkōs*. In other cases reason may be shown why a word should not be pronounced in accordance with strict classical Latin. Dr. Drewitt quotes Sargenut on the word "gladiolus" as stating that "although Terence would have pronounced it *glādiolūs*, Quintilian, like Cicero, would have said *glādiolūs*"; and Dr. Drewitt regards the latter pronunciation as a reasonable compromise, because it is grand, rolling, and musical. Dr. Drewitt tells us that two owo most of the Latin names of plants to Dioscorides, Pliny, and Linnæus. As two of these botanists belonged to classic Rome, we might at least try to show some respect for the language in which they wrote.

*The Confessions of a Tenderfoot "Coaster"*<sup>11</sup> deals with the life of a trader on the West African coast, and may be classed among the lesser sort of travel books. Mr. HENRY sets out simply to give his own experience, and in his first ten lines states that his book will not add to anybody's knowledge of West African geology, fauna and flora, or ethnology. He has, nevertheless, produced a thoroughly readable volume, which may be of special interest to some medical men in view of its candid account of the effects of life in the tropics on the outlook and habits of Europeans.

<sup>11</sup> *The Confessions of a Tenderfoot "Coaster."* By Warren Henry. London: H. F. and G. Witherby. 1927. (Demy 8vo, pp. 280; 6 plates. 16s. net.)

## PREPARATIONS AND APPLIANCES.

## APPLIANCES FOR INFANTILE PARALYSIS.

Dr. G. McCracken (Leicester Isolation Hospital and Sanatorium) writes: The following appliances may interest those who have to deal with post-febrile cases of infantile paralysis.

*Deltoid Shelf.*

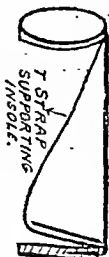
In cases of deltoid paralysis when a good faradic response has been obtained it is desirable to discard the abduction frame and to encourage movements of the deltoid without causing stretching of the muscle fibres. This can be obtained either by slinging the arm to an overhead frame or by supporting the limb on pillows. Both these methods involve keeping the patient in bed. The accompanying photograph illustrates a simple method of overcoming this difficulty. The shelf is made of poroplastic supported by a flared strip of aluminium. A shoulder strap, fixed back and front helps to keep the split in position. The shelf allows free antero-posterior movements in the horizontal plane; it is easy to make, and can be worn day and night.

*An Internal T-Strap.*

This internal T-strap is very useful in those cases in which we have to deal with a weak *tibialis anticus* and flat-foot. It is a modification of Calot's artificial *tibialis anticus*, and has the advantage that it not only relieves *anticus* of undue strain, but also supports the arch of the foot to such an extent that the child walks with the foot in an over-corrected position. Another advantage is that there is no tendency for the origin of the artificial muscle to slip down the limb. It consists of a strap of soft leather stitched to the outer side of the sole of the boot. This passes across the instep, is continued up the front of the leg, and buckled to the outer side of a band fixed below the head of the tibia by an outside iron from the heel of the boot. This internal strap supports a firm leather insole and is adjustable.

Both appliances are simple in construction and have proved most satisfactory in practice.

I am indebted to Dr. H. Stanley Banks, medical superintendent, Leicester Isolation Hospital, for the accompanying photograph, and his permission to publish these notes.



<sup>6</sup> *Stillings' method*. Tafeln zur Prüfung des Farbensinns. Professor Dr. E. Hertel. Siebzehnte Auflage. (Cr. 8vo, pp. 2; 14 plates. M.18.)

<sup>7</sup> *Tafeln mit Einmaligfarben, zum Nachweis von relativer Rot- und Grünsehtätigkeit.* Von Dr. med. Ernst Wölflin. Leipzig: G. Thieme. (6 1/2 x 9 1/2, pp. xiii; 8 plates. M.5.70.)

<sup>8</sup> *International Health Year-Book, 1927.* (Third Year.) Reports on the Public Health Progress of Twenty-seven Countries in 1926. C.H. 539. Geneva: League of Nations. (7 1/2 x 9 1/2, pp. 802.)

<sup>9</sup> *Bakteriologie insbesondere bakteriologische Diagnostik.* Von Professor Dr. K. B. Lehmann und Professor Dr. R. O. Neumann. Siebente, völlig umgearbeitete Auflage. II Bd.: Allgemeine und Spezielle Bakteriologie. München: J. F. Lehmann. 1927. (Cr. 8vo, pp. xi + 876; 29 figures. M.24.)

<sup>10</sup> *Latin Names of Common Plants.* By F. Dawtrej Drewitt, M.A., M.D. London: H. F. and G. Witherby. 1927. (Cr. 8vo, pp. 68. 3s. 6d. net.)



## POST-OPERATIVE TETANUS.

REPORT TO THE SCOTTISH BOARD OF HEALTH.

THE occurrence of a series of cases of post-operative tetanus in an institution led the Scottish Board of Health to request Dr. T. J. Mackie, Irvine Professor of Bacteriology in the University of Edinburgh, to investigate the matter. Since this infection has in the past been associated with catgut, Professor Mackie was asked at the same time to report also upon the effectiveness of the means employed for sterilization of catgut in its manufacture, storage, and use in hospital; the dangers attendant on its use in surgery; and the best available means for effective sterilization during manufacture, storage, and use in hospital. The report of this inquiry has now been published by the Stationery Office, at the very low price of 1s., in order that the important conclusions reached may be available for all surgeons and medical schools throughout the world. Professor Mackie, who was assisted in the inquiry by Dr. G. S. McLachlan, lecturer in bacteriology at Edinburgh University, believes that the investigation has not only elicited data of the utmost significance in regard to the whole problem of post-operative tetanus, but has also led to an extended study of preventive methods which deserves the most careful attention. The Scottish Board of Health expresses its full agreement with Professor Mackie's assessment of the importance of the facts now published.

## INCIDENCE AND ETIOLOGY.

The report opens with references to the literature showing that post-operative tetanus has been commonly attributed to catgut, though cases have occurred in which this material was not employed, and auto-infection was incriminated. The valuable suggestion is proffered that information should be collected systematically regarding the incidence of post-operative tetanus in all the general hospitals in Great Britain, since at present it is probable that many cases are not published. It is well known that *B. tetani* occurs as a commensal organism in the alimentary canal of various herbivorous animals, including the sheep, from the intestines of which surgical catgut is prepared. Other anaerobic sporing bacilli capable of producing serious wound infections are also found in the intestine, and the conditions prevailing in abattoirs from which the raw material for making catgut is obtained render contamination very easy. Subsequent sterilization of the catgut is a particularly difficult matter owing to the resistant powers of the tetanus spores. Post-operative infections by other sporing bacilli have also been reported, and this emphasizes the difficulty of adequate sterilization of the catgut. During the period in which the cases of post-operative tetanus occurred at the institution in question, the surgical catgut employed was supplied almost entirely from one source, mostly in the form of "dry strings," which had already undergone some measure of sterilization but were subjected to further bactericidal treatment before being used in operations. During the investigation this supply of catgut was stopped.

## Clinical Details.

Of the eleven cases of post-operative infection in the institution considered in the report one had occurred so long ago as 1923; in no instance was it possible to trace any connexion between the catgut used for the various patients, and the operations in the more recent cases were separated by intervals of twelve, nineteen, nine, and seventeen days. The highly significant fact was elicited that in gynaecological repair operations a considerable amount of catgut remained embedded in the tissues; it was estimated by one surgeon that approximately 69 inches might be so left after a repair operation for complete prolapse of the uterus. Moreover, in such operations it is a common practice to employ the thicker gauges of gut. Though *B. tetani* was not always demonstrated, there was little doubt about the diagnosis in any of the patients in view of the clinical and pathological data.

In the whole series there were nine cases of definite tetanus,

one of gas gangrene, and one of a sporing anaerobe infection with muscular spasms. In five out of the six tetanus cases the infection followed gynaecological repair procedures; the operation in the sixth case was oophorectomy combined with appendicectomy. The remaining three cases were associated respectively with a cholecystectomy, a nephrectomy, and a gastro-enterostomy. In the gas gangrene case an exostosis of the leg had been removed, and the infection with the sporing anaerobe was the sequel of excision of the cervical glands. Ten different surgeons were concerned, and six operating theatres. All the patients died except one, in whom tetanus supervened after a repair operation for a retracted uterus and a deficient perineum. The incubation period in this case was fourteen days, as contrasted with incubation periods of seven to twelve days in the fatal cases. The time of death after the onset of tetanus ranged from a few hours to five days. In the tetanus cases the wound was apparently healthy in two cases, and septic in another two; there was gangrene of the tissues in three other cases, blood extravasation in one, and no evidence about the wound was obtainable in the remaining case. *B. tetani* was demonstrated in two cases, tetanus-like organisms were found in two, and other sporing organisms in two cases. No organisms were isolated in one case, and in two others no bacteriological examination was performed. Negative bacteriological findings are admittedly of little significance in the diagnosis of tetanus cases. Five of the nine cases occurred after operations in one theatre which was on the ground floor and close to a main corridor. Constructional work was proceeding in its neighbourhood, but no further evidence was obtained indicating that these local conditions were concerned in the infection. The possibility of auto-infection was carefully considered, but this explanation had to be dismissed in the absence of data.

## CONTAMINATED CATGUT AND TETANUS.

Professor Mackie mentions that the preparation of the catgut included: (1) twelve hours' immersion in a watery solution of mercury biniodide; (2) heating at 160° C. for one hour in oil; (3) heating in anhydrous spirit in a Jellett's sterilizer in boiling water for one and a half hours; (4) storage in an antiseptic fluid containing a mixture of mercury biniodide and other antiseptics. The technique of the last three procedures was carefully reviewed, and no evidence was obtained of any carelessness or inexactitude. The dry catgut strings were tested, and were found to contain sporing anaerobic bacilli of the group to which *B. tetani* belongs; these (*B. tetani* and *B. mesentericus*) were used for testing purposes, and it quickly became obvious that exposure for twelve hours to the watery solution of mercury biniodide could have but little effect. A certain proportion of the spores of *B. mesentericus* survived heating in oil at 160°, and the margin of the destruction of *B. tetani* was very narrow. The ineffectiveness in this respect of heating in a Jellett's sterilizer was completely demonstrated, and spores remained viable finally after storage in the mixed antiseptic solution. In only one procedure was *B. tetani* destroyed. Intermittent sterilization in heated oil was tried but was found to ruin the catgut, as did also streaming steam sterilization and exposure in an autoclave to superheated steam. The efficiency of very many chemical bactericides was tested; hydrogen peroxide and iodine water proved to be the best, but the action of some reputed bactericides was found to be surprisingly feeble. Details are given of these tests and the results. It was concluded finally that catgut "ribbons" could best be sterilized by immersion in hydrogen peroxide (10 vols.) for twelve hours, the catgut strings spun from these ribbons being further exposed for fourteen days in iodine water. These procedures, which do not damage the catgut, can be employed in factories; it is suggested that, subsequently, the strands should be passed through two changes of spirit to remove the iodine, and be stored in 50-75 per cent. alcohol containing 0.1-0.2 per cent. iodine. It is added that these processes should be controlled in operation by bacteriological examinations.

## COMMENT.

The great importance of this inquiry is obvious. Confirmation is necessary and the experiments require to be repeated under factory conditions; Professor Mackie's data are set out so fully that this should be relatively easy. An interesting point is that the investigation arose out of a definite group of clinical cases, and it is possible that further

<sup>1</sup> An Inquiry into Post-operative Tetanus. A Report to the Scottish Board of Health. By T. J. Mackie, M.D., D.P.H. H.M. Stationery Office. 1s. net.

discoveries in other directions await a similar line of reasoning and research to be adopted following clinical observations. Professor Mackie describes the gradual progress of the reasoning concerned in the inquiry in a manner suggestive of the tracking down of a criminal, and there is much valuable evidence placed on record for use in other connexions. In his conclusions he calls attention to the fact that there is at present no control by any health authority over the manufacture of catgut such as exists over certain biological products. He believes that such a control is required, and he thinks that manufacturers would welcome aid in standardizing their methods of preparation and safeguarding their products. He proposes also a collective investigation of the general incidence of operative tetanus, of infections by other spore-bearing anaerobes, and of the various etiological factors concerned in these infections. He adds that the official notification and investigation of future cases would supply information of great value as regards prophylaxis. The possibility of auto-infection and the part played by carriers of *B. tetani* are also commended for study. For the present, at any rate, a case seems to have been made out for the standardization of the methods of preparing and sterilizing catgut; there can be little doubt that this will receive due consideration.

### BIRTHDAY HONOURS.

The honours list issued on the occasion of His Majesty's birthday included the names of the following members of the medical profession:

#### Companion of Honour.

Professor JOHN SCOTT HALDANE, M.D., D.Sc., F.R.S., Director of the Mining Research Laboratory of Birmingham University, for scientific work in connexion with industrial disease.

#### K.C.M.G.

Lieut.-Colonel Sir WILLIAM THOMAS PROUT, Kt., C.M.G., O.B.E., Senior Medical Adviser to the Colonial Office.

#### K.C.V.O.

JOHN MARNOCH, C.V.O., Regius Professor of Surgery, University of Aberdeen.

#### K.B.E. (Military).

Major-General WALTER HOLLAND OGILVIE, C.B., C.M.G., K.H.P., I.M.S.; Director of Medical Services, Army Headquarters, India.

#### Knights Bachelor.

Dr. JAMES ATKINSON HOSKER, J.P., Chairman of the Bournemouth Conservative Association, for political and public services in Bournemouth.

Dr. THOMAS WATTS, M.P. for Withington Division of Manchester, for political and public services.

Lieut.-Colonel HENRY SIMPSON NEWLAND, C.B.E., D.S.O., Australian Army Medical Corps, Surgeon to the Adelaide Hospital.

#### C.B. (Military).

Major-General HAROLD BEN FAWCUS, C.M.G., D.S.O., K.H.P., Deputy Director-General, Army Medical Services, War Office.  
Colonel HAROLD BOULTON, C.B.E., I.M.S., V.H.S., Assistant Director of Medical Services, Deccan District, India.

#### C.M.G.

Dr. JOHN HOPE REFORM, lately Director of Medical and Sanitary Services, Uganda Protectorate.

#### C.I.E.

Lieut.-Colonel ERNEST WILLIAM CHARLES BRADFIELD, O.B.E., I.M.S., Professor of Surgery, Medical College, and Superintendent, General Hospital, Madras.

Lieut.-Colonel LEWIS COOK, I.M.S., Civil Surgeon, Bhagalpur, Bihar and Orissa.

Lieut.-Colonel GEORGE DENNE FRANKLIN, O.B.E., I.M.S., late Chief Medical Officer, Delhi.

Lieut.-Colonel JOHN CUNNINGHAM, I.M.S., Director, Pasteur Institute, Kasauli.

Dr. HUGH GORDON ROBERTS, Welsh Mission at Shillong, Assam.

#### C.V.O.

Dr. ALFRED BAKEWELL HOWITT (dated April 21st, 1923).

#### C.B.E. (Military).

Colonel HOWARD ENSOR, C.B., C.M.G., D.S.O., late R.A.M.C., Deputy Director of Medical Services, North China Command.  
Surgeon Captain JAMES HERBERT FERGUSON, R.N.

#### C.B.E. (Civil).

Major JOHN HARRY HENN, O.B.E., R.A.M.C.(ret.), Director of Medical Services, Ministry of Pensions.  
Lieut.-Colonel JOHN E. STRATHAIRN, O.B.E., Warden of the Hospital of the Order of St. John of Jerusalem in Palestine.

#### O.B.E. (Military).

Major JAMES HEDDERLEITHWAITE MARTIN FÉDÉRICIER, R.A.M.C.  
Lieut.-Colonel HUMPHREY FRANCIS HUMPHREYS, M.C., 143rd Field Ambulance, R.A.M.C., T.A.

Major GORDON WILSON, M.C., R.A.M.C.  
Surgeon Commander BRYAN PICKERING PICK, R.N.

#### O.B.E. (Civil).

Surgeon Commander WALTER KEMPSON HOPKINS, R.N.(ret.), Medical Officer, Board of Customs and Excise.

Professor ALBERT VICTOR BERNARD, M.B.E., Medical Officer of Health, Mülten.

MANGALDAS VIJAYKHANDAS MEHTA, Medical Practitioner, Bombay.  
Dr. GEORGE RANDELL FOOTNER, Director of the Omdurman Civil Hospital.

Rai Bahadur Dr. KISHORI LAL CHAUDHRI, M.B.E., Assistant Director of Public Health, United Provinces.

Dr. JAMES GONFREY LYON BROWN for services in connexion with the Emergency Volunteer Corps at Hankow.

#### M.B.E. (Military).

First-class Assistant Surgeon EDWARD HENRY GILLSON, Indian Medical Department.

#### M.B.E. (Civil).

Dr. GEORGE MACLEAN, Sleeping Sickness Officer, Medical and Sanitary Department, Tanganyika Territory.

Mrs. MARTHA ISABEL GARVIE, Senior Lady Medical Officer, Egyptian Ministry of Education.

Dr. JAMES FREDERICK CORSON, Assistant Bacteriologist, Medical and Sanitary Department, Tanganyika Territory.

Dr. RUTH YOUNG, Personal Assistant to the Chief Medical Officer, Women's Medical Service, and Secretary of the Funds under the Presidency of Her Excellency the Lady Irwin.

#### Honorary M.B.E. (Civil).

Dr. YESHUA SHAMI, Medical Officer, Department of Health, Palestine.

#### Kaiser-i-Hind Medal (First Class).

Dr. CHRISTIAN FREDERICK FRIMODT-MÖLLER, Medical Superintendent, Union Mission Tuberculosis Sanatorium, Madanappalle, Chittoor District, Madras.

Dr. ANNIE CAROLINE SMITH, in charge of the Zenana Hospital of the Church of Scotland Mission, Gujrat.

Dr. ROBERT JOHNSTON ASHTON, Kachwa, Mirzapur District, United Provinces.

#### Imperial Service Order—Companion.

Khan Bahadur ANJUM BAKHSH, Assistant Residency Surgeon, Personal Assistant to the Administrative Medical Officer in Central India and Superintendent, Central India Agency Jail, Indore.

### ROYAL MEDICAL BENEVOLENT FUND.

THE total sum which has been voted this year in grants to medical men, their widows, or orphans who have appealed for help amounts to approximately £4,744 as against £3,502 during the corresponding period of last year—an increase of £1,242. These figures definitely prove there is a greater demand being made on the Fund this year than ever before. But subscriptions and donations do not show an equivalent increase over the same period. To meet an increase of £1,242 in grants, subscriptions have only increased by £500.

An urgent appeal is made for subscriptions and donations, which should be sent as soon as possible to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

The following are notes on a few of the cases helped at the last meeting.

Dr. X, aged 63, had to give up practice three and a half years ago owing to cataract on both eyes. He is too blind to see patients and can do no work of any kind. During these three and a half years he has had to live and maintain himself, his wife, and two young children on his small capital, which is now exhausted. An emergency grant of £15 was made, and a further sum voted of £40. Assistance is being sought from other charitable funds.

Dr. Y, aged 73. Old age and increasing deafness have prevented this applicant from continuing in the profession, and for some time he has been forced to live on capital. Other family troubles have made heavy financial claims upon the applicant, so that all his life savings are now exhausted and he has had to apply for the old age pension of £26 a year. Voted £40.

Widow, aged 55, of M.R.C.S. Owing to ill health the applicant's husband sold his country practice ten years before he died, and during this time up to his death he and his wife had to live on capital. At his death the widow found there was nothing left, his life policies had been mortgaged years before, there were debts, and there was no money to pay for the funeral. The widow had to sell furniture and other private possessions in order to pay. Her son can only contribute 10s. a week. Voted £25.

Daughter, aged 59, of M.D. The applicant has been teaching as a governess for forty-two years; now at her present age she cannot get regular employment. Her savings bring in £50 a year. She was not able to save more as she had to help keep her invalid mother for the last twelve years of her life. Voted £25.

# British Medical Journal.

SATURDAY, JUNE 9TH, 1928.

## PUERPERAL SEPSIS.

EARLY in 1925 the Council of the British Medical Association, recognizing the urgency of the problem of childbed infection, set up a special committee to consider "the causation of puerperal morbidity and mortality, and the administrative action, if any, that should be taken in connexion with the matter." An interim report was issued within twelve months,<sup>1</sup> and the Committee's final report has been published recently in our columns as an appendix to the Annual Report of Council.<sup>2</sup> Towards the close of its deliberations the Committee held a conference with representatives of official bodies directly interested in one or other of the subjects coming within its reference, and a number of practical suggestions then put forward have been embodied in the recommendations with which the final report closes. It will be generally agreed, we think, that the Committee has done an important service by drawing attention to the many factors as yet unexplained in the incidence of puerperal sepsis, and by indicating those in which further experimental research appears to be most needed. The intricacy of the problem, and the zeal with which it is now being attacked by widely different routes, find expression in the three papers with which our present issue opens.

It will be observed that the Committee set up by the British Medical Association accepts the common classification of possible sources of childbed infection into exogenous and endogenous. Dr. James Young, on the other hand, so far from entering the lists on behalf of either an exogenous or an endogenous origin, dismisses both as of secondary importance in maintaining the sepsis rate, and assigns the chief place to trauma from intervention. He considers that the question where the microbe comes from is overshadowed by the vital issue of trauma, that the infecting organisms may be either exogenous or endogenous, and sometimes of a type that causes disease only when settling in devitalized tissues. To some it may appear that Dr. Young has laid undue emphasis on injury as the determining factor in the risk of sepsis, though there will be general agreement as to the important part it plays. Infection of the uterine cavity is an outstanding feature of most cases of puerperal sepsis, and to its causation all internal manipulations, whether accompanied by tissue injury or not, must contribute, for the vulva, cervix, and vagina cannot be made germ-free. All hospital records show increase of morbidity incidence with intervention, and the morbidity rate is greater the higher up the genital tract the manipulation extends, the greatest risk of sepsis being reached with such intrauterine operations as manual removal of the placenta when the fingers work in the bare uterine cavity.

Though Dr. Young adds a proviso that it must not be assumed that the main responsibility is thereby placed on the medical attendant, he does not carry the matter further than by throwing out a suggestion of a possible change in the fitness of the women of to-day for child-bearing, and hazarding a view that skeletal defects may have increased owing to the greater care of infant life and consequent larger survival of those who suffered from rickets in childhood. A reduction in infantile deaths entails also a corresponding reduction in the far larger number of infantile casualties that do not end in death. The incidence of rickets of all degrees of severity will rise or fall in correspondence with the place of rickets in the mortality rate. The most obvious change in the child-bearing women of to-day as compared with their predecessors of a few generations back is that they—and first of all those of the more educated and well-to-do classes—have learnt of the relief of pain and shortening of their travail that anaesthesia and the obstetric forceps can bring. Their medical attendant is chosen largely with this relief in view, and he must steer a difficult course between the complete fulfilment of their desires by frequent interference with natural function or be thrown over for someone more compliant. Pressure from his patients, from their distracted husbands (like the one lately pictured in *Punch*), and other relatives, together with the strain of his other work and all the circumstances in which family practice is conducted, have made it almost impossible for him to resist and survive. We would rather put the question thus. If the women of all classes in the country were prepared to have their confinements conducted as those attended by the midwives of the Queen's Institute or in the hospitals whose figures Dr. Young contrasts with the national mortality rate, would the difference between the rates remain at its present level?

Dr. Young mentions the need for educating the public, but he does not go so far as to suggest that the medical profession should teach their patients that a price must be paid for the relief in labour for which they crave—a price part of which at least is represented at the moment by the failure to reduce the maternal mortality. His plea for concentration on the effort to secure natural delivery is timely, for the primary objective throughout Medicine—the maintenance of normal function—has to some extent been overshadowed in the practice of midwifery by the attempt to attain the secondary objective of relieving pain and shortening the time of trial for the woman in labour. Team work between doctor and midwife, as advocated in the report of the British Medical Association's Committee (para. 34) and urged by Dr. Young, has the great advantage of offering a better chance of lessening interference and the trauma on which he lays such stress. Though much may be done to secure normal function in labour by a whole-hearted co-operation between doctors and midwives, the demand of the women for relief and, in the present state of our knowledge, the price of relief given on "humane" grounds will still appear in the national balance sheet. A lowering of the cost might be made were more known (as the report says) of "the degree and kind of immunity of the pregnant woman."

Dr. Burt-White's preliminary report of an effort to

<sup>1</sup> Supplement to the British Medical Journal, January 9th, 1926.

<sup>2</sup> Ibid., April 28th, 1928.

unravel the capricious incidence of puerperal sepsis from the side of resistance to the streptococcal toxin records the puerperal morbidity in a hundred women divided into two groups according to their reaction to the injection of scarlatinal toxin. So far as it has gone, his investigation shows that women who react to the scarlatinal toxin are more liable to develop puerperal sepsis than those who do not react. Once knowledge of this kind has been definitely established, and it has become possible to pick out those in whom resistance to infection is low, and still more when it is known how this low resistance can be raised, the risks of artificial aid in delivery will be greatly lessened. Dr. Remington Hobbs's paper falls into a different category, both because it is concerned with the curative rather than the preventive side of puerperal infection, and because Dr. Hobbs has widened his consideration to include types not discussed in the other two papers.

We are glad to note that the Minister of Health, in pursuance of a policy designed by his department for grappling with this problem as a whole, has just appointed a Departmental Committee, wholly medical in composition, whose terms of reference are "to advise upon the application to maternal mortality and morbidity of the medical and surgical knowledge at present available, and to inquire into the needs and direction of further research work." The names of this committee are given at page 998. It will be seen that all branches of medical work in any way concerned in the matter are represented, and that two general practitioners—one from a country town and the other from the East End of London—have accepted membership. The personnel should therefore command the confidence of the profession and the public, and we may feel assured that full advantage will be taken of the work already carried out by the British Medical Association on the lines of the Departmental Committee's reference.

#### GORDON OF ABERDEEN.

It seems appropriate to call to mind this week an eighteenth century Scottish physician, Alexander Gordon, whose *Treatise of the Epidemic Puerperal Fever in Aberdeen* was published in 1765. A sympathetic account of this pioneer has lately appeared from the pen of Dr. Herbert Thoms of New Haven, Connecticut.<sup>1</sup> Gordon was born at Strachan, a small parish situated to the south-west of Aberdeen, in 1752. Little is known of his early life, but he took his degree of M.A. at Marischal College, Aberdeen, and subsequently began the study of medicine, first at Aberdeen Infirmary and later at Edinburgh. He joined the navy as a surgeon's mate in 1780, and two years later obtained the rank of surgeon. In 1785 he retired on half pay, and came to London, where he became a resident pupil at the Lying-in Hospital, Store Street, and attended lectures on midwifery by Thomas Denham and Osborn. He then became a pupil under Thymie, and attended lectures on surgery and dissections at the Westminster Hospital under Justamond. After this training Gordon returned to Aberdeen and obtained his M.D., and was shortly afterwards appointed physician to the dispensary, where he gained a reputation for conspicuous success in the treatment of acute diseases, especially fevers. In addition to the appointment to the infirmary, to which in the course of the next nine years

12,925 cases were admitted, he was occupied by a large private practice, in which he devoted himself particularly to obstetrics, and gave an annual course of lectures to the medical students. Four years before his death he was called back by the Admiralty to active duty in the navy, where he fell ill with pulmonary tuberculosis and was invalided home. His death took place on October 19th, 1799, when he was 47 years of age. Dr. Thoms cordially agrees with A. W. W. Lea, who maintained that Gordon was to be credited with having first clearly demonstrated the infectious nature of puerperal fever. Oliver Wendell Holmes was so much impressed with Gordon's treatise that in his essay he quoted the following paragraph in capital letters: "By observation I plainly perceived the channel by which it was propagated, and I arrived at that certainty in the matter that I could venture to foretell what women would be affected with the disease, upon learning by what midwife they were to be delivered or by what nurse they were to be attended during their lying-in, and almost in every instance my prediction was verified." With extraordinary honesty Gordon continues: "It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women." In another important passage Gordon shows the analogy between puerperal fever and erysipelas, in both of which the infectious matter is readily absorbed by the lymphatics in the vicinity of the wound. Gordon not only demonstrated the infectiousness of puerperal fever, but had a definite idea of the pathology of the condition, whereas his contemporaries Hulme and Lako pronounced the omentum to be the seat of the disease. Gordon by his dissections showed that puerperal fever was a disease which principally affected the peritoneum and the ovaries. Lastly, he laid down the following rules for prophylaxis: "The patient's apparel and bedclothes ought either to be burnt or thoroughly purified, and the nurse and physicians who had attended patients affected with puerperal fever ought carefully to wash themselves and get their apparel properly fumigated before it is put on again."

#### INTERNATIONAL HEALTH SERVICES.

No one outstanding topic emerged at the twelfth session of the Health Committee of the League of Nations, which was held at Geneva from April 30th to May 5th, but several matters of considerable interest came under review, and the proceedings gave an admirable illustration of the development of health measures in the international sphere. It was reported, for example, that the Epidemiological Intelligence Bureau at Singapore is now in regular telegraphic communication with 140 ports; the weekly bulletin based on the information so gained is circulated by wireless, and an increasing number of stations transmit it, so that it is more widely available for ships at sea. Efforts are being made to secure the collection, through the bureau, of information regarding quarantine stations and their value, and it has also been suggested that the bureau should secure the most detailed statistics possible on the seasonal prevalence of cholera and plague within its sphere. In various directions special inquiries are in progress dealing with particular diseases. Expert subcommittees, at the instance of the Cancer Commission, are undertaking studies of occupational cancer and the radiological treatment of cancer; the investigation into the incidence of small-pox in Europe is to be extended to North America and the Dutch East Indies, and an inquiry into infant mortality is proceeding in Europe and South America. The report of the Sleeping Sickness Commission is to be considered by an international conference composed of representatives of governments interested; proposals are put forward for securing continuous study of the disease, for the co-opera-

<sup>1</sup> Amer. Journ. Obstet. and Gynecol., February, 1928

tion of workers in various countries, and for the systematic collection of information. Measures are now being taken to prepare a scheme for an international inquiry into leprosy. The work of the Malaria Commission is proceeding, and, as in previous years, special courses have been arranged on malaria. This enumeration does not by any means exhaust the tale of the Health Committee's activities in this sphere, but it will suffice to give an indication of one aspect of its work. The establishment of standards for certain therapeutic substances is another of its functions: the unit for insulin adopted in 1925 has been accepted universally, and the standard for pituitary extract has also proved satisfactory; work on international standards for antitetanic and antidyenteric serums is now practically completed, and good progress has been made with antiphtheritic serum. Two collective interchanges of public health personnel, arranged by the Health Committee, will take place this year. Members of the health services of sixteen other countries will visit Italy, studying first the central administration in Rome, and then dispersing in groups to other centres to devote themselves to special subjects. The second interchange is of a new type, and will be attended by medical officers and sanitary engineers concerned with health administration in rural districts; they will be drawn from countries in Europe and South America and from Russia, and will visit selected areas in Europe. Two examples occur in the report of the committee's proceedings of the way in which the League organization has been able to assist particular countries. The medical director of the committee is to co-operate with the authorities in Greece in preparing a scheme for a campaign against tuberculosis in Greek towns, while an offer of assistance in dealing with the urgent health problems caused by the recent disastrous earthquake in Bulgaria has been accepted by the Government of that country. It is probably difficult for most of us, accustomed as we are to thinking in terms of relatively small unified areas or of single highly specialized services, to gain an adequate conception of the work carried on by the League agencies in connexion with health. Their activities are widely varied, the areas concerned are often remote, and the problems which engage attention are usually not of first importance in this country, so that the whole system is liable to impress itself but vaguely upon our consciousness. Perhaps, however, the Health Organization and the Health Committee of the League will seem more worthy of notice when we reflect that they in their sphere have achieved, it would seem, a greater degree of international unity and co-operation than the parent body has yet been able to reach in the political sphere through the efforts of the politicians and the diplomats. Representatives of the United States have played a considerable part in the work of the Health Committee, while officials from Soviet Russia will participate in the interchange visits arranged for this year. The two "big exceptions" to membership of the League itself are therefore in contact with the Health Organization.

#### MEDICAL EXAMINATION OF CIVILIAN AVIATORS.

A second edition of *The Medical Examination of Civilian Aviators*<sup>1</sup> has now been published by the Air Ministry after a lapse of nearly eight years. When the first edition was reviewed in the *Journal* of May 1st, 1920 (p. 608), our notice concluded with the opinion that the pamphlet might serve as a model when the international tests were decided upon by the medical representatives of the International Commission for Air Navigation. A summary of the international medical requirements, in so far as they affect civilian aviators, forms the first section of the revised issue, and the standard exacted does not vary much from

that previously laid down in this country; the specific methods of examination and the minimal conditions of the tests are left for the present to the decision of each country until the International Commission shall arrange otherwise. As in former years, the British system lays greater emphasis upon the prescribed general clinical examination and upon the importance of good family and personal history than upon "efficiency" tests, which are given due recognition, but are quite definitely subordinated to the general scrutiny, embodying a medical and surgical examination and investigation of the eyes, ears, nose, and throat. In connexion with the personal history, guidance is given regarding certain disabilities which should be regarded as indicating unsuitability for air work. In other directions also the relation between the various mental and physical qualities, and the characteristics demanded of pilots, are fully explained, so that an examiner may readily appreciate the precise importance of his work. Diagrams illustrate the apparatus employed in certain of the tests. The notes on "assessment" state that, apart from the elimination of those who fail to satisfy the requirements in respect of sight and hearing, or who show signs of disabling organic disease, the assessor's main duty is to ascertain that the accepted candidate possesses stamina and nervous stability compatible with the safe landing of aircraft from any altitude, even in the case of prolonged and difficult flight. As an aid to decisions in this respect various tests of the cardio-vascular, respiratory, and neuro-muscular systems have been devised, and a "physical efficiency index" has been formulated. The standards for these tests have been set by comparing the performance of pilots chosen as fit and successful with that of pilots suffering from known defects impairing their flying capacity. Reference must be made to the importance attached to vision. It is common knowledge that most flying accidents occur in landing, and it is remarked that lack of true ocular muscle balance has been proved to be the most common cause of error in judgement in bringing an aircraft to the landing ground. Apart from its value to those engaged in performing one of the most exacting medical examinations yet devised, and rightly so, this little manual will interest medical practitioners generally. It reveals, for example, something of the demands which the exercise of his art makes upon the pilot's mind and body. It is also possible that some of the tests described might be applied usefully elsewhere. In a modified form they would no doubt give a very clear indication of the capacity of motor drivers and others engaged in occupations which require a considerable degree of nervous stability and co-ordinated muscular action. The anonymous authors are to be congratulated on producing a pamphlet which, in the space of fifty pages, not only admirably fulfils its express purpose, but also embodies much interesting matter of general application.

#### THE LEISHMAN MEMORIAL AT MILLBANK.

On June 2nd, two years exactly after his death, a memorial tablet to Lieut.-General Sir William B. Leishman, K.C.B., F.R.S., was unveiled in the chapel of the Queen Alexandra Military Hospital, Millbank, and another in the pathological laboratory of the Royal Army Medical College. The unveiling of the former took place during a brief dedicatory service conducted by the Chaplain-General to the Forces (the Rev. Dr. A. C. E. Jarvis, C.M.G.). The ceremony of unveiling was performed by Lieut.-General Sir Matthew Fell, Sir William Leishman's successor as Director-General of the Army Medical Service, who explained that the tablet was part of the memorial subscribed for by the officers, past and present, non-commissioned officers, and men of the R.A.M.C., and members of the military nursing services. The major part of the memorial consisted, he said, of a medal which had been struck and prizes which would be

<sup>1</sup> H.M. Stationery Office, 1928. Price 1s.



competed for by officers and men of the corps. Sir William Leishman served the army for thirty-eight years, and won great honours, especially in the field of research in pathology, but it was affection for the man as well as admiration for his work which had inspired this memorial. He was known to his officers of the service as no other officer was known. Not only was he their teacher, but their companion and friend. After the service those present walked across to the Royal Army Medical College, where Major-General David Harvey unveiled over the entrance to the pathological laboratory the second tablet. He said that while the memorial in the chapel was intended to commemorate Sir William Leishman as a great Director-General, the memorial in the laboratory recalled him as a teacher, an eminent man of science, a research worker, and a discoverer of world-wide renown. Although the memorial had been erected at Millbank, it was only right to say that much of Leishman's work was carried out elsewhere. The original discovery of the parasite of kala-azar was made in the old laboratories of the Army Medical School at Netley; there also Leishman prepared the stain which bore his name, and it was there he was associated with Almroth Wright and David Semple in work on the typhoid vaccine—work which was subsequently to develop to such a remarkable extent in the army, to be the means of saving thousands of lives of British soldiers in India and elsewhere, and to be adopted and adapted by practically every nation in the world. On the transfer of the school to London Leishman became professor of pathology and put in very strenuous work. General Harvey described his teaching carried on in that very room, and his gradual attainment to the position of a national figure in the field of research, so that there was hardly a piece of organized medical research with which he was not connected; but he added that Leishman was not a scientist absorbed in his pursuit as to be oblivious of the claims of family and friends. He was a devoted husband and father, and nothing would have pleased him more than the high degrees in science recently obtained by two of his daughters and the academic career of his son. "Tablets will crumble in the course of time, but the name and fame of William Leishman will be passed on," said General Harvey in conclusion, "from generation to generation." The tablet in the college records the fact that Leishman carried out his researches on typhoid, kala-azar, relapsing fever, and other diseases in that place, where he taught from 1907 to 1913. The tablet in the chapel recites his many military, medical, and academic distinctions. The ceremonies were attended by Lady Leishman and other members of the family, and by a large number of past and serving officers, while among others present were Sir John Rose Bradford (President of the Royal College of Physicians), Dr. Andrew Balfour, Sir Almroth Wright, Sir David Semple, Air Vice-Marshal David Munro, and many more who came into close touch with Sir William Leishman's life and work. The British Medical Association was represented by Dr. Alfred Cox, Medical Secretary.

#### THE HARVEY TRICENTENARY IN PARIS.

In the week following the celebration in London of the three hundredth anniversary of the publication of Harvey's great work a special meeting of the Académie de Médecine for the same object was held in Paris, when this country was represented by Sir John Rose Bradford, President of the Royal College of Physicians, Professor Barcroft, who occupies the chair of physiology at Cambridge, and the British Ambassador. Addresses, of which the full text will be found in the official organ of the Académie,<sup>1</sup> were delivered by the President, Dr. Béchère, and Professors Chauffard, Gley, and Achard. Dr. Béchère, after welcoming the

British delegates, emphasized the attention which Harvey's discovery had excited from the first in France, not only in the medical, but also in the philosophical and literary world. While the doctrine of the circulation met with the opposition of Riolan and Guy Patin, it received the warm support of Descartes, who gave a detailed description of it in his celebrated *Discours de la Méthode* and his *Traité de l'Homme*, while Beileau and Molière held up to ridicule the opponents of the new discovery. Professor Chauffard expressed appreciation of his reception in London as representative of the Académie de Médecine, and repeated the address which he had delivered at the Royal College of Physicians.<sup>2</sup> Professor Gley, who reminded his audience of the commemoration by the Académie de Médecine of Edward Jenner in 1823 and of Thomas Sydenham in the following year, discussed the significance and development of Harvey's work, which was foreshadowed by Servetus, Colombo, and Cesalpinus, and brought to completion by Pecquet, Malpighi, and Leenwenhoek in the seventeenth century, Lamure and Bertin in the eighteenth, and Claude Bernard and Marey in the following century. The proceedings closed with a short address from the general secretary, Professor Achard—in which he expressed his best wishes for the progress of British science and the prosperity of the Royal College of Physicians—and the presentation to its President of a Latin address, in which a eulogy of Harvey was combined with an expression of goodwill to the College.

#### DAWSON WILLIAMS MEMORIAL FUND.

We publish this week at page 994 a further list of contributors to the memorial to Sir Dawson Williams, Editor of the *British Medical Journal* from 1898 to 1928, who died on February 27th last. The first list appeared in our issue of March 17th (p. 461). We are asked to call attention to the fact that the fund will be closed on Saturday next, June 16th, and that any further contributions should therefore be sent at once to the Honorary Treasurer. The Organizing Committee is now engaged in preparing recommendations, and all subscribers will shortly be summoned to attend a general meeting to consider them. Cheques should be made payable to Sir StClair Thomson, and sent to 64, Wimpole Street, London, W.1, the envelopes being marked "Dawson Williams Memorial."

The summer dinner of the Australian and New Zealand Medical Association in England will be held at the Trocadero Restaurant, Piccadilly, on Friday, June 15th, at 8 p.m. This will be preceded by a general meeting at 7.30 o'clock, which all visitors and members are requested to attend, to elect office-bearers for the forthcoming year. Sir Anthony Bowlby, Bt., K.C.B., K.C.M.G., K.C.V.O., is the official guest of the Association. All medical visitors from Australia and New Zealand are invited to be present. The honorary secretaries are Mr. E. T. C. Milligan, F.R.C.S., and Mr. Philip J. Jory, F.R.C.S., 66, Harley Street, W.1 (Langham 2828).

The annual report of the radium department of the North Canterbury Hospital Board, Christchurch, New Zealand, for the year ending March 31st, 1928, records that the total number of radium applications during the year was 498. On several occasions radium was taken out of the hospital for the treatment of patients in private hospitals or in their homes. Since the opening of the radium department in November, 1924, 234 patients suffering from rodent cancer have been treated, of whom 203 are at present free from any signs of this disease, and in the non-malignant uterine haemorrhage of middle age radium proved of special value. Ultra-violet ray treatment was found to be very beneficial in certain cases of disease of the nervous system.

<sup>1</sup> *Bulletin de l'Académie de Médecine*, May 22nd, 1928.

<sup>2</sup> *British Medical Journal*, May 19th, p. 868.

## Nova et Vetera.

### THE ARRIVAL OF THE JEWS IN ENGLAND.

Is a communication to the *British Medical Journal*, September 26th, 1925, I gave some examples of early charters witnessed by medical men, and commented on the rarity of medical witnesses in general to ancient deeds. Since that date I have consulted the chartularies of numerous English houses, and, although I have met with a certain number of medical witnesses, I see no reason to modify the attitude I took up—namely, that it is uncommon to find a doctor acting as a witness. In two documents, taken from the Brinkburn chartulary, a still rarer phenomenon is exemplified, a medical man being a principal party to early deeds.

The Brinkburn chartulary was published by the Surtees Society in 1892 (vol. 90). In it is the record of an agreement between the Prior and Convent and Henry the physician of Newcastle-on-Tyne concerning a house in Newcastle. The gist of this deed is as follows.

Know all men present and to come that this is the agreement made between William Prior of Brinkburn and the convent of the same place and Henry the Physician of Newcastle-on-Tyne, viz., that the aforesaid prior and convent have let to fee firm to the aforesaid Henry a house with appertinances in Westgate near the castle ditch which they hold by gift of Alexander of Gloucester. To have and to hold to the aforesaid Henry and his heirs or assigns, Jews and men of religion excepted [exceptis Judeis et viris religiosi] of the prior and convent of Brinkburn for ever freely and quietly. Paying therefor yearly to the prior and convent two shillings at Pentecost for all services and dues and besides the rent due to our Lord the King. And be it known that if the aforesaid Henry, and his heirs or assigns are behindhand in payment of the aforesaid rent on the dates due, the aforesaid land with buildings [literally principals] which shall have been erected on it shall be taken into the hands of the prior and convent, until the said Henry and his heirs or his assigns shall have satisfied the said prior and convent. And the said Henry and his heirs or his assigns shall keep the aforesaid land and buildings in good repair at his own proper cost. And the aforesaid prior and convent will warrant the said land with appertinances to the said Henry and his heirs or his assigns for ever. In witness of which we have fixed the seal of our chapter to this chirograph script in the year of our Lord 1219, on the day of the nativity of St. John the Baptist. These being witnesses, Dominus Peter Scott, Master William the son of the Dean and others.

A second deed is No. 216 in the same chartulary: it is a grant of a rent from the house mentioned in the first deed to John, son of Geoffrey Waleman of Haliwell, the marriage gift to the daughter, Ysota, of the grantor. The gist of it is as follows.

To all who shall see or hear this writing, Master Henry the Physician of Newcastle-on-Tyne, greeting. Know that I have given conceded and by this my present charter have confirmed to John son of Geoffrey Waleman of Haliwell in free marriage with my daughter Ysota an annual rent of 2/ of that house in Newcastle near the castle ditch of the same town which formerly I held of the Prior and Convent of Brinkburn received yearly at Pentecost of Roger son of Guy or his heirs or assigns. To have and to hold to the said John and his heirs of the said Ysota my daughter. . . . If Ysota should happen to have no issue I will for me and my heirs that the aforesaid annual rent of 2/ shall remain to the prior and convent of Brinkburn for the health of my soul and of Alice my wife and all my ancestors in free and perpetual alms for ever. And that my gift may remain firm and stable I have affixed my seal to this writing. These being witnesses, Dominus Eustace Delaval, Dominus Henry his brother and others.

The clause in the first of these deeds excluding Jews calls attention to an interesting liberty accorded to certain towns in England—the privilege that no Jew might dwell or stay in that town. Newcastle's privilege is contained in a charter of Henry III. Madox, in his history of the Exchequer (1711), gives a copy of the King's writ to the Sheriff. This I have translated as follows:

The King to the Sheriff of Northumberland greeting. Know that we have conceded and by our charter have confirmed to our true men of Newcastle-on-Tyne and their heirs that they may have this liberty, viz., that no Jew in our time or in that of our heirs may remain or make any residence in the same town. As is more fully contained in the King's charter which he has caused to be made to them. And it is commanded to the said sheriff that he may publish the said charter through his whole county and allow them to have this liberty. Witness the King at Kennington 4th, July 18 Henry 3rd.

Madox states that another town to have this anti-Jewish privilege was Derby, which was one of the famous five boroughs of the Danes, the others being Lincoln, Leicester, Nottingham, and Stamford. I do not know whether any

of these towns were granted the same liberty. It might have been thought that the document transcribed by Madox was forged, as the contents of it are distinctly unusual, but the first of Dr. Henry's deeds shows that the privilege was a real one. What the unfortunate inhabitant of Newcastle did if he wished to raise a loan I cannot tell.

The first entry of the Jews into this realm is an interesting point; doubtless some will be ready to assert that our first Jewish resident was Joseph of Arimathea, whose thorn bloomed at Glastonbury, but this would seem to be a myth. A friend of mine has suggested to me that they may have accompanied the Phoenicians to Cornwall in their visits to this country in search of tin; I have no proof that this is the case, and I cannot help thinking that if they did visit England with the Phoenicians, they made no settlement in Cornwall. Everyone knows that the Jews were banished by Edward I and that their return to settle in this land was one of the many things we owe to Oliver Cromwell; was it not stated the other day that he was willing to let them have St. Paul's Cathedral for a synagogue? A superficial search of Kemble's *Codex* has not yielded any evidence of a Jewish section of the population in early Anglo-Saxon times. In no Anglo-Saxon charter have I seen the name of anyone who could be looked upon as a Jew, either in the body of the deed or among the witnesses. I do not find that Oswald, the saintly Bishop of Worcester, granted any leases for three lives to any persons with Jewish names, but it is frequent to find in that clause which was inserted to make the deed more binding the pious hope expressed that if anyone violates this gift may he burn for ever with Korah, Dathan, and Abiram!

Towards the end of the Anglo-Saxon era we have definite evidence that there were Jews in England. The laws of Edward the Confessor declare the King to be the protector of all Jews. They counted as strangers; they could not be in hundred or tithing as free men; and the protection of strangers being one of the royal prerogatives, they belonged to the Crown, as did also a portion of their wergild (fine for murder), and their property in case of death. So far as my researches have gone, the Confessor's laws give us the first definite evidence of the Jews in England.

The Conqueror brought Jews from Rouen to London. William of Malmesbury, speaking of the doings of William Rufus, says: "Judæi qui Londoniæ habitabant, quos pater e Rothomago illic traxerant."

I do not think that there is any evidence in Domesday Book to show that there were many Jews in England in 1086. London, of course, is not included in the survey; but, on the other hand, the Jews figure largely on all the pipe rolls to which I have access. When the celebrated usurer, Aaron of Lincoln, died in 1186, his goods and debts were taken into the King's hands, and it is of interest to find that they do not appear on the pipe rolls till five years later, so that it took a considerable time to wind up an estate in those early times. The Angevin Kings kept a very tight hold on the Jews. They were allowed to settle in the larger towns of the realm; they had the King's peace—at a price—and were more often than not fleeced by him as they were in the habit of fleecing his subjects. One may say that from the beginning of the reign of Henry II till 1290 the Jews afforded the most convenient means of raising money. Stubbs, in the *Constitutional History of England*, says that "they were exempted from the general taxation of the country to be tallaged by themselves; for the Jews, like the forests, were the special property of the King. . . . Henry II in 1187 exacted a fourth part of the chattels of the Jews; John in 1210 took 60,000 marks by way of ransom; Henry III in 1230 took a third of their chattels; and in 1255 he assigned the whole body of the Jews to Earl Richard as security for a loan." In France St. Louis expelled them from the country in 1252. In England Simon de Montfort persecuted them, and Edward I in 1290 banished them from the kingdom.

The fact that the Jews are with us to-day in such numbers has always seemed to me a strong argument against the rapid decline and fall of the British Empire.

R. R. JAMES, F.R.C.S.

# Dawson Williams Memorial Fund.

## SECOND LIST OF SUBSCRIBERS.

SINCE the first list of contributors to the Dawson Williams Memorial Fund was published in these columns, on March 17th, subscriptions have been received from those whose names appear in the list printed below. Those who may have overlooked the matter are invited to send their subscription before Saturday, June 16th, when the list must be definitely closed. The Organizing Committee will then draw up recommendations for the disposal of the fund, and all subscribers will shortly afterwards be requested to attend a meeting to consider them. The honorary treasurer is Sir StClair Thomson, F.R.C.S., 64, Wimpole Street, W.1.

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Watkins-Pitchford, Dr. W. (Bridgnorth)  
Wauchope, Dr. G. M. (Hove)  
Weir, Dr. J. W. (East London, S. Africa)

*Incorrectly entered in Previous List.*

Watson-Williams, Eric, F.R.C.S., should read Dr. Patrick Watson-Williams (Clifton).

## THE VOLUNTARY HOSPITALS COMMISSION.

### FINAL REPORT: TERMINATION OF THE INQUIRY.

THE final report of the Voluntary Hospitals Commission,<sup>1</sup> dealing with the requirements in respect of voluntary hospital accommodation of England and Wales, has been presented to the Minister of Health. In April, 1924, it will be recalled, Mr. Neville Chamberlain's predecessor, Mr. John Wheatley, requested the then existing Commission to institute an inquiry into this subject. A short interim report was presented in July, 1925, and a summary of it appeared in the JOURNAL of August 15th, 1925 (p. 305). The document now under review is equally brief, occupying little more than five pages, with an appendix of statistical matter less than two pages in length. The work of the Commission has now, with the concurrence of the Minister, been terminated, and the final report represents little more than a summary of the present position as it compares with that disclosed in the earlier survey.

It will be convenient to recall at this point that the Commission in its interim report recommended that an Exchequer grant, or a series of grants, amounting to £2,000,000 should be made to help to meet new capital expenditure for additional voluntary hospital accommodation, and that the Minister of Health intimated his inability to proceed with the proposal. Meanwhile, the final report states, more progress has been made than was considered probable. The report, apart from surveying the hospitals position, deals mainly with finance. It concludes that there is no ground for apprehension regarding the ability of the hospitals to maintain such additional beds as may be provided, directs attention to the growing importance of systems of mass contributions from the industrial classes, and suggests that this must be regarded as the only quarter likely to yield any substantial growth of income. The Commission's proposal for dealing with a difficulty often referred to in these columns is that some form of compulsory insurance for motorists should be introduced to relieve the voluntary hospitals of the burden thrown upon them by the growing frequency of road accidents. Details from the report are given below.

<sup>1</sup> London: H.M. Stationery Office, or through any bookseller, 1928.

### The Task of the Commission.

The Commission was instructed to inquire into and report upon "the extent of the additional voluntary hospital accommodation required in England and Wales and the best means of providing and maintaining it." The final report bears the signatures of the following members: The Earl of Onslow (chairman); Sir Robert Bolam, M.D.; Sir John Rose Bradford, K.C.M.G., M.D., P.R.C.P.; Dr. R. C. Buist; Lord Clwyd; Mr. H. Wade Deacon; Dr. W. E. Elliot, M.P.; Sir George Makins, G.C.M.G.; F.R.C.S.; Mr. D. O. Malcolm; Dr. F. N. Kay Menzies; Sir E. Cooper Perry, M.D. Lord Linnlithgow, owing to his absence as Chairman of the Royal Commission on Agriculture in India, was not able to take part in any of the Commission's deliberations on the final report, and for this reason his name is not appended. The death of Sir Robert Hudson deprived the members of a colleague whose assistance had been of great value.

The opening section of the report recalls the conclusions presented in the interim report, referred to above, and the reception its recommendations met with from the Minister of Health, stating the position in the following terms:

Early in 1926 you informed us that you had, with great reluctance, come to the conclusion that the financial situation of the country was such as to make it impracticable at that stage to proceed with the proposals for a grant from public funds towards the cost of new construction on the lines of our recommendations. We received your decision with regret, though we were bound to recognize the force of the considerations which led you to it. You have now intimated to us that our main task having been accomplished you do not feel justified in asking us any longer to continue our work as a Commission. While we cannot but regret that it has been impossible to implement proposals to which we devoted much time and thought, we desire to take this opportunity of expressing our appreciation of the confidence which you and your predecessors have reposed in us.

### Recent Growth in Hospital Accommodation.

A survey of the present position is then given based on a comparison of the figures for June, 1924, and for the end of 1926. The expansion in available accommodation has been, it is disclosed, more rapid and more widespread than the Commission anticipated when preparing the 1925 report. The figures prove that during the period of two and a half years the hospitals have shown marked activity in the matter of extensions, and during the latter part of

that period the rate of expansion has considerably exceeded the provision required to keep pace with the growth of the population, with the result that the arrears of the war period are being gradually but appreciably reduced.

One allowance must, of course, be made for the growth of population, and the report points out that the excess of bed accommodation available at the end of December, 1926, over the figures for June, 1924, must not be taken as representing a net gain. At the time of the 1924 survey the ratio of beds to population was 1.33 per 1,000. This ratio, however, was based upon a figure of accommodation which the Commission believed was 10,000 beds short of what was reasonably necessary. If this deficiency had not existed the ratio of beds to population would have been 1.6 per 1,000, and this represents the rate at which the hospitals must expand to keep pace with the growth of population. The increase in population in the thirty months between the date of the 1924 survey and the end of 1926 is estimated at approximately 638,000. On the basis of 1.6 beds per 1,000 it was necessary, therefore, for the hospitals to provide 1,020 beds to meet this increase.

The returns received by the Commission from local voluntary hospital committees, including King Edward's Fund for London, showed that in this period 3,829 beds were actually provided, or 2,809 more than the number required to meet the growth of population. This represents an average reduction of arrears at the rate of 1,124 beds per annum. This the Commission regards as less than is ideally satisfactory, but as considerably better than there was reason to anticipate, and it is stated that, taking the amount of money becoming available as the test, the position appears still more hopeful. It is pointed out that in London the receipts for building purposes amounted in 1925 to £735,000, and in 1926 to £479,000, as compared with an average of £308,000 for the three years 1922-24, and it is further stated that, although London is in some respects in a specially favourable position, and figures for the provinces are not available, there is ground for believing that the amounts appropriated for building purposes have substantially increased, and that a further improvement in the rate of progress may reasonably be expected.

#### *The Problem of Maintenance.*

In its previous report the Commission expressed the opinion that there is no reason for apprehension as to the ability of the hospitals to provide for the additional beds. It was found that while in 1925 a substantially larger number of beds had to be maintained than in the previous year, the excess of income over expenditure amounted to as much as £734,000, or over £100,000 more than in 1924. Owing chiefly to the industrial conditions prevailing in 1926 the financial position in that year was less favourable than in 1925, but the Commission is confident that with the return to more normal conditions the position will again improve. The success with which the hospitals met this crisis, it is suggested, indicates the extent to which the financial structure of the system has recovered from the strain of the war period.

It is important, however, that no one should lose sight of the fact that the views reported above refer to the general position, and the Commission evidently desires to make it clear that the outlook is by no means entirely satisfactory. Referring to this point the report states:

Although in the aggregate a deficit has not been experienced since 1922, there are still areas in which the income of the hospitals is insufficient to meet the expenditure, and in which for this reason it has not yet been possible to undertake extension on an adequate scale. These areas comprise some of the most important hospital centres in the country. Indeed, it is the large general hospitals with medical schools attached in which the costs of maintenance are higher than in other hospitals, which find the greatest difficulty in collecting the funds necessary for carrying on the ordinary work of the hospital to the fullest extent. Failure to solve the problems of maintenance and extension in those areas cannot fail eventually to react to the prejudice of the voluntary system.

#### *Schemes for Mass Contributions.*

Dealing with the nature of hospital income, the Commission has found in certain areas where financial recovery was most marked some system of mass contributions, and the members have concluded that the only quarter whence any substantial increase in income

may be expected in the future is from the industrial classes. The report points out that legacies are a problematical element, and that the proportion of income from large subscriptions is unlikely to increase, while they feel that the interest of the middle-class subscribers has been remarkably well maintained having regard to the benefits they enjoy from the hospitals. The conviction is expressed that the future of the voluntary system depends in a large measure on its success in securing in one form or another the continued support of the small contributor.

In this connexion the Commission emphasizes the need for recognizing that the framing of any scheme of mass contributions calls for the exercise of great care to avoid the acceptance by the hospital of liabilities which cannot be discharged, or the creation in the minds of contributors of expectations which may not be fulfilled. The effect of such scheme upon the government of the hospital and the relations of the medical staff must also, it is stated, be taken into consideration. The report proceeds:

It is hoped that those local voluntary hospital committees which have not turned their attention to this problem will make a real effort, in conjunction with hospitals, to establish, under adequate safeguards, such schemes wherever circumstances permit. We have not in the past pressed this conclusion upon local committees because we realized the manifest risks and difficulties which the system entails. But the experience of recent years has convinced us that this is the main source of new income, and while the dangers are real we do not believe them to be insuperable.

Reference is made to the fact that many of the local voluntary committees instituted on the recommendation of the Cave Committee are still in existence, and the Commission places on record its indebtedness to those committees for their assistance in its work.

#### *The Hospitals and Motor Accidents.*

Attention is finally called to the effect of the increasing frequency of motor accidents upon hospital finance. No detailed investigation has been made, but the Commission agrees that this is placing a heavy burden on many institutions, and expresses its opinion on the matter in the following terms:

This charge ought not to fall upon funds derived largely from the generosity of the charitable, whose gifts are intended for the relief of persons who have not the means to provide institutional treatment at their own cost. While the possession of a motor is very far from being evidence of affluence, those who can afford to maintain a car would suffer no hardship if by some system of compulsory insurance they were required to pay the premium, probably comparatively small, which would be needed to cover the treatment of their own injuries as well as those which may be caused to others. The incidence of this burden is very unequally distributed, and it falls with special severity on the hospitals which are situated on or near those new roads whose excellence from an engineering point of view affords a seemingly irresistible temptation to excessive speed.

It is recognized that the proposal would involve legislation, and may excite controversy, but the Commission can see no other way of imposing the charge on those by whom in equity it should be borne.

#### *Hospital Accommodation Statistics.*

An appendix to the report gives details, by counties, comparing the position in England and Wales in respect of voluntary hospital accommodation at the end of 1926 with the position in June, 1924. The figures are given for bed accommodation at each date; the number of additional beds stated to be required in 1924; the increase in the period mentioned; and the number of additional beds in course of provision at the end of 1926. For the country as a whole revised figures, prepared since the issue of the previous report, show that there were available in mid-1924 50,679 beds, while 13,252 beds were stated to be required. By the end of 1926 the number available had increased by 3,829 to 54,503, and 2,964 beds were in course of provision, so that the deficit on estimated requirements had been reduced considerably. However, as the report indicates, allowance must be made for the increase in the population. It should be noted that in its earlier report the Commission took the view that some economy could be secured in the number of beds required by local co-ordination and other means, and concluded that the then existing requirements could be met by the addition of 10,000 beds.

In London the revised figure for the available accommodation in 1924 was 13,880 beds, and it was estimated that 2,093 additional beds were required; accommodation had been increased by 597 beds up to the end of 1926, and 1,130 more were in course of provision, so that substantial progress had been made.

The situation outside London was less satisfactory; between June, 1924, and the end of 1926, 3,232 additional beds had been provided, and at the end of the period 1,834 beds were in course of provision, while at the beginning of the period additional requirements were stated to be 11,164 beds. Wales and Monmouth were stated at the first survey to need 1,102 beds; in the thirty months following 427 were provided, but at the end of the period only 43 more beds were in course of provision. Some time has elapsed since the collection of these figures, but they serve to reveal the disparity existing in the extent to which the hospitals in various parts of the country have been able to increase their accommodation.

## THE MEDICAL INSURANCE AGENCY.

### TWENTY-FIRST ANNIVERSARY DINNER.

THE twenty-first anniversary of the establishment of the Medical Insurance Agency was celebrated by a dinner at the Hotel Victoria, London, on May 30th. Sir HUMPHRY ROLLESTON, chairman of the Committee of Management, presided, supported among others by the Chairman of Council of the British Medical Association (Dr. H. B. Brackenbury), the Chairman of the Representative Body (Dr. C. O. Hawthorne), and the Treasurer (Mr. Bishop Harman). The company included also many well-known men in the world of assurance and of medical charity.

The health of the Medical Insurance Agency was proposed by Mr. ARTHUR DICKEY BESANT (Past President, Institute of Actuaries, and General Manager of the Clerical, Medical, and General Life Assurance Society), who said that its genesis might be traced to the special committee set up by the British Medical Association at the time of the passing of the Workmen's Compensation Act for the purpose of assisting the profession in the problems arising out of that legislation. The work of the Agency at first was more or less of a limited character, but in addition to workmen's compensation questions it dealt with the insurance of motor-cars, although the age of the motor car had then scarcely begun. Incidentally, it was not always realized that medical men were pioneers in putting the motor car to practical daily use. Presently the great insurance offices came into the picture. Some insurance men were invited by the organization now known as the Agency to give advice on the technical questions involved. Insurance men, said the speaker, were naturally modest persons, but they did recognize a golden opportunity when it came their way. On the one side were thousands of medical men, all immersed in busy practice, with neither the time nor the inclination to deal with complicated insurance matters for themselves, and on the other was the British Medical Association, anxious to take up the burden, for which purpose it had already appointed a committee. Little wonder that the committee of management and the insurance offices naturally gravitated towards each other. The war put a temporary stop to the development, but as soon as peace came the committee of management was reorganized and strengthened, and the work went forward with leaps and bounds. Since the Medical Insurance Agency started it had arranged life and endowment insurances totalling to one and a half million pounds, and that was by no means the whole of its business. In motor car insurance and in household, accident, and other insurances the figures were also impressive. That was a wonderful testimony to what had been effected in twenty-one years. The keynote of the Agency in 1907 it was resolved that the whole of the surplus funds should be devoted to the benefit of the insured member who had fallen on evil days, and though this policy was widened eventually, the charitable motive was continued and found fuller expression, and in twenty-one years, he believed, over £18,000 had been contributed to medical charities.

Sir ROBERT BOLAM, in responding, referred to some of the pioneers, notably Radcliffe Crocker, the chairman of the first committee. Only lately one of the men most prominent in the early days of the enterprise—Dr. J. A. Macdonald—had been gathered to his rest. Another whose passing they mourned was Sir Dawson Williams. Mr. Besant's figures were not quite up to date. During the last ten hours money had been voted which brought the contributions to charities during the twenty-one years up to more than £20,000. (Applause.) Epsom College had been asked to accept a contribution to found a scholarship with which the name of their revered friend Dawson Williams should be associated. He would suggest to Mr. Besant that the reason why the Medical Insurance Agency had to change its policy with regard to the disposal of its surplus funds was self-evident to any member of an insurance corporation—namely, that the medical man who insured would not come upon poverty or distress, and therefore the Agency

was left to distribute its surplus among those who lacked such provision. The Agency valued very highly the cordial co-operation of the various insurance corporations which had aided in the work. The Agency held itself free to give the best possible advice to the profession as to the investments its members should make in insurance on the merits of the case, and was not interested in the commission if it could find a better proposition where no commission was offered.

Mr. L. FERRIS-SCOTT, Secretary of the Agency, in a further response to the toast, compared the Agency to a stool with four legs—namely, the companies through which it worked, the medical profession whose interests it served, the charities which it helped, and, finally, the staff of the Agency, who had helped loyally to build it up. He himself came in at the third septennium of the Agency's existence, after the foundations had been well laid. But in the early years it was necessary to feel one's way, and those concerned, notably Mr. P. N. Adamthwaite, the agent, had set themselves to learn about insurance from the very beginning. The companies were always most anxious to help the Agency; it was greatly helped by the British Medical Association, and by the *British Medical Journal* and the *Lancet*. Very few concerns could possibly have been started or carried on under such favourable auspices, though possibly few had to work in such difficult soil.

Dr. R. LANGDON-DOWN proposed the health of the guests, many of whom he mentioned by name. The Hon. EVELYN HUBBARD, in responding, said that the company over which he had had the honour to preside since the first year of the present century (the *Guardian*) was the first to come into alliance with the Medical Agency. The success of the combination had resulted from the remarkable good feeling manifested on all sides, and also from the skill and ingenuity with which insurance experts had been able to devise special policies and terms of contract to meet the difficult and varying cases. He was a little doubtful about the practice of paying commissions by the companies, though when confined to moderate limits, as in this country, it was almost free from objection, and in this instance the use which was made of the commissions—namely, their devotion to charity—deprived the critic of his ground completely. Sir CHARLES SYMONDS (Treasurer, Royal Medical Benevolent Fund), who also responded, said that the first contribution from the Agency to the Fund was made in 1910: it was not large, but it was sweetened by the promise that it would be repeated, and in the course of eighteen years no less than £10,000 had gone from the Agency to that Fund alone, to the inestimable benefit of members of the profession, their widows, and families who had fallen on evil days. Not only so, but the Fund had gained greatly because it had had Sir Robert Bolam, Dr. Hawthorne, Mr. Bishop Harman, and Mr. Ferris-Scott in its councils.

Sir SQUIRE SPRIGGE, in a very amusing speech, proposed the health of the chairman, and Sir HUMPHRY ROLLESTON, in responding, said that he thought anyone should be proud of his association with an agency of this kind, which had been of enormous benefit in the direction of providence to the medical profession as a whole, by putting medical men in touch with the best possible insurance companies; and, in the direction of charitable assistance, to those members of the profession and their families who had been less prudent or less fortunate.

## Scotland.

### Retirement of Sir Leslie Mackenzie.

SIR W. LESLIE MACKENZIE retired last week from the post of medical member of the Scottish Board of Health. The Board has recorded in the minutes its appreciation of the services which he has rendered as a medical officer of health, as a medical inspector on the Local Government Board for Scotland, and, at a later period, as a member of the staff of its medical board and of the body which took over its duties as the Scottish Board of Health. The minute continues that for the last quarter of a century Sir Leslie Mackenzie has exercised a profound influence upon public health administration in Scotland, while schemes which owed their beginning to his advocacy or design have been carried out with beneficial results, examples being the measures taken for the treatment of tuberculosis, for the medical inspection of school children, and for the care and supervision of mothers and young children. On May 31st Sir Leslie Mackenzie was the recipient of a presentation consisting of a handsome piece of silver plate and a gold pencil from the Board. Sir Leslie has accepted an invitation to go to Kentucky to inaugurate a new hospital which has been formed for



service of the mountainous areas in the Alleghany Mountains of that state, modelled on schemes in the Highlands and Islands of Scotland, in the formation of which he took a prominent part. Lady Mackenzie has also been invited to take part in the American visit on account of the social work with which she had been concerned in Scotland, and both sailed for America from Southampton on June 5th. The choice of an official of the Scottish Board of Health to perform this ceremony may be regarded as a tribute to the Scottish health administration.

#### Harveian Festival at Edinburgh.

The 141st Harveian festival was held in the Royal College of Physicians at Edinburgh on June 1st; this event has taken place annually for nearly a century and a half, since the founding of a club to commemorate William Harvey on the instigation of Andrew Duncan in the year 1787. On the present occasion Dr. Robert Thin, president of the Edinburgh Harveian Society, occupied the chair and delivered an address upon Dr. Archibald Pitcairne and his connexions with Harvey. He reminded his hearers that Pitcairne, in the latter part of the seventeenth century, had been distinguished as a poet, literary man, and medical scientist, as well as a Jacobite politician. In relation to Harvey, Pitcairne attracted great attention because he was the first to demonstrate by a mathematical proof, similar to that used by Harvey himself, that the blood must pass from arteries to veins through capillaries; he had made this demonstration even before Malpighi, with the help of the newly discovered microscope, had seen the corpuscles passing through these minute vessels. As a result largely of this research, Pitcairne was called to the professorship of medicine at Leyden. After his return from Leyden he was the real founder of the Edinburgh Medical School upon which others had raised the superstructure. After the address the members of the Harveian Society and their friends sat down to a banquet in the Hall of the College of Physicians. According to time-honoured custom one of the courses of the dinner consisted of *Cœur de Boeuf Harveian*. After the toast of the "Imperial Forces" had been proposed by Mr. David Lees, and acknowledged by Dr. C. E. Douglas, "The Immortal Memory" was proposed by the President, and the minutes of the preceding year's meeting were read by Mr. J. W. Dowden. "The Health of the Guests" was proposed by Professor Edwin Bramwell, and a reply was made by the Very Rev. the Dean of the Thistle, after which "The Health of the President" was proposed by Dr. Robert A. Fleming, President of the Royal College of Physicians. The tercentenary proceedings were closed with the usual toast of "*Floreat res Medica*."

#### Visit of the Lord High Commissioner to Edinburgh Hospitals.

The Lord High Commissioner to the General Assembly of the Church of Scotland, and Lady Stair paid a visit, on May 23rd, to the Royal Infirmary of Edinburgh, where they were received by members of the board of management and of the staff, and visited two wards in the medical and surgical houses. The Earl of Stair afterwards distributed the prizes gained by nurses in competitive examinations. He remarked that this training school for nurses had been founded in December, 1872, and that prizes had been given so far back as 1875. The recent institution of State examinations for admission to the State Register of Nurses had emphasized the importance of systematic study in the nurses' curriculum. The need was now recognized for more highly educated nurses to occupy administrative posts and to take appointments as teachers, public health workers, and in other departments of social activity. For this reason the stimulus given to study on the part of nurses by the award of prizes was to be highly commended. The present course of study in the Infirmary embraced the subjects required by the State syllabus, and was a preparation for the State examinations. An "Affleck" medal, founded for annual distribution by the late Sir James Affleck, was given every year to the nurse, who distinguished herself most in examinations, in work in the wards, and in general efficiency and conduct throughout

her whole training. At the Deaconess Hospital, which they visited on May 29th, the Lord High Commissioner and Lady Stair were received by Lord Sands and other members of the hospital board and staff. A tour was made of the various wards, Lady Stair and members of her suite speaking to each patient in turn. She visited also the newly installed x-ray department, where she had her hand photographed while the process was explained. Lord Sands, in welcoming the visitors, stated that the past year had been a successful one, for in addition to carrying out a large amount of medical work in the wards and in the out-patient department, the hospital had been able to balance its accounts on the credit side, and had been able to install a new x-ray apparatus by the gift of a private donor. The prizes were presented to the successful nurses by Lady Stair. Visits were also paid during the general assembly, to the Sick Children's Hospital, the Royal Maternity Hospital, and the Royal Blind Asylum.

#### Cameron Prize.

The Cameron Prize of the University of Edinburgh has been awarded this year to Professor C. Levaditi of the Pasteur Institute, and he will deliver the following two lectures at 4 p.m. in the Medical School: June 15th, Chemotherapy of bismuth; June 18th, Neurotropic ectodermoses. The Cameron Prize was founded in 1878 by the late Dr. A. R. Cameron of Richmond, New South Wales. It is a prize awarded, usually annually, to a person who has recently made any highly important and valuable addition to practical therapeutics. The list of prize-winners commences with the names of Pasteur and Lister, and includes such names as Behring, Horsley, Finsen, and Ehrlich; the last recipient was Dr. Banting.

#### Edinburgh Foot Clinic.

The new premises established by the Edinburgh Foot Clinic, which has been in existence for some four years, were opened by the Countess of Stair at 81, Newington Road, Edinburgh, on May 30th. They include two operating theatres as well as ample waiting-room and other accommodation. The demand for the services of this clinic is indicated by the fact that on the days when consultations are held, from eighty to one hundred patients are treated, while there is a waiting list for treatment of over 1,600 persons. Lady Stair, when declaring the premises open, suggested that the clinic should give advice to young women against going to their work at which they would have to stand most of the day wearing thin high-heeled shoes. She hoped that the clinic had a great and useful future before it. At the annual meeting, held prior to the opening, the chair was taken by Mr. C. W. Cathcart, F.R.C.S. The annual report showed that in the past year the number of treatments had been 6,915, as compared with 5,335 in the previous year. There had been an excess of income over expenditure of £43. Subscriptions and donations amounted to £166, showing that the clinic was still dependent on the generosity of subscribers for the continuance of its work. A special appeal to meet the expense of alteration and equipment in taking over the new premises was issued and the sum of £682 was received, but the building and equipment account still showed an excess of expenditure over income of £600. Professor John Fraser, F.R.C.S., in moving the adoption of the report, said that minor disabilities of the feet formed one of those collective maladies which received little sympathy and sometimes scant attention. The human foot was a very perfect piece of mechanism when it was considered how many miles it was capable of travelling and how many hours it had to bear the weight of the body. Napoleon, in his famous aphorism, that an army marched on its stomach, was guilty of an exaggeration, for the soldier on active service knew the truth in regard to the feet. The men who had been in the retreat from Mons could tell them that their clearest memory was neither of bodily fatigue, hunger, nor of merciless shell fire, but of the ceaseless ache of bruised feet. The foot parade of war time was one of the details which made for the efficiency of the soldier, and the same thing applied to the worker in

these days of competitive trade efficiency. They owed a debt of gratitude to the experts who were giving their services gratuitously to this deserving object.

#### Glasgow Western Infirmary.

At a meeting of the Board of Managers of the Glasgow Western Infirmary held on May 29th, the following new appointments were made: R. Barelay Ness, M.A., M.B., F.R.F.P.S., honorary consulting surgeon; George Allison Allan, M.D., F.R.F.P.S., M.R.C.P., visiting physician; W. R. Snodgrass, M.A., M.B., F.R.F.P.S., assistant physician; J. Gibson Graham, M.B., Ch.B., dispensary physician.

## Ireland.

#### Royal College of Surgeons in Ireland.

At the annual election of officers of the Royal College of Surgeons in Ireland, held on June 6th, the following were appointed for the ensuing year:

*President:* Thomas Eagleson Gordon.

*Vice-President:* Richard Atkinson Stoney.

*Secretary of the College:* Sir F. Conway Dwyer.

*Council:* Sir Thomas Myles, Sir Robert H. Woods, Sir William Taylor, R. C. B. Maunsell, Sir W. I. de C. Wheeler, Sir F. Conway Dwyer, Trevor N. Smith, Sir Arthur Ball, Louis A. Byrne, Andrew Fullerton, Seton Pringle, Edward Sheridan, William Pearson, G. E. Pugin Meldon, Howard Stevenson, Louis L. Cassidy, W. Cecil P. Smyly, Arthur Chance, Patrick E. Hayden.

The new President, Mr. T. E. Gordon, has served in the office of Vice-President for over two years. He is professor of surgery in the University of Dublin. During the great war he held the rank of colonel, and was attached to the Dublin 83rd General Hospital, Boulogne. The new Vice-President, Mr. R. Atkinson Stoney, went to France with the French Red Cross in December, 1914; after working with the French Red Cross he was given a commission in the French Army Medical Service, and was made consulting and operating surgeon to the 5th Section of the 17th Region. He returned to Dublin in June, 1915, and went out again for the spring and summer months of 1916, 1917, and 1918. After the war he was made Chevalier of the Legion of Honour.

#### McKisack Memorial.

As announced in the *Journal* of April 21st (p. 686) it has been decided to establish a permanent memorial to the late Dr. Henry Lawrence McKisack, consulting physician to the Royal Victoria Hospital, Belfast, who died on March 26th, and in this connexion a meeting of subscribers to the memorial fund was held at the hospital on June 1st. Mr. T. S. Kirk, chairman of the medical staff, presided, and it was reported that contributions amounting to £555 had been received to date. The meeting decided to erect a bronze memorial tablet in the hospital and to employ the remainder of the sum in hand to constitute the nucleus of a McKisack Research Fund, the income from which will be devoted to the study of diseases, injuries, and deformities in all their aspects, including the study of the results of treatment. The fund is to be kept open for future donations, with no limitation as to amounts, and is to be entrusted to the Board of Management of the Royal Victoria Hospital for administration on the recommendation of the visiting medical staff. A committee, consisting of Mr. T. S. Kirk, Mr. Edwin D. Hill, Mr. Stanley Ferguson, Dr. Robert Marshall, and Dr. Andrew Trimble, was appointed to put into effect the decisions of the meeting.

#### The Medical Profession and the Public.

At a recent meeting of the Statistical and Social Inquiry Society, held in the Royal Academy, Dublin, Dr. R. J. Rowlette, read a paper on the relations of the medical profession and the community. The General Council of Medical Education and Registration, he said, was not necessarily composed of medical practitioners and was not elected by medical franchise. It was a grievance that the unqualified practice of medicine was not more completely prohibited. The Council existed for the protection of the public and not of the profession. Referring to the Medical Practitioners Act (Irish Free State), 1927, he indicated

certain departures from the British system. As to the degree of sanctity of professional confidence, he drew a comparison between the privilege of legal and medical communications, and pointed out some anomalies of medical practice. Sir William Thompson, in proposing a vote of thanks to Dr. Rowlette, said it was well that the public should know something about the work and aims of the medical schools of the universities and colleges, and about the amount of time certain members of the medical profession gave to this work. It was only families who had members in the medical profession who knew the many difficulties and adverse circumstances doctors had to contend with. The relation of the medical profession to public health was of ever-increasing importance, as the prevention of disease was now taking such an important part in the life of the profession and the community. The amount of voluntary service rendered by the medical profession was not sufficiently realized, for in hospitals, public appointments, dispensaries, and in private practice also, much time was devoted to charitable work. Dr. Moorhead, in seconding, expressed the view that a doctor brought before the General Medical Council or the Irish Medical Council on any disciplinary charge should have the right of appeal to the law courts, if he was dissatisfied with the decision.

## England and Wales.

#### Maternal Mortality: Appointment of Departmental Committee.

SHORTLY before the Whitsuntide recess Mr. Chamberlain, the Minister of Health, as a part of the measures designed to combat maternal mortality and morbidity, to which he referred when introducing the Estimates of the Ministry of Health in the House of Commons on May 15th, appointed a Departmental Committee to consider the working of the Midwives Acts, with particular reference to the training of midwives and the conditions under which they are employed. The names of that Committee and its terms of reference were given in the *Journal* of May 26th (p. 917). As a further instalment of the measures referred to Mr. Chamberlain has now appointed a second Departmental Committee, whose terms of reference are to advise upon the application to maternal mortality and morbidity of the medical and surgical knowledge at present available, and to inquire into the needs and direction of further research work. The personnel of this purely medical committee is as follows: Sir George Newman (chairman), Professor F. J. Browne, Dame Janet M. Campbell, Mrs. Ethel Cassie, Dr. Leonard Colebrook, Professor Archibald Donald, Dr. C. E. S. Flemming, Sir Walter M. Fletcher, Dr. Harold Kerr, Dr. W. H. F. Oxley, Professor Miles H. Phillips, Dr. C. E. Tangye, Dr. O. L. V. S. de Wesselow. The secretary of the Committee will be Dr. Margaret Hogarth of the Ministry of Health, Whitehall, S.W.1, to whom all communications relating to the work of the Committee should be addressed.

#### Wembley Hospital.

The Duke and Duchess of York opened on June 2nd the new hospital which has been erected at Wembley at a cost of about £20,000. The building is situated behind the main road on a site presented by Mr. G. Titus Barham, chairman of the board of management, who also contributed generously towards the building expenses. At present there are twenty beds, but it will be possible to double the accommodation at a cost of £3,000, and to extend the capacity of the institution to a hundred beds in the future should this become necessary. Two wards, for men and women respectively, contain six beds each; there is a children's ward of four beds, named after Princess Elizabeth, and two rooms, each with two beds. A fully up-to-date operating theatre and a well-equipped x-ray room have been provided. The building opens free from debt, the necessary money having been collected—mostly, locally, through a contributory scheme—during the last three years. About £2,000 was obtained in large donations,

and substantial grants were received from King Edward's Hospital Fund. All the practitioners in the district become automatically members of the ordinary staff of the hospital, and there is a consulting staff numbering fourteen.

#### Presentation to Dr. B. E. A. Batt.

For many years Dr. Bernard E. A. Batt has rendered great service to the medical profession in West Suffolk. In his capacity as honorary secretary to the West Suffolk Division of the British Medical Association, and as chairman (previously honorary secretary) of the Panel Committee, he has done an immense amount of work. At a meeting of medical practitioners held on May 31st at Bury St. Edmunds Dr. J. S. Hinnell referred in warm terms to the appreciation of all medical men in the county of Dr. Batt's activities in the interests of the profession and of the West Suffolk Hospital and its patients. As a small mark of that appreciation he handed to Dr. Batt a cheque representing donations readily made by the whole of the local medical profession, and asked him to realize their thanks for all his good work. Dr. Batt, for once at a loss on the matter before the meeting, made a brief reply, saying that he had enjoyed the work, that it added to his pleasure to know that he was helping and that that help was appreciated, but he was unable to find the right word to express his thanks.

## Correspondence.

### DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

SIR,—From your report of the recent proceedings of the General Medical Council it appears that there are now two vacancies on that body from among those who are elected to represent the medical profession directly, and an election to fill these vacancies is to take place in the autumn.

This gives us time to consider carefully who are to represent us, and I want at once to press the view that both these should be general practitioners with an intimate knowledge of national health insurance as well as of other branches of general practice. If two practitioners, still in active practice, can be found to give the time, I hope they will be strongly supported. It would be, of course, a further advantage if one of them is engaged in industrial and the other in rural practice. At present Dr. Brackenbury is the only general practitioner on the General Medical Council, and, invaluable as his services are, this amount of representation is very insufficient.

The great majority of the members of the General Medical Council are teachers representing the universities and colleges, and many of them are whole-time officers without any personal experience of the practising side of medicine, or of the relationships between doctor and doctor and patient and doctor, with their variations in different types of practice and differing circumstances.

It seems essential that on a body charged, among its many other duties, with the supervision and control of these relationships a much more sufficient representation of the practising doctor should be found.—I am, etc.,

Birmingham, June 4th.

H. GUY DAIN.

### MEDICAL CO-EDUCATION.

SIR,—The question of co-education in medical schools is one which has been occupying the attention of the Medical Women's Federation since the recent pronouncement in the press that certain schools had agreed to close their doors in future to women students. In the correspondence which followed, statements were made in regard to the so-called "wastage" among qualified medical women, and the figure of "50 per cent. or thereabouts" was given as the proportion of those who marry and presumably thereafter cease from working at their profession.

Investigations were at once undertaken by the Medical Women's Federation to prove the truth or otherwise of these statements. A questionnaire was sent to the one thousand members of the federation living in the British Isles. The point of interest which emerges is the small

percentage of those who have retired from their profession, especially as the figure includes a number who only retired after many years of active and successful medical practice.

General practice	...	...	40.6 per cent.
Hospital or institutional work	...	...	12.7 "
Consulting and specialist	...	...	14.0 "
Research	...	...	3.6 "
Public health	...	...	15.6 "
Retired	...	...	9.0 "
Not ascertained	...	...	4.5 "

Steps were also taken to ascertain details regarding the women who had qualified at six London hospitals. From the following figures it will be seen that instead of the "50 per cent. or thereabouts" stated to marry and so become lost to the profession, the actual number is under 10 per cent.

The number of women qualified from the Royal Free Hospital (for the years 1923, 1924, and 1925), and from Charing Cross Hospital, the London Hospital, St. George's Hospital, St. Mary's Hospital, and University College Hospital, is understood to be 644. The following is an analysis of these:

Doing active medical work	...	...	76.39 per cent.
Reading for higher qualification	...	...	1.09 "
Travelling abroad	...	...	0.93 "
Temporarily unemployed at time of inquiry	...	...	6.21 "
Invalided	...	...	0.15 "
Died	...	...	0.77 "
Not traced	...	...	4.66 "
Retired	...	...	9.78 "

The percentage of those who have married is 15.99—namely:

Married and still working	...	...	6.36 per cent.
Married and retired	...	...	9.63 "

At a recent session of the Council of the Medical Women's Federation a resolution in the following terms was unanimously passed:

"That this Council of the Medical Women's Federation, while welcoming the public support which has been generously accorded to the efforts to retain the presence of women in co-educational schools, deprecates any attempt to put pressure on the hospitals concerned by urging subscribers to withdraw their subscriptions."

On behalf of the Council of the Medical Women's Federation.—We are, etc.,

CATHERINE CHISHOLM, *President.*

CHRISTINE M. MURRELL, *Past-President.*

A. E. SANDERSON CLOW and ALISON HUNTER,  
*Vice-Presidents.*

JANE H. WALKER, *Hon. Treasurer.*

F. MAY DICKINSON BERRY, *Hon. Secretary.*

London, W., May 25th.

### THE TREATMENT OF MALIGNANT DISEASE BY COLLOIDAL LEAD.

SIR,—Knowledge of the fact that colloidal lead is a "difficult and dangerous therapeutic method" of treating malignant disease urged me to advise Professor Blair Bell to withhold details of the suspension used in Liverpool until we were satisfied that it was reasonably free from danger to life. I feared then that a premature revelation of our method would result in the promiscuous use of lead colloids of widely variable toxicity in cases of advanced malignant disease which were beyond hope from any treatment. Dr. Wyard's paper in your issue of May 19th (p. 838) fulfils in some respects my prophecy. He finds colloidal lead hydroxide, from his experience with thirty-two patients, to be "extremely toxic"; I condemned lead hydroxide to our Research Committee in 1925, at the expense of two rabbits. Dr. Wyard suggests that he followed latterly the original technique; if so, his description of it is faulty, and later he speaks of making slight alterations and of using a reducing agent. As the pharmacologist of the Liverpool Medical Research Committee it has been my duty to report on the relative toxicity of the "many times changed" methods of preparing the colloid, and I can state that, before any modification of the lead colloid has been used on human beings in Liverpool, it has previously been tested repeatedly upon both rabbits and cats in doses per kilo far exceeding those given to human beings. I do not find evidence that Dr. Wyard took such precautions.

From the standpoint of pharmacology I may say that the variation in toxicity—as judged by lethal effects and cardiac or renal detriment in animals—due to slight variations in the method of preparation or composition of lead colloids, is remarkable, and was demonstrated at Nottingham by tracings and mentioned in the epitome of my paper to the Manchester Medical Society. May I reassure your readers by saying that we are striving in Liverpool not only to obtain a lead colloid which shall be “more successful therapeutically than another,” but also one which shall be less toxic to the patient? As regards the latter criterion, improvements have been achieved, but not yet as regards the former. It may be stated that I condemned the addition of a reducing agent (sodium hydrosulphite) in 1926, and that I regard the following colloidal preparations as dangerous: lead saccharate, lead mannitol, lead glycinate, lead complex with catechol, lead fluoride. Colloidal lead selenide is safe, but appears to be devoid of inhibitory effect in malignant disease. As one who has viewed the remarkable results of the colloidal lead treatment in Liverpool, I shall regret if the publication of the method leads to the trial of unsafe preparations in apparently hopeless cases, and deplore that I did not deem it humanitarian to publish records of all the lead derivatives which I condemned as dangerous upon pharmacological grounds.—I am, etc.,

WALTER J. DILLING.

Department of Pharmacology, University  
of Liverpool, May 28th.

### THE PATHOGENESIS OF ACUTE PRIMARY GLAUCOMA.

Sir,—In his letter which appeared in the *Journal* of May 26th (p. 919) Dr. McQueen takes some exception to the views of Dr. Maitland Ramsay on the question of the origin of the aqueous humour as expressed in his lecture on the pathogenesis of acute primary glaucoma. Dr. Ramsay suggested that the evidence was in favour of the formation of this fluid by dialysis in the same manner as the other tissue fluids, and to this Dr. McQueen objects on two grounds: first, that there is not a sufficient pressure in the capillaries of the eye to allow such dialysation, and secondly, that the aqueous humour is formed in quantity too great to be accounted for in this way.

With regard to the first objection, the capillary pressure in the eye has never been measured; nor, indeed, is this likely to be possible. Dr. McQueen merely argues from analogy: “Elsewhere in the body the loss of pressure between capillaries and veins is 1 to 2 mm. of Hg... the main loss of arterial pressure in the body is in the arterioles.” The obvious reply may be that it is dangerous to argue from the rest of the body and apply the conclusions to the eye; but apart from this, it is by no means generally agreed that these statements are correct. The very many attempts which have been made to estimate capillary pressure have produced a peculiarly discordant and bewildering set of results; the measurements made by Leonard Hill are low, others are higher. Some of them taken within the last few years are these: Landerer (1913), 17 to 25 mm. Hg; Goldmann (1914), 5 to 8 mm.; Kranss (1914), 6 to 9; Briscoe (1918), 20; Danzer and Hooker (1920), 22; Hill (1920), 2 to 4; Basler (1921), 7; Boas and Frant (1922), 18 to 22, and up to 60 pathologically; Kylin (1923), 8 to 14, and up to 50 pathologically; Liebesny (1923), 15 to 40; White (1924), 3 to 14; Carrier and Rehberg (1923), 3 to 6; Landis (1926), 10 mm. Hg. It is true that most of the methods which have been employed lend themselves to criticism, but the fact of disagreement is obvious. Moreover, all of them have been taken in the skin, or in animals low down in the evolutionary scale, and there seems little justification in applying the results to the circulation of the internal organs of the higher mammals or to the very specialized conditions of the eye. Indeed, the opinion has been offered (Krogh, 1922; Liebesny, 1923) that in the skin there are few arterial capillaries, and that the pressures recorded here are largely of the nature of venous-capillary pressures.

The disagreement in the results is probably to be accounted for by the fact of the great variability of the capillary pressure. In the light of the recent work of Krogh, Dale, Lewis, and others the capillaries are not to be thought of as a static part of the circulation, and the blood pressure in them as a constant and measurable quantity; but they are to be looked upon as the most active, purposive, and dynamic part of the whole circulation, with a pressure continually varying from individual to individual, from organ to organ, and from time to time. The capillary pressure does not appear to be wholly dependent upon the arteriolar pressure or regulated entirely by the arteriolar nerves; they have, on the contrary, a special capillariomotor mechanism, partly nervous and partly chemical, which endows them with an active tonicity suggesting that the peripheral resistance is not confined to the arteriolar region, but that no inconsiderable part of it, and therefore of the fall of pressure, is located in the capillaries. In the human skin, where the capillary pressure is undoubtedly low, Lewis (1924) estimated their contractile power as being capable of expelling fluid against a pressure of 50 to 60 mm. Hg, and when contracted, of resisting the entry of fluid up to 90 or 100 mm. Hg. These deductions have received striking confirmation in the recent work of Dale and his collaborators, who, dissociating the arteriomotor and capillariomotor effects, have brought forward a large amount of evidence to show that “the peripheral resistance is not limited to the arterioles, and that the common assumption is unwarranted that there exists an abrupt fall of pressure in this part of the circulation.” Such a conception—that the fall of pressure is evenly distributed—has been confirmed by the measurements of Landis (1926), who, introducing a micro-pipette into the peripheral vessels of the frog’s mesentery, found that there was no sharp fall of pressure in the arterioles, but that the decrement continued evenly throughout the capillary bed. Landis, who used a very unequivocal technique, found that the pressure in these arterial capillaries was 145 mm. H<sub>2</sub>O above the tissue pressure—just the amount required to overcome the osmotic pressure of the tissue fluids in that animal. His results and those of White (1924) agree in that the average pressure in the arteriolar end of the capillary is above, and that in the venous capillary is below, the colloid osmotic pressure, so that free interchange of fluid is possible throughout the length of the capillary. I can see no unreasonable objection, in the light of our present knowledge, for assuming that in the human eye the capillary pressure is 25 mm. of mercury above the tissue pressure there (that is, the intraocular pressure). In any case, the modern conception of a dynamically active capillary bed and an ever-changing capillary pressure makes it seem unreasonable to speak of a capillary pressure at all, and suggests that it may be dangerous to reason too closely from one set of circumstances to another.

With regard to the second point, that 6 c.mm. of aqueous are formed per minute, I am unaware on what evidence this estimate is given. I have elsewhere<sup>1</sup> criticized the experimental technique on which the estimations in the literature have been based, and have pointed out that the results have all been deduced from experiments in which the eye has been opened, or wherein completely abnormal pressure conditions have been introduced. Evidence based upon the chemical changes occurring in the aqueous is much less open to criticism, and the only conclusion which can be reached from this is that the interchange of fluid in the eye is very much less than has generally been supposed, and is quite in accordance with the requirements of a hypothesis of dialysation.

Nevertheless, Leonard Hill is almost certainly quite correct in his main contention. It is not the push of the capillary pressure which is the essential point in the etiology of glaucoma, but the permeability of the capillary walls and the pull of the tissue cells resulting from an altered metabolism in the eye. Dr. Maitland Ramsay dealt largely with the first of these influences; changes in the vitreous are probably the most important factor in the second.—I am, etc.,

London, W.1, May 28th.

W. S. DUKE-ELDER.

<sup>1</sup> The Nature of the Intraocular Fluids, *British Journal of Ophthalmology*, Monograph Supplement, 1927.

Sir,—There will probably always exist, and always have to be combated, an unfortunate prejudice against the secretory theory (as opposed to theories of filtration, dialysis, etc.). This prejudice arises on quite extraneous—I mean unscientific—grounds. It is the idea that to deny that the behaviour of the living cell can be deduced from the boy's first book (or any existing book) of physics is equivalent to investing the cell with occult powers.

It cannot be too strongly asserted (though it is nauseating to have to assert it at all) that the secretory theory would not be a scientific theory if it sought to confer upon the cell any measure whatever of supernatural activity. It is only in the minds of those who have fainted upon the scientific way that the secretory theory has any connexion with "vital force," "biotic energy," "neovitalism," or any such refuge of the destitute.

To conclude on the evidence available that rather crude hypotheses like those of filtration, dialysis, etc., may (in view of the great complexity and delicacy of living matter) prove to be reductions to a simplicity which is absurd is perfectly scientific, and, whether the conclusion itself is right or wrong, it voices no greater heresy than does the suggestion that a man may act differently from a corpse.

The secretory theory merely emphasizes the fact that matter which has attained that peculiar degree of complexity which constitutes aliveness is apt to behave otherwise than matter which has not this complexity. No metaphysical theory whatever is involved or implied, and not the slightest departure is made from that working hypothesis of absolute materialism (or absolute objectivity) which is the inalienable basis of all scientific knowledge.—I am, etc.,

Liverpool, May 29th.

BERNARD CRAVASSER.

## THE ORIGIN OF ISCHAEMIC CONTRACTURE.

### *The Case of Tyndall v. Alcock.*

Sir,—Mr. Edward Thompson (June 2nd, p. 961) should not censure Mr. Roth (May 26th, p. 921) for his comments on Professor Hey Groves's article on this case (May 12th, p. 807). Mr. Roth at least suggests a valuable point which will help others to avoid the advent of this nightmare—*ischaemic contracture*—which, as those engaged in orthopaedic practice know so well, is far less rare than Mr. Thompson's fortunate experience would suggest. Mr. Thompson's note is merely a genuine expression of the sympathy which, of course, all of us feel for Dr. Alcock, but it adds nothing whatever to guide us in preventing the occurrence of this grave complication.

Mr. Roth did not stress the point which I am sure he had very much in mind—namely, that "full flexion," as advocated in the books, is a factor equal in importance to tight bandaging in the production of ischaemic contracture. If the forearm in relation to the upper arm is "5 minutes past" (to use a clock nomenclature) the evil is likely to occur. On the other hand, putting the elbow up at "7 or 10 minutes past"—that is, 40 to 60 degrees—will be safe.

Supporting Mr. Roth's point, I would mention that one of the worst cases I have seen followed bandaging of the upper forearm, for a graze, by a village nurse. Of two cases that have happened to myself, one followed "full flexion" ("5 minutes past") and the other on tight bandaging of the forearm after plating a forearm fracture (without flexion), although, fortunately, being alive to the possibility, I got in on the problem before more than a temporary damage had occurred to the flexor muscles of the index finger.

Professor Hey Groves himself, in his article, makes no very helpful deductions to guide us in the anticipation and prevention of the condition. I agree with him that the displacement of bone fragments has no importance whatever in the production of ischaemic contracture. That it is a dangerous thing to flex a swollen elbow-joint I have already admitted; but he puts forward the old fallacy that the existence of the radial pulse is the index of safety. This is a snare and a delusion, and, if I may be allowed to say so, very bad teaching. I have had the condition occur under my most intense observation while

believing that all was right as long as the radial pulse could be felt.

The threatening symptoms are pain, pain, pain! associated with lividity and swelling, and disinclination for active movements of the hand and fingers. Relieve these symptoms immediately, and if this is done within the first twelve or twenty-four hours all will be well. Have no regard for the fracture; phy for safety where the circulation is concerned. The fracture and the function of the elbow can always be relieved subsequently, but, in spite of Professor Hey Groves's statement of Sir Robert Jones's opinion on the improvement that is possible in the Volkmann complication, I maintain that present-day methods in most cases can do nothing more for ischaemic contracture than improve the cosmetic appearance of the hand and forearm.

Several other points in Professor Hey Groves's article are open to discussion, and I should like to take them up with him; but please save me from going "exactly counter, as so often happens in our profession," which, as Mr. Thompson maintains, Mr. Roth did "without reason." Mr. Roth had, indeed, every reason to communicate the results of his considerable experience for the benefit of all those who have had to deal with these elbow fractures, and his remarks are not lightly to be turned down by Mr. Thompson, while the subject is so fresh in our minds, as being beside the point.—I am, etc.,

W. H. TRETOWAN,

Guy's Hospital, and the Royal National  
Orthopaedic Hospital.

London, June 5th.

Sir,—With regard to the origin of ischaemic paralysis, surely Mr. Roth will admit that a vascular lesion unassociated with fracture may produce this condition.

A few months ago I was called to a young girl, whose arm was lying on a pillow, extended at the elbow. On examination I noticed that the limb was cold, and found that she had no radial pulse. The supracondylar fracture was easily reduced, and the arm treated in the fully flexed position. A perfect anatomical and functional result followed, but the radial pulse had not reappeared eight weeks later. I take it that the radial pulse may disappear at once by pressure of fracture ends or during the next three or four days by thrombosis. It would be interesting to know if any orthopaedic surgeons have statistics of the absence or disappearance of the radial pulse in their wide experience of fractures about the elbow.—I am, etc.,

Liverpool, June 4th.

R. KENNON, F.R.C.S.

## TETRA-ETHYL LEAD IN MOTOR SPIRIT.

Sir,—In the report of the second public meeting of the Committee of Inquiry on Tetra-Ethyl Lead in Motor Spirit which appeared in the *British Medical Journal* of May 19th (p. 871) there are several misquotations of the evidence I submitted. Thus reference is repeatedly made to two men (mechanics) who, it is erroneously stated, were medically examined by me. These men were examined, independently, by their own private doctors, and also, independently, by an expert clinician engaged in lead examinations of cancer patients undergoing lead chemotherapy. I was not consulted in these examinations, but I thought it proper to record, without comment, in my memorandum of evidence a statement of these independent clinical findings, for which I have no responsibility. The only submission I make in this connexion is that, in the circumstances of an additional exposé to lead, it is justifiable in the interests of the men themselves that they be kept under medical observation—the stricter the better. (I assume that these mechanics are habitually exposed to a small lead occupational risk.)

I regret that my memorandum of evidence, of which, as specially requested by the secretary to the committee, I had furnished a sufficient number of copies for circulation to the press, was not so distributed; had it been circulated these misquotations could not have occurred.

Numerous misquotations of the evidence have appeared in the lay press, and the *Times*, in its issue dated May 16th, not only makes the above misquotation, but also



purports to give details of my (alleged) evidence with regard to experiments on monkeys. I have carried out no animal experiment of any description in connexion with this investigation.

The crux of the whole matter is that, in the recent experiments conducted by the Research Association of British Motor and Allied Manufacturers with regard to exhaust gases from engines burning leaded spirit as a motor fuel, and also as the outcome of the investigation of the deposits found in three motor vehicles after a mileage of 11,000, the run being entirely with leaded spirit, it was found that not less than 80 per cent. of the lead contained in the fuel was discharged into the atmosphere, and also that the exhaust gases contain not less than from twenty to fifty times the amount of lead per cubic metre as was obtained in exhaust gases in the tests as described in the *Bulletin* (No. 2661) of the United States Bureau of Mines of December, 1924. Also in one of the tests recently carried out in England with a stationary engine it was found that the water vapour of the exhaust gases which can be condensed from the end of the exhaust pipe is capable of dissolving practically the whole of the lead present in the exhaust gases. In short, with exhaust gases from an engine burning leaded motor fuel we are dealing with large quantities of water-soluble lead.

May I correct a misapprehension which prevails as the outcome of the following sentence which appeared in the *British Medical Journal* on January 14th, 1928 (p. 61): "The high toxicity of this compound naturally aroused alarm in the United States, and its use was for a time prohibited in the city of New York." The actual significant fact is that the sale of ethyl gasoline (ethyl petrol) is still banned in New York City.—I am, etc.,

Hendon, May 27th.

MYER COPLANS, M.D.

#### THE INTRAVENOUS INJECTION OF INDIGO-CARMINE.

Sir,—I noticed in the report of a paper read by me before the Royal Medico-Chirurgical Society of Glasgow, and epitomized in the *British Medical Journal* of December 10th, 1927 (p. 1087), it is recorded that in the investigation of patients suffering from renal tumours I use "an intravenous injection of 5 c.cm. of a 4 per cent. solution of indigo-carmin." This was such an obvious clerical error that at the time it did not occur to me to correct it. As Mr. Alex. E. Roche has called attention to it in your issue of May 26th (p. 921) and considers that others might be tempted to adopt the percentage stated with the dire results he has brought to the notice of your readers, I hasten now to correct it. The original manuscript and my paper published in the April number of the *Glasgow Medical Journal* give the percentage correctly—namely, 0.4 per cent.—I am, etc.,

Glasgow, May 30th.

WALTER W. CALDWELL.

#### ARSENIC IN SUGAR.

Sir,—Some years ago, when medical officer of health to a rural district, I received a request from the Ministry of Health to make investigations into a case of suspected poison in sugar.

The sack of sugar in question had travelled from London in the same truck as a drum of disinfectant. The grocer who received the sugar used one sack of the two which constituted the consignment, but, noticing a smell about the other, reported it. I followed up the drum of disinfectant and sent part of the contents to be analysed, also some of the sugar. The report from the Ministry came back stating that the disinfectant was crude carbolic acid, containing no arsenic, and that the sugar was loaded with arsenic, and the sample sent contained sufficient to poison the whole of the inhabitants of the village.

Luckily the disinfectant had imparted an odour to the sack against which it was placed. I was not informed as to the source of the sugar, and have often wondered how many more sacks there were like it, and how many of us contain arsenic in appreciable quantities.—I am, etc.,

Totnes, May 28th.

I. M. JEFFERISS.

## The Services.

### INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant, London, on Wednesday, June 20th, at 7.15 p.m., under the chairmanship of Major-General Sir R. Havelock Charles, Bt., G.C.V.O., K.C.S.I. Price of dinner tickets, 16s. 6d. to subscribers and £2 to non-subscribers. Further particulars may be obtained from the joint honorary secretary, Major Sir Thomas Carey Evans, M.C., I.M.S.(ret.), 31, Wimpole Street, W.1.

### DEATHS IN THE SERVICES.

Lieut.-Colonel Dermot Owen Hyde, C.B.E., D.S.O., R.A.M.C., died at Maymyo, Upper Burma, where he was in command of the station hospital, on April 19th, aged 50. He was born on December 1st, 1877, the son of Lieut.-Colonel Robert Hyde, A.M.S., and educated at Trinity College, Dublin, where he graduated as B.A. in 1896 and as M.B. and Ch.B. in 1899. Entering the army on April 25th, 1900, he attained the rank of lieutenant-colonel on December 25th, 1917. He served in the South African war in 1901-02, receiving the Queen's medal with two clasps, and also in the recent great war. In 1911 he was appointed to the West Riding Division of the R.A.M.C.(T.F.), and went out with that division to France. In the battle of the Somme, in 1916, he commanded the 14th Field Ambulance, from February, 1917, to April, 1918, he was in command of No. 1 Casualty Clearing Station, and from April, 1918, to March, 1919, was A.D.M.S. of the 21st Division. After the war he served for three years, 1919-22, as senior medical officer at Bermuda; and in 1922 was A.D.M.S. of the 28th Division in the Dardanelles. He was mentioned in dispatches in the *London Gazette* of June 15th, 1916, and January 4th, 1917, and received the D.S.O. and the C.B.E. for his services. In 1903 he married Hilda Edith Richmond, daughter of Lieut.-Colonel F. de R. Manduit, and leaves a widow and two sons.

Lieut.-Colonel James Havelock Alexander Rhodes, R.A.M.C. (retired), died at Pontac, Jersey, on April 10th, aged 71. He was born on January 14th, 1858, took the M.R.C.S. and L.S.A. in 1880, entered the army as surgeon on February 5th, 1881, became lieutenant-colonel after twenty years' service, and retired on April 19th, 1911. He rejoined for service during the late war, from April 14th, 1915.

Major Alexander Yates Reilly, R.A.M.C.(ret.), died on January 2nd, aged 65. He was born at Dakka, in Bengal, on May 22nd, 1862, and was educated at Durham University, where he graduated as M.B. and M.S. in 1885; also taking the M.R.C.S. and the L.S.A. in 1884, the L.R.C.P. Lond. in 1886, and the F.R.C.S. Ed. in 1889. Entering the R.A.M.C. as surgeon on February 5th, 1887, he became major after twelve years' service, and retired on June 22nd, 1907. He served in the Sudan, in the Dongola campaign of 1896, receiving the Egyptian medal and the Khedive's bronze star; in the Sudan campaign of 1898, when he was present in the battles of the Atbara, River and of Khartoum, was mentioned in dispatches in the *London Gazette* of September 30th, 1898, and received the medal for that campaign and two clasps to his Egyptian medal; and in the South African war, in 1902, in operations in the Transvaal, receiving the Queen's medal with four clasps. He also rejoined for service in the recent great war in August, 1914.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

DR. CHARLES S. MYERS, F.R.S., has been appointed Herbert Spencer lecturer for 1929.

### UNIVERSITY OF CAMBRIDGE.

THE following have been appointed members of the Degree Committee in the Faculty of Medicine: Dr. T. S. Hele, Professor G. H. F. Nuttall, Sir Hugh Anderson, Dr. W. L. H. Duckworth, Dr. E. D. Adrian, and Mr. H. Thurkill.

### SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

**SURGERY.**—M. K. Bryce, H. M. Feldman, A. H. Hennessey, N. C. R. Keukenschrijver, C. P. Madden, H. D. K. Wright.  
**MEDICINE.**—K. D. C. Beckett, L. J. Corbett, N. C. R. Keukenschrijver, A. A. Leibovitch, L. W. Sanders.  
**FORENSIC MEDICINE.**—A. C. Banerji, H. I. Jones, N. C. R. Keukenschrijver.

**MIDWIFERY.**—M. K. Bryce, N. C. R. Keukenschrijver, A. E. Vawser.

The diploma of the Society has been granted to Messrs. K. D. C. Beckett, L. J. Corbett, H. I. Jones, N. C. R. Keukenschrijver, and L. W. Sanders.

## Obituary.

SIR JAMES HODSDON, K.B.E., M.D., F.R.C.S.Ed.,  
Member of the General Medical Council; President of the  
Royal College of Surgeons of Edinburgh, 1914-17.

As recorded with regret in our last issue, Sir James Hodsdon died suddenly on May 28th, while returning to Edinburgh from London after the summer session of the General Medical Council. For some years his health had given anxiety to his friends, but he seemed on the day preceding his death to be in ordinary health and vigour. After retiring to his sleeping berth in the train, he had laid down without undressing, and was found dead by the train attendant between 6 and 7 o'clock next morning.

James William Beemua Hodsdon was born in Bermuda in 1858, and, coming to England at the age of 13, completed his school education at Sherborne. After commencing medical study at Queen's College, Belfast, in 1875, he went to Edinburgh in 1877 and became a licentiate of the Royal College of Surgeons in 1880. He proceeded in 1883 to the Fellowship of the Royal College of Surgeons and to the Membership of the Royal College of Physicians of Edinburgh. Meantime, in 1881, he had graduated M.D. at Queen's University, Belfast. He became, in the summer of 1880, house-physician to Dr. Brakenridge, one of the physicians in the Royal Infirmary, Edinburgh, having as one of his fellow residents the late Dr. Alexander Bruce, and a year later, in the winter session 1881-82, he became house-surgeon to Mr. John Duncan, with whom he maintained a close connexion for many years. In the meantime he had acted as a resident physician in the Sick Children's and Maternity Hospitals, and had spent a period in foreign study, during which he visited

the medical schools of Vienna, Paris, and London. Having a natural bent towards surgery, Mr. Hodsdon acted as assistant to Mr. John Duncan and later as extra-mural lecturer on surgery. In the latter capacity he was a highly successful teacher, being very popular with students in the early years of the present century as a clear and concise lecturer, and attracting for many years a very large class. While acting as lecturer on surgery he served at various times as examiner in surgery and clinical surgery in the Universities of Edinburgh, Durham, and Belfast. In 1886 he was elected assistant surgeon to the Royal Infirmary and in this capacity was again associated with Mr. John Duncan, and, after assisting him for many years in private practice, succeeded him as chief medical adviser to the Scottish Provident Insurance Company. In 1909 he contested the appointment to the chair of surgery, vacant on the resignation of Professor Chiene, but was defeated by the late Professor Alexis Thomson, and at that time gave up his highly successful extra-mural class in surgery.

From the time of his election as an assistant surgeon to the Royal Infirmary, Mr. Hodsdon maintained a close

connexion with this institution, becoming successively surgeon in 1907, consulting surgeon in 1922, and a member of the board of management in 1923. The last appointment he still held at the time of his death. He was a very active member of the board, and took a great interest in the arrangements now in progress for revising the agreement in regard to clinical teaching in Edinburgh between the managers of the Royal Infirmary, the University, and the School of Medicine of the Royal Colleges. A few years ago he devoted a great deal of time and energy on behalf of the Royal Infirmary to the reorganization of the radiological department, visiting similar centres elsewhere to investigate modern developments in this direction. The new department in the Royal Infirmary, which is regarded as one of the finest in the country,

was, to a large extent, his creation.

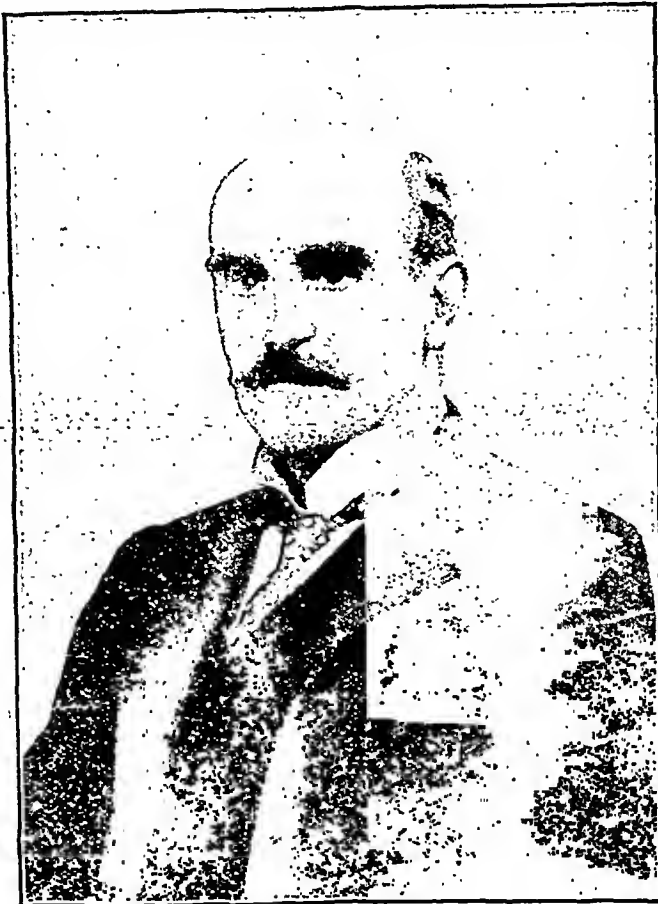
He had taken an active part in the deliberations of the General Medical Council since 1906, when he was elected to represent on that body the Royal College of Surgeons of Edinburgh, of which from 1914 to 1917 he was president. He was also a member of the Dental Board of the United Kingdom after the establishment of that body in 1921, and for a number of years had been chairman of the governing body of the School of Medicine of the Royal Colleges at Edinburgh.

Sir James Hodsdon had a long and intimate connexion with the British Medical Association. He had been joint honorary secretary of the Edinburgh Branch from 1898 to 1901 and vice-chairman of the North-West Edinburgh Division for several years prior to the amalgamation of the three original Edinburgh Divisions into one Edinburgh and Leith Division as at present. He was also chairman of the North-West Edinburgh Division in 1905, a representative of this Division to the Annual Representative Meeting in 1904, and

its representative on the Edinburgh Branch Council from 1904 to 1907. In connexion with the Edinburgh Meeting of the Association in 1927 he took an active part in the organization, being chairman of the committee which arranged the annual dinner in the Music Hall at Edinburgh.

In the midst of a busy administrative life he found time to make some contributions to current medical literature, and was the author of the article on the palate in the *Encyclopaedia Medica*. He contributed an article on excision of the sigmoid for carcinoma, when that operation was comparatively new, to the second volume of the *Edinburgh Hospital Reports*. Between 1888 and 1891 he had also contributed to the *Edinburgh Medical Journal* an inquiry into the method of cure in empyema, and to the *Lancet* an experimental inquiry into the influence of the pulmonary blood pressure upon the collapsed lung.

During the war he rendered valuable services as a member of the surgical staff of the 2nd Scottish General Hospital at Craigleith. He was also for some time the surgical member of the special medical board for Scotland which reviewed the decisions of the various medical boards



SIR JAMES HODSDON.

in Scotland in regard to recruiting, and he was, in the later stages of the war, a member of the Scottish Medical Service Emergency Committee. He acted for the Ministry of Pensions as a member of the Advisory Medical Council for the Scottish Area, and in this connexion arranged for the building, equipment, and staffing of the orthopaedic annexe at Tynemouth, Edinburgh. In recognition of these services he received the C.B.E. in 1919, and was created K.B.E. in 1920.

He was a keen sportsman, and for more than thirty years his annual holiday had been spent in sea trout fishing at Lochboisdale in the Outer Hebrides. Another favourite relaxation was shooting. His administrative capacity was universally recognized, and his advice was constantly sought on difficult and intricate questions affecting medical affairs. His death will be felt not only as a personal sorrow to many private and professional friends, but will be a great loss to the various public bodies and committees of which he was an active and valued member.

Sir James Hodsdon was married to Joan, daughter of the late Mr. William Raffin of Edinburgh, by whom he is survived. The interment took place on May 31st in the Dean Cemetery, and was attended by a large number of representatives of the medical profession and of various organizations, including the Royal College of Surgeons, the Royal Infirmary, and the Royal College of Physicians, with which he had been officially connected.

The photograph reproduced on page 1003 is by A. Swan Watson, Edinburgh.

**GEORGE EDWARD SHUTTLEWORTH, M.D.,**  
Formerly Medical Superintendent, Royal Albert Asylum,  
Lancaster.

It is with great regret that we have to announce the death, on May 28th, at the advanced age of 86, of Dr. G. E. Shuttleworth. Although he retired from practice several years ago, he was for so many years the leading authority in this country on mental deficiency, and the author of such a widely read book on this subject, that there can be few psychiatrists throughout the civilized world to whom his name is not familiar. To many members of the medical profession in this country, even the junior ones, he was a well-known and revered figure, for, although he had outlived most of his contemporaries, he continued long after his retirement to attend and speak at meetings relating to the subject to which he had devoted his life. By his passing the medical profession, and psychiatry in particular, have lost a member of outstanding prominence; while his character and personality were such that those who knew him mourn the loss of a warm-hearted friend and a sage counsellor, who was ever ready to give his services in the cause of the needy and distressed.

George Edward Shuttleworth was born at Edgbaston on November 16th, 1842. He went to the City of London School, and on leaving there proceeded to King's College, London, where he graduated B.A. with honours in physiology. He subsequently obtained the M.R.C.S. and L.S.A. diplomas, and the M.D. degree of Heidelberg. After working for a time at the Kilburn Dispensary he was appointed assistant medical officer to the Earlswood Institution for Defectives, the superintendent being the well-known Dr. J. Langdon-Down. Here he remained until 1870, when he was chosen, out of a large number of candidates, to be medical superintendent of the Royal Albert Asylum at Lancaster. He occupied this position for twenty-three years, and his intense keenness in his work, his wide knowledge and outstanding ability, his skill in originating and applying methods of training, brought that institution into the first rank of establishments for the care of the mentally defective, and gained for it a reputation which attracted visitors, not only from all parts of the United Kingdom, but from distant parts of the world. In this work Shuttleworth's knowledge of physiology stood him in good stead, and his methods of training were based upon sound physiological principles which received the warm approval of the great Dr. Seguin when he paid a visit to the institution. Although some improvements have naturally been made in the apparatus used for

teaching, the principles adopted and described at that time by Seguin in America and Shuttleworth in England are those which are in use at the present day.

On leaving the Royal Albert Asylum, Dr. Shuttleworth came to London and took up consulting work. His reputation caused him to be at once accepted as the leading authority regarding mental defectives. But he did much more than consulting work. He had long realized that the unfortunate mentally defective section of the community had claims to consideration and to care and training which, in the great majority of cases, were denied them, and he spent his time and energy unsparingly in arousing professional and public interest on their behalf. In his work of advocating their claims, of organizing and speaking at meetings, and instructing and training teachers, he had the enthusiastic support of a little band of devoted workers, chief among whom were Miss Ethel Dixon, Miss Bertha James, and Miss M. McDowall. In time each of these disciples became a new centre for the training of those who purposed to undertake the care of defectives, and there is no doubt that a very large proportion of such teachers owe their knowledge, directly or indirectly, to the work which was initiated by Dr. Shuttleworth. From 1899 to 1901 he was medical examiner of defective children under the London School Board, and from 1901 to 1905 medical expert to Rochester House Institution under the Metropolitan Asylums Board. His unique knowledge of the subject made him a most valuable member of the Departmental Committee of the Board of Education, the report of which led to the passing of the Defective and Epileptic Children Act of 1899. He also took a leading part in securing the passage of another valuable measure—namely, the Asylum Workers' Superannuation Act of 1909.

Dr. Shuttleworth was a member of the British Medical Association of over sixty years' standing. He served on the central Council from 1899 to 1903, and had been President of the Lancashire and Cheshire Branch in 1892. He was honorary secretary of the Section of Psychology at the Annual Meeting in 1883, and Vice-president of this Section in 1885 and again in 1906. He was a member of the Medico-Psychological Association from 1877, and a constant attendant at its meetings. He did a large amount of work for the St. John Ambulance Association, and in 1892, in recognition of this, he was made an honorary associate of the order. Long after he was 60 years of age his energy and love for the work were such that he continued to take an active part in the affairs of many societies of which he was a highly valued member. One of those in which he was especially interested, and where his knowledge and advice were highly esteemed, was the Central Association for Mental Welfare, of which he was for many years a vice-president. Another, in which he held a similar office, was the National Association for the Feeble-minded. He was also an active vice-president of the Child Study Society and the Society for the Study of Inebriety. King's College, London, elected him a Fellow, and in 1909 he was given the freedom of the City of London.

While perhaps Dr. Shuttleworth's chief work was that of a teacher and exponent of methods of training, he nevertheless wrote important articles in the *Encyclopaedia Medica*, Allbutt's *System of Medicine*, Hack Tuke's *Dictionary of Psychological Medicine*, and numerous journals. His most important contribution, however, was his exceedingly valuable book on *Mentally Deficient Children*, the first edition of which was published in 1895, and the fifth edition, in conjunction with Dr. W. A. Potts, in 1922.

To those who did not know him this account will give some idea of Shuttleworth's ability and energy. It is no exaggeration to say that the whole of his professional life was one of untiring devotion in the cause of mental defectives. In this work he was a pioneer, and he maintained his interest in it almost up to the end. The writer visited him only a short time before he died; in spite of his manifest feebleness his thoughts were still on his life work, and he expressed his satisfaction at the recent passing of the amended Mental Deficiency Act. Those who were fortunate enough to know him, however, will remember him for something more and perhaps even greater. They

will remember his complete lack of ostentation, at times almost amounting to self-effacement, his never-failing sympathy, his charitable judgement, his great kindness of heart, and his nobility of character. His book on mental defectives ended with the quotation "*Lateat scintilla forsan*," but it was no small spark that lay hidden behind the unobtrusiveness of Shuttleworth.

He married Edith Mary, the daughter of Henry Hindwen of Lancaster. His widow and a son and daughter survive him.  
A. F. T.

W. A. YOUNG, M.B., Ch.B., D.P.H., D.T.M.,  
Director, Medical Research Institute, Accra, Gold Coast.

In our last issue we had to announce with much regret the death of Dr. W. A. Young at Accra, Gold Coast, on May 30th from yellow fever. It is believed that Dr. Young contracted the disease in the course of a necropsy upon Professor Noguchi, who died of yellow fever on May 21st.

William Alexander Young was born on November 5th, 1889, at Stnford Hill. He was educated at Forfar Academy and University College, Dundee, graduating M.B., Ch.B. St. Andrews in 1911. Like many another of his race Young was of "those adventurous souls who look beyond the ridges where the strange roads go down"; after a period of service as house-surgeon at the Royal Halifax Infirmary and a course of instruction in tropical medicine at the Liverpool School, he joined the West African Medical Staff in 1913, and was stationed in Sierra Leone. As a lieutenant in the R.A.M.C. he served with the Expeditionary Force in the Cameroons campaign in 1915-16. In September, 1920, he was transferred to Nigeria on appointment as assistant bacteriologist at the Medical Research Institute. From June to December, 1923, he was attached to the Nigerian Tsetse Investigation Staff, and was then transferred to the Gold Coast on appointment as pathologist. In September, 1924, he became director of the Medical Research Institute at Accra.

Young's bent was towards investigation, and early in his career in West Africa he undertook studies in the fascinating problems of diseases endemic in that region. Trypanosomiasis, blackwater fever, and yellow fever each in turn engaged his attention, and by careful and painstaking work in the laboratory and in the field he added something to our knowledge of each of them. Incidentally he found time for the study of interesting pathological conditions encountered in the course of routine work, and from 1923 to 1926 he contributed a number of short papers on these subjects to the *Transactions of the Royal Society of Tropical Medicine and Hygiene*. His main scientific interest was, however, in the disease yellow fever, in the investigation of which he lost his life. In 1922 he reported on a small outbreak of yellow fever which occurred at Warri, Nigeria, in October and November of that year. Thence onwards in annual and special reports he recorded the results of his studies in the epidemiology and pathology of the disease, and many of his observations are of first-class importance. Professor Noguchi of the Rockefeller Institute for Medical Research worked in the Accra laboratory from November, 1927, until he himself fell a victim to yellow fever. Though maintaining different points of view as to the causation of the disease, personal relations between Noguchi and Young appear to have been singularly happy.

Young was a cautious and kindly man, and as stern a critic of his own work as he was of that of others. Nothing did he set down in malice. Throughout his career in West Africa he worthily upheld the great traditions of British medicine in the tropics, and fell at last a martyr to his high sense of duty. Much was expected of him, and the service he loved and adorned is greatly the poorer for his loss. In a letter received in London only a few weeks ago Young discussed his own recent observations on the infectivity of post-mortem material in experimental work on yellow fever. He was therefore well aware of the grave risk he ran in performing a necropsy upon his colleague, and it is not to be doubted that so careful a man took every precaution to avoid infection. He failed, and so another name is added to the roll of laboratory workers who have lost their lives in the study of yellow fever in West Africa. But the

fruits of their labours and of those of other workers in the same field are seen already in the record of a notable advance in our knowledge of yellow fever prevention which appears elsewhere in this issue of the *British Medical Journal*.

Dr. JOSEPH THOMPSON CARSON, who died at Dover on May 30th, was born in Ulster in 1885, and received his medical education at the University of Edinburgh, graduating M.B., Ch.B. in 1908. He was admitted F.R.C.S.Ed. in 1922. After qualifying he held resident surgical posts at Bolton Infirmary, at the Ingham Infirmary, South Shields, and at the Borough Infirmary, Birkenhead, and subsequently commenced practice at Oldham. Soon after the outbreak of war, in 1915, he received a commission in the R.A.M.C., and was appointed radiologist to a general hospital in Salonika, where he served until 1918. He was awarded the fifth class of the Serbian Order of St. Sava for his work in that theatre of operations. After the war he returned to Oldham, but some years later removed to Dover, where he was latterly honorary surgeon to the Dover Hospital. The illness which caused his death was recognized as hopeless two years ago, but notwithstanding his knowledge of this fact he continued at work to the last. Dr. Carson, who was a member of the British Medical Association throughout the greater part of his professional life, is survived by his widow.

The following well-known foreign medical practitioners have recently died: Professor ALBERT PITRES, honorary dean of the faculty of medicine of Bordeaux and national associate of the Académie de Médecine; Dr. EMILE ALEXANDRE LENOIR of Brest, corresponding member of the Académie de Médecine; Professor WALTHER KAUSCH, aged 62, director of the surgical department of the Augusta Viktoria Hospital, Berlin; Professor BERNHARD POLLAK, a Berlin ophthalmologist, aged 63; Dr. LUIZ VIEIRA, professor of criminal anthropology and psychology in the Oporto faculty of medicine, and author of several works on dermatology and syphilis; Dr. RICARDO BOTEX, professor of the Catalan Society of Otorhinolaryngology; Dr. BERNARD HEINE, professor of otology at Munich; Dr. VINCENZO PATELLA, formerly director of the medical clinic at Sienna, and an authority on cardio-vascular disease, aged 75; Dr. DON PEDRO SAINT LOPEZ, editor of the *Voz Medica* of Madrid, and Dr. LAMBERTUS THEODORUS VAN KLEEF of Maastricht, a prominent Dutch surgeon, aged 82.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons reassembled on June 5th after the Whitsun Recess. The Finance Bill was read a second time that day, and on the following days the Rating and Valuation (Ascertainment) Bill was discussed. On June 5th the Rag Flock Act (1911) Amendment Bill was read a second time.

### *Silicosis and Workmen's Compensation.*

Sir W. JOYNSON-HICKS told Mr. Jenkins that no compensation was payable at present to workmen who contracted silicosis in the coal-mining industry, but he had asked the Departmental Committee on Workmen's Compensation for Silicosis to advise on the terms of a scheme under Section 47 of the Workmen's Compensation Act for the industry, and for this purpose he had appointed to the committee representatives of each side, nominated by the Mining Association and the Miners' Federation respectively.

Mr. D. GRENfell asked when the Home Secretary expected a report from the committee. Sir W. JOYNSON-HICKS said that it was only on May 3rd that he informed the House that he had not got the names of the representatives from one of the associations. He had now got them, and had appointed them. He believed they were getting to work at once. Mr. RENNIE SMITH asked if the Home Secretary had powers to give compensation for silicosis in the interim. Sir W. JOYNSON-HICKS said that he had no such powers. Mr. KELLY asked if the terms of reference to the committee dealt with districts other than South Wales. Sir W. JOYNSON-HICKS: Yes, certainly.

Commodore KING informed Mr. Jenkins that the inquiries which had been made as to the occurrence of silicosis among miners working in hard rock in coal mines had included analyses and other tests of the rock dust.

**Manufacture of Cocaine in England.**—On June 5th Sir P. CUNLIFFE-LISTER told Mr. Fenby that the manufacture of cocaine and cocaine hydrochloride in substantial quantities had been carried on in this country for some time under the authority of the Home Office. He understood that these materials would shortly be available for disposal, and the conditions for exemption from duty were, therefore, not satisfied.

**Adulteration of Milk.**—On June 5th Sir KINGSLEY WOOD, in reply to Sir Walter de Frece, said that official statistics indicated a progressive decrease in the adulteration of milk, the percentage of samples reported by public analysts as adulterated or below the presumptive standards being 6.9 in 1927, as compared with 7.4 in 1926, and 9.3 in 1920. There was no specific requirement as to the number of samples to be taken annually by a local authority, but it was the practice of the Ministry of Health to communicate from time to time with those authorities which did not seem to be taking a sufficient number to provide a proper check on adulteration.

**Manufacture of Sheep Dip.**—Sir W. JOYNSON-HICKS, on June 5th, informed Mr. W. Thorne that he was advised that the processes of the manufacture of sheep-dip were liable to give rise to diseases of the skin but the number of such cases reported in the last few years had been quite small. The Factory Department had not been able to trace any recent cases of a serious character at the Barking Creek factory, and it was presumed that cases to which Mr. Thorne referred in his question had occurred some years ago. The main precautions to be taken were the provision of adequate exhaust ventilation and suitable washing facilities, but these could be already secured in all cases where arsenic was used under the existing provisions of the Factory Act, and he was advised that no additional regulations were necessary.

#### Notes in Brief.

Officers of the Ministry of Health are in consultation with local authorities about the improvement of the administration in the casual wards at Thame.

Statistics showing the total sum paid in rates during the last two years by hospitals in England and Wales are not available.

## Medical News.

THE new surgical block of the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E., will be opened by H.R.H. the Duke of Connaught on Tuesday, June 12th, at 3 o'clock. The guests will be received afterwards in the grounds by the Lady Mayoress.

As previously announced, the opening ceremony of the Samuel Augustine Courtauld Institute of Biochemistry, Middlesex Hospital, will be held at 3.30 p.m., on Thursday, June 14th; Sir Archibald Garrod will deliver an address entitled "The place of Biochemistry in Medicine." Old Middlesex students will be welcome on presentation of their cards.

THE prize-giving ceremony at the London Hospital Medical College will be held in the library on Friday, June 29th, at 3 o'clock. After the prizes and certificates have been distributed by the Rt. Hon. Sir Samuel Hoare, Bt., Secretary of State and President of the Air Council, there will be tea and music in the hospital gardens.

THE annual dinner of the Harvelian Society of London will be held at the Connaught Rooms, Great Queen Street, on Thursday, June 14th, at 8 p.m.

THE annual general meeting of the London and Counties Medical Protection Society will be held at Victory House, Leicester Square, W.C., on Wednesday, June 13th, at 4 p.m.

A MEETING of the Biochemical Society will be held at the Rothamsted Experimental Station, Harpenden, to-day (Saturday, June 9th). An inspection of the experimental fields will be made in the morning and the meeting for business and communications will be held in the Sample House at 2.15 p.m. The papers will include one on the action of  $\alpha$ -radiation on vitamin D in irradiated ergosterol, by R. R. Morrison, P. R. Peacock, and S. Wright.

AN exhibition of old sporting pictures is being held this month in aid of the Royal Free Hospital at Messrs. Knoedler's galleries, 15, Old Bond Street.

THE second international conference on light and heat in medicine, surgery, and public health will be held in London from October 29th to November 1st, 1928, at the University of London, South Kensington, S.W.1. It is hoped to arrange visits to representative clinics, and an exhibition of apparatus and accessories for ultra-violet light, radiant heat, and University. The conference will be held in the Great Hall of the British Buildings, 1.

medical practitioner on request.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on Monday, June 11th, at 10 a.m., Mr. Lane-Roberts will give a clinical demonstration in

gynaecology at the Royal Northern Hospital, and on the same day, at 3 p.m., Mr. MacCallan will demonstrate at the Royal Eye Hospital, while on Tuesday, June 12th, at 2 p.m., Dr. Anthony Foiling will give a clinical demonstration at the Hospital for Epilepsy and Paralysis, Maida Vale, W.9. Two special courses, each lasting two weeks, begin on June 18th—at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E., and the Obolson Hospital for Women. There will be a general practitioner's course at the London Temperance Hospital from June 18th to June 30th from 4.30 to 6 p.m., and a course at the West End Hospital for Nervous Diseases from June 25th to July 21st, consisting of clinical demonstrations on selected cases. Information regarding the general course of instruction and copies of all syllabuses may be obtained from the secretary of the Fellowship, 1, Wimpole Street, W.1.

A NEW post-graduate course in genito-urinary diseases at St. Paul's Hospital, Endell Street, W.C.2, opened on June 7th. On June 13th Mr. R. H. Jocelyn Swan will lecture on the treatment of enlarged prostate. The lectures will be continued weekly and will terminate on July 26th, when Sir Thomas Carey Evans will discuss stone in the bladder with special reference to treatment by litholapaxy. Cystoscopic examinations are conducted daily with the exception of Tuesday and Saturday, and urothoroscopic examination daily except Saturday. Operations are performed on Mondays, Wednesdays, Thursdays, and Fridays at 2 p.m. The course is free to medical practitioners and students, who can attend any branch of the work in which they are interested. Tea is served at 4 o'clock before each lecture.

A POST-GRADUATE lecture demonstration on physiotherapy will be given by Dr. M. B. Ray, honorary secretary of the British Committee on Rheumatism, of the International Society of Medical Hydrology, at the Epworth Street Medical Baths, Boverly Road, Hull, on Friday, June 15th, at 8 p.m. All medical practitioners in the district are invited.

A POST-GRADUATE course on new developments in pediatrics will be held in Paris at the Hôpital des Enfants Malades from July 26th to August 2nd inclusive. Further information may be obtained from the Secretary of the Faculty of Medicine, 149, Rue de Sévres, Paris XV.

A POST-GRADUATE course in the diagnosis and treatment of cancer will be held at the Cancer Institute in Paris; from July 2nd to the 13th, under the direction of Professor G. Roussy. The course will include lectures and laboratory demonstrations; and, in connexion with it, a diploma will be awarded by the Faculty of Medicine. Further information may be obtained from Mlle Hure, Salle Bédard, 12, Rue de l'École de Médecine, Paris VI.

A COMPREHENSIVE post-graduate course in oto-rhino-laryngology will be held, under the direction of Professor G. Canu, at Strassbourg, from July 16th to 28th. Further information may be obtained from Professor Canu, 1, Place de l'Hôpital, Strassbourg. From October 8th to 25th there will also be a course at Strassbourg in tuberculosis and the diseases of the respiratory passages. Further details may be obtained from Dr. Vaucher, 8, quai Finkwiller, Strassbourg.

AN international conference on the physical, biological, and therapeutic aspects of light will be held at Lausanne from September 10th to the 12th, and the following day will be spent at Loysin. The subjects to be dealt with include a lecture on the therapeutic, prophylactic, and social aspects of heliotherapy, by Dr. Rollier; heliotherapy in Belgium; radiation of food; a lecture on the sun and artificial light, by Professor Leonard Hill; and pigmentation caused by light. Dr. G. Murray Levick is the general honorary secretary in England, but inquiries should be addressed to the Secrétariat Général de la Première Conférence Internationale de la Lumière, Lausanne, Switzerland.

THE president of the Royal Free Hospital, Lord Riddell, and the treasurer, Mr. Albert Levy, have undertaken to give in equal shares the sum of £100,000 necessary to secure the promised gift from Mr. George Eastman, of the Kodak Company, of £200,000 for the new dental clinic which, it is expected, will be completed within the next two years. With this provision assured for the dental clinic efforts will now be concentrated on raising the sum of £150,000 needed for other developments, such as the rebuilding of the pathological and maternity departments.

THE Scottish Board of Health has reappointed the Scottish Advisory Committee on the Welfare of the Blind for a further term of office. The medical member is Dr. George MacLay.

THE Minister of Health has forwarded to county councils and local sanitary authorities in England lists of the statutory rules and orders relating to the new amending regulations in connexion with the notification of puerperal pyrexia and ophthalmia neonatorum, which come into operation on July 1st next, from which date the procedure in regard to these notifications will be the same as that in force for the notification of cases of puerperal fever.



When the original appeal for a memorial to the late Earl Haig was raised it was intended that the fund should be utilized to erect and endow Douglas Haig Memorial Homes in various parts of the country for ex-service men and their dependants. The trustees have, however, found that the demand for accommodation will prove more extensive and varied than was anticipated, and they have therefore decided to reserve the right to earmark a proportion of all future subscriptions for the provision of a fund, the interest of which will be utilized to assist ex-service men with housing accommodation other than in the Haig Memorial Homes.

Dr. W. JAMES SUSMAN of Henley-on-Thames has been appointed deputy coroner for South Oxfordshire.

The mayor of Widnes, on May 29th, unveiled a memorial erected by public subscription among the people of that town to honour the memory of the late Dr. Croighton Hutchinson, who died on that date last year after over forty years in practice in Widnes. The memorial consists of a granite pillar surmounted by a bronze bust of Dr. Hutchinson, and is situated in the Victoria Gardens. Among those present at the unveiling ceremony were his brother, Dr. John Hutchinson, his nephew, Dr. C. H. Lindsay, and many representatives of public bodies and of the medical profession. The late Dr. Croighton Hutchinson received his medical education at the University of Glasgow; he obtained the diploma L.R.C.S. Edin. in 1882, graduated M.B., C.M. Glasg. a year later, and proceeded M.D. in 1889. Practically the whole of his professional life was spent in Widnes, where he enjoyed the respect and affection of all classes. He was particularly devoted to children, and was a popular figure among them to the last. He had been a member of the British Medical Association for over forty years, and was at one time vice-chairman of the Warrington Division; he had also held office as president of the Widnes Medical Society.

The 21st Voyage d'Études Médicales, the well-known series of medical tours to French health resorts, will take place from September 1st to September 12th this year in the Auvergne and Bourbonnais districts. The party will assemble at Pougues and will proceed thence by daily stages with visits to centres of medical interest to the dispersal point at Vichy. Membership is confined to practitioners and to students who are completing their medical studies. The inclusive cost of the tour will be 1,100 francs (about £9) from Pougues to Vichy, and cheap fares will be available between frontier stations and these points. Further information may be obtained from Madame Juppé-Blaiss, Federation of the Health Resorts of France, 1, Gordon Square, W.C.1.

The *Bulletin of the Ophthalmological Society of Egypt* for 1927 contains the proceedings of the society during its twenty-fourth year, with an index of all the proceeding volumes. Several clinical articles in this issue are illustrated by coloured plates.

We have received the first issue of *Dermatologia*, a well-illustrated Hungarian journal of cutaneous diseases published monthly at Budapest under the editorship of Dr. Jakab Justus. The original articles, of which abstracts are given in English, French, German, and Italian, are by Professor L. Nékán of Budapest, on the social work of the venereologist; Dr. L. Brocq of Paris, on the general conception of the dermatoses; and by the editor, on precancerous conditions of the skin and adjacent mucous membranes.

The *English Review*, which has been for several years past a consistently good shilling's worth, maintains its reputation this month by publishing the full text of Sir Arthur Keith's very interesting lecture entitled "Implications of Darwinism," which he gave on May 9th to the University of Manchester, and of which garbled accounts appeared at the time in some newspapers.

In connexion with the International Congress of Oto-rhino-laryngology, to be held at Copenhagen from July 20th to August 1st, of which details were given last week (p. 955), we are asked to state that, owing to the number of papers, each speaker will be limited to seven minutes, and to remind those attending that the subscriptions to the congress, 30 Danish kroner and 15 kroner additional for each member of a family, should be sent to the treasurer, Dr. Jorgen Moller, 13, Vestro Boulevard, Copenhagen, K.

The first meeting of the committee appointed by the Minister of Health to consider the working of the Midwives Acts, 1902-1926, with particular reference to the training of midwives (including its relation to the education of medical students in midwifery) and the conditions under which midwives are employed, took place on June 5th, under the chairmanship of Sir Robert Bolam. It was decided that the meetings of the committee should be held in private, but that communications giving brief details of the meetings should be issued for the information of the press from time to time.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### MIGRAINE.

Dr. E. J. DREK (London, W.) writes: In reply to the inquiry of "M.R.C.S." about migraine (June 2nd, p. 956), I suffered from intense migraine for many years, and found it due to "tea sensitization." I gave up drinking tea altogether, and have been free from migraine ever since, nearly twenty years. In the course of my practice I have discovered quite a number of patients similarly sensitive; they also have been cured by becoming "tea" total abstainers. I offer the suggestion for what it is worth.

### ULTRA-VIOLET RAYS FOR ACNE.

Dr. H. HALDIN-DAVIS (London) writes in reply to Dr. Gnthrio's inquiry (June 2nd, p. 956): I do not think that a case such as Dr. Gnthrio indicates will benefit more from the intensified treatment with the Kromayer lamp than from a course of exposures to a mercury vapour lamp at a distance of about three feet. But the sort of acne which is most benefited by such local treatment is that in which the pustules are quite superficial. In the indurated cases additional help may be obtained from generalized irradiation of a considerable portion of the cutaneous surface with a view to raising the bactericidal power of the blood. Caution must be exercised in attempting this, as an excessive dose may cause a diminution of the bactericidal power of the blood, instead of an augmentation. Consequently only about a quarter of the whole cutaneous surface should be exposed for about half a minute at the first sitting, and the dose only increased slowly subsequently.

### MEDICAL FACILITIES ON MOHAMMEDAN PILGRIM SHIPS.

Dr. R. A. D. POPP (Chester) writes: With regard to the letter of "Port Said" (May 26th, p. 930), I can only think that he has been exceedingly unlucky in his ship. During eighteen months' sea experience four years ago I saw a fair amount of the Mohammedan pilgrim trade from the East Indies and Straits to happen that I have only actually been westward-bound. Much depends on the ship's personnel, but in my experience pilgrims were always exceedingly well treated by the ship's officers. The captain and officers of my last ship were presented with an address of gratitude on our arrival at Jeddah. Sick comforts have always been available on request, so far as the chief steward's resources would allow. They included whisky, brandy, milk (tinned), various farinaceous foods, and meat extracts, if desired. Sickness and the death rate are largely dependent on the time of year and direction of pilgrimage. Westward-bound pilgrims are always healthy, as they are subjected to medical inspection on embarkation, and at the most suffer only from minor ailments. Pilgrims returning home from Mecca, on the other hand, have been weakened by weeks of religious festivals and desert travelling and starvation, and have generally been herded in pilgrim camps at Jeddah for some time before embarkation. They are usually very emaciated, and various diseases, such as dysentery and small-pox, may be incubating. Consequently their sickness and death rates on the homeward voyage are high; a fairly average death rate in such a people would lie between 10 and 20 per 1,000. With regard to this, it is interesting to note that it is the pilgrim's greatest wish to die while on his pilgrimage, if die he must, and various ship surgeons I have met consider it impossible to avoid most of these deaths on this account.

## "VITA" GLASS.

Mr. R. R. BYRNE (Director, "Vita" Glass Marketing Board, London) writes: The assertion quoted in the *British Medical Journal* (May 19th, p. 884) by Dr. Colquhoun to the effect that after being subjected to the sun's rays for some time "vita" glass becomes discoloured and impermeable to the ultra-violet light, when "vita" glass is exposed to the sun's

at a point where the amount transmitted is small, matter how much longer the glass is exposed. This point of so-called "solarization" can be reached much quicker by exposure to artificial sunlight lamps, which are very rich in the ultra-violet. Under these circumstances "vita" glass reaches a stable condition within two hours, and further exposure has no effect. Even when completely solarized it still transmits a large percentage of those rays in the therapeutic zone of the ultra-violet rays in sunlight to which ordinary glass is completely opaque. This matter has been fully investigated by the Bureau of Standards in the United States, and all their results confirm the above statement, as set out in their letter circular 235 (Third Revision) of January 14th, 1928.

\* \* An article on this subject, by Dr. H. E. MacDermot, appears in the *Canadian Medical Association Journal* for May, 1928.

## INCOME TAX.

## Wife Commences Practice.

"M. N. O." is a whole-time public official and has recently married a medical woman. If his wife practices and uses the car and a portion of the residence, can deductions be claimed, and how should the statutory return be made if the professional expenses exceed the gross income?

\* \* Deductions can be claimed so far as reasonable—for example, "M. N. O." might have to fall back on an estimate of mileage cost for the use of car; if the amount of professional work is small he may have to take into account the assumption that the usual proportion of rent, etc.—for example, one-half—will not be allowed. The cash basis of calculating receipts will not be permissible in the first two or three years. The wife's income should be stated separately, and the special personal deduction of £45 will be due in making any charge to tax. If losses are incurred they can be carried forward to set against future profits.

## Purchase of Partnership Share.

"Y. Z." purchased, as from January 1st, 1928, a half share in a single-handed practice. On what basis is he assessable for 1928-29, and if out of that of the 1927 profits, can he claim any special allowance, seeing that no bills were sent out for the first six months of the partnership?

\* \* The basis of assessment of the firm is the amount of the profits of the practice for 1927, and "Y. Z." will be liable to account for tax on one-half of that assessment, less the usual allowances. If the profits of the practice should fall short in 1928 from some specific cause, the firm can claim some special relief, but presumably this is unlikely to happen. The fact that, so far as "Y. Z." is concerned, the cash receipts will fall short of his share of the assessment furnishes no ground for relief.

## Expense of Assistant's Board, etc.

"O. B. T." states that the local inspector of taxes has hitherto allowed £144 per annum as representing the cost of the board and lodging of his assistant, but now declines to allow more than £70.

\* \* We are not aware of any general regulation or agreement on this matter—indeed, circumstances must vary so widely between different practices that any fixed allowance seems impracticable. The only reply we can give to "O. B. T." is the not very helpful one that which of the amounts is nearer the truth must depend on circumstances not within our knowledge—for example, the general house expenses, standard of living, etc. One point that may have been overlooked is that part of the cost of the domestic staff is allocable to the assistant's accommodation.

## LETTERS, NOTES, ETC.

## OPHTHALMIC PROPHYLAXIS AND TREATMENT IN PALESTINE.

Dr. N. A. HAMZEH (Dublin) writes: There appeared in the *British Medical Journal* of May 19th (p. 865) reference to a paper by Dr. Ticho (not Tricho) at the meeting of the Academy of Medicine in Jerusalem on the incidence of ophthalmia in Palestine, in which he emphasized that improved general hygiene, with expert and timely treatment, would prevent blindness in 75 per cent. of cases. As a medical officer of the Department of Health of Palestine, which is doing a great deal of work towards alleviating eye diseases in general, a fact which might have been recalled, I take the opportunity of pointing out very briefly the measures taken by this organization in this respect: (1) The first and most important step is the organized, persistent, and systematic treatment of the eyes of Government school children—and in some places non-Government—by specially trained doctors and nurses. The effect of this work has been very marked and

perceptible. (2) The second step was the establishment, four years ago, of well-equipped ophthalmic clinics, conducted by specially trained medical officers, in all the districts of Palestine, particularly where trachoma and its complications are very prevalent. These clinics have done excellent work, and have really reduced the incidence of blindness as far as possible, thus fulfilling the purpose aimed at by Dr. Ticho in his words—"expert and timely treatment."

\* \* We have referred more than once to the valuable work carried on by the Government in Palestine. For example, mention was made of these ophthalmic clinics in our columns on February 13th, 1926 (p. 295).

## INVERSION OF THE UTERUS.

FOLLOWING the reports in the *Journal* of cases of inversion of the uterus (August 27th, 1927, p. 350; October 1st, p. 595) two further accounts of cases of this condition have been received from abroad.

Dr. L. B. HAYE (Sarawak) writes: In November, 1927, I was called to a young Malay woman, a primipara, of healthy and robust appearance; on my arrival I was told that the child had been born two and a half hours previously, and that labour had lasted in all eight hours. The child was healthy and the native midwife denied having attempted to expel the placenta or pulled on the cord. I found the uterus inverted and protruding from the vagina for some six inches; the cord was still attached to the child and the placenta to the portion of uterus still in the vagina. There was very little haemorrhage; the pulse was weak, but the patient did not appear to be in much pain. After some trouble I persuaded the relations to allow me to give chloroform; I then peeled off the placenta. Very little haemorrhage occurred (1 c.c.m. pituitrin had been given previously). After removing the placenta I replaced the uterus by bimanual manipulation, and inserted a large plug in the vagina. The woman made an uneventful recovery. It is rarely that Malays allow any European interference in childbirth, and the various objections to my treatment did not make the operation any easier. It had to be performed in a native hut, where aseptic conditions are entirely lacking.

Dr. WINIFRED H. (Malay States) writes: A woman, aged 28, having been delivered of a child with a history of a pulse was 140 and the temperature 103° F. The uterus was completely inverted and wrapped in a dirty piece of cloth. The exposed endometrium was swabbed with tincture of iodine, and then the uterus was gradually reinverted by pressure on the fundus; this was completed easily and without an anaesthetic. A hot intruterine douche was given and 20 c.c.m. of antistreptococcal serum injected into the flank. At 6 p.m. the uterus became completely inverted again. It was replaced in the same way, the vagina packed with acrilavine gauze, and morphine gr. 2 given. On the next day it was repacked, 20 c.c.m. of antistreptococcal serum being injected. The packing was removed on the following day; an offensive discharge was present. Iodine on the following day; during the next four days the douches were given twice daily. The patient had an irregular pyrexia, but no malarial parasites were found in the blood. She then had a sudden severe haemorrhage, and large clots were expressed from the uterus. An intruterine douche was given and 1 c.c.m. of pituitrin was injected intramurally. The patient had no more bleeding, but three days later the vagina and cervix were seen to be covered with a yellowish membrane. Treatment with iodine douches was continued for three weeks, when the membrane had completely sloughed away, leaving a healthy-looking vagina and cervix, and the temperature had been normal for fourteen days. The main features of interest about the case (Dr. Mitchell adds) seem to be: (1) the reinversion of the uterus after replacement; (2) the severe haemorrhage on the eighth day. As there were no retained products, it may have been due to secondary haemorrhage.

## A DISCLAIMER.

Mr. VICTOR BONNEY (London, W.) writes: I have seen this morning (June 6th) in the *Daily Express* what purports to be an interview with me reproducing my words. Many of the things reported I did not say; others were said with the distinct understanding that they were private. The message I permitted to be published was the fact, learned from my journey to New Zealand, that closer intercommunication between Medicine in the Motherland and in the Dominions would be of enormous value. Of course, no proof of the intended article was submitted to me.

SUPPORTERS of Empire produce may be glad to know that Messrs. Lambert and Butler have lately put on the market a brand of cigarettes manufactured entirely from Rhodesian Virginia leaf blended at Salisbury, the centre of the tobacco-growing district in that country. These well-made "Rhodian" cigarettes are worth a trial by smokers whose palates are open to new impressions.

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 45, 46, 47, 50, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 247.

## A British Medical Association Lecture

ON

## HEART ATTACKS.

DELIVERED TO THE CHELSEA DIVISION, APRIL 25TH, 1928,

BY

CAREY F. COOMBS, M.D., F.R.C.P. LOND.,

PHYSICIAN TO THE BRISTOL GENERAL HOSPITAL.

The diversity of phenomena attributed to cardiac origin will be apparent from the following list of diagnoses collected during the past three months in cases labelled by the patients themselves as heart attacks. First comes the group of troubles not actually connected with the heart at all—gall-stones, epilepsy, aural vertigo, narcolepsy. Secondly, there are disturbances of the heart without evidence of organic disease. Of these there are two chief varieties—premature beats and extracardiac arrhythmia, the latter manifesting itself oftener as speeding, but sometimes as slowing, of the heart. Last of all come the cardiac attacks proper, the symptoms of which are caused by organic disease of the heart. Angina pectoris, cardiac infarction, acute oedema of the lungs, and cardiac asthma all come within this group; so also do most cases of auricular flutter, so far as my own experience has gone.

The predominant symptoms may be roughly divided into two classes—the cardiac and the peripheral. The patient suspects his heart of being the cause of his attacks, either because he feels something amiss in the region in which he believes this organ to lie, or because of symptoms elsewhere which common report has taught him to regard as cardiac in origin. Subjectively considered, these attacks may be discussed under four headings, according to the predominant symptoms.

## 1. PALPITATIONS.

More than a quarter of the patients seen in private practice for cardiac attacks may be classed as suffering from palpitations. It must be remembered, too, that these are more or less selected cases; all had passed through the hands of at least one medical man before seeing me. If we were to consider instead the unsifted experience of an out-patient department or a family practice we should find the proportion of functional cases even higher, for, almost without exception, patients who complain chiefly of palpitations are suffering from functional disorder of the heart's action. One principal reason for this is that when the palpitation is symptomatic of organic heart disease—as, for example, in some patients with auricular fibrillation—there are other symptoms, such as dyspnoea, which more urgently occupy the patient's mind. When palpitation is the chief source of distress it is usually the subjective counterpart of one of two kinds of disturbance of rhythm. In the first place, the heart may be accelerated by extraneous causes operating through the vago-sympathetic apparatus by which its speed is regulated. Often these causes are psychical; and by no means obvious either to the patient or to the doctor. On little or no apparent provocation the heart's speed rises to 120 a minute, and continues at this rate long enough to make the patient acutely uncomfortable. Often, too, the attack is aggravated and prolonged by the fear which it arouses, this in turn helping to maintain and increase the acceleration of the heart's action. Gradually the attack dies away, either under the influence of a reassuring prognosis or spontaneously. If the doctor is there in time it will be noted that the speed rarely exceeds 120 a minute, that it varies a little, and is amenable to such influences as deep breathing and emotion, and that its start and finish are gradual and not abrupt. Frequently, however, these attacks come on in the night, presumably as the result of some disturbance of the subconscious mind, and the onset, if not the whole of the attack, escapes observation. Even so, however, it is nearly always possible to detect in the pulse rate an undue susceptibility to external influences; and the history of the attack, together with the absence of organic disease of the heart, makes the diagnosis simple as a rule. Usually the patient is a young

adult, of nervous temperament; but, though this is a useful guide, it is by no means infallible. I have recently seen an old gentleman within a month of his eightieth birthday whose nocturnal attacks are quite obviously of the variety I have tried to describe; and one of the worst cases I ever saw occurred in a burly farm labourer.

Such cases are, of course, well known, and it may seem that I am laying unnecessary stress on the existence of this syndrome. But it is not always recognized even by the medical man, and even when it is recognized it is by no means always possible to persuade the patient or her relatives that the symptoms do not indicate serious trouble. Particularly in medico-legal cases, where the attacks are supposed to date from some strain, and thereby to entitle the patient to compensation, it is often impossible to get rid of the symptoms.

Other influences beside emotion can quicken the action of the heart by their operation through the vago-sympathetic controls. For example, in the thyrotoxic state palpitation is often an early symptom, but it is usually so persistent that it does not present itself to the patient in the form of an "attack." Once a girl aged 17 was brought to me at the hospital for attacks of palpitation; she had a pulse rate of over 120, which examination proved to be due to widespread tuberculosis of the lungs. Similarly, the Ministry of Pensions found many cases of "D.A.H." due to pulmonary tuberculosis.

The other kind of disorder that gives rise to a complaint of palpitation is the premature beat or extra-systole. When this occurs, as it often does, in periods or bouts, the result can be extraordinarily disquieting. The patient feels a sensation as if his heart gave a kick or turned over; or it may be the pauses that he notices. If this sensation keeps on recurring it may be enough to keep him awake at night. Curiously, it is common among doctors, as Galli has lately observed. When the patient comes for examination the disorder may refuse to exhibit itself; but if you are lucky you will catch at least one or two premature beats, either when the patient lies down or when he stands up again, and by comparing notes with the patient you will find that it is this phenomenon, repeated often enough to accumulate into an attack, which is responsible for his bouts of discomfort. A number of these patients are elderly, and the arteries and myocardium may show traces of wear and tear. In spite of this it is our duty to reassure the patient, and to explain to him that, in the words of Sir James Mackenzie, "these disturbances mean no more than grey hair or a wrinkled skin."

Not infrequently both nervous acceleration and premature beats appear in the same patient. This may make the interpretation a little more difficult, but it is only rarely that a graphic record is indispensable. In either case, when we ourselves are content that these attacks have no serious import, this view must be communicated to the patient, not merely as a negative assurance that there is nothing the matter with his heart, but also as a positive statement attributing his symptoms to a nervous disturbance which he can to some extent discourage. Whenever possible the sources of the disturbances should be ascertained and laid before him. Much good is done not only by abstaining from any prescription of medicine, but also by insisting on the value of exercise as a curative measure. We must not forget how much this did for the relief and cure of "D.A.H." in time of war.

I do not want to convey the impression that an attack of palpitation is never dependent on organic disease. Sometimes a man with a hypertrophied heart, the result, perhaps, of aortic regurgitation, will complain more of the battering at his ribs that he feels when his heart is hastened by exercise than of any other symptom. But this rarely limits itself so neatly in point of time as to constitute an attack. I am thinking rather of those disturbances of rhythm which, arising within the heart itself, cause it to beat unduly fast—I mean paroxysmal tachycardia, auricular flutter, and auricular fibrillation. As I have already remarked, the patient with auricular fibrillation rarely complains of palpitation, because he is at the same time nearly always suffering from dyspnoea due to organic disease of the heart. In rare cases, however, auricular fibrillation appears, like paroxysmal tachycardia,

abruptly and without any obvious background of organic disease, and after running for a brief period disappears as suddenly as it came. Again, as in paroxysmal tachycardia, this may recur from time to time in bouts; or it may be an isolated attack, the origin of which remains for ever unexplained.

Far commoner is the ordinary attack of paroxysmal tachycardia. Here also each attack begins and ends abruptly, the heart passing immediately from its normal speed to one twice as high, and back again to normal in the same way at the end of the paroxysm. Usually the patient can give a clear history of this kind of attack, and it is not difficult to recognize its meaning, especially if the pulse, felt in an attack, shows a regular beat of 140 or over. In many instances there are signs of organic heart disease. Usually the patient can give no reason for the onset of the attacks, which arise as often during rest as after exertion. I recollect the case of a young woman who said that her attacks were brought on by stooping or by jolts—for example, when riding pillion on a motor cycle she had known an attack jerked into being, so to speak, on going over a pothole, and jerked out again by another.

The onset and cessation of auricular flutter are usually less obvious, and whereas the bouts of paroxysmal tachycardia often recur for many years without becoming worse, those of auricular flutter are less frequent, but last longer when they do come. In flutter also the high speed rhythm is often broken into from time to time in such a way as to produce periods of irregularity. But apart from a graphic record it is impossible to be quite sure whether a tachycardial paroxysm is due to flutter or not; and it is often impossible to get a graphic record, especially during an attack. Fortunately, it is not necessary to differentiate immediately between the two. In both the essential things are to recognize that the tachycardia is intracardiac and not extracardiac in origin; to see how far there is a background of organic heart disease to which the muscle fatigue engendered by the rapid beating may add materially and even fatally; and to do all that can be done to bring the attack to an end.

As to the first, note that the speed is nearly always high—140 or more; that it is regular, and uninfluenced by extraneous factors, such as breathing or emotion; and that if the high speed breaks off for a period the rate drops at once to normal. The second aspect, that of prognosis, usually presents itself as a premonition of ventricular failure. The pulse, though otherwise regular, exhibits alternation if it is carefully examined by means of the sphygmomanometer; râles appear at the bases of the lungs, and oedema over the sacrum and round the ankles, as the attack goes on; the heart sounds become weaker, and gallop rhythm may be detected, though the speed is often so great that this is impossible; the pulse pressure becomes very narrow, and the patient is in danger of death. In cases where he has had many attacks he often evolves some plan of treatment for himself. One of the most satisfactory is to give him some carminative—for example, ginger with peppermint, to be sipped in very hot water. Occasionally deep breathing is successful in stopping an attack, or alteration of posture. The other day I saw a man who could stop his attacks by putting his finger well back in his mouth. Compression of the vagus in the neck is recommended; I have tried this often, but without success. If these simple measures fail, the patient—who is often very alarmed and uncomfortable—will demand that something more shall be done. We have then to decide whether to confide in the digitalis group, or to use quinidine in the hope that it will recall the normal rhythm. In this my own experience has accorded with the judgement expressed recently by Parkinson and Bedford.<sup>3</sup> The likelihood of partial success with digitalis or its fellows is greater than that of complete success with quinidine. Moreover, there is a certain risk in giving a muscular depressant like quinidine to a patient whose ventricle, often senile or otherwise degenerate, is becoming exhausted by the high speed. For these reasons I prefer to give digitalis, and to give it in large and repeated doses—for example, half a drachm of the tincture every four hours. Recently, in a man of 59, whose flutter had resisted this treatment, an intravenous dose of onabain (0.5 mg.) reduced the speed from

180 to 100. What often happens is that the regular beat of 160 or so a minute, characteristic of flutter, is converted under digitalis treatment to a totally irregular beat of 120 or so, the flutter being replaced by fibrillation. This, again, may revert to normal, either with or without the use of quinidine.

An attack of flutter is a serious matter. Even if not directly fatal it makes the patient incapable of resisting contemporary stresses; and when it supervenes on gross organic disease of the heart it may prove the last phase of that disease. It is, however, a rare phenomenon, and my last word on this subject of palpitation is that nearly always it is due to functional and not to organic tachycardia. When a patient describes his attack as one of palpitations the probability is that his trouble is functional. This does not exclude the possibility of an organic lesion of the heart coinciding but not otherwise connected with the functional disturbance—a combination that is difficult to handle, because it is hard to get the patient to believe that his sensations are not dangerous.

## 2. FAINTING AND GIDDINESS.

Deeply rooted in the public mind lies a belief in the cardiac origin of fainting attacks. It is, I suppose, a diluted edition of that other belief—that the possessor of a diseased heart is necessarily in imminent danger of sudden death. If we could dissipate these two misbeliefs many people would be delivered from a bondage of baseless fear which holds them in thrall. As a matter of clinical experience, how many can recollect any case of organic disease of the heart that revealed itself in the form of fainting attacks? I will speak of two or three examples presently, but first let me ask, How many times has there been found evidence of cardiac disease in a patient troubled by repeated faints? I see many patients who think they have heart disease because they are subject to attacks of fainting, giddiness, or loss of consciousness. Among my notes of these I can discern three principal groups. First among them comes epilepsy. I imagine we have all met the parent who is naturally and properly alarmed at the lapses of consciousness from which her child suffers, and is afraid lest they betoken the presence of a diseased heart. Usually the truth is told her by the first medical man who sees the child; but occasionally some unimportant murmur or irregularity of the pulse is noted and an indecisive reply offered to the inevitable question about the state of the heart. If it were remembered that loss of consciousness is practically never a symptom of cardiac disease in childhood this mistake would be avoided.

A second kind of attack which is very naturally, though erroneously, interpreted as cardiac in origin is the vertiginous syndrome of labyrinthine origin, often spoken of as Ménière's disease. It is a mistake which is easily made, because the giddiness which is the essential feature of the syndrome is often obscured by the faintness and collapse which accompany it; and also because this state of uncertainty as to equilibrium tends to breed a neurasthenic condition one symptom of which is palpitation of the nervous kind described above. That the whole thing is aural in origin is nearly always made clear by the discovery of deafness with a history of tinnitus, and by the recollection that circulatory failure cannot deprive a patient of the balancing function without also depriving him of consciousness.

There is a third kind of fainting attack, which is of great interest, especially in connexion with the present subject, because it is in part due to disorder of the heart's action. Sometimes the patient appears actually to lose consciousness, more often it is a passing bout of faintness which may be associated with abnormal cardiac sensations. The two factors responsible for production of these attacks are a slow pulse and a low blood pressure. For example, one young lady exhibited a pulse rate varying from 48 to 60, with moments of rather abrupt change from the quickened to the slower rate, the systolic blood pressure being 110 mm. of mercury, and the diastolic 70 mm. A sudden change from the recumbent to the standing posture may provoke this kind of attack, and recently Ghrist and Brown<sup>4</sup> have recorded some remarkable falls in blood pressure with such changes in posture which may help to



explain these attacks. Cotton and Lewis<sup>1</sup> furnished the clearest possible evidence that fainting attacks may be directly caused by the coincidence of these two factors in varying proportions. A knowledge of this fact may be of great value in enabling us to furnish a reassuring explanation of attacks which are very alarming to those who witness them as well as to the subject himself.

Sudden faintness and giddiness may also overtake elderly men, as in two cases recently seen.

The one, a business man of 73, but young for his years and full of zest for work, complained that of late his sleep had been poor and that he had been subject to sudden attacks of giddiness, which threatened him with loss of consciousness. It was only momentary and left him none the worse, but as he was driving a car a good deal he was rather perturbed about it. His heart was a little enlarged, his arteries palpable and tortuous, but his blood pressure was only 140 mm. Hg systolic and 80 mm. diastolic. The most noteworthy point was that the pulse, already habitually slow—averaging 54 a minute—was also interrupted by numerous premature beats with compensatory pauses. I think it is probable that these, occasionally reducing his effective beats to 27 a minute, caused a temporary cerebral ischaemia and were thus responsible for the giddy turns.

The other patient, aged 71, appeared to me to owe his attacks to the coincidence of a very low diastolic pressure—only 50 mm. Hg—with a degenerate arterial tree. He not only became giddy, but on more than one occasion actually lost consciousness for a few moments.

It has seemed to me that this faintness is more likely to happen when the blood is in the splanchnic area, after a meal, and to be immediately precipitated by some change of posture, such as rising quickly from an armchair.

In all these rather unusual cases we can formulate some theory to explain the failure of cerebral circulation; either through loss of arterial drive or through gaps in the heart's rhythm, or through a combination of both, a passing moment of ischaemia shows itself in dizziness or even actual loss of consciousness. But how are we to explain such a case as this?

A man of 43, on the stout side and giving a history of malaria and dysentery, but otherwise in good health, was sitting up into one night talking to his friends when he was seized with a sudden convulsive attack, in which he became cyanosed and then comatose. He was seen in the attack by a very accurate clinical observer, who noted the total arrhythmia of auricular fibrillation. Next morning, when he had otherwise quite recovered, this irregularity was still present, though the speed was only 76 a minute (perhaps owing to a dose of digitalin which had been given the night before). The next day again, however, the rhythm had become normal, there were no physical signs of disease, and the following day he exhibited a normal electro-cardiogram.

I am not going to attempt any explanation of this remarkable story, but will pass to a consideration of the Stokes-Adams syndrome. Even here there is room for speculation and diversity of opinion as to the precise reason why the losses of consciousness that mark this condition should occur at the moments when they do. Still, there is no room for doubt about the broad facts. The patient has a slow pulse, thanks to the failure of his auriculo-ventricular connexions, and that slowing of the pulse deprives the brain of its necessary blood, with the result that there are brief periods of complete unconsciousness. If you have ever watched these attacks you will agree that the sequence is very striking. The patient is talking naturally when his face turns pale, his talk stops, and he falls asleep for a second or two. His face flushes and he comes back to consciousness, obviously distressed and apprehensive. This apprehension may defeat its own ends, for I have known it provoke a doctor into dismissing the whole thing as an attack of "nerves" demanding no other therapeutic measure than rousing advice. In this instance, as in some others, the condition was sensibly alleviated, though not abolished, by atropine, which lifts the inhibitory action of the vagus off the auriculo-ventricular connexions, and may thus save the staggering camel from a broken back.

On the whole, however, it is safe to say that when a patient states that he is afraid he has a bad heart because he is troubled by faint or giddy turns, he may be reassured by some explanation of his attacks less menacing than that which his fears have suggested.

### 3. PAIN.

Dr. J. A. Ryle, in his timely address<sup>2</sup> on the clinical study of pain, pleads for a more respectful consideration of the patient's description of his sensations, especially in

view of the limitations of physical diagnosis. Nowhere is this better exemplified than in the realm of cardiac disease. Often the patient's account of his attacks renders it certain that they are due to organic disease of the heart, whatever the results of physical examination. By way of example, let me quote the words in which a man approaching 60 years of age recently described to me the attacks which he had experienced for some six months.

After telling me how regularly these attacks occurred at certain moments in his day—for example, after walking sixty yards from the point at which he nights from the bus that brings him home from business—and adding that at first he thought it was indigestion, because exertion directly after a meal brought it on, he went on to say that the onset of the attack was accompanied by the sensations associated with painful emotion—for example, the reception of bad news. "I know when it is coming," he told me. "I have a sort of uncomfortable feeling as if something were growing in my chest, or as if something were suppressed there. It makes me go slow, and I have to take short steps. If I do this it gets no worse; but if I were to hurry—I couldn't hurry!—a very violent pain comes on here" (pointing to the inner end of the third and fourth left interspaces) "like neuralgia. It makes me break out into a sweat. There may be a tingling sensation, not severe, down the left arm. It is gradually relieved if I stand still." He added that these sensations were not accompanied by nausea or faintness, and that he did not think any onlooker would guess that anything was amiss with him. Examination discovered little beyond a soft systolic murmur at the apex, the sounds being rather weak. His blood pressure was 165/75, and his vessels were normal to touch, though the retinal arteries were distinctly tortuous. The urine was normal.

Now that is a common kind of attack. It is customary to think of it as analogous with the painful limp that sometimes reveals the presence of sclerotic changes in the crural vessels, and on this analogy the syndrome has been labelled "ischaemia cordis intermittens" (Bischoff), and ascribed, on adequate grounds in my opinion, to coronary sclerosis. It is well to explain to its victim that Nature has set a limit to his activities, and has been considerate enough to provide him with an automatic check to prevent him from attempting indiscretions. Caffeine or diuretin, with or without a small dose of potassium iodide, will nearly always decrease the liability to these attacks. For the immediate relief of the pain there is nothing like the nitrites. Nitroglycerin is, I believe, the best of these for habitual use. The liquid form is more active than the tabella, especially if a dose of not less than 5 minims be given in combination with carminatives, such as capsicum and cardamoms. Persons with this degree of pain may enjoy a fair measure of activity for years if only they will recognize the inexorable nature of the limitation imposed on them. When it is associated—as so often it is—with a high arterial tension, great relief is often afforded by a relatively small decrease in pressure, such as may be secured by reduction of diet and stress, with little or no medicinal treatment.

That we do well to pay heed to such a history as this is exemplified by the following case.

A man, first seen at the age of 41, said that for four months he had been troubled by pain in the left chest and arm down to the fingers, coming on with exertion—for example, walking up a slope—and relieved by rest. The pain in the chest was like a pressure. His arteries were thicker than they should have been, and his blood pressure was 180/100 in the left arm, 170/80 in the right. Apart from a ringing accentuation of the aortic second sound I found no abnormal physical signs. His electro-cardiogram appeared normal, the x-ray screen discovered nothing beyond some widening of the aortic shadow, and the Wassermann test was negative. I saw him from time to time, and his doctor and I were gradually convinced of the serious nature of his trouble because we found that no treatment was able sensibly to relieve him. About a year after he was first seen a faint aortic diastolic murmur became audible, and a few months later he died suddenly in an attack of severe pain.

By way of contrast let me give you a brief account of two patients who died in or immediately after their first attacks.

One, a commercial traveller, aged 72, never ill before in his life, was taken ill about 10 a.m. at a country station twenty miles out of Bristol. He was seized with intense gripping pain, which began in the left side of the lower jaw and spread to the left arm and epigastrium. He felt too ill to go on with his journey, and came home. All day the pain persisted, and when we saw him in the evening he looked pale, with bluish lips, and was obviously distressed. His cardiac sounds were weak, and there was a systolic murmur all over the precordium. There was a little oedema over the shins, but the liver was not swollen, nor were râles heard at the bases. His pulse was only 72 and quite regular, and his blood pressure was 150/80. While we were preparing to give him morphine he sank on his knees—we had been unable



to persuade him to lie down—cried out that the pain was unbearable, and pitched over on his face dead. His pulse beat at 72 till it stopped.

The other patient was a clergyman, a very hard-working man of 60, whose doctor was called in eight days before we saw him together, on account of an attack of severe epigastric pain, in which he felt as if he were going to die. The pain was not related to food, but he was heaving wind and vomiting mucus. It all passed off, but the pain recurred once or twice, and in several of the attacks extended into the arms, the right more often than the left. On examination we found nothing indicative of cardiac disease, except that the first sound at the apex was occasionally doubled, but the cardiac nature of the pain was proved by his sudden death a few days later.

All these case-histories emphasize the diagnostic significance of the pain as described by the patient. We must be prepared to recognize the cardiac origin of a pain even when there is little or no objective evidence of cardiac disease to be gained by the most careful examination. At the same time it must be realized that signs of cardiac disease may accompany or follow an attack of pain. As an example of the former I may quote the following case.

A man, aged 37, is now under my care for aortic incompetence of syphilitic origin, on which it is probable that a slow endocardial infection has been engrafted. He has had several attacks of pain coming on without the least provocation, and described by my house-physician, Dr. J. C. Batt, as follows:

"March 22nd, 1928. The patient was lying in bed when he was seized with a pain in the right shoulder. This pain came on when he was lying quietly in bed, and at the time there was no exertion. The patient drew himself upright and was then conscious of a sensation of rapid palpitation over the precordium. The pain in the shoulder was described as knife-like and stabbing, and spread over the precordium and all down the left side as far as the ilium, but no further. During the attack he had an expression of intense agony on his face. The whole affair was relieved in about two minutes by amyl nitrite. Shortly after this the pain, etc., returned with equal severity about twenty minutes after the amyl nitrite had been given, but on repetition of this drug relief was once again afforded, with no return of the pain.

"April 3rd (9.30 p.m.). The patient was sleeping after 'his best day in hospital' when he began to dream that some horses were chasing him. Just as he was about to fall over a cliff to escape them he awoke with violent pain in the precordium. He sat up in bed with a 'pained expression' and placed his right hand over his precordium. This pain radiated to the left shoulder and through to the back of the joint. Throughout the attack there was dyspnoea and the pulse rate went up to 124. The left arm was not moved because the pain was apparently too severe in the shoulder, which during the attack was too tender even to be touched. Amyl nitrite again gave almost instant relief. The whole attack from time of waking lasted about a quarter of an hour. Pain described as like a knife sticking through him."

His electro-cardiogram, taken by Dr. Bruce Perry, shows changes very suggestive of gross disease in the coronary vessels or the myocardium, or both. We think he is less liable to pain when he is taking potassium iodide, and the attacks are partly relieved by amyl nitrite.

Of late much has been written of the syndrome of coronary thrombosis, or cardiac infarction as it is more accurately entitled. This syndrome consists of a severe attack of cardiac pain, often coming on at night, followed in a day or so by evidences of serious damage to the muscular wall of the heart. The patient when seen in or after the attacks of pain looks pale and collapsed, and the pain is obviously intense. Usually it is retrosternal, sometimes behind the xiphisternum, and constricting in character. In some cases there is vomiting, and this, with an epigastric location of pain, may inspire a diagnosis of biliary colic. Either at the time, or within a day or two, the pulse becomes rapid, often alternating, and sometimes irregular, with the total arrhythmia of auricular fibrillation or the hasty action of flutter. If it remains regular a notable fall in systolic pressure is often noted, with a corresponding reduction of the pulse pressure. The heart sounds are found to be weak and antering, and often pericardial friction is heard for a day or two. The temperature also rises for a few days, and there is a leucocytosis. Interesting and characteristic changes in the electro-cardiogram often follow in those who survive, and they have been clearly and convincingly described by Parkinson and Bedford.<sup>7</sup> What is worth insisting on is the value of morphine when the pain is at its height; not only does it give relief, but in some instances it appears actually to save life by diminishing shock. The nitrites, on the other hand, seem to have no effect, which is not surprising when the fall of blood pressure, which has already occurred spontaneously, is taken into account.

What is the connecting link between all these varieties of cardiac pain? To reply fully to this would involve too long an argument. Let it suffice to say that evidence accumulates in favour of the view that pain of this kind depends on interference with the supply of blood through the coronary arteries to the wall of the heart, the severity of the pain varying with the degree of that interference.

I must refer briefly to three terms: pseudo-angina, vasomotor angina, and tobacco angina. The first of these is, I am afraid, a "hedging" form of words. Either a pain is cardiac or it is not. Often, it is true, cardiac pain is exaggerated and its true character obscured by the extravagant accounts of it furnished by imaginative patients. All visceral pain is liable to be thus misrepresented. But the more carefully the history is taken the fewer will be the cases of pseudo-angina. Some of them appear to be due, as Sir Thomas Horder<sup>8</sup> has told us, to spasm of the oesophageal cardia; others are merely attacks of functional palpitation decorated by the patient with an account of pain over what he believes to be the position of his heart. In all cases it is well to say to oneself, "Either this pain is cardiac or it is not, and it is my duty to make up my mind about it."

Vasomotor angina appears in the textbooks, but I must confess that I do not see cases of it. Only one can I recall that appeared to belong to this category, though occasionally there are vasomotor phenomena—acrocyanosis and the like—in patients whose pain is obviously due to cardiac disease.

Tobacco angina is, it appears from the experience of others, an undeniable fact; but in most of the cases so described it seems to me that the tobacco is, at most, only partially responsible.

A professional man consulted me at the age of 55 because of pain behind the sternum, brought on by exertion. I could find no evidence of disease, and some months later he told me that on discontinuing the practice of smoking a pipe as he eyed to his work in the morning he had lost the pain. Two or three years later, however, he told me that he still got the pain if he went out after dinner to meetings. This he attributed to the smoky atmosphere. Once or twice he had runs of tachycardia. I saw him at the tail end of one of these, and it appeared to be a true paroxysmal tachycardia, but I had no opportunity of verifying this by graphic record. Eventually it was proved only too clearly that something more than tobacco was responsible for his attacks, for he dropped dead without warning.

#### 4. DYSPNOEA.

As regards attacks in which dyspnoea is the chief feature I will mention two varieties only—the so-called cardiac asthma, and acute oedema of the lungs.

The term "cardiac asthma" survives merely because no one has invented a more convenient one. It is cardiac, but it is not asthma, unless we decide to include within that word every kind of paroxysm of breathlessness. The circumstances under which the attack occurs are remarkably uniform. Among the last twenty patients seen in private practice for symptoms of this kind all but one have been men, and only one of them under 60 years of age. In every instance the attacks have occurred at night, in two only by day as well as by night. In three-quarters the blood pressure was high, and in several of the others there was reason to think that it had been high and was now reduced only by having brought about ventricular defeat. That, indeed, is the outstanding fact about the clinical picture; it is the clinical picture that is associated with ventricular defeat supervening on long-continued high arterial tension. There is evidence of hypertrophy of the left ventricle, but there is also evidence that in spite of its hypertrophy the ventricle is no longer capable of sustaining an adequate circulation even while the patient is at rest. Consequently oedema is a common symptom. I noted its presence in eleven of these twenty patients. Cardiac pain, on the other hand, is usually absent, or at all events not a prominent feature of the attacks. The heart sounds often betray evidence of ventricular failure in the shape of enfeeblement and gallop rhythm. Six of these patients showed signs of auricular as well as of ventricular failure, the rapid irregular rhythm of the former contributing to the completeness of the latter. In six of the fourteen with a regular rhythm there was alternation of the pulse.

Although this is the fully developed background of these attacks they may nevertheless constitute the first warning of serious disease. It is soon after getting into bed that the patient is conscious of dyspnoea. Often it wakes him out of sleep and keeps him from dropping off again, for as soon as he does so he is seized by the throat, so to speak, and apparently threatened with imminent suffocation, often in the form of terrifying dreams. He cannot lie down in bed; frequently it is impossible even to rest against a bank of pillows, and he has to sit up in an armchair. Sometimes even this does not suffice, and he has tried to find what rest he can by leaning forward with his head pillowed on his arms, on the back of a chair, or on a bed table. Indeed, one of the essentials in treating these attacks is to make provision, by means of one or other of these supports, for such small measure of comfort as is left to the unfortunate victim. I doubt whether there is any more distressing experience that falls to the lot of mankind than this, and it is most tantalizing to be able to offer so little help. Fortunately it is one of the many forms of agony in which the use of morphine brings relief. On the whole I am inclined to think that the value of the morphine is enhanced by combining atropine with it, but about the value of the morphine there can be no doubt whatever. By way of preventing recurrence of the attacks the best remedies to use are, I believe, the xanthine derivatives, particularly caffeine and diuretin. In some instances, when the supervention of fibrillation has precipitated the onset of these nocturnal paroxysms, the use of digitalis may, for a time at all events, decrease the overwhelming load borne by the ventricle and restore the patient to comparative comfort. Otherwise, the chief indication is to reduce the blood pressure by rest, dieting, and purgation, if this has not already been accomplished by the failure of ventricular output.

Acute suffocative oedema of the lungs is rare in my experience. A brief note of a case recently seen with Dr. Paul Bodman, to whom I owe the account of the attack itself, will serve by way of description.

The patient, a high-strung woman aged 60, had for some months experienced pain behind the sternum on exertion, relieved by stopping still. Recently she had also had attacks of dyspnoea at night. In one of these Dr. Bodman found her cyanosed, her face appearing bloated and hot, while the extremities were cold; she was intensely dyspnoeic, with bubbling respiration, and was coughing up blood-stained fluid. Her head felt full, but the veins in the neck were not distended. The blood pressure in the attack was 180/110, whereas at other times it was not so high; yet nitrites gave no relief. One curious fact about the attacks was that they were particularly apt to occur on Saturdays; another, that before the onset of an attack she often felt remarkably well; and also that in the attack there was often an imperative call to relieve the bowels. The attacks seemed to come on when she lay down. She found that in an hour or two the attack passed off, without much help from treatment. We decided to give her a course of diuretin, and this was followed by a relatively long period of freedom from the attacks, which relapsed as soon as the drug was stopped.

Dr. Anthony Birrell, who has lately published an account<sup>1</sup> of some examples of this syndrome, has found that venesection brings relief from the attack. He notes that the blood flows centripetally—that is, from the opening in the vein on the distal side of the incision. This observation may ultimately prove significant in determining the nature of the attacks, the clinical background of which appears to be the same as that of cardiac asthma.

One or two lessons emerge from a study of cardiac attacks. The first is the immense importance of listening to what the patient has to say; after all, he has been through the mill, and may therefore be presumed to know something about it. Even if the attack is obviously functional it is probably the source of much anxiety and distress, for there is something inherent in cardiac sensations of all kinds that appeals vividly to the instinct of fear. Much harm may be done by an unsympathetic attitude towards patients of this class, and it is especially important to avoid even the use of the word "nerves." On the other hand, I believe it is an even worse mistake to frighten the patient whose attacks are really serious by talking to him about sudden death. Usually he is only too well aware of the dangers that threaten him, and it will do more harm than good if the apprehensions that not unnaturally beset him are reinforced rather than allayed.

The patient's age is significant. Attacks due to organic

heart disease are rare in young subjects, while those that are symptomatic of functional disorder are common. Conversely, cardiac attacks arising after 40 are rarely functional in origin. In a majority there is a basis of organic disease, even though this may be overlaid by a superstructure of functional neurosis. It is in cases of this kind that one has to be most careful, especially as the patient's relatives, to say nothing of one's own inclinations, are apt to urge a diagnosis of "nerves." I must confess that I know of no golden rule by which errors of this kind may be avoided, except that which applies to every branch of diagnosis—namely, that of taking trouble over it.

In conclusion, it must be admitted that mistakes are bound to occur, and we must learn to take risks, always bearing in mind that it is the duty of the doctor to consider the safety and well-being of his patient at the expense of his own reputation.

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## Observations

ON THE

## VALUE OF RADIOGRAPHY IN THE DIAGNOSIS OF OBSCURE DENTAL SEPSIS.

(With Special Plate.)

BY

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THE value of radiography in the diagnosis of obscure dental sepsis is now universally recognized. Physicians who, previous to the discovery of x rays, had urged that many of the "rheumatic" group of diseases (arthritis, fibrositis, myositis, neuritis, and certain forms of heart disease) were due to dental sepsis, were faced with the argument that those patients with the most obvious dental sepsis were the patients who suffered least from these diseases. When, however, it became possible to demonstrate on a radiograph deep-seated and unsuspected lesions, the physicians were able to show that these "rheumatic" conditions, which had not shown the slightest response to other forms of treatment, were cured or their progress checked by the removal of the teeth shown to be involved.

Most medical men are familiar with the obstacles which these early workers had to surmount, not only from the members of our own profession, but also from the dental surgeons, who were not prepared to sacrifice useful and "comfortable" teeth without more evidence of their dangerous character.

Patients suffering from dental sepsis may be roughly divided into two groups: (a) those in whom the sepsis is associated with local pain; (b) those in whom the sepsis is unassociated with local pain. The patient belonging to Group (a) usually makes the earliest appointment with the dentist, and in the majority of cases he is able by his clinical examination to detect the seat of the pain. In a few cases, even after a thorough examination, the cause of pain may not be detected, particularly as the patient's localization is so poor, and frequently the pain mysteriously ceases before or while the clinical tests are being applied and cannot be elicited by further testing. This may happen on several occasions. A careful radiographic examination of these cases may reveal the cause in the form of hidden or deep-seated caries, and save the dental surgeon much time and annoyance and the patient much pain. The changes revealed by the radiograph may be obvious or very slight, but even so it may afford the only clue to the site of the pain. It is, however, chiefly with patients in Group (b) that the radiograph is of the greatest value, because the lesion is often unsuspected by the patient, and frequently is not, and apparently cannot be, detected by the most carefully applied clinical tests; and it is not until

the physician or surgeon finds signs or symptoms of a diseased condition which he knows to be generally due to absorption of toxic products from septic teeth that the teeth are radiographed and the lesion demonstrated.

There would appear to be a very great difference of opinion amongst dental surgeons as to the significance of the radiographic findings. It is therefore advisable that the radiographs be interpreted by an unbiased observer. Some still attach no importance to any radiographic appearance, however gross, if the teeth are comfortable and apparently sound; others are prepared to treat lesions which show on the radiographs as dark areas (light areas on the prints made from radiographs as in the accompanying illustrations) of absorption of the periapical tissues, but do not feel justified in "sacrificing" useful and comfortable teeth solely on "slight" radiographic evidence. Experience has now proved that the extraction of such teeth often relieves the symptoms of the patient, and Price states that when such teeth, or cultures therefrom, are inserted into experimental animals the latter die of toxic absorption or infection. On the other hand, some dental surgeons go to the other extreme and extract teeth the best radiographs of which show not the slightest change. Yet Price says:

"I wish to stress that we have come to the time when involved teeth can be so definitely differentiated from those that are not involved or with a sufficient limit of error that we are not justified in condemning all the teeth for fear they may be involved. I am seeing continually patients who are suffering more from the inconvenience and difficulties of mastication and nourishment than they did from the lesion from which their physician or dentist had sought to give them relief."

The important clinical manifestations of hidden dental sepsis were described in 1922 by Dr. Leonard Mackey, whose valuable paper is supported by all the researches which have since been made.

#### THE RADIOGRAPHIC APPEARANCE OF SEPTIC TEETH.

It must be clearly understood that the evidence which the radiograph gives is only a "skeleton" picture of the pathological lesion. The actual lesion, certainly in bone pathology, is always of much greater extent than the radiograph suggests to an untrained observer. Therefore in dental conditions, where the important changes are relatively small in size, it is important to have radiographs which will show these details. Fortunately the close proximity of the radiographic film to the tooth enables a sharp and detailed picture to be obtained which will permit of magnification, and as the danger of the lesion is not to be judged by its size, such magnification will not mislead by showing the slight changes to be definite irregularities.

The outline on the radiograph of a normal tooth enlarged to the size of the radiograph of the femur head is seen to be quite as regular as the latter, whereas the outlines of teeth which show "slight" changes are markedly irregular—a femur head so irregular would be judged to be gravely involved.

Weston A. Price, who with a team of dental surgeons, bacteriologists, and laboratory workers has carried out a very extensive investigation on dental sepsis, considers that 10 per cent. of the teeth with septic roots give no indication of this on the radiograph; but even so, most of the process illustrations which he used in describing the "failure" of the radiographs show definite though "slight" changes, yet process illustrations cannot give the detail of the original radiographs.

There is no doubt in my mind that the figure of 10 per cent. can be considerably reduced by the skill in the radiographic technique and the care exercised in examining and interpreting the radiograph. Further, I am of the opinion that, every tooth which is producing systemic disturbance shows definite changes on the radiograph. The importance of this is apparent when we remember that the clinical tests, even when skillfully employed, may fail to reveal quite extensive lesions.

Burchard and Inglis state that "In cases of granuloma or blind chronic apical abscess there may be no subjective or local symptoms of disturbance cognizable to patient or operator."

A patient suffering from a toxæmia was sent for an x-ray examination of her teeth. She was annoyed at the suggestion that her illness was due to her teeth, and informed me that she paid regular visits to her dental surgeon, who had recently carefully examined the teeth and reported them to be quite sound. (See Fig. 1.)

Price, who has made an exhaustive study of the individual and family clinical histories, clinical, radiographic, and bacteriological examination of the teeth of 681 selected cases in a series of 1,400, has classified patients into three groups. He says that dental infections tend to produce the same type of tissue reaction around the teeth of different members of the same family.

**Group A.**—The radiographs of the teeth of this group of patients show very extensive rarefaction around all the involved teeth, and often extensive pyorrhœa (as in Fig. 2). He regards this local bone absorption as a sign of a good reaction and resistance to the infection on the part of the patients. Such patients, he says, rarely show symptoms of the rheumatic or degenerative disorders, and he accordingly classes them as having "absent susceptibility." Nevertheless, such patients come to hospital complaining of gastro-intestinal or other disorders probably brought about by the septic teeth. Clinically the gums show discharging sinuses, and the teeth are often loose, readily anaesthetized, and easily extracted; the sockets heal with great rapidity and without discomfort or secondary infection.

**Group B.**—In this group of patients the radiographs of the teeth show similar changes to those in Group A, but the periapical areas of rarefaction are bounded by a zone of sclerosed and therefore denser bone (as in Fig. 3). He regards this sclerosed bone as a sign of breaking down of the local resistance to the dental sepsis with the entrance of the septic material into the blood stream. Clinically there are signs of old fistulae and a history of former tenderness. Anaesthesia is less easily produced in patients in this group than in those in Group A. The teeth frequently are difficult to extract, and the sockets do not heal so readily. He says that these patients had acquired a susceptibility to the dental infection, and that, while no rheumatic symptoms were seen when the condition was acute, such symptoms had begun to appear, and they cleared with the removal of the septic teeth.

**Group C.**—The radiographs of the teeth of this group show condensing osteitis around the infected root with little rarefaction (as in Fig. 4). This appearance he regards as a sign of lack of local resistance to the dental sepsis. Clinically there is no evidence of fistulae; the teeth are seldom tender. They appear to be more liable to caries, but are usually free from pyorrhœa. Anaesthesia of such teeth is far from easy, and they are often very difficult to extract. There is great tardiness in healing, and the sockets tend to become infected and painful. Price says that these patients have an inherited susceptibility to the rheumatic group of disease.

This classification tends to explain why some patients with extreme and obvious dental sepsis have often few of the symptoms usually associated with septic absorption, while others with marked rheumatic symptoms have often no obvious dental sepsis, and the radiographs of their teeth show relatively slight changes—so slight that when indicated by the physician or radiologist the dental surgeon is loath to extract the teeth; yet it is often in patients with these "slight" dental lesions that extraction produces marked beneficial effects. As these important indications are relatively slight it is all the more essential that the radiographic technique should be good.

Most physicians will agree that these dental groupings are correct with regard to the susceptibility to rheumatic infections, but few, I think, will agree with the ideas on local resistance.

An examination of the radiographs showing bone sepsis of different types permits of the classification into three groups which resemble those indicated by Price.

**Group (a).**—Patients with bone sepsis due to pyogenic bacteria. The radiographs in these cases show rapid absorption or erosion of the infected bone, and frequently a large amount of pus is found. As the condition of the patient improves and his resistance is increased the rarefied bone increases in density and the patient shows little or no sign of rheumatic disorders, even though the degree of septic absorption, as judged from the patient's condition, was very severe.

**Group (b).**—Patients who formerly showed radiographic changes similar to those in Group (a), but, owing to the separation of sequestra or the inclusion of some septic foreign body, healing is very slow, and the radiograph shows that the



FIG. 1.—Radiograph showing large "cyst" (probably arising from the root-filled bicuspid) which has eroded the apices of the first bicuspid, canine, and central and lateral incisors. Patient had no local physical signs or symptoms, but a toxæmia which cleared on extracting teeth.



FIG. 2.—Radiograph showing extensive alveolar and periapical absorption.



FIG. 3.—Radiograph showing a large apical abscess with sclerosis of its bony wall and erosion of the tooth apex. The lateral incisor is root-filled and there is a little erosion of its apex.



FIG. 4.—Radiograph showing small areas of rarefaction at the apices of the bicuspid and molars with sclerosis of the surrounding bone. Patient suffered from pains in the back and along the course of the sciatic nerve as well as in the shoulder-joints.



FIG. 5.—Radiograph of molar with one root filled with opaque material, the other showing no sign of a nerve canal. There is sclerosis of the pericemental bone and secondary caries beneath the amalgam filling. Patient suffered from neuritis, which improved on removal of the tooth.



FIG. 6.—Radiograph showing retained stump with large abscess.



FIG. 7.—Radiograph of incisor teeth showing destruction of the pericementum around the apices of the central and lateral incisors and extensive destruction of the cancellous bone around. There is no definite boundary to the destructive process. Note the pulp stones in the central incisors.



FIG. 8.—Radiograph showing a large cyst with erosion of the apices of the central and lateral incisors which have had the pulps extracted and the root canals partly filled.



FIG. 9.—Radiograph showing "bulbous" roots to root-filled molar with periapical absorption.

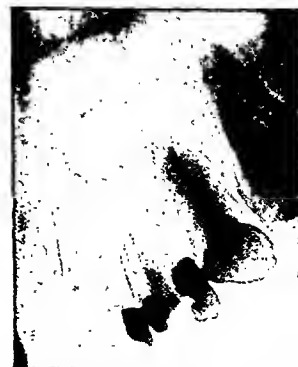


FIG. 10.—Radiograph showing large area of periapical absorption with erosion of the apices of the first bicuspid, which shows secondary caries beneath the filling. There are similar but less marked changes in the second bicuspid.



FIG. 11.—Radiograph showing sclerosis of the pericementum due to the large filling and a normal antrum.



FIG. 12.—Radiograph showing erosion of the wall of the antrum and of the approximated root-filled bicuspid pericementum with dimming of the antrum.



FIG. 13.—Radiograph showing apical absorption around central incisor, not shown on "flat" radiograph.



FIG. 14.—Radiograph showing root-filled lateral incisor and canine. On the bicuspid side of the canine the pericementum will be seen pushed away from the side of the middle of the root. There is marked erosion of the apices of both teeth and very little root-filling, which shows signs of shrinking and retraction.



FIG. 15.—Radiograph of root-filled lateral incisor and canine, showing retraction and shrinkage of the root-filling preparation. The nerve canals are shown to be much wider in calibre. There is also an area of rarefaction of the periapical bone of both teeth and erosion of the apex of the lateral incisor.



FIG. 16.—Radiograph showing marked shrinking of the root-filling preparation and septic erosion of the apex of the tooth.



FIG. 17.—Radiograph of root-filled upper molar teeth, showing retraction and shrinking of preparation in anterior root and erosion and absorption around the distal root, which shows calcareous deposits. The floor of the pulp chamber had been perforated, and a deposit of calcareous material is shown on the projecting root-filling.



FIG. 18.—Radiograph showing root-filling in bicuspid roots; the filling projects beyond the apex in one, and an area of rarefaction has been produced in the surrounding bone.



FIG. 19.—Radiograph showing root-filling in bicuspid roots with areas of apical erosion and absorption. A small fragment of an instrument had been broken at the apex of the root and is lying in the rarefied area.



surrounding bone is sclerosed and very dense. This sclerosis most of us look upon as of the nature of a protective reaction against a chronic infection, and not as a breakdown in the resistance of the patient, though such patients often do gradually develop rheumatic symptoms, due probably to the long period of slow septic absorption.

*Group (c).*—Patients suffering from non-specific infective arthritis. The radiographs of the infected joints do not suggest ordinary bone sepsis: rarefaction, erosion, and sclerosis may be seen, but the changes are slow to form. They resemble the changes in the teeth of Group C. Numerous bacteriological researches have been made to attempt to discover the causal organism; various organisms have been suggested, but the lack of uniformity in the findings suggests that the condition is produced either by different organisms or by some bacteria or toxin which has not been discovered.

Price has shown that septic teeth from patients in this group, even when boiled, retain some toxin which is fatal to experimental animals. He found, too, that extracts from such teeth passed through a Berkefeld filter are also toxic to animals.

One of the most important points that Price has brought out is that the septic teeth from which absorption is taking place in patients with an inherited susceptibility to the rheumatic and degenerative disorders produce very little in the way of local clinical signs, which are small in magnitude. The fact that the patient has edentulous gums does not exclude the possibility of hidden dental sepsis. It is a fairly common thing to find that such patients have a retained stump which shows marked periapical erosion indicative of sepsis (as in Fig. 6). An x-ray examination may show definite evidence of apical sepsis of teeth which have not been filled and which show no evidence of caries. In some cases infection of the periapical area leads to the development of large cysts, which in the upper jaw may be mistaken for extension of the antrum (as in Fig. 8), but they can be readily distinguished from the latter by the fact that in the dental cyst the apices are denuded of the pericementum, whereas with the antrum extension the wall of the latter appears to be folded around the apices. Concomitant with the periapical erosion hypercementosis may occur, and the roots may assume a bulbous appearance on the radiograph. Such teeth may be very difficult to extract. In one case recently, where the radiograph showed similar changes to Fig. 9, the dental surgeon had great difficulty in extracting the teeth, and he told the patient that there had been a mistake in the radiographic report as the tooth was too firmly held to have been diseased. Brubaker reports that neuralgia, functional blindness and deafness, chorea, epileptiform fits, paralysis, cardiac neuralgia, insanity, and other related conditions have been cured by the extraction of hypercementosed teeth. In contralysination to hypercementosis we have erosion of the apices as a result of sepsis (as in Fig. 10). When the infected apex is near the antrum the infection may pass into the antrum (as in Fig. 12).

Radiographs with less marked changes are frequently seen, as in Fig. 13, which shows a large area of rarefaction, due to acute infection chiefly to the lateral side of the root-filled lateral incisor. The root-filling is not very opaque. It will be noted that the sclerosed pericemental bone is "wiped" out about half-way to the apex on this aspect, and to a lesser extent on the medial aspect of the lateral incisor. The area of rarefaction may not always be at the apex of the tooth, since many teeth have lateral canals through which the pericementum may be infected.

#### THE PULPLESS TOOTH.

A tooth which has been deprived of its pulp has lost its vital power, and inasmuch as it contains within its unfilled nerve canals and dentinal tubules (estimated as measuring three miles in length) dead organic matter which is brought into association with the circulating blood through the dentino-cemental foramina, it is liable, even if sterile when the pulp was extirpated, to be infected by any organisms circulating in the blood. It has been shown that, even when caries has only extended a quarter of the way through the dentine towards the pulp, approximately 50 per cent. of the pulps of such teeth are infected, and further, that it is impossible, with the most scrupulous care and the use of the best known bactericidal medicaments, to

be certain that the infection present has been eliminated. It is probably very rare for the nerve canals to be completely filled, even though the canal be simple and straight, as most of the substances used cannot be made to fill the canal accurately, and owing to absorption of the solvents used in the preparation the filling contracts and leaves a space which, with the dentinal tubules, is unprotected by any vital agents and is liable to become the storage place for bacteria and toxins. Price says:

"It is to be remembered that a small portion of a gangrenous pulp beneath a root-filling is equivalent to an entire gangrenous pulp as a cause of pericementitis. The vast majority of cases occur as a sequel to putrefaction of the pulp, either before or after instrumentation or as a result of infection of the apical tissue by instruments either unsterilized or reinfected by contact with oral fluids, septic fingers, etc."

When the nerve canal is delta-like, or has lateral openings, the pulp remnants cannot be removed, nor can the canals be suitably filled even with impregnation methods. To get out of this difficulty some authorities resect the apex of the tooth.

Bacteriological examination has shown that, no matter what medicament is used in the treatment of infected apices, dressings left in for forty-eight hours are found to be infected, and that even when all care has been used root-filled teeth may be a source of great danger to the patient. Experimentally it has been proved that such root-filled teeth may contain bacteria or toxins which, together or separately, produce toxæmia and death when inserted into animals.

Mayo says:

"Although the possessor of a tooth with dead pulp without local reaction may be enabled to eat better for a time, he is conducting his health on borrowed capital, as he may not have a physician or dentist who will appreciate that the disease or broken health that may develop is due to such an apparently trivial cause that persons comparatively well may later develop a variety of diseases that destroy health and happiness, if not life."

Whilo Inglis says:

"At present it looks as though no root-filled tooth can be considered other than as a life risk, while sterile filled roots can be infected from other sources of infection, of which there are many."

#### RADIOGRAPHIC PITFALLS.

The errors in dental radiographic diagnosis may be due to (a) faulty photographic and radiographic technique; (b) misinterpretation of the radiograph.

With regard to (a) it can be said that the manufacturers have done their best to produce an x-ray unit which is as simple in working as any snapshot camera. It is common knowledge that with either kind of apparatus the proportion of films of good quality is dependent upon the care, skill, and experience of the operator. The simplicity of the apparatus will enable the most ignorant beginner to obtain chance successes, and these chance successes are stored and exhibited to give a sense of self-satisfaction which tends to prevent further progress. It is not to be wondered at, therefore, that marks on radiographic films due to faulty technique may (1) be interpreted as pathological changes, which are not found at subsequent operation; (2) mask a pathological lesion which is present. I have known of a number of cases in which the pathological lesion was missed because the films were flat. Fig. 13 is an example of such a case. No amount of clinical or pathological knowledge will enable anyone to give a diagnosis from a faulty film.

#### Misinterpretation of the Radiograph.

This is due chiefly to: (1) lack of experience in interpreting radiographic shadows; (2) lack of knowledge of general and dental pathology.

With regard to (1) every radiologist who has correlated the radiographic and clinical, operative or post-mortem, findings knows that the radiograph may show only slight changes even when a massive lesion is present. Thus with acute inflammatory lesions of the skeletal tissues the radiograph may give no sign; even with the enormous development which one sees in some cases of periosteal sarcoma the radiograph may show nothing abnormal or perhaps a little localized thickening of the periosteum. It can almost be said, particularly in acute conditions, that the more attractive the physical signs, the less the radiographic signs.

In the case of dental radiography, as the lesions are often small, it is all the more important to pay attention to the finer details.

As regards (2) there is no question that for the best interpretation of radiographs the observer must have a good knowledge of the normal and pathological anatomy of the part. Most books dealing with the radiography of the teeth instance the interpretation of the mental and palatine foramina and loculi of the maxillary antrum as areas of periapical absorption, so that these mistakes are hardly likely to be repeated except by the beginner; even if they are, the worst that can happen is the sacrifice of one or perhaps two sound teeth.

The result of the wide knowledge of the faulty interpretation of these foramina has no doubt been responsible for the much more grave error which is brought to one's notice from time to time—that is, the interpretation of a definite periapical absorption as a normal foramen or sinus. It would almost seem that the larger the cyst the greater the possibility of it being interpreted as a shadow of the antrum. (See Fig. 8.) This is of great importance, because the systemic disease from which the patient is suffering continues or increases in severity as the suspected cause has been overlooked and allowed to remain—there being no local signs apparent to the patient or the clinical observer.

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## SOME PROBLEMS OF GLYCOSURIA.\*

BY

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THE introduction of insulin in the treatment of glycosuria has enabled us to overcome the urgency of diabetic coma in a way never before possible, but many problems remain.

Can the administration of insulin be regarded as a replacement therapy? There is much evidence that such is the case. It is usually recognized that the respiratory quotient rises under its influence from 0.7, indicating metabolism of proteins and fats, to unity, indicating the metabolism of carbohydrates. The glycogen store has been shown to increase very materially under its use. The blood sugar curve—that is, the amount of sugar in the circulating blood—is very materially altered; whereas the administration of glucose alone led in one case to a rise from 0.2 to 0.4, the combined administration of glucose and 20 units of insulin resulted in a fall to 0.05.

Regarding insulin, then, as an efficient replacement therapy, we are still left with very definite limitations.

1. The amount of insulin required depends upon the amount of carbohydrate to be dealt with.
2. The insulin must be given at the time of carbohydrate absorption.
3. The duration of maximum insulin efficiency would appear to be only four hours.
4. The preparation must be given hypodermically.

A consideration of these factors at once shows the very serious limitations of this line of treatment. The daily life of most persons includes four meals, which vary in themselves, and from day to day, as to their carbohydrate content. A complete replacement therapy would therefore demand four doses of insulin, given hypodermically, in

quantities calculated to deal accurately with the carbohydrate content of each individual meal. This is quite impossible, and it is found that patients are very reluctant to tolerate more than two hypodermic injections daily. The diabetic patient under insulin treatment, therefore, finds himself still limited as to time, quantity, and quality of food; he must be on a diet as rigid as heretofore, although containing material previously forbidden; and, in addition, must tolerate two hypodermic punctures every day. Two of the meals will be relatively generous, while the other two are designed to contain the minimum amount of carbohydrate.

There are two schools of thought in the composition of diabetic diets. One believes that the best results are obtained by keeping the patient on the lowest diet which will maintain weight and strength, and, in consequence, the minimum possible daily dose of insulin. The other school holds that a generous diet allowing for plenty of available metabolic material, with a relatively large dose of insulin, is the better line of treatment. A careful paper by Rabinovitch in the *Quarterly Journal of Medicine*, in which the results of about 1,200 cases have been analysed, has led him to the conclusion that a minimal diet yields the best results. This is the type of conclusion usually arrived at by a statistical method, but it is liable to omit the human factor. It is a matter of common experience that diabetics generally not only have larger appetites in consequence of the disease, but that they have always liked or required quantities of food beyond the average. If this be so, it is possible that treatment including a generous diet will be more satisfactory to the patient and be more likely to be maintained; and it will prove much less irksome than treatment along rigidly abstemious lines. It is possible that medical practitioners generally underestimate the limitations from which these patients suffer; the continued dieting, the regularity of their meals, and the ever-recurring hypodermic punctures, with careful consideration of any food provided outside their own homes, make for a monotony which usually proves hard to bear, and the more rigid its limitations the greater the mental load. If insulin can legitimately be regarded as a replacement therapy, then, in my opinion, it should be used to replace so far as it is practicable; the introduction of double strength insulin has enabled this to be achieved more easily than was the case when only one strength was available.

The relation of proteins, fats, and carbohydrates in the total diet offers a further problem to which no generally accepted answer has yet been found. Anything approaching the usual proportions of the average meal in this country would involve the use of impossibly large doses of insulin. Even the proportion found in milk (protein 3, fat 4, carbohydrate 5) requires relatively large injections, but is probably a basis which yields good results.

Certain difficulties present themselves in relation to groups of cases. The man who has to earn his own living by hard labour obviously needs a more generous diet than the well-to-do woman with no particular occupation. The dieting of diabetic children offers great difficulty, for they must be given suitable food in sufficient quantity to permit of adequate growth, and they are nearly always severe cases. It has been my experience that no satisfactory result can be obtained among the younger patients unless three insulin doses a day are given.

Changes in dieting when the insulin dose has been established are from time to time necessary, the commonest cause, perhaps, being loss of appetite which results from some pyrexial illness. There is no doubt that this constitutes one of the greatest dangers to the diabetic to-day. If the patient does not take the carbohydrate part of his diet the insulin would appear to become unnecessary. It frequently happens that a diabetic patient contracts influenza, or some other disease associated with a rise in temperature, and is put on a low diet without insulin. The metabolic processes are increased with the rise in temperature, the carbohydrates being the chief source of heat production; in this respect the diabetic fails completely, with the result that the proteins and fats are inadequately split, a rapidly rising ketosis occurs, and coma becomes imminent. The occurrence of pyrexia in a

\* A paper read before the Lancashire and Cheshire Branch of the British Medical Association.

diabetic is an indication for more insulin and more carbohydrate, not less. In my own cases I have found milk and glucose, with sufficient insulin to avoid acetone in the urine, a satisfactory line of treatment, but I have always had the advantage of frequent blood sugar examinations, and have further aided in keeping the blood sugar within reasonable limits, but at the cost of enormous doses of insulin. It is further tenable that much may be done to avoid coma by the administration by the mouth of sodium bicarbonate and sodium phosphate, the action of the latter depending upon the fact that acid sodium phosphate is secreted in the urine. Large doses of both salts can be added to each milk feed.

The experiments of Allen with partially depancreatized dogs showed that plentiful carbohydrate with high blood sugar caused early death, whereas carefully regulated diets maintaining a low blood sugar allowed the dogs to live considerably longer. The question therefore arises when a diabetic with high blood sugar comes under treatment whether the maintenance of a normal blood sugar level will permit of any degree of pancreatic recovery. It is my experience with diabetics of middle life that if the diet and insulin dose be correctly balanced and maintained for some months the dose of insulin required for the same diet does fall, but that the fall is slow and gradual. No case of complete recovery—that is to say, with a seriously abnormal response to 50 grams of glucose—has occurred with sufficient completeness to show a normal blood sugar curve after treatment; yet a few cases have given remarkably satisfactory results, more particularly those arising from septic absorption.

The large amount of work on diabetes during the past few years has revealed a good many fallacies among our cherished beliefs. Most of us were taught that the diabetic was peculiarly liable to septic infection, whereas it is now generally recognized that septic infection is prone to give rise to diabetes. Recently a woman, aged 32, was admitted to the Salford Royal Hospital with a carbuncle of the neck of seven days' duration. Sugar was present in the urine with much acetone, and although the patient was not in coma she was sufficiently sleepy to require rousing before she could take any notice. The slough was removed from the septic area and the blood sugar held in check by insulin. At the end of a week it was found that the patient could take a diet of over 2,000 calories, containing 85 grams of carbohydrate, without insulin and without either glycosuria or acetonaemia. She was discharged on a curtailed carbohydrate diet and without other treatment. Another patient, aged 60, was known to have had a very extensive fistula in situ and glycosuria for over ten years. Two operations and a long period of dressing produced a complete healing of the fistula, and the patient was able to take, without glycosuria, a diet restricted in carbohydrates, but permitting a very fair allowance of stout. Such cases, presumably septic in origin, occur in every diabetic clinic, and are very satisfactory once the originating sepsis can be cleared up.

The following case appears to me to belong to a different category.

A girl, aged 18, had been treated for a fortnight for soreness of the mouth. No local lesion was found, and various palliatives were tried without benefit. She had previously been in robust health. Some degree of thirst developed; the urine was tested and was found to contain sugar. The same day she became unconscious, the urine being then loaded with sugar and acetone. The coma lasted thirty-six hours in spite of the administration of over 300 units of insulin. Recovery gradually ensued, and by the end of a week the patient was taking a diet of 1,800 calories with 40 units of insulin twice daily. Although the diet remained unchanged, the dose of insulin had to be gradually reduced on account of recurrent hypoglycaemia, until at the end of three weeks of treatment the diet could be taken without insulin, and without either glycosuria or acetonaemia. At the end of a month's treatment she returned home on the same diet but without insulin, and remained energetic and well with no glycosuria. Six weeks later the festivities of Christmas proved too much for her self-control, and after two days of feasting the urine was loaded with sugar, which did not disappear until the original diet of 1,800 calories had been regularly adhered to for a week. Since then there has been no lapse, and the patient remains very well.

The temptation is almost irresistible to believe that diabetes in young subjects has an acute and infective origin; the onset in many of these cases suggests it strongly. If this be so, and they are adequately treated

from the first, to avoid any long period of raised blood sugar, which is known to be so deleterious to the islet tissue, it is surely not too much to hope that some of them will actually recover completely, and so be saved from the disease.

The feasibility of operation upon diabetic patients has undergone complete change with the introduction of insulin. The usual method adopted is to give the patient an adequate diet and the required insulin dose to maintain freedom from glycosuria for a week. On the day of operation the usual purging in preparation is dispensed with, and the patient before receiving the anaesthetic is given 50 grams of glucose and 10 to 20 units of insulin, dependent upon the amount of insulin required for his diet, as forming an estimate of the severity of his pancreatic deficiency. Chloroform is countermanded as an anaesthetic, but ether appears to be quite safe. Post-anaesthetic vomiting and the general dietary upset, consequent upon the anaesthetic, may occasion some difficulty in determining the required insulin dose for the first two or three days after the operation, otherwise this procedure causes little trouble.

Some time ago a woman, aged 38, who had been known to have diabetes for ten years, went into coma and remained unconscious for six days, in spite of very large insulin doses. She ultimately made a very good recovery, and led a fairly useful life, taking about 100 units of insulin daily; she was regarded as a severe case of diabetes. A year later she was seized with severe abdominal pain and vomiting, and some hours later a gangrenous appendix was successfully removed by Mr. Macalpine. The patient took the anaesthetic well, and made a remarkably good recovery without any signs of coma. The wound healed up well, as in ordinary cases. She unfortunately developed femoral thrombosis, which required prolonged rest in bed, but she is still alive and well and able to lead a normal life except for her dietary restrictions.

To undertake a laparotomy in this particular case appeared to be courting disaster, but very little trouble was experienced from her diabetic condition, and I personally do not regard diabetes as a contraindication to operation to-day.

It is now generally recognized that glycosuria does not always mean diabetes, and renal glycosuria in which the kidney passes sugar with the urine at an abnormally low concentration in the blood is a fairly common occurrence. But there are three other conditions which are perhaps not quite so frequently looked for and understood. The occurrence of sugar in the urine after mental excitement is fairly common. It was found in a considerable percentage of students during final examinations, and in football teams after exciting and important matches, and is believed to be due to the physiological mobilization of sugar resulting from increased adrenal secretion. During the past year three cases have come under my notice in which the diagnosis between cerebral haemorrhage and diabetic coma had to be made. All of them were very extensive cerebral haemorrhages, but all the patients had glycosuria, presumably caused by the haemorrhage, as one of them was known not to have had any urinary sugar on the morning of the stroke. The third condition is the frequent association of diabetes with exophthalmic goitre. In the majority of hyperthyroid cases the tolerance for sugar is within the normal limits, while in others there is a very definite intolerance, with abnormal rise and slow fall in the blood sugar content. These cases appear to be materially improved by insulin treatment, both as regards their diabetes and their hyperthyroidism.

Lately I have had under my care a patient with well-marked hyperthyroidism, who has a very low renal leak point and slight carbohydrate intolerance. In spite of this, three-quarters of the thyroid was successfully removed by Mr. Jefferson without any untoward event and with considerable benefit, but without the help of insulin.

Some form of therapy which can be administered by the mouth, and with a longer period of activity than that of insulin, is still being diligently sought. No such thing has as yet been found, but two attempts have been made. Insulin can be absorbed in the stomach, but only in very small quantities, if given either with alcohol or with saponin, but the quantity is not sufficient to make it practicable. The other attempt depends upon the fact that guanidine was thought by Noel Paton and Findlay to have a definite effect in lowering the blood sugar. The drug is much too toxic to be employed, but various derivatives have

been tried, and some can be tolerated. A product of this group known as synthalin is now on the market. It is doubtful whether it can be administered in sufficient doses to control the blood sugar, but there is no doubt that the drug does give rise to considerable gastritis and some diarrhoea. This is likely to control the amount of food ingested, and by so doing will materially improve the middle-aged diabetic, who eats and drinks too much.

## PULMONARY FIBROSIS:

### AN INVESTIGATION INTO THE ORIGIN AND COURSE.

BY

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PULMONARY fibrosis in childhood inflicts such a physical handicap on its victims in later life that a short account of our attempts to investigate the origin and subsequent course of the disease may be of general interest and lead to further study. The materials for the investigation have been gathered from the records of the Brompton Hospital, and in the main confirm those recently published by Dr. Burton Wood.<sup>1</sup> We are using the term "pulmonary fibrosis" because it is at present the most familiar designation of the disease known as fibrosis, fibroid induration, chronic broncho-pneumonia, chronic basal pulmonary catarrh, and early bronchiectasis—which titles, we believe, indicate phases of the same condition.

Pulmonary fibrosis may be a disease entity *per se*, but it is commonly secondary to an attack of broncho-pneumonia, usually of the subacute variety, following some of the infectious fevers, especially measles and whooping-cough. Broncho-pneumonia invariably produces some degree of bronchiolar dilatation, and persistence of the inflammation promotes fibroid thickening of the bronchioles and air cells; moreover, the slight dilatation is in itself a cause of the cough which tends in vicious sequence to increase the weakness of the tubular walls. Pulmonary fibrosis begins in early childhood, a fact explained partly by the special liability at that age to infection by measles and whooping-cough, and partly by certain peculiarities in the anatomy of the lungs—namely, the relatively large calibre of the bronchi, the thickness of their epithelial lining, and the thick, but yielding, walls of the alveoli; these are embryonic and infantile distinctions which have disappeared in a healthy child by the fifth year.

Quite early in the investigation we found it essential to impose certain arbitrary limits to our search so as to keep it within reasonable bounds, and therefore made use of only such cases as fulfilled the following conditions:

(a) The age at the first examination must have been under 15 years.

(b) Each case selected must have been under observation for at least six months.

(c) Physical signs must have been present at the first examination and persisted over the whole period of attendance.

(d) At least five years must have elapsed since the last attendance.

Cases with any evidence of pulmonary tuberculosis or established bronchiectasis (at the first attendance) were excluded.

More than 23,000 notes from the out-patient department of the Brompton Hospital were reviewed, and 259 patients apparently suitable for investigation were followed up. Of these, 7 were found to have died and are not included in this report, but 53 attended and form the basis of inquiry.

At our examination a full clinical survey was made, with special reference to the following features: (a) Clinical history since last attendance at hospital. (b) Symptoms with particular reference to normal life and work. (c) Physique and capacity for work. (d) Physical signs in lungs.

### CLASSIFICATION.

The 53 cases are classified from an economic standpoint; we use the term "fit" to imply the capacity of an individual for a normal useful life.

1. Fit, without signs or symptoms—resolution has taken place in the interval ... ..	9 (17%)
2. Fit, but with physical signs—permanent injury to lung tissue, but no apparent impairment of general health ... ..	16 (30%)
3. Not fit and with physical signs—permanent injury to lung tissue accompanied by some degree of constitutional disability ... ..	23 (43%)
4. Bronchiectasis has supervened since last examined ... ..	5 (10%)

### COMMENTS.

*Complete Resolution.*—This group is small but definite; the notes show that no improvement had accrued during the period of treatment, and it is impossible to judge the age at which the induration resolved.

*Persistent Signs, but no Symptoms.*—It is remarkable that a good physique and general health can be maintained in spite of permanent damage to lung tissue.

*Persistent Fibrosis.*—These cases are the most numerous, and, with the next group, constitute a grave indictment of present treatment of the disease. The symptoms and signs are compatible in most cases; there is an increased tendency to coughs and colds, and the majority are confined to bed or house at frequent intervals during the winter months.

*Bronchiectasis.*—As mentioned previously, we rejected cases which showed the presence of established bronchiectasis while attending hospital, and this group only includes those in which the condition has developed since last seen. The number is small, but in addition the accounts of the seven deaths suggested this as the terminal cause.

*Syphilis.*—None of the patients examined exhibited clinical evidence of syphilis.

*Pulmonary Tuberculosis.*—All patients were examined for tuberculosis, and only one was found to have tubercle bacilli in the sputum. This case is not included in our figures.

### CAUSATION.

The primary causes were:

	Cases.
Measles alone ... ..	14 (26.5%)
Whooping-cough alone ... ..	8 (15%)
Measles with whooping-cough ... ..	16 (30%)
"Pneumonia" ... ..	14 (26.5%)
Scarlet Fever ... ..	1 (2%)

An accurate history of broncho-pneumonia following these fevers could not be definitely established, but was suggested in the majority of cases. Broncho-pneumonia is a frequent and often fatal complication of measles, and among the poor or weakly is apt to run an irregular but persistent course. It may last as long as six weeks, or even more, and in such a case fibrosis will probably ensue. Broncho-pneumonia is also the most serious complication of whooping-cough, and accounts for nine-tenths of the deaths from the disease. Our cases support the view that these two infections are mainly responsible for the production of pulmonary fibrosis. As the severity of both decreases with each year after the second, the fatalistic attitude of the laity—"let them catch it and get it over"—is to be deplored; since after the fifth year there is little danger of severe pulmonary complications to be feared from the infection or its sequel, every effort should be engaged to guard young children from any risk of contracting either, and especially should children with measles be protected from whooping-cough. "Pneumonia" appears frequently in the histories and gives rise to some confusion, for lobar inflammation is probably not intended; it is not a frequent complication of the fevers, and if present is always of a lobular variety. It would appear likely that a combination of impaired percussion note, weakened puerile breath sounds, and crepitations occurring in a febrile child might well at first sight suggest a diagnosis of lobar pneumonia, whereas actually the condition represents an exacerbation in a fibrotic lung.

## SYMPTOMS AND SIGNS.

The following symptoms and signs were found in patients who were unfit. Cough was invariably an early symptom, aggravated by cold and damp weather, and tending to become worse year by year; very marked liability to take cold was one of the most prominent features of the condition. If the cough became persistently paroxysmal a definite dilatation of the bronchioles was to be assumed. Slight breathlessness on exertion, and in advanced cases slight cyanosis, with parrot-bill clubbing of the fingers, pointed to right heart embarrassment. Contrary to the prevalent opinion, we found that the clubbing tended more to the early "parrot-bill" than the "drumstick" type. The sputum was scanty in quantity without characteristic peculiarity, unless bronchiectasis had intervened. The disease was almost always unilateral. The configuration of the thorax was often affected, there being slight scoliosis with narrowing of the interspaces and drooping of the shoulder; retraction to a degree indicating extensive pleural adhesion was not observed in any instance, nor was the heart markedly displaced. Respiratory movements and sounds were diminished over the diseased lung, and adventitious sounds were occasionally present. X-ray investigation following lipiodol injection into the bronchi would have been desirable, but was impracticable on account of the patients' daily routine; radiograms were taken in some cases.

## TREATMENT.

Without entering closely into details we would like to point out that certain indications are clear, of which the need of more efficient prophylaxis is the most prominent. Broncho-pneumonia (whether so-called primary or secondary to measles and whooping-cough) is well known to be the cause of a large number of deaths in childhood, but it is not so generally recognized that as a persistent sequel of these infections it leads to the disability which is the subject of this investigation. Too much emphasis, therefore, cannot be laid on the after-care of cases of measles and whooping-cough. In the treatment of incomplete resolution attempts must be made to reventilate the sclerosed areas by means of breathing exercises; patients are now being treated in this manner at Brompton with very beneficial results, but it is as yet too early to speak of permanent benefit. In early cases reventilation and expansion of lung are desirable, but where bronchiolar dilatation has occurred and appears to be becoming permanent, natural or artificial methods of reducing the size of the thoracic cavity to allow for the ensuing cicatrization should be considered. If the child is young enough the chest wall will probably retract sufficiently for some degree of compensation; but when the thorax is too rigid more radical measures—artificial pneumothorax, phrenicotomy, or more extensive surgical measures—may be indicated. Failing employment of such procedures, permanence of signs and symptoms may be expected, and treatment can only be symptomatic.

## Illustrative Cases.

## GROUP I.

A boy, aged 5½ years. Whooping-cough one year previously, since when he was never really well; persistent cough. Examination showed impaired percussion note, weak breath sounds, and crepitations at the right base. The patient attended for six months, at the end of which time the signs were still persisting. Re-examined aged 21. Has been very well for many years, and is able to do heavy work. All physical signs completely cleared up.

A boy, aged 11. Measles two years previously, followed by "pneumonia," since when he had had constant cough and sputum. Examination showed impaired note, weak breath sounds, and râles at right base. Diagnosed as fibrosis of lung. Signs did not clear up. Re-examined aged 23. Now perfectly well, working. Signs no longer present.

## GROUP II.

A girl, aged 7½. Measles and whooping-cough three years previously, since when frequent cough. Examination showed rhonchi and crepitations at both bases. Attended for seven months; signs did not clear up.

Re-examined aged 22. Healthy-looking woman; feels well and is able to work. No cough or sputum. Impaired note, weak breath sounds, and post-tussive crepitations at right base.

A girl, aged 7½. Whooping-cough three years previously, since when persistent cough. Examination showed impaired note, weak

breath sounds, and crepitations at right base. Diagnosis—? early bronchiectasis. Signs persisted during attendance.

Re-examined aged 23. Has been quite well for years. Able to work. Signs as before. No cough or sputum. Not subject to colds.

## GROUP III.

A girl, aged 5. Measles one year previously, since when cough and dyspnoea. Examination showed numerous crepitations at the left base, and these persisted during six months' attendance.

Re-examined aged 24. Pale, muddy complexion. Always has cough and about half an ounce daily of non-offensive sputum. Exacerbation of symptoms occurs every two to four months, necessitating retirement to bed. Able to work between attacks, but not completely fit.

A boy, aged 12½. Measles and whooping-cough two years previously, since when persistent cough. Examination showed weak breath sounds and coarse râles at the right base.

Re-examined aged 20. Always has cough with slight amount of sputum. Frequent colds, able to work, but not completely fit. Signs as before.

## GROUP IV.

A boy, aged 8½. Measles followed by whooping-cough when 6 months old, since when persistent cough. Examination showed coarse râles at both bases. The child never coughed up any sputum, but the signs did not clear up.

Re-examined aged 13½. Typical bronchiectasis with offensive sputum, confirmed by x-ray examination.

A girl, aged 6. Whooping-cough one year previously, since when persistent cough. Examination showed numerous crepitations at the right base. Diagnosis—? bronchiectasis.

Re-examined aged 14. Typical bronchiectasis with offensive sputum.

## CONCLUSIONS.

1. Pulmonary fibrosis of non-tuberculous origin frequently produces grave disability and seriously reduces the subject's economic efficiency; on the other hand, a reasonable proportion establish an "immunity" and labour under no apparent disadvantage.

2. Pulmonary fibrosis is a not infrequent consequence of the protracted form of broncho-pneumonia which follows measles and whooping-cough.

3. Protection against measles and whooping-cough in the first five years of life would tend to prevent its incidence.

4. Apart from prophylaxis, amelioration, if not absolute cure, may be expected by improved methods of treatment.

It will be noted that we have used the term "pulmonary fibrosis" throughout as a label for the condition, but this is not altogether satisfactory, and there would appear to be a distinct need for an official discussion with a view to determining the nomenclature.

Our thanks are due to the honorary staff of the Brompton Hospital for permission to make use of their records, also to the lady almoners for their assistance in tracing cases. For suggestions and advice we are indebted to Drs. G. E. Beaumont and W. H. Lister.

## REFERENCE.

<sup>1</sup> *Lancet*, March 24th, 1928.

## SOLITARY ULCER OF THE BLADDER.

BY

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It is a matter of some interest that a review of the literature on general and urinary surgery reveals the fact that this condition is enshrouded in a certain degree of obscurity. In some works the disease fails to be identified as a clinical entity from other varieties of chronic ulceration, in others it is not even mentioned. Certain well-known writers, on the other hand, give the subject considerable attention and description under titles which appear to be synonymous.

Rowlands and Turner (1927) describe the chronic or callous ulcer of the bladder, which occurs nearly always in young men, but occasionally in women who have borne children. Haematuria is a fairly constant symptom. The condition was mentioned by Fenwick in 1900,<sup>1</sup> and again in 1904.<sup>2</sup> V. C. Hunt<sup>3</sup> discourses on submucous ulcers of the bladder, advises their excision, and the treatment of septic foci affecting the tonsils, teeth, nasal sinuses, etc.

Cabot describes a solitary ulcer that may be either acute or chronic. He mentions also an elusive ulcer that occurs chiefly in females and is associated with great frequency of micturition but without haematuria.



Frank Kidd, in his work on urinary surgery (1910), gives a clear and concise description. The causes of simple ulcer are classified as consecutive, spontaneous, and symptomatic; the consecutive variety being due to mechanical pressure of foreign bodies, stones, etc., the spontaneous due to bacterial infection of the bladder wall, and the symptomatic occurring in the course of diabetes or disease of the nervous system.

The second variety, which is the type under present discussion, is subdivided into acute perforating and chronic solitary. It will thus be seen that the nomenclature and description of this disease are somewhat varied, and that a brief account of its etiology, pathology, and clinical features may be of interest before relating a case which was sent to me some months ago.

#### *Etiology.*

This is not clearly understood. There is evidence in some cases of a toxic focus, such as pyorrhoica, septic tonsils, or sinus infection. Haematogenous infection is regarded as the probable cause. Comparison is made with the theory of gastric ulcer from infective emboli through the blood stream. The patients are usually young males with no antecedent urinary trouble or venereal history.

#### *Pathology.*

The ulcer is single, submucous, and shallow. In time it penetrates the muscular wall, and, in rare cases, the entire wall of the bladder, with subsequent infection of the pelvic cellular tissues or peritoneum, according to the site of the lesion. Cystitis appears before long, and the ulcer becomes encrusted with phosphatic debris. The ulcer is usually half to three-quarters of an inch in diameter. It is situated most frequently on the posterior wall, above and internal to the ureteric orifice. The margin is slightly raised; the base is somewhat shaggy and covered with fibrin or blood clot with, perhaps, some phosphatic encrustation.

#### *Clinical Features.*

The early symptoms are increased frequency of micturition and intermittent haematuria. Later the haematuria becomes more persistent and profuse, with strangury and pain referred to the penis. The general health becomes undermined in a very short time, with loss of weight and a moderate degree of anaemia. The symptoms of cystitis are superadded.

#### *Differential Diagnosis.*

Examination by cystoscopy will, of course, localize the source of the haemorrhage, and the ulcerated area found in the bladder must next be differentiated from tubercle and neoplasm. Bleeding may be so profuse during instrumentation as to make visibility difficult or impossible. Suprapubic cystotomy, for diagnostic as well as curative purposes, may have to be performed. Repeated bacteriological examination of the urine is made to eliminate tubercle. Coliform infection should be identified by the same means. Adherent blood clot at the site of the ulcer may lead to the suspicion of malignant growth, especially when cystitis is present.

The diagnosis is confirmed finally by the microscope. A section of the ulcer shows chronic inflammatory tissue near the edge, with new blood capillaries, and organized blood clot covering the base.

#### *Treatment.*

Palliative measures are not, as a rule, satisfactory. Curettage of the ulcer, and caustic applications, through a suprapubic opening, have met with varying success. Treatment by diathermy through the cystoscope is successful in early cases. Resection of the ulcer is the most satisfactory method. It should be done early. The presence of cystitis necessitates preliminary drainage with all the attendant difficulties of a second operation later. An ulcer situated in the trigone is best dealt with by the cautery.

#### *Case of Solitary Ulcer: Partial Cystectomy: Cure.*

A youth, aged 15, noticed blood in his urine during the afternoon of June 10th, 1927, following exercise at rowing earlier in the day. At night the urine was clear. The next morning blood was again present, but passed off towards the evening. The haematuria was painless and recurred each day. On June 17th,

as the condition was not improving under medical treatment, I was called in consultation by his doctor with a view to further investigation. His parents declared that he had looked tired and thin for the past two or three months. He had always been delicate since childhood. He was, however, a keen athlete, and played regularly at cricket or football, and was fond of rowing.

*Past Illnesses.*—He had tonsillitis and quinsy when  $3\frac{1}{2}$  years old, tuberculous glands in the neck, which were removed by operation, when he was 7, and typhoid fever at 8 years of age.

*Present Condition.*—He was pale, of muddy complexion, thin but wiry, and intelligent. Temperature and pulse were normal; blood pressure, 110 mm. Hg. The amount of blood in the urine was variable each day, at times half to a third of its bulk, at others almost clear. The haematuria was symptomless, but later he complained of frequency of micturition and a feeling of discomfort at the base of the penis. The urine was free of casts, bacteria, and, apart from blood, showed no other pathological cell elements. The urea concentration test indicated good renal efficiency.

*Cystoscopy.*—This had to be performed on three occasions on account of persistent bleeding. It was only on the third examination that a clear view was obtained. The ulcer was situated above and to the outer side of the right ureteric opening. Its size could not be clearly ascertained as it was only partly visible, but after operation it was found to be about three-quarters of an inch in diameter. There appeared to be a small pouch or depression of the wall surrounding the ulcer, over the edge of which several streams of blood could be seen trickling downwards like a cascade or waterfall.

*Operation.*—On July 8th I explored the bladder. The ulcer was bleeding freely; it was the size of a sixpence, but well clear of the right ureter. I resected a portion of bladder wall including the ulcer—approximately one and a quarter inches by one inch—closed the bladder, and drained by a suprapubic tube for a few days. The prevesical space was drained also.

Convalescence was normal. At the end of three weeks the wound was quite healed and the patient passed water naturally. On July 28th he left hospital.

During the following two months the urine was examined at weekly intervals and was found normal and free from blood on each occasion. There was no pain or frequency complained of at any time.

Before operation his weight was 6 st. 9 lb. On September 27th, two and a half months after operation, he weighed 8 st. He was then looking well, with a fresh and healthy colour, and stated that he felt better than he had done for several months. He was taking moderate outdoor exercise.

*Pathological Report* (from the Clinical Research Association).—"The section shows a superficial ulceration covered with partially organized blood clot. The epithelium is represented by a very small compressed fragment. There is inflammatory infiltration, but no sign of tuberculousis."

REFERENCES.  
1 Ulceration of the Bladder. 2 Clinical Cystoscopy. 3 Collected Papers of the Mayo Clinic.

## LARYNGEAL DIPHThERIA IN OLD AGE.

BY

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MEDICAL SUPERINTENDENT, WESTERN FEVER HOSPITAL, LONDON.

LARYNGEAL diphtheria is rare at any period of adult life, and becomes increasingly so with advance in age. In a paper published some years ago<sup>1</sup> I illustrated this by the fact that my experience had been limited to four examples of the kind among 1,156 cases of laryngeal diphtheria, with or without faucial and nasal involvement, admitted to hospital between August 17th, 1899, and December 31st, 1915, during which period 11,313 diphtheria patients of all ages were admitted, 821 being aged 20 years and over. Of the four cases, three of which were fatal, the youngest was aged 24 and the eldest 45.

The present case is remarkable for the much greater age of the patient, and is, as far as I can recall, the oldest example of diphtheria that I have seen, with the exception of a moderate faucial attack in a woman aged 94, recorded by G. W. Ronaldson in this Journal.<sup>2</sup>

The patient was a woman, aged 76, who was admitted to hospital on March 20th on the sixth day of disease. On admission the tonsils and uvula were covered with membrane, which was also visible on the tip of the epiglottis. The cough was croupy and the voice was lost. A culture of diphtheria bacilli was obtained from the throat. An intramuscular injection of 24,000 units of antitoxin was given on admission and repeated on the following day. No other active treatment, local or general, was employed, and rapid disappearance of the membrane and laryngeal symptoms took place. No complications ensued, apart from a trace of albumin in the urine from the tenth to the twelfth day, but in view of the severity of the attack and the likelihood of subsequent paralysis it was considered advisable to keep the patient in bed till the forty-second day. On her discharge from hospital on the fifty-sixth day she showed no sign of paralysis and the knee-jerks were active.

Apart from the rarity of laryngeal diphtheria in advanced life the case is of interest in the following respects. The pernicious doctrine which has received support in two of the most recent textbooks on diseases of the throat—that antitoxin is of no value after the fifth day of disease—is falsified by the rapid subsidence of the symptoms after injection of the large doses which the patient received. The absence of any serum reaction was due partly to the use of a refined serum and partly to the fact, which I have illustrated on several previous occasions, that serum reactions are often absent or ill marked after severe angina in spite of the administration of large amounts of serum.

Recovery was all the more remarkable as the prognosis of laryngeal diphtheria in adult life is usually unfavourable.

Lastly the case is an excellent example of what C. Zoeller,<sup>2</sup> who has recently recorded an attack of laryngeal diphtheria in a middle-aged man, describes as the “caprices of spontaneous immunization.”

The great majority of town dwellers—especially those in capitals such as London and Paris, where diphtheria is endemic—undergo a process of occult spontaneous immunization, and only a comparatively small minority contract the disease. In some cases, however, this process of spontaneous immunization does not take place. Zoeller's patient was a colonel aged 50, who, in spite of the fact that he had been living in Paris and other communities where diphtheria was prevalent, had not become spontaneously immunized, but had contracted an attack of isolated laryngeal diphtheria followed by extensive paralysis, the laryngeal involvement being attributed to the fact that he was a heavy smoker.

In my patient tobacco could be excluded, and the involvement of the larynx was merely due to the natural course of the disease.

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- <sup>1</sup> *Clin. Journ.*, 1916, xiv, 382. <sup>2</sup> *British Medical Journal*, 1925, i, 733.  
<sup>3</sup> *Bull. et Mém. Soc. Méd. Hôp. de Paris*, 1928, lli, 425.

## TREATMENT OF FRACTURES OF THE CLAVICLE.

BY

H. H. GREENWOOD, M.B., B.S.LOND., F.R.C.S.,

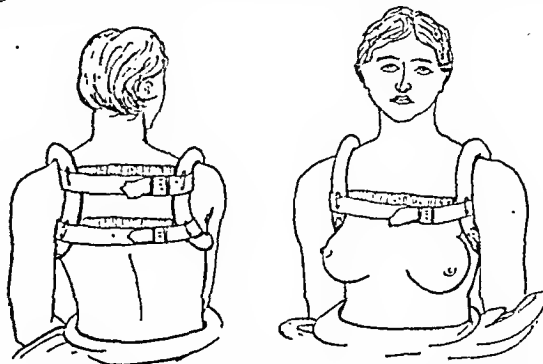
SURGEON TO THE G.W.R. HOSPITAL, SWINDON.

In the *British Medical Journal* of April 28th (p. 723) there was a comment on the treatment of fractures of the clavicle, with a reference to modifications of the usual Sayre's adhesive plaster method. Whatever variant be employed, adhesive plaster condemns a strong hairy man to a month or so of mild purgatory, and inflicts on the more tender skin of a woman or a child an irritation that is wellnigh intolerable; over the scene of the final removal of the plaster it is better to draw a veil.

In the majority of cases of fractured clavicle the fracture is situated somewhere within the inner two-thirds. Leaving out those rare and troublesome fractures close up to the sterno-clavicular joint, and those near to the acromio-clavicular joint, which present special problems in treatment, these fractures can be adequately treated by the padded ring method. This is no new idea, but the rings which I have used for the past two years in hospital and private cases are, I believe, an advance on previous devices. The rings are made of wash-leather tightly packed with wool, and having incorporated with the wool a spring. They have been made for me by Mr. Walgrove, of 4, Hardwick Place, Harrington Square, N.W.1.

The method of application is important. The anterior strap of webbing is drawn sufficiently tight to keep the anterior part of the ring in the sulcus internal to the head of the humerus, so that on pulling back the rings pressure backwards is made on the outer fragment. The strap is fastened to the ring on each side by a stout safety-pin, and should then lie across the chest above the level of the mammae. Two straps are used behind, and are drawn up as tightly as comfort will allow; they also are pinned to the rings. Generally it will be found that on the next and

succeeding days the patient will tolerate further shortening of the posterior straps. When the rings are efficiently adjusted the arm of the affected side is placed across the front of the chest with the hand pointing towards the opposite shoulder, and loosely fixed there by any convenient method—bandage or sling. The thickness of the ring acts as an axillary pad, giving leverage outwards of the outer fragment.



I have found this method far more effective than any plaster method for the majority of cases, and as to comfort there is no comparison. In a busy out-patient department the saving of time is considerable. It is so simple that nurses quickly learn how to adjust the rings, and the patient only needs inspection by the surgeon before being allowed to go home. One young amateur jockey with a comminuted fracture found himself so comfortable that at the end of a fortnight he could ride at full gallop without discomfort—needless to say, without the surgeon's permission.

From the illustrations it will be seen that the appliance leaves free the breast in the female, neither pressing on nor irritating that organ. Usually it will be found that the most effective leverage is secured by tightening the upper strap behind, while the lower strap is only drawn sufficiently tight to counterbalance the pull of the anterior strap.

In the earlier rings made for me I tried a covering of rubber sheeting, but this soon perished; it was more expensive, it gave less secure purchase for the safety-pins, and caused unpleasant sweating in the axillae.

## PYREXIA DUE TO INFECTED DEAD TEETH.

BY

LEONARD G. J. MACKEY, M.D., M.R.C.P.,

HONORARY PHYSICIAN TO THE QUEEN'S HOSPITAL, BIRMINGHAM, AND TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.

The following three cases are interesting examples of a prolonged fever arising from apical abscesses, and they have several features in common—namely:

1. The fever was considerable and of long duration in each case, and terminated at once on extraction of the infected tooth or teeth.

2. In none of the cases is it known when the fever began; so it may have been of much longer duration than is shown by the charts.

3. All three patients complained only of vague ill health; they had no pain and there were no symptoms pointing to any known disease. In Case I I had the patient's temperature taken most carefully to make sure that she was not malingering. In Case II the patient protested that he felt well enough to be in his shop and resented being kept in bed. In Case III the patient refused to remain in bed after two weeks and returned to his business.

4. In all three cases the discovery of the lesion was made by a radiologist. In Case I a solitary abscessed tooth was seen by the radiologist in skiagrams taken of the nasal sinuses. In Case II the abscessed stump was completely covered by clean healthy gum. In Case III the abscessed teeth were discovered amongst several root-filled teeth by the radiologist.

It is not improbable that some of the apparently healthy possessors of abscessed teeth would prove to be running an evening temperature if they submitted themselves to the

test of the thermometer. It is also probable that a pyrexia which is attributed to the patient's illness is sometimes due to an unsuspected root infection, and that if encountered, say, after an operation, or after an attack of pneumonia, or in a person with valvular disease, it might be the cause of much anxiety to both patient and doctor.

It cannot be too frequently stated that root abscesses are quite common in the apparently edentulous, and the fact that a patient has clean empty gums does not warrant us neglecting to advise an x-ray examination of them if the patient's clinical symptoms are such as can be caused by some obscure focus of infection.

Vague ill health, brachial neuritis and sciatica, fibrositis, weakness of the heart muscle, and—may I add?—pyrexia are among the least serious consequences of root abscess.

#### CASE I.—Pyrexia for Seventeen Weeks.

The patient was a middle-aged lady whom I saw in consultation with Dr. L. Kirkby Thomas in 1921.

She had had a febrile illness for seventeen weeks, without any physical signs or symptoms that afforded the slightest clue to the cause of her high temperature, which at times reached  $103^{\circ}$ , as is shown in the accompanying chart. All the investigations usually carried out in such a case proved fruitless, including, I am ashamed to say, tests carried out at my suggestion to discover if she was malingering.

Finally, we decided to have her sinuses radiographed, and, though they proved normal, the radiograph revealed an abscess at the root of a solitary tooth.

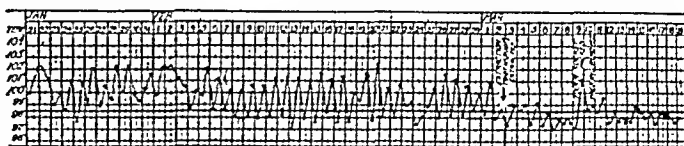
With the extraction of the tooth on the following day the pyrexia ceased, and her health, which had been somewhat affected by her long fever, rapidly improved, and has remained good up to the present day.

The temperature chart was made by the nurses in attendance on the patient. No one knows when the pyrexia began.

#### CASE II.—Pyrexia for Six Weeks.

This patient, a middle-aged man, was under the care of Dr. G. C. Hartley, who was first called to see him in January last because the patient's wife discovered that her husband had a high temperature every evening. Dr. Hartley, finding no obvious cause for the pyrexia except a suspicious tooth, had the tooth extracted; in spite of

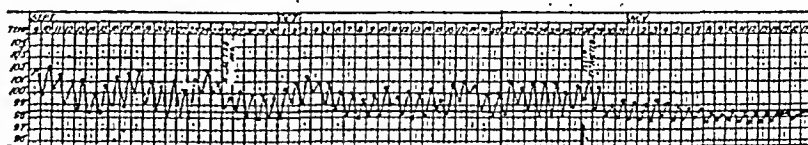
way; but all tests, including blood cultures and Widal and Wassermann reactions, proved negative. A radiograph of the patient's gums, however, revealed a small abscessed



CASE II.

root of which there was no part visible from the mouth. This root was extracted, and for the first time since the discovery of the pyrexia the temperature became normal. A few days later, on account of bleeding, the socket was plugged, and the temperature immediately rose again. The next day the plug was removed, and the temperature fell to normal and has remained so ever since.

The accompanying temperature chart was commenced by Dr. Hartley when the patient was in his charge, and was continued by the nurses at the Queen's Hospital. It is not known when the pyrexia began.



CASE III.

#### CASE III.—Pyrexia for Seven Weeks.

A business man, aged 47, a patient of Dr. J. M. McQueen, in September, 1927, complained of a vague ill health and loss of weight and strength. His evening temperature was found to be between  $101^{\circ}$  and  $102^{\circ}$ , but no cause for this could be discovered, nor had he any symptoms which gave any clue to the origin of the pyrexia.

The usual investigations and tests were made, but all proved negative till an x-ray examination revealed small abscesses at the roots of three root-filled teeth.

With the extraction of his teeth the pyrexia ceased and his health rapidly improved.

He reports that he has been quite well since the teeth were removed, and that there has been no further rise of temperature.

The accompanying chart is constructed from notes kept by the patient and Dr. McQueen. It is not known when the pyrexia began.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### RUPTURED MALARIAL SPLEEN: SPLENECTOMY: RECOVERY.

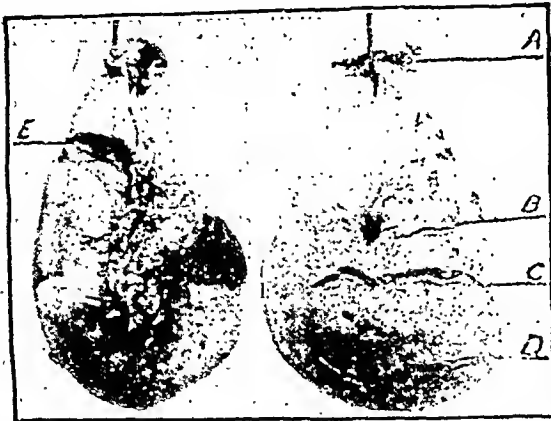
THE following record may be of interest since rupture of a malarial spleen in Jamaica usually causes sudden death, followed by a coroner's inquest. Moreover, the patient was not seen until thirty hours after the accident causing the rupture.

A man, aged 37, whom I had known for several years to be suffering from malaria, with a large spleen, was on August 22nd, 1926, at about 11 a.m., thrown from a "buggy," falling chiefly on the abdomen. Shortly after the accident he vomited twice; during the following night he had severe abdominal pains, and passed two blood-stained stools. He was not seen by me till 6 p.m. on the following day (thirty hours after the accident), when he was in a collapsed condition, with a pulse of 120, and complained of severe pain all over the abdomen, but most acute in the hypogastrium and right iliac fossa. The abdomen was rigid and very tender all over, with dullness in the flanks; no superficial reflexes could be made out positively.

He was removed to hospital, and at 7 p.m. his abdomen was opened through a right rectus incision. The peritoneal cavity was full of blood, for the most part dark and clotted, but there was evidence of profuse fresh bleeding. The abdominal organs were quickly examined and the spleen was found to be ruptured—

this, however, the pyrexia continued. Eventually the patient was admitted into the Queen's Hospital, and I investigated his condition in the usual

ruptures A and C (see photograph) being easily felt. This wound was at once closed with forceps and an upper left rectus incision made, but as there was some difficulty in delivering the spleen an incision was made along the margin of the lower ribs to meet it. The spleen was then easily delivered, the pedicle clamped and tied, and the organ removed. At this stage the patient's condition was so poor that after rapidly cleansing the peritoneal cavity both wounds were quickly sutured in single layers and a drainage tube was inserted into the pelvic cavity; this was removed in forty-eight hours. Saline injections were given continuously during the operation, and rectal salines for the next twenty-four hours. I find it difficult to give blood transfusions in Jamaica owing to the high incidence of syphilis and to the aversion of the natives to act as donors.



The wounds showed superficial sepsis for a few days; but for this there was an uninterrupted convalescence. The man was discharged in four weeks from hospital, apparently quite well; he has not returned to me with an attack of malaria, but reported four weeks after with an attack of gonorrhoea. The spleen weighed 16 oz. on the morning after the operation. The ruptures labelled A, B, C, D in the accompanying photograph were on the outer surface; rupture E was on the inner surface.

#### Conclusions.

The haemorrhage must have stopped temporarily, but was renewed by the jolting over a four-mile rough road to hospital. Evidently no large vessel was implicated. The two blood-stained stools may have been caused by a contusion of the bowel which did not appear on the peritoneal surface, or have been due to the common practice of the peasantry of dosing themselves with calomel to remove "bruised blood." Another notable feature of the case is the lack of shock, which I have often observed among the natives.

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#### PNEUMOCOCCAL PERITONITIS.

THE interesting case reported by Dr. Seymour (May 26th, p. 885) prompts me to describe another case of pneumococcal peritonitis, which eventually recovered.

A woman, aged 35, developed acute primary pneumonia involving the lower lobe of the left lung. The crisis occurred on the eighth day, with considerable collapse, vomiting, and copious evacuation of the bowels. Subsequently the abdomen became distended and a faint rash appeared on the flanks. A Widal test on the 11th day was negative. Distension of the abdomen progressed and constipation became absolute; there was no vomiting, but the tongue was very dry, and the facies was Hippocratic. On the advice of Dr. Carey Coombs, pituitrin was ordered every four hours. The patient became very collapsed after the third injection, but the bowels were opened and gradually the acute abdominal condition subsided. The temperature, however, began to rise again, and repeated efforts were made to locate a possible empyema, without success.

On the 21st day the patient became suddenly collapsed after a hard cough; soon afterwards the presence of a small quantity of fluid was demonstrated at the left base. The patient also began to cough up pus; presumably a small interlobar empyema had burst into the main pleural cavity. After this episode the patient made progress and the signs in the chest cleared up.

On the 44th day and again on the 60th day, the patient had a slight attack of intestinal colic. On the 66th day the colic recommenced, peristalsis was visible, constipation became absolute, and she began to vomit.

Mr. C. O. Bodman opened the abdomen under gas and oxygen anaesthesia. Through a median incision the small intestine was seen to be universally distended and densely matted with adhesions in the pelvis. The large intestine was not distended,

but was involved in the adhesions in the pelvis; some adhesions were soft and recent, others were tough. Numerous adhesions and hands were divided, but owing to the condition of the patient jejunosomy had to be performed.

After eleven weeks the fistula was still discharging an excoeriant fluid, so a second operation was performed by Mr. C. O. Bodman, the scar of the previous operation being excised. On opening the peritoneum it was seen that the adhesions were less numerous than on the former occasion, but the last loop of the ileum was densely adherent to the depths of the pelvis. The fistula was found to be connected with the upper end of the ileum; this was dissected away from the abdominal wall and anastomosed with the transverse colon.

The patient made a satisfactory recovery and was seen recently a year after operation; she was in excellent health and had suffered no further abdominal discomfort.

Apparently at the time of the crisis there was a peritoneal effusion which resolved, leaving in its wake a mass of adhesions; these, in course of time, contracted and caused the obstruction.

I wish to thank Mr. C. O. Bodman, honorary surgeon to the Bruce Wills Memorial Hospital, for permission to record the details of this case.

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## Reports of Societies.

### MALARIAL TREATMENT OF GENERAL PARALYSIS.

At a special meeting of the Devon and Exeter Medical-Chirurgical Society at the Devon County Mental Hospital on May 24th, with Dr. G. G. GIDLEY in the chair, the medical superintendent, Dr. R. EAGER, opened a discussion on general paralysis of the insane, with special reference to the treatment by malaria, which had been conducted for about two and a half years at this hospital.

Dr. EAGER said that general paralysis was an organic disease of the cerebral cortex, which gave rise to motor paralysis and extreme mental deterioration; the average duration from the incipient symptoms to death was four years. At present it had to be considered incurable, although remissions might occur. Pathologically the disease was an invasion of the cerebral cortex by the spirochaete of syphilis, and, in addition to the Wassermann and globulin reactions, diagnostic importance was attached to the increased cell count in the cerebro-spinal fluid and to the colloidal gold reaction. Dr. Eager emphasized the greater incidence of the disease in the industrial centres as compared with rural areas; he cited his own experience at the Devon County Mental Hospital and the fall in the figures since cases from Devonport had ceased to be admitted. Further, the disease was almost unknown in uncivilized countries. As regards its incidence in syphilitic infection, 3 per cent. was given as the average figure for the development of general paralysis; lightning pains and ataxia were not, as a rule, concomitant symptoms. Dr. Eager then discussed the three typical stages of the disease, and showed a case under treatment at the hospital illustrative of each stage. In the first stage, that of mental exaltation, appeared the classical ideas of grandeur; this was the most hopeful period for treatment. Next came loss of initiative, when, for instance, the artist failed to secure tone for his pictures and the musician to gain his accustomed encore. Later there followed untidiness and slovenliness of habit. At this period the physical signs present were frequently inequality and sluggish reaction of the pupils; tremors of the face, tongue, and hands; and an increase in the patellar reflexes. In illustration of this stage Dr. Eager showed a man, aged 40, who, on admission, declared himself to be the Prince of Romania, and claimed a flight from Australia in three minutes. His pupils were unequal and the knee-jerks exaggerated; there were tremors of the fingers, and the tongue was protruded in the "trombone" fashion. In the second, or congestive stage, Dr. Eager drew attention to the loss of facial expression and the tendency to sit "huddled up." He showed two men in whom both characteristics were evident. Some improvement had been noted physically in these two cases after malarial treatment. In the course of the third stage, or stage of extinction, there occurred the

contractures of the limbs and a mental condition of apathy and dementia. A bed patient was carried in as an example of this stage. Dr. Eager then passed to the subject of acute delirious mania, suggesting that some of these cases may be examples of general paralysis in the early stage. It was regrettable that the violent condition of these patients on admission often made it impossible to perform the routine tests for diagnosis. Again, there might be a demented condition in general paralysis from start to finish. Reference was made to the juvenile type and the relation to congenital syphilis. Such cases occurred under the age of 20, and the patients were imbecile, although physically conforming to the adult form of the affection. In diagnosis epileptic fits were often difficult to distinguish from those occurring in early cases of general paralysis. As regards the incidence of remissions, Dr. Eager gave 4 per cent. as his own experience, but he stated that 14 per cent. had been noted in the Bethlem Royal Hospital.

Dr. C. F. BAINBRIDGE then gave an account of the experience drawn from two and a half years' trial of malarial therapy, referring briefly to the history of the treatment and to the effects of intercurrent infections, such as pneumonia and sepsis, in the causation of remissions which had suggested artificial infection. Thus typhus, relapsing fever, and typhoid fever had been given a trial. The credit for the introduction of malaria belonged, however, to Professor Wagner Jauregg of Vienna, whose first attempts meeting with disappointment caused him to give up the treatment for some years; on resumption, in 1919, the results proved more reassuring. As regards the mode of action Dr. Bainbridge said there were two schools of thought, one holding that antibodies were concerned, the other that the effects of high temperature were responsible. Although it was admitted that high temperatures were inimical to spirochaetes it would seem that antibodies played the important part in malaria therapy. There was no doubt that a great change occurred in the brain as the result of malarial infection in general paralysis. Before the treatment it had been demonstrated that spirochaetes swarmed in the cerebro-spinal fluid, but after a malarial attack there was considerable reduction and an accompanying evidence of trauma. Dr. Bainbridge mentioned that in the first instance the infected mosquitos had been obtained from the Ministry of Health, a benignant tertian strain having been required owing to the average patient being far too weak to risk infection with a malignant tertian parasite. He also explained the three methods for the introduction of the infection—namely: (1) by direct transmission from the mosquito (he exhibited the small glass container with gauge lid and small circular opening for adaptation to the thigh of the patient); (2) by injection of infected blood into the loose cellular tissue; (3) direct injection into a vein of defibrinated infected blood. The third method gave a more prompt result, but the first has been of more general use. After infection in the mosquito season the patient remained under mosquito netting for the protection of others, and a four-hourly chart of the temperature was kept. As a rule ten to twelve pyrexial attacks up to 105° F. were allowed to pass by untreated, but sponging was employed on any indication that the fever was getting beyond control. Dr. Bainbridge had observed elevations to 107° F. Having regard to the type of patient the greatest caution was necessary, not only with reference to the control of the temperatures, but also in ensuring methodical routine examinations of the heart and lungs. A careful watch was also kept for the appearance of jaundice. Quinine hydrochloride had been found to answer well in the subsequent treatment of malaria, but occasionally relapses occurred, some of which were welcomed and allowed to run a temporary course if the previous results had proved negative as regards the symptoms of general paralysis. During treatment the patient manifested physical debility, but on the other hand there was definite mental improvement. As an illustration Dr. Bainbridge mentioned the case of a man who on admission had promised to present him with a golden Rolls-Royce, but during treatment the generosity dwindled to less exaggerated suggestions, until finally, on discharge, the man appreciated his previous delusions. He was at present very cheerful,

but a little excitable, and there was some tendency to confusion of words. He had also found that, as a rule, inequality or other defects of the pupil remained unchanged, but that speech, handwriting, and gait improved. The important point was to give the treatment in the primary stage, and here there was considerable, and indeed almost insurmountable difficulty, with regard to the so-called pauper patient, who could only be admitted on certificate. In reviewing the cases treated at the Devon County Mental Hospital it was essential to remember that many of them had come under treatment by malaria infection at a late stage. Some risk seemed justifiable at the present time when there was no other known agent capable of removing or depleting spirochaetes from the cerebro-spinal fluid. The salvarsan series of drugs had been proved to be futile in this respect. Of the 21 patients treated in the past two and a half years 4 had been discharged considerably improved, 1 awaited discharge considerably improved, 10 had improved either mentally or physically, or in both respects, and 3 had died, but it was interesting to note that at the necropsy no spirochaetes were found in the brain. Of the remainder, 2 had definitely deteriorated and 1 patient was still under treatment. As a precaution all cases thus treated and subsequently discharged were notified to the respective medical officers of health in view of the possibility of latent malaria. Dr. Bainbridge concluded his address by showing three of the discharged patients benefited by malarial treatment; they admitted that their condition had been greatly improved in hospital, and were grateful for their treatment.

Dr. C. F. PATERSON, pathologist to the hospital, described the laboratory technique involved in the diagnosis of syphilitic infection of the nervous system and the more recent tests employed in the examination of the cerebro-spinal fluid. He said that in neuro-syphilis the cerebro-spinal fluid only reflected the meningeal inflammation, but since this was a frequent accompaniment of vascular or gummatous disease some alteration was usually found in the cerebro-spinal fluid; the amount of alteration had been found to vary with the degree of meningeal inflammation and with its situation. Although the final diagnosis of general paralysis often depended on the examination of the spinal fluid, it would be unjustifiable to attach value to a single examination, and a thorough examination of all the elements might merely go to prove the presence of a severe syphilitic infection. In the same way the occurrence of plasma cells and the paretic curve of Lange (held to be pathognomonic of general paralysis), might only be indicative of severe syphilitic disease of the central nervous system. In the opinion of Dr. Paterson more reliance could be placed on the colloidal tests, and more value could be drawn from the paretic curves if they remained constant after many months of antisyphilitic treatment—the opposite being noted in other syphilitic infections. The pressure in the spinal fluid would be found considerably raised in general paralysis, tabes, and in neuro-syphilis generally in the secondary and tertiary stages, but an important point in differential diagnosis was the fine fibrin web which sometimes formed, after settling for some hours, in cases of general paralysis. Again, there was an increase in the cell count in all syphilitic infections of the central nervous system, but in the case of general paralysis this increase was frequently so high as to be diagnostic in itself. Dr. Paterson added that the increased globulin finding could not be regarded as a conclusive test, but he mentioned some observations made by Dr. Eager during the war, when more opportunity was given for the investigation of early cases; these indicated that a positive globulin reaction was present before a positive Wassermann reaction developed. On the whole it was concluded that more evidence was to be obtained from the colloidal gold tests.

Mr. SHUTE of the Ministry of Health gave a short account of the steps taken to obtain a pure strain of malaria infection, and by means of diagrams and slides showed the various phases in the life-cycle of the malarial parasite as observed in the mosquito and in man.

Dr. GIMLER mentioned the somewhat unusual occurrence of a husband and wife who both developed general paralysis—the wife showing symptoms some eight years



after the death of her husband. He asked why general paralysis did not develop in all cases of syphilis.

Dr. EAGEN, replying, said he had no experience of the dual occurrence of general paralysis in a man and wife. It was possible that spirochaetal strains existed with selective qualities which accounted for the comparatively low incidence of general paralysis in syphilitic infection. He did not claim at this stage that malaria treatment was a cure for general paralysis, although striking improvement had followed such treatment in some cases, and was at present maintained.

Dr. BAINBRIDGE, in reply to a question by Dr. Fleming, stated that he had not noted hallucinations in the patients under the malaria treatment.

### TREATMENT OF HARE-LIP.

At a meeting of the Section of Surgery of the Royal Society of Medicine, on June 6th, with the President, Mr. WARREN LOW, in the chair, a discussion was held on the treatment of hare-lip.

Dr. VICTOR VEAU (Paris) said that there was always sufficient tissue present in all types of hare-lip to allow of reconstruction of the deformity. He classified the cases into four groups: (1) simple unilateral cleft, (2) total unilateral cleft, (3) simple bilateral cleft, and (4) total bilateral cleft. The first and second groups formed by far the greatest number of cases. Discussing the operative technique in the treatment of the simple type of hare-lip, Dr. Veau said that accurate suture of the muscles was the most important detail in all operations for hare-lip, since these structures gave the thickness and shape to the lip. He usually used one (or more) deep cutgut sutures for the muscles, which he had carefully defined. Attention was next paid to the muco-cutaneous junction, which he sutured very accurately with fine silk, using magnifying glasses. The speaker pointed out that the prominence of the vermilion border of the lip added very considerably to the cosmetic result. He described the incision he employed to reconstruct the "Cupid's bow." Many photographs were shown of cases before and after treatment; the results in most instances had been excellent. He mentioned that the skin sutures should not be inserted deeply, otherwise scarring was certain to occur. Dr. Veau enumerated the effects of poor operations, such as notching of the free edge of the lip, inclusion of skin in the mucous portion, and inclusion of mucous membrane in the skin region. He described operations to remedy these defects, and again emphasized the importance of suturing the muscles. In cases of unilateral total hare-lip, the speaker said that the most difficult portion of the deformity to correct was the spreading out of the nostril over the cleft. Retraction of the upper lip following treatment was very unsightly and should be prevented. He did not remove the premaxilla, but if necessary divided the bone and displaced it gently backwards. He recommended reconstruction of the floor of the nose by turning down a muco-periosteal flap from the septum together with a small flap of muco-periosteum from the palate, after cutting the frenum and stripping up the lip. After repairing the lip, he passed a deep suture through the deep aspect of the deformed ala on its outer side, under the floor of the anterior nares, bringing it out through the skin of the face just external to the normal ala and tying it there. This suture pulled in the flattened ala. The speaker showed photographs illustrating the good results he has obtained by this method. He said that the earlier the operation was performed the better was the prospect of a good nostril. He was certain that reconstruction of all the elements taking part in the production of the deformity was essential.

Mr. C. H. FAGGE classified hare-lip into three types: partial, unilateral, and bilateral. He had always found that the tissues were defective, and that even in the partial type the ala of the nose was deformed on that side. The speaker carried his incision up into the nostril, and he undercut the cheek on the outer side before suturing in order to overcome the splaying out of the nostril. A wide nostril produced difficulties in speech, and excision of a portion of the alar cartilage had not met with much

success. He said that eversion of the ala could not be corrected, and also that the apex of the nostril was usually depressed. In bilateral cases retraction of the lip presented the greatest difficulty, but an epithelial inlay and the use of a prosthetic apparatus overcame the deformity.

Mr. T. PAMFRET KILNER said that he and Mr. Gillies had had most experience of the secondary operations on cases with poor results from primary operations. He strongly recommended the simplest methods in the primary procedure, correcting all the layers concerned and reducing raw surfaces to a minimum. He had not seen good results from primary operations, and he condemned strongly all flaps and zigzag incisions. More attention should be paid to the remoulding of the nostril than to the production of an artistic vermilion border. He did not sacrifice any skin. Mr. Kilner was in agreement with some American surgeons concerning the importance of moulding the alveolar cleft by submucous wiring. This produced better contour and more regular dentition, and obviated the necessity for muco-periosteal flaps. He thought that replacement of the premaxilla should be gradually produced. He used Logan's traction bow to relieve tension on the sutures, which were removed in three to five days. Referring briefly to the secondary operations, he said that the epithelial inlay and prosthesis was the best treatment for the retracted upper lip following operations on cases of bilateral hare-lip; for readjustment of the lip he employed the "Cupid's bow" operation, excising a small area of skin and suturing the mucous membrane to the new skin edge, so producing a new and shapely muco-cutaneous junction. The nose was remodelled by fracturing the nasal bones, resetting the whole nose, and, if necessary, carrying out a cartilage graft from the ribs.

Mr. O. L. ADDISON said that the best time to operate was during the first few weeks. He thought the immediate result was a secondary consideration. There was no necessity for wiring the alveolus if the lip was sutured early, for the gap gradually closed. The speaker agreed with Mr. Fagge that there were always defective tissues present and that the eversion of the nostril could not be corrected. He disliked the method of reconstructing the anterior part of the floor of the nose, and also any attempt at filling up this gap with other structures. The epithelial inlay was an excellent method of treating the flat retracted lip.

Mr. C. W. G. BRYAN said that he operated at three to six weeks. He freed the sound side widely, moving the sound nostril inwards to help to mould the deformed side. He never sacrificed any tissue, and considered the "Cupid's bow" operation a very valuable procedure.

Mr. C. A. R. NICHOL said that he operated at two to three months, since then the tissues were stronger and a better hold could be obtained. If the child was seen early, he instructed the mother to press the projecting alveolus back several times a day. The effect was often remarkable after a month's treatment. In severe cases he fractured and wired the alveolus. He did not undercut the outer side of the cleft, only the inner; this allowed the columella to be moved inwards, and, after suturing, this was held by the fixed outer portion of the cleft. Many operations were usually necessary in order to obtain a satisfactory result, and a really good nostril was never seen after repair of the deformity.

### PATHOLOGICAL SPECIMENS.

A MEETING of the Section of Pathology of the Royal Academy of Medicine in Ireland was held in the Royal College of Physicians on April 27th, with the President, Dr. T. T. O'FARRELL, in the chair.

#### Diverticulitis.

The PRESIDENT exhibited a piece of intestine which had been removed by Dr. L. G. GUINN from a man aged 57. Twelve years previously a tumour of unknown nature had been excised from the bladder, and, one year later, a faecal fistula appeared at the site of the wound over the pubes. The fistula had since alternately closed and opened, and during the last few years both urine and faeces had been discharged through it. When the patient was first seen by Dr. Guinn there were three apertures.

On cystoscopic examination the urine from the right kidney was observed to be cloudy, and there were two openings in the posterior wall of the bladder; no faecal matter exuded from these and their exact relation to the rectum could not be determined, though, on palpation there appeared to be some connexion with the right ureter. The difficulty in determining the exact condition of affairs was due to the presence of a large mass in the right side of the pelvis, which suggested the presence of a new growth of the intestine. The mass, in which was incorporated a considerable length of the pelvic colon, had been removed together with a small section of the bladder wall. An anastomosis had been made between the two cut ends of the intestine and the rent in the bladder had been repaired. The patient made an uninterrupted recovery, and since operation had passed urine and faeces in a normal manner. The resected intestine measured 11 cm. long (after fixation). When opened no ulceration was visible, but the muscular wall was very much thickened, the average depth being 1.5 cm. Transverse sections at several points showed many diverticula extending deeply into the wall, some almost reaching the outer surface. Histological sections were made of several places, but no evidence of malignant disease could be discovered. Where diverticula were present they exhibited chronic inflammation, plasma cells being abundant. Some diverticula showed no mucous lining, the lesion being represented by a narrow channel surrounded by inflammatory cells, but distinctly connected with the lumen of the bowel. Here and there were collections of inflammatory cells, representing, probably, the apices of diverticula.

#### *New Growths.*

Dr. J. T. WIGHAM showed specimens of a sarcoma of the spine in a boy, aged 8, who had been admitted to hospital on account of symptoms believed to be due to the recurrence of a tumour in the bones of the spine. One eye had been removed two years earlier for what was stated to be an angiosarcoma. There was no recurrence in the affected orbit. The condition began as a gradually increasing tumour of the upper dorsal vertebra, extending backwards as a projection of a soft fluctuating mass, and forwards into the mediastinum, causing a curvatura of the spine backwards and to the left; there was progressive paralysis extending from below upwards. The patient had no pain and his blood was normal except for anaemia; x rays showed the development of the tumour, and the soft fluctuating projections yielded no fluid. He died in a very emaciated condition. At the necropsy no tumour was found below the diaphragm. A thoracic tumour had partly invaded the lungs, but chiefly compressed them. In structure it was a small round-celled sarcoma, almost entirely composed of cells; in many places it was almost liquid, like thick cream, and sometimes bloodstained. The spinal cord was bent round a sharp angle; it was compressed and degenerated, but the tumour had not actually invaded it. It was not possible to be sure that the recurrence had actually taken place in the bones, which were greatly eroded.

Dr. Wigham showed next a tumour of the thyroid gland. He said that a gland removed from the neck had been received for investigation as to its nature. It was approximately spherical, about 2 cm. in diameter, and surrounded by firm fibrous tissue. It showed a structure of coarse, somewhat hyaline fibres, enclosing separate cells, many of which were polynuclear. A diagnosis was made that it was probably some type of lymphadenoma. Shortly afterwards the discomfort due to a swelling in the neck, which proved to be an enlarged thyroid, began to increase, and a hard, largely adherent left lobe of the thyroid was eventually removed. The thyroid itself, which clinically was undoubtedly malignant, proved to have the same structure as the gland. In many places it was more fibrous and less cellular, but a kind of capsule, which was stated to be formed from the sterno-mastoid, showed no muscle, but a more cellular structure than the thyroid itself. There was practically no glandular appearance in the tumour, and, in general, the appearance was more like a sarcoma than a carcinoma. Dr. Wigham referred to Ewing's belief that nearly all the tumours described as

sarcoma of the thyroid were really carcinomata, but added that most of the malignant tumours of the thyroid illustrated in the books of Ewing or other authors were very cellular structures, sometimes easily confounded with exophthalmic goitre, but not at all of the fibrous nature of this specimen.

Dr. Wigham also showed a fibroma of the tongue. The patient had noticed a whitish nodule on the side of his tongue. From its position and general appearance it was thought to be probably a secondary nodule of some malignant tumour, although rather hard. On removal and incision it was found to be hard, white, and sharply marked off from the surrounding tissues. It had never given pain or discomfort to the patient. On examination it proved to be a pure fibroma with hard hyaline fibres and very few cells, about 2 by  $1\frac{1}{2}$  by  $1\frac{1}{2}$  cm. in size.

Dr. LAIT exhibited specimens of a primary carcinoma of the lung in a woman, aged 57, who was admitted to hospital complaining of oedema of the left leg, a dry cough, weakness, and a gradual loss in weight. She was anaemic, and there was dullness over the front of the right side of the chest from the third rib downwards. There was slightly impaired vocal resonance over the area; The Wassermann reaction was negative. The presence of a tumour was confirmed by x-ray examination. At the necropsy a diffuse tumour was found occupying almost the entire lung; it was soft in consistency and cream-coloured. There was little fluid in the pleural cavity. The liver contained a few superficial metastases the size of peas, and the spleen had one deep-seated secondary deposit about as large as a walnut. Both suprarenal glands contained metastases, and the tumour had involved the pericardium on the right side. No tumour was found in any other situation. On laboratory investigation the tumour was found to be a primary carcinoma of the lung originating from the alveolar epithelium. In its growth it had utilized the lung stroma in a remarkable way, the tumour cells lying along the alveolar walls and bronchi, the structure of which was clearly definable. In places the growth filled the alveoli with a solid mass. Tumour cells were also found inside blood vessels. These cells were mostly cuboidal or also columnar; very often it was hard to distinguish their outlines, and this syncytial character was most marked in the section from the suprarenal gland. The etiology of lung tumours was discussed; tar taken into the lungs with road dust and inhalation of the exhaust gases from motors were mentioned as causes of the increased incidence of pulmonary carcinoma.

#### *Fractional Test Meals.*

Dr. J. J. McGRATH read a paper on fractional test meals, and showed lantern slides. In his paper he analysed the result of tests which he had personally conducted in a series of forty cases.

The PRESIDENT drew attention to the fact that test meals were untrustworthy in cases of gastric ulcer, but were reliable in cases of duodenal ulcer and of cancer.

Dr. R. H. MICKS said that test meals did not really determine the presence of a disease, but only served to withdraw hydrochloric acid from the stomach. They were, however, relatively safe as a means of making a diagnosis of oesophageal obstruction. He drew attention to the occasional disadvantage of analytical procedures, and said that in some cases the presence of an ulcer was perfectly clear clinically; it was very often possible to tell by examining the fasting juice whether the ulcer was benign or malignant.

Dr. A. DUNCAN had found Uffelmann's test for lactic acid of very little use in clinical practice, and he always used the ferric chloride test. He was doubtful if in malignant cases the presence of a small amount of lactic acid was of as much value as Dr. MacLean had implied. Considerable amounts of blood were frequently found in patients who had no ulcerative lesion in the stomach.

Dr. R. A. Q. O'MEARA drew attention to the importance of making certain that hydrochloric acid was present before starting a test meal, even a fractional one. The one-hour method was the best for diagnosis of gastric carcinoma, and it should be possible in this way to diagnose at least 80 per cent. of cases.

## Rebicus.

### EPILEPSY.

THE numerous problems of epilepsy, its nature, its varieties, and its possible causes have lately been the subject of several important contributions to the medical press, so that the English translation of Dr. MUSEKENS's well-known book<sup>1</sup> comes at a very opportune moment. British readers will be grateful for this opportunity of studying a volume which in many respects is unique of its kind.

Dr. Muskens deals with his subject on very broad lines, approaching it by way of physiological experiment on the simple myoclonic reflex. The first part of the book is devoted to a long and careful account of his studies on myoclonic reflexes and the myoclonic epileptic fits—studies in physiological experiment which throw much light on the subsequent development of the author's views on the etiology of the epileptic fit in man. The second part is concerned with the results obtained by various experimental injuries of the central nervous system in the production of epileptiform attacks. The third and largest section of the book deals with the epileptic disorders in man and their treatment. The neurologist, in perusing this section, will be struck by the evidence of the very careful and prolonged study of his patients which the author has made over a period of many years, a study which clearly entitles his views to the respect of all students of the disease. Great stress is laid on the occurrence of interparoxysmal myoclonic minor convulsions, an observation which was at one time much emphasized by Russell Reynolds, but which seems lately to have largely escaped general recognition. The value of the discussion on the more purely clinical aspects of the disease is enhanced by the details of many personal cases, which are never too long or too numerous to interrupt the general flow of the argument.

Traumatic epilepsy, with its own problems of causation and treatment, is fully described; but we are a little disappointed to find that the subject of the status epilepticus and its treatment hardly receives the detailed description which its interests and importance demand. Full details are provided for the general management and treatment of cases; generally speaking, the author's methods of treatment may be regarded as conservative. There is here little encouragement for those who claim success for any particular method of treatment—for example, by diet or protein shock or psychotherapy. A small but valuable appendix gives the composition of many of the secret proprietary remedies for epilepsy.

In conclusion, it may be fairly claimed for this volume that it represents a worthy monument of the author's personal experience and experiments, which can be cordially commended to all students of this complex disorder.

### THE ACTIONS AND USES OF DRUGS.

THE book entitled *Pharmacotherapeutics, Materia Medica and Drug Action*,<sup>2</sup> by Dr. S. SOLIS-COHEN and Dr. T. S. GITHENS, is an encyclopaedia of drug treatment whose scale may be judged from the fact that it comprises 2,000 pages and about a million words. Its aim and scope are defined in the preface as follows:

"In this work the endeavour has been made to set forth what is known of drug action—pharmacodynamics—as ascertained by exact methods of study, and to emphasize the uses of drugs that may be based thereon; but also to call attention to empirical measures not based on known pharmacodynamic data, but having reasonable evidence of usefulness. For this and other reasons the drugs here discussed have been classified according to their chief uses—in the main, a clinical classification, having in view the needs of practice, but always with due regard to chemistry and pharmacodynamics. It has been deemed wise to preface the detailed study of individual drugs and classes of drugs by the discussion of certain general principles, chiefly biologic, which may serve to guide the use of drugs not only, but of all classes

of remedial agents. In this discussion are included certain aspects of the newer developments in physics and chemistry; and stress is laid not only upon the adjustive and adaptive powers constituting the self-defence of the organism, but also upon the monodynamic conception of disease recovery; that is to say, the view that disease and recovery are not separate states or opposing forces, but one continuous, albeit complex, process, in which derangement and restoration are from the first associated."

In the space at our disposal we can only indicate the main features of a work planned on such comprehensive lines. Its general arrangement is as follows. The first quarter is devoted to a discussion of the general principles of drug treatment, with information regarding the sources of drugs, their standardization, and so forth. The remaining three-quarters give a systematic account of all the drugs used in medicine that are of any importance. Medicaments are divided into three main orders: (1) "antipathogens"—that is, all the drugs used to combat invasion of the body by micro-organisms and other parasites; (2) "tissue alterants," a term which includes demulcents, rubefacients, irritants, caustics, etc.; and (3) "function modifiers," comprising all drugs used to influence the functions of the body. In the case of each drug its history, chemistry, materia medica, pharmacology, and therapeutics are described.

The chief impression produced by a rapid glance through the volume is one of admiration for the immense industry of the compilers—industry of a type that hitherto many had thought to find only in Germany. Detailed study of a few sections chosen almost at random confirms this feeling of admiration; for the authors give a very full account of modern views regarding the pharmacology and therapeutics of each drug. It is indeed a remarkable achievement to have produced so large a work and to have kept the whole of it up to date. Only a small proportion of the space is occupied by details of materia medica, and most of the text is devoted to a summary of the information available concerning the therapeutic actions of drugs. The size of the book is indeed a testimony to the very large amount of pharmacological knowledge that has been accumulated, and it is interesting to note how large a proportion of the work referred to is of recent date.

The volume appears to be an excellent work of reference on drug treatment, which should prove of great service to the medical profession, since it includes within a single cover masses of information that have hitherto been difficult to obtain except from monographs. It is a book that can be recommended to all medical practitioners who wish for a full and detailed guide to modern drug therapy. Unfortunately no references are given, but the inclusion of any effective bibliography would have swelled the volume to an unmanageable size. As it is, the publishers are to be congratulated on having compressed such a large amount of printed matter into a single volume of reasonable bulk and weight; this has been achieved by the use of thin paper. In conclusion, we may say that the price (three guineas) seems very reasonable for a work of such dimensions.

### LARYNGOLOGY.

IN the third edition of his book on *Diseases of the Larynx*,<sup>3</sup> for several years out of print, Mr. BARWELL has included chapters on the trachea, bronchi, and oesophagus, and endoscopy now finds an established place. The twenty-one years which have elapsed since the first edition was published have been a period as full of progress in laryngology as in any other branch of medicine. The development of endoscopy, which has reached the stage of definite routine procedure, is largely, but not wholly, responsible for this. The management of cases of laryngeal tuberculosis is now very different, and there has been advance in the control of malignant disease in this region. All this is fully described in Mr. Barwell's book, and in consequence the whole outlook is changed. Nevertheless, he never loses sight of the fact that laryngology is based on the examination of the larynx by the indirect method with the laryngoscope.

Textbooks on diseases of the larynx usually include also

<sup>3</sup> *Diseases of the Larynx*. By Harold Barwell, M.B.Lond., F.R.C.S. Eng. Third edition. Oxford Medical Publications, London: Milford, Oxford University Press, 1926. (Demy 8vo, pp. xv+278; 112-figures. 12s. 6d. net.)

<sup>1</sup> *Epilepsy*. By L. J. J. Muskens, M.D. of Amsterdam. Foreword by Sir Charles S. Sherrington, O.M., G.B.E., M.D., F.R.S. London: Baillière, Tindall and Cox, 1928. (Roy. 8vo, pp. xiv+435; 54 figures. 25s. 6d. net.)

<sup>2</sup> *Pharmacotherapeutics, Materia Medica and Drug Action*. By Solomon Solis-Cohen, M.D., and Thomas Stetebury Githens, M.D. New York and London: D. Appleton and Co. 1928. (Med. 8vo, pp. xv+2009. 65s. net.)

descriptions of diseases of the nose and pharynx, so that the limitation of this work to the larynx and the adjacent regions which can be explored by the endoscope presents an unusual feature. It is, however, justified by the peculiar methods of examination just mentioned, which require much patience and long practice before the skill of a master is acquired, and of necessity relegate the treatment of serious disease to the hands of relatively few. If further justification were needed it is to be found in the presentation of his subject by the author, who has spared no pains to render his account complete and to provide the most recent information. He is even capable of being in advance of time, for he refers to "the late J. W. Bond": Dr. Bond is happily still with us.

Mr. Barwell has taken as much trouble to provide suitable illustrations as he has to perfect the text, and his book reflects admirably the advance of laryngology.

### INFANT NUTRITION.

THE latest addition to the by no means small number of books on the subject of infant feeding has several claims to special consideration, and in *The Principles of Infant Nutrition and their Practical Application*,\* by Drs. K. H. TALLERMAN and C. K. J. HAMILTON, will be found a very successful attempt at approaching the problems of infant feeding from the physiological point of view. It is only with a sound knowledge of the normal digestive processes of the baby and its nutritional requirements that the practitioner can look after a "feeding" case, and this book should greatly assist him. Beginning with chapters on these fundamental subjects the authors go on to discuss breast-feeding and the disorders likely to arise, with their treatment. Next comes a very good chapter on the premature infant, and then the authors open the large subject of artificial feeding. Here the arguments for and against certain special forms of feeding—such as with lactic acid milk, alkaline additions to the milk, protein milk, etc.—are set out, and the use of these various modifications is well shown in the next chapter on the nutritional disorders. In conclusion, there is an appendix giving details of certain methods of preparing feeds. An elaborate table enables the quantities of milk, water, and sugar in a milk mixture to be easily calculated. Each chapter is followed by an extensive bibliography, very carefully compiled. The authors are to be congratulated on producing a book on this subject which keeps to the fundamental and general principles without advocating any one path to success with the difficult infant. It should prove of value to the student and practitioner, and also to the specialist in this branch of medicine, especially on account of its extensive bibliography.

### DISEASES OF THE HAIR AND SCALP.

THE *Treatise on Diseases of the Hair and Scalp*\* by Dr. DANA HUBBARD is a sound and almost an exhaustive handbook of the subject. The author has not confined himself to conditions which are peculiar to the region under consideration, but has also included a discussion of such conditions as syphilis, lupus, eczema, etc., which only incidentally affect it. He begins with an account of the anatomy of the scalp—mostly, it appears, derived from that given by MacLeod—followed by a chapter on the physiology and racial peculiarities of the hair. While his account of diseases of the scalp is adequate, it does not differ materially from the chapters on the subject to be found in many good textbooks of dermatology, and there is nothing particularly novel in the therapeutics recommended. But Dr. Hubbard goes far beyond these commonplace matters. He is not afraid to invade the regions where fashion reigns, to advise on the style of hairdressing best suited to his feminine clients, even to sum up the arguments for and against bobbing, and to indicate a strong personal preference for long hair. Dr. Hubbard

has had the advantage of being associated during many years with the public health service of New York, and his work is influenced in many directions by this association. It appears that in New York all barbers' shops, hairdressing establishments, and beauty parlours are registered, are compelled to conform to certain articles of the sanitary code, and are periodically visited by sanitary inspectors to see that they do so. If they do not they are liable to be struck off the register and debarred from trade. Dr. Hubbard prints the articles of the sanitary code which are applicable in this connexion, and we are bound to admit that they are very sound, and it would be greatly to the public advantage if similar measures were adopted in this country. The employment of x-rays is likewise subject to supervision by the Public Health Department, and the sanitary code provides for the safety both of the operators and of the patients by strict regulations, which have to be observed by all practitioners, whether duly qualified medical men or not. Moreover, every place where x-rays are to be used has to be specially licensed. One very wise provision is to the effect that no licence will be granted for a basement, and great stress is laid on efficient ventilation. Again we have to confess that similar action on the part of the sanitary authorities would be most beneficial here; there are no doubt many x-ray workers whose health is jeopardized by the conditions under which they have to work, although some improvement has lately been brought about by the inspectors of the National Physical Laboratory, who will always report on an x-ray installation if requested to do so. Hospital authorities frequently follow their recommendations. But in these matters it is not sufficient to rely on voluntary effort. For these reasons, as well as for its other merits, we hope that Dr. Hubbard's book will be widely read in this country. It is attractively written and well produced.

### HOW TO START IN GENERAL PRACTICE.

A good deal of attention has been devoted during the last few years to the steps which should be taken for the instruction of senior students or newly qualified practitioners in medical ethics, including under this term the duties which devolve upon practitioners in relationship to the State and on the methods and relationships of private medical practice. It is no doubt true that such instruction can, on the whole, best be given orally, in a series of lectures or talks to senior students, especially if these are undertaken by carefully chosen persons who have themselves had experience of the things they are to talk about, and if ample time is allowed for specific questions to be raised by the students themselves. By way of supplement to such instruction, or in its absence, a handy guidebook can be of great use, and such a serviceable manual is *How to Start in General Practice*,\* by Dr. Isaac G. Briggs. Its contents are confined strictly to the field indicated by its title. It has nothing to say with regard to special branches of practice, nor, except very incidentally, with rules of ethical professional conduct or with the duties of a practitioner in relation to the community. It might indeed, with advantage, have included a chapter on the possibilities and conditions of part-time employment of a general practitioner in connexion with the school medical service, and with maternity and infant welfare clinics; for such appointments can sometimes be obtained at an early stage of the practitioner's career, may be very interesting in themselves if the duties are seriously undertaken and conscientiously carried out, and may constitute a very welcome source of auxiliary income. The book is severely practical and has but little claim to literary merit. This is, no doubt, designedly so, for though its extreme detail occasionally seems to savour of advertisement, it is true that there is little use in telling a beginner to obtain a book or account form, a piece of furniture, a drug or instrument of such and such a kind, unless he is also told exactly where he can obtain it. In these matters the book is full of information, and even though methods of fitting up a consulting room or dispensary, or of keeping records and accounts differing from those described may be

\* *The Principles of Infant Nutrition and their Practical Application*. By K. H. Tallerman, M.C., M.D. Cantab.; M.R.C.P. Lond., and C. K. J. Hamilton, M.C., B.M.Oxon, M.R.C.P. Lond. London: W. Heinemann (Medical Books), Ltd. 1928. (Demy 8vo, pp. vii + 183. 10s. net.)  
\* *A Treatise on Diseases of the Hair and Scalp*. By S. Dana Hubbard, M.D. London: H. Kimpton. 1928. (6 x 9½, pp. xv + 500; 77 figures, 4 plates. 25s. net.)

\* *How to Start in General Practice*. By Isaac G. Briggs, M.R.C.S., L.R.C.P. London: J. Murray, 1928. (Cr. 8vo, pp. ix + 158. 6s. net.)

preferable in particular practices, the advice given is invariably sound and valuable, and such advice must necessarily be based upon personal experience. Especially helpful for the newly qualified practitioner are the chapters on "purchasing a practice" and "building a new practice"; many difficulties will be avoided if he follows the detailed advice therein given. It may, however, be doubted whether it is always wise to consult a local dentist, or even the local British Medical Association secretary, with regard to the character and suitability for purchase of an individual practice, even though such inquiries are made with the permission of the vendor. Nor are we sure that it is always best, during the period of introduction, for the purchaser to "bear all expenses and receive all profits, paying the vendor the locum fee usual in the district." The advice, in a later chapter, to plan to do for oneself many of the simpler forms of laboratory investigation is, on many grounds, very wise, though commonly neglected. An excellent principle for general guidance is laid down by Dr. Briggs in the sentence: "Your patients are your guests: make them at home." On the other hand it may be that he goes too far in underestimating his guests when he says, in a warning to the beginner against explaining too much, "There are no intelligent patients."

### THE PROCESS OF EVOLUTION.

Nothing gives thoughtful men more encouragement than to see a demand for small books which handle serious subjects, such as those of the To-day and To-morrow Series. Dr. RUSSELL BRAIN has written for this series a readable and brilliant essay on a neglected aspect of evolution. He accepts the theory of evolution as the only explanation of the world of life, but believes we are still ignorant of the biological processes which bring about the transmutation and transformation of species. In this all who have examined the writings of Lamarck and of Darwin will agree. "Those who object to neo-Darwinism," he writes, "on the score that it does not explain the facts, maintain that the simultaneous and harmonious adaptational transformations required of evolution could not possibly be produced by haphazard mutations in the time available." To account for the evolution of man's posture thousands of structural units have to undergo a correlated change at the same time—a possibility outside the bounds of chance. Dr. Russell Brain is therefore of opinion that Lamarck's conception, which was also Darwin's, must be true, and that a way will yet be discovered of showing how functionally wrought modification can become hereditary. The school known as neo-Darwinists has thrown this part of Darwin's theory overboard. Dr. Russell Brain contends it must be restored; otherwise Darwin's theory is devoid of a "creational machinery."

### NOTES ON BOOKS.

In his monograph on the three-gland theory of urinary secretion<sup>1</sup> Professor PÜTTER discusses the question, not from the experimental point of view, but from a comparative study of excretory processes in general as exhibited in the animal series. His investigations lead him to the conclusion that the renal function in man is best explained by regarding the kidney as a complex of three glands. The primary functions of the kidney being the removal of the end-products of metabolism, of water, and of salts, he finds that in fishes and in many worms these functions are subserved by cells of a single type, while in the ascending animal scale there is a gradual separation of functions, so that in mammals two distinct structures are differentiated for the excretion of the end-products and water respectively—namely, the convoluted tubules and the Malpighian corpuscles. Further, there develops in mammals, in close relationship with these two glands and from small beginnings, a structure, which is also represented in amphibia—namely, the narrow limb of the loop of Henle. In this it is probable that sodium chloride and water are to a certain extent resorbed, a function analogous in a minor degree to that sub-

served by the cloacal mucous membrane of birds and many reptiles. A third element becomes differentiated in mammals in the form of the thicker distal limb of the loop of Henle; this is called the "salt-gland" by the author, its function being, in his opinion, to discharge the salts of the alkaline metals in a state of high concentration. The second—distal—group of convoluted tubules present in the human kidney are considered to have a function similar to that of the proximal group, although there is probably some differentiation, at present unknown.

Dr. GEORGES GIREL has prepared an account of the treatment of epithelioma of the skin and mucous membranes<sup>2</sup> according to the method of radiotherapy introduced by Dr. J. Coste, in which use is made of the less penetrating rays, no filtration is employed, and a strong dose is given at a single application. Dr. Girel discusses the mode of action of the longer wave-lengths on the tissues, and the histological appearance of the various tumours so dealt with. He describes in detail the technique he employs, and shows how a relatively simple form of apparatus is sufficient. A good bibliography is appended, and the book will, we think, be welcomed by those interested in this particular branch of radiotherapy.

The handy guide to *Mosquito Reduction and Malarial Prevention*,<sup>3</sup> by Drs. J. A. CRAWFORD and B. S. CHALAM, medical officers in charge of antimalarial measures in India, was reviewed in these columns (1927, i, 881) less than a year ago, and has now passed into a second edition. The authors have now added an appendix on Paris green (aceto-arsenite of copper), which, when scattered on the surface of water, is swallowed by the anopheline larvae and poisons them. It is insoluble in water, does not damage fish, aquatic insects, or ducks, and is diluted with fine road or clay dust. The mixture of 1 part in 100 must be kept dry, otherwise it will sink. Modestly introduced, this is a very useful book for malarial inspectors and managers of tea gardens, as, indeed, the rapidity with which a second edition has been called for would tend to prove.

To the "Notable British Trials" Series has been added the *Trial of Samuel Herbert Dougal*,<sup>4</sup> which contains the story of what was commonly known at the time as the Moat Farm murder. As the evidence which led to the conviction and execution of Dougal was largely circumstantial, and as the body of his victim was identified mainly by her apparel, there is not much of medico-legal interest in the trial itself. The main features from the medical aspect are probably the psychological studies exemplified by Dougal, whose career as a criminal and a ruthless woman-hunter was really remarkable, and by Camille Holland, who, at the age of about 57, after an almost austere life, yielded herself to Dougal and met her death at his hands. The strange association between this murderer and his victim is handled with considerable skill in the introduction by Miss TENNYSON JESSE, the editor of the volume.

A further edition of *How to Become a Nurse*<sup>5</sup>—the eleventh to be published since this useful little book was first produced under the editorship of the late Sir HENRY BURDETT in 1899—has appeared, incorporating the most recent information available on the subject covered by its title. The introductory chapter contains much sensible advice to would-be nurses, while the greater part of the book consists of a directory of hospitals, etc., in Great Britain and Ireland, with details of nursing salaries, terms of engagement of probationers, and status as training institutions.

In *Humanity and Labour in China*<sup>6</sup> Dame ADELAIDE ANDERSON describes a visit she paid to that country during the years 1923 to 1926, in the course of which she made a very careful investigation of industrial conditions generally. A considerable amount of information about different phases of Chinese life is set out in an interesting manner, and her discussion of such questions as child labour and the general progress of industrial reform in China is illuminating. The book is also attractive as a travel diary, and there is a pleasant description of the country through which she passed.

<sup>1</sup> *La Roentgentherapie des Epithéliomas Cutanés et Cutané-Muqueux par la Méthode du Dr. J. Coste*. Par Dr. Georges Girel. Paris: Masson et Cie. (Roy. 8vo, pp. 300; 8 plates. 5s.)

<sup>2</sup> *Mosquito Reduction and Malarial Prevention: A Précis*. By J. A. Crawford, M.B., Ch.B.Ed., and B. S. Chalam, L.R.C.P. and S.Ed., etc. Second edition. London: Milford, Oxford University Press, 1927. (Cr. 8vo, pp. xv + 107; 17 figures. 4s. 6d. net.)

<sup>3</sup> *Trial of Samuel Herbert Dougal*. Edited by F. Tennyson Jesse. Notable British Trials. Edinburgh and London: W. Hodge and Co., Ltd. 1928. (Demy 8vo, pp. xii + 236; 20 plates. 10s. 6d. net.)

<sup>4</sup> *How to Become a Nurse*. Edited by the late Sir Henry Burdett, K.C.B., K.C.V.O. Eleventh, revised edition. London: The Scientific Press (Faber and Gwyer, Ltd.). 1927. (6 x 7, pp. xxiii + 349. 3s. 6d. net.)

<sup>5</sup> *Humanity and Labour in China*. By Adelaide Mary Anderson, D.B.E., M.A. London: Student Christian Movement, 1928. (Demy 8vo, pp. xv + 235; 7 plates. 10s. 6d. net.)

<sup>6</sup> *Galatea, or the Future of Darwinism*. By W. Russell Brain, D.M.Oxon., M.R.C.P.Lond. To-day and To-morrow Series. London: Regan Paul, Trench, Trubner and Co., Ltd. 1927. (Fcap. 8vo, pp. 85. 2s. 6d. net.)

<sup>7</sup> *Die Drei-Drüsentheorie der Harnbereitung*. Von Dr. August Pütter. Berlin: J. Springer. (Roy. 8vo, pp. iv + 173; 6 figures. R.M.9.60.)



## THE INTERPRETATION OF GASTRIC SYMPTOMS.

ABSTRACT OF THE CROONIAN LECTURES DELIVERED BEFORE THE  
ROYAL COLLEGE OF PHYSICIANS OF LONDON,

BY

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### LECTURE I.

AFTER a short survey of the views that had been advanced by older writers, Dr. Bolton said that the conception of dyspepsia had returned to that of two hundred years ago, and that it was now widely regarded as signifying a group of symptoms resulting from functional disturbance of the stomach as a primary affection or due to organic disease; and the leading idea to be kept in mind in investigating cases should be the exclusion of organic disease. The first object in diagnosis was to ascertain the part of the gastric mechanism that was upset and the disturbance in action that it showed, and then to discover the cause of the disturbance. A thorough examination of the symptoms of the patient afforded the earliest and most delicate index of this disturbed action. Neglect of this was the greatest source of danger of missing serious organic disease. Although at first sight the varied symptoms of which patients with dyspepsia complained might seem to defy classification careful observation showed that there were several different combinations constantly recurring, and he believed it possible to classify dyspepsia into such symptom-groups, to explain them in terms of physiology, and so to build up a rational pathological physiology of the stomach.

The observations recorded were based on a series of 1,009 cases, but before proceeding with their analysis it was necessary to explain his views on the mechanism of the production of pain. Modern research had shown that the symptoms of dyspepsia were not due primarily to alterations in the chemical process of digestion but to alteration in the motor functions; and it was now generally agreed that visceral symptoms were in general almost entirely muscular in origin. The muscular sensations might be grouped as (1) minor sensations—for example, the feeling of tightness, fullness, or vague discomfort, etc., (2) pain of varying degree; there was no real difference between the two, the sensations sometimes passing on to pain or alternating with it. Both were due to excessive muscular tension, which was the resultant of two forces—stretching and muscular contraction. Normally great variations in contraction tension did not occur, and Sherrington had explained this by demonstrating the ability of the muscle to lengthen and shorten without apparent alteration of the contraction tension. The mechanism on which this postural activity depended, however, might be interfered with, and the most important cause of such interference was irritability of the neuro-muscular mechanism; sensitiveness of the nervous system varied in individuals, and was a large factor in the production of pain.

Local pain undoubtedly occurred; the minor sensations, when exaggerated into pain, were certainly examples of local pain, but although local pain originating in the oesophagus was fairly well localized, local gastric pain was, as a rule, too diffuse to be very helpful. Referred pain, on the other hand, was of much greater importance, because it was the chief gastric pain, and the position was constant and localized. In analysing his cases he had found that the areas of cutaneous hyperaesthesia mapped out by Head were of little help, as they were uncertain and irregular in occurrence. He divided the body into areas separated by transverse lines; the sternal region, extending from the root of the neck to the ensiform cartilage, represented the oesophagus, and was subdivided by a line across the fourth costal cartilage into upper and lower sternal areas. The area between the ensiform and the umbilicus he called the sterno-umbilical region; the transpyloric plane joining the ninth costal cartilage cut across the centre of this area, which could be subdivided into upper, middle, and lower

sterno-umbilical regions. Classifying the 624 cases of his series which showed pain in one area only, according to the site of pain, there were:

#### Sternal region:

Upper, representing upper oesophagus ... 53 cases  
Lower, representing lower oesophagus ... 119 "

#### Sterno-umbilical region:

Upper, representing body and stomach... 223 "  
Middle, representing pylorus ... 152 "  
Lower, representing pylorus ... 77 "

The mechanism of the stomach was likely to be upset at the time at which it was subjected to the greatest stress; the oesophagus and body were therefore likely to be disturbed at an early stage during filling of the stomach, the pylorus at a later stage during emptying. If, therefore, pain in these areas really represented disturbances in the corresponding parts of the stomach it should be possible to correlate the position of the pain with the time of onset after a meal. The following figures showed that this was the case.

		Symptoms occurring	
		Early.	One hour or later after food.
Upper sternal	...	66.6%	12.5%
Lower sternal	...	30.1%	38.4%
"	...	27.8%	47.3%
"	...	12.8%	74.4%
"	...	2.7%	90.1%

It was therefore justifiable to conclude:

- (1) That pain occurring in the upper sternal region usually came on at once after food or irregularly, and was associated with disturbance of the upper oesophagus.
- (2) That pain in the lower sternal region came on at once or late, and was associated with the lower oesophagus.
- (3) That pain in the upper sterno-umbilical area was associated with the body, and might come on early, but more often late.
- (4) That pain in the middle and lower sterno-umbilical areas was associated with pyloric disturbance, and usually came on two hours or more after food.

There was another feature of gastric pain, and that was its tendency to shift forwards as the disease proceeded, and so to appear sooner after a meal than was originally the case. Although this was most noticeable in cases where pain first appeared late it was also to be noticed in all types of case, and in severe cases the pain might eventually become constant, the patient being free from pain only in the early morning before food was taken. This was due to an increased irritability of the neuro-muscular mechanism of the stomach. The normal muscular response of the stomach to food was dependent upon a nervous reflex, which with constant irritation responded more and more easily, until in severe cases the mere presence of food, however mild, would excite the abnormal movements responsible for the symptoms. The oesophagus and body of the stomach were liable to develop early and constant pain, not only in virtue of their position and functions, but also because they were better represented in the central nervous system and were more subject to its influence. This view was supported by analysis of the cases of irregular pain, which was more commonly due to disturbance of the body or oesophagus than to that of the pylorus. Pain coming on irregularly, either early or late after food, was equally distributed between the cardiac and pyloric ends, and sometimes depended on the particular meal taken; pain occurring at any time, either day or night, was certainly much more frequently associated with body and oesophagus, and was often caused by increased pressure due to posture in an irritable stomach (straining, stooping, lying down, etc.), and above all to emotional disturbance. Constant pain, even with a presumably empty stomach, was characteristic of a high degree of nervous instability of the stomach, particularly affecting oesophagus and body. Pain in the back, if present, was usually at the same level as that in the front or higher up; oesophageal pain extended from top to bottom of the scapulae; pain associated with the body from the sixth to the tenth dorsal spine; and pyloric pain from the eighth dorsal to the second lumbar spine. Localized points of pain occurred in two areas: (1) opposite the ninth costal cartilages, more frequently on the right side than the left, and pain appeared late and was associated with the pylorus; (2) over the nipple region, usually on the left side and indicating oesophageal origin.

## LECTURE II.

Pain occurring in multiple areas was more difficult to classify, but the points were worthy of notice. The pain frequently began simultaneously in all positions, and when this happened the time of onset might be taken as indicating the origin, as in the single pain areas. The pain also often spread upwards or downwards during digestion. Upward spread usually meant a primary pyloric disturbance, whereas rapid downward spread usually pointed to considerable nervous instability.

*Sensation of fullness*, although primarily a symptom of body disorder occurring in 90 per cent. of cases with pain at the cardiac end, was found also in 80 per cent. of cases of pyloric pain. This was easily to be understood; the sensation depended on the volume of the gastric contents; if the irritable pylorus held up the gastric contents a sensation of fullness would result; if, however, the pyloric irritability showed itself late, when the contents had largely left the stomach, the sensations produced were those of hunger. Absence of pyloric relaxation was not necessarily accompanied by pyloric pain, as this only occurred when the pylorus or adjacent part of the vestibule became spasmodic, so that there was yet a third type of pyloric irritability, which was associated with the sensation of fullness but without pyloric pain. There was no doubt that these pyloric types constituted the most important group of sufferers from dyspepsia.

*Relief of Pain.*—The symptoms of functional disorder of the stomach occurred at different phases in functional activity, and ceased when the work of the particular part affected was finished. Factors causing the disappearance of pain were therefore as important as those causing it in explaining the mechanical disorder giving rise to it. Three common ways of obtaining relief were by food, by eructation, and by vomiting. Of the cases which were completely relieved by food more than half fell into the group of pyloric pain (mid and lower sterno-umbilical areas); but on analysing the time of onset it was found that in the large majority of all cases where pain was completely relieved by food the pain appeared late; so that it was probable that even those cases in which the pain was located in the cardiac or oesophageal areas were mostly secondary to a primary pyloric disturbance. On the other hand, patients who were not relieved by food were mostly the subjects of early and irregular pain. Two factors were involved in the causation of cardiac pain—the irritant nature of the gastric contents and an overaction of the neuro-muscular mechanism. The taking of food brought into play the mechanism for inhibiting muscular movements seen during normal filling of the stomach; this inhibition was naturally less effective in cases where the central nervous system was unduly irritable, and as it was the primary cardiac and oesophageal cases in which such irritability was most common, these were naturally the cases that showed least relief by food. On the other hand, the irritant nature of the gastric contents tended to exhibit itself chiefly during the later stages of digestion, when the more digestible portion of the meal had been allowed to leave the stomach; in these cases food diluted the residual contents of the stomach, and gave relief by increasing the bulk and also by diluting and neutralizing the free acid if present.

*Eructation of gas* was so constant a symptom as to be of little diagnostic help; the gas was practically always air swallowed with food, with saliva, or voluntarily; it did, however, indicate, when excessive, an unstable nervous system. Eructation of fluid was much less dependent on the nervous system, and gave some help. On the whole, acid eructations were associated more commonly with pyloric cases, and bitter or tasteless eructation with cardiac or oesophageal cases. The distinction was due to the fact that in the former group the function of the pyloric sphincter as a regulator of gastric acidity was interfered with, and hyperacidity of the gastric contents resulted.

*Vomiting.*—Nausea occurred so irregularly and in such a multitude of conditions as to be of little diagnostic importance. Vomiting, however, was of the greatest importance; it occurred in 22.8 per cent. of the whole series of 1,009 cases, and was therefore much less frequent

a symptom than pain, and indicated a high degree of irritation of the stomach. To assess its significance it was essential to take careful note of its origin and onset, for the reflex tended to become more excitable, and the vomiting then lost its initial character. It was also frequently induced by reflexes from all parts of the body, by affections of the central nervous system, and by blood poisons, so that the indications of a gastric origin required close attention. It occurred in about the same proportion of cases in the pyloric and cardiac groups, but much less frequently in the oesophageal group. The main cause of vomiting was pain. In 63 per cent. of his cases which showed vomiting the act occurred at the height of the pain, and in these there was rather a higher proportion of pyloric cases than cardiac; oesophageal pain was the least likely to cause vomiting. The next most active cause of vomiting was regurgitation of fluid from the stomach to oesophagus; 11.7 per cent. of the cases were due to this cause. The regurgitating fluid irritated the fauces and caused retching; this condition was found much more frequently in oesophageal cases, and was especially common in neurotic subjects. The third cause was the voluntary one in which the patient made himself vomit to relieve his symptoms. Sometimes the habit was continued as an involuntary one, and the patient then complained of it as his chief symptom. This group contained but few with oesophageal symptoms. These three factors—pain, regurgitation of fluid, and voluntary vomiting—accounted for 85 per cent. of his cases.

*Wasting* was an important symptom in cancer and pyloric obstruction, and also in certain remote diseases with gastric symptoms. Functional disturbances of the stomach, including uncomplicated ulcer, did not cause wasting; but this symptom might be associated with it in three conditions: (1) severe vomiting, (2) voluntary reduction of food to relieve symptoms or because the patient was afraid to eat, (3) loss of appetite with nausea. All these were indications of a neurotic individual. The wasting impaired the nervous system, and symptoms were aggravated.

*Appetite* was good in most of the pyloric cases; these included the most robust individuals and contained the smallest number of neurotics. Among cardiac and oesophageal cases about half had a fair or poor appetite.

*Sex of Patient and Shape of Stomach.*—In males the pyloric region was affected twice as often as the body; in females the pyloric region and the body were affected to an equal degree. With regard to shape of the organ it was not justifiable to look upon any form of dyspepsia as due to any particular shape of stomach. Normal individuals varied about a certain average as regards position and shape of stomach, and also as regards each of its functions; the type of stomach affected must produce some modification in the processes resulting from any disturbance, but all people, whatever the sex or the shape of the stomach, were liable to the same affections, and any differences in individuals in liability to any particular affection depended on the make-up of the nervous system and the habit of the individual. The greater nervous tendency of the female was shown by comparing the two sexes as regards the time of onset of symptoms; the female showed in every position of pain a much greater tendency than the male to feel the pain quite early.

*Organic Lesions.*—Gastritis and uncomplicated ulcer were the only two organic lesions that need be mentioned. Gastritis was present in some degree in all chronic ulcers, but if it produced any symptoms they were indistinguishable from those due to irritability of the body of the stomach, except by the type of vomiting and examination of the gastric contents. Ulcer, on the other hand, was of great importance for the present purpose because we knew the position, and could therefore locate the irritable focus producing the symptoms. Duodenal ulcers must be considered with gastric ulcers, as whichever side of the pylorus the ulcer was situated the effect on the pylorus was the same. In duodenal ulcer 87 per cent. of cases of isolated pain exhibited pyloric pain, 12 per cent. showed cardiac pain, whilst in exceptional cases there was no pain, but merely a sensation of fullness and regurgitation. This entirely agreed with

the conception of pyloric irritability previously described. Of 59 cases of gastric ulcer 23 were found by the surgeon to be pyloric and 36 in the body; in the pyloric group there was pyloric pain in 88.8 per cent., whilst in the cardiac group there was pyloric pain in only 40 per cent. and cardiac pain in 60 per cent. That a certain number of ulcers of the body caused cardiac pain had been noted by various people, the explanation being that an ulcer on the lesser curvature in the vestibule might give rise to irritability of the pylorus through the myenteric plexus. These results indicated that the pain in ulcer was not produced by irritation by gastric contents of afferent nerve fibres in the base of the ulcer, as in that case the referred pain should always indicate accurately the position of the ulcer; rather the pain indicated the segment of the stomach irritated. Duodenal and pyloric ulcers acted as a focus of irritation to the pylorus with secondary cardiac symptoms, so that the pain was usually pyloric and only occasionally cardiac. Ulcer of the body irritated the cardiac portion and pain was usually cardiac, but in a smaller proportion might by its position irritate the pylorus and produce pyloric pain. The pain of ulcer was thus of precisely the same nature as that of functional disturbance, and it obeyed the same laws, so that it was impossible to separate them clinically.

*Reflex Effects on the Stomach.*—Our knowledge of reflex dyspepsia as a result of disorder to some other organ was fragmentary, but from a clinical point of view the most important sources of origin of such reflexes were the biliary apparatus and intestines. With regard to gall-stones, he had found that in a series of 59 cases that had been operated upon the greater number suffered from gastric symptoms originating in the body; this agreed with general medical opinion and was in conformity with a number of observations recorded on the gastric acidity in gall-bladder conditions. It was much more difficult to come to any conclusion on the question of reflex irritation from the intestine; but, with regard to appendicitis, he agreed with those who held that chronic appendicitis did not exist except as the end-result of an acute attack. In a series of cases of appendicectomy for gastric symptoms in which removal of the appendix produced no effect, an analysis of the position of the pain gave results not unlike those in whom operation had been postponed for a supposed but non-existent ulcer.

### LECTURE III.

The symptoms of functional disorder of the stomach could thus be classified into three groups or syndromes: pyloric, cardiac, and oesophageal, each connected with a different part of the gastric mechanism; it remained to consider what alterations in the mechanism were responsible for the production of these symptom-groups and the cause of those alterations.

#### *Pyloric Syndromes.*

The causes of these were: (1) Indigestible and irritating food; the function of the pylorus was to hold up portions which required further disintegration, so that these irritants led to deficient pyloric relaxation. (2) Hyperacidity of gastric contents, which resulted from delayed pyloric relaxation itself, maintained the irritability, and induced spasm. The facility with which these two causes produced their effect depended upon the stability of the nervous system, which might be affected adversely by (1) a direct effect upon the myenteric plexus by a chronic ulcer or very rarely by cancer; (2) by reflex irritation from elsewhere in the alimentary system; and (3) general conditions, such as neurasthenia, although these produced their effect most often in the other syndromes.

Effects of the pyloric irritability were the same whatever the cause: the pylorus was interfered with in its double capacity (1) as a regulator of the output of food, and (2) as a regulator of the acidity of the gastric contents. The pyloric sphincter determined the rate at which food left the stomach; at the beginning of digestion it relaxed enough to allow liquids and finely divided solids to pass, other material being shot back into the pyloric vestibule for further disintegration; the gastric contents thus became more irritating as digestion proceeded. If indigestible and

irritating food were taken the factors bringing about pyloric relaxation became less effective, the pylorus refused to relax, and finally became spasmotic; peristalsis then increased in vigour, as in the case of all opposed muscles, so that the internal pressure was raised. If when the spasm came on the greater part of the food had left the stomach the exaggerated movements of the stomach were of the same nature as the normal hunger contractions of the empty stomach, and pain was blended with the sensation of emptiness or hunger. If the gastric contents at the time of pylorus spasm were considerable the pain was associated with a feeling of fullness. As the cardiac sphincter relaxed there might be occasional regurgitation of acid fluid into the oesophagus, with a burning sensation in the throat, and the fluid might reach the mouth and be spat out. As the second function of the pylorus in regulating the acidity of the gastric contents by permitting the regurgitation of alkaline duodenal contents had recently been denied, it was necessary to give a brief description of the foundations on which this idea was based. Beaumont was the first to recognize bile in the stomach, but no attention was paid to it until Boldyreff clearly established the spontaneous regurgitation of bile and intestinal juices into the empty stomach of both dog and man. Boldyreff proved conclusively that if acid were introduced into the stomach it was neutralized by regurgitation of pancreatic juice; he thought the process of regurgitation neutralized the gastric contents down to 0.15 per cent. as the optimum acidity for digestion by trypsin. That this neutralization also occurred as a normal process in the digesting stomach in man had later been demonstrated by estimations of the chlorides in the gastric contents after fractional test meals. In the normal subject the acid of the contents gradually rose to somewhere about 0.2 per cent. at the height of digestion and then gradually fell towards zero as the stomach emptied; if gastric juice of constant strength continued to be secreted throughout the curve must continue to rise steadily; but, if secretion stopped when the acid peak was reached the acid concentration of the gastric contents would remain at that level and the curve would appear as a horizontal line; if the gastric juice fell off in acidity the curve would lie between the two levels, and experiments by Roseman on dogs suggested that such a fall in the acidity of the gastric juice did actually occur, but the lowest percentage reached was 0.319 per cent. HCl, so that it was impossible for gastric juice to act as a diluent of gastric contents which had, on an average, only an acidity of 0.2 per cent. HCl.

The only other process which could bring down the acid of the gastric contents was neutralization. Chloride estimations by the fractional method showed that, as the acid curve fell, the curve of neutral chloride increased *pari passu*, the total chloride curve remaining unaffected. The conclusion was that the true secretory curve was not the acid curve, but followed closely the total chloride curve; and that the acid curve represented the process of neutralization, which in turn depended upon relaxation of the pyloric sphincter. The hypothesis was formed that in pyloric irritability the pylorus refused to relax at the usual time and neutralization failed to occur; the course of the acid curve then depended on the secretory activity of the stomach and the behaviour of the pylorus; it might continue to rise as in the "climbing" curve, or it might draw a horizontal line, or, if the pylorus relaxed occasionally, it might fall with each relaxation and rise again as the pylorus tightened up. There were a number of facts confirming this conclusion.

1. Bile appeared in the stomach from the beginning in the cases of excessive neutralization.
2. In organic obstruction of the pylorus by ulcer where regurgitation was prevented, the acid curve did not fall.
3. Where the pylorus is cut out or after gastro-enterostomy the total chloride curve is unaffected, but achlorhydria is established by free regurgitation.
4. In certain cases of pyloric hypertension atropine in addition to diminishing secretion converted a climbing curve into a normal one by allowing pyloric relaxation.
5. After recovery from dyspepsia the pylorus could be irritated by adding badly cooked split peas to the meal and a normal curve be transformed into a climbing one.
6. The rapid ups and downs that were sometimes seen in the acid curve could only be explained by the vagaries of a sphincter muscle.

Recently objections to the neutralization hypothesis had been brought forward, and it had been suggested that the stomach secreted a juice rich in neutral chlorides, which brought down the acid curve by dilution. MacLean had obtained from dogs, with a Pavlov pouch, acid curves of gastric juice showing a similar shape to those obtained from the digesting stomach in man, during test meal examinations, and he concluded that the same processes were at work in both cases, but the lowest percentage of acid he obtained from a measurable quantity of gastric juice at the end of secretion was 0.2 per cent. HCl, and this would obviously produce no fall in the acidity of gastric contents which was not above 0.2 per cent., however much neutral chloride the juice might contain in addition to the acid. There were a number of observations which were inexplicable on MacLean's hypothesis, one example of which was an investigation on an hour-glass stomach in which no fall of acid was found in the contents of the upper sac, whilst a normal fall was found in the contents of the lower sac; it was impossible to suppose that in this case the upper sac was secreting acid and the lower sac salt. Further information on this point had been obtained by x-ray examinations, and with Salmond he had found that the normal condition was for the duodenal cap to be filled under pressure, not only by the stomach, but by antiperistalsis in the duodenum, which occurred in 93 per cent. of cases examined, and duodenal contents could be seen regurgitating into the stomach. Analysis of his cases strongly supported the view that the hypothesis formed as to the probable course of pathological events giving rise to the pyloric syndrome was correct. Pyloric hypertension as evidenced by deficient neutralization occurred in 76 per cent. of cases with pyloric pain, in 37 per cent. of cases with cardiac pain, and in 25 per cent. of cases with oesophageal pain.

#### *Cardiac Syndrome.*

In contradistinction to the pyloric syndrome symptoms were here manifested in both phases of gastric activity.

*Causes.*—During filling the first cause was bolting the food, which prevented the stomach from accommodating itself in the normal way; the second cause was irritability of the neuro-muscular mechanism, brought about as described in the pyloric syndrome. During emptying abnormal activity of the neuro-muscular mechanism again interfered with normal accommodation, the exciting cause being the irritant nature of the gastric contents.

*Effects.*—With too rapid filling of the normal stomach the contraction tension was raised and a sense of fullness resulted; when irritability had supervened a reflex tonic reaction was at once excited and a sense of fullness or pain was experienced within a few minutes. Although during actual eating pain might be relieved by vagal relaxation of the body, when the meal ended excessive contraction occurred. Such patients felt quite full after eating small amounts, and they reduced their food in consequence; there was thus no stimulus to the lengthening of the muscles, which then contracted all the more. No relief was obtained, therefore, from the diminished diet, and wasting occurred from insufficient food. During emptying increased irritability of the neuro-muscular mechanism produced an increase in the tonic contraction with symptoms which usually appeared between half an hour to two hours after eating. Owing to increased pressure in the body oesophageal regurgitation might occur here as in the pyloric syndrome.

#### *Oesophageal Syndrome.*

Oesophageal symptoms were accounted for by the regurgitation of material or gas from the stomach. This was normally only prevented by the tone of the cardiac sphincter. As long as the gastric contents were neutral regurgitation might occur without producing any sensations. In the later stages of digestion if the gastric contents were acid repeated regurgitation led to increased irritability of the mucous membrane and muscular coat of the oesophagus; ring spasms occurred, accompanied by aching or sensations of tightness, or burning in the lower

chest, and sometimes by severe pain at the ensiform. If the patient was neurotic symptoms were liable to occur whatever the reaction of the gastric contents.

### LEAD TETRA-ETHYL IN MOTOR SPIRIT.

#### COMMITTEE OF INQUIRY.

THE committee which, under the chairmanship of Sir FREDERICK WILLIS, is inquiring into the use of lead tetra-ethyl in motor spirit resumed its sittings on June 6th,\* when Sir WILLIAM POPE, professor of chemistry at Cambridge University, gave evidence.

Sir William Pope was asked about certain ethyl tests which have been carried out in America on a monkey. He replied that in his view such experiments on animals did not afford guidance as to what was likely to happen in man. Other experiments in America, in which a number of garage men concerned in the use of ethyl petrol were compared with certain controls, struck him as having only a slight bearing on the case because the men using the ethyl petrol had, no doubt, been carefully cautioned and were aware that they were exposed to something more than the average risk. The important thing was to ascertain what was likely to happen to the careless garage hand. Asked whether he considered the amount of lead found in the faeces a good index to the lead in the body, he said that it left out of account the effect on the central nervous system. In his view lead poisoning might go on for twenty or thirty years. The fact that in America this substance had already been used for five years without any case of poisoning apparently occurring was not altogether reassuring to his mind; he attached a certain amount of importance to it, but he thought it very probable that public health supervision in the States was not as perfect as in this country. He believed that in the States lead poisoning was not notifiable as it was here, so that it was not, perhaps, so likely that the authorities would necessarily be acquainted with any cases occurring. He also felt foul of the description of the material as "tetra-ethyl lead"; it should be described as "lead tetra-ethyl." In reply to the chairman's question, he said that he believed the committee would find it very difficult in any reasonable time to answer what was set out in its terms of reference. His suggestion would be that stringent regulations should be drawn up, and a leaflet issued calling attention to the possible dangers.

In answer to Sir C. J. Martin the witness said that undoubtedly if the petrol containing lead tetra-ethyl were splashed about a great increase in the number of cases of poisoning would be found. In reply to Dr. W. E. Dixon, he said that he had himself made lead tetra-ethyl on a number of occasions during the last thirty years; neither he nor his assistants had suffered from lead poisoning, but they had taken no risks. Asked what became of the lead tetra-ethyl when it was absorbed in the body, he said that in his précis of evidence he had given an account of four men who died after such absorption. In two of these cases the volatile lead substance—presumably lead tetra-ethyl—was discovered in the brain; in the other two there was no volatile lead in the central nervous system. Possibly it was a question of length of time; it might have been absorbed in some non-volatile compound. In reply to Sir William Willcox, he said that the slow degeneration wrought by lead on the nervous system might take many years. He agreed that not only had the time factor to be taken into account, but also the possible idiosyncrasy; the careless worker had to be borne in mind.

At the close of his evidence Sir William Pope was again questioned by the chairman as to his evident scepticism with regard to the United States evidence. Sir Frederick Willis suggested that the five years' experience of the United States afforded a certain margin of safety whereby this country, following in its wake, might always have ample warning of any ill effects. Sir William Pope said that he was not altogether satisfied that this would divert any danger in this country. His reason for hesitation was the incomplete character of the United States health records as compared with those here.

Other witnesses examined at this sitting were Dr. H. B. Baker, professor of chemistry, Imperial College of Science and Technology, who expressed the view that there was a danger in lead tetra-ethyl in petrol, and suggested that a conclusive experiment might be made on those who suggested that no such danger existed, and Professor G. I. Finch, also of the Imperial College, who said that while a saving of many millions would be effected in the national petrol bill by the use of lead tetra-ethyl, he thought that, in the absence of proper regulations, it would involve very real dangers to the community, though it might be ten or fifteen years before the effects of the poisoning would be observed.

\* Reports of the earlier proceedings have been published in the *British Medical Journal* of May 5th (p. 770) and May 19th (p. 871).

# British Medical Journal.

SATURDAY, JUNE 16TH, 1928.

## THE NINETY-SIXTH YEAR.

PREPARATIONS for the Annual Meeting of the British Medical Association at Cardiff are now well advanced; the programme for the eighteen scientific sections, of which the provisional outline appears in our *Supplement* this week, is nearing completion; and with the forthcoming publication of the Supplementary Report of Council the full record of the Association for the 1927-28 session will lie open to inspection.\* That record is presented primarily to the general body of members in whose name and by whose authority the work is carried on from day to day, and to the elected representatives whose function it is to pass judgement on their behalf upon what has already been done and to lay down the lines of future advance. Beyond this, it should be regarded both as a challenge to the indifference or antagonism of non-members, and as a manifesto to the growing section of the public which takes critical and sometimes captious note of the way in which the medical profession seeks to satisfy the increasing claims of the community for expert guidance in all that affects the common health no less than for individual help in sickness and accident. The record must be studied in detail to appreciate its full scope and significance, but something may be gained also from a cursory review that throws into relief the resources at the command of the Association and the manner in which they are being employed.

Membership, a useful if not an exhaustive index to vitality, shows healthy progress. The figure to-day stands at 33,700—an increase of over 1,300 since December, 1926, and over 9,000 in the past five years. The progress of the Medical Association of South Africa as an integral part of the British Medical Association has amply justified the high hopes with which incorporation was accomplished in the opening days of last year; and the presence of Dr. Braekenburg at the South African Medical Congress in Bloemfontein and the general success of his mission have demonstrated not only the strength but the practical value of the bonds established by the Association between the profession at home and overseas. Arrangements for the Annual Meeting of the Association at Winnipeg in 1930 are already in hand, and preliminary consultations have taken place in London between delegates from Canada (Dr. T. C. Routley, General Secretary of the Canadian Medical Association, and Dr. J. D. Adamson of Winnipeg, representing the Manitoba Medical Association) and the officers and officials of the British Medical Association. The report from Ireland lays stress on the impetus to medical organization given by the Medical Secretary's visit early last year. Alike in Scotland, where the Edinburgh office has been enlarged, and at the headquarters in London, where the ground is being rapidly cleared for the first part of the building scheme sanctioned by the Representative Body last year, the Association is providing itself with homes in keeping with its status and activities. Meanwhile, lest growing

numbers and growing material resources should tend to the inertia of institutionalism, the machinery of the Association is under constant scrutiny, and modifications are always being made to keep pace with fresh developments. The inauguration in the past year of special groups of spa practitioners and consulting pathologists has given the Association an opportunity to approach, by way of schemes for the spa treatment of insured persons and for the ordered development of pathological services, problems of real importance to the public and the profession in a manner which appears to justify this new phase of organization.

Its primary object—the promotion of the medical and allied sciences—the Association has served through the customary channels. The circulation of the *British Medical Journal* still exceeds the growing membership, and there is abundant evidence of the care with which its pages are studied by readers in all parts of the world. A larger amount of money, which includes a special grant to a supervisory centre for rheumatic children, has been distributed for the promotion of research, and more and more use is being made by members of the improved service now given by the Association's Library. There is also a steady demand from the Branches and Divisions for British Medical Association Lectures. The special feature of the year's work for the advancement of medical science has been the inception of two schemes for collective research. This is a return to—or rather a development of—an undertaking in which the Association was a recognized pioneer nearly seventy years ago, and for which it commands to-day resources hardly dreamed of by those who set on foot the modest venture of 1862. The response to the recent inquiry into the after-results of gastro-enterostomy has already surpassed the most sanguine hopes; that on the treatment of varicose ulceration shows good progress.

In its special reports on lunacy and mental disorder, on puerperal morbidity and mortality, on treatment by electricity and radiation, and on the possibility of formulating an international medical code for use at sea—just as in the working out of a scheme for the alternative provision of ophthalmic benefit under the National Health Insurance Acts through clinics—the main task before the British Medical Association has been to secure agreement on the best way to safeguard and extend the application of existing knowledge for the benefit of the community. It is in the preparation and discussion of such reports as these that the Association makes its most characteristic contribution to the education of the public in health matters, by securing a consensus of professional opinion upon questions in which the many conflicting voices tend to confuse both the administrator and the general public. That the more direct means of guidance are not neglected is shown by the list of bodies, official and voluntary, on which the Association is represented and with which it has conferred. In the conference on the remuneration of non-professional teachers and research workers, attended by representatives of most of the medical schools in Great Britain and Ireland; in that on puerperal morbidity and mortality, at which every type of expert worker concerned in the problems of midwifery took part; and in the discussion on contributory hospital schemes, attended by some 250 representatives of the medical staffs of hospitals throughout the country, those best qualified to speak on the several matters under review have been brought together by the Association. Progress has been made also with inquiries into psycho-analysis and into encroachments upon the sphere of private practice, although the reports of the special

\* The Annual Report of Council for 1927-28, with Appendixes, was printed in the *Supplement* to the *British Medical Journal* of April 28th. The Supplementary Report will appear on June 30th. These two documents form the basis for the deliberations of the Annual Representative Meeting at Cardiff from July 26th to 28th.



committees dealing with these subjects will not be available for discussion this session.

Turning next to the large and important field of professional life watched over by the Insurance Acts Committee, it should be borne in mind that the revision of disciplinary machinery has still to stand the test of experience, and that the Committee's work arising out of the Insurance Bill whose terms are now before Parliament is by no means completed. Here, as in all that the Association undertakes, it may be claimed that the economic basis of efficiency and the essential conditions of freedom and responsibility in every form of medical practice have been kept constantly in view. One feature only of the year's work calls for an admission of failure. It must be owned that the £4,000 or so collected by the Association for distribution among medical charities during 1927 falls lamentably short of the annual income of £20,000 which the Council desires to secure for this purpose. Let us hope that the increase of more than £1,000 over the amount collected in 1926 may be taken as an earnest of better things to come.

Such in barest outline is the record of the past twelve months. If it compares not unfavourably with that of other less peaceful years we shall do well to recall with gratitude the many devoted workers whose capacity for service and for leadership has brought our Association to its present security and pre-eminence. In doing this we shall think especially of two who have passed from us so recently that their loss is hardly yet realized, who finished their work for their profession during the period under review—J. A. Macdonald, formerly Chairman of the Representative Body and Chairman of Council, and at the time of his death chairman of the Journal Committee; and Dawson Williams, for thirty years Editor of this *Journal*.

### THE INTERPRETATION OF HEART SYMPTOMS.

THE study of Medicine, as defined in the official curriculum, is a very wide and comprehensive enterprise. It includes features which do not, at least to those setting out on the voyage, appear to have a very direct relation to the main purpose of the journey. In the necessary discipline of the preliminary studies, the student, naturally eager for practical affairs, is apt to see mere irritating and gratuitous obstacles. Sooner or later, however, he arrives at what he has throughout felt to be his goal—that is, the study of the patient; and it is with this study that he is to be engaged throughout his professional career. The proposition is easily stated; yet the application of it in life and practice is one of the most arduous and anxious tasks to which human nature is ever addressed itself.

The individual problem is to provide the patient with wise and helpful advice, and this necessarily rests on a diagnostic conclusion—a conclusion which, in turn, must proceed from an analysis and valuation of evidence. Thus, in the last resort, it is on the faculty of rightly weighing evidence that the success of the practitioner in relation to the individual patient actually depends. If it is a commonplace to say that part of this evidence is provided by the description which the patient gives of his own sensations and part by the personal observations of the physician, it is not the less true that the comparative value of these two contributions has been differently estimated at different dates. In primitive days the patient naturally and easily held the field. With the development of physical methods of

examination and of extended methods of objective investigation, personal testimony from the patient suffered some eclipse; and the development of laboratory tests made a further contribution to this result. Facts depending on the direct and first-hand observation of the physician seemed to offer themselves as being in degree, and even in kind, testimony far superior to the statements—often vague and halting—contributed by the patient as an account of his own sensations. Undoubtedly at one time there developed in practice a tendency to minimize, and even to disregard, the patient's story, and to rest a diagnostic and prognostic conclusion mainly or entirely on the results of objective examination; and naturally this attitude of mind particularly expressed itself when symptoms affirmed by the patient found no support in the physical facts of the case. In recent years, however, there has been a decided movement towards a higher appreciation of the subjective evidence provided by the patient. In part this has been due to a recognition of the truth that physical methods of examination have their limits, particularly on the negative side; whilst another factor contributing to the same result is the doctrine that the beginnings of disease—the stage where treatment has its greatest opportunity—are to be detected by the interpretation of symptoms rather than by the changes which can be demonstrated by physical signs. From these and other influences the patient's story may now be regarded as evidence having a claim to a degree of attention that it has not always received.

The general proposition here stated is often conspicuously illustrated in patients who are, or on various grounds believe themselves to be, the subjects of cardiac disease. That the majority of fears of this order are ill founded is a familiar experience with every practitioner, but this does not exclude the possibility that a negative conclusion based solely on physical signs may be equally at fault. It is only by reviewing both symptoms and physical signs that a sure diagnosis and a confident prognosis can be reached. This is one of the lessons lucidly presented in the lecture by Dr. Carey Coombs which we publish on another page of this issue. Such symptoms as palpitation, extrasystoles, and fainting attacks naturally cause the patient much alarm, and often lead to considerable emotional disturbances, which in turn are reflected in stories overcharged with emphasis. Dr. Coombs shows that the clinical value of such stories cannot be abruptly determined by the mere absence or presence, as the case may be, of physical evidences of valvular or other cardiac flaw. In other words, the stethoscope is not a final court of appeal in the clinical interpretation of the patient's sensations; it offers a contribution, and indeed an important contribution, to such a task, but its testimony is something to be added to the common stock, and to be considered in relation to the facts presented by the patient as a statement of his own discomforts and inconveniences.

In his lecture Dr. Coombs has set out in considerable detail the clinical features of various forms of heart attacks, and his observations, we feel sure, will have a wide range of helpfulness. They are evidently based on first-hand and careful bedside observations, and the fact that in some instances the pictures fade away at the margins, that they are not altogether mutually exclusive, and that here and there some individual case escapes classification, only means that they are nature studies, and not, like the academic camel, evolved out of the philosopher's inner consciousness. In this respect they come into the best order of clinical teaching.

There are other features of this lecture that deserve cordial recognition. Granted that the study of the patient is thorough and inclusive, Dr. Coombs is all for the courageous and the confident conclusion. With the "hedging" diagnosis he has neither patience nor sympathy, and he puts "pseudo-angina" into this category; "vasomotor angina," though honoured in the textbooks, he "does not see" in practice; and the welfare of the patient, he urges, has a claim which must take precedence of the practitioner's desire to be on the safe side. If "safety first" is to be the motto, it is safety for the patient rather than for the reputation of the doctor. All this has a decidedly robust note. At the same time it is free from any encouragement to rash and hasty conclusions, for the decision for or against the existence of cardiac danger is to be a considered judgement on all the evidence, and not the outcome either of an easy optimism or of a vacillating mind. "The pain is either cardiac or it is not," and it is the practitioner's duty to "make up his mind about it." These are the stirring terms in which Dr. Coombs exhorts his colleagues to enter the valley of decision.

It may be freely allowed that such an exhortation is not inappropriate to the field of cardiac diagnosis and prognosis. Doubtless nowadays cardiac murmurs, or at least some of them, have had their importance reduced, but even when this is allowed a suggestion of cardiac disease sometimes provokes a "be on the safe side" policy, and under this restrictions are imposed which are without justification unless cardiac disease is actually present. Unnecessarily to deprive a child of the activities appropriate to its age, or to leave an adult suffering from functional palpitation under the depressing verdict of "a weak heart," is certainly not "the safe side" for the persons principally concerned. The medical attendant may sometimes have to take a risk, and he will certainly make some mistakes. But, given the necessary investigations and an informed judgement, the interpretation of symptoms having *prima facie* a cardiac significance ought to be undertaken with confidence and concluded with decision.

### OBSCURE DENTAL SEPSIS.

To the onlooker in medicine few things have been more impressive in recent times than the awakening of medical interest in dental and tonsillar sepsis as factors in obscure systemic infections. That there has been a gradual change of attitude on the part of the family medical attendant towards his patients' teeth will scarcely be denied. How many doctors fifteen years ago thought of toxic absorption from a tooth socket when treating a case of sciatica or of unexplained pyrexia? In the early days of enlightenment pyorrhoea alveolaris was thought to be of prime importance; now it is apical sepsis that holds the centre of the stage, and the pulpless tooth—the "filled dead tooth"—is increasingly recognized as a menace to health. Bit by bit the evidence has been sought for, and pieced together, incriminating hidden dental sepsis as (to say the least) a predisposing cause of general disease. The fruits of the pioneer work of Dr. William Hunter have thus in the course of a few years become a commonplace of medical practice. In this advance radiography has been of inestimable value. It is true that there is still a good deal of controversy about the interpretation of the x-ray appearances round the apices of pulpless teeth, and that all dental surgeons are not yet agreed as to the treatment of such teeth; but with improved

technique and growing attention to the subject knowledge is accumulating.

A further effort towards systematization in the diagnosis of obscure dental sepsis is made by Dr. J. F. Brailsford in the article illustrated with radiograms which appears at page 1013 of our present issue; and the note by his colleague Dr. Leonard Mackey (printed at page 1021) gives three more proofs of the trouble an infected tooth root may cause until its mischievous activities are recognized and ended. These papers, following recent communications bearing upon the same subject by Mr. Arthur Bulleid<sup>1</sup> and Mr. A. P. Bertwistle,<sup>2</sup> and the debate on the pulpless tooth at the Royal Society of Medicine,<sup>3</sup> indicate very plainly the new outlook on dental sepsis in relation to constitutional disease. Fresh light on the problem, leading to something in the nature of standardized procedure, may be expected in the near future if odontologists and radiologists and pathologists continue to work hand in hand; but it is all-important, we think, that physicians and surgeons and general practitioners should regard themselves as essential members of the team. That the ophthalmologist also is concerned in this matter was preached many years ago by Mr. William Lang, who had noted and reflected upon the close connexion between some eye infections and dental sepsis; and at the congress last April of the Ophthalmological Society of the United Kingdom Mr. A. F. McCallan,<sup>4</sup> when discussing the ocular changes observed in association with focal sepsis, reported that one in five of a consecutive series of private patients coming merely for refraction were found on radiographical examination to have apical abscesses. In short, as Dr. Patrick Watson-Williams wrote the other day, at the end of his paper on nasal and oral sepsis in the etiology of gastro-intestinal and pulmonary diseases,<sup>5</sup> "in medicine there is but one field, which ever calls for team work."

### PLAGUE IN AUSTRALIA.

"ONE time with another," said Sir William Petty, "a plague happeneth in London every twenty years." Less fortunate than old London in this one particular, Australia suffered a revival of plague in 1921 after a respite lasting for only half of the period specified by the Caroline sage. Drs. Cumpston and McCallum have made this recrudescence the occasion of collecting the scattered records of plague incidence in the continent, and presenting them as a consecutive account in *The History of Plague in Australia*.<sup>6</sup> In this volume we find perfect pictures of typical epizootics and epidemics of plague, which fortunately occurred in so small a compass as to make a close study possible throughout. Moreover, in some instances the earliest beginnings of an epizootic were observed and traced to the actual ship responsible for introducing the infection. The close association of human plague and rat plague was always demonstrable, but the experience in certain of the outbreaks brings home to us how readily a rat epizootic may be overlooked, no sign of plague being noticed, nor any rumour of an unusual mortality reaching the authorities, until the sudden occurrence of a human case leads to the discovery of numbers of mummified rats, presumably dead of plague, in or near the premises affected. On the other

<sup>1</sup> *British Medical Journal*, January 28th, 1928, p. 135.

<sup>2</sup> *Ibid.*, April 7th, 1928, p. 589.

<sup>3</sup> *Ibid.*, March 31st, 1928, p. 548.

<sup>4</sup> *Ibid.*, May 19th, 1928, p. 876.

<sup>5</sup> *Ibid.*, June 2nd, 1928, p. 931.

<sup>6</sup> *The History of Plague in Australia, 1900-1925*. By J. H. L. Cumpston, M.D., D.P.H., and F. McCallum, M.B., B.S., D.P.H., D.T.M. and H. Commonwealth of Australia, Department of Health. Service Publication No. 32. Melbourne: H. J. Green. (Med. 8vo, pp. 238; 12 figures.)

hand, when extensive and systematic trapping, combined with routine laboratory examinations, leads to the early discovery of a rat epizootic, there may be a curious freedom from human plague for a considerable period. The 1921-22 outbreak in Sydney is particularly instructive in this respect; rat plague, of ship origin, was detected in September, 1921, and continued briskly for two and a half months before it spread to man. The secondary foci of infection were established by some means of transport which left the rats of the traversed interval unaffected, and it is interesting that in most of the subsidiary outbreaks infection was definitely centred around some produce store or stable which had been supplied with fodder and the like from the primary focus. The danger to man was everywhere directly proportional to the accessibility of the interior of buildings to rats, having regard to the fact that the disease tended to pick out individual rodents, the majority of the colony being unaffected (an immunity possibly due to the low degree of flea infestation noted below), and that infection was active only in circumscribed areas, which were attacked in succession. On the whole, it appears that *Rattus rattus* (both in its *rattus* and *alexandrinus* subspecies) and *Rattus norvegicus* were of about equal importance as sources of plague, but the proportion of infected mice was at times high. Thus among 1,335 plague-infected rodents captured in Sydney there were 567 *R. rattus* (the common ship rat in Australia), 397 *R. norvegicus*, and 171 *M. musculus*, though in no instance were infected mice found except in association with plague-stricken rats, and there was nothing to suggest that mice of themselves served as an independent focus of disease. As would be assumed, *R. r. rattus* and *R. r. alexandrinus* were found to interbreed readily, but all attempts to cross *R. rattus* and *R. norvegicus* failed, for the doe of each species repelled the advances of the male of the other, and the consequent combat resulted in the rout of the *rattus* male or in the death of the *rattus* female, the fiercer *norvegicus*, whatever the sex, holding the field. The Siphonaptera, exclusive of fleas, taken from rodents were all embraced in the genera *Xenopsylla*, *Leptopsylla*, *Ceratophyllus*, *Ctenocephalus*, and *Pulex*, in the order of frequency, with a general preponderance of the species *X. cheopis*. Rats harboured a surprisingly high percentage of mouse fleas (*L. musculi*), sometimes over 40 per cent. of the total catch secured. The flea population per rat, as recorded, was very scanty; in Sydney, for example, among 20,000 rats there was an average of only one flea to every eight rats, which suggests that some considerable number of rats sent for examination may have been already dead and deserted by their ectoparasites. Within the same period 8,000 mice are recorded as having harboured the astonishing total of twelve fleas. Plague in Australia, both rodent and human, was strictly seasonal in its incidence, and reached its maximum intensity in summer, to die down again in winter—that is to say, keeping pace with the activities of the insect vector, for, as was written centuries ago, "The fleo . . . wexeth slowe and fayleth in colde tyme, and in somer tyme it wexeth quiver [alert] and swyft, and spareth not kynges."

#### INCOME TAX: CHANGES IN PROPRIETORSHIP OF PRACTICE.

During the past two or three years substantial changes have been made in the general scheme of assessment for income tax; it is opportune to refer to one alteration—namely, the fiscal consequences which now attach to a change in the proprietorship of a medical practice, if effected after April 5th, 1928. Prior to the year 1927-28 the "three years' average" formed the basis of assessment, notwithstanding the fact that the result was to charge a successor on the basis of the earnings of another

man, but as a check on the hardship which that rule might have created, the successor was entitled to have the assessment revised to the amount of the earnings for that actual year, provided that he could show that the profits had fallen short from some specific cause since or by reason of the change. For the year 1927-28 the three years' average basis was replaced by that of the previous year, but this proviso remained in force. As regards changes subsequent to April 5th, 1928, the proviso disappears, and is replaced by an entirely different rule. Unlike the former option, that now given to the taxpayer is such that it is unwise to postpone its consideration; the matter has become one to be discussed and settled at an early stage, preferably as part of the negotiations for the purchase or sale of the practice or share which it is proposed to transfer. The change may, of course, be complete, as where a single-handed practice is transferred from one practitioner—or his executors—to another, or partial, where a share only is transferred and there remains in the group of proprietors at least one individual member, who thereby gives partial continuity to the practice. In the business world the former is probably more common than in the medical profession to-day. In the former and simpler case the new rule, Section 32 (2) of the Finance Act, 1926, is definite and conclusive; the practice is to be dealt with as if it had ceased and been recommenced by the successor. Suppose, for example, that A sells his practice to B as from October 5th, 1928. In that case A's liability for the year ending April 5th, 1929, will, so far as that source of income is concerned, be represented by his earnings during the six months ended October 5th, 1928—not by one-half of the assessment for 1928-29, which will have been made on the preceding year's basis—and the revenue authorities will have the option of revising the assessment for 1927-28 to the amount of the profits of that actual year. So far as B is concerned, he will be chargeable for the six months to April 5th, 1929, on the amount of his earnings for that period, and for the year to April 5th, 1930, on the amount of his earnings for the year to October 5th, 1929, with the option of having the assessment reduced to the amount of the earnings for the year to April 5th, 1929, if he wishes. In passing, it may be noted that in cases where the change has adversely affected the profits—not merely the cash receipts—of the practice the new scheme may prove to be a little kinder to the successor and a little more severe to the predecessor than the former method of adjustment. Coming now to a partial change in proprietorship—as, for example, by dissolution or the retirement or admission of a partner, or where a single-handed practitioner takes another man into partnership with him—it is now provided that "the tax payable by the persons who carry on the profession . . . shall, notwithstanding the change, be computed according to the profits or gains of the profession . . . during the period prescribed"—that is, during the year prior to the year of assessment. There is, however, a proviso (and to this matter we wish to direct special attention) to the effect that where all the persons concerned in the proprietorship, whether before or after the change, "require by notice signed by all of them . . . and sent to the inspector of taxes within three months after the change took place," then the practice shall be treated as if it had ceased and been recommenced—that is, as in the case of a complete change of proprietorship. The result of exercising such an option, both as regards successors and predecessors, will be seen from the illustration given above. It is clear that if the statutory grant of that option is to have any real value, the question should be considered as part of the matters discussed when negotiations for the transfer of the partnership share are proceeding. Not only is that the most convenient time, but in view of its effect on both parties to the transaction, if it is then overlooked or postponed

it may be difficult, if not impracticable, to arrive at unanimity and give the necessary notice within the statutory time limit of three months from the date of change. It is, of course, usual to make that change in a manner and at a time calculated to interfere as little as possible with the normal flow of the practice income, but that is not always possible, and it is not difficult to conceive of circumstances in which failure to consider and exercise the option in question would involve the parties to the transaction in the payment of a larger amount of tax than the full application of the law would have required.

#### NARCOTIC PLANTS.

IN the appropriate setting of the old Physic Garden at Chelsea on June 7th, Dr. W. E. Dixon, F.R.S., reader in pharmacology at the University of Cambridge, delivered a Chadwick Lecture on the subject of narcotic plants. It was an interesting discourse on the various specimens (in the green leaf) which were on the table in front of him, and was lighted up by a genial philosophy. One of Dr. Dixon's observations was the curious fact that all over the world the national beverages containing caffeine were dependent upon plants without any characteristic smell or taste. Of all the alkaloids, he said, caffeine was the most widely used by man. It was found in the leaves and beans of the coffee tree, in tea, and also, in small quantities, in cocoa. It might be said that tea, coffee, and cocoa were not narcotics, but that was because they were not taken in large enough quantities. People of all races seemed to crave for something which exerted on the brain a mild narcotic influence. This craving might be understood among highly civilized peoples, accustomed to work or play at high pressure and subject to the strain of modern life. In such circumstances anything might be seized upon which prevented the exercise for the time of the higher faculties of the mind; but why should the primitive people in Northern India smoke Indian hemp, which also produced a narcotic effect on the nervous system? To some extent it was explained, as was the taking of opium, as a social function. The natives sat round in a ring and practised this indulgence, passing into a state of languid ease, obtaining an exalted sense of their own superiority, and losing their relationship to time and space, so that the minute became an hour. Such was the result which followed the use of the essential oils exuding from certain plants. Often these oils were closely allied, though the plants producing them were very different. Who would imagine that attar of roses, eucalyptus, and turpentine had much in common? Yet when any of these was taken by the mouth the person taking it smelt of roses. In the days of imperial Rome the maidens used regularly to take a drop of turpentine so that the fragrance of the queen of flowers might cling about them. Another essential oil of very powerful properties was exuded from the nutmeg, and in the early days of tea drinking in this country the nutmeg grater was an accessory to the teapot, a little of the aromatic kernel being used to give a fillip to the tea. But, of course, the outstanding example of the narcotic plant is tobacco, whose innocent leaf Dr. Dixon exhibited to his audience. Incidentally, he said, it was a fortunate thing that we did smoke tobacco and not eat it or inject it. This led him on to the generalization that in all these matters, so long as we kept away from the chemist, we were tolerably safe. Who ever heard of the juice of the vine doing any serious harm until the chemist came on the scene and practised his distillations? With opium, again, the great mischief was not done until the chemist came along and extracted its chief narcotic principle, morphine, and offered the hypodermic needle. In the same way, when tobacco was used for smoking it was relatively harmless, although Dr. Dixon emphasized the evil effects of inhala-

tion, pointing out how the CO fixed the haemoglobin, and how even the non-smoker who had the misfortune to ride in a full-blast smoking carriage with the windows closed suffered with the guilty and had a certain percentage of his blood put out of action. But of nicotine it must be said that its effects were marvellous in that it seemed at the same time to soothe the irritability of the supersensitive and to stimulate the dull and apathetic. How to correlate those two actions was a task which must be left to others. On the general question of tobacco smoking and of narcotic indulgence Dr. Dixon remarked on the sad paradox that we seemed to get our chief pleasures in life by escaping out of life. But in smoking he thought there were some values not often considered—for example, the ritual of smoking, the lenitive effect of its rhythms, and the half-unconscious occupations it afforded.

#### THE VINEGAR EEL-WORM.

WITH fitting ceremony the Grocers Company has just celebrated the five hundredth anniversary of the granting of its charter by King Henry VI, though its history goes back much further than the fifteenth century. Long before the Wars of the Roses the grossiers, wholesale dealers in drugs and spices, were merchants of high standing in the City, and even earlier they had been preceded by the pepperers. From their ranks were recruited some of the merchant adventurers whose sailors scoured the seven seas—and discovered much thereby—in the search for those condiments so earnestly desired by our forefathers. Nowadays the Grocers Company has forsaken the high roads of commerce and politics for the quiet lanes of education; and it seems fitting that one of its research scholars in sanitary science should just have completed the publication of a trilogy on the vinegar eel-worm, for if the peppers and spices of the East have fallen somewhat from their esteem in these days of cold storage, vinegar must still, above all, be regarded as the condiment of the people. The vinegar eel-worm has been known to naturalists almost since the discovery of the microscope. It was recognized by Petrus Borellus in 1656, and included by Linnaeus in his *Systema Naturae* in 1765, with the specific name of *redivivum*, a name which indicated the prevalent belief that the worms could revive after desiccation. Linnaeus had placed the worm in his comprehensive and appropriate genus, *Chaos*, from the depths of which it has, we hope finally, been extricated (after a long forensic argument by Mr. Peters) as *Turbatrix aceti*.<sup>1</sup> A few millimetres in length, and just visible to the naked eye as an active little hair-like creature in the surface layers of the fluid, it spends its entire life in vinegar; and in that unpromising material not only waxes abundantly, but manages to lay up a reserve of food in the shape of neutral fats and other substances. Whence it came no one knows. It is conjectured that it originally found its way from the slime moulds on trees, where its cousins are still found. Whither it goes is still obscure, but from Mr. Peters's own experiments it does not seem to take kindly to residence in man, although that must surely be a more salubrious spot than a weak solution of acetic acid of doubtful purity. He has traced it through the entire process of the manufacture of vinegar; it is found spasmodically, being absent now and again when the temperature is too high or when the liquid must pass through filters; it reappears in the most unlikely places, probably being transported from one vat to another by the vinegar fly, *Drosophila* sp. (a relation of that useful little insect which supplies our geneticists with much of their information and many of their theories), until it is finally found in the casks from which the vinegar is drawn off in bulk for

<sup>1</sup> B. G. Peters, *Journal of Helminthology*, Vol. V, pp. 133-142. See also pp. 183-202, and Vol. VI, pp. 1-38.

general consumption, sometimes in such enormous concentrations that 2,000 worms can be found in a single cubic centimetre—which represents about 1 per cent. of the volume of the vinegar! The function of this nematode in our human scheme of things appears to be at least doubtful. It is a fascinating object of study for the naturalist, but it eats the "mother of vinegar," and is therefore something of a nuisance to the manufacturer. In the past it has served as an aid to the quack medicine vendors, and Jabez Hogg records that in his day the charlatan's dupo was often invited to view through the microscope "a drop of fluid derived from his natural juices," doctored unbeknown to him with a drop of vinegar containing the eel-worms. Weil, however, in 1881, suggested that it might act as a facultative human parasite when he found all the members of a family suffering from a gastric disturbance simultaneously with a very heavy infection of the household vinegar. The removal of the vinegar coincided with the disappearance of the symptoms. But *post hoc, ergo propter hoc*, and subsequent investigators have failed to confirm this suspicion; indeed, Mr. Peters swallowed some seventy thousand in vinegar—slightly diluted and sweetened—with no ill effect, except to the worms! He concludes that the public need not be unduly alarmed from the health point of view by their presence in draught vinegar—curiously enough the bottled variety seems invariably to be free. The complete eradication of the worms from all stages of the manufacture of vinegar would be difficult and costly, and the end does not seem to justify the means. A few additional precautions in a well-organized factory would probably secure its exclusion from the storage vats.

#### OTO-LARYNGOLOGY.

In our last issue, at page 982, we gave a general account of the summer meeting of the Sections of Laryngology and Otology of the Royal Society of Medicine, held in London on May 31st and the two following days. The outstanding feature of the proceedings was the communication by Dr. Otto Mayer of Vienna on the pathology of otosclerosis; the microscopical preparations and drawings which he displayed excited the admiration of all. Dr. Mayer, as stated in our issue of May 26th (p. 909), has received the first award of the Dalby Memorial Prize, for his work on the pathology of the internal ear, and he was the guest of honour at the banquet held by the two sections on June 1st. Appropriately, the toast of his health was proposed by Sir Charles Ballance, who was mainly instrumental in founding the prize to perpetuate the memory of Sir William Dalby. Sir Charles vividly recalled the personality and sagacity of one who is already little more than a name to many, and in welcoming Dr. Mayer reminded his hearers of the debt they owed to Vienna, and especially to the teaching of Politzer, Urbantschitsch, and Alexander.

#### THE MEDICAL INSURANCE AGENCY.

We published last week a report of the dinner held on May 30th in celebration of the twenty-first anniversary of the foundation of the Medical Insurance Agency. As was well said by Mr. A. D. Besant on that occasion, the keynote of the Agency has always been service. When the Committee of Management held its first meeting in 1907 it resolved that the whole of the surplus funds should be devoted to the benefit of insured members who had fallen on evil days. This policy was subsequently widened, and since 1910 the Committee has distributed to medical charities upwards of £20,400, of which by far the greater part has been by way of direct grants to the Royal Medical Benevolent Fund and its Guild and to the Royal Medical Foundation of Epsom College. During the twenty-one years of its existence the Agency has negotiated life and

endowment assurance policies securing for members of the medical profession capital sums in the neighbourhood of one and a half million pounds, and has arranged many thousands of sickness, accident, fire, household, and motor car insurances on behalf of medical men and women. The last seven years, in particular, have shown remarkable progress. Whereas the premium income, in round numbers, was £30,000 in 1921, it was £80,000 in 1927, and the annual amount of rebates to doctors insuring through the Agency has increased by £2,000, the total sum thus saved to members of the medical profession being nearly £29,000. Such figures speak well for the prudence and foresight with which the affairs of the Agency are managed. We note with special pleasure a resolution passed by the Committee of Management at the meeting which preceded the dinner on May 30th. It was decided to offer to the Council of Epsom College, out of the funds now standing to the credit of the Agency's benevolent account, £500 to establish a scholarship, to be known as the "Dawson Williams Presentation Scholarship," in memory of the late Editor of the *British Medical Journal*, who was one of the founders of the Medical Insurance Agency.

#### MEMORIAL TO SIR DAVID FERRIER.

In view of his pioneer work upon the functions of the brain and of his scientific eminence, many of the friends and colleagues of the late Sir David Ferrier, M.D., LL.D., F.R.S., are of opinion that in some way his memory should be perpetuated. A committee of subscribers is now being set up, and will meet shortly to decide what form this memorial should take. We are asked to say that contributions, however small, from members of the medical profession will be gratefully accepted and acknowledged. They may be sent either direct to "The Ferrier Memorial Fund," Westminster Bank, 1, Cavendish Square, W.1, or to Dr. Aldren Turner, 18, Harley Street, W.1, who is acting as treasurer. The other signatories to the appeal are Sir Charles Ballance, Professor William Bulloch, Sir James Purves-Stewart, and Sir StClair Thomson.

We publish in the *Supplement* this week a full report of the conference called by the British Medical Association on June 6th to discuss the relation of hospital staffs to contributory schemes for hospital benefit. The attendance was very large, including representatives of the medical staffs of some 40 voluntary hospitals in London and about 150 elsewhere in Great Britain and Ireland.

The annual meeting of the British Association for the Advancement of Science will be held in Glasgow from September 5th to the 12th, under the presidency of Sir William Bragg. The Association has visited Glasgow four times previously—namely, in 1840, 1855, 1876, and in 1901. The discussions will be arranged in thirteen sections, and the presidents of those more nearly related to medicine are as follows: chemistry, Professor E. C. C. Baly; anthropology, Sir George Macdonald; physiology, Professor C. Lovatt Evans; psychology, Professor T. H. Pear; and botany, Professor R. H. Yapp. The subject of Sir William Bragg's inaugural address is "Modern developments of the physical sciences and their relation to national problems." Professor E. A. Westermarck will deal with the study of popular sayings in the Frazer Lecture on social anthropology, and Professor F. G. Donnan will speak on the mystery of life. Numerous excursions and receptions are being arranged in connexion with the meeting. Membership tickets and further information may be obtained from the secretary, at the office of the British Association, Burlington House, Piccadilly, W.1.



# NINETY-SIXTH ANNUAL MEETING of the British Medical Association, CARDIFF, 1928.



TOWER OF CARDIFF  
CITY HALL.

**A**FTER an interval of forty-three years the British Medical Association will hold its Annual Meeting in Cardiff this summer under the presidency of Sir Ewen Maclean, M.D., F.R.C.P., Professor of Obstetrics and Gynaecology in the Welsh National School of Medicine, who will deliver his address to the Association on the evening of Tuesday, July 24th. The sectional meetings for scientific and clinical work will be held, as usual, on the three following days, the morning sessions being given up to discussions and the reading of papers, and the afternoons to demonstrations. The Annual Representative Meeting, for the transaction of medico-political business, will begin on the previous Friday, July 20th. The names of the officers of the eighteen Scientific Sections are published in the *Supplement* this week, together with an outline of the provisional programme; further details will be announced from time to time as the arrangements for the work of the Annual Meeting take final shape. On the last day of the meeting (Saturday, July 28th) there will be excursions to places of interest in the neighbourhood. We publish below the fourth of a series of descriptive and historical articles, written for the occasion by Dr. Donald Paterson. The first appeared on December 3rd, 1927, the second on January 28th, 1928, and the third on April 21st.

## THE COUNTRY ROUND CARDIFF.

VISITORS to Cardiff approaching it from the east become aware of features which distinguish its surrounding scenery from the rest of the Principality. Wales is essentially an upland region, with more than a fourth of its area lying over a thousand feet above sea-level, and its main lines of communication run from east to west rather than from north to south—a factor which has largely determined its political history. From the escarpment of the old red sandstone which forms the northern rampart of South Wales as far as the Bristol Channel on the south, the country is unlike the north and central upland in having a lower relief and the possession of great mineral wealth. Within this area the county of Glamorgan presents characteristics of its own, with two types of scenery which sharply contrast. Its northern two-thirds is occupied by the high ground of the coal-field, the southern edge of which forms a more or less bold escarpment—here and there rising over a thousand feet, like the Garth Mountain that towers over the Taff Valley; and dividing the hill country from the lower undulating district of the Vale. The upland of the coal-field, with flat-topped hills and deeply cut valleys, rises gradually northwards to the Brecon Beacons. Viewed from a height like Twm Barlwm, near Newport, it appears a vast expanse of moorland clothed with rough pasture, uncultivated and uninhabited save by a few mountain ponies and sheep, yet it conceals within the folds of its valleys a dense population, often overcrowded, and affords a marked contrast to the bare uninhabited hills.

On the other hand, the Vale, with its lower relief, is a well-cultivated land, thickly strewn with old churches, country seats, white farmhouses, and ruined castles. Of

the last-named it possesses perhaps a larger number than any district in this country, some still imposing in their grandeur, others in an advanced stage of ruin or decayed into mere sites, eloquent witnesses to the fierce struggle that made life anything but pleasant in the March six or seven hundred years ago.

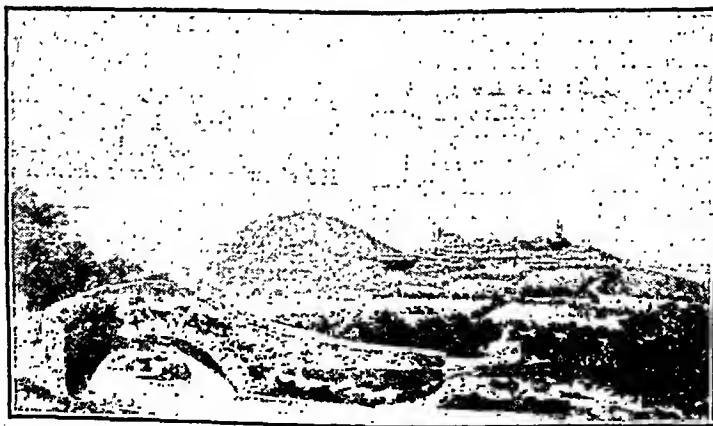
Glamorgan is a well-watered county. Its chief streams, charming in their variety, run more or less parallel in a southerly direction. Some rise in the Beacons, others within the coal-field, and flow rapidly throughout their

whole length to the sea; few are navigable even at high water. They breach the southern rim of the coal-field in a series of gorges, which afford access to the mineral wealth of the valleys and determined the position of the chief ports—Cardiff depending on the gorge of the Taff, Newport on that of the Ebbw.

On the northern rim of the coal-field, at the head of the Vale of Neath, an interesting example of river capture, due to rapid cutting back of the river Neath and the

diversion of several smaller streams, has given us one of the beauty spots of the county. The capture has resulted in the formation of a valley of great charm, with almost inaccessible limestone gorges, lovely waterfalls, swallow-holes, and underground streams, and the great Dinas Rock, within which, legend tells, Arthur still sleeps fully armed among his knights.

Further east the river Ely—after piercing the ridge upon which Llantrissant, one of the most picturesque of Glamorgan hill towns, with its ancient castle, sits astride—flows down a valley of pastoral beauty and winds across the alluvial Leckwith Moors to fall into the estuary of the Taff under the headland of Penarth. The flooding to



LLANTRISSANT, GLAMORGAN.

which it is subject in its lower course has become a serious matter now that the meadows which took its overflow have been built over with crowded dwelling houses. On its left bank, about two miles from Cardiff, St. Fagan's Castle, a seat of the Earl of Plymouth, built in Elizabethan times on the site of an original castle then in ruins, has a quaint vandyked appearance from the sharply pointed gables round two sides of the frontage.

The Taff, a rapid stream throughout its course, emerges from the Brecon Beacons into a valley that had few equals in charm before industrial change transformed it. The river has been the good fairy of the city—a river goddess presiding over its destinies. From its upper reaches it contributes the splendid water supply which has made the city the healthiest of towns; from its valley and those of its tributaries come the minerals which form the life blood of the port; its waters feed the great docks, whilst in its lower course, flowing between thickly wooded banks, with Castle Coch rising sentinel-like from the steep side of the gorge, and lower down the towers of the Cathedral showing above the trees, it affords to the citizens a fair and pleasing prospect.

To the east the Rhymney River, in escaping from the coal-field, makes a winding detour and ends as a tortuous stream flowing across the Cardiff Moors. Its valley, bare and more shallow in its upper part, opens out lower down, and at Caeprhilly, where it becomes a wide-spreading vale, the eye rests upon the massive ruins of the old castle, the great border fortress that represented the high-water mark of mediaeval military architecture, whose "concentric" system of defences made it too strong to attack, and left it a history almost without feature.

The Vale is watered by numerous short streams, which reach the sea through gaps in the cliff. The Thaw, rising to the north, flows past the old walled town of Cowbridge under the remains of Llanblethian Castle, with its fine gateway, and along by the ruined manor house of Beaupré, which still retains its Renaissance porch, to fall into the sea at Aberthaw. Further west the Ogmore leaves the mountains of the coal-field, passes through the pleasant town of Bridgend, and, joined by the Ewenny, forms the eastern limit of the sandhills close to the sea. Ewenny Priory, on the banks of the latter stream—"the best specimen of a fortified ecclesiastical building which Great Britain can show"—with its massive tower, embattled walls, and magnificent gatehouse, has the appearance of a castle rather than that of a religious house. Lower down is the crumbling rectangular keep of Ogmore Castle, picturesquely placed, and containing some of the earliest masonry work in the county.

The coast-line scenery varies with the nature of the strata. To the east of Cardiff the flat shore of the Wentnogg Level is lined by an expanse of mud. Part of the land is below high-water mark, and, protected by an embankment, is drained by reens. Here the may tree flourishes abundantly, and the pleasant meadows make good grazing ground. Nearer Newport, on the bank of the

Ebbw, lies the well-wooded domain of Tredegar House, the park of which is bisected by the main road and overlooked by a hill topped by an ancient encampment.

West of Cardiff, from Penarth Head to the mouth of the Ogmore, the greater part of the coast is bold, with cliffs ranging from 50 to 100 feet, and attaining their greatest height from Penarth to Sully and in the neighbourhood of St. Donats and at Dunraven. Though the regular bedding of the lias

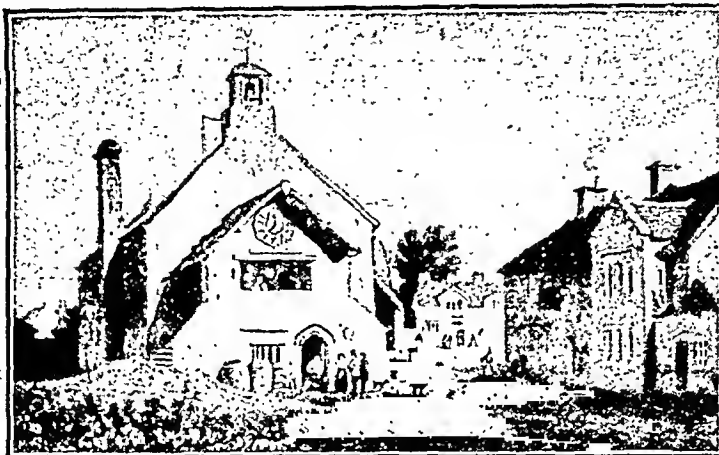
limestone of which it is formed gives it an appearance somewhat monotonous, it is not by any means tame and uninspiring. The restless mining of the strong tides of the Channel produces crumbling and slipping year by year, and the constant change in the barrier has an interest of its own. At Barry and Sully the carboniferous limestone has resisted the action of the sea, and leaves islands at high-water mark. The same rock is seen in the islands of Flat Holm and Steep Holm, situated halfway between Cardiff and the Somerset coast.

Penarth, whose fine headland with the church on its summit makes it a well-known landmark, is a residential

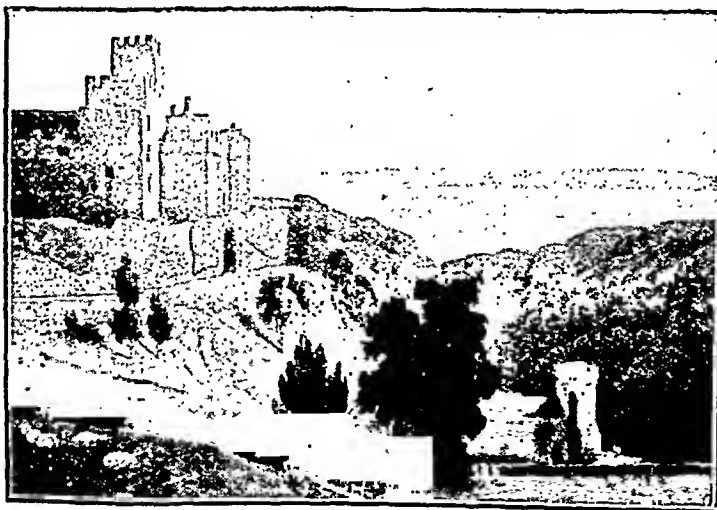
suburb of Cardiff, having well-kept roads and a promenade and pier that attract summer visitors. Barry, further down the coast, in addition to its extensive docks, has developed alongside them, and yet distinct from them, the sandy bay of its island into a highly successful holiday resort. A few miles west Llantwit Major, a picturesque little town with quaint cottages and inns, has an indescribable air of antiquity. It is remarkable for a striking series of buildings and a church of absorbing interest. St. Donats Castle, two miles away,

is famous for its fine situation at the mouth of a well-wooded ravine running up from the Bristol Channel, and admirably chosen for defensive purposes. The extensive grounds, arranged in a series of terraced gardens leading down to the sea, give it a charming appearance as viewed from the Channel.

West of Ogmore the shore is lined by wide-spreading sand dunes or burrows as far as the estuary of the Tawe, except for a distance of three miles, where the rock emerges to carry the flourishing summer resort of Porthcawl. Beyond Sker, the scene of Blackmore's romance, the wilderness of sand attains its greatest depth, and at Kenfig,



TOWN HALL, LLANTWIT MAJOR.



ST. DONATS, GLAMORGAN.

where it overwhelmed the old town, the fragment of the castle protruding from the sand has recently been proved by the spade to be an upper part of a fine rectangular keep.

A little further west, about two miles from the sea, are the ruins of Margam Abbey, a Cistercian foundation of the twelfth century. Rising behind is a range of hills, richly clad with oak trees and intersected by a deep ravine concealing a mountain stream which supplied the fish ponds of the monks. The most interesting architectural remains are to be found in a polygonal chapter house of elegant proportion and unique in character.

The immediate neighbourhood of Cardiff, in fact—quite apart from the accessibility of the beautiful valleys of Wye and Usk and the magnificent coast of Devon—is in itself attractive for its scenery, and is full of geological, architectural, and archaeological interest. The country further afield we propose to deal with in a future article.

## Union of South Africa.

[FROM OUR CORRESPONDENT IN PRETORIA.]

### MEDICAL MATTERS IN PARLIAMENT.

#### Medical, Dental, and Pharmacy Bill.

THE outstanding feature of the present session of Parliament is the success which is crowning the prolonged efforts made by the medical profession in South Africa to secure satisfactory health legislation. The Medical, Dental, and Pharmacy Bill, which has come before Parliament periodically during the past decade, has at last been passed by both Houses. Only formal proceedings now remain before the bill becomes law. On May 10th the Speaker read a message in the House of Assembly transmitting for information a fair copy of the bill to the Senate, printed on vellum, and forwarded to His Excellency the Governor-General for his assent thereto. The Act will consolidate and amend the existing laws relating to medical practitioners, dentists, chemists and druggists, nurses, midwives, and masseners; the keeping and sale of poisons, and the importation, sale, and use of habit-forming drugs. It will not only penalize any unqualified person practising as a doctor, dentist, or chemist and druggist, but also any unregistered person performing any act specially pertaining to one of the corresponding professions. It provides for the gradual prohibition of unqualified midwifery and nursing, beginning with the larger urban areas and extending throughout the Union as adequate trained assistance becomes available for all sections of the population. It also provides for the registration of dental mechanics, health inspectors, health visitors, and other classes of persons, empowering them to use the title "registered," and prohibiting persons not so registered from using that title.

In previous sessions the bill has invariably had to be dropped because of the delay caused by the concerted efforts of persons not on the medical or dental registers of any of the four Provinces to become registrable. Its successful passage through both Houses of Parliament is to be attributed to the persistence of the present Minister of Public Health, the Rev. Dr. Malan. At the end of the last session of Parliament, when 75 of its 96 clauses had been disposed of in the Committee stage, he agreed to its postponement only on condition that it should be proceeded with in the present session at the point where it had been dropped. As the most contentious points had already been settled the passage of the remainder was through comparatively smooth waters, and no great opposition was encountered. On the passing of the bill through the Senate the organizing secretary of the Medical Association of South Africa (B.M.A.), on the instructions of the Federal Council, wrote to the Minister of Public Health, conveying to him the thanks of the Association and congratulating him on the passage of the bill. Dr. Malan's private secretary, in reply, stated that the Minister thanked the Association most heartily for the kind expression of appreciation and goodwill. Dr. Malan desired him to state that he appreciated very highly the patience shown by the medical profession, and especially their hearty co-operation, without which it would have been impossible for him to accomplish his difficult legisla-

tive task. He earnestly hoped that the same co-operation and goodwill would continue in future in regard to the greater problems in connexion with public health with which South Africa was confronted.

#### Public Health Amendment Bill.

The Public Health Amendment Bill, too, has reached the final formal stages. A slight verbal amendment in the Afrikaans copy was made in Senate. This amendment was approved by the Lower House on May 10th, and a fair copy of the bill was transmitted to the Senate during the same day to be certified as correct and returned. The first bill amending the Public Health Act was passed last year; when introduced it included the substance of this year's measure, but when it became apparent that the whole was liable to be dropped only the clauses dealing with matters of special urgency were proceeded with, and these subsequently became the Public Health Act (1919) Amendment Act, 1927. According to it the Mining Commissioner becomes the local authority in any area proclaimed an alluvial diamond digging. It further provides for periodical visits by medical officers to places lacking medical aid where malaria or other disease is prevalent, to be paid for out of public funds. The rapid passage of the present bill was unexpected, as it contains all the contentious matter dropped from last year's bill. Its principal objects are to provide for the exemption of conscientious objectors to vaccination against small-pox; for the regulation and supervision of the practice of midwives, especially unqualified midwives, in the interests of the public health; and for summary procedure in regard to nuisances of an urgent nature. Some ambiguities have been cleared up, and several minor alterations in the Public Health Act, 1919, which experience has shown to be desirable have been made.

#### Vaccination Problems.

The Act of 1919 made vaccination compulsory on all, and arrangements were made for the systematic enforcement of the requirements for all races throughout the Union. But, from the first, strenuous opposition was offered by conscientious objectors, especially in Natal, and during 1921 a number of prosecutions were instituted in various centres and convictions obtained. Opposition, however, stiffened, and in June, 1922, the Government gave instructions that prosecutions of genuine conscientious objectors was to be discontinued. As there were no available means of differentiating the genuine from the non-genuine, this entailed the complete discontinuance of prosecutions, and a serious falling off in the number of vaccinations was the result. The fall has been greatest among Europeans and Eurafrikaners—that is, among the classes which register births. In many native areas vaccination has also fallen off considerably. This has occurred in spite of the provision of full facilities in both urban and rural areas throughout the Union. Had this position been allowed to continue for a few more years large sections of the population of all races would have been unvaccinated, with the consequent serious danger of outbreaks of virulent small-pox. A large increase in vaccinations occurred in 1926 and 1927 as the result of an outbreak of small-pox in Durban, from which town the chief resistance to vaccination had come. In all, 57 cases occurred, of which 16 were fatal. The borough of Durban and the neighbouring local authorities promptly made vaccination compulsory on all non-Europeans. Vaccination centres were provided, and were immediately besieged by a population demanding to be vaccinated. The local branch of the Antivaccination League took up the attitude that it did not object to vaccination *per se*, but only to compulsory vaccination. A considerable number of conscientious objectors and their families were voluntarily vaccinated. The present bill makes provision for the exemption of conscientious objectors to vaccination. The procedure laid down to obtain such exemption entails more trouble and foresight than to allow the child to be vaccinated in the ordinary way. This, the Minister explained, was intentional, as being the only reliable means of testing the genuineness of the objections. No exemptions are, however, allowed in the face of actual or threatened outbreaks of small-pox; nor may inmates of institutions or persons landing at ports who have recently been exposed to small-pox infection be exempted.

### Supervision of Midwives.

Up to the present local authorities had practically no powers to supervise the practice of midwives. Provision for such supervision is now made; it is provided that:

The Minister may, after consultation with the Medical Council, make regulations as to the supervision by the local authority in the interests of the public health of persons (other than registered medical practitioners) practising midwifery within its district, and empowering the local authority to make and keep a list of such persons and to prohibit any person whose name is not on such list from so practising. Such regulations may empower the local authority to refuse to enter on such list, or to remove therefrom, the name of any person whose practising as a midwife the local authority considers would be prejudicial or dangerous to the public health.

Provision is made for appeal to the Minister of Public Health in the case of an uncertificated midwife, and to the Medical Council in the case of a certificated midwife, whose decisions in each case shall be final and binding on the local authority. Regulations of this kind are urgently needed. The unqualified midwife in this country, often dirty and ignorant, levies a heavy toll on the mother and infant life of the Union. Instances were quoted where whole series of puerperal fever cases have occurred in the practice of one such midwife. This clause was the result of a conference between the Union Health Department, the four Provincial Medical Councils, and a number of the principal municipalities.

### Notification of Venereal Disease.

Compulsory notification of cases of venereal disease by medical practitioners caused some dismay when it was first suggested. The principal Act requires every medical officer of health or district surgeon who knows of a case of venereal disease which is not being treated to report such case to the magistrate, whereupon appropriate measures may be taken. The provisions proved practically unworkable. Apart from the occasional cases that medical officers of health and district surgeons came across personally there was no means of informing them. No duty was laid on the ordinary practitioner to inform the medical officer of health, and if one did so he was liable to a legal action. The amendment in the present bill requires every medical practitioner, who knows or who has reason to believe that any person is suffering from venereal disease in a communicable form, and is not under treatment, to report the matter in writing to the medical officer of health of the local authority. The amendment does not therefore represent any big advance in measures for the eradication of venereal disease. It will not secure any general notification of cases, but will enable practitioners coming across cases which are not under treatment to inform the medical officer of health. The machinery already provided in the principal Act for compulsory treatment if necessary can then be brought into force; this Act requires all reports and records relating to venereal disease to be treated as confidential.

### The Food, Drugs, and Disinfectants Bill.

The Food, Drugs, and Disinfectants Bill is designed to consolidate and amend the laws for regulating the labelling and preventing the importation or sale of food or drugs which are unwholesome or adulterated or incorrectly or falsely described, and for regulating the labelling and preventing the importation or sale of disinfectants which are incorrectly or falsely described. It has passed the second reading and has been dealt with by Select Committee. It is now on the order paper awaiting the Committee stage. Though the parliamentary session is expected to end early in June, and there is still much business to be done, it is very likely that this bill will be placed on the statute book during the present year. The Secretary for Public Health has frequently urged in his annual reports the need for new and effective legislation for preventing the adulteration of food and drugs. The existing laws in the Provinces are inadequate and obsolete. The old adulteration laws, as pointed out by the Minister on the second reading, aimed mainly at safeguarding the public health by preventing harmful adulteration. Nowadays, with the exception of preservatives, deleterious adulterants are rarely used. The principal object of the manufacturer or vendor of adulterated articles of food is to make money

by selling spurious or misdescribed articles, or genuine articles adulterated with cheap but harmless ingredients—in other words, by defrauding buyers and consumers. The old laws were not designed to meet these modern conditions. The public is being defrauded to a serious extent and the public health is being prejudiced by the sale and use of deficient, adulterated, or spurious food articles. Strong and repeated representations urging the need for amended legislation have been made to the Government for many years by chambers of commerce and other bodies. A bill to deal with the matter was first prepared by the Secretary for Public Health in 1917, after special investigation and inquiry. Since then the matter has been brought up annually when the Government's programme of legislation was being prepared, but it was not introduced to Parliament until last year. It is greatly to be hoped that the bill will go forward during next session.

## Scotland.

### Vital Statistics.

THE Registrar-General for Scotland has now issued the vital statistics for the quarter ended March 31st, 1928. Births registered numbered 24,246, this being the smallest in any first quarter since 1919; the ratio is equivalent to 19.9 per 1,000. Of these births 22,485, or 92.7 per cent., were legitimate, and 1,761, or 7.3 per cent., were illegitimate. There were registered 7,382 marriages, equivalent to a marriage rate of 6.1 per 1,000. Deaths numbered 19,385; being 2,445 more than last quarter, but 52 less than in the first quarter of last year; the quarterly death rate was 15.9 per 1,000. In the larger boroughs the death rates ranged from 21.1 in Greenock, 18.6 in Glasgow, 17.7 in Falkirk, and 17.5 in Coatbridge to 11.5 in Motherwell and Wishaw, 11.9 in Clydebank, 13.3 in Hamilton, and 14.6 in Ayr. The deaths of children less than 1 year old numbered 2,584, giving an infantile mortality rate of 107 per 1,000 registered births. The rate is 3 less than in the first quarter of last year, and 2 less than the five-yearly average for first quarters. In the larger boroughs the infantile mortality rate ranged from 175 in Greenock, 143 in Coatbridge, 141 in Falkirk, 137 in Glasgow, and 124 in Dundee, to 82 in Hamilton, 86 in Dumfermline and in Motherwell and Wishaw, and 88 in Perth. In Edinburgh the rate was 94, and in Aberdeen 115. There were 558 deaths from measles during the quarter, 191 from diphtheria, and 431 from influenza.

### Welfare of the Blind in Scotland.

The eleventh annual conference of the Scottish National Federation of Societies for the Blind was held in the town hall, Arbroath, on June 8th. Ex-Baillie Dollan (Glasgow) read a paper entitled "A municipal experiment," describing the scheme managed by a joint committee of some twenty-three municipal and county councils in the South-west of Scotland, which had taken over the administration of the workshops of the Glasgow Asylum for the Blind. This involved a capital expenditure of nearly £32,000, and though the workshops were not expected to be self-supporting the deficit last year had been comparatively small. Negotiations had taken place with the Outdoor Mission for the Blind with the object of bringing all blind welfare schemes under unified control by municipal authorities. The number of blind persons employed in these Glasgow works had increased from 278 to 500. Last year no less than £2,800 had been received in bequests to the municipal institution. Dr. J. Parlange Kinloch, medical officer of health for Aberdeen, gave an address on "The prevention of blindness," saying that this was simply a part of a great preventive service whose aim was to obviate a wide variety of injuries and diseases; the prevention of blindness was dependent on the advancement of this service as a whole. He stated that in 1927 there were 6,937 blind persons in Scotland, but year by year the number of blind children was steadily diminishing. A careful analysis of statistics showed that some 50 per cent. of the cases of blindness in Scotland could have been prevented had the right thing been done at the right time. It could be

accepted that the knowledge as to methods of prevention of disease that resulted in blindness was considerably greater than its practical application. The matter therefore resolved itself into an extension of present health services, including the education of the public in the prevention of disease. Out of 18 per cent. of cases of blindness due to injury only 5 per cent. were due to industrial accidents, while 11 per cent. were due to casual accidents to young people. The speaker emphasized the fact that the inexorable economic necessity of working within their financial resources handicapped local authorities, and was the cause of an apparent reluctance to provide an extension of services for blind persons.

#### Pneumonia in Glasgow.

Dr. Charles M. Smith of the Glasgow Corporation Public Health Department has issued a paper on pneumonia statistics in Glasgow, with special reference to children under 5.<sup>1</sup> Since pneumonia was made notifiable in Scotland by regulation in 1919 cases of the disease have been removed in increasing numbers to the Glasgow fever hospitals. On the average about 50 per cent. of the pneumonia in the city has been treated in those institutions. Dr. Smith finds that notification and hospital treatment have had no obvious effect in reducing the death rate from pneumonia in Glasgow. In the hospitals themselves the case mortality has been stationary; it was 21.5 per cent. in 1919-20 and 21.6 per cent. in 1926, with oscillations between. Nor has there been any constant decline in the general mortality from the disease. In 1920 the deaths under 5 were 941, and in 1926 902, with wide excursions in the intervening years. Reference is made to the effect of environmental conditions on the pneumonia and broncho-pneumonia death rate under 5, which varies inversely with the social status of municipal wards. It moves along with the infantile mortality rate, being a high fractional component of the respiratory death rate, which bulks large at different ages. This reference recalls Dr. Halliday's inquiry into measles prevalence in Glasgow, noted in the *Journal* of March 31st (p. 560). A few years ago it was beginning to be said that the environmental hygiene of soil and water was disposed of and done with; studies like this of Dr. Smith suggest that the environmental hygiene of the air still challenges investigation.

## England and Wales.

#### MacAlister Lecture on Medicine in Art.

THE second annual lecture in memory of the late Sir John MacAlister, secretary of the Royal Society of Medicine, was delivered at the London Temperance Hospital, under the auspices of the London Clinical Society, on June 7th by Sir Berkeley Moynihan, Bt., President of the Royal College of Surgeons. It was a popular lecture to which nurses and a number of the lay public were admitted, and was on the subject of "Medicine in art." Substantially it followed the lines of the lecture which Sir Berkeley Moynihan gave last autumn to the St. Pancras Division of the British Medical Association.<sup>2</sup> He began with the gargoyles of Notre Dame and the "Lincoln imp," and showed what interest there was in the curious deformities, no doubt shaped direct from models by the mediaeval sculptor, to those who viewed them with an eye trained in medicine. Incidentally, these figures often carried horns on the head, and there was also a horn on the head of the most majestic sculptured figure in the whole world—the figure of Moses by Michelangelo, so badly placed in the church of San Pietro in Vincoli at Rome that few people realized what a masterpiece it was. The horn on the top of the head of Moses was supposed to be due to a misreading of a passage in the Vulgate. The most famous of all gargoyles was to be seen in the church of Santa Maria Gloriosa at Venice, and was the subject of an exquisite passage by Ruskin, in which he lamented the leering wickedness, the extreme of debasement, which it portrayed. But when Charcot visited this church and saw the gargoyle he said at once that it was exactly the kind

of hystero-epileptic familiar to the Salpêtrière. The hystero-epileptic was considered in the Middle Ages and earlier to be the victim of "possession," and the imago of him was put especially on the roofs and towers of sacred buildings to suggest that evil spirits had been driven out of the church. Another deformity familiar to very ancient artists was evidently achondroplasia; witness the representations of the great god Ptah of Egypt and Bes of Memphis—the large-headed goggle-eyed dwarf, with the short arms, the gross body, and heavy buttocks. Sir Berkeley Moynihan touched on the representation of diseased persons in some of the great pictures by Raphael and others, and of the emotional expressions in the works of Velasquez, and he made the general remark that often some quite inferior artists, whose names were scarcely known at all, were far more correct in their details of subjects suffering from disease or deformity than were the great masters, obviously because the former stuck more closely to their models. He confessed that of all the pictures he had ever seen in Continental galleries the one which fascinated him most, and the one which he most coveted, was "The contemplation of St. Jerome" in the Louvre. The Louvre authorities were said to have refused to allow this picture to be photographed, but a 100-franc note and the promise of another produced the photograph which he exhibited to the audience; it conveyed, however, little or nothing of the power of the original. In showing some photographs of mediaeval statuary, Sir Berkeley Moynihan said that it was the fashion to deride many antiques to-day from the point of view of anatomy, but he believed this view to be entirely mistaken, and he instanced to the contrary the "Dying Gladiator," which brought into play in a masterly manner the accessory muscles of respiration. He concluded with some ancient works of art representing primitive surgical operations, and mentioned that the first representation of a surgical operation in a work of art in Europe—there were earlier examples in Egypt and in Asia—was a fresco at Pompeii.

#### New Institute of Biochemistry at the Middlesex Hospital.

The opening of the new Courtauld Institute of Biochemistry at the Middlesex Hospital took place on June 14th, when Mr. S. A. Courtauld formally handed over his gift, which was accepted by H.R.H. Prince Arthur of Connaught on behalf of the hospital and by Mr. S. G. Asher on behalf of the council of the medical school. Before the ceremony an address was given by Sir Archibald Garrod on "The place of biochemistry in medicine"; this will be published in the *Journal* at an early date. The new institute is situated on a site separated from the hospital by only the width of a street; the lower part of the new structure is devoted to hospital uses and contains the central boiler-house and engineering plant, and, among other sections, a restaurant for students. Five stories, from the first floor upwards, are given to the Institute. The first floor is occupied by a spacious laboratory for students; with the usual auxiliary apartments, while the second contains a clinical routine laboratory, three examining rooms, and the secretary's office; this floor is connected to the Bland-Sutton Institute on the hospital site by a concrete bridge across the street. On the third floor is a large chemical laboratory with combustion and balance rooms and a large-scale preparation room. A library, an optical dark room, a standardization laboratory, and the professor's private room and laboratory are situated on the fourth floor, while on the fifth are the animal houses. It is interesting to note that, unlike most similar existing establishments, the new institute at the Middlesex Hospital consists mainly of large spacious rooms which will be shared by a number of workers. Those responsible for the plan, after reviewing many examples, have concluded that the advantages of this system outweigh the advantages offered by the provision of a large number of small rooms in which each worker may have separate accommodation. It is contended that, under the latter system, not only are the difficulties of construction and ventilation enormously increased, but it is disadvantageous from an academic point of view to segregate individual workers and so deprive them of the stimulus of contact and criticism given by colleagues engaged on other problems.

<sup>1</sup> *Journal of Hygiene*, 1923, vol. xxvii, No. 3.

<sup>2</sup> *Supplement, British Medical Journal*, vol. ii, 1927, p. 143.



### City of London Hospital for Heart and Lungs: Opening of New Surgical and X-ray Block.

A new surgical block and x-ray department at the City of London Hospital for Diseases of the Heart and Lungs (or, to give it its local name, the Victoria Park Hospital) was opened by H.R.H. the Duke of Connaught on June 12th. The chairman of the committee of management, Sir Alexander Butterworth, addressing a distinguished company who had gathered in a marquee in the hospital grounds, said that the policy of the hospital for some time past had not been to add to its total of beds—which had stood at 185 now for several years—but to spend available money in keeping the buildings and equipment up to date. This had sometimes meant additional building, because modern developments in medical treatment and diagnosis necessitated the creation of new departments, for which a home had to be found. This was the case with the new block or wing to be opened that day. It consisted of an operating theatre, with adjoining rooms for the surgeon and laryngologist, and a set of rooms for the x-ray department, which had hitherto been very inadequately housed. The eightieth anniversary of the hospital had been celebrated by an appeal for sufficient money to place the hospital finances on a satisfactory footing. This effort, thanks very largely to the Lord Mayor of London, had met with a fair degree of success, with the result that the building which His Royal Highness was to open was not saddled with any debt. With this new block and with the new pathological laboratory and research institute presented last year by the Prudential Assurance Company, the hospital was in a better position to carry on its important work than it had ever been before. Sir Ernest Birch added a few words with regard to the interest which the Royal Family had always taken in this institution. The Duke of Connaught was only a few months old at the time when the foundation stone was laid by his father, the Prince Consort, in 1851, and the Duke himself had been president of the hospital for the remarkable period of fifty-six years. The Duke of Connaught said that there had been many changes in the hospital during the period of his association; changes reflecting for the most part the general progress in medicine and surgery. It was essential for a hospital to be abreast of the times, however large and rapid the development in the methods of diagnosis and treatment might be. Diseases of the chest caused more deaths and more long-continued ill health than any other category of illness. Nearly half the deaths in this country were due to diseases of the heart and lungs. Three things were required to meet the need—namely, the most skilful medical work, the most highly trained nursing, and the best equipment. The first and second of these had long been assured, but as to the third this hospital, like others, had had to struggle against inadequacy. The increasing use of surgery in chest conditions and the increasing use of x-rays for diagnostic purposes would make the new surgical block and x-ray department of very great value. His Royal Highness then proceeded to open the new premises, which were afterwards inspected by those present. The new block consists of two floors. The actual operation theatre and annexes are situated on the first floor, with the x-ray department below, and both are connected with the hospital corridors by a lift lobby. The x-ray department consists of a spacious room, and the transformer and other apparatus are in a room adjoining, from which leads are taken to the couch or screening stand. The whole of the fittings and equipment are of the most up-to-date character; the cost of the entire block has been £7,500. In a brochure which was handed to each guest a history of the hospital was given, including an account of the stone-laying by the Prince Consort seventy-seven years ago, at which we read "Mr. Paxton"—the designer of the Great Exhibition then standing in Hyde Park—"also exhibited on the platform designs for a 'crystal sanitarium' in which the purity of the atmosphere should be secured by a process of artificial filtration, and an equable and pure temperature both in summer and winter, the outer air being admitted by tunnels to the centre of the building." The idea never seems to have been adopted, the hospital relying on open windows and open-air balconies.

### Status of Tuberculosis Officers in Certain Counties.

At a meeting of the Joint Tuberculosis Council on May 19th Dr. Lissant Cox presented a memorandum on the report of Dr. Pearso of the Ministry of Health on the co-ordination of the public health services in the counties of Essex, Hampshire, Gloucester, and East Sussex. In view of the fact that in these districts whole-time officers were appointed to act as assistant medical officers of health, school medical officers, maternity and child welfare officers, and tuberculosis officers, the council considered that such a plan would need to be carefully safeguarded if it were not to cause a serious deterioration in the tuberculosis service. The assistance in diagnosis or treatment of a consultant tuberculosis officer should be available for every case of definite or suspected tuberculosis. Dr. MacNalty had stated that it was the policy of the Ministry of Health to carry out the recommendations of the Astor report. In rural areas the Ministry were sometimes asked to sanction the appointment of assistant tuberculosis officers who were also responsible for other public health services for reasons of convenience and economy. In such cases the Ministry advised the appointment of a chief clinical tuberculosis officer with special experience, and also required the assistant tuberculosis officers to have had a certain amount of experience in tuberculosis. Professor Lyle Cummins, Sir Henry Gauvain, and Dr. Sutherland were appointed to represent the council at the International Tuberculosis Congress at Rome. It was decided that a dinner should be given to Canadian tuberculosis workers when visiting England in October next.

## Correspondence.

### THE WAR EMERGENCY FUND.

SIR,—The activities of the War Emergency Fund Committee have now come to an end. The first case of distress was relieved in 1915 by the Royal Medical Benevolent Fund, but it was soon found that a special subcommittee—the War Emergency Fund Committee—had to be constituted, and that an appeal for larger funds was necessary.

The War Emergency Fund was instituted to afford assistance to those members of the profession who, in consequence of having joined the Medical Service of the navy or army, found themselves in temporary financial difficulties. The late Sir Alfred Pearce-Gould, who died in 1922, was the first chairman. Amongst those who served on the committee were: Sir William Lister, Mr. T. P. Legg, Dr. Andrew Elliott, Sir D'Arcy Power, Dr. Charles Buttar, Sir William Wilcox, Sir Charters Symonds (honorary treasurer), and Dr. Newton Pitt (honorary secretary).

Applications for assistance were received from 297 medical men; of these, 160 cases were relieved, and the other 137 cases were either ineligible or were assisted in other ways to secure the help they required. From 1920 most of the applications made were for assistance towards educational expenses. Assistance for education has been given to 75 boys and 30 girls, who have attended the following schools: Taunton, Bournemouth, Cranwell, Harlow, Nottingham, Tunbridge Wells, City of Oxford School, Westminster, Durham, Malvern, Wellingborough, Southbourne, Edinburgh, Bromsgrove, Purley, Hunstanton, Woolwich, Epsom, Kelly, St. Paul's, Colet Court, Tonbridge, France, Denstone, Cardinal Vaughan's School, St. Peter's York, Sunderland, Ampleforth, Malton, Wimborno, Blackheath, St. Anne's, Holt, Bedford Training College, Bury, Alderley Edge, Froebel, Littlehampton; University College Hospital, St. Bartholomew's Hospital, St. Mary's Hospital, and Guy's Hospital. The total sum paid in aid of education of the children of these medical men was £18,946 9s. 10d.

Grants have also been made towards insurance, rent, maintenance, debts, and surgery requisites, and help has been given towards the purchase of practices, examination fees, etc. The total sum raised was £32,458 16s. 8d.

The grants given were:

	£	s.	d.		£	s.	d.
1917 ...	290	4	0	1923 ...	3,956	4	5
1918 ...	697	16	2	1924 ...	2,470	17	0
1919 ...	7,552	15	2	1925 ...	1,778	4	2
1920 ...	5,926	17	6	1926 ...	291	4	0
1921 ...	5,622	14	5	1927 ...	85	0	0
1922 ...	6,204	17	9				
					£34,876	14	11

This letter is not written primarily to acquaint the profession with the way in which the War Emergency Fund has been administered, but to tell the story of the wonderful, long-continued, unobtrusive, self-sacrificing labours of two members of the committee who investigated, visited, interviewed, and corresponded with applicants for grants. Their recommendations were almost invariably accepted by the committee, and without their aid and advice the fund could not have functioned without making many mistakes. These facts we think should be known. The whole profession will be proud to learn of the splendid selfless service to their comrades in distress of Sir Charters Symonds and Dr. Newton Pitt.—We are, etc.,

THOMAS BARLOW,  
President of the Royal Medical Benevolent Fund.  
CHARLES BALLANCE,  
Chairman, War Emergency Fund Committee.

London, June 6th.

#### MEDICAL REGISTRATION IN NEW ZEALAND.

SIR,—The attention of the New Zealand Medical Council, the registering body in this Dominion, has been drawn to a letter by "Traveller" appearing in your issue of January 14th (p. 77). Many statements contained in this letter are incorrect. The whole communication is written from the point of view of one particular case, which possessed unusual features, and the inference that the experience of this individual is representative of all is untrue.

It will be well to state the normal procedure. Section 9 of the Medical Practitioners Act, 1914, states:

"(1) Every person desiring to be registered under this Act shall cause at least one month's notice of his intention to apply for registration to be published in the *Gazette*, and also in some newspaper circulating in the district in which the applicant intends to practise; and shall, at least one month before the date of his application for registration, deposit in the office of the Registrar nearest to the place where he intends to practise his diploma or other original evidence of his qualification, or a true copy of any such document certified as correct in the prescribed manner."

Section 10 of the same Act explains why a medical man seeking registration must advertise as stated above:

"(1) Any person who has reason to believe that an applicant is not entitled to be registered or is not a fit person to be registered under this Act may, at any time before that applicant is so registered, object in writing to his registration, and shall specify the grounds of his objection."

An applicant, having lodged an application, deposited his diplomas for inspection, and advertised as required by the law, is asked to fill in a confidential form of inquiry, on which the following particulars are requested:

1. State consecutively where you have been practising since qualifying.
2. In what other country or countries are you registered as a medical practitioner?
3. Has your name at any time been removed from any medical register in any country where you have been registered? And, if so, on what date and for what reason?
4. Give names of two or three persons (both in New Zealand and elsewhere) to whom you could refer the Council for information as to your character (if necessary).
5. What were your reasons for coming to New Zealand?

This information is obtained to enable the Medical Council to satisfy itself, in terms of Section 8 (2) of the Act, that the applicant is satisfactory from the point of view of good fame and character. Past experience has proved the necessity for this procedure.

As soon as the application is received it is the usual practice, if the documents are in order, and without waiting to make any inquiries whatever, to issue to the applying doctor a provisional certificate of registration, which enables the applicant to engage in medical practice immediately if he so desires. This provisional certificate holds good for three months, and is automatically renewed (without application) at the end of that time, if necessary. The fee for medical registration in New Zealand is £5, being the same as the fee at present payable in Great

Britain. . . . . New Zealand Medical Gazette costs 5s., . . . . . 7s. 6d. per inch.

In the case referred to by "Traveller" the medical degrees possessed by the applicant were not obtained in Great Britain, and are not now registrable in New Zealand. The applicant ignored repeated communications from the Medical Council, and persisted in practising without any form of registration whatever. It was in these circumstances that the police authorities prosecuted him for practising without registration.

If medical men possessing qualifications obtained overseas intend settling in New Zealand they would be well advised to ascertain beforehand whether their degrees are registrable in this Dominion. If so, and if they bring with them satisfactory recent references as to character, they need have no fear as to obtaining registration in New Zealand.—I am, etc.,

C. J. DRAKE,  
Secretary to the Medical Council of  
New Zealand.

Wellington, May 1st.

#### THE ORIGIN OF ISCHAEMIC CONTRACTURE.

SIR,—Mr. Trethowan (June 9th, p. 1001) writes that Professor Hey Groves in his article (May 12th, p. 807) makes no very helpful deductions to guide us in the anticipation and prevention of the "nightmare" of ischaemic contracture. Actually, Professor Hey Groves says, "It should be clearly understood that it is always a most dangerous thing to flex a swollen elbow-joint." The helpful deduction is obvious—don't. Every fracture about the elbow-joint is accompanied by swelling.

For years it has been taught on high authority that fractures about the elbow-joint (excepting fracture of the olecranon) should be treated in acute flexion or full flexion, and all will be well. This teaching is widely followed; indeed, acute flexion has become almost a ritual in practice, and surprise is expressed again and again when it turns out that all is not well.

It should be widely taught that to put up a recent fracture of the elbow in a position of acute flexion is a most dangerous procedure, especially as "acute flexion" is so often taken to mean the impossible position of the hand on the shoulder of the same side. I do not for a moment mean to suggest that a reasonable amount of flexion cannot be employed in many cases with impunity; but the ritual of acute flexion and some of the fallacies associated with it need to be suppressed.

Speaking particularly of supracondylar fracture of the lower end of the humerus, it is commonly thought that acute flexion of the elbow-joint prevents the formation of callus and of a bony block in front of the joint. Both the callus and the bony block are due, not to the position of the elbow-joint, but to faulty reduction of the fracture. Acute flexion is quite commonly thought to be a means of reducing the displacement of the lower fragment. This is mechanically unsound. We see many cases in which the fragment has been simply tilted forwards and its upper end made to project backwards by the blind procedure of acute flexion. It is thought that acute flexion is necessary in order to maintain the position of the fragments after reduction. This again is wrong. Lastly, acute flexion does not correct or control the rotation deformity which is so common in these fractures.

Reduction of an elbow fracture should be effected by direct manipulation of the lower fragment under an anaesthetic, with the elbow-joint preferably extended or moderately flexed. If this fails, the displacement should be reduced by open operation. After complete reduction it matters little in what position the elbow-joint is placed; it may be extended or flexed to a right angle or more, as may seem best. But to force an elbow into flexion in the hope that an incomplete reduction may be rendered more complete, or in the hope that the after-effects of incomplete reduction will be thereby minimized, is asking for trouble.

What is really the best position in which to put up this fracture after reduction? It is admitted that, if there is little swelling, the elbow may be flexed to above a right angle with impunity, and this also has the advantage that the reduction can usually be maintained in this position without the use of splints. But, apart from the

nightmare of ischaemic contracture in case the degree of flexion has been misjudged, there are other, if less serious, disadvantages of the flexed position.

I have already pointed out that flexion does not control rotation of the lower fragment. Orthopaedic surgeons know very well that gradual extension of the elbow from the flexed position does not always follow smoothly according to plan, and some residual contracture of the joint is very common. Lastly, myositis ossificans in this region is aggravated, if not caused, by injudicious attempts to extend the elbow after it has been kept in the flexed position.

On the other hand, given complete reduction of the fracture, very good results can be obtained from treatment with the elbow flexed to a right angle or even fully extended. The latter necessitates confinement to bed, but it should be employed when there is great swelling. Both require some sort of splint, of which by far the best is plaster-of-Paris, which, however, does not mean prolonged fixation in one position.

I would ask whether the disadvantages of "acute flexion" have been fairly weighed against its alleged advantages? It is "universally approved" because it is so easy—at first. Ischaemic contracture is a mass of coagulation necrosis of the muscle fibres, and when once it has occurred there is no going back on it. Was Mr. Kennon greatly daring or did he "rush in" when, as he tells us (p. 1001), he put a cold and pulseless limb into acute flexion?—I am, etc.,

London, W.1, June 11th.

A. S. BLENDELL BARKART.

Sir,—Making some useful comments on traumatic ischaemia in your issue of June 9th (p. 1001), Mr. Trethowan emphasizes the value of pain as a warning symptom. May I supplement his statement by remarking that the pain of ischaemia is characteristic and unlike other pains. Although the sufferer may be unable to describe his discomfort except under some such vague phrase as "a horrible drawing sensation," yet he is likely to understand at once and to answer in the affirmative when asked if it is at all like "pins and needles."

Another point is worth noting. Ischaemic contracture is due to blockage of blood vessels; and soon after its main artery has become obstructed the surface temperature of the limb distal to the obstruction is usually raised, even in the presence of impending or established ischaemia of muscles. The anatomical and physiological reasons for this phenomenon are apparent; but the dangerous fallacy of regarding a warm limb as one with a proved sufficiency of circulation is not yet extinct. A cold limb threatens gangrene rather than ischaemia.—I am, etc.,

London, N.E., June 11th.

HAROLD BUTROWS.

#### THE TREATMENT OF MALIGNANT DISEASE BY COLLOIDAL LEAD.

Sir,—Professor Blair Bell's standing in the sphere of cancer research is well known and requires no comment.

In my report on the treatment of malignant disease by colloidal lead I describe the methods of preparation of that substance and affirm that they are the same as those used in Liverpool. No mere *ex cathedra* statement to the contrary by Professor Blair Bell is of any value; the onus is on him to show wherein the difference lies. It is well known that commercial preparations of lead contain a small percentage of arsenic, and it was for that reason that in my experiments I used a specially prepared lead "shot," which was free from arsenic. Moreover, the criticism carries little, if any, weight, for only 14 patients received one dose each of the lead prepared by myself (of whom the case which improved was one), and no patient received more than one dose; all other doses were obtained from the source which was, and I believe is, supplying Professor Blair Bell himself.

In reply to Professor Dilling's letter, I cannot see how my reasons for using lead hydroxide affect the matter at issue. I used the hydroxide before Professor Blair Bell had published sufficient details of his method of preparing lead to enable others to repeat the experiment. I was aware of Professor Dilling's warning, but while I attach great weight to anything which he may say in relation to pharmacology, I cannot admit that he is

an authority from whom there is no appeal. I therefore decided to test the matter for myself when I was offered the material by an expert in the preparation of colloidal substances. In any case, I am surprised that Professor Dilling should complain of my action; rather he should be pleased, since by doing so I fully confirm his results.—I am, etc.,

London, S.W., June 8th.

STANLEY WYARD.

Sir,—If one compares the investigation undertaken by the Research Committee of the General Hospital, Birmingham, into the treatment of malignant disease with lead, and the investigation by Dr. Stanley Wyard reported in the *British Medical Journal* of May 19th, one cannot help thinking that if all investigations in the treatment of disease were carried out in the spirit of that performed in Birmingham the advance in our knowledge would be greater and our waste of time would be lessened.

It is obvious that it is useless to try any form of treatment, apart from miracles, on people who are dying of cancer, and I do not think that even the most enthusiastic exponent of lead will claim miraculous benefits for this method of treatment.

Included in the list given by Dr. Wyard are 21 patients who did not receive more than 0.2 gram of lead, and of these 14 died, 6 were in *statu quo*, and one, who had only had 0.075 gram of lead, was said to be worse. In 5 of those who died the time they were under treatment is not mentioned; in 7 it was as follows: 15, 45, 21, 35, 35, 20, 36 days. Three of these patients, it will be noted, did not survive more than three weeks. Of the three who survived six weeks one lived 107 days, one 176, and the third, who was labelled as "worse," lived 166 days.

From the results of this administration—I cannot call it investigation—Dr. Wyard expresses an adverse opinion on the method of treatment by lead. It would be fairer, surely, if he had expressed an adverse opinion on his method of treatment by lead. Can any fair-minded or logical man say that anyone is justified in drawing conclusions from material such as this? I cannot think that even the most ardent opponents of the method of Professor Blair Bell would care to quote such evidence.

It is clear from both the Birmingham and the Cancer Hospital reports that the great drawback in the lead treatment is the toxicity of the preparations used. We shall make little progress in the treatment of cancer if treatment can be carried out only in a limited number of places. A widespread disease such as cancer must be attacked by a large number of individuals, and a safe drug is essential to enable them to do this.

My cases of malignant disease are given a course of lead as a routine practice, and no harm has come from this in the past two and a half years. I use Mr. Patterson's colloidal lead iodide (British Drug Houses, Ltd.). I have never had any serious lead poisoning occur with this drug. Many injections have been given in the outpatient department without any ill effects.—I am, etc.,

London, W.1, June 11th.

DUNCAN C. L. FITZ WILLIAMS.

Sir,—In his letter on this subject in your issue of June 9th (p. 999), Professor W. J. Dilling states that, "colloidal lead selenide is safe, but appears to be devoid of inhibitory effect in malignant disease."

I have been engaged in research on lead colloids, especially the selenide, since the autumn of 1925, and have been using the selenide on advanced cancer since 1926. I am not in agreement with the second of Professor Dilling's conclusions. About sixty cases of cancer in man and many hundreds of animals implanted with cancer have been treated. It is found that lead selenide is safe, and that it has a decided action in causing inhibition and some power of bringing about regression of malignant growths. In addition, it has a definite, and often marked, action in diminishing the pain of advanced cancer.

The preparation we use is safe. If the suggested technique is followed it would be difficult to injure the patient. It is not claimed that it is a cure, but that it is a useful and hopeful remedy. Further work is in progress, and it is hoped that improvement will continue.

The preparation we are using has been presented to the

British Drug Houses, Ltd., who will manufacture and sell it. A brochure giving details of technique and all clinical and experimental results up to April, 1928, has been published by Messrs. Arrowsmith, Ltd. Copies may be obtained from the Secretary, Bristol Royal Infirmary, or from the publishers. The concluding paragraph of the preface reads:

"The committee wish it to be clearly understood that no profit of any description from the sale of this preparation or of this publication will accrue, directly or indirectly, to the Bristol Royal Infirmary or anyone connected with it or this research in any degree."

With regard to future criticism of this work it should be clearly understood that the results claimed and the technique suggested are those for the preparation manufactured by the British Drug Houses, Ltd. We intend to use their preparation, and may alter the composition if, on adequate proof, alterations are considered beneficial. —I am, etc.,

Pathological Research Department,  
Bristol University, June 10th.

A. T. TODD.

### HAEMATURIA DURING INSULIN ADMINISTRATION.

SIR,—In their article at page 977 of last week's *Journal*, entitled "Two cases of haematuria caused by insulin treatment," Drs. Lawrence and Hollins suggest that the insulin was responsible for the condition. The haematuria was of very short duration (twenty-four hours or less), and ceased spontaneously in spite of the continued administration of insulin. If the latter had been responsible it does not seem likely that the haematuria would have ceased so promptly. In the first case described the patient had had a severe tonsillitis and pharyngitis four days before the onset of the haematuria and two days before the insulin was started. It is well recognized that a transient haematuria may occur during the course of an acute tonsillitis, and it is possible that the condition might be observed more frequently if the urine of such patients was examined with the care and frequency which is essential in the treatment of patients with severe diabetes. No septic focus was discovered in the second patient, but he was very ill and emaciated, and an infection is often present in such cases, although it may be very difficult to discover, even when pyrexia and tachycardia are present.

The other cases reported elsewhere in the last few years are also unconvincing, especially the one in which tuberculosis of the lungs and arterio-sclerosis of the kidney were present. Drs. Lawrence and Hollins themselves discount the haemorrhages which have been described as occurring in other parts of the body as being merely incidental, and we feel that this view is equally true of their two cases. —We are, etc.,

London, W.1, June 11th.

GEOFFREY EVANS.  
GEORGE GRAHAM.

### ACUTE APLASTIC ANAEMIA.

SIR,—In a review of A. Hayes Smith's book on *Acute Aplastic Anaemia* in your issue of June 2nd there appears the statement "but not everyone will be ready to accept a diagnosis of aplastic anaemia on the absence on two occasions of platelets and polymorphonuclear leucocytes, when the haemoglobin value was only once as low as 58 per cent. and the patient was not sufficiently inconvenienced to be kept in bed." This definitely implies that such was the basis of diagnosis in the case concerned, and as it misrepresents the facts and is incorrect in detail we should like to be allowed to make the following corrections.

The diagnosis was based on the absence of morphological abnormalities in the red cells in spite of the presence of anaemia, the approximately equal reduction in the haemoglobin and red cells, the reductions affecting the elements produced in the bone marrow, but not the lymphocytes; that the anaemia was not merely due to haemorrhage as shown by the fact that the marrow-produced elements, except the platelets, continued to decline after the haemorrhage ceased, this being supported by the normal lymphocyte count, which also helped to show that it was not due to excessive blood destruction, the negative van den Bergh test later providing evidence pointing in the same

direction. The logical interpretation of the facts appears to be an absence or a marked diminution of marrow function.

With regard to the reviewer's allusion to the haemoglobin value, the diagnosis of disease surely does not necessarily depend on its severity at the time of examination, and the fact that acute aplastic anaemia is not usually diagnosed till its later stages is no reason why it should not be diagnosed at any of the intermediate stages through which it must pass from the normal. With regard to the patient not being sufficiently inconvenienced to be kept in bed, the same observation was made in Bruce's fatal case quoted on page 36, the parents not considering the child sufficiently ill for medical attention.

We should welcome any reasoned criticism of the diagnosis which takes into account all the facts recorded. So far we have not encountered one.—We are, etc.,

A. HAYES SMITH,  
C. J. YOUNG.

Bradford, June 4th.

\*\* Our reviewer writes: The observations to which Drs. Hayes Smith and Young draw attention in their letter may, as they say, be interpreted as evidence of a diminution of marrow activity; but similar observations are quite frequently to be made in secondary anaemia of various types, and they cannot therefore form the basis of a diagnosis of acute aplastic anaemia. The evidence definitely suggestive of acute aplasia seems to have been adequately given in the passage complained of. Acute aplastic anaemia as generally recognized is a grave anaemia with severe depression of erythropoiesis as a chief characteristic, and it was therefore not merely legitimate but essential to point out that in this case the haemoglobin content of the blood never fell to a severely low level. As a clinical diagnosis it is perfectly reasonable to suggest that the case was in fact one of acute aplastic anaemia cut short by treatment; but the question whether the diagnosis was sufficiently well established to found upon it a novel hypothesis on the control of marrow activity by a liver hormone is quite another matter, on which readers must be allowed to form their own opinion. Drs. Hayes Smith and Young say that the quotation they give is "incorrect in detail," but they make no attempt to substantiate their charge, and reference to their monograph confirms the details in the review.

### TONSIL-SUCTION FOR DIAGNOSIS AND TREATMENT.

SIR,—Dr. Frank C. Eve raises several points of interest in his article on tonsil-suction for diagnosis and treatment (p. 941). The method is not, of course, a new one. Waring's tonsil-suction tubes, which are popular in the United States and are used in this country, have been on the market for four or five years. I also use a long glass tonsil-suction tube which I have had in my possession for at least ten or a dozen years, and the origin of which I forget, although I think it is American. It is some years since I heard a colleague relate how he had been consulted by an American lady who demanded to have her tonsils "spring-cleaned" by suction; she was accustomed to have this performed each year in her own home town.

Dr. Eve asks for better formulae than those which he has been using up to the present. I would suggest that he would find an excellent formula in the well-known tonsil paint prescribed by Sir James Dundas-Grant: iodine 5 grains, acetic ether (acid-free) 2 drachms, glycerin to 1 ounce. The acetic ether, as Sir James has pointed out, carries the iodine into the depths of the tonsillar crypts. This formula has been used for years with good results by many laryngologists. Another useful application after suction is the "London paste" of Morell Mackenzie, popularized in recent years by Dr. Irwin Moore. This escharotic paste effectively diminishes the size of the tonsil as well as cleansing it; a 10 per cent. solution of cocaine must be painted on the tonsil before applying it.

I do not think, however, that anyone with fairly wide experience of septic tonsils in adults and their sequelae, would agree with Dr. Eve that his method of treatment or suction followed by any application can really be looked upon as a substitute for tonsillectomy. A patient

must come back for treatment year after year, and, between treatment, his tonsils are still unhealthy, although they have been cleaned up and his symptoms improved for the time being. In company with others I use this method—or rather, a similar method—as a temporary expedient only, and in the few cases in which tonsillectomy is refused or contraindicated. Squeezing with a spatula, I can assure Dr. Eve, is in reality by no means “agonizing”: I have experienced it myself as well as applying it to others every day. But when I can suck or squeeze foul pus—and not merely one or two little concretions—from a tonsil, and I find that the patient has signs and symptoms of ill health that can fairly be attributed only to the presence of septic tonsils, I am still convinced that it is my duty to advise tonsillectomy, in spite of the temporary improvement that I know can often follow tonsil-suction and painting.—I am, etc.,

London, W.1, June 2nd.

R. SCOTT STEVENSON.

#### NASAL AND ORAL FOCAL SEPSIS IN DISEASE.

SIR,—In their article published on June 2nd (p. 931) Drs. P. Watson-Williams and F. A. Pickworth draw several conclusions with which I most heartily concur. I can support the theories advanced with an interesting fact from a different point of view. In a series of several hundred cases I have never seen or removed an acute appendix in a patient whose tonsils had been cleanly enucleated in childhood. This, of course, may be merely coincidence, but various surgical colleagues have been unable to quote contradictory cases. It is also a fact that patients with chronic tonsillitis often have a tender spot in the right iliac fossa, and probably most of us have seen at least one case of fulminating appendicitis a week or two after tonsillectomy.

There seems to be no doubt that with the increasing incidence of appendicitis from the beginning of the present century, follicular infection of the tonsils is becoming far more common than before, particularly among the present generation. This leads to the inevitable conclusion that, whatever dietetic deficiency may be at the root of these evils, we have one remedy at hand to check our emergency operations for acute appendicitis. I would go further than this, and say that many cases of gastro-duodenal ulcer, gall-stones, and chronic pancreatitis would be prevented if septic tonsils were habitually removed in childhood before a latent infection of other lymphoid tissue elsewhere in the body had been permitted to occur.—I am, etc.,

JAMES S. HALL, M.B., B.S. Lond.,  
F.R.C.S. Ed.

Walmer, June 4th.

#### ABORTION AND SEPSIS.

SIR,—Amid the considerable number of articles on puerperal sepsis recently produced it is remarkable that such little notice is taken of the effects of abortions and miscarriages on the mortality of this disease. This may be partly due to a misconception of the mortality rates of puerperal sepsis as published in the Registrar-General's reports. These are recorded as per live births, and the deduction appears to prevail that this refers to deaths occurring amongst live births. As a matter of fact, the rate is based on live births, and includes post-abortion deaths as well as post-partum deaths.

That this is the correct interpretation is evidenced by the statements in the Ministry of Health publications No. 25 (p. 34) and No. 48 (p. 13). Owing to the inclusion of these two undifferentiated causes it is impossible to draw conclusions from comparisons of the sepsis rate in institutions or midwifery services which are based on delivery data only, and the sepsis rate amongst the general population outside these organizations, which includes deaths from abortions and miscarriages.

The influence of abortion merits a great deal more attention than it at present receives. Germany appears to be the only country publishing separate records of deaths from sepsis following abortion. In that country half the puerperal sepsis mortality in towns of over 30,000 inhabitants is post abortum (Ministry of Health publication No. 48, p. 13). In an analysis of the maternal deaths in

a large industrial town in England out of 51 deaths from puerperal sepsis in three years no fewer than 25 were post abortum (Ministry of Health publication No. 25, p. 34). The puerperal sepsis death rate of 1.6 per 1,000 live births for England and Wales in 1926 would therefore be considerably reduced if the post-abortion cases were deducted.

It is worthy of note that in the report of Dr. Remington Hobbs's lecture in the *Journal* of June 8th (p. 971) a table is given showing the admittance of 192 cases of abortion and miscarriage during two years in one London institution alone. From the above figures the total number of abortions and miscarriages in this country annually must reach enormous proportions. It may well be that research into the problem of abortions would throw considerable light on the maintenance of the puerperal sepsis mortality rate at its present level in many localities in this country.—I am, etc.,

London, S.W.16, June 8th.

E. HUPSON.

#### ETIOLOGY OF CANCER.

##### A Request to General Practitioners.

SIR,—May I ask those of your readers who are engaged in general practice and who would be willing to answer a series of questions relating to cancer cases to send their names to this laboratory? All that is necessary at the moment is to put a visiting card into an envelope or write name and address on a post-card, and forward it to me at the Department of Applied Statistics, University College, London, W.C.1.

The object of the inquiry will be to try to throw some light on the vexed question of cancer etiology, and this will necessitate information relating to a large number of cases from all parts of the country which cannot be obtained in any other way. The identity of the cases need not be revealed, and the forms will be so devised that scarcely any writing is required.

Such appeals have sometimes met with a disappointing response in the past, and it is therefore not proposed to proceed with the investigation unless a sufficient number of helpers is first assured.—I am, etc.,

PERCY STOCKS,

Reader in Medical Statistics, Galton  
Laboratory, University College.

#### THE MEINICKE SYPHILITIC REACTION.

SIR,—Professor D. T. Barry's letter in your issue of May 5th (p. 775) is evidence of the slight attention that the Meinicke turbidity test has received from English pathologists. There are so many points in favour of Dr. Meinicke's procedure, however, that it is replacing the Wassermann test in certain laboratories in Central America. The reagents entering into this test are confined to (1) the antigen diluted with 3 per cent. saline solution, and (2) the serum to be tested. No complicated apparatus is required, and anyone having the slightest knowledge of laboratory methods is able to perform the test. The results are either positive or negative, the “doubtful” result of the Wassermann test being largely eliminated.

Dr. L. M. Moody and I have been engaged in comparing results obtained by the Wassermann test (method of McIntosh and Fildes) with those obtained by the Meinicke test (modification by Eichelbaum). We have not yet investigated the cases in detail, but one outstanding difference is patent: antisyphilitic treatment will sooner convert Wassermann-positive serums to Wassermann-negative than it will convert Meinicke-positive serums to Meinicke-negative. The patients have not been under observation long enough for us to ascertain the significance of this with regard to relapses. The antigen used has been obtained from Westfalen and appears to keep indefinitely.

Professor Barry states: “The reaction is considered to be of great value . . . and practitioners are advised to get it adopted in laboratories to which they look for diagnosis . . .” The procedure, however, is so simple that even a busy practitioner can add this test to the armamentarium of his clinical laboratory without appreciably increasing the demands on his time.—I am, etc.,

Kingston, Jamaica, May 24th.

GEO. P. F. ALLEN.



The Society of Apothecaries of London announces its intention to institute a Mastery of Midwifery and to issue a diploma under this title denoting the possession of specialized knowledge of ante-natal care, midwifery, and child welfare. References to the proposal were made on several occasions last year, notably on August 6th (p. 225), and the regulations are now available. It is intended to hold the first examination in the autumn and to make this a severe test, so as to ensure a high standard of professional knowledge. The diploma will, however, not be registrable under the Medical Acts. In initiating this qualification the Society has been moved by consideration of the need for organization and improvement in the practice of midwifery and cognate matters, and by a sense of its own traditions in promoting the advancement of medical knowledge among general practitioners. Admission to the new diploma is not confined to licentiates of the Society, but is open to all who have been for not less than a year in possession of a registrable medical qualification. The regulations prescribe that, after qualifying, candidates must have held, for at least six months, a resident appointment in a recognized institution concerned with obstetrics, and must have attended, for periods of three months in each case, a recognized ante-natal clinic and a recognized infant welfare centre before entering the examination. Until 1932, however, special conditions will apply to practitioners of ten years' standing. The examination will be conducted by written papers and by clinical and oral tests. Copies of the regulations may be obtained from the secretary of the Society, Water Lane, Queen Victoria Street, E.C.4.

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THIS week the House of Commons debated the Scottish Estimates, the Board of Trade Estimates, and the Alternative Prayer Book Measure. The House of Lords took the Committee stage of the Equal Franchise Bill.

### National Health Insurance Bill.

In moving the second reading of the National Health Insurance Bill, on June 7th, Lord GAGE, on behalf of the Government, said it was an agreed measure between the two parties chiefly concerned. It would be folly for the Minister to ride roughshod over the susceptibilities of insured persons, or of the medical profession, who administered the scheme. Most of the criticism against the bill was not directed against what it did, but against what it did not do. The bill was based on the recommendations of the Royal Commission of 1924. If it became law the Government would introduce a consolidation measure at the first opportunity. Running over the bill, Lord Gage said Clause 1 provided that a certificate from an employment exchange that a man was genuinely unemployed would entitle him to the same benefits as if he was having his card regularly stamped for a period of one year and nine months and up to a further period of one year on a reduced scale. Clause 11 of the bill provided for the setting up of a special insurance section of the Deposit Contributors Fund by which insured persons who were unable to obtain admission to an approved society by reason of ill health could obtain all the normal benefits of the Act on a basis of mutual insurance, instead of being restricted, as hitherto, to such benefits as could be provided out of their own contributions. That amounted to creating a new society for bad lives, which in certain circumstances was to be helped from the Central Fund. Clause 16 empowered the Minister to make regulations for administration of additional benefits such as dental and ophthalmic treatment. About £4,000,000 a year was now spent by approved societies on additional benefits of this character. The Minister should be able to make regulations to secure that this sum was administered to the greatest advantage of the insured person. These benefits would be administered by co-operation between the approved societies and the dentists or other professional bodies. The bill made possible the giving of dental and ophthalmic treatment in suitable cases through clinics, but expressly laid down that insured persons were to have complete freedom of choice of practitioner or clinic. If at any time any of these benefits became statutory normal benefits available to all insured persons, their administration would be transferred to the Insurance Committees or other local bodies responsible for the administration of medical benefit. Clause 20 brought within the scope of health insurance and contributory pensions small contractors themselves engaged in manual labour, and fishermen. Lord Gage remarked that the bill was not a final solution. There had already been seven or eight amending Acts of a major character since the original Act was passed, and there would be many more. The conditions affecting health, such as the housing situation and the employment situation, continually varied. The unification of the public health services was an object to be desired, but unification could only be obtained by a modification of the laws affecting a large number of subjects—factory administration, the Workmen's Compensation Acts, the Education Acts, and a considerable proportion of the Poor Law administration. In view of the imminence of Poor Law reform and for other reasons Mr. Chamberlain took the view that the time had not come for the transference of the duties of local insurance committees to county and borough councils. This would be only an instalment of the unification plan, and such unification should not be carried out piecemeal. Mr. Chamberlain would have liked the adoption of the Royal Commission's recommendation that the surpluses of approved societies should be partially pooled to enable specialists' services to be made a statutory benefit. In the bill these were legalized as an additional benefit. The suggested pooling was the only method whereby the necessary funds could be obtained for financing such a scheme without recourse to the Exchequer. The approved societies had, however, so set their faces against this method that Mr. Chamberlain had been prevented from making this necessary and desirable extension. Apart from these omissions the bill carried out many of the recommendations of the report. It would remove many considerable grievances and would simplify administration. The extent to which it encroached on public funds was small.

Lord GORELL said the bill was solely concerned with minor alterations in machinery. As such it was to be welcomed, but it was also to be criticized because it was so limited. He regretted that there had been no advance in ensuring specialists' services, and that the question of maternal mortality had been left wholly untouched. Something more should have been done to emphasize the need for attendance in maternity cases.

Lord BEAUCHAMP said the bill was complicated and technical. The majority of the Royal Commission made 122 recommendations, of which the bill only contained 32. The chief things the Commission recommended were an extension of sick benefits to the dependants of insured persons, the provision of maternity

benefits, and the establishment of a new service under which an insured person might have the attention of a specialist and dental treatment. Not one of those promises had been fully redeemed. He did not know anything more important to-day than the question of maternal mortality. No attempt had been made to return to the insurance funds the money taken from them by the Act of 1926. The total amount available for investment by these societies in 1925 was £8,000,000. Last year they only had £200,000 left to invest. He hoped Lord Gage would represent to Mr. Chamberlain that the House of Lords desired an amalgamation of the whole system of insurances into one organic and complete whole.

Lord COZENS-HAANZ regretted that the Government had not the courage of their convictions in favour of extensions of medical benefit which were urgently necessary, particularly that of specialists' services. He hoped that after the general election the Government would tackle this question, and also the vexed question of co-ordination of the health services of the country. Under the present arrangements for medical benefit the Insurance Committee had to set up statutory subcommittees to investigate the services included in medical benefit, doctors or chemists. These medical and subcommittees did very useful and important work. Complaints of this nature could only be investigated satisfactorily locally. He asked Lord Gage to give some assurance that provision for similar machinery for investigating complaints in regard to any such local services would be made, whether those services were statutory or additional benefits. In particular he hoped Lord Gage would give some assurance that insurance committees would be required to set up a dental service subcommittee on the same lines as the medical service subcommittee.

The bill was read a second time without a division and referred to a committee of the whole House.

### Scottish Board of Health Estimates.

In Committee of Supply, on June 11th, the House of Commons debated the policy of the Scottish Board of Health, on an estimate for £2,037,515 to defray the charges for salaries and expenses of the Board, housing grants, and grants-in-aid for the Highlands and Islands Medical Service.

Mr. E. BROWN opened the discussion by raising the question of slum clearances. He said that careful investigations had been made by some cities. Edinburgh was engaged in a very exhaustive examination, and preliminary figures showed that there were 5,000 houses in that city alone which should be marked down as unfit for human habitation. The real problem of slum clearance had not yet been begun to be touched in Scotland.

Mr. J. STEWART said that in Glasgow to-day 6,000 people were suffering from tuberculosis. Of those so suffering who were living in one-apartment houses, only 57 have a room to themselves; 145 have a bed to themselves, though living in the same apartment with others; 976 were sleeping in a bed with other people. In two-apartment houses the story was the same. There were 441 with a room to themselves, and 2,506 sleeping in beds with others. Out of 3,415 cases, fewer than 1,000 had either a bed or a room to themselves. Could they wonder that tuberculosis still persisted? To-day, in Glasgow, they were facing the erection of another sanatorium for 400 patients which, before it was finished, would have cost something approaching £500,000. To provide a separate bed for over 5,000 consumptive patients would require an annual addition of 1,350 houses. Surely the Government could do something to give the local health authority the power to provide sleeping accommodation for these people, and to provide a separate room for a person suffering from this disease. Glasgow, with a population of 1,250,000, still had 13,000 houses which were unfit for human habitation. The problem was so insurmountable and the cost involved so enormous, that the local authorities, and the medical officers representing them, were afraid to face the task of making the necessary investigations.

Mr. MACPHERSON said that one of the very best instruments that had ever been introduced into the medical service of any country was the Highlands and Islands Medical Service in Scotland, but in the estimates the amount annually allocated for that service was only £42,000. The very special work which this did not be done for £42,000 a year. He said that the Government intend to do to keep this fund solvent? The Northern Infirmary at Inverness was in a unique position. Was it the intention of the Government to give an additional grant to the Northern Infirmary, which provided the one great institution for almost all types of cases in that broad and scattered district? There was no other institution like it in the North. It was impossible for people who were suddenly taken ill, and had possibly to be operated upon quickly, to endure the long journey to the better-known infirmaries of Edinburgh and Glasgow, and it had become necessary, in the interests of humanity and of the Highlands as a whole, that this should become a really first-class institution. It would require a complete staff of specialists. The doctors and surgeons of Inverness were at the top of their profession, but they wanted all the recent appliances of science, medicine, and of surgery, and the infirmary ought to be properly equipped and maintained. They could not get that unless they had a permanent grant from the Board of Health, from the Government, or from the Highlands and Islands Medical Service Fund.

Dr. DRUMMOND SMELLS said that he agreed as to the very excellent nature of the report of the Scottish Board of Health. It was always a mine of information, and it would be fitting at that time to pay tribute to the valuable work that had been

done in connexion with it by Sir Leslie MacKenzie, who had now retired, but who had been responsible for some very important sections of the report for a good many years. He was glad to see that the question of river pollution was being taken up seriously by the Board of Health. There was no doubt that both on aesthetic and health grounds that question was of considerable importance. In regard to tuberculosis, it was a matter for regret that the progressive fall in the death rate was not maintained during the last year, but probably the reason given in the report—the very severe climatic conditions in Scotland last year—might be part of the explanation. Undoubtedly they were still retaining in some of the houses in Scotland many cases in an infectious stage, and in so far as they did that they were really wasting public money spent in other efforts to get rid of the disease. He was glad to notice that there was a slight fall in the death rate from non-pulmonary tuberculosis. In that connexion were the Board of Health quite satisfied that all that was possible was being done with regard to the milk supply? The milk supply in Scotland for a good many years was responsible for a considerable number of cases of non-pulmonary tuberculosis. They had had, in recent years, the licensing system, with tuberculin-tested and graded milk, and so on, and there was no doubt that this had provided milk which was a great improvement on any supplied before. But it had to be remembered that licensed milk was dearer in price, and he was anxious to know whether the average of the non-graded milk was not perhaps lower than before the graded system was instituted. It was of great importance that continued attention should be devoted to securing a pure milk supply.

He agreed with Mr. Macpherson that the Highlands and Islands Medical Service had done a very great work. He was glad that the report called attention to the very serious position in regard to tuberculosis in the Highlands and Islands. If they took the 15 to 34 age group, and looked at it in relation to Scotland generally, and the Highlands and Islands in particular, they found that the general average rate for Scotland was 12.2; for the county of Inverness, 20.5; for Ross and Cromarty (excluding Lewis), 26.9; for Shetland, 28.1; for Sutherland, 31; and for Lewis, 37.1. Those were extraordinary figures. The report said that the reason for this state of things was a matter for surmise, and that research was being conducted. Those who knew the Highlands and Islands did not need to look very far for, at least, the major causes of this condition. The first was housing; very many people in the Highlands and Islands were shockingly housed. Again, it was quite possible that some of these people did not get adequate food and were not in a position to resist disease. These figures bore out the need for the investigation which was dealt with in the House of Commons a short time ago, and it was to be hoped that general improvement in the prosperity of the Highlands and Islands would result in the reduction of these very alarming and very unsatisfactory figures.

He would like to have said something about the Hairmyers Colony, and of that method of dealing with certain types of tuberculosis. There was no doubt that such a labour colony was on right lines. The Middle Ward District of Lanarkshire and the Board of Health were to be congratulated on co-operating in this effort to deal with tuberculosis on up-to-date lines. He asked the Under-Secretary for Scotland, who was an authority on the subject, how the light treatment for surgical tuberculosis was proceeding. Did he consider that the facilities for that treatment, which it was now admitted was very successful in these cases, were satisfactory? In the report, reference was made to the number of dispensaries being fitted up with light equipment. The references to venereal disease in the report were also very interesting. They dealt with the general propaganda methods which were undertaken with the encouragement of the Board of Health, and also with the possibility of preventive methods. They said, in regard to those, that certain preventive methods might be contributory to the spread of the disease. He thought he had heard an echo of that in other quarters. It was not the opinion of the army and navy. The army and navy had reduced their figures in connexion with these diseases by the methods which were so sceptically referred to in the report. The Trevelyan Committee also favoured them. He was interested to find that the Board came to the conclusion that secrecy, which was so much stressed in the debate in that House a few weeks ago, did not seem to be of great importance, at least as regards the great cities. One could see quite well that while the language used was guarded, the Board of Health, as they had shown on several occasions before, were not convinced that the present arrangements and systems were satisfactory or capable of dealing adequately with these serious diseases. This certainly justified the attitude of the Edinburgh Corporation and other Scottish local authorities in the matter. It was an appalling fact that last year in Scotland the number of defaulters was 51 per cent. In view of the very large amount of public money spent in dealing with this subject, it was obvious that a great deal of that money was wasted and, in the name of economy, if humanity was not enough, something else should be tried.

There was a return in the report to the attack made last year on the medical profession in regard to certification of people as unfit for employment. He had hoped that they had heard the last of that, because, in his opinion, that attack, while it might have been justified in some cases, had been overdone. Altogether, an attitude was being taken up in regard to the medical profession, and incidentally in regard to their patients, which was quite unjustifiable. The report did not sufficiently recognize that the condition of the people in Scotland during the past few years had been such, owing to unemployment, that they were more liable than formerly to illness. It was unfortunate that by means of threats and talk of surcharges, and referees, and so on, medical men should have it suggested

to them that they should cut down prescribing to the very minimum amount. He had never seen or heard of any investigation to find out if medical men were supplying sufficiently good medicines, tonics, and building-up preparations, which were often necessary. So long as the medicine was cut down, and the cost of prescribing was low, there was evidently no worry as to whether the insured person was getting proper remedies. The whole tendency of the system was to cease the doctor to be afraid to give what, in many cases, would only be adequate for the nature of the case.

Sir R. HASTINGS also drew attention to the enormous value of the work of the Highlands and Islands Medical Service Fund. He said he did not believe that the annual contribution to the Fund of £12,000 a year had been increased to meet the change in money values, but the Fund was expected to do the same work to-day, when costs were infinitely higher, as in 1913. There was probably no fund in the world more economically administered, and which did a greater amount of good. In a short time, unless a further contribution was made, the work of the Fund could not be carried on, and it would have to come to an end in eighteen months. He had it on the best authority that another £25,000 a year was required. He asked for an assurance from the Government that provisions would be made so that the work of the Fund should not be allowed to be diminished. A branch of the work which had been an outstanding success had been the appointment of consulting surgeons in the outer islands. In Shetland, particularly, where a most excellent surgeon was appointed, the result was that operations of importance could be performed in cases which would otherwise have had to be sent south. As a result, patients were got under treatment early, and the hospitals in the south, whose beds were too full already, had been relieved.

Mr. SCRYMGEOUR, referring to venereal disease, said that the Scottish Board had issued an excellent compendium of information on the various activities of the department, but in regard to this terrible disease it put in veiled language evidence that it would like to do something better, but was being held back on account of the position of the English Ministry of Health. That situation once more proved the futility of trying to do anything in that connexion at all.

Sir A. SINCLAIR, emphasizing what Dr. Shields had said about harrying doctors for over-prescribing, said that there had been cases in his constituency of well-known and very much respected doctors who were accused of over-prescribing. They were most careful men, who held important public positions in the country, and men regarding whom such an accusation could not for a moment be entertained by those who knew them. He hoped that this action would not be resorted to in future. He asked for an assurance from the Government that the efforts of the local people to maintain and improve the equipment of the Bignold Hospital in Wick, and the Dunbar Hospital in Thurso, would be supported, and, in particular, that they would be able to obtain the much-needed services of a surgeon.

Mr. STEPHEN complained about a paragraph in the report of the Scottish Board of Health dealing with the certification by doctors under the national health insurance scheme. He challenged the implied reflection in it that doctors in Scotland were allowing people to draw sick benefit who were not entitled to it. It was obvious that the paragraph was written to try to terrorize the timid members of the profession into sending people back to work before they were fit to return, or to keep them from giving certificates to members of the working classes who, through being unemployed and consequently unable to get proper food, had got into an unhealthy condition.

Dr. ELLIOT, replying to the debate, said that Mr. Stephen had spoken of reflections and attacks on the medical profession contained in the report. The spectacle of Mr. Stephen defending the medical profession against the attacks of Sir Leslie MacKenzie was one that they might well leave to the delighted laughter of the medical profession in Scotland. Continuing, Dr. Elliot said that there were many houses in Scotland which they not only regarded as unfit for human habitation, but which their fathers and grandfathers would have classified as unfit. Those were the houses that the Board of Health wished to get rid of in the first place, but until they made a beginning with them it was useless to reclassify houses, and say that no houses were satisfactory unless there were three rooms with bathroom, water-closet, and other modern conveniences. They had done their utmost to impress on the local authorities, who were building houses, that people at present were suffering acutely not only from unsatisfactory houses, but from overcrowding. A cut had taken place in the English housing subsidy, but none in that for Scotland, and they had the assurance that none would be made until March 31st. The subsidy for the Highlands and Islands Medical Service would have to be considered. It was now £12,000 a year, but the Fund was drawing on its unexpended balances to make up an expenditure of £62,000 a year. The Secretary of State would again approach the Treasury, and he had no doubt that he would succeed in getting a substantial increase in the statutory rate of that subsidy. The report of the Scottish Board of Health was a review of the work of the local authorities. It pointed out many directions in which that work needed to be expanded, and in which it could be greatly advantaged by a better system of co-operation among the local authorities. All these things were being brought up, considered, and dealt with in the great financial measures now before Parliament.

The debate was adjourned.

[Various other matters connected with medicine were discussed in Parliament this week, but the pressure on our space compels postponement of further reports.]

## Medical News.

THE annual general meeting of the Research Defence Society will be held at the House of the Medical Society of London, 11 Chandos Street, Cavendish Square, W., on Tuesday, June 19th, at 3 o'clock. The chair will be taken by the President, Lord Lamington. An address will be delivered by Sir Bernard Spilsbury on "The work and responsibilities of a pathologist," being the second Stephen Paget Memorial Lecture. Tea and coffee will be served after the meeting.

A MEETING of the Tuberculosis Association will be held on June 22nd, at 8 p.m., at the house of the Royal Society of Medicine, 1, Wimpole Street, W. Dr. F. R. Walters will read a paper on the causes of breakdown in health in pulmonary tuberculosis.

THE National Council for Mental Hygiene has arranged a public meeting, to be held in the Council Chamber, Birmingham, on Thursday, June 21st, at 5 o'clock, when addresses on the prevention of nervous breakdown will be given by Sir Maurice Craig and Dr. H. Crichton Miller. The chair will be taken by the Lord Mayor of Birmingham.

DR. ARTHUR HOPEWELL-SMITH will give a lecture, entitled "The process of osteolysis: a histological study," at Gay's Hospital on June 26th at 4 o'clock.

THE annual meeting of the British Hospitals Association will be held in the Congregational Schools at Southport on June 21st and 22nd under the presidency of Sir Arthur Stanley. Sir Thomas Horder will open a discussion on the place of the voluntary hospital in relation to health services, and Mr. G. Q. Roberts, secretary of St. Thomas's Hospital, will open another discussion on the problems of the voluntary hospital to-day compared with those of the past. Miss M. E. Sparshott, lady superintendent of nurses, Manchester Royal Infirmary, will open a discussion on the place of the nurse in the hospital. Further information may be obtained from the secretary of the conference, Mr. J. H. Shaw, Southport General Infirmary.

THE twenty-first anniversary dinner of the Royal Society of Tropical Medicine and Hygiene will be held at the Café Royal, Regent Street, W.1, on Wednesday, June 20th, at 7.30 p.m. for 8 p.m., under the chairmanship of Professor J. W. W. Stephens, M.D., F.R.S., President of the Society. Applications for tickets should be made to the Assistant Secretary, 11, Chandos Street, W.1.

THE Cambridge Graduates' Medical Club will hold its annual dinner in Pembroke College on Saturday, June 23rd, at 7 o'clock, with the president, Sir Humphry Rolleston, in the chair. The annual meeting will precede the dinner. Dr. V. C. Pennell, Westfield, 28, Huntingdon Road, Cambridge, is acting as local secretary.

THE Fellowship of Medicine announces that Mrs. Tindal-Robertson will give a clinical demonstration, for women graduates only, at the South London Hospital for Women, Newington Causeway, on June 20th, at 10.30 a.m. Mr. E. D. D. Davis will give a clinical demonstration in the Ear, Nose, and Throat Department of Charing Cross Hospital at 11 a.m. on June 22nd, and at 3 p.m. on the same day Mr. Dorrell will

at Eyo Hospital, Southwark. These are free to medical practitioners. Three courses begin on June 18th—namely, one in diseases of the chest at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, another in gynaecology at the Chelsea Hospital for Women during the afternoons and some mornings, and a course in medicine, surgery, and the specialties at the London Temperance Hospital from 4.40 to 6 p.m. From June 25th to July 21st the West End Hospital for Nervous Diseases will hold a special course of clinical demonstrations from 5 p.m. daily for the four weeks. The following special courses will take place in July: medicine, surgery, and the specialties at the N.E. London Post-Graduate College (Prince of Wales's General Hospital), Tottenham, all-day instruction, and a week's course in proctology at St. Mark's Hospital. Particulars of all special course syllabuses, a specimen copy of the *Post-Graduate Medical Journal*, and details of the general course of work available for those unable to do whole-time study are obtainable from the secretary of the Fellowship, 1, Wimpole Street, W.1.

THE paper read by Sir Leonard Rogers before the Section of Epidemiology and State Medicine of the Royal Society of Medicine, on the incidence and spread of cholera in India (reported in the *Journal*, May 1st, 1926, p. 784) has been reprinted from the *Proceedings* of the Royal Society of Medicine, as a memoir (No. 9) in connexion with the *Indian Journal of Medical Research*. This memoir also includes articles by Sir Leonard Rogers on cholera in the Punjab, the

Central Provinces and Berar, and in the Bombay and Madras Presidencies, the United Provinces, Bihar and Orissa, Lower Bengal, Assam, and Burma. It may be obtained from the Indian Research Fund Association, Calcutta, price 7s. net.

A CONFERENCE of delegates from various educational bodies and other organizations was held in London on June 6th to consider the higher education of the deaf. Lord Charwood, president of the National Institute for the Deaf, was in the chair, and various speakers described the existing provision and suggested improvements. Mr. W. Carey Roe said that there was no public provision for the post-primary education of the deaf, and outlined a scheme for the creation of a residential college, with facilities also for securing the co-operation of existing colleges or technical institutions. The conference resolved "that the time has arrived for the extension of the national system of education for the deaf by the establishment of provisions for further education than can be given in the present schools for such children," and decided to ask the National Institute to set up a committee to consider the proposals put forward and to report to a further conference to be held later.

THE report of the Home Service Ambulance Committee of the Joint Council of the Order of St. John and the British Red Cross Society for the first quarter of the year contains, in addition to the usual statistics regarding work done, some interesting practical notes on the care and maintenance of ambulances which should receive the attention of all concerned in this important service. It is pointed out that the comfort of patients depends largely on the condition of the cars, and it is suggested that divisions and detachments of the organizations should make it their business to remedy all structural defects which may develop. Referring to the road service scheme adopted last year, which was described on April 7th (p. 603), the report records an appreciable extension in the number of roadside first-aid boxes, first-aid stations, and patrols all over the country. Last year it was noted that the presence of uniformed members of the Order and the Society on the roads served as a warning to many drivers and pedestrians of the need for caution. The committee suggests that units undertaking work on the roads should forward to the headquarters of their organizations descriptions of the schemes of working adopted and any observations on their experience, so that information may be made available for the guidance of those taking up the work for the first time.

DR. CHARLES GORDON MOORE has been appointed physician-in-ordinary to H.R.H. Princess Beatrice in succession to Sir Alfred Rice-Oxley, resigned.

DR. WILLIAM BLACK JONES, J.P., Bulth Wells, has been admitted a serving brother of the Order of the Hospital of St. John of Jerusalem.

At a recent meeting of the Straits Settlements Legislative Council a bill was read for the first time designed to grant authorization to medical practitioners and certain other persons to possess and use dangerous drugs without licence, so far as it is necessary for the practice of their profession or employment, in the same degree as is lawful in England.

THE Hong-Kong Medical Association gave a dinner on April 21st to European practitioners and their friends; the Governor, Sir Cecil Clementi, was present. Dr. Jen Hawk, the chairman of the Hong-Kong Chinese Medical Association, welcomed the guests, and Dr. Lee Shu-fan, who proposed their health, expressed the hope that there would be still closer co-operation between Chinese and foreign medical practitioners in Hong-Kong. He recommended more adequate medical staffing of some of the local Chinese hospitals, and suggested that the appointment of a full-time European medical officer, together with the arrangement of the medical services in departments, would be very beneficial. The Governor, replying, discussed the hospital organization of Hong-Kong, and, while refraining from defining any policy, agreed that it might be very desirable if representatives of the British and Chinese Medical Associations had seats on the medical board and the midwives board. The toast of the British Medical Association was proposed by Dr. Phoon Seek Wah, and, in reply, Dr. S. S. Strahan spoke of the necessity of upholding the high standard of Western medicine and of increasingly close co-operation with Chinese practitioners. Over 100 medical practitioners were present.

THE centenary of the birth of the celebrated obstetrician Etienne Tarnier has recently been celebrated in Paris at the Hôpital Tarnier and Académie de Médecine.

THE following appointments have recently been made in foreign faculties of medicine: Dr. Spiethoff, professor of dermatology at Jena; Dr. Steinhauser, professor of physiology at Greifswald; and Dr. Tanon, professor of hygiene and preventive medicine at Paris in succession to Professor Léon Bernard, who has been appointed the first occupant of the new chair of tuberculosis.



## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are MUSEUM 9561, 9562, 9563, and 9564 (internal exchange, four lines).

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Pacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumshough Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

### QUERIES AND ANSWERS.

#### WHOLE BLOOD TRANSFUSION.

DR. OSBORNE BROWNE (Jamaica) writes: Can consanguineous blood—that is, parents and children, brothers and sisters—be used without grouping and without risk? What is the simplest method of grouping without the aid of a microscope? Sometimes one would like to transfuse at short notice and in out-of-the-way places, but the fear of group incompatibility acts as a deterrent.

#### CRAMP AFTER SCIATICA.

WITH reference to the note by "F. W. S." on the treatment of cramp after sciatica, on March 24th (p. 534), it may be added that the preparation employed was "iodolysin," obtainable from Messrs. Allen and Hanburys, Ltd.

#### INCOME TAX.

##### Payments for Capital Borrowed.

"E. K. S." has borrowed capital to pay out his late partner and is paying, *inter alia*, interest, from which he deducts income tax, and an annual sum representing the cost of a fidelity policy. How should he deal with these payments?

\* \* So far as the interest is concerned it cannot be deducted as an expense, and therefore is assessed on "E. K. S." (as part of his profits) as if it were his income, except that tax is payable on that portion of the profits at the full standard rate. In that way the tax deducted by "E. K. S." reaches the Revenue without any specific *ad hoc* payment being made. The fidelity policy payments relate to a capital charge and are not allowable as expenses, though presumably they are part of the company's profits and are assessed to tax accordingly.

##### Commencement of Partnership.

"J. K. S."—A and B have worked together for some years, B being a "salaried partner." A deed of partnership was executed in January, 1928, "dating the partnership back to January, 1927." The income tax authorities will not admit that a partnership existed prior to January, 1928.

\* \* "Partnership" is a special relation between the parties, and the deed of January, 1928, cannot have constituted that relation in 1927, though, of course, it was open to A and B to enter into any arrangement with regard to the payments to be made to B for his work in 1927. "J. K. S." refers to B's earlier status as that of a "salaried partner"; we are not quite sure what precise meaning should be attached to that description, but assume it to mean that B was a salaried assistant with a share in the firm in prospect. If so, then we think that the additional payments made to him for 1927 as a result of the partnership deed may properly be regarded as his remuneration for that year, and be charged on him under Schedule E, and treated as expenses in the accounts of the practice.

##### Depreciation Allowance—X-Ray Apparatus.

"F. P. D." states that his claim to a depreciation allowance has been refused, the inspector of taxes stating that he is entitled only to renewal expenditure.

\* \* We do not agree. In our opinion the apparatus comes within the category of "plant and machinery," as distinct from such equipment as "tools," and therefore can properly be made

the subject of a depreciation claim. So far as our knowledge goes, that view is accepted generally throughout the country. There is no prescribed rate of depreciation; we should suggest 10 per cent. on the written-down value as being at least fair to the Revenue.

"G. A." inquires what would be a reasonable percentage for depreciation, and whether the value of articles liable to frequent renewal—such as x-ray tubes, rubber gloves, etc.—should be excluded?

\* \* We suggest, somewhat tentatively, 10 per cent. We are of opinion that when renewal takes place through obsolescence the unexhausted value can be claimed for, and thereby any insufficiency in the depreciation allowance ultimately corrected. Articles which form an integral part of the plant should be included in the value, even though subject to fairly frequent renewal—as, for instance in the case of motor car tyres; other articles, such as rubber gloves, are not proper subjects for the depreciation allowance.

##### Liability for Board and Lodging.

"K. I." was engaged as an indoor assistant in 1921 at a salary of £403. "For income tax purposes the inspector of taxes put down the income as £500 per year." Is he legally entitled to claim the tax paid in error?

\* \* No, any legal right could have been preserved only by lodging formal notice of objection to the incorrect assessments when they were notified. But if "K. I." can make it clear that the inspector of taxes knew that the salary was £400 and added the £100 for board and lodging through an official error as to the law applicable it may be worth applying to the Board of Inland Revenue, Somerset House, W.C.2, for relief as an act of concession.

### LETTERS, NOTES, ETC.

#### COMPLETE OBLITERATION OF THE VAGINA.

DR. F. BUNJE (Hong-Kong) writes to record the case of a Chinese woman, aged 23, who was admitted to St. Paul's Hospital, Hong-Kong, with the following history. Eighteen months ago, when about five months pregnant, abortion started. At the time she was living in the interior of China, and the old women of the village were called in to attend to her. They evidently did not think that things were as they should be, and proceeded to remove the foetus by means of "metal hooks." There was a considerable amount of haemorrhage, and the patient was taken to a Chinese doctor, who proceeded to repair the damage. The patient had never menstruated since the abortion. On examination of the place where the vaginal orifice should have been, there was found a hard mass of scar tissue at the bottom of a depression, with radiating scars towards the labia. No opening could be found, even with a very fine probe, and the uterus could not be felt per rectum. There had also been extensive damage to the perineum. At the subsequent operation performed by Dr. Bunje he found that a fibrous cord of scar tissue represented the original vagina, and this was traced up to a small atrophied uterus. The cicatricial tissue on dissection was shown to lie as a partition between rectum and bladder.

#### UNUSUAL PIGMENTATION OF SCALP.

"X. Y. Z." writes: As the possessor of a "pobald" scalp I read Dr. Walker's letter, with Dr. Haldin-Davis's comments, on this subject in your issue of February 11th (p. 243) with great interest, and was surprised to learn that the abnormality is considered so rare. However, I let the matter drop. But in reading Dr. Cooper's note of May 12th (p. 832) my interest was again aroused, and this time to a very high degree, by his reference to a case in Edinburgh (my native place) twenty-five years ago; I have little doubt that I am the person mentioned. From the scientific point of view I am sorry to say that I can no longer offer myself as an interesting pathological specimen, alopecia having invaded the region in question almost to the entire exclusion of the black patch. Since my younger days other anomalies in the distribution and permanency of pigmentation have manifested themselves, but that on the scalp was present and unvarying from infancy. While the area was somewhat larger than Dr. Cooper stated, I must congratulate him on the accuracy of his description after all these years.

#### IMMUNITY FOLLOWING HERPES.

DR. H. WILLINGHAM GRILL writes: The personal experience of one of our profession may itself be worth adding to the record of Dr. James Taylor (May 26th, p. 920). About twenty-five years ago I had an attack of typical herpes zoster. Last year I had a bad bout of herpes fronsalis. Of both I bear the scars.

#### VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 70, 71, 72, 73, 76, 77, and 78 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 74 and 75.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 263.



# Results OF A SERIES OF GASTRIC AND DUODENAL OPERATIONS.\*

BY

F. J. STRONG HEANEY, M.D., F.R.C.S.I.,  
LECTURER IN CLINICAL SURGERY, UNIVERSITY OF LIVERPOOL.

In spite of the work which has been done and the volume of literature which has accumulated during the last twenty-five years there are many points still unsettled in the surgery of gastric and duodenal ulceration, and every surgeon is in duty bound to review his cases in the light of current literature and to bring his experiences, great or small, into the common stock. This must be my apology for recording the end-results in a comparatively small series of cases.

Excluding malignant disease, I have notes on 183 consecutive cases operated on by myself, mostly within the past four years, and I have endeavoured, with the assistance of my friend Dr. Aiden, to follow up every case. We have succeeded in obtaining the end-results in about 90 per cent. of them. Pathologically the cases may be classified as follows:

1. Acute perforations	...	...	...	...	33
2. Chronic duodenal ulcer	...	...	...	...	65
3. Chronic gastric ulcer	...	...	...	...	85

Total ... .. 183

I shall take the different categories in the order set forth.

## ACUTE PERFORATIONS.

I have had 33 cases, 15 gastric and 18 duodenal; the procedure followed was to repair the perforation, insert a pelvic drain, and, if the patient's condition permitted, perform a gastro-enterostomy. Gastro-enterostomy was in fact performed in 31 out of the 33 cases. Of the 33 cases 7 died in hospital, but I cannot discuss the immediate mortality in relation to the number of hours which elapsed between perforation and operation as my notes are incomplete on this point. A summary of the results is as follows:

Died in hospital	...	...	...	...	7
Good end-results	...	...	...	...	17
Good but recent (under one year)	...	...	...	...	4
Unsatisfactory	...	...	...	...	2
Untraced	...	...	...	...	3
Total	...	...	...	...	33

Of the cases in which gastro-enterostomy was performed I have been able to obtain the end-results over one year in 19 cases. In all cases save one the result was good. In that one the stoma became inadequate and symptoms recurred. At a second operation the stoma was enlarged, and thereafter the course of the case was satisfactory.

In two cases gastro-enterostomy was not performed because of the patients' condition—one a duodenal and the other a gastric case. In the duodenal case I learnt at the follow-up that he was admitted later into another hospital for duodenal symptoms, which were relieved by gastro-enterostomy. In the stomach case the perforation which I was called on to treat was a second perforation; the first occurred five years previously, and had been treated elsewhere without gastro-enterostomy. On opening the abdomen the viscera were matted together by adhesions and the patient's condition was so serious that I did not subject him to the strain of a gastro-enterostomy, an addition which would have involved the separation of many adhesions. This case is, of course, liable to a further repetition of ulceration and perforation. I do not know whether in the duodenal perforation which was repaired without gastro-enterostomy, and which required a gastro-enterostomy later at another hospital, the operation was embarrassed by similar adhesions. Of the two unsatisfactory end-results, therefore, one had no gastro-enterostomy, the other an inadequate gastro-enterostomy.

I shall not repeat all the arguments for and against gastro-enterostomy, but will merely say that in so far as my own experience goes I find myself in agreement with

those who believe in taking the risk of the extra fifteen minutes required for a gastro-enterostomy unless there are definite contraindications.

## CHRONIC DUODENAL ULCER.

I shall next refer to the cases of chronic duodenal ulcers. There are three schools of thought as to the manner in which this condition should be treated. (1) Those who follow what I believe is the practice of the great majority of surgeons—performing gastro-enterostomy and removing any septic focus, such as the appendix. (2) Those who, accepting Lewisohn's figures as to the high incidence of gastro-jejunal ulcer, and the tendency to neutralize or diminish and practise an extensive gastrectomy. In this country Moynihan's practice, I believe, is an approach to the position of this school. (3) Those who accept Lewisohn's figures but regard gastro-enterostomy as an unjustifiably severe routine remedy for duodenal ulcer, and who have therefore abandoned surgical treatment altogether. Lally of Baltimore takes this extreme view, and no one can doubt his sincerity. His well-known clinic is organized for surgery, but he passes all his cases of chronic duodenal ulcer on to a "gastrologist"—an expert in the practical application of the Sippey diet as combined with alkalis. With increased experience of this procedure he seems to have become more convinced of its soundness.

In all my cases I have followed the more usual line of treatment—namely, gastro-enterostomy. At first I only removed the appendix when it was definitely pathological; now I remove it when there is the slightest suspicion of past or present inflammation, and where the patient's condition permits. The results may be summarized as follows:

Good end-results	...	...	...	...	24
Good but recent (under one year)	...	...	...	...	29
Unsatisfactory	...	...	...	...	6
Untraced	...	...	...	...	4
Died in hospital	...	...	...	...	2
Total	...	...	...	...	65

The details of the six unsatisfactory end-results were as follows:

In one (37) a gastro-jejunal ulcer formed after an interval of four years. It was cured by partial gastrectomy (anterior Polya). In one (65a) a gastro-jejunal ulcer formed after an interval of three months. It was cured by partial gastrectomy (anterior Polya).

In one (74) the stoma was found to be functioning unsatisfactorily. It has not yet been explored.

In one (43) there is definite chronic appendicitis.

In two others (41 and 29r) the complaints made were slight but suggested chronic appendix trouble. The patients have not yet presented themselves for further investigation.

In none of the six cases had appendicectomy been carried out at the original operation.

It will be noted that in the previous group—the acute perforations—there were no late symptoms of appendix trouble, although in none of them had appendicectomy been performed.

Various writers have figured the x-ray appearances in gastro-jejunal ulcer, but as the condition is not always radiographically demonstrable it may be of interest to show two x-ray photographs (Figs. 1 and 2 in one of the above-mentioned cases—No. 65a).

In the discussion of the causation of gastro-jejunal ulcer after gastro-enterostomy the technique of the original operation and the post-operative medical treatment have so often been held responsible for the subsequent complication that the technique employed in this series may be mentioned. A vertical or nearly vertical stoma running into the greater curvature at its lowest point is aimed at. No mucosa is removed and only absorbable sutures are used. In hospital cases, which constitute the majority of those noted and amongst which the two gastro-jejunal ulcers arose, a prolonged post-operative dietary and medication is found impracticable.

The percentage incidence of gastro-jejunal ulcer in this series of gastro-enterostomies for duodenal ulcer works out at 3.3. While dealing with this group I would like to allude to the condition of acute duodenitis and gastritis which sometimes arises as a complication of chronic duodenal ulcer, and to cite three cases of this kind encountered within the past few months. The condition has

\* A paper read before a joint meeting of the Manchester Medical Society and the Liverpool Medical Institution on March 7th, 1928.

been alluded to by Judd in one of his contributions to the literature. One of my patients, a stout man with a long history of recurring duodenal symptoms, had, when I first saw him, continuous pain and vomiting. The pain was in the epigastrium, and he vomited large quantities of clear brown fluid although only taking sips of water. At operation the duodenum was red, oedematous, and adherent to the liver. The redness extended beyond the duodenum over the lower half of the stomach. The main feature of the case was the incessant vomiting, a picture not unlike the acute alcoholic gastritis one saw before alcoholism became a rarer vice. In spite of the duodenum becoming detached from the liver and its lumen being exposed in the course of the gastro-enterostomy he made a good recovery.

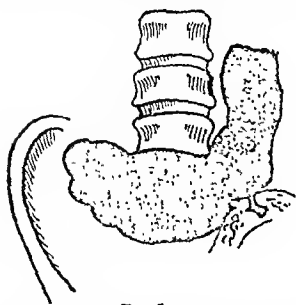


FIG. 1.



FIG. 2.

FIG. 1—Drawing from 3-ray photograph in Case No. 65a. Showing retraction of outline of greater curvature at site of stomach and projection of gastro-jejunal ulcer beyond the line of the greater curvature.

FIG. 2—Drawing from 3-ray photograph of same case as Fig. 1. Showing residue six hours after barium meal and projection of the gastro-jejunal ulcer.

My other two cases were somewhat similar in clinical features and pathological findings. In one of them the vomiting was so severe as to cause a secondary acetonaemia, and operation had to be delayed some days while the patient was treated with glucose rectally. In this case the slight traction employed in bringing up the stomach for gastro-enterostomy caused the rupture of an abscess and a flow of pus from the point where the falciform ligament, the liver, and the inflamed duodenum came together. Drainage was required, but the patient made a good recovery.

In all three cases there had been a long-standing duodenal history and the acute condition had supervened rather suddenly. One patient, x-rayed at the end of November, showed no radiological evidence of duodenal trouble; nevertheless in the three or four days following Christmas he rapidly developed the acute symptoms described. It is well recognized that a duodenal ulcer can evolve from the quiescent stage to perforation. It can with even greater rapidity develop an acute duodenitis and gastritis. Pyloric spasm doubtless plays a part in the incessant vomiting.

The only other point on the subject of duodenal ulcer to which I will allude is the unsatisfactory nature of x-ray diagnosis in minor degrees of the condition; it is fortunate that the clinical history and symptoms are as a rule more characteristic. In not a few cases, however, where the clinical symptoms and the x-ray appearances suggested duodenal ulcer I have opened the abdomen and found a doubtfully pathological appendix or mid-line ptosis. I have come to distrust slight irregularities in form and behaviour of the duodenal cap, and, as is well known, a six-hour remainder in the stomach of the opaque meal does not mean organic disease, especially in the presence of mid-line ptosis. Frequently the patient has to be told that both appendix and duodenum should be inspected, but that probably the operation will resolve itself in an appendicectomy. Owing to the indeterminateness of the ordinary antero-posterior x-ray picture and screen examination one must ask more frequently for side-to-side and oblique views.

The etiology of gastro-jejunal as well as of duodenal ulcer has been established on a surer foundation by the experiments of Mann and Williamson, resulting in the production of duodenal ulcers by abstraction of the bile and pancreatic fluid, and still more by the fact that Morton, applying Mann and Williamson's findings, in fresh experiments, succeeded by duodenal drainage in producing gastro-jejunal ulcers in 100 per cent. of cases.

The clinician still seeks to know what it is in particular clinical cases of gastro-jejunal ulcer which corresponds to experimental duodenal drainage—what it is in the clinical case which excludes or overwhelms the normal duodenal effect. If it is a hyperchlorhydria, what is the cause of the hyperchlorhydria? On this point we have still to fall back on theories of nervous and neuro-muscular influences, blood changes, and so forth.

#### CHRONIC GASTRIC ULCER.

I have notes on eighty-five cases of chronic gastric ulcer during the period I have taken. In this group the clinical picture and the pathological findings at operation vary so much from case to case that if the end-results are to be compared with any degree of usefulness some further subdivision is necessary. I have roughly divided the eighty-five cases into complicated and uncomplicated.

In the complicated group I have included the larger ulcers of the posterior wall, cases of chronic perforation with erosion of pancreas or other neighbouring structure, cases of multiple ulcer situated high on the stomach, cases complicated by ptosis, cholecystitis, and hour-glass contraction. For the purpose of this subdivision I have not regarded a chronic appendix as a complication.

#### Uncomplicated Gastric Ulcer.

I will take the uncomplicated cases first. In every case save one gastro-enterostomy was performed. This was combined in some cases with excision of the ulcer, in others with appendicectomy, in others with both excision and appendicectomy. In my earlier cases I did not excise small ulcers; I now excise in every case where the general condition of the patient seems to warrant the more prolonged procedure. In one case excision alone was done because a physician thought that with the aid of medical treatment gastro-enterostomy might be obviated. The result in this case was not satisfactory. The patient continued to have symptoms until she died of phthisis a year later.

Of the fifty-four uncomplicated cases operated on the following is the summary:

Died in hospital	...	...	...	...	...	2
Left hospital in good condition	...	...	...	...	...	52
Traced (less than one year had elapsed in 20)	...	...	...	...	...	50

Results in all traced cases were good, there being no difference in the result whether the ulcer was excised or not. It is to be noted, however, (1) that they were all simple uncomplicated cases, and (2) that some of them are still recent and liable to develop late complications. The immediate mortality was in each case due to post-operative pneumonia.

#### Complicated Gastric Ulcers.

In this group of thirty are roughly included all except the single small ulcer. The complicating factors here are varied and the number in any group too small to speak in percentages. I have therefore set forth the list of cases in detail (see accompanying analysis of cases). Glancing rapidly through it one sees:

*Group 1.*—Each of the first two cases showed a pyloric tumour suspiciously like malignant disease. On microscopic examination both proved to be non-malignant. One died of post-operative pneumonia, and the other shows no sign of further trouble although four years have elapsed.

*Group 2.*—The next group consists of ten large ulcers with adhesions and erosion of neighbouring organs. In six a partial gastrectomy was performed (anterior Polya). In the others the ulcer was excised and gastro-enterostomy performed. In one of these latter the ulcer recurred nine months after excision, and I was obliged to do an anterior Polya operation, with satisfactory result. In this group there was one death from post-operative pneumonia; apart from this death and the case of recurring ulcer the results were good. Figures 3, 4, 5, and 6 show the history of the recurrent ulcer.

*Group 3.*—The next is a case of a large ulcer high on the lesser curvature; the ulcer was excised and a gastro-enterostomy performed at the lowest point of the greater curvature. The end-result was satisfactory.

*Group 4.*—These are three cases of multiple ulcers. In the first case a high gastro-enterostomy was performed without excision; the result was unsatisfactory. In the second case there was an active ulcer and a quiescent one; the active ulcer was excised and gastro-enterostomy performed at the lowest point of the great curvature; result satisfactory. In the third case partial gastrectomy was performed with satisfactory end-result.

*Group 5.*—In these two cases mid-line ptosis existed in an

extremo degree. In the first the ulcer lay high; gastro-enterostomy was performed at a higher level than usual with the idea of neutralizing the region of the stomach concerned. The appendix was so obviously diseased that it was hoped to effect a cure by gastro-enterostomy and appendicectomy. The patient was a bad surgical risk, and excision was not performed. The result was unsatisfactory. In the second case the ulcer was not excised, but in addition to gastro-enterostomy a Coffey's gastro-colo-plexy with elevation of the falciform ligament of the liver was done. Although according to many authorities the treatment was unorthodox the result was satisfactory.

Group 6.—This group consists of two cases complicated by cholecystitis; the end-results were good.

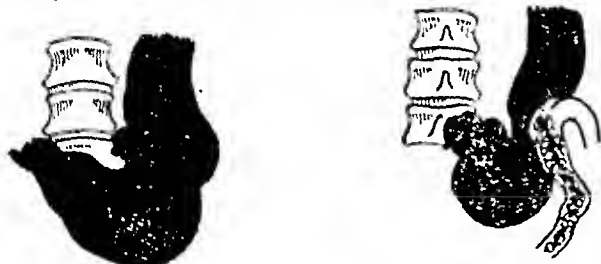


FIG. 3.

FIG. 4.

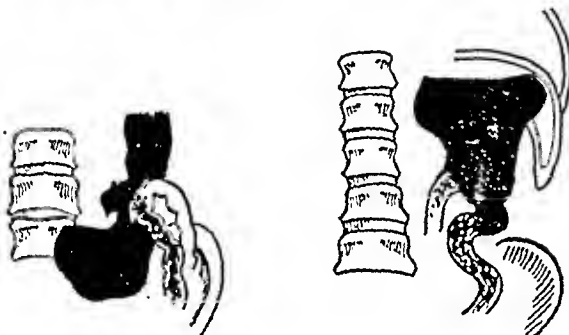


FIG. 5.

FIG. 6.

FIG. 3.—Drawing from x-ray photograph in Case No. 63. An ulcer which recurred after excision and gastro-enterostomy.

FIG. 4.—Drawing from x-ray photograph of same case as Fig. 3. Showing condition three months after excision and high gastro-enterostomy. About this time symptoms began to recur.

FIG. 5.—Drawing from x-ray photograph of same case as Fig. 3. Showing ulcer re-formed nine months after excision and gastro-enterostomy.

FIG. 6.—Drawing from x-ray photograph of same case as Fig. 3. Showing end-result after partial gastrectomy performed nine months after original operation. No further symptoms to date.

Group 7.—This consists of ten cases of non-malignant hour-glass stomach. The immediate results, it will be seen, include three deaths. Although the cases were poor surgical risks the results are disappointing. In the first fatal case I had no opportunity of seeing the patient after operation, but was informed that she suddenly collapsed on the third day. In the second fatal case the patient died of pneumonia. In the third case there was persistent vomiting in spite of repeated lavage of the stomach and elevation of the bed, and when I had decided to reopen the abdomen the patient unexpectedly collapsed and died. The operation was an anterior Polya. Rightly or wrongly, death was attributed to acute gastric dilatation. Rendle Short records cases where the opposite sides of the stomach stick or grow together, and thinks it worth while to hang a rubber dam between them before completing the anterior layer of stitching. This is the only case I can recall having lost in this way, and I hardly think a rubber dam would have saved the situation.

Looking at the complicated cases as a whole it will be seen:

(1) The immediate mortality is disappointing: 3 patients died from pulmonary complications, 1 from acute dilatation of the stomach, and 1 from collapse.

(2) The end-results after a year of those that survived were as follows: All gastrectomy operations—good. All gastro-enterostomies and excisions—good, save one where the ulcer recurred, necessitating gastrectomy. Two cases of high gastro-enterostomy alone—unsatisfactory. Whether it was the high position of the stomach or the non-excision of the ulcer that was responsible for failure in the last-mentioned cases is not quite clear; I hope to have a further opportunity of investigating them. At present complaint is made of pain and flatulence, but there is some degree of improvement, and the patients are for the moment reluctant to have any further x-ray examination or treatment.

## Analysis of 80 Cases of Complicated Gastric Ulcers.

	Record No.	Condition.	Operation.	Result.
Group 1	10	Ulcer with pyloric tumour	Hillroth II	Good.
	135	Ulcer with pyloric tumour	Polya	Died (pulmonary).
Group 2	27a	Large ulcer, lesser curvature	Polya	Good.
	63	Large saddle ulcer	High G.E. and excision	Recurred—Figs. 3, 4, 5, and 6.
	78	Perforating ulcer (spleen and pancreas)	G.E. and excision	Good.
	92	Perforating ulcer (pancreas)	G.E. and excision	Good.
	97	Perforating ulcer	G.E. and excision	Died (pneumonia).
	120	Large pyloric ulcer	Polya	Good.
	123a	Large saddle ulcer	Polya	Good.
	126	Ulcer, adhesions lesser sac	Polya	Good.
	137	Large ulcer, perforating mesocolon	Polya	Good but recent (slides).
	150	Large saddle ulcer	Polya	Good but recent.
Group 3	29	Ulcer high up	G.E., excision of ulcer, appendicectomy	Good.
Group 4	47	Multiple ulcers	High G.E.	Unsatisfactory.
	85	Two ulcers (one quiescent)	G.E. and excision	Good.
	107	Two ulcers	Polya	Good.
Group 5	49	Ulcer and ptosis	High G.E., appendicectomy	Unsatisfactory.
	114	Ulcer and ptosis	G.E. and Coffey's operation	Good.
Group 6	81	Ulcer, adhesions and gall-stones	G.E., cholecystectomy	Good.
	110	Ulcer and gall-stones	G.E., cholecystectomy	Good.
Group 7	38	Non-malignant hour-glass with gall-stones	Polya; cholecystectomy; appendicectomy	Good.
	39	Non-malignant hour-glass	Polya; appendicectomy	Good.
	62	Non-malignant hour-glass	G.E.	Good.
	71	Non-malignant hour-glass	Excision, gastroplasty, and anterior G.E.	Good.
	83	Non-malignant hour-glass with large ulcer	Polya	Good.
	100	Non-malignant hour-glass	Polya	Died (collapse).
	16x	Non-malignant hour-glass	Polya	Died (pneumonia).
	17x	Non-malignant hour-glass	Polya	Died (acute dilatation).
	42x	Non-malignant hour-glass	G.E.	Good.
	45x	Non-malignant hour-glass	Polya	Good.

G.E.=gastro-enterostomy.

In gastric ulcer, as in duodenal and gastro-jejunal ulcer, Morton's experiments have brought us appreciably nearer to an accurate understanding of the etiology, but have not brought us quite to the central point of the problem. He has for the first time succeeded in transforming an acute gastric lesion into a typically chronic ulcer. Again, the method employed is duodenal drainage, and again the clinician is left with the question as to what in the clinical case of gastric ulcer corresponds to duodenal drainage in the experiment; and what is it in the clinical case which corresponds to the experimental acute gastric lesion which duodenal drainage transforms into the typical chronic ulcer?

In speaking in Manchester on the subject of gastric ulcer I cannot refrain from allusion to the discussion in which Manchester bore so important a part. In spite of the findings of the Manchester Committee and of the modified form in which Charles Mayo recently stated the doctrine of the origin of cancer in benign ulcer, I see from the Mayo staff proceedings in January, 1928, that McCarty reiterates his conviction that nearly all ulcers of a diameter of 2.5 cm. and over are malignant, and that in 12 per cent. of apparently benign ulcers a cytoplasia of cancerous nature—not to be recognized in sections stained by ordinary means, but recognizable by special histological methods—is present. The only aspect of the question on which I can from my own cases express any opinion is the clinical one.

In none of the ulcers on which I have operated by simple gastro-entrostomy have we found anything in the "follow-up" to suggest the subsequent development of cancer. Further, as will be seen from the tables, all large ulcers and many of the smaller have been excised—sometimes by themselves, at other times as part of the stomach removed in partial gastrectomy. I have not kept all measurements, but in a good proportion of the cases the ulcer was the size of a five-shilling piece or half-crown (see Fig. 7), without any

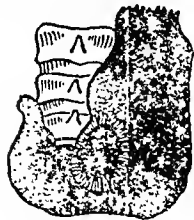


FIG. 7.—Drawing from x-ray photograph in Case No. 157. An example of a large-sized non-malignant ulcer of the posterior wall, eroding pancreas, and transverse mesocolon.

histological evidence of malignancy and without subsequent recurrence. On the other hand, all malignant ulcers which I have encountered have been of the size of a five-shilling piece and upwards.

In no case of ulcer, large or small, has cancer subsequently developed where the histological findings on the specimen removed at operation were non-malignant.

The immediate mortality in the various groups is almost entirely due to pulmonary complications. To what extent are these pulmonary complications the result of the anaesthetic? The matter has been debated many

times. Personally I think the anaesthetic is usually responsible. I have not had an opportunity of using ethylene, which American surgeons find such a help. The danger of pushing anaesthesia to the point of complete relaxation, and the consequent difficulty in closing an incompletely relaxed abdomen, have been held responsible for many of the ventral hernias in the upper abdomen. Inasmuch as this complication is common to all abdominal operations I have not included cases of post-operative hernia as unsatisfactory results in the figures above given.

In the choice of a site for the abdominal incision which will avoid ventral hernia surgical opinion is swinging back to the mid-line, where the interlacing fibres give a secure grip to the sutures. Personally I like to reinforce the continuous catgut in the essential layer with "figure of 8" silk-worm-gut sutures held taut on a frame. Since adopting this method I have so far had no ventral hernia in any gastric or duodenal case, although many times the condition of the patient did not warrant pushing the anaesthetic to complete relaxation, and in some cases, especially in perforation, the wound did not heal without some suppuration.

## TUMOURS OF THE FRONTAL LOBE OF THE BRAIN.

BY

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Tumours of the frontal lobes of the brain anterior to the pre-central gyrus are notoriously difficult to diagnose. The following three cases in which the necropsies were performed within a period of less than three months seem to be worth recording because they form a group in which there was considerable similarity, and they indicate the chief lines of a general clinical picture.

### CASE I.

An engineer, admitted to the National Hospital, Queen Square, had felt perfectly well up till March, 1926; one morning in that month, after walking a few yards from his house, he ran back, mounted the stairs two at a time, stooped to pick up a book, and fell unconscious. When his wife reached the room a few moments later he was still unconscious, was foaming at the mouth, and had bitten his tongue; his face and jaw were twitching, but not his limbs, and there was no incontinence. It is said that the attack lasted ten to fifteen minutes; the patient did not then recover consciousness, but appeared to pass into a sleep, from which he could not be roused. After several hours of sleep he had another fit, described as "most violent," in which he "struggled" with all his limbs. After a few hours' more sleep he recovered consciousness and complained of severe headache, but nothing abnormal was noticed about him; his mental condition was that of a patient who had had a severe illness, and he was content to commit himself unreservedly to the care of others. Subjectively the patient recovered considerably in a few days, but his mental state of docility

persisted more or less. He returned to his work and seems to have performed it normally for three months; at the end of that period he had another fit. This, like the former, was a generalized seizure with unconsciousness; after this he did not return to work. For the next six months he was free from gross symptoms, but there was some slight mental deterioration; he lost his initiative, relied increasingly on his wife, and became so forgetful and absent-minded that he could not be trusted to go out alone. He does not seem to have been troubled with headaches during this period. On Christmas Day, 1926, he had a severe headache; this persisted throughout the next day and led up to another fit in the afternoon of December 27th. My first examination was made about ten days after this third seizure. The patient then had had continuous headache, not, however, of any great intensity, since the occurrence of the last fit.

This examination in January, except for a certain abnormal mental state and two objective signs to be mentioned later, revealed nothing abnormal. No defect could be discovered in the motor or sensory functions; in particular, the optic discs were normal, as also were the visual acuity and the visual fields. The sense of smell was intact in both nostrils, and odours could be distinguished and named. The cerebro-spinal fluid showed no cells and no excess of protein; the Wassermann reaction was negative both in the fluid and blood. An x-ray examination of the skull gave no indication of any bony change. The two slight signs referred to were an occasional fine tremor of the hands, such as is commonly seen in nervous patients at a first examination, and an exaggerated flexor response in the plantar reflexes. The patient remained in hospital for four weeks, and during that time had frequent headaches, but after the lumbar puncture the headache ceased for several days. After investigation he was allowed to go home (he said that he "felt quite well"), and was instructed to report himself if any new symptoms developed. Bromide and luminal were given during this time. After two months the patient returned to the outpatient department, complaining of a loss of vision and the occurrence of "petit mal" attacks—momentary losses of consciousness about three times a week. It was found a week later that the visual acuity of the left eye had diminished to 6/60 and that of the right to 6/9. The left disc showed some doubtful pallor of its temporal half and the right appeared normal; colours of small objects could not be distinguished in any part of the field of the left eye.

The patient was again admitted to hospital under my care on April 9th, 1927. At that time, more than a year after his first fit, his condition was as follows. He answered questions and behaved intelligently, and had no delusions or hallucinations, but he did not seem to realize fully the seriousness of the threatened blindness. He was probably somewhat deficient emotionally, and was slightly euphoric; there was less than the usual emotional modulation in his voice. His speech was tremulous and slow, but there was no aphasia; his memory was bad. The sense of smell was still normal on both sides. The vision was seriously impaired. In the right eye there was a central scotoma, which was quickly enlarging, though the disc appeared normal. In the left eye acuity was reduced to counting fingers at half a metre, and the central and upper temporal parts of the field were completely obliterated; on the disc there was some temporal pallor. The pupil reactions and eye movements were normal. The right palpebral fissure was wider than the left, suggesting slight weakness of the right facial muscles, but such weakness as there was did not affect voluntary movements. The remaining cranial nerve functions were normal. In the limbs no motor or sensory abnormality was found except that the patient was at times generally tremulous. This was a fine irregular tremor, not unlike that seen in early stages of general paralysis, and it affected his speech as well as his limbs. All the abdominal reflexes were brisk. The plantar reflexes were peculiar in that they were very briskly flexor: the slightest touch of the sole produced full and immediate flexion of the great toe, unaccompanied by any withdrawal of the foot. The gait was normal and there was no incontinence.

During May the vision rapidly deteriorated and the temporal parts of both discs became pale; the visual field of the right eye was almost entirely obliterated by enlargement of the central scotoma. An x-ray photograph of the skull now showed some change about the pituitary fossa, and rather open sutures suggesting intracranial pressure. It seemed that there must be a tumour involving the optic chiasma and the optic nerves, affecting the left side more than the right; it was decided to explore that region by operation. On June 22nd the operation was performed by Mr. Sargent, the exploration being made through a quadrilateral opening in the left frontal bone. Part of the temporal bone in the temporal fossa was extremely thin; the dura was very tense, and to relieve the tension about 40 c.c.m. of cerebro-spinal fluid were withdrawn by lumbar puncture. When the dura had been opened and the left frontal lobe was elevated a soft gelatinous-looking mass was seen protruding from under the frontal lobe, on the outer side of the olfactory bulb. It surrounded the left optic nerve and the chiasma, and from these structures a portion of it was dissected off; the site of origin of this growth could not be determined. This operation resulted in a considerable improvement in the patient's vision, and the wound healed uneventfully.

A few weeks later definite weakness of the right side of the face and right arm began to develop, and was accompanied by motor aphasia. At this stage (July 29th, 1927) the plantar reflexes were still of the same exaggerated flexor type as before, and stroking of the sole of the left foot caused flexion of the great toe on the right side as well as on the left; but by Oppenheim's method a feeble extensor response could be obtained on the left. During the last few weeks of his life the patient was emotional and very depressed. His general state gradually deteriorated, and he died on August 28th, 1927.

At the necropsy a very hard tumour was found on the medial



surface of the left frontal lobe; it reached the inferior surface of the lobe in the region of the olfactory tract and passed thence forwards to, but did not involve, the optic chiasma. The anterior clinoid processes were completely eroded; so that there was a hollow in front of the pituitary body. When the brain was cut, after hardening, the left frontal lobe was found to be filled with a firm whitish tumour-mass, which shaded off imperceptibly into the white matter of the brain; it involved the head of the caudate nucleus, and, medial to that, formed a rounded boss on the internal aspect of the lateral ventricle. It did not extend higher than the genu of the corpus callosum. Microscopically it was formed of a dense neuroglial network with rather scanty small nuclei (astrocytoma fibrillare).

#### Summary.

Onset of the symptoms with a severe convulsive attack; slight but increasing mental changes of the nature of a loss of initiative, loss of memory, increasing reliance on others, insufficient realization of his condition, euphoria; tremor of the hands and in the voice, not constant and not noticed when the patient was in bed; headaches; further convulsions and frequent "petit mal" attacks; a year after the onset rapid diminution of vision and partial atrophy of the optic nerves; flexor plantar responses of exaggerated briskness.

The necropsy confirmed the presence of a tumour in the left frontal lobe. A noteworthy negative feature was the absence until the last stages of the illness of practically all abnormal motor phenomena except tremor; there were no symptoms in the olfactory system, no speech symptoms, and no ataxia.

#### CASE II.

An electrician, aged 34, seen by me at the London Temperance Hospital, had been employed in Greece, where it was his duty to instruct and supervise native workers. Seven months before his admission to hospital he had begun to make stupid mistakes and had become useless as a supervisor; he was forgetful, and was dismissed by the firm for "slackness." Three or four months before admission he began to suffer from headaches; he referred the pain chiefly to the right mastoid region, where he had had an injury some years previously. He had never had a fit. There was no history of vomiting. At times he was excessively drowsy.

In giving his history he made mistakes in dates and in periods of time. When I examined him on October 11th, 1927, he did not know the date, and had not even an approximate idea of the length of time he had been in hospital. He was slightly euphoric. He seemed to have little understanding of discipline, and broke the rules of the hospital in regard to smoking, but evidently without any malice or appreciation of wrong-doing, or even of the fact that he was doing anything unusual. He was, in fact, very submissive when addressed. Sometimes during examination he would do something other than he was asked, apparently because he failed to form a correct idea of the action which was required of him (ideational apraxia). Repeatedly when asked to show his teeth he put out his tongue, and he did not realize his mistake. He answered questions intelligently, and could read and describe what he had read, and could write.

There was no loss of smell. The optic discs may have been a little blurred in the upper nasal quadrants, but were not definitely pathological; the visual fields responded normally to finger tests, and the pupils and eye movements were normal. There was a slight "smoothness" or emotional weakness of the left side of the face at rest, but no weakness was seen in voluntary movement. The remaining cranial nerve functions were normal. In the arms power, sensation, tendon-jerks, pointing tests, and the control of fine movements were all normal; there was no persisting hand-grasp. While the patient was lying down there was usually no tremor of the hands, but when he sat up there were frequent short attacks of gross irregular tremor like that of general paralysis, more marked, if anything, in the left hand than in the right. All the abdominal reflexes were brisk. In the lower limbs power, sensation, and tendon-jerks were normal. The plantar reflexes were both briskly-flexor in an extreme degree; the merest touch of the sole causing full and immediate flexion, without any withdrawal of the foot such as occurs when the sole is very sensitive; with persistent stimulation the flexor response on the left side seemed to tire, and gave place to a slight extensor reflex, with some withdrawal at the knee. When the patient stood up he tended to fall backwards, and when walking he was inclined to deviate to the right. He had incontinence (of the mental type) of both urine and faeces. The cerebro-spinal fluid was normal in its cellular and albumin content, and the Wassermann reaction was negative both in this fluid and in the blood. There was a slight irregular rise of temperature, and the pulse rate was consistently about 60 per minute. The opinion was expressed that the cause of the symptoms was a tumour, or possibly chronic abscesses, involving both frontal lobes, but chiefly the right.

On October 20th the patient had a convulsion, and after several hours of unconsciousness he died. The necropsy was performed at the hospital by Dr. Sanguinetti. In the horizontal section of the brain, passing through the genu of the corpus callosum, there was a tumour on the right side as large as a pigeon's egg, just anterior to and touching the caudate nucleus. It lay right in the path of the fibres of the "forceps minor" radiating out into the front lobe from the corpus callosum, and at this level it was well demarcated, but it extended downwards and forwards into the lobe, and there its boundary was less definite. On the left side there was a mass of tumour, probably of later development, occupying the medial part of the frontal lobe just anterior to the corpus callosum; its outline was much less definite than that of the tumour on the right side. Microscopically the growth was a polymorphocellular sarcoma.

#### Summary.

Gradual development of mental symptoms—loss of mental "sharpness," stupid mistakes, inability to supervise others, loss of memory, later intentional apraxia; headaches; tremor of the hands like that in general paralysis of the insane; tendency to fall backwards when standing and to deviate to the right when walking; excessively brisk flexor plantar responses; slight left facial weakness at rest and slight extensor plantar response on the left side with persistent stimulation.

The presence of a bilateral frontal lobe tumour was verified after death. The absence of definite optic disc changes and of vomiting, of olfactory symptoms, aphasia, and all kinds of paralysis should be noted.

#### CASE III.

An unmarried woman, aged 58, a boxmaker, came to the out-patients' department at the National Hospital, Queen Square, on November 1st, 1927; she was said to have suffered from depression for about a year, but until July 15th she was otherwise well. On that day she had a fit, without warning, in the street. After this she was "not quite herself," though she returned to her work and seems to have carried it on normally. During this period it was observed that she often rubbed her nose as if it itched. She remained at work until September 18th, when she was more depressed than usual, and during the afternoon she fell down in a fit. This was the first of a series of fits which lasted till 11 o'clock the next morning, and the patient was more or less unconscious for forty-eight hours. Early in the attack she was removed to a hospital; when she recovered consciousness she had no paralysis or aphasia, and she left the hospital after a stay of five days. She was able to dress herself and walk to the car which took her home. After her return her manner was strange; she was "absent-minded" and confused, her memory was bad, and she could not be trusted to do ordinary things, such as to dress herself, because she would make mistakes; she had to be directed constantly and was very docile. About a month later she began to "worry about things which she ought to have known were perfectly all right." She had frequent headaches and sometimes complained of pain over the right eye.

When I addressed a question to her at the out-patient department she did not answer, but turned to her companion as though to shift the onus of answering on to her. But when an answer was required of herself she stated her name, age, address, and some of her complaints correctly. Only in answer to one question regarding the duration of a symptom did she say, "I don't remember." Her speech was somewhat slow and monotonous, but there was no aphasia. Physical examination revealed no abnormalities in the cranial nerve functions or any changes in power or sensation in the limbs. The tendon-jerks were brisk, the right plantar reflex flexor, and the left doubtfully extensor. There was a general rhythmical tremor of the hands, and the patient volunteered the statement, which was confirmed by observation, that the tremor was more pronounced in the left hand than in the right; the difference was, however, variable. All the abdominal reflexes were weak. The provisional diagnosis was "frontal tumour, right or bilateral."

She was admitted to hospital under my care two days later. Her general condition quickly became worse; she was very drowsy, tended to become comatose, and was incontinent of urine and faeces. The cerebro-spinal fluid was under high pressure (300 mm. aq.); it contained a very large number of cells (270 per mm.), of which nearly all were polymorphonuclears, and it had a very high protein content (0.130 per cent.). This cerebro-spinal fluid analysis suggested the presence of an abscess, but several other features of the case were opposed to that view. However, in case an abscess might be present, and in the hope of relieving the patient's general condition by cerebral decompression, it was decided to operate. On November 8th Mr. Armour exposed the right frontal lobe by a fronto-temporal craniectomy; in the posterior portion of the second frontal convolution there was a small brownish tumour, about half an inch in diameter, slightly raised above the surface of the neighbouring convolutions, and this was removed. After the operation the patient remained in a very drowsy and feeble state for three days and then died.

At the necropsy, when the brain had been hardened, section revealed no other mass in the right frontal lobe, but in the left frontal lobe there were several masses similar to that which had been removed from the right; these masses extended almost to the tip of the lobe and across the genu of the corpus callosum. The whole of the left frontal lobe was much larger than its fellow. Microscopic section of the mass removed at operation showed that it was a glioma. The masses in the left lobe had a similar structure, and the remainder of the left frontal lobe was filled with gliomatous tissue unusually rich in fibres. Such tissue would probably interfere little with the functions of the nerve cells of the part.

#### Summary.

A woman, aged 58, suffered from unusual mental depression for several months and then had a convulsive attack; after an interval of two months a very severe series of convulsions occurred. Mental changes then became apparent—confusion, loss of memory, liability to make mistakes in everyday duties, abnormal reliance on others; headaches became frequent; tremor of the hands was observed. Towards the end the plantar responses had become not flexor, but indefinite.

After death a tumour was found involving both frontal lobes. The absence of signs and symptoms in the olfactory and visual systems and the absence of aphasia and of paralysis of every kind are noteworthy.



The difficulty in the diagnosis of frontal tumours lies in the paucity of the reliable physical signs and symptoms. Headache, vomiting, and papilloedema are still regarded as the cardinal signs of an established cerebral tumour, but in frontal lobe cases vomiting and papilloedema do not usually develop, and frontal tumours must be diagnosed in their absence. The absence of all recognizable paralysis and of aphasia has been noted in the foregoing cases. Only when the tumour lies towards the posterior part of the frontal lobe are such signs to be expected, the growth then being sufficiently near to the pre-central convolution, or to Broca's area or the insula, to interfere with the function of these parts by actual destruction or by oedema.

Generalized headache such as occurred in all three cases must be the result of increased intracranial pressure; it is therefore unlikely to occur until the growth is large enough to give rise to some dislocation of the brain and consequent impediment to the outflow of cerebro-spinal fluid from the ventricles. In none of these cases was the general headache intense until other symptoms had been established. In Case III pain over the left eye was one of the patient's most frequent complaints; such local pains are probably due to a local stretching of the dura or to erosion of bone.

Convulsions were an early symptom in two out of the three cases, and were the first definite indication of disease. They occurred at a time when nothing abnormal was to be made out, except perhaps some vague mental change. They were generalized attacks, associated with prolonged headache, and sometimes with continued unconsciousness. Attacks of such severity and of such absolute suddenness are rarely caused by tumours in other parts of the brain. In one case typical "petit mal" attacks also occurred.

The mental alterations met with in frontal tumour cases are not specific for tumours of this localization; similar changes are common in cases of tumours in other parts of the brain if there has been prolonged intracranial hypertension; but when they are encountered in the absence of papilloedema these mental changes certainly have a localizing value. The most constant psychical modification—one which was met with in all these cases—is an abnormal submissiveness or docility, and a child-like reliance on others; with this goes a loss of initiative. Some loss of memory is frequent, and confusion may occur: the patient may become liable to make mistakes and omissions in everyday actions, and in this way act indecently. The incontinence which occurred towards the end in two of these cases is to be regarded as a symptom of dementia and not as the result of any paralysis. The first patient of this group was somewhat euphoric; none of them showed that tendency to make a joke at every remark (Witzelsucht) which is probably more indicative of a frontal lobe lesion than any other single mental symptom. These mental changes occur with frontal tumours of either side of the brain.

Tremor was the only observed clinical sign except the mental changes which was common to all three of these cases. In the first patient it was a slight general tremulousness, which at first attracted little attention, but it was more pronounced when the patient was seen in the outpatient department than when he was at rest in the ward. I cannot say now whether it was greater on one side than on the other. In the second patient the tremor was most pronounced, and in his case it was a coarse tremor occurring in frequent short attacks each lasting a minute or so. These attacks seemed to be more likely to come on when he was sitting up or standing than when he was lying down; they usually affected both hands, but on one occasion, while in bed, he had a paroxysm of trembling affecting the left side only. The third patient's tremor, like that of the first, was a fine tremor, but it was more regular. It was more easily perceptible by palpation than by sight, and might easily have been overlooked; moreover, it was bilateral. A tremor affecting the side of the body on which the tumour was situated was described in frontal lobe tumour cases by Dr. Grainger Stewart, and it is generally accepted that the tremor of these cases is homolateral. In two of my cases the tremor was bilateral, the tumour being bilateral also, but even in the third case, in which the tumour was confined to the left side, the tremor affected both sides in some degree. So far as I am aware

there is no reason for referring this tremor to destruction of any particular part of the frontal lobes.

Reflex changes in all these cases were few. The tendon jerks were within normal limits; the abdominal reflexes were present in all, and in the first two were brisk. The plantar reflexes were indefinite in one case, but in the other two cases they were peculiarly exaggerated. The slightest touch to the sole of the foot caused full and immediate flexion of the great toe; the patients showed no signs of unusual sensitiveness of the sole of the foot and made no voluntary withdrawal or other movement. In both cases the phenomenon was bilateral, and in the first case, in which the tumour was on the left side, stimulation of the sole of the right foot caused brisk flexion of the great toe, not only on the right foot, but also on the left movement on the left side occurring a little later than that on the right. Stimulation of the left sole caused flexion of the left toe only. The exaggerated plantar response was one of the earliest abnormal signs in Case I, being present at the time of my first examination of the patient, when no other abnormal physical signs were to be found. I have met this same phenomenon in two other cases in which there were meningeal tumours affecting the frontal lobes by pressure, but I am unable to say whether it is confined to cases of frontal lobe lesion. It is worth of notice that while this phenomenon was actually present an extensor response could be obtained in Case I by Oppenheim's method, and in Case II after persistent stimulation of the sole, the flexor response seeming to tire. The observation of the "crossed flexor response" in Case I was made by Dr. Ferguson, house-physician at the Nation Hospital. This peculiar sign could be obtained constant from the time when it was first noticed up till the patient's death a month later; it is evidently a further development of the exaggerated flexor response, and its occurrence is evidence that the exaggerated flexor response is definitely a pathological sign.

Of the signs which may arise in the olfactory and visual systems little need be said. A unilateral anosmia is of more precise value than almost any other sign of frontal tumour, but unfortunately it rarely occurs early, and, in the first case described, it was entirely absent until other signs had put the diagnosis beyond doubt. Optic interference, if unilateral, is also very valuable, but bilateral visual defect such as occurred in the first of these cases has so many more common causes that it is likely to mislead.

The ataxia encountered in the second case is a well known sign in frontal tumours, but in my experience only met with at an advanced stage of the disease, and both for this reason and on account of the difficulty of distinguishing it from the ataxia of a cerebellar lesion, it is of little practical value for diagnosis.

#### *Differential Diagnosis.*

Even when one is faced with definite clinical signs the diagnosis of these cases has to be made from general paralysis of the insane, cerebral syphilis, cerebral vascular disease, disseminated sclerosis, Schilder's disease, and other forms of gliosis, and also from tumours of the temporal lobe. The Wassermann reaction, the age of the patient, and the general state of the circulatory system may rule out the first three of these. Disseminated sclerosis is likely to cause more reflex changes than frontal tumour, while the other diffuse diseases are likely to be eliminated by the age of the patient or the rate of progress of the malady. The occurrence of severe generalized headaches is a point in favour of a neoplasm, and the cerebro-spinal fluid pressures measured at lumbar puncture may give more precise evidence of its presence. Temporal lobe tumours usually bring about an homonymous visual field defect, they cause papilloedema relatively early, and they do not give rise to tremor. In the presence of merely the earlier signs of frontal tumour the most difficult point may be to determine on which side the tumour lies. The mental changes do not help to decide this, but the preponderance of tremor on one side indicates that the tumour is on the same side; any visual, olfactory, speech, or motor signs are likely to settle the point. The great tendency of frontal lobe tumours to become bilateral must be borne in mind.

## Summary.

Three cases of frontal lobe tumour are described, in two of which the growths were bilateral.

The only observed clinical signs which were common to all three cases were mental changes and tremor.

In two cases severe generalized convulsive attacks constituted the first definite symptom.

Attention is drawn to a peculiar exaggeration of the plantar reflexes encountered in two of the cases.

## TUMOUR OF THE BRAIN SIMULATING ENCEPHALITIS LETHARGICA.

BY

S. McCLEMENTS, M.R.C.S., L.R.C.P.

THE rarity of a cerebral tumour giving rise to the clinical picture of encephalitis lethargica in its early and penultimate stages is so marked that the following case deserves attention.

A man, aged 57, had a mild attack of influenza in April, 1926, and was reported as completely well in the third week of the following month. Four weeks later an insidious onset of drowsiness and lethargy began, and was followed in a few days by dimness of vision for near objects. The drowsiness gradually deepened for four weeks, and the patient complained of double vision; the temperature during the same period oscillated between 98° and 100° F. The period of stupor reached its height at the end of July, and was followed by marked improvement in the patient's condition, as shown by his taking an increasing interest in his surroundings and in the disappearance of diplopia. Except for spasmodic twitching of his legs he had almost regained his normal health in September. In October and December, 1926, and April, 1927, he had relapses which were followed with marked improvement, although it was noticed that each successive improvement left the patient a little more stuporous. In June, 1927, he became markedly lethargic, and on July 13th he was admitted to hospital for treatment, his condition having been definitely diagnosed by a neurologist as encephalitis lethargica. On admission his temperature was 98° F., and his pulse 74. He continued in a stuporous condition, but when awakened his mental condition appeared quite clear and he was able to answer questions in a rational manner. The face was smoothed out and expressionless, the eyelids were in a condition of ptosis, his voice was monotonous, but not indistinct, his right eye showed an internal strabismus, and on being questioned he said he saw two fingers instead of one which I held before him. There was dimness of vision for near objects, the pupillary reflex to light was absent on the right side and sluggish on the left; reaction to accommodation was normal. The tendon, abdominal, and plantar reflexes remained unaffected.

Although signs of improvement were occasionally manifested the stupor gradually deepened, and the vision of the right eye diminished so rapidly that a more detailed ophthalmological examination was made. The ocular reflexes had not altered since the previous examination; there was paresis of the external rectus on the right side, associated with well-marked papilloedema of the right optic disc, and the retinal veins of the left fundus appeared slightly swollen. These findings pointed to the probability of a neoplasm localized to the right frontal region of the brain, producing pressure on the right second and sixth cranial nerves and causing the papilloedema.

A cerebral gumma being suspected as the cause of the mischief a Wassermann test of the blood was performed; the reaction was positive. Antisyphilitic treatment, in the form of potassium iodide and liquor hydrarg. perchlor. internally, and neosalvarsan intramuscularly, was started at once, but there was no response, and the patient died on November 30th, 1927, eight weeks after the commencement of the treatment.

The autopsy revealed a spherical tumour, two inches in diameter and gelatinous in consistency, lying in a smooth walled cavity of the right frontal lobe of the cerebrum; posteriorly between the tumour and the wall of the cavity was a clot of blood an inch long and a quarter of an inch broad.

The points of interest in the case are:

1. The earlier symptoms—namely, gradually progressing drowsiness, dimness of vision, diplopia, ptosis of eyelids, and occasional slight rises of temperature—were identical with the clinical manifestations in a large group of cases of encephalitis lethargica.

2. Complete absence of headache and vomiting, which are almost invariably present in the later stages of cerebral tumour.

3. The importance of ophthalmoscopic examination of the eyes in every case pointing to a lesion of the central nervous system.

It is very much regretted that there was no histological examination of the tumour; perhaps an expert in neuropathology would venture an opinion as to the nature of the neoplasm.

## ISOLATION OF *B. TYPHOSUS* FROM SEWAGE AND SHELLFISH.

BY

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THE danger of consumption of sewage-contaminated water, shellfish, watercress, etc., is a cardinal article of the hygienist's faith, but hitherto it has not been possible to find objective evidence by the cultivation of the typhoid bacillus from the sewage. By the use of a new technique I can now demonstrate on an average the presence of one typhoid bacillus in each cubic centimetre of Belfast sewage.

Sir Alexander Houston<sup>1</sup> in 1913 and 1914 examined 23,353 non-lactose fermenting colonies developing on plates inoculated mainly with samples of London (Barking) or Hendon sewage, and also with individual samples from Dublin, Belfast, Edinburgh, and Aberdeen. He was unsuccessful in isolating a single *B. typhosus*, and concluded that the typhoid bacillus is not uniformly present in 0.00066 c.cm. of crude sewage, and that this amount of sewage contains 704 excretal bacteria per cubic centimetre. Dealing with the difficulties of the task Houston writes:

"Sewage contains such an enormous number of bacteria that it is quite impracticable to examine more than a very small amount of this material. For example, to examine one cubic centimetre of crude sewage for typhoid bacilli by the direct plating method would mean making at least 1,000 special plate cultures and at least 20,000 primary subcultures, not to speak of the secondary and other cultures for the purpose of differentiation. It is, however, quite practicable to work with as much as 0.01 c.cm. of sewage spread over from 10 to 20 special plates, and therefore to make 200 to 400 primary cultures."

Non-lactose fermenting organisms are so common in sewage that many thousands or hundreds of thousands of such colonies would require to be examined in order to isolate a single typhoid bacillus. For example, in Belfast sewage I find that on an average 400,000 to 500,000 organisms develop from 1 c.cm. on MacConkey lactose bile salt agar plates, and that of these more than one-half are non-lactose fermenters. In such sewage I have found about one typhoid bacillus in each cubic centimetre, so that, using the MacConkey medium, there would have been a chance of isolating the bacillus if 250,000 non-lactose fermenting colonies had been tested. In all probability, even after such a Herculean effort, failure would have resulted, as the chances are that the typhoid bacillus would not have had a clear space on the plate to develop, and its growth would have been obscured and inhibited by the coliform colonies. The addition of brilliant green to the medium would doubtless render the isolation of *B. typhosus* from sewage not quite so difficult, but even so the chances against a non-lactose fermenting colony being composed of typhoid bacilli would be many thousands to one. In the examination of sewage for the presence of *B. typhosus* I therefore made use of the glucose-sulphite-iron-bismuth-brilliant green medium of Wilson and Blair,<sup>2</sup> the efficiency of which depends on two original observations of mine: (1) *B. typhosus* in the presence of a fermentable carbohydrate is able to reduce a sulphite to a sulphide, and so to form a black colony in the presence of an iron salt. (2) Bismuth sulphite in the presence of a certain excess of sodium sulphite suppresses the growth of most coliform bacilli; in the presence of brilliant green the selective action is intensified. This medium has in my hands rendered the isolation of *B. typhosus* from enteric stools one of the easiest procedures in applied bacteriology, and recently by means of it B. A. Adams<sup>3</sup> has isolated the same bacillus from the excreta of seagulls.

When 0.5 to 1 c.cm. of sewage is poured over the surface of a plate of the medium and allowed to dry, and is then incubated for twenty-four hours at 37° C., black colonies with a metallic halo are developed, and also light green colonies of *B. proteus*. It is among the black colonies that *B. typhosus* is to be sought. All the black colonies, if subcultured on MacConkey or Endo medium, will be found to consist of non-lactose fermenters, so that these media are not very helpful in distinguishing between colonies of *B. typhosus* and those of other reducing bacteria. It was found that a very large proportion of the black

colonies simulating those of *B. typhosus* were saccharose fermenters, so that the use of saccharose in a modified Endo medium enabled me to distinguish rapidly between them and those of *B. typhosus*. The principal organism forming these black colonies on the bismuth sulphite medium is present in most specimens of sewage, but has not so far been found by me in faeces. The chief characters of this organism, to which I have given the name of *B. effluviai*, are as follows: A Gram-negative actively motile bacillus with growth on agar resembling *B. coli*; in liquefying gelatin and in being negative to methyl red and giving a positive reaction to the Voges-Proskauer test, it resembles *B. cloacae*, from which it differs in its reduction of sulphites and in being a non-lactose fermenter. It grows in Koser's citrate solution. It ferments glucose, maltose, mannite, saccharose, and starch, with the production of acid and gas, and has no action on lactose, dulcitol, and salicin. It forms indol and digests inspissated serum.

The *B. effluviai* is probably related to the *B. proteus* group, although it ferments mannite and does not decompose urea.

### Material Employed.

Crude fresh-screened sewage was taken from the combined sewage of the upper and lower level sewers of Belfast on its way to the sedimentation tanks. On three occasions the samples were taken at 10 a.m., on the fourth at 2 p.m. The sewage was flowing along and was taken up in a sterile bottle, and may be regarded as representative of the ordinary dry weather sewage of Belfast. One sample taken on February 25th, 1928, gave the following figures on chemical analysis:

	Parts per 100,000.
Free and saline ammonia	1.4
Albuminoid ammonia	0.8
Oxygen absorbed, two hours, at 80° F.	4.0
Chlorine	25.0

On bacteriological examination it showed 480,000 colonies per cubic centimetre on a MacConkey plate, and of these 218,000 were lactose fermenters and 262,000 non-lactose fermenters. It also contained 200 spores of *B. welchii* per cubic centimetre.

The chief details in connexion with the isolation of the typhoid bacillus may be summarized as follows:

TABLE I.

Sewage.	Date.	Amount of sewage Planted Out.	No. of Black Colonies Examined	No. of Saccharose Fermenters.	No. of Non-saccharose Fermenters.	No. of Typhoid Colonies Found.
Belfast	1928, Feb. 16	4 c.cm.	31	27	4	4
Belfast	Feb. 25	11 c.cm.	67	60	7	2
Belfast	Mar. 8	10 c.cm.	64	50	14	7
Belfast	Mar. 12	5 c.cm.	71	56	15	8

The examination of 30 c.cm. of sewage resulted in the isolation of twenty-one strains of *B. typhosus*. The bacilli were not uniformly distributed in the sewage, some of the plates, yielding none and others several. Probably more bacilli were present than were isolated, and I am of opinion that at least one typhoid bacillus is present in each cubic centimetre of the ordinary, crude screened sewage of Belfast.

Whether the sewage of other cities and towns would yield similar results requires investigation. I may state that Belfast, although at present comparatively free from typhoid fever, was at one time one of the most typhoid-infested cities of Europe, and consequently would be expected to have many typhoid "carriers." From the annual report of the superintendent medical officer of health for Belfast for 1926 I may take the following figures.

Year.	Population.	Deaths from typhoid fever.	Annual enteric mortality rate per 10,000.
1897	310,000	354	11.4
1898	340,000	640	18.8
1901	350,862	341	9.7
1905	360,000	128	3.0
1911	386,449	15	0.4
1920	413,000	34	0.8
1926	416,000	6	0.1

During 1926 there were 84 cases of enteric fever notified in Belfast. It would seem, therefore, that in a town that has been exposed to onthbreaks of typhoid fever the ordinary sewage contains the typhoid bacillus, and that the sanitary policy which aimed at the formation of a clean environment—pure water, pure soil, and the rapid removal of excretal matter from premises—was sound. In such a town our results show that the specific infective agent is liable to be present in ordinary sewage. Nearly all the cases of typhoid fever notified are treated in an isolation hospital, the sewage of which, before discharge into the city sewers, is sterilized by steam; of the 84 patients with enteric fever in Belfast in 1926, 82 were treated in hospital. The source of the bacilli in the sewage is therefore probably mainly "carriers." While the bacilli remain in the sewage as such there is little danger of infection, but there is the possibility of the return of the typhoid bacillus to man again by contamination of the soil, by leaking drains and sewers, by contaminated water supplies, and by the consumption of shellfish living on sewage-polluted shores.

### Shellfish.

The facts relating to the isolation of *B. typhosus* from shellfish collected from Belfast Lough foreshore at Green-castle are as follows. On March 6th seven cockles were opened; the liquor was collected on a sterile Petri dish and was then transferred to nine plates of the special bismuth medium. Nine black colonies were studied, seven being saccharose fermenters and two non-saccharose fermenters; of the latter one proved to be *B. typhosus*.

The bacilli which I regard as being typhoid bacilli were actively motile and Gram-negative; they formed acid but no gas in glucose, maltose, and mannite agar shake cultures. No fermentation of lactose, saccharose, dulcitol, and salicin occurred; indol was not formed, and gelatin was not liquefied.

The bacilli were agglutinated to full titre by four different antityphoid serums, and were not agglutinated by normal serums in dilutions of 1 in 20. That the organisms were typhoid bacilli was established by means of absorption tests. It was found that those recovered from the sewage and the cockles removed from several antityphoid serums the agglutinins acting on them and on genuine typhoid bacilli.

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## A CASE OF PROGRESSIVE MUSCULAR ATROPHY OF THE PERONEAL TYPE;

TWENTY-ONE OF THE PATIENT'S RELATIVES BEING ALSO AFFECTED.

BY

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This syndrome was recognized as a distinct type, first by Charcot and Marie in 1886, and independently by Sir Howard Tooth in a thesis the same year. Several cases which were perhaps similar had been recorded previously, such as Osler's Star family in New York, and Meryon's patient in 1852. Herringham, in 1887, published an account of a family where eighteen members were all affected, Symonds brought forward one where nine suffered. Collier one with eight, while Beevor, Bryant, Ormerod, and Schultz have each reported families with three cases.

The disease is transmitted both in the male and in the female line; and there is not the great preponderance of males affected that we get in pseudo-hypertrophic paralysis. As Williams has remarked, however, there are instances where no relatives are affected, and others where several brothers and sisters develop the disease simultaneously for the first time in a family. It has several times appeared after a febrile disease, such as measles. It may commence in childhood, more often in the second or third decade. Generally the first wasting is seen in the feet or peronei on both sides, but occasionally it shows itself first in the hands

and forearms. The wasting and weakness extend very gradually to the upper segments of the limbs, and the muscles of the trunk and face are rarely affected even after thirty or forty years. Bulbar symptoms are unknown. It is important to notice that the reaction of degeneration can be found in some of the muscles in practically every case, while there may or may not be cramps, pains, coldness and lividity of the skin, fibrillary tremors, or slight sensory changes.

My patient, F. J., aged 33, married, with one child, is a strong and otherwise healthy man, in whom the condition first appeared when he was 19 years old. He was then an active footballer and member of a rowing club. He even now plays golf and finds no fatigue from a five-mile walk, though the disease has progressed steadily. The feet were first affected and then the hands and forearms followed. There is no history of any previous illness, and he has rarely required medical treatment. The great age which many of his relatives attained, even when affected like himself, is striking. His heart, kidneys, and lungs are normal, the expansion of his chest is 3 inches. The muscles of the trunk, face, eyes, throat, and tongue are unaffected. He can whistle and point the lips. The action of the bladder and bowels is normal. There is extreme wasting of the muscles of the feet and lower part of the legs, and intrinsic muscles of the hands, and the forearms, and slightly of the thighs. There is no movement at all in the toes or at the ankles; neither abduction nor adduction or flexion of the feet. The great toe and the others are flexed and quite motionless; the arch of the foot is preserved, and his gait in walking is surprisingly good, though slightly high-stepping. He flexes and extends the leg on the thigh and the thigh on the hip freely, but in getting up from the ground he likes a little assistance, such as putting his hand on his thigh, but he can bend down to touch the ground and rise up again easily.

Though the small muscles of the hands are so wasted, the grip is strong, and he has no difficulty in buttoning his clothes or in writing. Supination and pronation have escaped, but extension at the wrist is weak, and the hands when at rest take the claw form. There is little or no fibrillation or muscular irritability on percussion. There is no ataxy. He stands easily with his eyes shut, and the pupils react to light. The knee-jerks are present, but weak; the Achilles tendon-jerk is present, but there is no plantar reflex or clonus. He has no pain or cramps, and the sensation to light touch or pin-prick appears normal over hands, feet, and trunk. There is no reaction to either current in feet, calves, or hands, but some of the extensors at the wrists show reaction of degeneration—that is, no faradic reaction but good galvanic, with the positive pole equal to or greater than the negative.

In this patient, then, we get wasting of the distal segments of the limbs with loss of power, beginning in early adult life and steadily progressing. The reflexes are diminished and reaction of degeneration is present. Finally, it appears from his statements that eleven males and ten females of his family are similarly affected. In this family the first case recorded is that of the patient's great-grandfather, and out of fifty-four of his descendants twenty-one are already affected and others are not yet old enough. The disease seems to pass rather more readily by the male line than the female, and it has little effect on the duration of life. In a group of five brothers and sisters affected, two are alive aged 77 and 79, and three died at ages of 62, 82, and 86.

One would like to know whether the affection did actually begin with the great-grandfather. It cannot have existed many generations back at the present rate of increase, for the district would be full of cases; whereas the disease is always a rare one.

The type is clearly distinct from the myopathies. Thus—  
(1) Pseudo-hypertrophic paralysis has neither the distal distribution of wasting nor the reaction of degeneration, and it generally shows some muscles enlarged.

(2) The rare cases of distal myopathy, such as the one recorded by Gowers, appear to have the facial muscles involved and no reaction of degeneration.

(3) The Werdnig-Hoffmann type is really myelopathy, but the wasting begins in the proximal segments during the second and third years of life, and death usually follows in three or four years. Reaction of degeneration is found in these cases, and several may occur in one family.

(4) In amyotonia the trouble begins at birth or soon after. There is no definite wasting, but paresis of the distal segments which may improve if the patient survives. I think there is no affection of other members of the family here, but reaction of degeneration may be present.

My group of symptoms, then, differs widely from all these. The pathology of this peroneal type does not seem to have been made much clearer of late. The sclerosis in the columns of Goll and Burdach, and the lesions in the

anterior horn cells and in the peripheral nerves, appear to vary in intensity in different cases, but we are completely ignorant of the cause which produces them. Whether it be "a developmental weakness, an inherited susceptibility to some toxin," or a true infection, spirochaetal or otherwise, remains to be proved.

## REFERENCE.

*British Medical Journal*, 1902, ii, p. 89.

## PARALYSIS OF ALL FOUR LIMBS CURED BY REMOVAL OF A SPINAL TUMOUR.

BY

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AND

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A woman, aged 51, was admitted to hospital in October with complete paralysis of the right arm and leg and partial paralysis of the left arm and leg. She also complained of intense headache and gnawing and shooting pains in both arms; these were so severe that hypodermic morphine was needed to give her any sleep.

The history given was that fourteen months previously she had first noticed numbness in the right hand, but this did not bother her until in February she tripped over something and had a bad fall, which shook her considerably. After that she began to lose the use of her right arm. By May the arm was so weak that she had to give up her work, and she was beginning to drag the right foot. There was also then some aching pain in the shoulders and right arm. Early in July the right hand had become useless, and the trouble in the right leg had advanced so much that she could not walk, also the left leg was affected. By the end of August the right arm and leg were paralysed, and she could only move the left leg slightly, and there was weakness in the left shoulder.

On admission the right arm and leg were motionless; she could draw up the left leg slightly as she lay in bed. She could not abduct the left shoulder, but could adduct and rotate it, and flex the forearm. The grasp of the hand was very weak, and she could not feed herself with it. Both the trapezii were wasted, but not the arm muscles. Reflexes were increased.

She complained of intense headache and agonizing shooting and aching pains in both shoulders, and of "pins and needles" all over the body. The pain had been getting worse and worse for the past six weeks. There was anaesthesia of the right hand and forearm, and diminished sensation in the same area on the left arm. Sensation over the legs and body was less than normal, and distinction between heat and cold was not accurate. There was no incontinence, but it was difficult to get the bowels to act.

The neck could be rotated and flexed, and an x-ray photograph showed no disease of the bones. On lumbar puncture the cerebro-spinal fluid was not under pressure. It contained globulin in large excess, colloidal gold 55544,33221, Fehling reduced normally, no increase of cells. The Wassermann reaction was negative. The cerebro-spinal fluid of the cisterno puncture contained only a very faint trace of globulin, colloidal gold 01110,00000, no cells. It would be interesting to know if this striking difference in the cerebro-spinal fluid below and above the tumour occurs in other cases.

The diagnosis made was a lesion of the spinal cord about the level of the second cervical vertebra, and, on account of the intense pain, probably a tumour in the meninges pressing on the back of the cord. Mr. Beresford was asked to do a cisterno puncture and insert some lipiodol. X-ray photographs after this showed some lipiodol just above the level of the first cervical, and opposite the level of the first and second cervical vertebrae.

After the operation the movements of the left arm soon began to improve, next those of the left leg. It was nearly a month before the right leg showed signs of recovery, and the right arm later still. Massage and

faradism were used to hasten the return of movement. After ten weeks the patient could walk with a little assistance, spasticity not having quite disappeared. Movements of the left arm and hand were perfect, and she could lift a glass to her mouth with the right hand.

The operation described by Mr. Beresford:

On November 8th, 1927, under intratracheal anaesthesia (Dr. Eccles), the laminae of the second, third, fourth, and fifth cervical vertebrae were removed. The dura was not pulsating and felt hard in the second, third, and fourth cervical region. On opening the dura a tumour was seen in the postero-lateral aspect pressing into the right side of the cord. The tumour, which was attached by a pedicle to the dura, was enucleated without difficulty. Its appearance was rather like a large raspberry, fleshy to feel, and not very vascular. It measured 2.75 by 1.5 by 1 centimetres.

The dura was closed with continuous catgut, and, after closing the wound, the head, neck, and shoulders were supported in a plaster cast. The patient left the theatre in good condition, and got immediate relief from her intense headache. Sections of the tumour show it to be an endothelioma. This tumour is said to be non-malignant, and therefore the prognosis in this case is good.

## COMPLETE TRANSVERSE RUPTURE OF THE JEJUNUM WITHOUT EXTERNAL WOUND.

BY

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COMPLETE transverse rupture of the intestine is rare in the absence of external wounds. Moreover, recovery from such a condition is exceptional. The following details of a case of such rupture of the jejunum seem worthy of record, particularly in view of the satisfactory issue.

A man, aged 46, was brought to the Nelson Hospital on July 20th, 1927, suffering from severe abdominal injury. The history given was that while riding a motor bicycle he had lost control and crashed into a wall, his abdomen striking a projecting corner.

On arrival at hospital the patient was in great pain and suffering from severe shock. He was in a cold sweat, and complained of intense pain in the abdomen, which at times caused him to writhe in agony. The pulse was 64, and the temperature 97.5° F. Breathing was laboured with grunting expiration and almost entirely thoracic; vomiting did not occur. The pupils were equal and contracted, and reacted to light and accommodation. The whole of the anterior abdominal wall was intensely rigid and motionless, while the only external sign of injury was a slight discoloration or contusion just below the ribs in the left hypochondrium. On palpation the abdomen was extremely tender everywhere, and a point of maximum tenderness could be elicited in the region of the tip of the spleen. There was definite dullness in the flanks, especially on the left side, but the patient was so ill that shifting dullness was not investigated. Liver dullness was present. The bladder was not distended; a catheter was passed and normal urine withdrawn. A diagnosis of grave abdominal injury with rupture of a viscus, possibly the spleen, was made, and the patient was treated for shock, 1/2 c.cm. of pituitrin being given together with a rectal saline injection, morphine, and atropine.

Two hours later Dr. Martin Randall opened the abdomen; a large left paramedian incision was used, with the centre opposite the umbilicus. No gas escaped on opening the peritoneum, and no fluid or odour suggestive of rupture of a hollow viscus was perceptible. There was a large quantity of almost pure blood in the peritoneal cavity. Examination of the liver, spleen, stomach, and pancreas revealed no injury, but while the last-named was being investigated a loose torn end of bowel came into view. This proved to be the jejunum, about four inches beyond the duodeno-jejunal flexure. The other end was found without difficulty, the tear separating the two pieces of bowel extending a full inch into the mesentery. The edges of the severed bowel were somewhat irregular, but it was practically a clean transverse tear. The removal of about half an inch on each side sufficed to form a clean-cut edge for suture, and an end-to-end anastomosis was performed. The peritoneum having been sponged quickly, the incision was closed, but a drainage tube was placed in the left loin and another in the pelvis, since some fluid was still present in each of these situations. After the operation the temperature was 97.4° F., and the pulse 88. The patient was given 1/4 grain of morphine at midnight, and saline by the rectum and subcutaneously.

At 6 a.m. the next day he was given a further 1/6 grain of morphine, and throughout the day continuous rectal saline. The temperature rose to 99° F., and the pulse to 116. Throughout the day the patient was given an ounce of water at a time, and during the day 1 drachm of brandy. In the evening he was given

an enema, and he passed a considerable quantity of flatus, with a slight action of the bowels. At night he was given 1/6 grain of morphine and at 4 a.m. on the next day a further 1/12 grain. During the day he seemed to have improved, the temperature being 98.6° F., and the pulse 104; vomiting occurred four times, and in the evening the stomach was washed out with sodium bicarbonate, which arrested this. From this time onwards the patient continued to progress satisfactorily; distension was relieved by turpentine enemata. The temperature remained normal or slightly subnormal, and the pulse rate had fallen to 70 by July 24th. The patient suffered from some distressing hiccup, which, however, responded to a simple mixture of bismuth, and he continued to progress until he was discharged from hospital on August 27th, 1927, in good health.

A series of cases recorded by Massie<sup>1</sup> at Guy's Hospital between the years 1899 and 1922 shows that rupture of the intestine occurred in 34 instances. Of these, 26 were situated in the small intestine, and the jejunum was more commonly injured than the ileum; of the 14 jejunal cases, 7 occurred within eighteen inches of the duodeno-jejunal flexure. It was also shown that the part most susceptible to injury is that part which crosses the vertebral column, and that the second and third loops of the gut are most frequently involved. Most of these lesions were partial, and nearly all cases where the duodenum was involved were associated with other severe injuries in the upper abdominal wall. This writer also points out that, whereas cases of ruptured stomach and duodenum are accompanied by other injuries, generally intra-abdominal, cases of rupture of the small intestine are usually single, and are not associated with any other injury. This fact is borne out by the present case.

The main symptoms and signs are pain, shock, and rigidity. It has been said that impairment of liver dullness is to be expected, but in the series collected by Massie this occurred in only 3 out of 34 cases; in the present case there was no impairment. Of 31 cases reported of complete ruptured small intestine the mortality was found to be 78 per cent., and in 9 cases in which the rupture was complete the mortality was 87 per cent. The high mortality in cases of complete rupture is said to be due to the increased amount of shock as compared with cases of partial rupture.

Another series of cases, numbering 22, and occurring at the London Hospital between the years 1913 and 1922, is recorded by Huddy.<sup>2</sup> This writer emphasizes the importance of early operation, the significance of pain as an indication for operation, and the fallibility of relying on the pulse rate—that is, not operating because it is slow. Again, such signs as loss of liver dullness, surgical emphysema, and distension are not of great clinical value; the latter is generally a late result, and is often found with other injuries, such as damaged kidneys or fractured pelvis; emphasis is also laid on the fact that the mortality increases with the length of the history, and that operation should not be delayed if there is no improvement after three hours. In the present case diagnosis of grave internal injury was easy on account of the extreme rigidity, great shock, and the definite evidence of effusion into the peritoneum.

The decision to operate depends on the diagnosis of grave internal damage and not on a diagnosis of any exact form of injury, and the earliest moment at which the condition of the patient is such as to make it possible should be the time chosen for operation.

The points that seem to be of special interest in this case are the following. On opening the abdomen no gas was detected, nor was there any fluid or smell suggestive of a rupture of a hollow viscus. The only fluid that escaped was blood, possibly diluted by peritoneal serous exudate. Nothing resembling food could be found in the effusion, and the inevitable presumption is that the intestine was empty when injured; the shock was followed by a pyloric spasm, which persisted until the operation was performed, because the stomach was not empty, the patient having had ten a short time before the accident occurred. The success of the operation was probably largely due to its being undertaken early.

I am indebted to Dr. Randall for assistance in describing this case and for permission to publish it.

### REFERENCES.

- <sup>1</sup> Massie: *Lancet*, 1923, ii, 640. <sup>2</sup> Huddy: *Clinical Journal*, February 6th, 1924, p. 66.



## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### CONGENITAL ABSENCE OF ONE OVARY AND THE CORRESPONDING FALLOPIAN TUBE.

On November 20th, 1926 (p. 938) I published a case of complete atresia of the oesophagus. More recently the mother of this infant required operative treatment and the developmental abnormality thus revealed seems worthy of recording.

The patient, aged 23, was sent to me with pelvic trouble. In the course of a vaginal examination nothing abnormal was felt on the right side, but marked tenderness and a swelling were noticeable on the left side; after some local treatment surgical intervention appeared necessary. Dr. Arthur Woo performed the operation and I assisted him, Dr. Milward giving the anaesthetic.

On opening the abdomen we found the left tube much inflamed, but no pus could be expressed from it. While seeking for the right tube a most interesting condition was found; the fundus of the uterus was quite free on the right side and there was total absence of the tube and ovary. A long appendix reached across towards the left tube, and since it showed signs of an inflammatory condition it was removed. The patient made an uneventful recovery. There were no signs of any previous operation, and the history of the patient, whom I had known for many years, made me quite certain that this was a case of congenital absence of ovary and tube in a woman from whom I had delivered both male and female children.

The patient was born in London in 1901; she was brought to Hong-Kong when she was 7 months old, and remained here without going away until after her marriage in October, 1922. She went to England in 1923, and while there her periods ceased for four to five months; she was examined and it was found that the cause was not pregnancy. She returned to Hong-Kong in November, 1923, and became pregnant; she was delivered of a healthy female child in August, 1924. In December, 1925, she was delivered of the apparently healthy male infant who was, however, found to have no oesophagus. In May, 1926, the patient went to England, and seven months later was delivered there of a healthy female infant. She became pregnant again in September, 1927, but had a miscarriage two months later, which she attributed to hard domestic work.

She returned to Hong-Kong in January, 1928, not at all well, and was admitted to hospital in February for the abdominal operation previously described.

I consider this case most interesting, as we have such an undoubted history of a woman with one ovary bearing both male and female children. There is also the point that a woman with an abnormal condition gave birth to a child with a serious developmental deficiency.

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#### AN UNUSUAL TYPE OF VICARIOUS MENSTRUATION.

CASES of vicarious menstruation are fairly common, and are met with so frequently as to occasion very little comment. The haemorrhage usually comes from the mucous membrane of the nose or nasopharynx and more rarely from the nipples. The following case appears rare enough, however, to warrant publication.

The patient, a young woman aged 26, is one of an unhealthy family, several of the members of which have died from pulmonary tuberculosis. About a year ago she developed unmistakable signs of the same disease. She refused sanatorium treatment and her condition became progressively worse. Six months ago I was sent for urgently, being told that she was coughing up considerable quantities of blood. For some weeks previous to this there had been slight haemoptysis, but only to the extent of there being occasional blood-stained sputum.

On arriving at the patient's house I was shown a vessel containing about five ounces of bright red blood, which the patient stated she had suddenly and unexpectedly coughed up. In the course of my examination she mentioned that she was menstruating, but I did not at that time associate the haemoptysis with that circumstance. I was, I remember, pleasantly surprised by the apparent success of the measures I took to stop what seemed to be a serious haemorrhage, for on the next day there was only a little blood mixed with the sputum and after two more days this had stopped. At this time there was a well-marked cavity in the upper lobe of the right lung and areas of consolidation elsewhere in both lungs. Expectoration was free and copious.

At each subsequent menstrual period there has been the same train of events. On the first day there is a severe haemoptysis

followed by two or three days of blood-stained sputum, and by the time the menstrual flow has ceased the sputum has, except on two occasions, been free from blood. I have noticed as the menstrual period approaches that the amount of sputum increases and there is, so to say, a general moistening of the lung spaces. Between the periods the cough is hard and rather dry.

Since the severe haemoptysis has occurred only at the onset of menstruation, and the last seven menstrual periods have had haemoptysis as an accompaniment, I think I am justified in labelling the condition vicarious menstruation, though of an uncommon variety.

I ought to add, perhaps, that until this state of affairs began, the girl had normal menstruation, unaccompanied by any unusual circumstances.

Portladow, Ireland.

R. S. CHAPMAN, M.B., B.Ch.

#### A CASE OF EAR PRESENTATION.

THE following details of a case of ear presentation appear to be of sufficient interest to merit placing on record.

A 2-para, aged 27, was admitted to hospital at 6 a.m. on April 25th; labour had commenced in the early morning, and the membranes had ruptured at 4 o'clock. On admission a second vertex presentation was diagnosed. The measurements of the pelvis were: interspinous 8 in. and the intercrural 9½ in. The external conjugate was 7½ in. There was full dilatation of the cervix at 7.15 a.m., but no advance in labour. The patient was in good condition, the pains occurring every three minutes. On examination a foetal ear could be seen at the vulva, while on vaginal examination the head was found to be lying in the transverse diameter, the occiput to the right, and the head flexed laterally on the neck.

I tried manual rotation, at first without success, but later, under a general anaesthetic, by pushing the head up into the vagina, I managed to rotate it into an occipito-anterior presentation. Forceps were then applied, and a live child was delivered.

The child had a large caput succedaneum on the left side of the face, extending on to the ear, and there was slight facial paralysis. It weighed 5 lb. 5 oz., and had the following measurements: Suboccipito-bregmatic 3½ in., bitemporal 3 in., suboccipito-frontal 3½ in., biparietal 3½ in., circumference 13 in.

The caput and the paralysis disappeared in four days. The mother had an uninterrupted puerperium, and was discharged on May 6th.

The case is of interest as a marked example of Naegeli's obliquity which had not corrected itself. It is interesting to note that in 1921 the mother was admitted as an emergency case. The condition then was a persistent occipito-posterior presentation with prolapse of the cord. In 1923 she had a normal delivery.

I am indebted to Mr. Louis Carnac Rivett for his permission to publish the case.

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## Reports of Societies.

#### THE TREATMENT OF ECLAMPSIA.

At a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on June 15th, with Mr. COMYNS BERKELEY in the chair, a paper by Professor W. STROGANOFF of Leningrad, an honorary member of the Society, was read in his absence by the honorary secretary, Dr. W. GILLIATT, who also anglicized what was described as the author's Anglo-Russian. During Professor Stroganoff's visit to this country in 1924 he read a paper to the Section (*British Medical Journal*, July 12th, p. 53) in which he described his method for controlling the fits in eclampsia. The cardinal principle in his treatment is that the fits can and must be controlled. All sources of irritation must be removed, an injection of morphine be given immediately, followed an hour later by chloral hydrate, and the administration of chloral hydrate repeated at intervals if delivery is delayed. The technique includes also the application of hot-water bottles, the giving of fluids to stimulate kidney action, the careful cleansing of the mouth, and the administration of oxygen for asphyxia.

The paper read to the Section on June 15th was almost entirely occupied with statistics. Professor Stroganoff

pointed out that eclampsia was still one of the greatest dangers of the child-bearing woman. In the United States the number of maternal deaths annually from eclampsia was 5,000, and from puerperal infection 6,000, so that in view of the greater loss of child life with eclampsia the total mortality was greater than from infection. In England and Wales albuminuria and eclampsia had first place among complications of child-bearing. In Germany there had been lately an improvement in the general mortality rate from eclampsia, though many clinics still gave very poor results. The figures from every country showed the need for investigation with a view to reducing maternal morbidity and mortality and for strict attention to every detail in the management of pregnancy and labour. In one German clinic where the prophylactic method had been adopted, out of 48 cases of eclampsia there had been only three deaths, and two of these women were moribund when admitted to the clinic. In Japan at one clinic after the adoption of the prophylactic method the death rate in eclampsia had fallen from 34 per cent. to 20 per cent. Professor Stroganoff was of opinion that the prophylactic treatment properly applied in eclampsia, in cases which had been neither neglected nor infected, should prevent a mortality higher than between 1 and 2 per cent., and if neglected and infected cases were included the mortality should not be higher than from 2.5 to 4 per cent. The trouble was that so far none of the followers of his method had treated a sufficient number of cases, say 300 or so, to permit of a more sure judgement. A few workers also had had bad results with the prophylactic method, the reason being, in his opinion, that the treatment was not employed correctly. Many appeared to think that a fixed scheme of administration of narcotics was the essential difference between the old and the new methods, whereas in fact his treatment provided for a variation from the fixed scheme of administration, such variation depending on the condition of the patient. Where the results of the treatment had proved unfortunate he had usually found a lack of variety in the procedure.

Professor Stroganoff went on to describe in detail many of his cases and groups of cases, with the nature of the delivery and the after-history. In his own clinic, of 300 patients admitted for eclampsia 8 had died, a mortality of 2.6 per cent., and of the fatal cases 4 were moribund when they reached the hospital, and died from three to eight hours after admission. In only one of the eight fatal cases was it impossible to control the convulsions, and in 40 per cent. of the 300 cases there was not a single fit after the beginning of treatment. A large number of intermittent eclampsias were observed—that is to say, there was freedom from fits for twelve hours or more before delivery. Professor Stroganoff appeared to complain somewhat of the fewness of cases treated, or recorded as treated, by his method in Vienna, Berlin, and London, though in London he acknowledged the work done by Mr. Aleck Bourne. Discussing the question of technique, he said that his observation of over 1,000 cases was that Caesarean section in eclampsia very frequently caused death. He advocated the use of the quartz lamp in the treatment; it involved no danger and gave a useful vasodilatation. Luminal was useful as a substitute for chloral hydrate; it was less dangerous to the heart, but its disadvantage was in its instability. Chloral hydrate was a powerful narcotic, and it was scarcely possible to do without it in severe cases, but after the fits had been controlled for eight or ten hours the substitution of luminal might well be tried. He had less faith in magnesium sulphate, which had been praised by American doctors. In conclusion he pointed again to the persistent high mortality from eclampsia, in spite of some reduction during the last twelve or fifteen years following the adoption of prophylactic treatment. Technically the method was not easy of application, but it was very necessary that it should have a wide and thorough trial.

The CHAIRMAN said that the Section would desire to convey to Professor Stroganoff its congratulations on his results. He appeared to be rather under the impression—a mistaken one—that a large number of obstetricians

in Europe did not think very much of his treatment, and the reason why he had forwarded this paper, which did not contain anything very new, was for purposes of propaganda. There was a reference in the paper to the desirability of telephone consultations; these might be very useful in Russia, where consultants lived at a great distance, but in this country they were perhaps not so necessary.

Major FLEMING Gow, I.M.S., said that he could appreciate Professor Stroganoff's reference to the telephone, for he happened to have lived in a part of Persia which had come under Russian influence, and there, backward as Persia was supposed to be, the telephone was used in quite an extraordinary way. Speaking of his Indian experience, he said that in India very commonly the cases were not seen until after the patient had had eight or ten fits. During the earlier part of the time she was attended often by very low caste women who applied some primitive treatment. A slight decrease in mortality had been obtained in India, but in the nature of the case there were no results comparable with those in Western countries. Even in India there were some variations in treatment and results. In Madras, for example, venesection was extensively practised, in addition to the Stroganoff treatment, but in Bengal there were few cases in which it was advisable to do venesection, because it was very rare for a Bengali woman to have a blood pressure of anything like 160, even in bad cases of eclampsia. He had practically given up doing Caesarean section for eclampsia. The eclamptic cases occurred in primiparae who, in Bengal, were aged about 13 or 14, and the under-development of the pelvis in these girls was such that Caesarean section was not practicable.

Professor LOUISE McILROY was of opinion that Professor Stroganoff had not given this country quite the position it deserved, for in ante-natal work Britain was in the van of nations. With regard to eclampsia the speaker had been informed by medical officers of health that the incidence was steadily going down. There must always be a certain percentage of mortality, from the fulminating case which could not be controlled. Mr. L. C. RIVETT said that at Queen Mary's Hospital for the East End, out of forty-four cases of eclampsia there had been three deaths. He believed that a standard method should be universally adopted.

Dr. W. GILLIATT, in reply to a question relating to a diminished output of chlorides, said that he had at present a patient who was diabetic for many years and became pregnant, twins being delivered. In the pre-insulin era pregnancy with one child would have been enough to have killed her. During her pregnancy, owing presumably to the foetal pancreas, she required less insulin than before. She was admitted to the maternity ward, and it was decided that the delivery offering least risk was by Caesarean section. But, apart from this decision, the procedure was forced upon them because the patient suddenly stopped excreting chlorides, and coincidentally had an oedema which became enormous. She never had a fit or a suggestion of eclampsia, nor did she produce albuminuria. Both she and the infants were doing extremely well, but she was having to take more insulin now than during pregnancy.

A MEETING of the Wolverhampton and District Clinical Club was held at the General Hospital, Wolverhampton, on June 12th, with Dr. W. M. BROWN in the chair. Dr. G. DYAS, in a description of the process of cholecystography, emphasized the advantages of the oral, as opposed to the intravenous, method of administering the drug sodium-tetra-iodo-phenolphthalein. The possibility of severe constitutional disturbance, of local reaction, or thrombosis of the arm, as well as the necessity for the hospitalization of the patient in the intravenous method, were, in his opinion, sufficiently convincing reasons for his personal preference for the oral method. Dr. C. L. SPACKMAN described a case of renal tuberculosis with tubercle bacilli in the urine which had been complicated by several unusual features. Dr. W. M. BROWN illustrated the uses of the ophthalmoscope as a part of the armamentarium of the general practitioner, paying special attention to its value in the recognition of early stages of disease of the central nervous system.

## Reviews.

### THE SIMPLE GOITRES.

In August, 1927, Colonel ROBERT McCARRISON presented a report to the International Conference on Goitre, held at Berne under the auspices of the Swiss Goitre Commission, which he now publishes, in a slightly amplified form and with an introduction of six pages, under the title of *The Simple Goitres*.<sup>1</sup> It is divided into two parts, the text occupying 39 pages and the larger remainder consisting of illustrations, which are most successfully reproduced.

There are, Colonel McCarrison insists, several forms of simple or non-toxic goitre, and also several causes, each as important as the other. Undue importance has been attached to iodine deficiency, which, indeed, has been regarded as the one and only causal factor, and the value of the prophylactic administration of iodine has been exaggerated, whereas its failures have been regarded with a blind eye. While fully admitting that an adequate supply of iodine is essential in preventing a certain type or types of goitre, the author is emphatic that iodine is not a panacea for all types, and that it has not been proved that its deficiency is the ultimate cause of any form of goitre. The known goitre-producing influences include deficiency and excess of food, iodine deficiency, polluted water, gastro-intestinal infection, and insanitary conditions of life. It should be borne in mind that thyroid enlargement, especially in young girls, is physiological, and should not be described as "incipient goitre," as apparently has been done in some goitre surveys.

Three forms of simple goitre are described: (1) the parenchymatous or chronic hypertrophic type, which is endemic in mountainous regions, is explained by a combination of infection and iodine deficiency—this form is considered at much greater length than the other two; (2) the diffuse colloid type of endemic goitre, which, on his own observations, the author tentatively suggests may be due to a disturbance of the calcium iodine balance in the food, and possibly in the gland itself—this is the form endemic in the Great Lakes district in North America; (3) the lymph-adenoid form, described in 1925 by Williamson and Pearce as the hypertrophic reaction of a physiologically insufficient organ with which there occurs a preponderance of lymphocytic aggregates, fibrosis, and a peculiar atrophy of the parenchyma. Experimentally, Colonel McCarrison produced this form in rats fed on a diet deficient in vitamins A, B, and C, and he argues that thus a physiologically subnormal state of the thyroid, and so the production of toxic metabolites—and also a physiologically subnormal state of the gastro-intestinal tract, with stasis and toxic absorption from the blood—result.

During his quarter of a century's work on goitre the character, geographical incidence, and sequelae of goitre have changed, the grosser manifestations, even in endemic areas have become less common, and instead small goitres, more widespread geographically and prone to be associated with thyrotoxicosis, have become more frequent. In describing only three forms of simple goitre the author modestly says that he has but touched the fringe of the subject. It is a book which will well repay thoughtful perusal.

### OPHTHALMIC SURGERY.

A THIRD edition<sup>2</sup> of Professor TERRIEN's textbook of the surgery of the eye and its annexes has appeared. The work has been considerably enlarged, and much of the earlier editions has been rewritten. It is now a massive volume of 646 pages, with no fewer than 565 figures in the text. Most of these illustrations are excellent, well conceived, and well drawn, and they greatly enhance the value of the work. Some of those, however, which are reproductions of photographs are unsatisfactory—that figure which purports to show the bleb of the conjunctiva due to filtration through

the sclerotomy fistula produced by Lagrange's operation for glaucoma is so obscure that it might be anything or nothing.

The description of Lagrange's operation is excellent: it is to the work of that surgeon that we are indebted for the basic idea of modern operations for glaucoma. His was the conception that a permanent filtration scar might be obtained by removing a minute portion of the sclero-corneal margin; the many operations that have been practised are no more than variations in the working out of this idea. Some of them certainly are an improvement on Lagrange's original method, for effective though that was, it entailed a considerable wounding of the eye. The merit of trephining—and most ophthalmic surgeons employ the method of Elliot—is that there is a minimum of wounding to secure a full effect. In the description of trephining there is a figure in which the site of the hole is incorrectly given; it appears there wholly in the sclera, where it would be ineffective.

The chapters on cataract operations are excellently done; so too are the descriptions of the methods of dealing with obstinate after-cataract. There are also good accounts of the several modes of removing cataract in the capsule. It is curious to note that whereas ambidexterity seems the rule for operators in this country, so that the surgeon standing behind his patient's head will incise the cornea upwards with the right hand for the right eye and with the left hand for the left eye, and make each section with equal ease and accuracy, it is otherwise on the Continent, where for the most part the surgeon still adopts the right-handed method for each eye.

Some criticism might be made of the book owing to what appears a lack of balance. A relatively large portion is given to elaborate and detailed accounts of plastic operation on the lids and conjunctiva. As a matter of common experience these operations are not everyday operations, and they do not conform to definite lines of procedure. Nor is the margin between success and failure a hair's breadth as it is in cataract operations; so that there is much less need for detailed descriptions of the plastic operations and much more for ingenuity and resource on the part of the surgeon. The formulation of rigid lines is inclined to cramp his style and diminish the likelihood of successful operation. On page 591 there is an account, with two figures, of the performance of the commonest of all operations connected with the eye—save the removal of foreign bodies—the extirpation of chalazion. We are surprised to find that it is recommended the tumour should be removed through the skin of the lid by an incision parallel to the lid margin. This seems a most undesirable procedure; there will be a skin scar, slight it is true, but slower in healing than a mucous membrane incision. The correct mode of approach, both from anatomical considerations and for rapidity of healing, is through the conjunctiva by an incision parallel with the line of the gland—that is, at right angles to the lid margin. By this method it is possible to remove the chalazion so effectively that bleeding will cease in a few minutes and the patient can go away without a bandage over the eye.

### CLINICAL PATHOLOGY.

WHEN the first edition of Todd's *Clinical Diagnosis by Laboratory Methods* was first published twenty years ago the subject-matter of clinical pathology comprised little more than elementary microscopy, blood counts, and a few simple tests which could be carried out without special training. The development of laboratory investigations during the past two decades, both in the province of biochemistry and of bacteriology, has given to clinical pathology an important place in the medical curriculum. Successive editions of Dr. Todd's textbook have reflected this development of laboratory methods and provided a good working account of useful tests. In the sixth edition<sup>3</sup> Dr. Todd has been assisted by Dr. A. H. SANFORD. No substantial alteration has been made in the arrangement of

<sup>3</sup> *Clinical Diagnosis by Laboratory Methods*. By James Campbell Todd, Ph.B., M.D., and Arthur Huxley Sanford, A.M., M.D. Sixth edition, revised and reset. Philadelphia and London: W. B. Saunders Company, 1927. (Med. 8vo, pp. 743; 345 figures. 28s. net.)

<sup>1</sup> *The Simple Goitres*. By Robert McCarrison, C.I.L., M.D., D.Sc., LL.D., F.R.C.P. London: Baillière, Tindall and Cox, 1928. (Cr. 4to, pp. xi + 10; 143 figures. 10s. 6d. net.)  
<sup>2</sup> *Chirurgie de l'Œil et de ses Annexes*. Par F. Terrien. Troisième édition, augmentée et entièrement refondue. Paris: Masson et Cie, 1927. (Sup. roy. 8vo, pp. viii + 646; 565 figures. 100 fr. sans majoration.)

the book, but a few sections have been rewritten, some tests which further experience has shown to be of little value have been omitted, and others, such as the latest modification of Kahn's flocculation test, have been given a place. The book is of a convenient size, well illustrated, and carefully documented.

All laboratory methods that are useful in the diagnosis and treatment of disease have a right to be grouped under the head of clinical pathology, and in their book<sup>4</sup> with this title Drs. PANTON and MARRACK have given them all a place. Thus they include not only the chemical and microscopic tests, which are part of the regular training of every student, but also sections on bacteriology and morbid histology. Though this may be logical it is of doubtful expediency, for in a book comprising 450 pages, of which only 80 are reserved for bacteriology and about 50 for histology and morbid anatomy, some of the information is bound to be "scrappy." But if the student is willing to learn his bacteriology and histology elsewhere this should prove a useful book to him, particularly because of the descriptions of chemical tests. The illustrations also are good, and have been provided generously.

The chief recommendation for *Clinical Laboratory Procedures*,<sup>5</sup> by Dr. G. L. ROHDEBURG, lies in the fact that the author declares he has used the tests recorded for several years and found them reliable. Since personal experience must always carry weight, it is right that this justification for the present book should be mentioned. For any other justification we have looked in vain. The book is not divided into chapters, has no table of contents, is inadequately indexed, and contains no illustrations. In the majority of cases no judgement is given of the value of the tests mentioned, and the book is nothing but an arid catalogue of how the author does certain things, though why he does them or what he gains from them is not indicated.

The third edition of *Pathological Physiology of Internal Diseases*<sup>6</sup> has been revised and edited by nine of the late Dr. ALBION WALTER HEWLETT's colleagues at Stanford University, California—a task which they undertook as a mark of respect for their former teacher. Dr. Hewlett was a trained physiologist who later in life concentrated his attention on clinical medicine. His book might be called a textbook of functional pathology, for it deals chiefly with changes in function presented by patients suffering from various organic diseases. The two former editions were acknowledged to be valuable contributions to the scientific study of disease. In the third edition the original form and order of presentation have been retained, and the book is brought up to date by the inclusion of recent important advances in clinical physiology.

#### INDUSTRIAL ACCIDENT INSURANCE.

DR. PAUL JOTIKOWITZ has had thirty years' experience of accident practice, and it was appropriate that he should be asked to write a book on the subject to succeed that of Golebiowski, which appeared in the year 1900, and which has become rather out of date owing to the experience acquired in the war and to changes in the accident insurance law in this century. In this *Lehrbuch der Unfall-Heilkunde*<sup>7</sup> these regulations are discussed according to their actual effect in the middle of the year 1926.

The first part deals with the relations between the insurance laws and the practitioner, and defines his duties in carrying out the law. The second part deals with the connexion between diseases and accidents, and the third part treats of injuries and maladies of the several parts of the body and limbs resulting from accident, but

leaves out of consideration the highly specialized subjects of ear and eye diseases and those peculiar to women. This is, however, not a book on treatment, and therefore only in a few instances are questions of treatment discussed, although the probable duration of disability, which often depends on treatment, necessarily occupies an important place. Accordingly the illustrations, of which there are a good many, are intended to help diagnosis, and do not show splints or appliances or methods of wound dressing. As regards wound infection, it is pointed out how important immediate treatment of slight breaches of surface may be, seeing that it is only at first that any attempt at sterilization can succeed. A 10 per cent. iodine solution is recommended for this purpose, as well as the usual precautions against secondary infection. The animal infections, such as anthrax, glanders, and rabies, and all sorts of diseases which may complicate accidents or be incurred in the course of duty, even including aeronaegly, are considered. This last disease, it is thought, may lead, for instance, to flat-foot, which may be complained of as causing incapacity for work. All the usual chemical causes of occupational disease and injuries of muscles, tendons, bones and joints, and blood vessels and nerves, are considered in their general aspects in Part 2. In the descriptions of local injuries and their results in Part 3 the percentage of disability in many cases is stated, and some certain lines of treatment are recommended. This part is very well illustrated; in particular the eighty-one small figures showing almost all the possible mutilations of the hand and fingers, and the percentage disability of each, is likely to be useful, if only for comparison with the scales on which our own Ministry of Pensions allots compensation. A short section on amputations and prostheses, and one on the percentage disabilities of loss of limbs—including toes—concludes the volume.

Awards under the German insurance law are not necessarily guides for deciding cases under our Employers' Liability Acts or the Factory Acts, but it cannot fail to be instructive to compare foreign methods and applications of first principles with our own. This book will enable its readers to do so to a great extent.

#### ANNALS OF MEDICAL HISTORY.

THE first quarterly number of the tenth volume of the *Annals of Medical History*<sup>8</sup> contains ten articles in addition to the editorials and the reviews. The portrait on the cover is that of K. F. Burdach (1776-1847), the story of whose life is related by Dr. T. H. Bast; in the course of his early struggles Burdach in desperation invented a patent pill "eugene," which not unnaturally for a time interfered with his attempts to get a university chair; about six years later, in 1811, he secured a professorship at Dorpat, where he carried out original work, and in 1814, having in the meanwhile declined a chair at St. Petersburg, he moved to Königsberg, where he published his researches on the nervous system and the column which bears his name. The frontispiece represents Dr. Philip Turner (1740-1815), who was an army surgeon for fifty-five years and took part in three wars, eventually becoming surgeon general; Dr. C. B. Graves says that the latter part of his life was one long battle to secure what he believed to be his rightful dues. In his article on "Robert Burns, his medical friends, attendants, and biographer," Dr. H. B. Anderson concludes that the poet's death at the age of 37 was not due to alcoholism, but to rheumatic heart disease, auricular fibrillation, and terminal bacterial endocarditis; the article contains portraits of medical men, including James Currie, who wrote his life. John Wesley, the religious reformer, wrote for the guidance of the poor, in 1747, *Primitive Physick, or an Easy and Natural Method of Curing Most Diseases*, and in his account of this work Dr. Baragar mentions that in the edition of 1780 "quinsy of the breast" is the term used for the angina pectoris described in 1768 by Heberden. Dr. A. H. Barkley shows that Constantine Samuel Rafinesque (1783-1840), who was one of the most brilliant men of his time, and did much to

<sup>4</sup> *Clinical Pathology*. By P. N. Pantou, M.B., B.C. Cantab., and J. R. Marrack, M.D. Cantab. Second edition. London: J. and A. Churchill, 1927. (54 x 9½, pp. viii + 459; 51 figures, 12 plates. 15s.)

<sup>5</sup> *Clinical Laboratory Procedures*. By George L. Rohdenburg, M.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1927. (Med. 8vo, pp. 266. 14s. net.)

<sup>6</sup> *Pathological Physiology of Internal Diseases*. By Albion Walter Hewlett, M.D., B.S. Third edition. New York and London: D. Appleton and Co. 1928. (64 x 10, pp. xxxiii + 787. 164 figures. 35s.)

<sup>7</sup> *Lehrbuch der Unfallheilkunde*. Von Dr. Paul Jotikowitz. Lehmanns medizinische Lehrbücher, Band X. München: J. F. Lehmann. 1928. (6½ x 10, pp. xl + 280; 267 figures. M.13.)

<sup>8</sup> *Annals of Medical History* (Spring Number, 1928), vol. x, No. 1. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc.; London: Baillière, Tindall and Co. 1928. (8½ x 12½, pp. 110; illustrated. Subscriptions in Great Britain, £2 2s. per volume of four numbers.)

advance intellectual and scientific development in America, was not a doctor, but had an intimate knowledge of the profession, cured himself of pulmonary tuberculosis, and invented a remedy for it called "pulmet." Dr. H. S. Reichle contributes a sketch of Emil Noeggerth (1827-1895), who practised with success for a time in New York, but returned to his native country ten years before his death. In his essay on fees in medical history Dr. H. Dittrick gives examples from Babylon in 2250 B.C. to the recent past. Dr. R. G. Doughty tells the story of the early struggles of the medical department of the University of Georgia, which was started in 1828, and the accomplished editor contributes some excellent book reviews.

#### KALA-AZAR.

In 1918 E. Muir published a small book on the diagnosis and treatment of kala-azar; this reappeared practically as a second edition, much enlarged, under the authorship of E. Muir and L. E. Napier in 1925. The present monograph, *Kala-azar*,<sup>9</sup> by L. EVERARD NAPIER, which now appears, though a lineal descendent of the foregoing volumes, is in fact a completely rewritten book. Dr. Napier is in charge of kala-azar research at the Calcutta School of Tropical Medicine, where he and his colleagues have for the past three years been studying the several problems of this disease, including transmission.

The book deals fully with epidemiology, etiology, pathology, symptomatology, diagnosis with laboratory methods and technique, and treatment. Though *Phlebotomus argentipes* has been incriminated as the vector of kala-azar, actual transmission by its agency has not yet been effected. As the transmission problem is thus unsolved it is discussed at length by the author. The ultimate solution will doubtless not be long delayed, and when this happens it should give us one more example of the value of team work in dealing with such matters. The chapter on treatment will also be read with great interest, as since the introduction of pentavalent compounds of antimony the treatment of kala-azar has been almost revolutionized. With the newer compounds the cure rate is now 95 per cent., the minimum course of treatment has been reduced to a quarter the time formerly necessary, and the relapse rate has been greatly reduced.

#### NOTES ON BOOKS.

It is not surprising that a second edition of Mr. ZACHARY COPE's textbook on *The Treatment of the Acute Abdomen*<sup>10</sup> has been quickly demanded; the first edition was reviewed so recently as February 11th (p. 223). Although the alterations are not extensive they are numerous, and the additions include reference to the investigations of Williams and Brockman on the treatment of the toxæmias of ileus and intestinal obstruction. A fifth edition of *The Early Diagnosis of the Acute Abdomen*,<sup>11</sup> by the same author, has also rapidly followed its predecessor. The symptoms of peritonitis receive more attention, and the symptoms of their etiology and variation are dealt with in a short new section. The symptoms of obstruction of the small intestine has been expanded. Both these books are very valuable, and can be strongly recommended by reason of their practical outlook.

The widespread interest taken in the injection treatment of varicose veins is illustrated by the fact that a third edition of Dr. A. H. DOUTHWAITE's little book<sup>12</sup> has already appeared. An early account of this treatment was contributed by him to our issue of September 25th, 1926 (p. 554), and we noticed at some length the first edition of his book on September 24th, 1927 (p. 558). It remains now to add that the new edition is based on the author's further clinical experience of the method which he advocates.

In the preface to *Operative Dentistry*,<sup>13</sup> which forms the ninth volume of the series *Outlines of Dental Science*, its author, Mr. HAMILTON JAMIESON, tells us that his guiding principle has been to write only of such things as he has personal knowledge of. The ideas, experiences, and personal methods of a colleague he hopes may prove interesting to the busy practitioner and useful to the student. We think he has very well attained his object, and that his little book will be welcomed by members of the dental profession. In short space and in simple wording he has covered the whole ground of "operative dentistry," including the chairside work of denturo construction. From the brevity with which "pyorrhoea" is treated we gather that the author is not greatly impressed with the results of treatment, but we note with interest that "symmetrical extraction for relief of crowding is often extremely beneficial." The suggestion that an excess of over-refined carbohydrate food is responsible for many pyorrhoeas, owing, in part, to its effect in clogging the normal channels of elimination, seems a little difficult to follow; and the idea that a labio-cervical carious cavity may be due to an acid condition of the body generally still more so. We may ask also what evidence the author has of an acid state of the saliva during pregnancy, dyspepsia, or rheumatism such as would cause hypersensitive dentine. As bearing on the vexed question of "root treatment," Mr. Jamieson makes the interesting note that radiolucent areas, not necessarily infected, are observed around the apices of the roots of those teeth the pulps of which have been removed under pressure anaesthesia rather more frequently than in similar cases when arsenic has been used. The author has found "an interesting order of childhood which has been appearing in increasing numbers since the great war." From the illustrations we judge that these children are the subjects of adenoids.

The first edition of *Advice to the Expectant Mother on the Care of Her Health*, by Professor F. J. BROWNE, appeared nearly two years ago, and was noticed in our issue of January 15th, 1927 (p. 106). The second edition,<sup>14</sup> recently published, has been revised and brought up to date. In his preface the author pays a richly deserved tribute to the late Dr. J. W. Ballantyne of Edinburgh, who (as readers of this *Journal* well know) was the first to advocate the necessity of ante-natal care. The paramount importance of this branch of medicine is now so universally recognized by the profession that it is difficult to realize that the first ante-natal bed was endowed as recently as 1902. There is still much need of education along these lines among the laity, and we may confidently expect that Professor Browne's useful pamphlet of forty-eight pages will again justify itself and help to supply this want.

Mr. ERIC PARKER's reminiscent sketches in *Field, River and Hill*<sup>15</sup> are designed, with considerable success, to appeal to those who are fond of the open air and of sport—more particularly fishing and shooting. His book is hardly one to be read at a sitting, consisting as it does partly of articles reprinted from various journals, but it will be valued by those whose professional responsibilities debar them, to their regret, from the delights of the waterside and of the moor, and who will welcome a pleasant "bedside" book dealing with these things. There is a richness of detail in the author's descriptions, based obviously on keen observation, which makes his work something more than mere sporting gossip. He has an eye for nature and for colour, and a knack of characterization which finds an outlet in his good-tempered little studies of men and women. Eight reproductions of drypoint etchings of bird and animal subjects by Miss Winifred Austen add to the attractiveness of the book.

<sup>13</sup> *Operative Dentistry. Outlines of Dental Science*, Vol. IX. By J. D. Hamilton Jamieson, L.D.S.Ed. Edinburgh: E. and S. Livingstone. 1927. (Gr. 8vo, pp. vii + 216; 27 figures. 7s. 6d. net.)

<sup>14</sup> *Advice to the Expectant Mother on the Care of Her Health*. By F. J. Browne, M.D., D.Sc., F.R.C.S.Ed. Second edition. Edinburgh: E. and S. Livingstone. 1928. (Gr. 8vo, pp. 48. 6d. net.)

<sup>15</sup> *Field, River and Hill*. By Eric Parker. London: P. Allan and Co., Ltd. 1927. (Demy 8vo, pp. x + 279; 8 plates. 10s. 6d. net.)

#### PREPARATIONS AND APPLIANCES.

##### "EUKODAL."

"EUKODAL" (Messrs. Merck, Darmstadt) is a derivative of thebaine, with the chemical name dihydroxy-codeinon hydrochloride. It was discovered by Freund and Speyer in 1917. The drug has been the subject of numerous investigations. Schroder claimed that it was a full substitute for morphine. Other observers found that it was of great value in checking excessive cough, and it was also found to have a powerful analgesic and narcotic action. All observers agree that the toxicity of the drug is low compared with that of morphine, and that the chance of habit formation with eukodal is much less than with morphine. The agents in this country are Messrs. H. R. Napp, Ltd. (3 and 4, Clement's Inn, Kingsway, W.C.2).

<sup>9</sup> *Kala-azar*. By L. Everard Napier, M.R.C.S., L.R.C.P.Lond. Second edition. London, Bombay, and Calcutta: Oxford University Press. 1927. (Gr. 8vo, pp. viii + 203; 18 plates. 8s. 6d. net.)

<sup>10</sup> *The Treatment of the Acute Abdomen*. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1928. (Demy 8vo, pp. xviii + 244; 146 figures. 10s. 6d.)

<sup>11</sup> *The Early Diagnosis of the Acute Abdomen*. Fifth edition. By Zachary Cope, M.D., M.S., F.R.C.S. Oxford Medical Publications. London: Milford, Oxford University Press. 1928. (Demy 8vo, pp. xiv + 244; 30 figures. 10s. 6d.)

<sup>12</sup> *The Injection Treatment of Varicose Veins*. By A. H. Douthwaite, M.D., M.R.C.P.Lond. Third Edition. London: H. K. Lewis and Co., Ltd. 1928. (Gr. 8vo, pp. x + 51. 4s. net.)



## Nova et Vetera.

### HARRISON OF IGHTHAM.

#### A VILLAGE ARCHAEOLOGIST.

NESTLING under the North Downs, on a tributary of the Medway, is the village of Ightham, made famous by its grocer—Benjamin Harrison. In the north wall of the parish church is to be found an epitome of his story:

"Benjamin Harrison of Ightham, 1837-1921, the village grocer and archaeologist, whose discoveries of colithic flint implements around Ightham opened up a fruitful field of scientific investigation into the greater antiquity of man. . . . A man of great mind and of kindly disposition."

Many who wish to read the full story of this Kentish man will find it told by his distinguished son, Sir Edward R. Harrison—told with modesty, restraint, but most effectively.<sup>1</sup>

How did it come about that a boy, born in the year 1837, of an ancestry which had stood behind the counter of a small village shop for generations, suddenly broke away from family tradition and devoted himself to solving the problem of man's antiquity? Undoubtedly the factor of heredity came in. His mother, Elizabeth Biggs, came of a stock which possessed inventive ability; the eldest son, Tom, and the youngest, Benjamin, took over from their mother the Biggs's desire for knowledge; the other members of the family were orthodox Harrisons. It was Tom, ten years senior to Benjamin, who led the way. When Benjamin was a boy of 13 he listened to his schoolmaster, Stephen Constable, discuss the geology of the weald with his big brother Tom—for these were days when Lyell's *Elements of Geology* and Chambers's *Vestiges of Creation* were moving all men of an inquiring disposition. The boy took to reading Lyell, Chambers, Gilbert White, *Cassell's Popular Educator*; from the pages of the *Geologist*, taken in by Tom, he learned what geologists of the day were doing. His master, Stephen Constable, led his boys into the weald to trace the gravel drifts which had been laid down by running streams in ancient times. In due time Benjamin went behind the counter to tie packages and snuff candles, while his elder brother Tom sailed for Australia, ultimately entering the Patents Office, Melbourne, where he died in 1897. Without Tom there would have been no Benjamin.

We find this grocer's boy, still in his "teens," constructing relief maps of his native area of Kent out of the various coloured papers then used for sugar wrappings. He developed powers of draughtsmanship, "essential for everyone who takes to concrete science. Before he was 20 he had seen evidence that Ightham had been inhabited during the Romano-British period; he had puzzled over "pits" found in a neighbouring wood, and finding a polished celt or axe there, suspected that the pits were the homes of the men who used such celts—long before the Romans came to England. In due time he and others proved this to be the case. He was grocer's apprentice during the day, but in early mornings and late evenings he was botanist, zoologist, and geologist. Not a ditch was made, a foundation dug, or a gravel pit opened but he was there to see what light they could throw on the archaeological and geological history of his homeland. Especially he desired to know when and how the various deposits of gravels had come to rest where he found them.

In 1863, when he was 25 years of age, he read in the *Geologist* of the palaeolithic implements which Boucher du Perthes had found in the gravels of the Somme valley. Already there had been announcements of the discovery of similar stone implements in the gravels of the Thames valley. Ightham is situated on the watershed between the upper tributaries of the Medway and of the Darent; Harrison inferred that his gravels, especially those along the bottoms of the valleys, should also contain palaeoliths;

he searched for them, found them, and began to form a collection of Kentish palaeoliths. Meantime, his attention had been drawn more and more to Oldbury Hill, to the west of Ightham; he found flint implements there of curious type, which, in the teeth of expert opposition, he finally proved to be the work of late palaeolithic man. Thus at an early point in his career Benjamin Harrison had proved that Romans had lived in Ightham, neolithic man in a neighbouring wood, late palaeolithic man had sheltered under the rocks of Oldbury Hill, and that early palaeolithic man had occupied the neighbouring valley before these had attained their present contours.

Before tracing his career farther let us look at his domestic situation. He married, and took over the business from his father in 1868, being then in his thirty-first year but it can hardly be expected that a village business, however well established, could thrive under a man who wakened early in the morning with geological problems "raining through his head," and who early and late is out searching hill and field and prizing the discovery of a palaeolith above the addition of a new customer. Indeed, he was more intent on making converts of those who came to his shop than on selling them tea and sugar; he was essentially a geological missionary, who desired to educate the working men in his district and to enlist their interest as helpers in his self-imposed task—the long history of Ightham and Ighthamites. His hearing became impaired; in 1877 his first wife died—it had been a happy marriage. Then, in 1879, he married for the second time, and evidently promised to turn over a new leaf of life; at least he dispatched the whole of his collection to the museum in Maidstone, determined to concentrate on business. His old passion proved too strong for him; in less than a year we find him back at his old haunts—but no longer content to search the more recent gravels along the valleys. The palaeolithic implements found there were the work not of apprentices but of skilled hands. To find man's earlier work the old gravels on the ridges which separate the upper water of Medway and Darent had to be searched. He searched them, and found still older and cruder palaeoliths, but even they did not represent the beginning of things. And so it came about, just as he was meditating his second marriage, he began to search in the "gravel-spreads" on the top of the North Downs—infinately older than those of the weald—for man's earliest attempts at making stone tools. Hence, after his second marriage, when the old inquiring Adam in him had once more mastered his business duties, we find him again searching the plateau gravels. In 1881 he believed he had found a rude tool which showed definite evidence of human workmanship; in 1885 he had found others that convinced him of his discovery; by 1887 further discoveries gave him the feeling of certainty. He had come into touch with many of the leading geologists and archaeologists of the time; but without the help of Joseph Prestwich, professor of geology at Oxford, he could never have succeeded in proving his case. Although holding the chair of geology in the University of Oxford Prestwich lived at Shoreham, in the valley of the Darent, eight miles from Ightham. In 1879 he became interested in Harrison's work, and an ideal partnership was established between the two men. Prestwich became adviser, mentor, and critic—for he was Harrison's senior by twenty-five years; he insisted on Harrison supplying complete records of every find and convincing proof of every statement, and in due time was convinced that the plateau gravels of the North Downs did contain rudely chipped stone implements, to which he gave the name "coliths." Harrison was an intensely modest man; publication he regarded as the duty of those who occupied professorial chairs, not of those who stood behind counters. So it came about that Harrison's discoveries were verified and published, with all due credit, at the Geological Society.

logical Institute in 1891. The announcement of Harrison's discovery met with a mixed reception; experts became ranged in a series which extended from the confirmed "die-hards," who rejected coliths of every kind and form as evidence of man's existence, to the extreme optimist, who accepted every chipped stone as the genuine work of human hands. Nor is the dispute now ended; it is true

<sup>1</sup> *Harrison of Ightham*. A book about Benjamin Harrison of Ightham, Kent, made up principally of extracts from his notebooks and correspondence. Prepared for publication by Sir Edward R. Harrison. London: Milford, Oxford University Press, 1928. (Demy 8vo, pp. xi+395; 12 plates. 15s. net.)

that in the last forty years coliths have steadily gained in favour; there has been a gradual movement from the die-hard to the optimist end of the expert scale, but the battle for antiquity is by no means yet decided. Harrison's cause was greatly advanced in 1910, when Mr. Reid Moir first announced the discovery of rostracariate implements under the crag formations of East Anglia. He and Mr. Reid Moir agreed that the Kentish coliths were more primitive in type and older in time than the "suberags" of East Anglia. Both discoveries indicate the existence of Pliocene man in England.

The story of Harrison of Ightham has an interest for

medical men: his type is to be found in every part of England, and it is well that we should recognize and know them, for we can learn much from them. There is, in all their lives, as in that of Benjamin Harrison, an element of tragedy; in 1905, at the age of 68, he "retired from business." In reality business had retired from him, and had it not been for a small pension from the Civil List and an annuity from the Royal Society the tragedy might have been a real one—to everyone except Harrison, for he was one of those happy men who met the buffeting of fate with a smile, and sought only for the welfare of knowledge and of his fellow men.

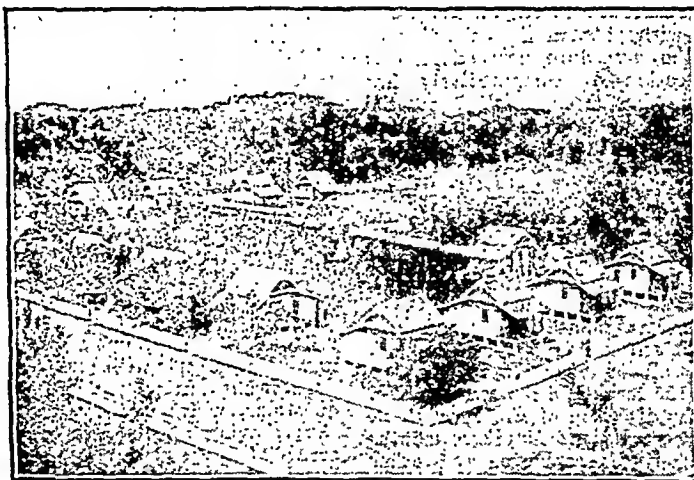
## THE CAMPAIGN AGAINST LEPROSY.

WHEN it is realized that there are probably about three million lepers in the world, and that about one-third of these are to be found in India alone, it becomes evident that the eradication of this scourge is in great measure a British problem. The annual report for 1927 of the British Empire Leprosy Relief Association indicates in arresting words, statistics, and illustrations what has already been achieved in this respect, and what remains to be done. The most outstanding feature is undoubtedly the fact that cure is now possible if treatment is provided at the commencement of the disease, and the association has therefore addressed itself systematically to the important task of promoting an increasingly intensive search for early cases. Mention is made in the report of the great advance since the discovery of unirritating preparations of sodium hydrocarbate, and of Muir's antimony and potassium iodide treatment. Highly satisfactory progress has been reported, not only in India, but also in South and East Africa; it may be recalled that Mr. Frank Oldrieve, the secretary of the association, visited, in 1927, Uganda, Rhodesia, Kenya, Zanzibar, Tanganyika, and Nyasaland, obtaining a very large amount of valuable information. Among the natives confidence is growing rapidly in the treatment centres, which are financed partly or altogether by the association. An appeal is made for such assistance as will enable this work to be extended still more widely.

Sir Leonard Rogers, who is honorary secretary of the association, commenting on the importance of detecting and treating early cases, emphasizes the value of examining contacts every six months for five years. He believes that in this way a very substantial reduction in the incidence of this disease can be obtained. Dr. Robert Cochrane, who published last year a survey of leprosy in India, to which we referred on August 27th, 1927 (p. 362), has now made a second contribution to what is intended to become a world survey of leprosy. He outlines the present position in various parts of Europe and the Middle and Near East, but devotes considerable attention to Africa, where evidence has been obtained in support of the view that infection usually occurs in childhood. The fact that leprosy is generally a house infection, and that, apart from this, close personal contact is usually necessary for its transmission, brings up the difficult question of segregating infectious cases and of protecting the children of leprosy parents. Compulsory isolation, which proved such an effective measure in Europe in the fourteenth century,

is now usually considered very unsatisfactory, since early cases are thus driven into hiding and the optimum time for treatment is therefore missed. A modern equivalent has been devised in some places in the form of leper centres in pleasant surroundings, where a considerable degree of freedom is allowable. The plan is obviously capable of great extension, since it has been estimated that less than 8 per cent. of the lepers in the British Empire are segregated.

In this connexion we have received an interesting report of the methods adopted in Siam, where there are said to be about 20,000 lepers. In Chiengmai, in the north of Siam, an American physician, Dr. J. W. McKean, is in charge of a leper asylum colony outside the city walls, where in the course of the last twenty years more than 1,000 lepers have been treated. This asylum, of which we



LEPER COLONY, CHIENGMAI, SIAM.

print an illustration, is one of the two large ones in Siam, the other being at Prapadeng. The cost of maintenance of the Chiengmai asylum amounts to nearly £3,000, one-third of which is borne by the Siamese Government and the remainder by voluntary contributions, chiefly received through the American Mission to Lepers. During the earlier years of the work of this institution considerable support was given by British subscribers. In this leper colony the Siamese method of self-government is in operation,

there being a home guard of eighteen persons to preserve order, a sanitary squad of eight, and a welfare committee. Marriage is forbidden, and the men and women live apart, but otherwise there is no compulsion. The colony is open to all races and religions. Each small cottage accommodates two lepers, and is surrounded by a garden; the furnishing of these cottages is very simple in order that strict cleanliness may prevail. Dead lepers are cremated in a building approached by two stairways. A large church with open doors is provided. Such conditions for living compare very advantageously with these in the towns, where large numbers of crippled and disfigured sufferers obtain a scanty livelihood by begging.

We have often referred to the excellent work of the well-known British society the Mission to Lepers, whose journal entitled *Without the Camp* supplies quarterly a record of what is being achieved throughout the world. It may also be mentioned that the May issue of the *The Mission Hospital*, the monthly periodical published by the Church Missionary Society, is devoted to leprosy, and contains an article by Sir Leonard Rogers on recent progress in the campaign against leprosy in the British Empire. With the advance of medical research there appears to be now a real prospect of controlling, and even eradicating, this world scourge, provided only that sufficient financial support is forthcoming.

<sup>1</sup> *Leprosy in Europe, the Middle and Near East, and Africa*. By Robert G. Cochrane. World Dominion Press, 1, Tudor Street, London, E.C.4. (Price 2s.)

## THE INDUSTRIAL FATIGUE RESEARCH BOARD.

## REPORT FOR 1927.

It is the practice of the Industrial Fatigue Research Board to publish each year a summary of the work upon which it has been engaged. The investigations, begun, continued, or completed during 1927, form the subject of the eighth annual report, which has just been issued. It is natural that the efforts of so young a handmaid of science should be surrounded with difficulties; that much of the labours of the Board should consist in exploring methods for attacking problems; and that in some cases the solution of a question submitted to the Board has proved unattainable. Thus the Advisory Committee on Women's Occupations asked the Board to inquire into the relation of school-leaving age to well-being and proficiency. After two attempts to define procedure suitable to the subject, the Board, on the advice of its Statistical Committee, was reluctantly compelled to dismiss statistical consideration of the matter, and to confine itself to the investigation of the relation of age to the acquisition of dexterity. In many of the researches it has been found difficult to obtain sufficient comparable material for the study of mass data. During the war many opportunities occurred for collecting such data, over long periods, relating to one specified product. In peace man's demands for products are not limited in the same way. Moreover, analysis of mass data can take no account of the personal and individual peculiarities which are among the most potent influences operative in industry. Consequently, while many of the Board's investigations, such as those dealing with sickness, are still statistical in the sense that the investigator deals with data in the collection of which he plays no part, the procedure now adopted is often the intensive observation of comparatively few individuals. This technique has been applied to the examination of weight-carrying by women, the causation of accidents, and the effect on the individual of repetitive work.

*Menstruation and Working Capacity.*

An inquiry of medical interest has been conducted on the relation of the menstrual cycle to the working capacity of women. The question was explored from two directions. First, Miss S. C. M. Sowton, acting under Dr. C. S. Myers, made daily tests for several months of the muscular and mental efficiency of thirteen university students and sixteen factory operatives, all of whom were kept in ignorance of the purpose of the tests. In the second place, Miss G. M. Bedale, under the direction of Professor E. P. Cathcart, made systematic observations for three months of the basal metabolism, body temperature, and other physiological phenomena in a single subject under strictly controlled conditions. Miss Sowton's investigation showed that the influence of menstruation was no greater than that of other occurrences of an accidental nature; but that individual women differed in their behaviour, some showing a worse performance of the tests about the time of the periods, others a better performance, while in others again no definite difference could be detected. Miss Bedale found that, while there was a heightening of functional activity in the later inter-menstrual period and a fall at menstruation, the fall was no greater than others which often occur accidentally. There was no evidence that a normally healthy woman was rendered physiologically ineffective during menstruation. The Board concludes that, while slight variations in efficiency and functional activity during the menstrual cycle exist in some women, the investigations support the results of an inquiry made in another connexion among welfare workers, from which it appears that very few women are so upset that they have to remain off work even half a day; and that where menstrual trouble occurs at all, the women merely lie down in the rest room for about an hour, and then resume work.

*Accident and Sickness Rates: The Personal Factor.*

The fact that under equal conditions of risk one person is liable to incur more accidents than another has led the Board to the investigation of proficiency in certain sensori-

motor tests. Such proficiency appears to be associated with a relatively low accident rate; and from data obtained from apprentices at the R.A.F. establishment at Halton, and the dockyard at Portsmouth, it is hoped to throw light on the relationship between accident proneness, sickness, and industrial proficiency.

It appears that wide variations exist in the average time lost through sickness in different factories, and that these differences persist consistently. Sickness records are, therefore, being collected from several large firms, and it is hoped that it will be discovered from these, and from examination of the employees, how far psycho-neuroses are associated with a high sickness rate. In such inquiries there is very great difficulty in relating cause and effect; but, as the report points out, though one inquiry may merely suggest a tentative conclusion, repeated suggestions from many inquiries may establish a high degree of probability. Such has been the case in observations on the rate of output on short shifts; on the beneficial influence of short rest pauses; and on the importance of high illumination in fine processes, an inquiry which had the additional advantage of leading to the adoption of specially constructed glasses for the relief of strain on the muscles of accommodation and convergence in workers.

*The Work of the Board.*

The total number of reports issued by the Board has now reached fifty, of which seven were published in 1927 and four in the early part of the present year. It is evident that a vast mass of information is being gathered from experiment and observation, from which the worker of the future should derive much benefit. These efforts should provide an antidote to the callous unconcern for his employee's welfare which is supposed to have characterized the nineteenth century industrialist; to the advantage, it is to be hoped, of the worker's body, without debilitating his moral fibre.

At the end of the present report the Industrial Fatigue Research Board gives an interesting account of the organization used in its investigations. Supervision of the various researches, and strictly scientific criticism of the work generally, have been assigned to four committees: for statistics, for physiology of muscular work, for industrial psychology, for physiology of vision. In the study of involved and complex problems it has been found advisable (without impairing the authority of the four main committees) to assign immediate supervision to special committees of experts with representatives of other Government departments interested. Lastly, in important technical questions, which can only be dealt with satisfactorily by those having a complete knowledge of the industry concerned, the Board has been fortunate in always being able to co-opt on to the appropriate committee, or to add as members of additional temporary committees, representatives of employers or workmen interested in the industry. Eight of these special committees are in existence. The place of Professor E. H. Starling on the Board has been filled by the appointment of Professor E. P. Cathcart, and Dr. C. G. Douglas has taken his place on the committee on physiology of muscular work.

## LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

## ANNUAL GENERAL MEETING.

The annual general meeting of the London and Counties Medical Protection Society was held at Victory House, Leicester Square, London, on June 13th.

Sir JOHN ROSE BRADFORD, president of the society, who was in the chair, said that there had been continued progress during the year. One gratifying feature was the large accession of new members. The society had added to its strength by 1,155, and of this number 706 had applied for membership within a year of their registration. It still remained true, of course, that a very large number of practitioners, to their great risk, did not belong to any defence society. The work of the society had increased in even larger proportion than the membership, partly as the result of the extreme fondness of the public for bringing actions or claims against medical men. These cases

showed that doctors could not be too careful in the precautions they took, especially in their initial relationships with their patients. Scarcely a week passed without the society learning of some proceedings taken or threatened owing to alleged negligence or wrongful act on the part of the doctor.

The annual report of the council was adopted, and Dr. C. M. FEGAN moved the re-election of Sir John Rose Bradford as president; after a tribute to the services which Sir John had rendered to the society, he associated himself with the remarks just made about litigation. The colossal damages originally awarded in the Harnett case had opened the eyes of the man in the street to the possibility of getting cheap money. Were it not for the resolute attitude of the society in fighting any such case where there was a chance of success, litigation would be still more frequent. The resolution, which was seconded by Sir William Hale-White, was carried by general acclamation.

The annual report of the council stated that the membership of the society on December 31st last was 10,872. (The society includes qualified dental practitioners, though not at present those registered as "Dentist, 1921.") The number of applications for advice and assistance during the year was 1,008. In the majority of cases satisfactory results were obtained without litigation, and the results of most of the cases which went on to litigation were also satisfactory. The solicitors' report contained some interesting short summaries of cases dealt with during the year; they state that the general public has become more critical and far more inclined to make complaints and to bring charges against members of the medical and dental professions. This is chiefly attributable, in their opinion, to the national health insurance scheme, the wider education of the public, the effect on the public mind of some spectacular cases in the last few years, and the lurid publicity which has been given to them. The national health insurance scheme, under which complaints may be made against insurance practitioners, has, in the solicitors' opinion, awakened a far more critical and litigious spirit in the general body of the British public, and has provided, with but little risk of expense to the patient, a ready method of finding real or imaginary grievances against individual practitioners.

## LEAD TETRA-ETHYL IN MOTOR SPIRIT.

### COMMITTEE OF INQUIRY.

The committee which, under the chairmanship of Sir Frederick Willis, is inquiring into the use of lead tetra-ethyl in motor spirit held a further meeting on June 11th,\* when Dr. J. P. LEAKE of the United States Public Health Service described the investigation completed in 1926 by a committee appointed under the auspices of the Federal Government; he was himself in charge of the experimental work.

### AMERICAN PUBLIC HEALTH EVIDENCE.

Dr. Leake said that the purpose of the investigation was to determine what dangers, if any, were involved in the manufacture, distribution, and use of lead tetra-ethyl in petrol. It was felt that the results of experiments on animal subjects would not be sufficiently definite, and therefore groups of human subjects were taken. These included two control groups of persons subjected to automobile vapours in garages or in driving, but not lead ethyl petrol, and two similar groups, of 77 and 27 men respectively, working where such petrol was used. There was also a fifth group consisting of men, such as those working on accumulators, who were definitely exposed to certain other lead hazards. The reason for taking this accessory group was to ensure that the methods of inquiry were adequate to show lead absorption when it occurred. Dr. Leake added that there was no foundation for the suggestion of a previous witness that the men using this ethyl petrol were carefully warned beforehand and took special precautions, knowing that the experiment was proceeding; the men, who included some of the earliest workers with this product in the States, were extraordinarily careless, spilling the petrol on their clothes and persons, and, moreover, the garages were in some cases dirty and ill ventilated. The men were subjected to thorough clinical examination. Microscopical examination was made for the stippling of the blood cells, and chemical examination for lead in the faeces. In reply to Sir Frederick Willis, the witness said that he thought, over a large group of men, the test on the excreta furnished a satisfactory index of lead absorption. The examiner at the time of the examination was left unaware as to which of the men had been using the lead product and which were the controls, and

thus any subjective error on his part was as far as possible excluded. In the result this careful clinical examination revealed no cases of lead poisoning except in the fifth group—those definitely exposed to other lead hazards. Among these some cases were found, and their discovery seemed to prove that the tests for toxic action were adequate. The possibility was also borne in mind that employees in the garages where ethyl lead petrol had been used might have suffered from slight symptoms and have left the employment or perhaps the neighbourhood, so that the men remaining were selected individuals who had gained a sort of immunity. A very thorough effort was made to seek out any who had been exposed and had afterwards left the place, but no cases were discovered which gave any ground for the supposition that among ex-workers unnoticed effects might have been forthcoming. Further, owing to the great publicity which had been given to this subject in the States, any deleterious results were even more likely to be reported than diseases ordinarily notifiable.

The conclusion of the American committee was that drivers of cars using ethyl gasoline showed no definite signs of lead absorption after exposures approximating to two years, that employees in ordinary garages might show a certain amount of evidence of lead absorption—possibly due, as the witness afterwards explained, to lead from the paint on the cars or on the tyres—as indicated by lead in the excreta and stipple cells in the blood, and that men at garages and stations where ethyl lead petrol was used showed a somewhat increased amount of apparent absorption and storage, but this effect was small as compared with the effect on workers who were subjected to other definite lead hazards. The committee was of opinion that at present there were no grounds for prohibiting the use of lead tetra-ethyl in motor fuel, provided its distribution and use were under proper regulations. The committee had suggested four sets of regulations—namely, for the manufacture and blending of the product, for its mixing with gasoline, for distribution, and for use in garages, service stations, and repair shops. These regulations were only of an advisory character, as the Federal Government had no power to make binding regulations for individual industries, and, so far as he knew, only one State had adopted them. But the Ethyl Gasoline Corporation had agreed with the Surgeon-General that the regulations regarding manufacture, mixing, and distribution should be carried out; so far as the fourth set was concerned, affecting the garages, there was no machinery for its enforcement, but it was issued as a warning to those concerned.

The witness added that since this inquiry further investigation on the men had been made, and they showed little or no more lead in the excreta than they did when first examined. They had now been under these conditions for four years. So far there was nothing to indicate that even in twenty years any more unfavourable result was likely to occur. In addition, certain private investigations and investigations by State medical officers had been carried out, and here again the results had been entirely negative.

In reply to Sir George Buchanan, the witness said that he was a whole-time medical officer in the Public Health Service, and if he had any bias it was the natural bias of the officer who would have to be "shot at" should any calamity occur. He did not think it was likely that there existed any unsuspected form of chronic poisoning, as had been suggested to the committee. Any such cases would certainly have been brought to the notice of those responsible for the inquiry, if only on account of the publicity given to the whole question in the States and to the instructions given to health officers everywhere to maintain a watch for such cases. The use of ethyl lead petrol had now spread so widely in America that it would be difficult in future to get controls—that is, to find garages where one could be sure that none of the product had been used. In reply to Sir William Willcox, he agreed that he had not examined the urine in the cases taken, but only the faeces; he believed that the excretion of lead through the kidney was more uniform than through the liver and other organs. Sir William Willcox also put it to the witness that where any toxic substance was acting in very small amounts, it might be extremely difficult to detect its cumulative effects, as instanced in the long unsuspected effects on aeroplane workers, during the war, of the tetrachlorethane in which the cellulose was formerly dissolved. The witness, in reply to Professor Dixon, said that so far as industrial medicine was concerned public health control in the States was not so well centred or so uniform as in this country, but from the point of view of the notification of unusual cases of disease or injury he thought there was no marked difference between the two administrations.

Sir Charles Martin referred to a suggestion made to the committee that cases of poisoning had occurred in America and had been hushed up and compensated by the important interests concerned. Dr. Leake agreed that that might be conceivable in the individual manufacturing plant, but so far as people working in garages were concerned nothing of the kind could take place. These people were in no way subject to control by the "interests." Industrial poisoning was compensated for by law in those States which had a body of industrial legislation.

\* Reports of the earlier proceedings have been published in the *British Medical Journal* of May 5th (p. 770), May 19th (p. 871), and June 16th (p. 1053).

## British Medical Journal.

SATURDAY, JUNE 23RD, 1928.

### TUMOURS OF THE FRONTAL LOBE.

THE steady progress of neuro-surgery has rendered the accurate localization of intracranial tumours a problem of urgent importance. As long as the surgeon could afford the patient merely a temporary reduction of his increased intracranial pressure by means of a cerebral decompression the precise localization of his tumour was of little more than academic interest. Modern surgical developments, however, are effecting as complete a revolution in the outlook of cerebral surgery as occurred in the surgery of the abdomen some thirty years ago. Owing largely to the work of Cushing and his pupils, the immediate mortality of operation for intracranial tumour is steadily falling, and in the most skilled hands is now less than 10 per cent. At the same time the technique of cerebral surgery is becoming increasingly radical. In a progressively larger number of cases the tumour is proving capable of removal. Histological studies indicate widely differing degrees of malignancy in the gliomas, many of which are slow-growing and relatively benign. Removal of such tumours may be expected to afford many years' relief from symptoms, and the possibilities of post-operative treatment with radium are still almost unexplored. But it is obvious that improved neuro-surgical technique can offer its benefits only to a patient whose tumour has been accurately localized, for, unlike the abdominal viscera, the cranial contents cannot be widely explored through a comparatively small incision.

In view of these considerations any data which promise to facilitate localization are of value, especially in the case of growths in the so-called silent areas, and we publish in this issue articles by Dr. J. Purdon Martin and Dr. S. McClements dealing with the symptomatology of tumours of the frontal lobes. From the investigation of their cases certain facts emerge which are perhaps worthy of emphasis. Dr. Martin rightly lays stress upon the slightness of the classical signs of increased intracranial pressure in many cases of frontal lobe tumour. Increased knowledge concerning the pathogenesis of these symptoms is bringing with it a recognition that headache, vomiting, and papilloedema are by no means constantly present nor always associated in cases of cerebral tumour, and that the presence or absence of these symptoms, taken in conjunction with the focal signs of the tumour, may have a certain localizing value. Thus papilloedema, though rare with frontal tumours, is, as Paton showed, common with tumours of the temporo-sphenoidal lobe. Also swelling of the optic disc is usually an early sign of cerebellar tumours, and in such cases attains considerable severity, while it is often absent or late in appearing when the tumour is situated within the pons. The frequent absence of papilloedema therefore distinguishes a tumour of the frontal lobes from temporo-sphenoidal and cerebellar tumours, with both of which it may sometimes be confused. Vomiting, though often described as a symptom of increased intracranial

pressure, appears always to be an indication that internal hydrocephalus is present, and the frequent absence of vomiting in frontal lobe tumours is to be attributed to the comparative remoteness of their situation from the ventricular and subarachnoid channels; hence the unlikelihood that such tumours will cause obstruction to the circulation of the cerebro-spinal fluid until they have attained a large size.

Another point of practical importance which Dr. Martin mentions is that generalized convulsions occurred in all three of his patients, and constituted an early symptom in two, one of whom also had attacks of the character of petit mal. It is too little appreciated that an intracranial tumour not infrequently gives rise to generalized epileptiform convulsions without any focal or Jacksonian element, and that, more than any others, tumours situated in the frontal lobe are prone to do so. Especially when generalized convulsions make their appearance for the first time in a patient over the age of 20 the possibility that they may be due to a cerebral tumour should be considered.

An important sign of frontal lobe lesions appears to have been absent in the cases now reported. This—the grasp or grip reflex—consists of an involuntary flexion of the fingers in response to the moving contact of an object with the palm of the hand, especially with the cutaneous surface between the thumb and index finger. This phenomenon may be discovered by the patient himself, who finds that he is unable to withdraw objects from the hand on the side opposite to the lesion. The harder he tries to pull away the object he is thus involuntarily grasping the more firmly do his fingers grip it. This remarkable reflex, which appears to be a regression to the reflex grasping of the young infant, is present in a proportion of cases of tumour of the frontal lobe, and appears to be pathognomonic of a lesion in that situation.

The mental changes which so often result from tumours involving one or other frontal lobe are of great importance in localization, and Dr. Ernest Sachs, in a recent review of the symptomatology of these tumours, found them present in twenty-one out of twenty-five cases. He, like Dr. Martin, stresses the "peculiar indifference" of these patients to their condition. That similar mental changes may be produced by tumours in other situations is doubtless due to the fact that in such cases increased intracranial pressure impairs the function of the frontal lobes. But then the signs of increased intracranial pressure are conspicuous, whereas when the mental impairment is due to a primary lesion of the frontal lobe these signs are slight or absent.

Lastly, it should be remembered that when clinical investigation yields an uncertain answer to the question of the localization of cerebral tumour, we have in ventriculography a valuable aid, of which increasing use is being made. The injection of air into the cerebral ventricles allows alterations in their size, shape, and position due to the pressure of a tumour to be demonstrated radiographically. Tumours of the frontal lobe are likely to cause deformity of the anterior horn of the homolateral ventricle, with possibly a displacement of the opposite anterior horn away from the tumour. Judging from the pathological reports, characteristic abnormalities would probably have been present in all three of Dr. Martin's cases had ventriculograms been taken. Ventriculography is especially useful when the clinical picture suggests that the tumour may be either frontal or cerebellar, for the



characteristic radiographic appearance of the latter is a generalized distension of the third and lateral ventricles, which can hardly occur as a result of a tumour of the frontal lobe. It must be added that both the injection of air within the ventricles and the interpretation of the resulting radiograms are procedures requiring expert knowledge, and ventriculography should be performed only when cerebral decompression can subsequently be done without delay should the patient's condition demand it.

### THE INTERPRETATION OF GASTRIC SYMPTOMS.

APART from the typical syndromes presented by organic lesions of the oesophagus, stomach, and duodenum, very few symptoms or groups of symptoms are of much value for the purpose of diagnosing disorders of the upper alimentary tract. Various names have been applied to diverse conditions thought to be associated with abnormality of motility or secretion in the stomach, but such terms as "acid or hypersthenic dyspepsia" and "flatulent dyspepsia" are at best merely cloaks for ignorance. That we are still very far from understanding this large group of clinical conditions is evident, if only from the frequency with which they resist all forms of treatment. Indeed, from the point of view of cure it is far preferable to deal with a frank peptic ulcer than with some of the so-called dyspepsias. Numerous efforts have in the past been made to determine the significance of symptoms which seemed to originate from the upper levels of the digestive tract. Notable among these attempts was the work of Head<sup>1</sup> towards the close of the last century on deep and referred pain, especially that dealing with the dyspepsias accompanying the various stages of phthisis. Mackenzie believed that all visceral pain was referred, and cited the frequent occurrence of gastric pain in the region of the xiphisternum considerably above the actual level of the stomach. But the newer methods of experiment employed by Cannon and Washburn and by Carlson, consisting in the investigation of pressure changes within a small elastic balloon at the end of a thin rubber tube introduced into the oesophagus or stomach, have necessitated the revision of older views. For example, the demonstration by this method that pain in the upper part of the epigastrium often originates from the lower end of the oesophagus seriously weakens Mackenzie's assumption regarding the nature of such pain.

Approaching the problem from its clinical aspect, Dr. Charles Bolton, in his Croonian Lectures (of which we gave a full abstract last week at page 1030), has analysed the position and time of onset of pain in over one thousand cases of dyspepsia. He described pyloric, cardiac, and oesophageal syndromes, the symptoms in each group depending upon undue irritability of the neuro-muscular mechanism in the wall of the viscus or upon abnormality of the gastric contents. In recent publications Payne and Poulton<sup>2</sup> have amplified our modern conception of dyspeptic symptoms by an experimental investigation of pain, heartburn, nausea, "sinking," and hunger. For these experiments the patient was gradually accustomed to the presence of a cylindrical balloon at various levels in the upper alimentary tract; pressure changes were recorded by water transmission to a

smoked drum, and simultaneous records were kept of sensations experienced. These workers found that oesophageal pain was due to stretching of certain nerve-endings in the wall, and that such pain might be relieved either by a peristaltic contraction relaxing the tension in the wall or by postural adaptation increasing the capacity of the viscus. Related also to the oesophagus is the sensation known as heartburn; this is associated with peristaltic contractions of the organ and a rise of pressure within it. Heartburn may be retrosternal or epigastric, and in this connexion it may be mentioned that the position of an oesophageal lesion can often be indicated with ease and accuracy by the patient. The sensation of nausea also is related to tension exercised on specific oesophageal nerve-endings, while the so-called "sinking" feeling is completely analogous, though arising from sensory nerve endings in the lower part of the stomach. Local conditions of heat or cold produced by swallowing liquids of varying temperature are capable of modifying tone and activity in the oesophagus, as also may reflexes through the fifth nerve or the cutaneous nerves supplying the sternal region. Pain is generally accompanied by increased oesophageal tonus, and the fact that the latter is diminished by counter-irritation probably accounts for the relief afforded by this therapeutic measure. In the upper abdomen pain is found to be commonly associated with movements of the pyloric portion of the stomach, duodenum, or jejunum. Conversely, where postural tone is low, pain may accompany relaxation rather than contraction of the muscular walls of the viscera.

These results may account in part for the spasmodic pain experienced in gastric or duodenal ulcer, and may in part also explain the more continuous discomfort so often felt in conditions of gastric atony as demonstrated by x-ray examination with the opaque meal. But it seems that there must be some factor other than peristaltic contractions in the production of ulcer pain, since alkalis relieve it without inhibiting peristalsis. It may be that heightened tonus, as in other parts of the digestive tract, is responsible for the pain in this region. Hunger pains are referred by the majority of subjects to the lower and mid-sternal regions, but they were shown by Cannon and Washburn<sup>3</sup> to originate from the contractions of the stomach, and also sometimes of the lower end of the oesophagus occurring in conjunction with increased tonus. These pains originate far more readily in the subjects of gastric or duodenal ulcer than in normal individuals, a fact which gives support to the view that the pain of peptic ulcer may be more closely related to the postural tone of the affected organ than to active muscular contractions of its walls.

#### DAWSON WILLIAMS MEMORIAL.

ALL the subscribers to the Dawson Williams Memorial Fund are invited to attend a meeting to be held at the house of the Royal Society of Medicine (1, Wimpole Street, W.1) on Tuesday, July 10th, at 5.30 p.m., to receive the treasurer's report and decide on the form of the memorial. The Organizing Committee suggests that it should be a prize to be awarded every two or more years for the best work which had been done in pediatrics since the previous award. The list of subscribers will remain open until July 10th, and contributors are invited to send their cheques to the honorary treasurer, Sir StClair Thomson (64, Wimpole Street, W.1) before that date, when the list must be finally closed.

<sup>1</sup> Brain, 1896, xix, p. 153.

<sup>2</sup> Journ. Physiol., 1927, xiii, p. 217; and 1928, xv, p. 157.

<sup>3</sup> Cannon: Bodily Changes in Fear, Pain, and Rage, 1915, p. 232.

## DIPHTHERIA IMMUNIZATION: THE QUEENSLAND FATALITIES.

According to the correspondent of the *Times* at Canberra, the Commission appointed by the Government of Australia to inquire into the cause of the deaths of twelve children at Bundaberg, Queensland, in January, during an anti-diphtheria campaign, has now produced its report, which has been tabled in the House of Representatives. When commenting previously on this fatality (February 4th, p. 193) we suggested that it appeared likely that the preparation used for prophylactic inoculation was the toxin-antitoxin mixture; this is now shown to have been the case. The mortality is attributed definitely in the report to the absence in the sample used of the antiseptic usually added to prevent the growth in the fluid of accidentally introduced micro-organisms; adverse comment is made upon the fact that there was no indication upon the bottle that the antiseptic was lacking. The Commission, which admits that its conclusions are based partly upon negative evidence, finds that pathogenic staphylococci were introduced somehow into the mixture, and all the evidence is said to favour the view that living staphylococci were the cause of the deaths. The way in which these organisms entered the mixture has not been defined with certainty; contamination of the hypodermic needle used may possibly have occurred, or the staphylococci may have been air-borne. The absence of disinfectant from the toxin-antitoxin mixture was intended as a safeguard against such dissociation as has been known to follow the freezing and thawing of this prophylactic. The repeated use of such a preparation was obviously open to a danger which would not have existed had the particular rubber-capped bottle been employed on only one occasion, as had been intended; the absence of a label indicating that no antiseptic was present gave, however, the unfortunate impression that the mixture—apparently a culture medium for organisms—was safeguarded from such contamination. The question, then, of the advisability of using toxin-antitoxin in diphtheria prophylaxis does not arise, the mortality at Bundaberg being accidental and having no real relation to the composition of the agent employed. This point is important and should not be overlooked, since already erroneous deductions in this respect have been drawn. The Commission unhesitatingly lays the blame on the absence of an antiseptic. Sir Neville Howse, Minister of Health, remarked advisedly that such antidiphtherial inoculation had been used all over the world without the procedure having been shown to be directly dangerous, and that this exceptional fatality indicated an unexpected complication. He went further, and added that the action of the staphylococci incriminated by the evidence was so unusual that an extensive investigation would be made of the pathogenic possibilities of this group of bacteria. It is a matter of common knowledge that staphylococci which in some past years were considered to have a very limited pathogenicity have latterly been shown to be capable of causing widespread and fatal morbid conditions. The unfortunate occurrence in Bundaberg is only another of a series of incidents all pointing in the same direction. Apart from this, however, it is stated by the *Times* correspondent that the Queensland Health Department has been recommended by the Commission to study the advisability of substituting toxoid (the *Times* report gives "antitoxin," which is probably meant for "anatoxine," the confusing word used in French literature) or a similar modified immunizing agent for toxin-antitoxin. Reference has been made to this question on several occasions in our columns, but it may be mentioned again that the employment of toxoid, and not toxin, in the mixture used in England appears to afford a wide margin of safety, provided that suitable antiseptic precautions are taken.

## THE INTERNATIONAL CONFERENCE ON CANCER.

The arrangements for the International Conference on Cancer, organized by the British Empire Cancer Campaign for the third week of July in London, are now practically complete. It promises to be not only a large gathering, but one which may have far-reaching effects. The programme of discussions and demonstrations planned is, I say the least, very comprehensive. On Monday, July 16th the international and imperial delegates are to be received at Buckingham Palace by the King, and in the evening that day Sir John Bland-Sutton, president of the conference, gives, with Lady Bland-Sutton, a reception at Broc Street. The business opens on the Tuesday morning at the Royal Society of Medicine and in the assembly hall of the adjacent College of Nursing. Tuesday and Thursday mornings are to be devoted to general discussions, and Wednesday and Friday mornings to sectional meetings. The principal general discussion is on the relative value of surgery and radiation in the treatment of cancer of the cervix uteri, rectum, breast, and buccal cavity. Dr. G. Regaud, director of the Pasteur Laboratory at the Paris Radium Institute, will contribute a general opening address, and each branch of the subject will be dealt with separately. Another general discussion will relate to the etiology of cancer, to be opened by Professor James Ewing of Cornell University, and this is to be followed by a third on methods of treatment by chemotherapy, with special reference to lead, the opener being Professor Blair Bell. On Wednesday and Friday mornings the conference divides into its six sections—namely, pathology, diagnosis, medicine, surgery, radiology, and statistics and public health—under the chairmanship respectively of Professor W. S. Lazarus-Barlow, Sir Thomas Horder, Sir William Hale White, Sir Charles Gordon-Watson, Professor Sidney Russ, and Dr. F. E. Fremantle, M.P. In the section on surgery the subjects to be discussed are the classification and treatment of bone sarcoma, and, on the second day, the early recognition and treatment of cancer of the stomach. The sections of medicine and diagnosis unite in one meeting for a discussion on some present-day medical aspects of cancer, and, together with the pathology section, for a discussion on diagnostic methods. The radiology section is to cover the biological effect of radium and x rays, with special reference to the factors of wave-length, intensity of radiation, and duration of exposure, and will also consider the effects of these agents on the blood, vascular, and lymphatic systems, with special reference to malignant growths. The sections of pathology and of statistics and public health combine for a discussion on occupational cancer, and the latter section is also to discuss geographical and racial prevalence, and public action with regard to the disease. The afternoons are to be devoted to demonstrations at hospitals and research institutions. Among the institutions to be visited are the Bland-Sutton Institute of Pathology and the newly opened Courtauld Institute of Biochemistry at Middlesex Hospital, the Royal College of Surgeons and its museum, St. Bartholomew's, Guy's, Westminster, St. Mark's, and the Cancer Hospitals, the Lister Institute, the Radium Institute, and the Wellcome Museum of Medical Science. Demonstrations, and in some places lectures and operations, have been arranged. The outstanding evening function is on Wednesday, when the Duke of York, President of the British Empire Cancer Campaign, will give a reception at Lancaster House, St. James's. About one hundred delegates from European countries, the United States, and the British Dominions have already intimated their intention of being present at the conference, and the list of these, with the much larger list of home delegates from the various hospitals and schools and public bodies, includes many names of national and international renown for work on cancer. The official

language of the conference is English, but arrangements have been made for translations when desired. It is intended afterwards to arrange for the special publication of as much of the proceedings as is practicable. The officers responsible, with the president, for this event in the history of cancer research and control are Mr. J. P. Lockhart-Mummery, chairman of the international conference committee, Mr. Cecil Rowntree, chairman of the executive subcommittee, and Sir Richard Garton, honorary secretary. The offices, from which further details can be obtained, are those of the British Empire Cancer Campaign at 19, Berkeley Street, W.

#### THE ROYAL MEDICAL BENEVOLENT FUND.

THE principal facts and figures relating to the year's work of the Royal Medical Benevolent Fund were furnished in our report of the annual meeting in March last (*Journal*, March 31st, p. 564), but the annual report of the Fund for 1927—the ninety-second to be published—which has just come to hand, contains many other interesting details. It includes, for example, summaries of certain cases relieved by the Fund; some of these make very pathetic reading, but there is here and there—what must be very sustaining to the officers and almoners—a vein of humour. Of the 150 pages of this book, about 100 are occupied with the list of individual and other subscribers. It is gratifying to note that the income for 1927 was increased by £800 as the result of allocations by the British Medical Association Charities Committee (as against £500 from this source in 1926), and by £625 from the Medical Insurance Agency, which has altogether contributed well over £5,000 to the Fund. The subscriptions and donations transmitted through the British Medical Association have shown an almost consistent increase during the last twenty years, and reached £1,271 in 1927. Certain Branches and Divisions of the Association, one of them the Malaya Branch, also subscribed a total of £84, and a sum not far short of £250 came from medical societies and hospital staffs, and £225 from Panel Committees. This last is a growing source of revenue; five Panel Committees each subscribed twenty guineas or over. The Liverpool Cathedral collection on St. Luke's Day resulted in £104 for the Fund. The historical retrospect shows that in the first year of the society's existence the income was £128; the income last year, for the general fund, was £13,576, and, in addition, the Guild, an invaluable auxiliary, had an income of £7,595; and as against the two cases relieved in the first year of operation, the number of grantees and annuitants is now over 600. With increased support from the profession at large much more could be done for those applying to the Fund for help in their distress.

#### ACCIDENT SERVICES IN INDUSTRY.

SEVERAL points of some medical interest were brought to light at the Industrial Safety Congress, organized by the Home Office and the National Safety First Association, which was held in London on March 20th; a report of the proceedings has now been published.<sup>1</sup> Mr. E. J. Fox, managing director of the Stanton Ironworks Company, described the system employed by this concern for dealing with accidents. Ambulance houses have been established at the various works, quarries, and pits; first-aid boxes are maintained, and outside visitors are employed to keep in touch with men who have been invalidated. Associated with the service are two consulting surgeons, who see between them practically every compensation case, and whose experience is available to the men's panel doctors in a consultative capacity. This facility, Mr. Fox said, was much appreciated by the local practitioners. Referring to the staffing of the ambulance

houses, he insisted on the importance of securing the best possible personnel—skilled trained hospital nurses. To the early attention given in cases of injury at the ambulance houses is attributed the substantial diminution which has been recorded since their inauguration in the number of cases classified as serious. Another speaker expressed the opinion that it was futile to have a safety organization without a well-equipped surgery, with whole-time attendants, open throughout the hours of work in the factory. In the establishment which he represented they insisted that every mishap, however slight, must be at once reported to the surgery. Three years ago they had discontinued entirely the use of first-aid boxes previously installed, and the result had been an enormous decrease in septic cases. This, it will be agreed, is a significant observation. Sir Alfred Herbert, in a paper dealing with machine tool design from the standpoint of safety, remarked that the oils, emulsions, or suds used on machine tools for cooling purposes in high-speed work seemed particularly prone to become contaminated by pyogenic bacteria, and workpeople exposed to contact with these fluids were very liable to develop boils.

#### THE PRESENT POSITION OF PRE-IMMUNIZATION WITH B.C.G.

PRE-IMMUNIZATION of infants by the B.C.G. (*Bacillus Calmette-Guérin*) seems to have aroused but little interest in this country. It is different in other countries, where the tuberculosis problem is, perhaps, more acute. Thus, in a communication to the Académie de Médecine in Paris<sup>2</sup> Drs. J. Cantacuzène and Jonescu Mihailesti described the results of the use of the method in some of the poorer districts in Bucarest and some of the provincial towns in Rumania since the early months of 1925. It appears that the inoculation of their infants with B.C.G. was readily accepted by Rumanian parents, refusals being encountered in only about 2 per cent. of cases. In one town it is recorded that every child born was vaccinated. By the end of last March 6,083 infants had undergone the treatment in Bucarest, and 3,191 in provincial towns. According to Drs. Cantacuzène and Jonescu, there has been a surprising reduction, not only in the tuberculosis mortality, but also in the general mortality, amongst vaccinated infants under 1 year of age as compared with the mortality in the non-vaccinated. Rates of 15, 24, and 26 per cent. in the latter are compared with rates of 5, 4.5, and 6.4 for infants who received B.C.G. The reduction applies to such diseases as broncho-pneumonia, in which the rate for the non-vaccinated is 5.5, while only 0.28 per cent. for the vaccinated, and "congenital debility," with the rate of 14.1 as compared with 2.3. The comparative death rates for vaccinated and non-vaccinated infants brought up in tuberculous surroundings could not be obtained for the provinces, but in Bucarest it was found that of 100 such infants 25 non-vaccinated died, and only 1 vaccinated. The observers regard the efficacy of B.C.G. as evident and its innocuousness as perfect. At the same session of the Académie Professor Lignières returned to his attack on Dr. Calmette's belief in the harmlessness of the administration of B.C.G. to infants who are brought up in non-tuberculous surroundings. Apparently Professor Lignières produced no direct evidence in support of his contention that harm arose from such administration, except that healthy inoculated calves sometimes had a recrudescence of swelling at the site of injection, accompanied by a rise in temperature, and that some guinea-pigs died unexpectedly. In fact, the professor's argument seemed to be that if a vaccinated child died of any disease its end might have been hastened by the vaccination with a living organism which was known to infect the lymphatic system. The other speakers at the meeting contented

<sup>1</sup> London: H. M. Stationery Office or through any bookseller. 1928. 9d. net.

<sup>2</sup> Bulletin de l'Académie de Médecine, May 15th, 1928.

themselves with pointing out that Professor Lignières had produced no evidence in support of this assumption. The chief defects in the presentation of their case by Dr. Calmette and his supporters seem to be, first, the somewhat startling assertion that ingestion of B.C.G. leads to a diminution, not only of tuberculosis, but also of general mortality; and secondly, the inadequacy, or worse, of their statistics. Those of Dr. Calmette were criticized in these columns by Professor Major Greenwood a few weeks ago.<sup>2</sup> The statistics of Dr. Jonescu are also unsatisfactory, in that the general mortality of all children under 1 year of age in Rumania is not stated. Moreover, it is astonishing to find that Dr. Jonescu is able to produce, as early as May 15th, statistics dealing with infantile mortality and the use of B.C.G. up to the end of last March. Dr. Calmette claims to have discovered a method for the prevention of tuberculosis in the young which, if valid, might be described as epoch-making. His discovery is considered worthy of much discussion in the Académie de Médecine in Paris, and this discussion is usually laudatory of what is regarded in France as an established truth. The method has been applied in many countries for the prevention of tuberculosis in cattle, and in some countries to a less extent for the pre-immunization of children. From many of these countries communications have been made, sometimes critical, at others extolling the method. The British contribution to the discussion seems limited at present to criticism of Dr. Calmette's statistics, which are obviously defective. It would be interesting to learn whether anyone in this country has had experience of Dr. Calmette's method, and, if so, with what results.

#### THE CORONER AGAIN.

IN an annotation on May 19th last (p. 864) dealing with an incident at an inquest held by the coroner for South-East London we remarked that "exemption from the necessity of attending before the coroner in future may be regarded from the personal aspect as a privilege rather than as a punishment." A further incident has speedily justified this comment. The body of a man who had committed suicide by cutting his throat was conveyed to the Lewisham Hospital. It was examined in the ambulance by one of the staff of that hospital, and sent on to the Lewisham mortuary. The doctor, giving evidence at the inquest, was seriously blamed by the coroner for not having gone to the mortuary to examine the body there. On his stating that he thought such an examination was under the jurisdiction of the coroner, and that he had no directions to go there, the coroner exclaimed: "I have never heard such foolish words in my life from a medical man!" The coroner is fortunate. Since, in the earlier case referred to, he had threatened pains and penalties to a doctor who had been present at the examination of a body without his permission, one can imagine what he would have said in this case if the doctor had in fact made an examination without it. It is indeed difficult, on reading the account of the inquest in the *Borough News* of June 6th, to see how the medical witness was in any way at fault. He had already testified that death was due to a large throat wound, sloping downwards to the right, deep, about four inches long, and involving the larynx and the jugular vein, and that this was consistent with it being self-inflicted, when the coroner told him, "You don't seem to know much about it," and sent him to the mortuary. He returned three-quarters of an hour later with the additional information that the "section edges of the wound were rather ragged." This seems to have satisfied the coroner, who recorded his verdict; but medical witnesses, even in the South-East London coroner's court, have a right to be treated with courtesy.

<sup>2</sup> *British Medical Journal*, May 12th, p. 793.

#### HARVEIAN SOCIETY OF LONDON.

THE annual dinner of the Harveian Society of London was held at the Connaught Rooms on June 14th, with the President, Dr. Herbert French, in the chair. The medical guests included Sir John Rose Bradford, President of the Royal College of Physicians, Sir E. Farquhar Buzzard, Regius Professor of Medicine at Oxford, Surgeon Vice-Admiral A. Gaskell, Medical Director-General, R.N., Lieut.-General Sir Matthew Fell, Director-General, A.M.S., Air Vice-Marshal David Munro, Director of Medical Services, R.A.F., Sir William Willcox, Sir James Berry, President of the Royal Society of Medicine, Mr. H. W. Carson, President of the Medical Society of London, and the presidents of several other medical societies. In proposing the toast of "The Harveian Society" Mr. Carson recalled that it was within three years of its centenary, that it had in the past survived two very critical periods for medical societies, and that now, like many kindred bodies, it was enjoying halcyon days of growing membership and increasing prosperity. He paid a tribute to Mr. Buckston Browne, who, among other generous gifts, had endowed a prize in memory of his only son. In the course of his reply Dr. Herbert French announced that the society's membership was now 300 and its finance sound. The present flourishing condition he attributed to the keenness of the officers (more especially the treasurer, Dr. G. de Bee Turtle) and to the participation of general practitioners in every discussion. The President added that all those present that evening were the guests of one member who had created a trust for the endowment of future dinners, and at his suggestion the health of this anonymous benefactor was toasted. Mr. C. W. G. Bryan, vice-president, welcomed the visitors in a witty speech, and the Right Hon. Augustine Birrell, K.C., Surgeon Vice-Admiral A. Gaskell, and Sir Henry Curtis-Bennett, K.C., responded. Mr. Birrell recalled that he had sat scores of times at the hospitable table of his old school-fellow Buckstone Browne, and chaffed previous speakers for omitting to mention the name of William Harvey at a dinner of the Harveian Society in the tercentenary year of the publication of *De Motu Cordis et Sanguinis*. Speaking as a writer, he assured them that the circulation of his books quickened the circulation of an author's blood. Admiral Gaskell briefly expressed a sailor's feelings when put up to reply between two eminent lawyers, and Sir Henry Curtis-Bennett rounded off a cheerful evening with some topical allusions.

#### THE INTERNATIONAL SOCIAL WELFARE FORTNIGHT IN PARIS.

AN International Social Welfare Fortnight will be opened in Paris on July 1st, and four important combined meetings will attract a very large number of visitors. The French Government is taking an active part in, and is helping to finance, this fortnight, and the chairman of the executive is a former Minister of Health, M. Paul Strauss. The meetings are: the International Housing and Town Planning Congress, of which the secretary is Mr. H. Chapman, 29, rue de Sévigné, Paris III; the International Congress on Statutory and Voluntary Assistance, the secretary of which is M. George Rondel, 49, rue de Miromesnil, Paris III; the International Child Welfare Congress, the secretary of which is Dr. Lesage, 37, Avenue Victor Emmanuel III, Paris VIII; and the International Conference on Social Work, the secretary of which is Dr. René Sand, The League of Red Cross Societies, 2, Avenue Velasquez, Paris VIII. Among the subjects to be discussed at this last conference are social work and public health; Dr. Kay Menzies is among the vice-presidents, and Dr. C. J. Thomas will read a paper on social work and school hygiene. Special arrangements have been made for reduced fares on the railways.

## THE WORK AND RESPONSIBILITIES OF THE PATHOLOGIST.

SIR BERNARD SPILSBURY'S ADDRESS TO THE RESEARCH  
DEFENCE SOCIETY.

THE second Stephen Paget Memorial Lecture was delivered at the annual meeting of the Research Defence Society on June 18th, by Sir BERNARD SPILSBURY, who spoke on "The work and responsibilities of the pathologist."

At the outset Sir Bernard Spilsbury defined a pathologist as a specialist in the study of the scientific aspects of disease, including the essential cause, the changes, visible and microscopical, produced, and the reactions provoked in the patient. The growth of scientific knowledge and of the laboratory method of investigation during the last fifty years had greatly increased the pathologist's labours and had brought about the division of the work between the pathologist (in the narrower sense of the term), the bacteriologist, and the chemist.

Sir Bernard Spilsbury then gave a few illustrations of the achievements of pathology in the study of the causes and processes of disease. The first was what he called the "romance" of anthrax. This disease had been recognized from very early times; the murrain of cattle recorded in Exodus was supposed to have been anthrax. In the middle of the last century the observation was made that minute bodies were observed microscopically in the blood of animals suffering from this disease, and it was stated that the blood which contained these bodies would produce the disease when injected into the healthy animal. The matter was still in dispute when Koch, in 1876, then a country practitioner in Germany, devised a method of growing the organism outside the body in broths and jellies, showed that these cultures had distinctive characters, and was able to reproduce the disease in healthy animals by injection. Koch's proof of the cause of anthrax was utilized by Pasteur, who had already begun his investigations on infectious disease, and he developed a method of protecting animals against infection. He experimented with cultures of the anthrax bacillus until he so reduced the virulence that on injection of the attenuated cultures into the healthy animals, those animals developed protective powers which enabled them to resist subsequent injection of virulent organisms. The result of the widespread adoption of protective inoculation was that the mortality in cattle and sheep from this cause had greatly diminished; in France it had been reduced to one-twentieth of what it was before inoculation methods were adopted.

Another illustration was hydrophobia, where Pasteur found that the virus was always present in the spinal cord of rabbits used in experiments, and that healthy dogs could readily be infected by injections made therefrom. He also found that the virus lost its strength with keeping, until after a time it failed to reproduce the disease on inoculation. Taking advantage of this fact, he injected into patients who had been bitten by rabid dogs preparations from the spinal cord of the experimental rabbits, using first very attenuated virus and repeating the injections with matter of increasing virulence, thus protecting the patient before the original disease had time to develop. The results of this treatment carried out in the Pasteur institutes in various parts of the world had been to reduce the fatalities to less than 1 per cent. of the patients treated.

In some infections the protective power was resident in the blood, and patients were treated by the injection of the serum of an animal which had been immunized against that particular infection. The immunization had been obtained by giving the animal a series of injections containing the organism or its specific toxin in carefully graduated doses, so that it developed substances which counteracted the effect of the poison, and presently gained complete protection. One of the most important applications of serum treatment was to diphtheria; it had been clearly proved that the mortality was greatly reduced by injection of the specific serum, especially if the patient was treated at an early age.

Part of the pathologist's routine work was to diagnose infectious disease by the discovery of the organisms, but

in some cases microscopical examination of the suspected material failed, and recourse had to be made to animal experiments. In early and obscure cases of tuberculosis, for example, to search for the organism by microscopical means was like searching for the needle in the haystack. In such cases injection of suspected material was made in the guinea-pig, which after a time was killed, and if the tubercle bacillus had been at work the characteristic changes were found. Another difficulty with which the pathologist had to contend was that some bacteria which produced specific disease had their innocent "doubles," and again it was animal experiment which enabled the problem to be solved.

A good deal of misconception existed with regard to animal inoculation. In the vast majority of cases the animal suffered no worse effect at the time of introduction of the material than the soon forgotten prick of the hypodermic needle. In some cases the development of the disease led to speedy death; in others, as in tuberculosis, the animal would presently show slight signs of disease sufficient to indicate that it should be destroyed and its dead body examined. It was only in a very small proportion of cases that serious suffering in the sense of pain attended inoculation experiments, and even then it was usually short-lived owing to the rapid progress of the disease.

Sir Bernard Spilsbury then mentioned some chemical problems which were presented to the pathologist, how, for example, by animal experiment, tetra-chlor-ethane was incriminated as the liver-damaging element in aeroplane "dope" during the war; also how experimental methods, again on animals, afforded the information required as to the hygienic measures to be adopted in factories against poisoning by T.N.T. Again, the experimental work by Dr. J. S. Haldane in connexion with carbon monoxide gas indicated the mechanism by which this form of poisoning acted, and his experiments on mice demonstrated once and for all the proper method of treating those who were suffering from its effects.

Practically the whole of bacteriological knowledge was based upon experimental work—inevitably so in the present state of affairs, for there were no means of testing the suspected organism except by the reproduction of the disease in living animals. The same was true of the diagnosis of disease. Every pathologist who worked alone, in a small hospital, found himself compelled to have a Home Office licence for vivisection if he was to do his duty to the patients in the diagnosis of obscure disease. For that reason, in recent years, the number of licences granted to pathologists all over the country had greatly increased. But chemical problems also required animal experimentation in such matters—for example, as the testing of new drugs. The pathologist was a medical practitioner, who, like his clinical colleague, had to apply his skill and knowledge to the best advantage on behalf of the patients. He must avoid error as far as possible, and must employ exact methods, including, at present, animal experiment. The scientific advances of the last fifty years, very largely based on experiment, had gone far to revolutionize the treatment of disease, so that there were some diseases, formerly rampant, with which the modern practitioner was scarcely acquainted. If only our forebears of last century could see the work which had been done in modern science and medicine, how they would exclaim at the enormous amount of suffering which, had they possessed the knowledge in their day, would have been prevented!

### *Antirvivisection Propaganda.*

In proposing a vote of thanks to Sir Bernard Spilsbury, Lord KNUTSFORD read to the meeting a postcard which had been sent out to the members of the British Union for the Abolition of Vivisection. The postcard stated that the Government, having removed the ban on the broadcasting of controversial matter, the British Broadcasting Corporation was now in a position to allow "our side" of the question of vivisection to be heard. But they would doubtless only do so if there was a sufficiently strong demand from the public. Members were therefore urged to write immediately to the Director of Talks, asking him to invite Dr. Hadwen to state the case against vivisection. The postcard continued: "You need not say that you are



a member of the British Union. Your letter will probably have more influence if the B.U.A.V. is not mentioned!"

Lord Knutsford added that he thought it a very regrettable action on the part of the antivivisectionists at Eastbourne that they should try to persuade people not to subscribe to hospitals which had a pathologist on their staffs. It was impossible to treat patients properly without such service, and if a hospital had no pathologist on its staff it must simply apply to another hospital which had.

At the business meeting of the Research Defence Society, which was presided over by Lord Lamington, one of the speakers was Mr. J. F. Peart, F.R.C.S., formerly a member of the staff of the Battersea General (Anti-Vivisection) Hospital. Mr. PEART said that as a member of the staff of that hospital he had signed a declaration that he would not assent to experiments on animals unless they were for the benefit of the animals concerned, and he had to undertake not to use any serums which had been prepared from living animals. He wished now to take the opportunity of publicly recanting his signature to that document, though he thought that he had "whitewashed" himself by the letter with which he accompanied it. On getting a case of tetanus into the hospital he found that he was not allowed to use any antitetanic serum. He appealed to the chairman of the board, Lord Tenterden, who did everything in his power to help him to get round the hospital statute, but in vain. He was forced to resort to using antitetanic serum surreptitiously. He felt very strongly that to send an accident case, which might be tetanus, to that hospital was like sending it to its death.

## SCOTTISH BOARD OF HEALTH.

### ANNUAL REPORT.

THE ninth annual report of the Scottish Board of Health, for the year 1927, recently issued, deals comprehensively with many vital questions of administration. It is pointed out that this will probably be the last report to be submitted by the Board, in consequence of the proposal before Parliament to establish in its place a Department of Health for Scotland.

### HOUSING.

The year 1927 marked a record in the history of house production in Scotland, the total number of working-class houses erected having been 21,660; it is anticipated that these results will be equalled in 1928. As 10,000 houses have been estimated as the annual requirement in Scotland, it follows that nearly 12,000 houses have been made available during 1927 towards the reduction of the housing shortage. The 2,000 steel houses mentioned in the last report were completed during the year, and readily obtained tenants. Further houses of this type are being built on the Springboig site in the vicinity of Glasgow. During the year five improvement schemes for slum clearance were confirmed in the burghs of Aberdeen, Fort William, Glasgow, and Kirkcaldy, while two Edinburgh schemes were under consideration at the end of the year. The number of houses to be closed was 11,935, and the schemes, which are to be carried out by the local authorities with the aid of a 50 per cent. grant from the State, are under the inspection of an officer of the department. An Act designed to improve housing accommodation for agricultural workers received the Royal Assent in December, 1926, and by December, 1927, schemes under this Act had been submitted by sixty-three local authorities and approved.

### PURIFICATION OF RIVERS.

The problem of river pollution is stated to become more pressing each year; over 800 instances of river pollution in Scotland had been investigated. This situation has been brought about by the hasty methods of sewage disposal which were adopted over a hundred years ago. The report reviews the history of the different methods of sewage purification which have been introduced from time to time in more recent years, and summarizes the conclusions which were reached by the Royal Commission on Sewage Disposal that sat from 1901 to 1915. It is intimated that, with the concurrence of the Secretary of State for Scotland, an advisory committee of eleven members, representative of all the interests concerned in the problem of preventing river pollution, has been appointed to advise the Board of Health on measures desirable for reducing pollution.

### INFECTIOUS DISEASES.

In the year 1926 a new low record was established by a death rate of 99 per 100,000 for all forms of tuberculosis, but

the same figure was repeated for 1927; the expected continued fall was not realized, while the pulmonary death rate actually rose from 69 to 71. An investigation was made of the treatment of tuberculous cases by the Ruppel antituberculosis serum (osmoserin). There was no evidence that the serum exerted a beneficial action in cases of non-pulmonary tuberculosis, although it proved, on the whole, to be an innocuous agent. With regard to venereal diseases, the report draws attention to the importance of education, both for the public and for medical students and practitioners, in this matter. The provision of facilities for treatment in Scotland may be regarded as reasonably complete. Attention is drawn to the important arrangements made by various local authorities of combining to establish centres or to utilize those established in central towns. The report states that, with very few exceptions, the records kept in the Scottish clinics are of high excellence. Complaints are from time to time received from various centres regarding patients who have received inefficient private treatment at a stage while disease is still in a curable form, and the report emphasizes the necessity for training medical students so that they may be able to treat the ordinary forms of these diseases with confidence and efficiency. The number of patients treated at venereal disease centres during the year ended May, 1927, was 24,731, including 13,976 new patients, while the total number of attendances was 397,611; the total cost of the schemes was £76,000, of which three-fourths was paid out of imperial taxation and one-fourth by local rating. With regard to other infectious diseases, there were 155 cases of small-pox in Scotland during 1927, the largest number in any year since 1920. All these cases occurred in Dundee or had been infected from a source in this town. The disease was of a mild type, and all cases recovered. There was a considerable reduction in the number of cases of measles reported from the sixteen principal towns of Scotland, but this was counterbalanced by a rise in the number of cases of whooping-cough. Diphtheria showed 7,548 cases in 1927, as compared with 6,021 in 1926, but scarlet fever showed only 10,609 cases in 1927, as compared with 13,667 in 1926. The practice of testing persons for susceptibility to scarlet fever and to diphtheria, and of immunizing susceptible persons against these diseases, continued to spread. It is pointed out that general practitioners who desire to immunize cases against these diseases should collect them and inject a number at one time, because the material for immunization very rapidly deteriorates. The outbreak of influenza in Scotland during January, 1927, and the subsequent months was the severest since 1924, although the disease was of a milder type than in the earlier year. Cases of encephalitis lethargica notified in the sixteen principal towns showed a considerable fall—from 260 in 1926 to 170 in 1927; cases appeared in a sporadic manner, without any outbreak of considerable dimensions. Many cases, however, are very slight, and do not secure medical recognition and official notification. The problem of dealing with cases in the later stages has given considerable anxiety. The parish council of Glasgow made arrangements in 1926 for the accommodation of fifty cases in the hospital at Stobhill, but the situation was not satisfactory, as there was a waiting list of suitable cases numbering 161. Some provision has also been made by the parish council of Aberdeen for the reception of a limited number. Infective jaundice, which was made notifiable in the Lothians in February, 1924, when 19 cases were notified, and which had subsequently been made notifiable throughout Scotland, with a notification of 52 cases in 1925 and 27 cases in 1926, produced only 1 notification in 1927. The results of a special investigation of Scottish cases carried out by Dr. George Buchanan have been published by the Medical Research Council. It has been confirmed that the rat acted as an animal reservoir of the spirochæte, but it has also been discovered that the organism exists in fungal slime hanging from the roof of certain coal mines and in pit and surface waters. Malaria and dysentery were made notifiable during 1927; no case of indigenous malaria was reported during the year, but it was considered that the presence of anopheline mosquitos in various parts of Scotland made infection with malaria a definite possibility. The total number of cases of infectious disease notified in 1926 in the counties, with a total population of 1,500,000, was 17,549, while in the burghs, with a population of 3,300,000, the corresponding number was 51,012. These are analysed in an appendix to the report.

### CO-OPERATION IN HOSPITAL SERVICES.

The report points out that there are in Scotland 25,000 beds for the hospital treatment of sick persons, excluding mental disease and hospitals provided by Government departments. Of these 9,000 are in voluntary hospitals, 10,000 are provided by public health local authorities, and 6,000 are in Poor Law hospitals or buildings. Voluntary authorities maintain 137 general hospitals, of which 26 have more than 100 beds, while local authorities maintain 250 hospitals, of which 23 have more than 100 beds, and in ten cases Poor Law hospitals exceed 100 beds. The six great teaching hospitals associated with

medical schools provide more than a third of the voluntary hospital accommodation in Scotland: The primary duty of the local authority in the provision of hospital beds is the obligation to maintain hospitals for infectious diseases, and the accommodation for tuberculosis alone accounts for 4,000 beds, of which the greater number have been provided in the last fifteen years. The Mackenzie Committee of the Board of Health reported that the additional beds required for voluntary hospitals amounted to 3,600, while the defect of the Poor Law provision was more a matter of inadequate standard than of numbers of beds. Aberdeen Parish Council has handed its hospitals over to the public health local authorities for administration, and these have been brought into relation with the teaching school of Aberdeen. Edinburgh Parish Council has under consideration the reorganization of its hospital provision, with the intention of providing a service of high quality. The report points out that there are numerous points of contact between the hospitals of different categories, and that there is nothing that ought to differentiate their function; as recent examples the new infirmaries at Stirling and Falkirk are pointed out; both provide beds for maternity cases and for venereal disease, by agreement with the local authorities of the areas served. Mention is made of the scheme under which the Glasgow Parish Council, in its hospital at Stobhill, makes available a considerable number of beds to the Glasgow Maternity Hospital for confinements; these are regarded as being an integral part of the latter institution. A practice which has grown up whereby individual members of the teaching staffs of the medical schools are employed in outlying hospitals has important results in keeping the standard of such hospitals in line with the best modern practice. Any effort, the report concludes, towards a better integration of the hospital service in an area must take into account the medical centre towards which these services are orientated: grouping should be considered in relation to the appropriate medical centre rather than to territorial divisions, such as county boundaries. On the invitation of the Secretary of State for Scotland a liaison committee of six representatives of voluntary hospitals has been appointed to keep the department in touch with voluntary hospital opinion in the five regions grouped round medical schools into which Scotland is naturally divided.

#### MATERNITY SERVICE AND CHILD WELFARE.

By the end of 1927 schemes of maternity service and child welfare were in operation in areas representing 93 per cent. of the total population of Scotland. The minimum provision of any approved scheme included home visitation by a health visitor; in many cases the part-time services of the district nurse have been utilized for this purpose. The number of health visitors employed by local authorities in 1927 was 136 whole-time and 450 part-time, equivalent in all to 230 whole-time visitors. Ultra-violet light installations had been approved at 23 centres for the treatment of mothers, and children under 5 years of age. Much ante-natal work had been done, and the experience of the 10 ante-natal clinics in Glasgow is quoted where, during 1927, the primary attendances numbered 5,983. The Board of Health, considering that an important factor in the reduction of maternal mortality in Scotland was the provision of trained nurses with specialized midwifery training, offered a grant of £20 per nurse to assist trained nurses to obtain the certificate of the Central Midwives Board, this grant being conditional on the nurse undertaking to serve two years in Scotland on maternity work. Thirty-nine applications were approved during the year. The number of practising midwives in Scotland on March 31st, 1927, was 4,250. During 1927, 622 women died in Scotland through diseases of pregnancy and childbirth, representing a death rate of 6.4 per 1,000 births, the rate for this year being the same as the average rate for the past ten years, notwithstanding the fact that the general death rate and infantile mortality were both decreasing. During the year 96,669 births were registered in Scotland, a rate of 19.8 per 1,000, as compared with 20.9 for 1926. The number of children under 1 year of age who had died was 8,577, representing an infantile mortality rate of 89 per 1,000 births. This is five less than the mean of the rates of the preceding ten years. The pre-school child under 5 years of age in 1927 formed 7.3 per cent. of the total population, and the death rate in this age group during the year gave a rate of 11 per 1,000, the same as for 1926, or 4 less than the average of the rates of the preceding ten years. Out of the total deaths of 4,103 in this age group 1,095 were due to pneumonia, 434 to measles, and 395 to whooping-cough. A special grant of £10,000 was distributed to local authorities for the specific purpose of securing greater efficiency in the control and treatment of measles and whooping-cough occurring in children under 5 years of age. This was secured particularly by removing a large number of cases of these diseases to hospital for treatment. There were 26 day nurseries in Scotland, most of which were in Glasgow, Edinburgh, and Dundee, and there was a large increase in attendance. Most of the large local authorities had developed arrangements for

mother-craft classes and for short courses of health lectures and demonstrations for women at their child welfare centres.

#### PUERPERAL SEPSIS.

Out of the 622 maternal deaths during 1927 in Scotland 184 were due to puerperal sepsis. This number, it is stated, gives no idea of the morbidity resulting from this disease, which ought to be to a large extent preventable. The death rate of 6 mothers per 1,000 births still remains much the same as it was a generation ago. The report considers polyvalent anti-streptococcal serum to be very useful as a preventive, but up to the present time the chief method of dealing with the problem has been to encourage ante-natal supervision. Frequent supervision of pregnant women is regarded as an important duty of the health visitor. Statistics have shown that in industrial areas there is an increasing tendency to engage the services of a midwife rather than a doctor for confinements, and it is pointed out that the midwife is prevented by law from undertaking any nursing or other duties which are likely to make her a carrier of infection. The report states that one of the most urgent requirements for a successful midwifery service is a great increase in the number of beds available, although most local authorities have made some provision in this respect.

#### FOOD SUPPLY.

Much has been done under the Milk and Dairies (Scotland) Act, which came into operation in September, 1925, to secure improvement in the milk supply of Scotland. It is recorded that outbreaks of milk-borne infection continued to occur in 1927. An outbreak of illness due to the *Bacillus enteritidis* Gaertner occurred in Dundee in October, and affected some 200 persons, the outbreak being traced back to a cow suffering from mastitis of the same form which had, in the previous year, caused an outbreak involving 370 cases of the same nature. During 1927, 2,240 cows were dealt with under the Tuberculosis Order, and it is considered that the removal of so many potential sources of infection must have had a great effect on the purity of milk supplies and on the health of the community. The Sale of Food and Drugs Act, 1927, has introduced some important regulations, and boric acid is now prohibited in all foods.

#### CONTRIBUTORY PENSIONS.

The economic position of the people of Scotland has been greatly affected already by the scheme of contributory pensions. The number of persons in respect of whom weekly payments are being made, including children, is estimated at over 150,000, equal to 3 per cent. of the population, or one person out of every twelve insured. It was expected that in Scotland about 51,000 persons would qualify for an old age pension payable at 65 on the commencing day, January 2nd, 1928.

#### NATIONAL HEALTH INSURANCE.

Dental benefit is said by the report to have improved by reason of the gratifying reception from Scottish approved societies of the scale of dentists' fees, conditions of service, etc., prepared towards the close of 1926. This has been adopted by 67 societies and 331 branches with a total membership of over 1,200,000, or approximately 80 per cent. of the membership of Scottish units giving dental benefits. The funds allocated to ophthalmic benefit appear in general to have been sufficient to provide grants to all claimants on the basis adopted by societies. The district medical officers have been increasingly employed because the heavy claims experience of societies frequently made it desirable to obtain second opinions on the condition of claimants for benefit. During the year 34,558 persons were referred by societies to the district medical officers. While women comprise only 33 per cent. of the insured population, they account for 57 per cent. of the references; during the year 40 per cent. of the women examined were pronounced to be capable of work, as compared with 33 per cent. of the men. Out of the total number of references only 510, or 1.4 per cent., were made by practitioners, and surprise is expressed that greater advantage was not taken by insurance practitioners of the facilities provided by the district medical service for obtaining, free of cost, second opinions in cases which may present difficulty. During 1927 insurance committees reported twenty-five complaints against insurance practitioners by insured persons or societies. Generally charges of neglect were found to be unsubstantiated, but in two cases fines of £10 and £50 were imposed. For charging fees to insured persons one practitioner was fined £5. One practitioner was fined £5 for failing to produce on request his records, and other fines were imposed for failure to transmit the medical records of patients whose names had been removed from the lists of practitioners. Some 40 out of the 2,000 practitioners in insurance practice were surcharged on account of over-prescribing, the total amount involved aggregating approximately £700. The surcharges had been imposed mainly in respect of unnecessary prescribing of flavouring agents, unnecessary elaboration of ingredients, and routine use of expensive ingredients where cheaper ingredients were available.

## India.

### Public Health Organization.

UNDER the Government of India Act, 1919, which embodied the Montagu-Chelmsford reform scheme and established the diarchic system in Indian administration, the responsibility for public health was, with certain reservations, transferred to the Provincial Governments. The Simon Commission will presumably be called upon to take cognizance of the effect in the sphere of public health of the big constitutional changes inaugurated in 1919, and a special interest therefore attaches to an extensive collection of articles published under the title of *Health Organization in British India*, in connexion with the interchange study tour in India, arranged by the Health Organization of the League of Nations for medical officers of health from the Far Eastern countries in the first two months of this year. Colonel J. D. Graham, C.I.E., I.M.S., Public Health Commissioner with the Government of India, who has acted as editor, contributes a review of the main central machinery, while other authors deal with the organization of their respective special sections in the leading territorial divisions. It is interesting to note that the resources and personnel available for research, cut down by the Incheape Retrenchment Committee in 1923, have now been restored almost entirely to the standard prevailing before the axe fell. Colonel Graham, discussing the future of health administration, notes "that, throughout the provinces, informed opinion is beginning to demand an expenditure on public health measures commensurate with their importance." He believes, however, that the Indianization of the Indian Medical Service to a fixed percentage on a time scale must hasten the decline of that service, which he considers is already in progress through difficulty in securing the desired type of officer. The effect of the division of powers under the diarchic system has been to leave the Government of India with its responsibility in health matters restricted to extra-provincial, inter-provincial, and international affairs, such as pilgrimages beyond the seas, quarantine, marine hospitals, census and statistics, and legislation for the control of epidemics. To the Provincial Governments were transferred the major part of the field of medical administration, including hospitals, dispensaries, and asylums, and provision for medical education, public health, sanitation, and vital statistics. The registration of medical practitioners is controlled by Provincial Medical Acts, but Colonel Graham states that an All-India Medical Registration Act is now under consideration of the Government. A scheme for the creation of an Imperial Research Institute is being evolved, and it is hoped that provision will be made for work on all aspects of the larger problems of disease as well as on the routine work, which is inevitably very great in a country like India.

### Increase in Tuberculosis in Bengal.

Tuberculosis of the lung appears to be very prevalent in Bengal. The report on hospitals and dispensaries in the province for 1926, presented by Major-General G. Tate, I.M.S., notes an increase in the attendance of patients suffering from this disease from 3,904 in 1925 to 4,117 in 1926 in the Calcutta hospitals, and from 8,292 in 1925 to 9,262 in 1926 in the district hospitals and dispensaries. There is a special unit for the treatment of the disease in the Medical College group of hospitals in Calcutta, but it contains only twenty-four beds. The intensive struggle for existence, trying climatic conditions, bad sanitation, overcrowding, inadequate food, and malaria are not only predisposing causes, but also militate against recovery. Some progress appears to have been made in the treatment of kala-azar following recent successful research work. Certain pentavalent antimony salts of relatively low toxicity have been discovered to have a rapid therapeutic action, and can be administered in much larger doses than the tartrate. There were severe outbreaks of cholera and beri-beri during the year in Calcutta; in the case of the latter only localized and sporadic outbreaks had occurred for several years, but in 1926 no fewer than 6,810 patients were treated. The Calcutta School of Tropical Medicine

has been able to demonstrate that the epidemic dropsy form of beri-beri is associated with the use of badly stored rice. The number of patients treated in district hospitals and dispensaries in allopathic institutions was 7,783,457, 2,115,764 being cases of malaria, and in Calcutta the number of patients was 553,521, 49,893 being cases of malaria. The incidence of this disease was therefore about three times as heavy in the outside districts as in Calcutta.

### Infant Welfare in India.

An interesting account of the progress of the infant welfare campaign in India has been published recently by Dr. Elizabeth Sloan Chesser in the *Revue Internationale de l'Enfant*. Dr. Chesser pays high tribute to the value in this respect of the Lady Reading Hospital in Simla, the Lady Hardinge Medical School in Delhi, and the movement organized by Indians in some of their States, particularly in Gwalior and Bhopal. The ignorance of the *dhai* (or midwife) is gradually being overcome by the efforts of trained welfare workers. In some hospitals rooms can be rented by women for their confinements, provision being made for the preparation of food by friends of the patient. Small maternity and child welfare centres now exist in several towns, and are staffed by trained *dhais* under an Indian superintendent. Although the career of a *dhai* is hereditary, and no sort of training existed up to recent years—midwifery being one of the "unclean" occupations—there is now a new spirit and a new hope for women in India, since these trained midwives fully appreciate the importance of cleanliness, and are provided with suitable equipments. In the large towns they are organized under the municipal authority, and the teaching of simple hygiene and child care is spreading. National "Baby Week" celebrations are becoming increasingly popular, and preventive work on ante-natal lines is being planned. By such means it is hoped that the very high infant mortality in the bazaar areas of the large towns will be reduced.

## Ireland.

### Royal Medical Benevolent Fund Society of Ireland.

At the annual meeting of the Royal Medical Benevolent Fund Society of Ireland, Mr. R. A. Stoney, vice-president of the Royal College of Surgeons, presided. The central committee, in submitting the eighty-sixth annual report, records with regret the deaths of several friends who have helped the society in past years. Dr. J. Singleton Darling of Lurgan, for many years honorary secretary of County Armagh (N.) branch, who died last autumn, was revered in the North of Ireland, and his personality was the strength of the branch. Another old friend was Dr. Richard Kinkaid of Galway; failing health during recent years had diminished his activity, but for several years he acted as one of the honorary secretaries of County Galway branch. Dr. H. Sneyd Torney of Terenure, did good service in reviving the Rathmines and Rathgar branch. By the death of Mr. John McArdle the Irish School of Medicine had lost a personality which had left its impress on the personnel of the profession throughout the land; he was a generous and sympathetic supporter of the Fund. The number of grants awarded during the year rose to 90 from 81 during the preceding year; the amount disbursed in grants was £2,071, as compared with £1,762 in 1926-27, an increase of £309. The average amount of the grants was £23 0s. 3d.; an increase of £1 4s. 6d. on the average recorded in the last report, and the recipients comprised 9 medical men, 11 orphans, and 70 widows. The balance sheet of the general fund shows receipts from all sources amounting to £2,481 8s. 11d.; the income from normal sources being £2,058 18s. 11d. Receipts from dividends and interest show an increase of £66 15s. 6d. The Irish Medical Association made the committee a grant of £10, and the British Medical Association allocated the sum of £60 from their Charities Fund. The year has been remarkable for the increase in the number of applications and for the urgency of the individual claims. The committee believes that if the members

of the medical profession could be brought to realize that many of the widows of their former colleagues are living in penury, that in some cases hunger haunts the orphans, and that broken and infirm medical men lack the minor comforts which would tend to ameliorate their lot, the apathy which exists towards the work of the Benevolent Fund year after year, noted in its reports, would vanish, and that the society would receive more general support. Those who know its work help it generously, but there is need for propaganda throughout the land to gather in new supporters. The report was adopted. Sir John William Moore announced that Mrs. Hepburn had left the society a substantial legacy running into four figures.

#### Health of School Children in Northern Ireland.

Speaking at a meeting of the North Antrim Regional Education Committee, Dr. Patrick of the Ministry of Home Affairs said that in this area they had 5,000 school children on an average in attendance. It had been found in other areas that there had been a very large number of minor ailments among these children which could easily be remedied once the necessity had been brought before the parents. It was largely a matter of education, since when it was explained to the people why these things were necessary the children would benefit. It was found in other areas in Northern Ireland that about 50 per cent. of the children were suffering from defective teeth, and this was really the most pressing problem. Moreover, about 30 per cent. of the children were suffering from throat diseases—serious conditions which ought to be remedied. Between 15 and 25 per cent. of the children had been discovered to be verminous; from 3 to 5 per cent. certainly, possibly 10 per cent., were suffering from minor defects of the eyes and were not able to read the school books; the parents did not realize as a rule that their children's eyes were defective. It was agreed to undertake the preliminary inspection of children, and for this purpose it was decided to arrange a conference with the dispensary doctors in the district to settle terms.

#### The Training and Examination of Nurses.

Dr. Edward Thompson, F.R.C.S.I., Omagh, in a recent communication to the press, refers to a Belfast newspaper report of the observations made by some of the Lurgan guardians about the failure of most of the probationer nurses trained in Belfast to pass their examination. Out of forty-two candidates only eighteen passed, and those were all being trained in Belfast institutions. Dr. Thompson states that he is not surprised at the failures, because some of the questions put would puzzle many qualified doctors and nurses. He quoted three of these questions: (1) Describe the coronary heart circulation; (2) What does the internal secretion of the ovaries consist of, and what action has it on the other organs of the body? (3) Enumerate the cranial nerves and give their distribution. He had a record of many other questions put to the probationer and senior nurses sent forward from the Tyrone County Hospital, but the examples he had given were enough to demonstrate the severity of the examination these young girls had to face. He admitted that the institution of these nursing councils had raised the standard of nursing, but there seemed a danger that if candidates were exposed to such exacting questions and there were so many rejections, they would become dispirited and their numbers would be greatly reduced.

#### Dispensary Doctors and Midwives (Irish Free State).

A letter with reference to the duties of dispensary medical officers has been received by the Clare Board of Health. Writing with reference to an application from a dispensary medical officer for payment of 8 guineas for acting as locum tenens for the local maternity nurse, the Minister for Local Government stated that he presumed his claim was in respect of the period during which the nurse had been on holiday, and for which period the doctor had agreed to do her duty. Such claim, continued the Minister, could not be entertained. A dispensary medical officer was responsible for the treatment of sick

poor in his district, who were entitled to gratuitous medical relief, and the services of a midwife did not relieve the medical officer of his responsibility, but were placed at his disposal to enable him to release himself from the necessity of attending cases in which no difficulty arose. If the services of a midwife were authorized for a dispensary district, and she was not available, for any particular reason, to attend a patient, it was the duty of the medical officer to attend such patient, or, if necessary, to requisition the assistance officer to procure the services of a temporary midwife.

#### St. Ultan's Infant Hospital, Dublin.

The annual general meeting of St. Ultan's Infant Hospital, Charlemont Street, Dublin, was held on May 31st. The report indicated the great progress made during the nine years of its existence, and stress was laid by the speakers on the importance of the extern department in a hospital of this kind. During the past year 4,210 patients under 5 had been treated in this department, in spite of the difficulty due to building operations; the new wing, when completed, would provide much needed facilities. After the meeting those present visited this new wing, now nearing completion. The ground floor will be occupied by the out-patient department, which includes, among other special features, extensive accommodation for perambulators. On the upper floor there is a theatre block, a new diet kitchen, and small individual wards for premature infants opening on to a special balcony. The new wing is glazed with "vita" glass, and last November the western windows of the main building were glazed similarly. This hospital, which was opened in 1919, admits to its wards no patient over 12 months of age, and in this respect differs from all other hospitals in Ireland.

## England and Wales.

#### Welsh Board of Health.

The Minister of Health has approved the following arrangements for the organization and conduct of the work of the Welsh Board of Health, consequent upon the retirement next week of Sir Thomas Hughes from the public service. The Board will henceforth consist of three members: Mr. John Rowland, C.B., Dr. Llewellyn Williams, and Mr. Howell E. James. Mr. Rowland and Dr. Llewellyn Williams will continue to exercise the functions heretofore assigned to them as Deputy Controller of Insurance and Medical Member of the Board respectively. Mr. Howell James will become a member of the Board, and will cease to be secretary and *ex officio* member of the Board. Mr. Rowland, as senior member of the Board, or, in his absence, the member next in seniority, will preside at Board meetings. Mr. Rowland will succeed Sir Thomas Hughes as deputy for the Welsh member of the National Health Insurance Joint Committee.

#### The Courtauld Institute of Biochemistry.

A description was given in our last issue (p. 1044) of the new Samuel Augustino Courtauld Institute of Biochemistry at Middlesex Hospital. The opening ceremony on June 14th, at which Prince Arthur of Connaught presided, was notable for the announcement of another generous gift by Mr. Courtauld of £20,000 for the maintenance of the Institute, in addition to the £40,000 he has already given for its construction and equipment. Mr. Courtauld explained that he had been led to make this gift partly by the recollection of a cottage hospital in Essex, started and maintained more than half a century ago by his parents. As a small child he was taken to inspect the surgical instruments, which no doubt would be judged antiquated to-day, kept under the care of a motherly nurse equally antiquated. But another reason had prompted him to this gift—namely, that during his business life the success he had attained had depended largely on the application of science to industry. Very



often such research ended in failure, sometimes in success, and sometimes in a negative result, which was still valuable because it narrowed the field of further inquiry. He had a profound sense of the value of research, and he quoted a line from Virgil, "*Felix qui potuit rerum cognoscere causas, atque melius omnes et inexorabile fatum subjecit pedibus*," and added that perhaps one might say, more blessed still was he who was enabled to know something more of the science of medicine and to overcome the ills of humanity which were due to pain and disease. Prince Arthur of Connaught, as chairman of Middlesex Hospital, accepted the Institute on behalf of the hospital with appropriate expressions of gratitude, and Mr. Asher did the same on behalf of the medical school. The latter said that the building was linked by a bridge and a subway to the Bland-Sutton Institute of Pathology, but it was linked also by something much more substantial—the cordial co-operation of the professors in the different departments and the spirit of endeavour which gave promise of great achievement. The Institute, said Mr. Asher, represented almost a magical combination of the right moment, the right place, and the right design. In the course of the proceedings Sir Archibald Garrod gave an address on "The place of biochemistry in medicine," which we hope shortly to publish in full. A vote of thanks to the lecturer was spoken to by Sir John Bland-Sutton, who described him as the natural successor of William Prout and Henry Benze Jones, and by Professor Dadds, who said that after hearing Sir Archibald Garrod describe what had been accomplished by the old physicians who had, in or near their consulting room, a shelf with a few bottles, a spirit-lamp, and some test-tubes with which to prove certain chemical examinations, he was appalled to think what would be expected of that great institute of which the shelf was the prototype.

#### A Plea for Biology.

The annual conference of education authorities, held recently at Bath, was noteworthy for a striking address by Professor Julian Huxley, in the course of which he made a strong plea for the making of biology a central subject in the educational curriculum. Biology, he said, was just attaining its maturity. Each of the many branches of the subject now had its repercussions on every other branch. Since 1800 great strides forward had been made. The whole of the essential mechanism of heredity transmission had been discovered; also the essentials of that mysterious problem the determination of sex. An enormous advance had been made in the study of the chemistry of life and its bearing upon physiology and medicine, and innumerable gaps had been filled up in the study of evolution, especially from the examination of fossils. The science of development had been lifted from what was a chaotic and rather mysterious realm into something where at least certain general principles could be appreciated. The twentieth century, Professor Huxley continued, seemed likely to be the century of biology and its applications, as the preceding century was the century of chemistry and physics and their applications. He reminded his audience that many Government departments were clamouring for trained biologists to go into the Empire and take charge of work in entomology, agriculture, fisheries, animal breeding, various applications of biochemistry, as well as hygiene and tropical medicine, this at a time when, in applied chemistry and engineering, the market was overstocked. He stated further that the knowledge of biology was becoming more and more necessary as a basis for citizenship. To have a sound and sensible judgement of such problems as population, the unfit, birth control, and private and public health, it was necessary to have a knowledge of the scientific principles which such problems involved—that is to say, the biological sciences. Professor Huxley predicted that in another decade any reasonable and informed discussion of the political problems of the day would demand the biological background if the discussion was to be effective. He then went on to ask what the schools were doing in respect to biology. The public schools taught biology largely because they found it necessary in training those of their scholars who were going on to medical study. In the secondary schools, however,

he found very little biology in the modern sense of the word; botany and geology were taught, and a few other subjects, but the interconnexion was not made plain. It difficultly was to find space in the curriculum. Physics and chemistry, owing to their success during the last quarter of a century, were standing in the way of biology finding its proper place, just as classics and history stood in the way of physics and chemistry thirty years ago. What was wanted, said Professor Huxley, was general biological teaching for the average child—not merely the scholarship child—not dollops of botany and slices of geology, but biology as an interconnected whole. A lump of coal was geology, botany, chemistry, and economic geology. The human eye was physiology, physical optics, and evolution. Bacteria were botany, chemistry, hygiene, and ecology. When he said that biology must be a central subject in education he explained that he did not mean that it should be the largest subject, only that it should be central in position, because it was a subject which linked up so many others. It was the only link between the science of matter—that is, physics and chemistry—and the science of mind—psychology; and it was the basis of agriculture, veterinary, and medical sciences and sociology. Mr. T. Loveday, the vice-chancellor of Bristol University, who presided on the occasion of Professor Huxley's lecture, said that the universities were having a surplusage of men who were trained in mathematics, physics, and chemistry and at Bristol every opportunity had been taken to "orient" men towards the biological sciences, in which there were more and more openings every year.

#### Inquests in the City and Southwark.

In Dr. P. J. Waldo's annual report for 1927 it is stated that 545 inquiries were held in districts for which he is coroner—namely, the City of London, including Holloway Prison, and Southwark. Necropsies were performed in all except twenty-seven cases. Of six bodies recovered from the river, five were identified by means of the special City formalin preserving apparatus. The action of the formalin—apart from its disinfecting properties—is to render previously unrecognizable bodies recognizable. Verdicts of death from suicide were returned in twenty-four cases (19 males and 5 females). The cost of the inquests amounted to £794 in the City, and £657 in Southwark. It is noted that 63 fatalities were due to road vehicles, and that in 20 of these cases death was caused by commercial motor vans or lorries (all without side guards, which are compulsory in the case of omnibuses). One inquest only was held on an infant accidentally suffocated while in bed with the parents; in this instance there was no room for a cot or cradle. Inquests were held in 21 cases of sudden death caused or accelerated, by the administration of anaesthetics for necessary surgical operations. Ether was given in 11 cases, chloroform in 3, a mixture of chloroform and ether in 1, gas and oxygen in 1, and in the remaining case death was caused by an accidental overdose of carbon dioxide. Whereas, in former years, a large majority of these deaths were attributable to chloroform or a mixture containing chloroform, in recent years ether generally has taken the place of chloroform as a fatal factor in this class of case. The Coroners (Amendment) Act came into full force on May 1st, 1927; one result of the new Act has been to increase largely the work and expenses of the coroner in both the City and Southwark.

#### St. Mary's Hospital Medical School.

At the presentation of prizes and awards by Lady Iveagh, M.P., at St. Mary's Hospital Medical School, on June 14th, several references were made to the relations between the public and the medical schools. The dean, Dr. C. M. Wilson, mentioned that Lord and Lady Iveagh have been for many years associated with the work of Sir Almroth Wright, and said it was fitting that she should be present when preparations were being made to build a permanent home for his department. They needed, he said, £100,000, and he reminded his hearers that not one penny that was contributed to the hospital was available for the school. Their first contribution was £20,000 from an anonymous donor interested in Sir Almroth Wright's work; Sir



Almroth's committee had promised them £20,000 subject to certain conditions, and they had now £51,000 towards their fund, although they had hardly begun to ask for money. They wanted to convince public opinion that opportunity for medical education and research supported properly was the best investment the nation could make. Lady Iveagh said that the public had no idea of their duty to medical education; many thought that in contributing to the voluntary hospitals they were contributing to the medical schools.

#### The Tuberculin Dispensary.

The second annual report of the Tuberculin Dispensary Benevolent Society states that work at the dispensary at 32, Fitzroy Street, Fitzroy Square, London, W.1, has made steady and satisfactory progress, though not rapid enough to satisfy its promoters. Reference is made to the lack of support by medical practitioners, and attention is drawn to the economic advantages of tuberculin therapy, particularly in the case of the poorer patients, who are able to remain at their usual occupations while being treated. Increased funds are required for the dispensary, and regret is expressed that more support has not been forthcoming from public authorities. During the year under review 110 patients visited the dispensary, but many were in too advanced a condition for treatment to be undertaken hopefully. Fourteen cases which had been diagnosed as having early signs of tuberculosis were proved negative on testing. Dr. Camac Wilkinson mentions with regret that only in one instance was assistance received from any of the friendly societies. He invites an unbiased and judicial investigation of tuberculin treatment on the lines employed at the dispensary. At the annual meeting of the Tuberculin Dispensary Benevolent Society it was agreed that steps should be taken to terminate its existence as a friendly society and to reconstitute it in its earlier form as an independent tuberculin dispensary for the poor.

#### The Victoria Hospital for Children.

Increased activity is recorded in the annual report for 1927 of the Victoria Hospital for Children, Tite Street, Chelsea. The daily average number of occupied beds was 105.22, against 89.13 in 1926, while the number of children resident during the year was 3,753 against 1,677 in 1926. This increase has been due largely to the fact that the new special ward, for tonsil and adenoid cases was, for the first time, open throughout the year. It is interesting to note that the average cost per in-patient per week has been reduced by over 4s. 6d. to £3 1s. 3½d. In the out-patient department the work done also showed some expansion; the number of new patients was 12,338 and the number of attendances 82,563, as compared with 12,163 new patients and 75,029 attendances in the previous year. Here also an addition to the hospital's facilities, in the form of the artificial light extension, which was opened early in 1927, brought about an increase in the demand for its services. The convalescent home at Broadstairs continues its useful work as an adjunct to the hospital. In its finances the hospital has been faced with a deficit on the year's working, the cost of maintenance being over £422 above the income for the year of £21,707, and there was a bank overdraft at the close of the year of over £4,123. An appeal is made for further annual subscriptions, and this report points out that special efforts involve additional expenditure and yield income which can only be regarded as of a temporary nature.

#### Memorial to Dr. Iris Fox.

A fund is being raised to erect a permanent memorial to the late Dr. C. Iris Fox who died from septicaemia contracted in the course of her work at the Royal Free Hospital. An account of her career was published on January 30th, 1926 (p. 222). It is intended that the memorial should be associated with the pathological department at the Royal Free Hospital, where Dr. Fox was senior assistant pathologist at the time of her death. The extension of the department is now under consideration, and it is hoped that enough money may be raised by the

subscriptions of her friends and former students to build and equip a laboratory or library for research, to bear her name. Donations should be made payable to the "Iris Fox Memorial Fund," and sent to Miss Lorel Goodfellow, honorary secretary and treasurer, Flat 3, 28, John Street, Bedford Row, W.C.1. It may be added that in connexion with the general appeal for funds for the extension of the pathological department a circular letter has been addressed to past and present students of the London School of Medicine for Women, pointing out that support from the general public is difficult to obtain since few appreciate the importance of pathology or the extent to which it contributes to successful treatment.

## Correspondence.

### ABDOMINAL PAIN AS EXEMPLIFIED IN ACUTE APPENDICITIS.

SIR,—Under the heading of "Research by observation," in the *Journal* of May 26th (p. 966), you make some pertinent editorial comments on a paper of mine in the same issue (p. 887) dealing with abdominal pain. In the course of these comments you mention certain observations which are difficult to reconcile with the observations and the thesis set forth in my paper, and I would ask your indulgence that I may deal with some of the points you raise.

You ask, "Is muscular rigidity, familiar as a clinical sign of gastric and duodenal ulceration, dependent on stimulation of the [parietal] peritoneum?" In my experience true reflex involuntary muscular rigidity, strictly comparable with that found over an acutely inflamed appendix, is not a feature of gastric or duodenal ulcers, unless there has been a slight leak from a pin-point perforation, or perforation of an ulcer on the anterior wall is imminent, and I feel sure that where met with it does signify stimulation of the parietal peritoneum. But deep tenderness, associated with a slighter degree of muscular resistance or "guarding," is frequently present, and the evidence from the examination of these ulcer cases under the fluorescent screen is quite definite. The tender spot is almost invariably found over the actual ulcer crater. Now we know that the stomach and duodenum are not themselves tender on pressure, even though ulcerated. My conclusion is that when the radiologist elicits a tender spot on pressure over the ulcer he is pressing the sensitive parietal peritoneum into a position in which it receives some degree of irritation from contact with the ulcerated area. In this connexion it should be remembered that Mackenzie's observations on the areas of tenderness associated with gastric and duodenal ulcers were made before the modern developments of radiological technique, which have altered so profoundly our conception of the anatomy of the stomach in the living patient.

You also mention the difficulty of muscular rigidity associated with tonic spasm of the ureteral muscle, and of the viscerosensory reflexes associated with bladder and prostatic lesions. My paper was an attempt to establish the mechanism of pain in the gastro-intestinal tract, and I do not think that we are justified in arguing from the urinary system. There are certain fundamental differences between the two systems which invalidate any such argument by analogy. One is that the bladder and prostate, unlike the gastro-intestinal tract, are very sensitive to direct mechanical stimulation, as any surgeon knows who has opened a bladder under local anaesthesia of the abdominal wall alone for suprapubic drainage and explored the upper surface of the prostate and base of the bladder with his finger. Penile-tip pain is at once felt. Another difference between the urinary and gastro-intestinal tracts is the strictly extraperitoneal position of the urinary system.

Again, in reply to your mention of the viscerosensory reflexes of cardiac disease, I believe that the argument by analogy from the cardio-vascular to the gastro-intestinal system is dangerous and tends to confusion of thought. Much of Mackenzie's theory with regard to abdominal pain

was undoubtedly based on his observations of cases of angina and aneurysm, and I suggest that this train of thought led him astray.

The "tenderness in the scalp related with visceral stimuli in the whole vagus field" is a phenomenon with which I have only a textbook acquaintance. My lack of any clinical experience of it leads me to believe that it is a rare phenomenon, and therefore not one on which an important physiological argument can lightly be based. I tried in my paper to argue from phenomena such as are met with in the routine clinical work of any general surgeon.

In reference to the deep tenderness over an area of pleuritic inflammation you find a difficulty in the fact that with the outpouring of fluid this tenderness disappears, though it may be only up to the level of that fluid. I am bound to accept the pleural cavity as germane to the argument, since it is developed from the peritoneal cavity, but the fact that you mention seems to me not a difficulty but a confirmation of my thesis. As the fluid collects it separates the visceral from the parietal pleura, and so stops the friction of the parietal pleura, which is the source, by pleuro-cutaneous radiation, of the deep tenderness.

A theory such as Mackenzie's theory of referred pain when once it has become orthodox dies hard, and it is right that we should be very critical of new and possibly subversive doctrines. But if the unity of the gastrointestinal tract be granted I feel confident that an unbiased study of the clinical and operative phenomena available will lead to the general conviction that we have been trusting to a theory of reflexes that does darken counsel, and that the true mechanism of abdominal pain is simpler than Mackenzie believed.—I am, etc.,

Manchester, June 8th.

JOHN MOHLEY.

#### **PATHOGENESIS OF ACUTE PRIMARY GLAUCOMA.**

SIR,—There are one or two points in Mr. Duke-Elder's letter (June 9th, p. 1000) which call for reply. He has instanced the wide differences of measurement, but those methods used for measuring capillary pressure which give high readings are open to the criticism that they stop the flow, produce banking up, and so measure the pressure in the arteries—kinetic energy of flow being converted into static energy. The least equivocal methods give the low readings—for example, that of finding the countervailing pressure which stops bleeding from a small cut in the finger, such a cut undoubtedly severing arterioles as well as capillaries. Also the method of introducing a quartz micro-pipette into a branch of a capillary network, and finding the pressure which just prevents entry of blood corpuscles into the pipette. Both these methods have been applied to human skin. Landis introduced such a pipette into what he calls arterial capillaries found in the mesentery of the frog. These are straight vessels, usually unbranched, and like arterioles. He has measured the systolic pressure by forcing a dye into the vessel. Now the pipette both occupies room in the vessel and obstructs flow, and banking up is produced by injection. The systolic pressure so measured is much too high, but it comes into his calculation of the average normal lateral pressure of the capillaries. He also introduced the pipette into a branch of a net of what he calls venous capillaries. This would give a much more accurate reading, but not differentiating one set of readings from the other he gives an average of them all, and this must therefore be too high. His method of measuring the passage in or out of fluid from a capillary is no less open to criticism, as shown in the papers by J. McQueen and myself, which are appearing in the next number of the *British Journal of Experimental Pathology*.

One important factor generally left out of reckoning is the counterbalancing pressure of the tissues. The capillary pressure can rise to considerable heights under certain conditions, such as obstruction of the veins, but as the tissues are confined by membranes the tissue pressure rises concomitantly. In the eye the pressure of the humours counterbalances that of the minute vessels, and a very small excess suffices to maintain velocity of flow. If the aqueous

fluid be let out and the abdomen be compressed the iris swells up, and the minute blood vessels, no longer supported by the counterbalancing pressure, may burst. In the kidney the fluid in the capsules counterbalances the pressure in the glomerular capillaries.

The method which I use for measuring capillary pressure is the same as that used in measuring blood pressure in the arm by means of the pneumatic cuff and manometer, the only difference being that the indices of capillary pressure are observed under the microscope. There is abundant proof that this method is fairly accurate, and I apply it to higher animals, mice and bats, no less than to frogs and toads. The capillary pressure in the minute capillaries of the fat in the mesentery of a mouse is lower than that in the big capillaries of a frog.—I am, etc.,

London, N.W.3, June 18th.

LEONARD HILL.

SIR.—Mr. W. S. Duke-Elder, in the opening paragraph of his letter (June 9th, p. 1000), states:

"Dr. Ramsay suggested that the evidence was in favour of the formation of this fluid by dialysis in the same manner as the other tissue fluids, and to this Dr. McQueen objects on two grounds: first, that there is not a sufficient pressure in the capillaries of the eye to allow such dialysis, and secondly, that the aqueous humour is formed in quantity too great to be accounted for in this way."

Mr. Duke-Elder's paraphrase of my letter is quite an erroneous one. I did not confuse filtration with dialysis.

By filtration is meant the passage of fluid through a membrane as a result of a difference of hydrostatic pressure on the two sides. (Waymouth Reid in Schäfer's *Textbook of Physiology*, vol. i, p. 280.) Dialysis or dialysis does not imply a difference of hydrostatic pressure on two sides of a membrane. Krogh (1922) is also misquoted.

Landis, in 1927 paper (*American Journal of Physiology*, vol. lxxxii, p. 217 et seq.), which is the important paper dealing with passage of tissue fluids, never found how much the pressure in the "arterial capillaries" was above the tissue pressure because he never measured the tissue pressure. The osmotic pressure of the tissue fluids in the frog would not be overcome by 145 mm. of H<sub>2</sub>O as stated by Mr. Duke-Elder. As regards the supposed pressure gradient of 22 to 28 mm. of Hg in the capillaries of the eyeball, I did not argue from analogy solely, as anyone can see who reads more of the paragraph than Mr. Duke-Elder quotes.—I am, etc.,

Hale-sowen, June 15th.

JAMES M. McQUEEN.

#### **THE FUTURE OF OBSTETRICS.**

SIR,—In India little girls of 6 years old are married to men of 40 years of age, and many little children join the cruel and awful ranks of widowhood before they have menstruated. This is done, and approved of, in the sacred name of religion. In England men and women are allowed to qualify and try to perform the most difficult operations in obstetrics in the most unfavourable surroundings, after having completed at most two months of practical midwifery and after having delivered perhaps less than ten cases. People can get used to and approve anything.

The maternal death rate in Siam is ten times as great as that of England (at least 40 per 1,000). The point I want to make is this: although every law of hygiene is broken, although clothes and rags and filthy nails are scraped around the vagina and sometimes even into the uterus, yet 950 out of 1,000 women survive. The converse is equally true. Because only 4 women out of every 1,000 die in England it does not mean that the other 996 had a safe confinement. I am firmly convinced that no woman who has to submit to any form of interference has as safe a confinement as possible. Every vaginal examination is potentially dangerous, and they are absolutely unnecessary in over 90 per cent. of all cases. It is precisely those cases of labour which are normal, or vary but little from the normal, which require so many months of the student's time to master, and which are so liable to lead him into excessive interference in his practice.

The whole crux of the matter is that the student is practically ignorant so far as midwifery is concerned when he

qualifies. It is high time that every unit of the medical profession faced the facts and insisted on a longer and more practical course in obstetrics. It will then be realized that until about three times as many beds are available for the instruction of medical students the desired improvement is impossible. The necessary hospitals might be built by private companies, for I am sure they could be run at a profit, or they might be obtained by the conversion of existing infirmaries. The important point is that the medical profession should be unanimous in demanding that they should be obtained and that the ridiculously inadequate training in obstetrics should be recognized and altered.

Professor Mellor in your issue of March 17th (p. 467) writes that "British midwifery is the admiration of the world." I am sure she has adequate evidence for that statement. Whatever it is the world admires it certainly is not the institutions, for we have none that can compare with the admirable clinics of such places as Leipzig, Berlin, or Vienna, or even, as far as equipment goes, with the Government Hospital, Madras. I do not think that either we ourselves or the world can admire our results or the amount of research work carried out in Great Britain on obstetric subjects. Let us rather determine that British obstetrics shall again be the admiration of the world, as it once was.

We spend enormous sums of money on cancer research which may or may not be the means of saving lives. Shall we refuse to spend money in preventing the wastage of the mothers of England just because we know the causes of their deaths and could prevent them? The plain unvarnished truth is that there is not the money, there are not the institutions, and there are therefore not the facilities for adequate instruction or effective research.

It is because Dr. Cressy, in his courteous reply (March 10th, p. 412) to my letter published in your issue of February 18th (p. 284), failed to answer my two questions that I have ventured to refer once again to what, I am sure, is the root of our obstetric evils.—I am, etc.,

G. W. THEONALD,

Professor of Obstetrics and Gynaecology,  
Bangkok.

Siam, May 22nd.

Sir,—In reference to the training of midwives and the education of medical students in midwifery I wish to suggest that the bigger midwifery schools should confine themselves to the training of medical students and graduates, and that the smaller midwifery training schools should receive the pupil midwives. This would leave a much wider scope for the better education of medical students and doctors. I do not suppose there is one of us who, when called out as a young graduate by a midwife for an emergency, did not regret at some time or other having had so little experience in his training school, both in ante-natal work and in deliveries. An abnormal case can be made normal during the ante-natal period: a normal case can be made abnormal during labour. The adoption of my suggestion would mean that the larger schools, finding themselves short of nursing staff, would have to employ a greater number of staff nurses. A staff nurse's post is equivalent to a post-certificate course to her. Thus, in effect, the larger schools would train medical students for their qualifying examination, and would provide doctors with post-graduate experience, and staff nurses with post-certificate experience. The smaller schools would train pupil midwives for their certificate examination.—I am, etc.,

Middlesbrough, June 11th.

G. H. GIFFEN DUNDAS.

#### PUERPERAL SEPSIS.

Sir,—It is the universal experience that many a Sairey Gamp, with no knowledge of nail-brush or lysol, working under the least favourable surroundings, has yet been able to show a spotless record. I myself can think of more than one such whose cases "never go wrong." We know, too, that it is common for difficult cases, attended by trauma, ending even in manual removal of the placenta, conducted in the most unsuitable surroundings, still to be followed by an uneventful convalescence.

On the other hand Mr. Burt-White, in his most interesting and, to my mind, important paper (*British*

*Medical Journal*, June 9th, p. 974), describes normal cases, under skilled modern supervision, that have had morbid puerperin, whilst Dr. James Young (p. 967) is so impressed by the danger of grouping parturient women within four walls that he urges that no maternity home should be without its isolation block.

These facts taken together seem to show, as Dr. Young himself suggests, that her own home is the safest place in which a woman may be confined, unless, perhaps, some exceptional difficulty is anticipated. If fever should occur the isolation difficulty does not arise, while if surgical intervention should become necessary she can be moved to a hospital or nursing home as easily as from a maternity home.

In a speech the other day the Minister of Health proposed, in addition to an increased number of maternity homes, an "improved" training of midwives. If by this he meant that he hoped that in future all pupil midwives would be taught to make only rectal (instead of vaginal) examinations in normal cases, I think few will disagree. But if it is proposed to add to their intellectual burden, then the results will certainly be disappointing in more ways than one.

Another not unimportant point arising out of Mr. Burt-White's paper is relative to the position of the practising midwife. At present there is a tendency at least to hint that a morbid puerperin is the result of some failure in her aseptic technique: in some instances she is made to feel that she is sitting on the edge of a precipice over which the first "temperature" may push her. It is to be hoped that one result of Mr. Burt-White's observations will be general recognition that however skilful, however careful, and however conscientious a midwife may be, untoward complications may appear, just as they do in surgical and medical practice, and that, when they do, she needs sympathy and help rather than blame. Moreover, if an investigation is conducted in the spirit of helpfulness, she will be much more ready to assist than if she feels that any evidence she may give is likely to be used to her own disadvantage.—I am, etc.,

Sydenham, S.E., June 13th.

W. M. PENNY.

#### THE TREATMENT OF MALIGNANT DISEASE BY COLLOIDAL LEAD.

Sir,—I cannot help thinking that Dr. Wyard has been ill advised to invite me to demonstrate further and completely the futility of his work and report, which reflects not only on himself, but inevitably also on the institution with which he is connected, for he states that the so-called investigation was a concerted effort in the Cancer Hospital. However, as he is unwilling to accept my "ex cathedra statement," which it was to his advantage to do, I shall take the trouble, which I would rather have been spared, of exposing the full extent of his errors in respect of the method of preparation of his so-called "colloidal lead," of which he says "I... affirm that they are the same as those used in Liverpool." From Dr. Wyard's account of his various methods the following points emerge.

1. Dr. Wyard's preparation was made by sparking... in a medium of distilled water. Afterwards he added the gelatin and electrolytes. We spark in a medium containing the gelatin and electrolytes. So far as one can say, without wasting the time necessary to investigate something which would be valueless to our work, a heavy, direct current such as that which appears to have been used would produce in distilled water lead hydroxide and large particles of metallic lead; there would certainly be very little colloidal suspension of lead. It is of primary importance to spark in the medium containing gelatin. In this respect, therefore, the method employed at the London Cancer Hospital is diametrically opposed to our own.

2. Dr. Wyard used isoelectric gelatin in some of his preparations. This is acid, and would, therefore, lead to the formation of lead ion ( $Pb^{++}$ ), the very thing the method is designed to avoid.

3. The preparation used by Dr. Wyard at the London Cancer Hospital does not appear to have been centrifuged; consequently it would contain large particles of lead—particles large enough to block capillaries—especially when made as described.

4. There is no mention by Dr. Wyard of any examination to discover whether lead ion were present in the material used. Undoubtedly the preparation would contain large quantities

of lead ion, which is toxic, and but little lead in colloidal form.

5. Dr. Wyard admits the addition of a reducing agent—presumably sodium hydrosulphite. Professor Dilling found this reducing agent caused the preparation to have a special toxicity, and, therefore, it was not used by us.

6. Animal investigations as to the toxicological and choriotropic properties of Dr. Wyard's preparations were not conducted. As to the toxicological effects, Dr. Wyard's comments with reference to my colleague Professor Dilling make it appear that he has neither the conscience to care, nor the ability to appreciate, Professor Dilling's gently conveyed rebuke to the effect that the sacrifice of a number of human lives is deplorable when information might have been gained, as Professor Dilling gained it, at the expense of two rabbits.

7. With regard to the question of "shot"—this word means, to a sportsman at any rate, shot used for shooting. Dr. Wyard states that he used "specially prepared lead 'shot.'" This is an *ex cathedra* statement, and, therefore, I am told by Dr. Wyard himself, is of no value. If I were further interested, but I am not, I should require him to go into details, and inform me of the maker. I had this in mind when I wrote my letter, but I did not think that even Dr. Wyard would be so foolish as to go to so much trouble when he could have obtained at once what we have always used—namely, "granulated lead," which is pure, and offers a larger surface than shot. To make sure, I telephoned to the manager of a large chemical firm, and was informed that, if asked for *lead shot* he would always supply the commercial article used for sporting purposes, and, if asked for *pure lead*, he would send "granulated lead." Even in this matter Dr. Wyard has missed the point. It is, I agree, well known that "commercial preparations of lead contain a small percentage of arsenic" as an impurity, but it does not appear to be equally well known, even by Dr. Wyard, that arsenic is added to the alloy of antimony and lead from which shot are made. In whatever way Dr. Wyard proposes to get out of this difficulty—and I hope he will not try to extricate himself—the fact will remain that alternatively he misled his readers by using the word "shot" without qualification or even inverted commas, and he must, therefore, excuse my scepticism regarding the explanation he now gives.

8. Lastly, since Dr. Wyard has not received any colloidal lead from us, and we have always used only that made here in the laboratories of my colleague Professor W. C. M. Lewis, the assertion of Dr. Wyard that most of his "doses were obtained from the source which was, and I believe is, supplying Professor Blair Bell himself," is simply untrue. I suppose Dr. Wyard has inferred that we have used choriotropic supplied commercially by the British Colloidal Co. This is not so. We have advised this company regarding the manufacture of this preparation, but have done no more than test it ourselves.

I hope I have now finished with an analysis of Dr. Wyard's methods, and that he will not encourage me further to waste time I can ill afford. I have felt it necessary for once to demonstrate clearly that when I make an *ex cathedra* statement it is at least wise to suspect that there may be some foundation for it. In this case there were, apparently, six or seven foundations, all supplied by Dr. Wyard himself.

Mr. Duncan Fitzwilliams and I myself have demonstrated the absurdity of the clinical investigations conducted at the London Cancer Hospital.

If my remarks have been strongly worded no one has regretted the necessity of forcible comment more than I. I have felt, however, that if I allowed to pass unnoticed, or to pass with gentle irony, such a report as that of the Cancer Hospital, our work might stand condemned by default; for Dr. Wyard's conclusion—a conclusion endorsed, I suppose, by his colleagues at the London Cancer Hospital—of the effect of lead on malignant disease, based on what I judged to be an almost unparalleled example of unsound work, was very definite and unqualified. Many who read such a paper, and were not conversant with the details involved, would naturally jump to the conclusion that the matter was therein settled. I sincerely hope that we may be spared such baseless and valueless criticism in the future.

Mr. Fitzwilliams has very adequately expressed what must have been the opinion concerning this report of those who have knowledge of the methods, of the disappointments and difficulties associated with it, and of the encouragement that is vouchsafed to us from time to time; and Mr. Fitzwilliams has, curiously enough, independently made a statement similar to that uttered by Dr. William Mayo in the early days of our work—namely,

that to treat very advanced cases of cancer is tantamount to expecting miracles, not cures in the usual sense of the word.

I am glad to know, from the evidence received from British, colonial, and foreign clinics, that the prophecy of my friend Professor Carter Wood has not been entirely fulfilled. When he saw the endless trouble and thought expended on each case in Liverpool, he assumed me that no one else would get results comparable with our own; and there was much in what he said, for to-day, with our numerous patients, we find it difficult to bestow the same personal care on each, yet we strive to do so. Still, it is evident there was much truth in this prophecy, and with Mr. Duncan Fitzwilliams I feel that at the beginning of such a tremendously difficult problem the results obtained will depend largely on the personality and sympathetic understanding of the investigator. Is it not true, indeed, that in the results of even well-established mechanical procedures, such as thyroidectomy, everything depends on the individual operator? I have in mind the work of that master-surgeon Crile, with his twenty thyroidectomies in a morning; his 10- to 15-minute, yet perfect, operations, and his mortality rate of 0.7 per cent. So with antisepsis and asepsis in the early Listerian period—as the kind of man, so the result.

It is only with patient, laborious work, and much stumbling and confusion on the way that the chemotherapeutical method—the ideal chemotherapeutical method—for the treatment of cancer will reach some degree of fool-proof certainty; it will never be infallible. We know no preparation of lead in use so far—and I suppose we ourselves have tried about one hundred—that approximates to the ideal. Thus with our lead-selenium preparations we have used stable, non-toxic materials made under Professor W. C. M. Lewis's direction. These were found to be no better than other preparations tried in regard to choriotropic and neoplasitropic properties; so for the present they have been put on one side. This is what Professor Dilling stated in his letter. We are none the less very glad to hear of the good results that have attended the use of a lead-selenium material in the hands of Dr. A. T. Todd. He may be using better preparations than those we have employed. So with the lead iodide of the British Drug Houses Company, which Mr. Patterson originally made on my instructions when he was working for us in Liverpool.

It is, however, to be remembered, as I have previously stated, that every lead preparation appears to have some effect, and in certain cases can arrest the growth of malignant disease with the disappearance of pain. The point is that no preparation of lead yet employed is so good that we can afford to hesitate in our search for something better, even at the cost of good statistics, which for the present are of little value in enabling us to assess the estimate that will be placed on this method of treatment in the future.

To have made a start is something; now—to emphasize Mr. Fitzwilliams's remark—we want the help of everyone who has the facilities, and will go to work in the right spirit and in the right way. We are not so egotistical and stupid as to think that we alone are capable of developing the ideal preparation, although, of course, we should like to finish what we have begun and have so widely explored. Nevertheless, as some already know, we desire to enlist as colleagues all who wish to work on the lines we have sought to establish, and to help, as we have in the past by any means in our power. Life is short, the problem vast, and time is pressing.—I am, etc.,

Liverpool, June 18th.

W. BLAIR BELL.

SIR,—In his letter, which you publish in your last issue, Mr. Fitzwilliams makes the egregious blunder of assuming that the duration of life after the commencement of treatment is identical with the duration of treatment. It is obvious that this is not necessarily the case. In my report, to which he refers, "duration of treatment" always means the interval between the first and last injection of colloidal lead, and has no relationship whatever with the duration of life.—I am, etc.,

London, S.W., June 18th.

STANLEY WYARD.

## SEA-SICKNESS.

SIR,—I noticed with interest Mr. R. H. Paramore's letter (June 2nd, p. 959), in which he agrees with Dr. Bennett in discounting the "labyrinthine" theory of sea-sickness, and centring the blame on liver functions.

Last February I took a voyage as temporary ship surgeon on the *Maunia* to Halifax and New York. I was sea-sick for three or four days, and took notes of my own symptoms. After my sea-sickness had gone the rest of the voyage was most exhilarating, and I returned feeling much fitter. I came to the conclusion that this condition is due to "waves of pressure" in the cerebro-spinal fluid, set up by the motion of the ship. These "waves of pressure," transmitted to the brain by the cerebro-spinal fluid, upset the normal function of the brain centres to such an extent in certain people that the brain inhibits the blood supply to the abdominal viscera, and thus checks seriously the general metabolism, until it reinstates itself in its new environment. The stomach then has no other course of action than to expel its contents, and other signs of disturbed metabolism appear, such as acidosis.

With regard to treating the symptoms it is generally agreed that lying on the back, warmth, fresh air, and the administration of glucose are excellent. The relief of symptoms which follows lying on the back supports my theory of waves of pressure in the cerebro-spinal fluid, for in that position the head and spinal column are kept most nearly at rest. As soon as the erect posture is assumed, particularly with a tall person, the swaying of the long vertical axis must cause waves of pressure in the cerebro-spinal fluid, both laterally and vertically. The chief desire of the patient then is to get the head down flat on the ground and to let it remain there; vaso-constriction of the abdominal blood supply is thus alleviated at once. After a few days the brain becomes educated to deal with its new environment and is not upset by the waves of pressure; it thus ceases the inhibition of the normal blood supply to the abdominal viscera. If sea-sickness was caused by "hepatic disturbance due to a diminution of blood flow through the liver, occasioned by the successive sudden falls of intra-abdominal pressure," as suggested by Mr. Paramore, it is difficult to understand how sea-sickness can be overcome in a few days, since the abdomen is not a subject for education, whereas the brain is.

When sea-sickness is considered from the broad aspect of its meaning it will be seen that it occurs for a purpose—namely, education to a new environment. When the land-liver goes to sea there is such a complete change in his whole environment that Nature decides that he must be put into bodily order for the struggle for existence. An ordinary attack of sea-sickness cleanses the stomach and mouth, and the abdominal contents generally; at the same time a general tightening up and improvement of the abdominal muscles results. As soon as this end is attained the patient is able to start on moderate meals, and to increase them quickly; he soon puts on weight and feels extremely well.

Sea-sickness, like pregnancy vomiting, is present with us for a purpose, and always will be with us. Alleviate it we can, but prevent it—never.—I am, etc.,

Southampton, June 8th.

W. A. ELLIOTT, M.B., B.S.

SIR,—Your correspondents on the subject of sea-sickness are evidently unaware of the endolymph theory, which was explained in my book on the subject, published so long ago as 1907. It was demonstrated there, I think beyond dispute, that sea-sickness is due to irritation of the endings of the vestibular branch of the auditory nerve by the endolymph undergoing unusual movement, and that prevention and cure depended upon the counteracting of this irritation, which was best obtained by large doses of bromide of ammonium.

Confusion is caused by the failure to recognize that true sea-sickness is a distinct entity due to the anatomical arrangement of the inner ear, and that it is quite distinct from "sickness at sea" due to the digestive and not the nervous system.—I am, etc.,

Bath, June 14th.

H. NORMAN BARNETT.

## IMMUNITY FOLLOWING HERPES.

SIR,—In view of the recent correspondence on this subject from Dr. Parkes Weber (May 19th, p. 875) and Dr. James Taylor (May 26th, p. 920), I venture to record the notes of three cases of apparently genuine recurrences of herpes zoster.

I saw a patient in April with severe herpes ophthalmicus and, to my surprise, she stated that this was her third attack of shingles. A few days later I saw her next-door neighbour, who inquired after her, and expressed deep sympathy as she had had three attacks herself. The same day I met a third lady who knew both of the others, and was astonished to hear that she herself had twice suffered from the same complaint.

This coincidence seemed to merit further investigation, and I obtained the following details.

*Case 1.*—In 1877, when 20 years of age, the patient had her first attack of shingles—apparently true zona on the left side. In 1897, when aged 40, she had a second attack, which affected the left shoulder and arm. In 1928, at the age of 71, she had severe herpes ophthalmicus, on the right. She was seen by a doctor on each occasion, and has no recollection of having had chicken-pox.

*Case 2.*—This patient, in 1883, when 36 years old, had a very painful eruption round the waist on the left side. She saw no doctor, but the diagnosis was subsequently made by him on hearing her story. In 1902, when 55 years of age, she had a more severe attack at the back of the neck and shoulder—side unknown, but seen by her doctor. In 1922, when 75 years of age, she had a third attack, which affected the back and waist on the left side. The attack was a severe one; and was seen by her doctor. She attributes the attacks to severe shocks, and has no recollection of chicken-pox.

*Case 3.*—This patient had her first attack, which affected the left side of the trunk, in 1894, when she was 39 years of age. In 1911, when she was 56, she had a more severe attack, again left-sided. She was seen by a doctor on both occasions, and has had chicken-pox.

It is clearly impossible to confirm these statements; but I feel that they are in all probability genuine recurrences. The interval in each case of a period of fifteen to twenty years seems of interest; might it be considered the limit of a period of immunity?—I am, etc.,

Cambridge, June 6th.

H. E. NOURSE, M.B., B.Ch.

## A PLEA FOR THE OPERATION OF LITHOLAPAXY.

SIR,—For the past three years I have witnessed a number of operations for stone in the urinary bladder performed in various London and provincial general hospitals and infirmaries; the operation was invariably removal of the calculus by the cutting method of "suprapubic cystotomy," and in all cases the stone was small and the bladder was clean.

Experience forces me to conclude that the operations were unjustified in that they involved an unnecessary cutting of the bladder wall, resulting in the patient's detention in hospital for many weeks and, at the best, in his being discharged with the bladder adherent to the anterior abdominal wall—surely a serious disability. I do not think it can be contended that, in the circumstances, the urinary organ after such an operation is quite as good as formerly. This is the argument from the patient's point of view, but the expense to the State in after-treatment and hospitalization for many weeks is very considerable as compared with what it would be were the operation of litholapaxy to come into general vogue.

Up to the latter part of last century perineal lithotomy was universal in India for the removal of bladder calculus until Bigelow introduced the operation of litholapaxy, consisting of the crushing of the calculus *in situ* and the evacuation of the fragments through a cannula at the same time. Since then this procedure has entirely displaced the cutting operation. I am safe in saying that if a surgeon proposed to an Indian to remove his stone by cutting he would not get the work to do—and the Indian would be right in his decision. Public opinion in India has been formed as the result of a great mass of experience; and, therefore, arguments which endeavour to prove that the cutting operation, as generally practised in this country, is as good as or superior to the crushing operation cannot be sustained. I can remember only a few instances of



calculi so large that they could not be removed by the operation of litholapaxy.

When I was civil surgeon of Hyderabad, Sind—at a hospital famous in India for stone, where as many as five to seven hundred stone operations have been performed per annum—it was no uncommon event during the "stone season" to have six or eight operations in one day. All would be dealt with by litholapaxy during the morning, in addition to the usual work. The patients were not admitted to hospital; their operations were carried out in a special theatre, and lasted from ten minutes upwards, depending on the size and hardness of the stone. The patients were then removed to the hospital verandah till the effects of the anaesthetic had passed off, after which they stayed the night at the adjacent rest house. Next morning they were usually able to report fit and return to their homes, undertaking long journeys by road or train. Their bladders had suffered in no way, as shown by absence of blood at time of operation and their well-being afterwards. From the point of view of the patient, the lesser mortality, and the minimum of expense for after-treatment, it cannot be gainsaid that litholapaxy for bladder calculus is immeasurably the superior operation. Why is it, then, that in this country litholapaxy is practically abandoned by general surgeons as the operation for vesical calculus? Can it be that the teachers at the British medical schools have not the experience and the data at their disposal to warrant their recommending the adoption of treatment by this method? In unpractised hands the operation of litholapaxy is certainly most dangerous, as it requires much experience to obtain the necessary "tactus cruditus."

It is not sufficient excuse for the general surgeon to continue to practise the inferior operation of suprapubic lithotomy by saying that he gets so few opportunities that he feels quite unequal to the task of performing litholapaxy with satisfaction to himself or safety to his patients. If he is to continue to operate for vesical calculus he should, in justice to his patients, take a two months' cold weather trip to India, where he would be able to observe experts at work, who would gladly instruct him in the art and give him opportunities for practising the technique, in the same way as the American ophthalmic surgeon visits India to perfect his technique in the operation for cataract.—I am, etc.,

L. P. STEPHEN, M.A., M.B., F.R.C.S. Ed.,  
Grimsby, May 18th.      Lieut.-Colonel, I.M.S. (ret.)

#### INJECTION TREATMENT OF VARICOSE VEINS.

SIR,—Dr. Borchers's letters are always interesting, but some of his statements are rather startling. If, as he says, all varicose veins are of syphilitic origin then every family must suffer from the lueic taint, as it is doubtful if a family ever existed where one member has not at some time suffered from varicosity either of the limbs or anal canal (piles). I cannot agree with him that intravenous injections of arsenical compounds cure varicose veins. During the past fifteen years I have given over ten thousand of the latter, chiefly to women (at the London Lock Hospital), whose arm veins are occasionally so small as to be almost imperceptible, and the injection has then to be given elsewhere, usually in a varicose vein. I did not observe that the varicosity disappeared following the injection of the arsenical compound. The possible explanation of Dr. Borchers's apparent success may be as follows.

The calibre of veins is regulated by the smooth muscle in their walls. This muscle is controlled by the sympathetic, and it is by means of the latter that the veins dilate or constrict. Excitation of the sympathetic leads to a diminution in the calibre of the veins. It was first pointed out to me by Professor Sicard (originator of the sodium salicylate sclerosing method) and Dr. Gaugier at the Necker Hospital, Paris, that simple insertion of the needle into the vein, even without injection, very often causes a remarkable constriction of the vein, the puncture acting as an excitator of the sympathetic. This constriction may last a considerable time, and as Dr. Borchers states that he bandages the limb immediately after injection and elevates it for fourteen days if ulcer exists, it is only to be expected that considerable improvement will result,

due to rest and compression, and not to the arsenical compounds. If he did not bandage and rest the limb immediately after injection he would see that vaso-constriction would soon give place to vaso-dilatation and the former varicose condition reassert itself.

Dr. Borchers speaks of the sclerosing method of treatment as one of "embolic injections." This is a grossly misleading description. The essential of embolism is that the clot must be loose; an embolus is a clot that has been "transported" by the blood stream. The most remarkable characteristic of the clot produced by sclerosing injections is the tenacity of its adherence to the vessel walls; it is almost impossible to pull it away from the latter. Embolism only occurs when the clot is infected; if suitable care in selecting cases is exercised and the injection given with correct technique and aseptic precautions, complete obliteration of the varicose veins will result with perfect safety, and embolism will not occur. Professor Sicard and Drs. Gaugier and Forestier stated recently at the Royal Society of Medicine that in over 300,000 injections given at the Necker Hospital, Paris, not a single case of embolism resulted. It is only in recent years that I have interested myself in treatment of varicose veins of the limb, but I have employed sclerosing injection in selected cases for piles during fifteen years and have not had a single case of embolism.

Intravenous arsenical injections occasionally cause anaphylaxis, but I think Dr. Borchers will agree that it would be misleading on that account to refer to the treatment as one of "anaphylactic injections."—I am, etc.,

P. KENNEDY MURPHY, M.A., M.D.

London, W.C., June 3rd.

SIR,—In the last paragraph of Dr. Borchers's letter in your issue of June 2nd (p. 960) he uses a term which is most puzzling—"embolic injections." Would Dr. Borchers please give his definition of the word embolus? If he is employing it in the sense generally given it in pathology then I submit that in this instance it is a misnomer and very misleading. No substance now in use for the injection of varicose veins ever produces emboli. It was the use of such substances as tinct. ferri perchlor., liq. iodotau., etc., that for seventy-five years (to within the last ten or twelve years) rendered these injections so dangerous. Even then these drugs did not cause emboli, but the soft, friable clot formed by them, together with infection, often caused fatal emboli.

Dr. Borchers's term would seem to be most unfortunate, as it was, and still is, in a measure, the bugbear not only of the general public, but also of some members of the profession at the present day. This fear of embolus (now proved to be more theoretical than real) all workers on the subject now agree to be groundless with modern methods in use, but I would suggest that there is possibly more chance of embolic formation with arsenical injections (Gougerot) than with the use of any of the other substances now employed, and this apart from other obvious objections to the method used by Dr. Borchers. I do not follow him when he says that these "embolic injections" should "throw the burden on to the deeper veins." In what way does his arsenical injection differ in its action and how does he prevent the deeper veins from being affected, as he affirms is the case with the use of "embolic injections"? Is the vein obliterated or not after this injection? If it is, in what way does it differ from veins blocked by other drugs? How are the deeper veins not likewise affected by his injection?

I venture to suggest that if Dr. Borchers were to employ the drugs in use here and on the Continent he would get just as good results as with the arsenical injections, for if he will consult Sicard's articles he will see that this authority ascribed the blocking of the veins to the sodium content of arsenical preparations and not at all to the arsenic, nor to its curative effect on the element syphilis, should it exist. The veins were blocked (where disease and varicose conditions were absent) at the site of the injections, and this seems to be all that is necessary for the cure of this prevalent and disabling infirmity. I submit that Dr. Borchers is curing his cases by sodium only, given in a very complicated way. I think he will have

great difficulty in convincing those conversant with the treatment of this complaint of the propriety of his method as compared with the simple methods now generally in use, especially as the cause of varix does not seem to be syphilis, at least in this country or on the Continent.—I am, etc.,

T. H. TREVELYAN BARNES, M.D., B.Sc.

London, S.W., June 3rd.

SIR,—I am afraid Dr. Borchers (June 2nd, p. 960) has not quoted my letter in your issue of March 13th quite correctly. If he will read my letter once more he will notice that I do not say that "the pressure of pregnancy" is a cause of varicose veins, but that I have made two distinct factors in "pregnancy and increased intravenous pressure from uterine causes." My reason for doing so is evident when one considers that the onset of varicose veins in pregnancy is most commonly observed long before there can be any question of increased intra-uterine pressure.

L. Gaugier has decided that the cause of the varices of pregnancy is of endocrine origin and that the pituitary gland is predominant in their causation. Meisen believes that they are probably the result of toxins acting on the walls of the veins, which toxins are caused by the temporarily subsided function of the ovaries. At any rate, modern evidence goes to show that in most cases some endocrine deficiency is the "fons et origo" of varicose veins, and I cannot disagree with Dr. Borchers if he says that syphilis is at the bottom of a certain number of cases, but I certainly do not feel that all are syphilitic in origin as he suggests.—I am, etc.,

London, W.1, June 7th.

RONALD THORNHILL.

#### NEPHRO-URETERAL ANASTOMOSIS AFTER COMPLETE AVULSION OF THE URETER.

SIR,—In the *Journal* of October 2nd, 1926 (p. 589), I reported a case where, following complete avulsion of the ureter and absence of any firm tissue with which to make a pelvi-ureteral anastomosis, the ureter was joined to the kidney by threading over an indwelling catheter.

The procedure was apparently a success, but I have just ascertained the subsequent history of the patient, which throws a different complexion on the matter. About a year after the operation a perinephric abscess developed, and ultimately the kidney had to be removed, when it was found that the lower part was hydronephrotic. The ureter had apparently successfully drained only the upper two calyces.

I consider it necessary to make this further report, which modifies considerably the value of such a procedure.—I am, etc.,

R. CAMPBELL BEGG,  
Senior Urological Surgeon, Wellington  
Hospital, N.Z.

Wellington, May 5th.

#### Obituary.

##### WILLIAM JAMES HOWARTH, C.B.E., M.D.,

Late Medical Officer of Health for the City of London.

WE have to announce with great regret that Dr. W. J. Howarth, for fifteen years medical officer of health for the City of London, died on June 15th, at Gerrard's Cross, in his sixtieth year, after many months of illness. His death removes a distinguished and much-respected guru from the world of preventive medicine.

William James Howarth was educated at Manchester Grammar School and Owens College, Manchester, and in 1890 took the diplomas of L.R.C.P. and S.Edin., and M.R.F.P.S.Glas. He graduated M.B. and Ch.B. at the Victoria University of Manchester in 1891, proceeding M.D. in 1893, and taking the D.P.H. in 1896. After obtaining his first qualification he became in turn house-surgeon to the Manchester Royal Infirmary and to the Loughborough General Hospital. In 1896 he was appointed medical officer of health for Bury, Lancs, and in 1898 medical officer of health for Derby, where he remained for ten years until his appointment as medical officer of

health and school medical officer for the county of Kent. In December, 1912, he was elected medical officer of health for the City of London on the retirement of Dr. William Collingridge. During the war he served with the rank of Major R.A.M.C.(T.) as honorary medical administrator of the Fishmongers' Hall Hospital for Officers, and as chief rationing officer under the London and Home Counties rationing scheme; for these services he was created C.B.E. in 1919. Dr. Howarth's intimate knowledge of meat inspection led to his appointment as chairman of the Meat Preservation Committee of the Food Investigation Board, and as a member of the Meat and Slaughter-houses Committee of the Ministry of Health; he was also a university nominee upon the Board of Management of the Low Temperature Research Station at Cambridge, and had served on the Ministry of Health's Insanitary Areas Subcommittee. In 1917 he was Milroy Lecturer before the Royal College of Physicians of London, taking as his subject "Meat inspection, with special reference to the developments of recent years." These varied and responsible activities, with the accumulated knowledge which such a succession of official positions of necessity implies, gave him a wide acquaintance with men and affairs, and his forceful character and statesmanlike outlook put him in the forefront of many of the advances in preventive medicine during recent times. He was for many years a zealous and highly esteemed member of council of the Society of Medical Officers of Health, holding office as president in 1921-22. In the latter year he presided also over a conference of medical officers of health during the congress of the Royal Institute of Public Health at Bournemouth.

Throughout his career Dr. Howarth was inspired by high ideals, always upholding the good name of his profession and the sanctity of English law as expressed in the various Public Health Acts and Regulations. He was opposed to sectionalization in medicine, and during the past ten years took an active part in the work of the British Medical Association, believing, and acting upon his belief, that its organization and aims made the Association particularly well fitted to bring into closer touch general practitioners and medical officers of health. He was for some time a valued member of the Public Health and Insurance Acts Committees, and served on a number of special committees and subcommittees at headquarters. He had been appointed president of the Section of Public Health for the Annual Meeting of the Association at Nottingham in 1926, but was compelled by sickness to resign that post shortly before the meeting.

After struggling against ill health for many months he at length handed in his resignation to the Corporation of the City of London, and in March last a resolution expressing deep appreciation of his valuable services as medical officer of health for the City was passed unanimously at the instance of the Sanitary Committee.

We are indebted to Dr. H. B. BRACKENBURY, Chairman of Council, British Medical Association, for the following tribute:

The long illness of Dr. W. J. Howarth has been a great loss to the British Medical Association, and his death has now made that loss irrecoverable. He was greatly interested in many of the Association's activities, and a strong and influential supporter of the Association's main policy in matters relating to public health and to the methods by which private practitioners of all kinds should take their part in the health work of local authorities. Even before he was president of the Society of Medical Officers of Health in 1921-22, his services had been sought as a member of certain special central committees dealing with matters such as these, and he afterwards consented to serve upon others. It was a great regret to him, as to all those who had hoped much from his counsels, that he found himself unable to take a more regular and energetic part in the work in which he was anxious to share. He held very strongly that the real solution of many health problems would be found in the extension of a national health insurance scheme to the dependants of insured persons, thus enabling much of the "clinic" work of local authorities to be done away with; and that

meantime this clinic work could most profitably for all concerned be placed in the hands of private practitioners. He had a far-seeing mind, and many statesmanlike qualities; and his sanity of outlook and great experience of health problems were very valuable assets which the Association will sadly miss.

**A. MASON JONES, M.D., F.R.C.S.Ed.,**

Surgeon, Ear, Nose, and Throat Department, Cardiff Royal Infirmary.

We have to record with much regret the death of Dr. A. Mason Jones, one of the vice-presidents of the Section of Laryngology and Otology at the forthcoming Annual Meeting of the British Medical Association. Although he was the subject of a valvular heart affection from boyhood he had carried on his work with cheerfulness and spirit until three months ago, when auricular fibrillation supervened, and he died on June 11th.

Archibald Mason Jones was a native of Glamorgan, having been born at Skewen, near Neath, in 1883, and received his medical education at Edinburgh University, graduating M.B., C.M. in 1909 and proceeding M.D. two years later. In 1920 he was admitted a Fellow of the Royal College of Surgeons of Edinburgh. After qualifying he was engaged in general practice for four or five years in South Wales, and thus gained an invaluable training and introduction to the special branch of work he took up later. During the war, though his disability prevented him from serving overseas, he held a commission in the R.A.M.C., and did excellent service in this country. When the war ended he took up the study of laryngology and otology, and became later successively house-surgeon and clinical assistant to the ear and throat department of the Cardiff Infirmary, to which he was appointed assistant surgeon in 1923. At the commencement of this year he was promoted surgeon, and became head of the department. His work was characterized by soundness and devotion, and his kindness made him popular with his patients. He had acted as demonstrator of anatomy at the Welsh National Medical School for some years, and was aural specialist to the Cardiff Education Authority, while his services brought him also into association with the Cardiff City Mental Hospital, the King Edward VII Welsh National Memorial Association, and the Maesteg and Morrison Hospitals. He was a loyal colleague, and all who came in contact with him mourn his passing when on the threshold of a promising career.

Mason Jones took an active interest in the affairs of the British Medical Association, having been joint secretary of the Cardiff Division for four years, deputy representative in 1926, and representative in 1927. He looked forward to the coming of the Association to the capital of his native Glamorgan, for which he cherished a warm affection, and it was a great grief to him, when laid aside, that he could no longer take his share in the work of preparation. He is survived by his widow and two children.

**J. A. MACDOUGALL, M.D., F.R.C.S.Ed.,**

Consulting Surgeon, Queen Victoria Memorial Hospital, Nice.

DR. JOHN AYMERS MACDOUGALL died on June 12th at Balerno, in Midlothian, where he had made his home in the years since his retirement. His death, at the age of 83, removes a link with some of the most notable figures in the medical life of Edinburgh in the last century.

Born in July, 1844, he was the son of Dr. George MacDougall, a medical practitioner in the Scottish border town of Galashiels, and received his early education at the High School of Edinburgh, proceeding, in 1861, to the University, where he commenced the study of medicine. Four years later he graduated M.D., along with his friends John Chiene, John Wyllie, and W. Allan Jamieson, of whom the two former came in due time to fill professorial chairs in their alma mater. In 1875 he was admitted F.R.C.S.Ed. Some reference should be made to the men who taught in the medical school in an interesting period of its history. The students of his year—of whom only eight survive of the sixty-three who graduated with him—

were fortunate in receiving their instruction from a remarkable group of men. John Goodsir, John Hughes Bennett, Sir Robert Christison, and Sir James Young Simpson, among others, occupied chairs in the Medical Faculty. In the Royal Infirmary James Syme and Thomas Laycock were clinical professors, while Patrick Heron Watson, Daniel Rutherford Haldane, and William Rutherford Sanders were members of the honorary staff of the hospital. John MacDougall, as a dresser, came into close touch with James Syme, for whom he retained throughout his life a profound admiration, and whose teaching and practice of surgery he closely followed in after years. In 1866 he became house-surgeon to James Spence, who had lately been appointed professor of systematic surgery. Joseph Lister during this period was working in Glasgow, and, although he did not publish until 1867 his epoch-making paper on his first series of cases of compound fracture treated by his new method based on the "germ theory" of Pasteur, rumours of the new learning had filtered through to Edinburgh from the medical school in the west.

Returning to his birthplace on the completion of his training, Dr. MacDougall settled in general practice, but after nine years of a busy life in Galashiels he crossed the border in 1875 to Carlisle and became surgeon to the Cumberland Infirmary, where he was able to develop his taste for surgery, in which he was intensely interested and highly efficient. In 1885, however, the state of his health led him to seek a less rigorous climate, and he accordingly removed to Cannes. For twenty-nine years he conducted an extensive practice as physician and surgeon there, his services being in great demand along the whole of the French Riviera. He was latterly consulting surgeon to the Queen Victoria Memorial Hospital, Nice, and surgeon to the Asile Française, Cannes. He retired from active work at the age of 70, in 1914.

A colleague writes: A large circle of friends, both within and without the profession, mourning his death, will retain the memory of a very lovable man. MacDougall was a born physician, and possessed in an exceptional degree the clinical instinct; he was an accurate observer, and his powers as a diagnostician were remarkable. He had the gift of establishing between his patients and himself a strong bond of sympathy and friendship. His friends were attracted by his high integrity, his great personal charm, his obvious sincerity, and the gentleness of his nature. With an excellent and accurate memory, his reminiscences of the Edinburgh Medical School of sixty years ago and more were always interesting and instructive. To the end of his life he kept himself abreast of progress in medicine and surgery, and just before his death had commenced to prepare for publication recollections of his former and revered teacher James Syme. The sympathy of many friends is with his widow and daughters in their bereavement.

DR. ROBERT JOHNSON PIRIE, who died suddenly on May 22nd at his residence, Murrayfield, Pittenweem, in his sixty-second year, received his medical education in the school of the Royal College of Surgeons of Edinburgh, and in 1889 obtained the diplomas L.R.C.P., L.R.C.S.Ed. and L.R.F.P.S.Glas. He then spent a period in study at Berlin, and soon afterwards commenced practice in Pittenweem, becoming, in the course of his thirty-five years' work there, one of the best-known practitioners in East Fife. He took a considerable interest in local affairs and in the work of his profession, and was a member of the Fife Branch of the British Medical Association. For some time past he had not been in good health, but had been able to carry on his practice with the assistance of one of his daughters, who is also a medical practitioner. Dr. Pirie is survived by his widow, two sons, and four daughters.

The death occurred on June 4th of Dr. VINCENT THEODORE CARRUTHERS, a well-known practitioner in Dundee; he was taken ill while swimming at the corporation baths, and died soon afterwards from heart failure. Born in 1880, he was sent to Tonbridge School, and

received his medical education at the University of Edinburgh, graduating M.B., Ch.B. in 1904 and proceeding M.D. in 1921. In 1908 he was admitted to the Fellowship of the Royal College of Surgeons of Edinburgh. After graduating he was for a time house-surgeon to Sir Montagu Cotterill in the Edinburgh Royal Infirmary, and was subsequently appointed to a commission in the R.A.M.C. During the war he served with various medical units in France, and after the armistice was attached to the Army of the Rhine. He was finally employed as surgical specialist to the Scottish Command, and retired from the army with the rank of major. He resided for some time in Derby, where he was obstetric physician to the Nightingale Institute, and later commenced practice in Dundee. He was a member of the British Medical Association, and the author of a number of contributions to various medical journals. He is survived by his widow and two daughters.

DR. FRANCIS W. SQUAIR of Cults, Aberdeenshire, died suddenly, on June 13th, whilst responding to the toast of his health at a dinner of the Fawcett Lodge of Freemasons at Seaham Harbour. He was educated at Aberdeen University, where he graduated M.B., Ch.B. in 1902. After practising at Seaham for a year or two he migrated to Greenock, but returned to Seaham in 1909. He held a commission as major R.A.M.C. during the war, and subsequently became attached to the R.A.F.M.S. with the rank of flight lieutenant (honorary squadron leader). He had also served as D.A.D.M.S. 51st (The Highland) Division, T.A., and as visiting medical attendant at the Greenock Infirmary and Dispensary. Dr. Squair, who was a member of the British Medical Association and a Fellow of the Royal Society of Medicine, had for some time suffered from indifferent health.

We regret to announce the death, in his 43rd year, of Dr. ROBERT ROGER of Muswellbrook, New South Wales, which occurred in a London nursing home on June 10th, only a month after he had arrived on a visit to England. He received his medical education at the University of Sydney, graduating M.B., Ch.M. in 1909, and, after practising at Scone and Murrumbidgee, settled down in 1915 at Muswellbrook, where he shared an extensive practice with two partners. Although of a retiring disposition he was well known to members of the medical profession throughout the northern district of New South Wales, and among them he was held in high esteem. Dr. Roger was a member of the New South Wales Branch of the British Medical Association. About a fortnight after his arrival in England he contracted influenza and later pneumonia, and empyema developed. He is survived by his widow, one son, and two daughters.

## The Services.

### DEATHS IN THE SERVICES.

Fleet Surgeon Charles Francis Newland, R.N.(ret.), died in Ceylon on April 14th, aged 76. He was educated at St. Mary's, took the M.R.C.S. in 1875 and the L.R.C.S. Ed. in 1876, entered the navy in 1877, and attained the rank of fleet surgeon in 1897. While serving as fleet surgeon on H.M.S. *Theseus* he took part in the punitive naval expedition to Benin, commanded by Rear-Admiral Rawson, C.B., in 1897, was present at the capture of Benin city on February 18th, 1897, and received the general African medal, with a clasp for Benin.

Colonel Henry Herriek, C.M.G., D.S.O., R.A.M.C.(ret.), died at Chisleton Camp, Wilts, on May 10th, aged 56. He was born on January 12th, 1872, the son of the late Rev. George Herriek of county Cork, was educated in the School of the Royal College of Surgeons, Ireland, and took the L.R.C.P. and S.I. in 1896. Entering the army as lieutenant on July 27th, 1898, he became colonel on June 3rd, 1923, and retired on June 3rd, 1927. He served in the South African war in 1901-2, receiving the Queen's medal, and in the war of 1914-18, when he was thrice mentioned in dispatches—in the *London Gazette* of June 22nd, 1915, May 29th, 1917, and December 30th, 1918, and received the D.S.O. in 1917 and the C.M.G. in 1919.

Lieut.-Colonel Edmund Ernest Parkes, R.A.M.C., died recently after an operation in the Station Hospital at Jubbulpore.

Central Provinces, India, aged 52. He was born on October 28th, 1875, and was educated at Trinity College, Dublin, where he graduated as B.A., M.B., B.Ch., and B.A.O. in 1899. Entering the army as lieutenant on January 29th, 1901, he became brevet lieutenant-colonel on January 25th, 1923, and got that rank substantively on March 31st, 1925. He served in the South African war in 1901-2, taking part in the operations in the Transvaal, Orange River Colony, and Cape Colony, and received the Queen's medal with five clasps, and also in the recent great war. At the time of his death he was in command of the Jubbulpore Station Hospital, in which he died.

## Universities and Colleges.

### ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ORDINARY Council meeting was held on June 14th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

#### Fellowship.

It was reported that 115 candidates had presented themselves for the Fellowship examination, of whom 34 (including two women) were successful. The diploma of Fellowship was conferred upon the following candidates:

A. J. W. Ahern, F. G. Allan, J. C. Anderson, L. H. Ball, J. Brumwell, J. Carver, A. M. C. W. Flemming, J. Elwood, D. M. B. Evans, C. W. Flemming, Gairdner, J. Gray, W. A. Gray, P. Hack, E. Holmes, G. H. Howell, H. Jackson, J. A. James, J. G. J. James, L. C. Lancaster, L. E. Le Souef, A. C. MacLeod, Gladys H. Marchant, M. O. Nimatallah, D. W. C. Northfield, Constance M. Otaker, S. M. Power, B. G. Scholefield, J. H. Thompson, J. H. M. Walker.

The diploma of Fellowship was also conferred upon the following candidates, who had previously passed the examination and had now attained the required age of 25 years: J. Gore, R. L. Holt, F. T. Ridley.

#### Membership.

The diploma of M.R.C.S. was conferred upon the following candidates, who had passed the requisite examinations and complied with the by-laws:

D. W. Currie, Yotta Gimpelson, B. Natarajan, Margaret E. Peaker, Edith J. L. Smith, G. N. Unnithao, Elsie E. Wright.

#### Examiners.

The following examiners were appointed for the ensuing year:

*Dental Surgery (Surgical Section):* L. B. Rawling, H. S. Clogg, T. P. Legg, R. J. Howard, G. E. O. Williams, C. H. S. Frankau, J. Murray, E. R. Carlinar. *Anatomy and Physiology for the Fellowship:* Anatomy, F. G. Parsons, W. E. Lo Gros Clark, C. P. G. Wakeley, P. N. H. Odgers; Physiology, J. B. Leathes, H. E. Roaf, C. A. L. Evans, R. J. S. McDowall.

Under the Joint Examining Board:

*Elementary Biology:* T. W. Shore, J. P. Hill. *Anatomy:* J. B. Hame, W. Wright, R. B. Green. *Physiology:* G. A. Buckmaster, E. B. Verney. *Midwifery:* D. W. Roy, R. B. Whitehouse, C. White, T. B. Davies. *Diploma in Public Health:* Part I, R. T. Hewlett; Part II, C. W. Nutt. *Diploma in Tropical Medicine and Hygiene:* Pathology and Tropical Hygiene, W. P. MacArthur; Tropical Medicine and Surgery, P. H. Manson-Bahr. *Diploma in Ophthalmic Medicine and Surgery:* Part I, C. B. Goulden, H. W. Lyle; Part II, R. A. Greeves. *Diploma in Psychological Medicine:* F. L. Golla. *Diploma in Laryngology and Otology:* Part I, W. M. Morrison, N. Patterson; Part II, S. R. Scott.

Mr. E. B. Dowsett and Mr. A. T. Pitts were re-elected members of the Dental Section of the Board of Examiners in Dental Surgery.

#### Primary Fellowship.

At the recent primary examination for the Fellowship 160 candidates presented themselves, of whom 20 were approved and 140 rejected. The following were the successful candidates:

R. L. Almond, M. I. Ashmawi, M. Backwell, J. S. Batchelor, W. D. Bedford, H. S. Billeliff, J. D. H. Bird, D. A. S. Blair, H. A. Brittain, R. C. Brock, T. E. Cawthorne, H. L. Cleave, J. H. Cramsie, J. Dawson, D. N. Epstein, R. H. Fish, R. L. Flett, J. F. E. Gillam, A. G. Harrison, E. S. Harverson, H. P. Himsforth, M. B. Lavery, E. S. Leo, R. O. Lee, W. Leslie, A. C. Lysaght, R. G. Maliphant, A. J. Mason, M. V. Modi, H. S. Morton, A. R. Mowlem, J. H. Mulligan, G. H. Newns, C. W. Olsen, M. D. Patel, J. B. Peonybacker, P. N. Ray, J. G. Reid, A. H. Richardson, N. H. L. Ridley, M. C. Rous, A. Simpson-Smith, G. J. Sophian, V. Srinivasan, F. S. Tait, H. S. Thomas, T. F. Todd, C. K. Vartan, A. L. Webb, T. H. Wilson.

### ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE following have, after examination, been admitted as Fellows of Faculty: J. Craw, S. B. Trivedi, A. M. Young.

### LONDON INTER-COLLEGIATE SCHOLARSHIPS BOARD.

THE following awards of entrance scholarships and exhibitions have been made: *University College—Medical Scholarship*, £30 a year for three years, to G. Quist. *King's College—Warneford Medical Scholarship*, £20 a year each for four years, to J. F. Jarvis and J. C. Winteler; *Sanbrooke Scholarship in Medical Science*, £30 a year for three years, to G. B. Davis; *King's College Hospital Medical School; Scholarship in Science (£50) to H. Kirman.*

## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON June 19th Mr. J. H. Whitley resigned the Speakership of the House of Commons and the House took farewell of him. On the following day Captain E. A. Fitzroy, member for Daventry, was elected Speaker. The other chief business of the House during the week was the Committee stage of the Rating and Valuation (Apportionment) Bill. The House of Lords read the Equal Franchise Bill a third time on June 18th.

### National Health Insurance Bill.

The House of Lords went into Committee on June 14th on the National Health Insurance Bill. The Chairman, Lord DONOVAN-MORE, remarked that there was only one amendment to the First Schedule. Lord ASKWITH moved that to the additional benefits allowed by this schedule there should be added "allowances in respect of dependants of insured persons in receipt of sickness or disablement." He said that 124 women's societies throughout the country had approved this proposal. Lord GAGE, for the Government, said that not only the Ministry, but the approved societies considered that the surpluses should be devoted principally to benefits in the nature of treatment. If the amendment were passed and adopted by the approved societies, little money would be left for dental and ophthalmic benefits. From 1911 to the present time no representations had been made to the Minister of Health that the approved societies favoured this proposal. The amendment was withdrawn and the bill was reported without amendment. It was set down for third reading on June 21st.

### Dogs Act (Amendment) Bill.

In Committee, on June 15th, the House of Commons considered the Dogs Act (Amendment) Bill, introduced by Mr. Briggs. On Clause 2 (delivery of stray dogs to the police) Mr. BAIGES moved new words which provided that the finder of a stray dog should return it to its owner or take it to the nearest police station. If the finder desired to keep the dog he must receive a certificate from the police and be under an obligation to keep it for not less than one month. Mr. Briggs added that the bill was an agreed one. Sir ROBERT GOWER supported the amendment, which was inserted. The bill was then reported and read a third time.

### Training of the Deaf and Dumb.

In the House of Lords, on June 18th, Lord CHAMBERWOOD called attention to the position in industry of the congenitally deaf and dumb and of those wholly or partially deafened in later life by disease or accidents. He also referred to the limitations of the present provision made for their training, and for securing employment for them, and asked the Government to set up an inter-Departmental Committee to inquire into the whole matter.

Lord GAGE said that before the Ministry of Health came into existence a great deal of work on behalf of the deaf was done by voluntary associations, whose work was still being continued. The Minister had no intention of interfering with that magnificent work. If they were to apply the analogy of the machinery set up to deal with the blind to all congenital afflictions the Ministry would have a great financial load put on it. The information at the Board of Education went to show that deaf children who had attended special schools provided by the Board up to the age of 16 were able to obtain and retain reasonably good and remunerative work. He could not make any promise that an inquiry would be undertaken, but he would bring the points raised in the debate before the Minister of Health.

### Storage of Poisonous Gases.

Sir LAMING WORTHINGTON-EVANS told Mr. Thurtle, on June 6th, that small quantities of phosgene gas and similar compounds were kept by the British Army for use in research and experimental work. On the same day Sir VIVIAN HENDERSON (Under Secretary of the Home Office) told Commander Kenworthy that no regulations were in force in the United Kingdom for preventing the storage of poisonous gases near large centres of population. The use made of phosgene and other poisonous gases in industrial processes necessitated the storage of these gases in the factories concerned. At Hamburg, where phosgene gas was accidentally released, the containers appeared to have been of much greater capacity and liable to far greater stress than the containers generally in use in this country. Inquiries by the Home Secretary had shown that the containers in use here had a wide margin of safety, and that the position generally was satisfactory. A committee of the Scientific and Industrial Research Department was inquiring into the storage of such gases, and the situation would have to be reviewed in the light of its findings. The supply of gas masks to the police would be considered, but hardly appeared necessary.

On June 11th, Mr. G. LOCKER-LAMPSON, in reply to Sir W. Davison, stated that the obligations assumed by the German Government under the Treaty of Versailles in respect to the manufacture and storage of chemicals utilizable as poison gas had been defined by agreement in subsequent correspondence between the ex-allied powers and that Government. The manu-

facture, storage, sale, import, and export of phosgene, intended for war purposes, was forbidden. The manufacture of phosgene intended for industrial purposes was confined to three factories, and the machinery for producing the gas in each of these factories was limited so as to fix the total maximum output at nine tons a day. No restriction was placed upon the export or storage of phosgene so produced for industrial purposes. The facts hitherto brought to light afforded no proof that the German Government had failed to ensure the observance of these conditions, and the British Government did not consider that any action on their part was required. If there was any suspicion of an infringement of the treaty the League of Nations was entitled to hold an inquiry.

### Treatment of Pensioners Patients.

On June 18th Major TRYON informed Mr. Duckworth that it was the duty of the proper medical officers of the Ministry of Pensions to prescribe whatever form of treatment they might consider necessary for ex-service pensioners suffering from chronic disabilities. In a case where no special treatment beyond attention from a general practitioner was required, the pensioner was advised to consult the practitioner whose services were available to him under the Health Insurance Act. This was the longstanding practice of the Ministry, and he would not be justified in requiring, as Mr. Duckworth suggested, the provision of hospital treatment in all cases.

Colonel STANLEY, replying to Mr. Johnston, on June 18th, said no instructions had been issued to local medical officers of the Ministry of Pensions urging the curtailment of treatment allowances paid in respect of ex-service men suffering from tuberculosis.

Mr. R. MORRISON asked why it seemed almost impossible for ex-service men to get treatment allowance except by going into a Ministry of Pensions hospital. Colonel STANLEY said that that depended entirely upon whether the treatment that the man was to undergo would prevent him from working. Lady ASTOR asked whether one of the real difficulties was that men who got treatment came out before their treatment was finished. Could not some way be found of guaranteeing that they should stay until they were discharged as practically cured? Colonel STANLEY said the Ministry had no power to keep a man if he did not wish to stay.

### Dr. Voronoff and Grafting Experiments.

Mr. BRIANT asked the Home Secretary, on June 14th, if a permit had been given to Dr. Voronoff to visit this country; if so, for what period it was available; and if such a permit would allow him to carry out experiments of the nature of grafting on human beings. Sir WILLIAM JOYNSON-HICKS replied that Dr. Voronoff was given leave to land in the United Kingdom on May 22nd, and no time limit was imposed. His object was to give certain lectures at Cambridge University and elsewhere, but no licence of any kind had been given him to experiment in this country. Mr. BRIANT asked the Home Secretary if Dr. Voronoff could make experiments without a licence. The British public were extremely anxious to know that he should not have an opportunity of conducting dangerous and disgusting operations, which included the transfer of the organs of propagation from an ape to a woman. Sir W. JOYNSON-HICKS: It is quite impossible that he should conduct any experiment involving vivisection or cutting operations on any animal without a licence, and that licence I have not granted and do not propose to grant. Dr. FERNANTZ asked if a human being was not an exception, and if he could not offer himself for experiment if he liked. Mr. RADFORD asked if it would be possible for some other licensed person to make an operation on an animal and to leave it to Dr. Voronoff to complete the experiment on a human being. Did the Home Secretary not think that it was a violation of everything that was decent in our constitution that this man should be allowed to conduct such experiments in this country? Sir W. JOYNSON-HICKS: No such experiments are conducted in this country at all, and the suggestion that it would be possible to have an operator who has a licence would not work, because I am most careful to inquire into the nature of the operations conducted under a licence.

### Bills.

The Representation of the People (University of Reading) Bill, which proposes to include Reading University in the combined English universities constituency, was passed through committee of the House of Commons, on June 15th, and read a third time.

The Solicitors Bill, to prevent persons struck off the rolls of solicitors from practising fraudulently, was read a second and a third time in the House of Commons on June 15th.

The Petroleum (Amendment) Bill was considered on the report stage by the House of Lords on June 11th. There was no reference during the discussion to lead tetra-ethyl. The bill was read a third time by the House of Lords on June 14th.

The Food and Drug (Adulteration) Bill, which is one of a number of consolidating measures being carried by the Ministry of Health, was read a second time in the House of Lords on June 11th.

State Grant in Aid of Medical Benefit.—Mr. CHAMBERLAIN told Mr. Smedley Crooke, on June 7th, that the State grant in aid of medical benefit to aged friendly society members was less than £1,000 in 1926 and was rapidly diminishing. It had to be distributed among 7,000 approved societies and branches, and the cost of distribution far exceeded the sum to be distributed. He had decided that continuance of the grant was not justified. The Consultative Council concurred.



**National Health Insurance Inspectors.**—Mr. CHAMBERLAIN announced, on June 7th, that he had decided to reconstitute the duties of men and women national health insurance inspectors on a common basis, retaining for the present separate seniority lists for men and women.

**Vaccination Statistics.**—Dr. Vernon Davies was informed by Mr. CHAMBERLAIN, on June 7th, that the report of the committee on vaccination had been received and would shortly be published as a command paper. Mr. Chamberlain stated that in 1926 the percentage of successful vaccinations to hithis in Newcastle-on-Tyne was 68; in Birmingham, including Perry Barr, 61; in Manchester, with Failsforth, 63; in Liverpool, with part of Sefton, 72; in the part of Sheffield within Sheffield Union, 57; in Bradford, with Clayton, Denholme, and Drighlington, 32; in Leeds, 60; in Warrington, 65; and in Darlington, 23.

**Voluntary Hospitals Commission.**—On June 8th Dr. LITTLE asked the Minister of Health his reasons for discharging the Voluntary Hospitals Commission; and if he would reconsider his decision, in view of the regret expressed by the Commissioners that they were disabled from implementing proposals to which they had devoted time and attention. Mr. CHAMBERLAIN answered that, as stated in paragraph 2 of the final report of the Voluntary Hospitals Commission, the reasons, with which the Commission concurred, for which the work of the Commission had been concluded were, first, that there was no prospect of an Exchequer grant in aid of capital expenditure by voluntary hospitals on the provision of new beds; and, secondly, that in the absence of such a grant it would not be justifiable to make further calls on the time and services of the members of the Commission collectively. He was not aware of any ground for reopening the matter.

**Decisions of the Pensions Appeal Tribunal.**—Lieut.-Colonel G. F. STANLEY, answering Lieut.-Colonel Thom, on June 12th, said that the decision of the Pensions Appeal Tribunal was by statute final, and the provisions of the War Pensions Act, 1919, did not admit of a rehearing by the tribunal of cases once decided. The Ministry had been enabled, in exceptional cases where fresh material evidence was produced, to reconsider a claim. If such evidence was produced in a case where an appeal had been made and had failed, it was the practice to consult the president of the tribunal informally before making any recommendation for a grant, in order that no point in favour of the claimant might be overlooked. Lieut.-Colonel Stanley said he agreed on the desirability of making final awards in all cases as early as possible, but it would not be justifiable, nor in the interests of pensioners, that such awards should be made without proper medical consideration of the individual cases. Warning about the operation of the statutory time limit had been given by the exhibition of posters in all post offices, and in all the local offices of the Ministry. The time limit expired seven years after discharge from service, and in any event not later than August 31st next.

**Workmen's Compensation for Silicosis.**—On June 12th Sir W. JOYNSON-HICKS told Mr. Rennie Smith that the Departmental Committee on Workmen's Compensation for Silicosis was directed, under its terms of reference, to advise on any proposals which the Home Secretary might refer to it for schemes of compensation in industries liable to the disease. The committee was inquiring into a scheme for the pottery industry, and he had asked it, as soon as that inquiry was completed, to advise on a scheme for the coal-mining industry. There was a question coming on soon afterwards with regard to silicosis in sandstone quarries. If the report of the committee was sufficient, he had powers already to make a scheme under the Workmen's Compensation Act. He could not say, without notice, whether the committee would inquire into silicosis among the workers in the brick-making industry.

**Cost of Treatment of Tuberculosis.**—On June 19th Captain MARGESSOR told Mr. Oliver that the total expenditure in England and Wales on the carrying out of the approved schemes for the treatment of tuberculosis during each of the last four years ended March 31st, for which figures were at present available, excluding capital expenditure, was £2,884,062, in 1924; £3,054,600, in 1925; £3,157,694, in 1926; and £3,294,991, in 1927.

**Tuberculosis and Service Conditions.**—Mr. BALDWIN told Dr. Vernon Davies, on June 13th, that a committee composed of medical members of the service departments was considering the attributability of pulmonary tuberculosis in the defence forces to the conditions of service, but at that date no recommendations on the subject had been received.

**Sanatorium Treatment of Tuberculous Persons and Vaccination.**—Sir KINGSLEY WOOD, on June 11th, told Mr. T. Williams that he was not aware of cases in which sufferers from tuberculosis had been precluded from receiving sanatorium treatment unless they consented to be vaccinated, and he had not sanctioned regulations to that effect. Mr. WILLIAMS asked if the right hon. gentleman was aware that in the West Riding of Yorkshire it was said that some regulation existed which precluded a person suffering from tuberculosis from entering a sanatorium unless he was vaccinated, and if he would make inquiries. Sir KINGSLEY said he would require far more definite information before acting. Mr. WILLIAMS asked if he was to understand that the Ministry was not responsible for a regulation of that kind. Sir KINGSLEY WOOD: I have just said so.

**Administration of the Sale of Food and Drugs Acts.**—On June 7th Mr. Chamberlain promised to consider a suggestion from Dr. Vernon Davies that he should draw the attention of all local authorities to the fact that medical officers of health and sanitary inspectors were entitled to procure samples under the Sale of Food and Drugs Acts, and to prosecute offenders, although these officers might not be the usual authorities for administering these Acts in their areas.

**Foot-and-Mouth Disease.**—On June 11th Mr. GUINNESS informed Sir R. THOMAS that for some years it had been known that the serum of animals which had recovered from foot-and-mouth disease when injected into susceptible animals would protect them for a few days against the disease. The Foot-and-Mouth Disease Research Committee and scientists on the Continent were actively trying to discover a practical method of giving animals a lasting immunity from the disease, but the task presented very great difficulties.

**Hospital Officers in the Prison Service.**—Sir WILLIAM JOYNSON-HICKS stated that there are 130 men hospital officers and 10 women hospital officers in the prison service; of the men, 38 are registered by the General Nursing Council as nurses, 9 as mental nurses, and 6 are registered under both heads; none of the women are registered. There are, however, 33 fully trained women nurses employed in the prison service, all of whom are State registered, 31 being on the general register and 2 on the register of mental nurses.

**Medical Inspection of Casuals.**—On June 18th Mr. CHAMBERLAIN told Mr. Shepherd that he was afraid that the varying conditions of staff and accommodation in the different casual wards, and the late hour of arrival of some casuals, made it impracticable to arrange that boards of guardians should be instructed to have the medical inspection of casuals carried out in the evening, before risk of infection of clothes and bedding.

**Maternal Mortality in Childbirth.**—On June 18th Mr. CHAMBERLAIN told Mr. Tasker that no complete statistics were available on the percentage of deaths of mothers in childbirth where doctors attended the birth of children with uncertificated midwives in attendance. Asked the percentage of deaths of mothers in childbirth when attended by certificated midwives only, Mr. Chamberlain referred Mr. Tasker to page 42 of the recent report issued by his department on the "Protection of Motherhood," which summarized an analysis of the midwifery work of the Queen Victoria Jubilee Institute over a period of years.

**Use of Croton Oil in Mental Institutions.**—Mr. CHARLETON asked the Minister of Health, on June 14th, whether the recommendations made by the Royal Commission on Lunacy and Mental Disorder, 1926, for the control of the use of croton oil, whether for medicinal or punitive purposes, in mental institutions, were receiving attention; and whether he proposed to take any administrative or other action. Mr. CHAMBERLAIN answered that the recommendation of the Royal Commission had received consideration, but the report did not support the suggestion in the question that the drug was used for punitive purposes. The administration of drugs of this character was the subject of frequent consultation between the Medical Commissioners of the Board of Control and the medical officers of mental hospitals, and he was advised that no further action was at present necessary.

**Dispensers in the R.A.M.C.**—On June 12th Sir L. WORTHINGTON-EVANS told Sir Wilfred Sugden that provision for the enlistment of dispensers was made in the establishments of field ambulances and general hospitals of the Territorial Army. Sir W. SUGDEN asked if these pharmacists were invited or desired to serve in the Royal Army Medical Corps. Sir L. WORTHINGTON-EVANS replied that they certainly would be eligible, if they desired to enlist. Replying to a further question by Sir W. Sugden, Sir L. WORTHINGTON-EVANS said that drugs and medical supplies were only stored in military hospitals in quantities sufficient approximately for the current six months' requirements. Instruction in their storage was given as part of the course of dispensing, which all soldiers of the Royal Army Medical Corps had to pass before attaining the rank of sergeant. The examination at the end of the course was conducted by a board of medical officers.

**Dispensers in the Territorial Army.**—In a series of replies, on June 13th, to Sir Wilfred Sugden, Mr. DUFF COOPER (Financial Secretary of the War Office) said quartermasters of the R.A.M.C. (T.A.) were nominated by the officer commanding the unit, after consultation with the County Association. None of the quartermasters at present in the R.A.M.C. (T.A.) possessed the qualification of pharmacist. If a qualified pharmacist were recommended for appointment as quartermaster his claim would be gladly considered by the War Office, but at present there were no vacancies. No dispensers in the Territorial Army held the qualification of pharmacist.

**Cost Accounts of Naval and Military Hospitals.**—Answering Dr. Vernon Davies, on June 15th, Mr. A. M. SAMUEL said cost accounts in a common form had been compiled for a period of three months at one naval, one military, and one Air Force hospital, and had been considered by the Joint Medical Services Committee of the three departments. The modifications required in the common form before it would be suitable for general adoption had not been decided.

**Lack of Hospital Service in North Uist.**—On June 12th Sir J. GILMOUR told Mr. MacKenzie Livingstone that he was aware that there was no hospital in North Uist. The provision of an adequate hospital service was complicated by transport difficulties, by the comparatively small population to be served, and by the position of the Highlands and Islands (Medical Service) Fund, which was mortgaged to present commitments. The matter was, however, receiving consideration.

**Examination of Emigrants to Canada.**—On June 18th Sir E. THOMAS asked if Mr. Amery knew that there were widespread complaints that the new system of medical inspection had antagonized the British medical profession and created an atmosphere unfavourable to emigration to Canada, and whether he would discuss this with the Dominion Government. Mr. AMERY said he had seen press statements of the kind, but he was not.

prepared at present to express any opinion on the effect of the new system of medical inspection on the movement from this country. From the latest information in the press he gathered that it was proposed materially to modify the new system. From January 1st to April 30th the Canadian Government doctors rejected 1,740 persons in the United Kingdom as unfit for emigration to Canada.

*Noise of Motor Vehicles and Nervous Complaints.*—On June 6th Sir KINGSLEY WOOD told Sir Robert Thomas that the Minister of Health had no particulars of the number of patients who underwent treatment for nervous complaints in London hospitals each year from 1920 to 1927, nor in the first quarter of 1928. Sir Robert Thomas asked whether those responsible for hospitals and nursing homes in London did not think the trouble was due to the noise caused by the absence of silencers on motor cars and motor cycles. The SPEAKER, intervening, said Sir Robert was putting his own views. In a reply, on June 7th, to Sir Robert Thomas, Captain MARCESSON, answering for the Home Office, said that during the last six months of 1927 there were 6,622 prosecutions of motorists in the Metropolitan police district for excessive noise, and from January 1st to April 30th, 1928, 4,150.

#### Notes in Brief.

A scheme for provision of separation wards in Lambeth Hospital is being considered by the guardians.

The calves at Hendon are killed on the same day on which the lymph is collected. The carcasses and internal organs are fully examined by a veterinary surgeon for any morbid condition, including tuberculosis.

The report on post-operative tetanus submitted to the Scottish Office is still under consideration, and, on June 13th, the Secretary for Scotland could make no statement on it.

The provisional number of notifications of small-pox in England and Wales in the thirteen weeks ended June 2nd, 1928, is 4,239.

Commander Kenworthy presented in the House of Commons, on June 6th, a petition signed by 26,031 persons, asking for the prohibition by law of experiments on living animals.

There were 240,392 persons in receipt of relief in Scotland on January 15th, 1928. The number of lunatic poor has not varied much from May 15th, 1927, when it was 18,322.

Under the Refractories Industries (Silicosis) scheme seven committees have been set up to decide compensation to workers incapacitated by silicosis.

Sir Kingsley Wood states that it is not possible to make a reliable estimate of the present shortage of houses in England and Wales.

The number of deaths classed as due to childbirth in the boroughs of Kensington and Southwark in 1927 were respectively 2.26 and 2.57 per 1,000 live births.

## Medical News.

HIS MAJESTY THE KING will open the New University College Buildings at Nottingham, erected by Sir Jesse Boot, Bt., on the afternoon of Tuesday, July 10th.

THE annual general meeting of the Royal Society of Medicine will be held at 1, Wimpole Street, on Tuesday, July 3rd, at 4 o'clock, when the officers and council for the session 1928-29 will be elected, and the report of council will be presented.

THE prizes and certificates of the London (Royal Free Hospital) School of Medicine for Women will be presented by Dr. Arthur G. Phear, C.B., on Thursday, June 28th, at 4 p.m.; the chair will be taken by Lady Barrett, C.B.E. After the distribution of prizes the memorial porch in the north-east of the quadrangle will be unveiled by the Right Hon. Sir Francis Acland, Bt.

THE Fellowship of Medicine and Post-Graduate Association announces that a clinical demonstration will be given on Tuesday, June 26th, at 2.30 p.m., by Mr. Roeyn-Jones, in the out-patient department of the Royal National Orthopaedic Hospital, and on Wednesday, June 27th, at 3 p.m., Mr. Bickerton will give a clinical ophthalmic demonstration at the Royal Eye Hospital. From June 25th to July 21st there will be a course of lecture demonstrations on the diagnosis and treatment of common diseases of the nervous system at the West End Hospital for Nervous Diseases. Special courses will take place during July and August as follows: medicine, surgery, and special departments, Prince of Wales's Hospital, July 9th to 21st; proctology, St. Mark's Hospital, July 9th to 14th; medicine, surgery, and special departments, Queen Mary's Hospital, August 27th to September 8th; diseases of the chest, Brompton Hospital, July 30th to August 4th; diseases of infants, Infants Hospital, August 13th to 25th; neurology, All Saints' Hospital, August 7th to September 1st. Full particulars and information on the general course may be obtained from the secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

THE treasurer of King Edward's Hospital Fund for London has received a gift of £10,000 from an anonymous donor.

THE Minister of Health has appointed Lord Blanesburgh to be chairman of the Advisory Committee on the Welfare of the Blind in succession to the late Mr. G. H. Roberts.

THE Minister of Health has appointed Mrs. Barton, J.P., as an additional member of the Departmental Committee which, as recorded on June 9th (p. 1005), he set up shortly before Whitsun to consider the working of the Midwives Acts and conditions of employment of midwives.

DR. FRANK GOWER GARDNER has been elected county director of the British Red Cross Society for Oxfordshire, vice Colonel Stanier Waller, resigned.

THE following have been elected Fellows of the Royal Sanitary Institute: Dr. Cyril Banks (Hullfax), Dr. Henry Joseph Milligan (Reading), and Dr. Andrew James Shinnle (London).

AT the Commemoration Day ceremony at Livingston College, Leyton, on June 15th, the chair was taken by Dr. G. Carmichael Low, senior physician, Hospital for Tropical Diseases and Seamen's Hospital, who gave a brief address on the development of tropical medicine. Dr. Low described the progress made in the treatment of such diseases as malaria, yellow fever, kala-azar, and plague, and emphasized the value of some training in tropical medicine for all who went abroad. Many of the students of the college, he said, were treating yaws, sleeping sickness, and leprosy under the direction of the Government medical services in Africa and in other lands. The Southern Rhodesian Government were now making money grants to those who had had the full training at Livingston College, to help them with their dressings and medicines. Mr. S. Peake, a missionary who has been working in South India for the past twenty-nine years, referred to the value of teaching missionaries to care for their own health and that of their colleagues when far from qualified medical aid. Dealing with work among others he said he had treated nearly 100,000 people at his dispensary. The principal of the college stated that 1,020 students had passed through it for training, and asked for the support of missionary societies by sending their candidates for training. The college requires the sum of £400 to enable it to close the financial year without a deficit.

MESSRS. H. K. LEWIS, the well-known medical publishers and booksellers of Gower Street, have issued a small pamphlet giving details of the service which they have built up as a result of eighty-four years' specialized experience. Their publications have included the works of such men as Jenner, Lister, and Osler, and to-day cover a very wide field, while the bookselling department maintains a stock comprising every important new English book on medicine or surgery, besides many other scientific and technical works, and its resources include arrangements for obtaining foreign publications. Lewis's circulating library offers facilities for the most persistent borrower, and is provided with a reading and writing room, where books may be inspected and works of reference consulted.

TWO further pamphlets, forming parts of the *Encyclopaedia of Industrial Health*, which is being issued serially by the International Labour Office, and will ultimately appear also in volume form, have been published. One of these (comprising Brochures Nos. 95 to 100) deals with electricity as a cause of industrial hazards; flax and linen industry; phosphuretted hydrogen; goggles; hemp manufacture; odours. The other (Brochures Nos. 101 to 108) relates to arsenobenzol; artificial flowers and artists; liftmen; the stone industry; sulphate of soda; sulphuretted hydrogen; nitrogen; aminophenols; anisidines; anthraquinone; anti-moniuretted hydrogen, and apotropane.

DR. EMIL ABDERHALDEN, professor of physiology at Halle University, has been nominated an honorary member of the Chinese Physiological Society at Peking; Dr. Paul Schubert, professor of neurology at Berlin University, has been nominated an honorary member of the Società Italiana Oto-neuro-Oftalmologica; and Dr. Karl Scheele, professor of surgery at Frankfurt, has been nominated corresponding member of the Società Italiana di Urologia.

THE following appointments have recently been made in foreign faculties of medicine: Professor Giuseppe Corania, director of the paediatric clinic at Rome, has been transferred to the chair of infectious diseases of children at Naples; Professor Luigi Spolverini has been appointed director of the paediatric clinic at Rome; Professor Rocco Jemma has been nominated director of the faculty of medicine at Naples; Professor Noyous of Louvain has succeeded Professor Zwaardemaker in the chair of physiology at Utrecht; Dr. Erich Freiher von Redwitz has been appointed professor of surgery at Bonn, and Professor R. L. Porter dean of the

faculty of medicine at San Francisco; Professor von Economo of Vienna, professor of neurology at Zürich; Professor von Haberer of Graz, professor of surgery at Düsseldorf; Professor von Gaza of Göttingen, professor of surgery at Rostock; Dr. Angiola Borriuo, professor of clinical pediatrics at Sassari, Sardinia; and Dr. Karl Lindner, professor of ophthalmology at Vienna in succession to Professor Dimmer.

The report of the Huntington Memorial Hospital for Cancer Research and the associated laboratories, controlled by the Cancer Commission of Harvard University, for 1926-27 contains an interesting account of the increase in facilities for the diagnosis and treatment of cancer in the State of Massachusetts. Reference is made to the opening of several new voluntary hospitals and clinics dealing with this disease, and to the establishment by the Department of Public Health of six cancer clinics and a State cancer hospital. The publicity secured by these developments has led more people to seek advice for incipient or unsuspected cancer. In the year 1926-27, in spite of the creation of so many new institutions, the number of cases dealt with at the Huntington Hospital showed a considerable increase. There is, in connexion with the laboratories, a free diagnosis service for pathological material supported by the Massachusetts Public Health Department and available for every registered medical practitioner in the State.

An Ordinance to make provision for the medical inspection of school children in Trinidad and Tobago has received the Governor's consent. Under this Ordinance the Governor is empowered to appoint members of the Medical Board of Trinidad, and such officers as he may consider necessary for the purposes of the Ordinance, to be school medical officers. A school medical officer has the right to enter and inspect, with or without notice, any school during school hours, and must report on his inspection to the Surgeon-General. He may arrange for the medical inspection of all pupils attending any school. The Governor in Council may make regulations prescribing the nature of the medical inspection of pupils attending school, and the forms and records to be used in relation to such medical inspection.

THE jubilee of the Queen Elisabeth Sanatorium, Budapest, which was the first tuberculosis sanatorium in Hungary, is being celebrated by the laying of a commemoration stone and the unveiling of a statue of the founder, the late Professor Baron Frederick von Korányi, who was also the founder of the Budapest society now responsible for the institution—an organization devoted to the provision of sanatorium facilities for persons of limited means.

THE area of Hungary was reduced by the war from 125,402 square miles to 35,870. Its present-day population is 7,980,143. Prior to the war Hungary was a constitutional and hereditary monarchy. In 1918 King Charles abdicated, and a republic was declared. After a brief experience of Soviet misrule the national government was restored, and Hungary is now a monarchy with a vacant throne under a regent. The local administrative areas are counties and boroughs, the former subdivided. The Minister of Labour and Social Welfare, who is responsible for health administration, is advised by the National Public Health Council, whose members are selected from distinguished workers in the medical profession. The State Health Institute attached to the Ministry supplies a laboratory service. There had been countings of the people since 1494, but the first modern census of Hungary was in 1869; since then the census has been taken at approximately decennial intervals. Registration began in 1784, when the clergy were required to keep the registers. In 1894 it was placed on a civil basis. Births must be declared within seven days and deaths within two, the former by the father or his substitute, the latter by the nearest relative, the doctor in attendance, or the head of the household. The birth rate in 1925 was 28.3 and the death rate 17.1. There are several statistical publications, printed in Magyar, German, and French. The usual infectious diseases are notifiable, together with plague, yellow fever, pellagra, ankylostomiasis, and rabies. Medical practitioners are primarily responsible for notification. Outbreaks of infectious disease must be reported by local authorities to the Ministry of Labour and Social Welfare within twenty-four hours of their occurrence. Vaccination and revaccination under 12 years of age are compulsory. Tuberculosis is the subject of a special campaign. The tuberculosis death rate in 1925 was 2.4 per 1,000. Nearly 90 per cent. of the people of Hungary are now ethnically Hungarian, and the Hungarian language predominates.

SIR ROBERT PHILIP, President of the British Medical Association, has been awarded the Trudeau Medal, which is given annually to the individual who has made the most meritorious contribution to the knowledge of the cause, prevention, and treatment of tuberculosis.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to *The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.*

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the *British Medical Journal* must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the *Journal*, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the *British Medical Journal* are *MUSEUM 9561, 9562, 9563, and 9564* (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:  
EDITOR of the *British Medical Journal*, *Aitiology Westcent, London.*  
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*  
MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### STATUS EPILEPTICUS.

"H. C. B." asks for suggestions as to the treatment of this condition in a child 9 years old, subject to fits from infancy. The attacks are extremely severe, the violent (convulsive) stage lasting about 10 hours, and forty-eight hours of complete unconsciousness follow. They are preceded by a series of a few hours between each. Of late the child has had an attack about every fortnight. Bromides, chloral, and paraldehyde per rectum, even in large doses, do not have any effect. Neither chloroform nor morphine has been employed, and information as to the advantages and dangers of these would be much appreciated, and also as to any electrical or mechanical treatment. Whatever its cause, there is obviously in status epilepticus a tumultuous and uncontrolled discharge of nervous impulses. It does not seem unreasonable to think of tapping and short-circuiting these by means of some appliance to the head and spine, or of influencing them by the passage through the body of an electric current.

### TREATMENT OF CHRONIC NASOPHARYNGEAL CATARRH.

DR. J. VAN MILLINGEN (Harlesden) writes: I would advise "C. C." (May 22nd) to try the following:—  
"I have tried to clean out a house by pouring a bucket of water through the front door and out at the back. Sprays have the same disadvantage, as they do not reach the various chambers and passages of the nasopharynx. He will find insufflation by far the most effective method; it has given me most satisfactory results during the last five years of my practice. I have practised it in about eighty cases, some of which have been exceedingly chronic. Among these were three of atrophic rhinitis, which so far improved as to be free from two most objectionable features of this disease—namely, ozæna and a constant desire to free the nose from the obstruction; two true hay fever cases, in which no attacks occurred during the period of treatment, and one patient who had had seventeen seasonal attacks, completely escaping during the period of treatment; and three patients with catarrhal deafness, one of whom recovered completely in a fortnight and the other two so improved, after life-long deafness, as to be very gratified with the result. It is immaterial what powder is used, but it is important that one should cease using any particular powder as soon as unpleasant symptoms supervene and then choose another powder having a totally different action. Treatment should be from one to three months; most of my cases showed improvement in two or three weeks. The powders recommended are iodol, orthoform, and 10 per cent. eufarine in casein alb. (soluble). Insufflation renders it possible to detect cases of deeper significance than nasal catarrh, for those which are not cleared up by this method should be sent to a specialist for further investigation and treatment."

### MIGRAINE.

"M. D." writes to say that "M.R.C.S.," whose query appeared on June 2nd, will find in the *British Medical Journal* of April 9th, 1927 (p. 700), a note on the treatment of migraine.

## INCOME TAX.

## Division of Partnership Assessment.

"A" and "B" are equal partners, the firm's accounts being made up to December 31st. "A" retired on March 31st, 1928. What is his liability, if any, to income tax in respect of the profits for the period from January 1st, 1927, to March 31st, 1928?

\* \* \* The assessments already made, on the statutory basis of past profits, cover "A's" liability up to March 31st, 1928, and when he has discharged his share of the liability so created he will have paid tax on the income earned by him up to March 31st, 1928, whether he has actually received it or not. "B" will be liable for the year 1928-29 on the basis of the amount of the firm's profits for the year 1927, except that, if he can show that the actual profits for the year to April, 1929, have fallen short of that amount from some specific cause—for example, the payment of an assistant employed by him—then he can claim a reduction of his liability accordingly.

## Motor Car Transaction.

"D. G. W." bought a M. C. car in 1922 for £314 and sold it in December, 1927; in January, 1928, he bought a second-hand M. O. car for £150—new cost, £220.

\* \* \* In our opinion he is entitled to deduct the net out-of-pocket expenditure—that is £150—£25=£125—as a professional expense applicable to the year which includes January, 1928. If his annual accounts are made up to December 31st, this implies that the financial year affected will be that ending April 5th, 1929.

## Deductible Expenses.

"E. J. M." asks for "a list of items that a medical man can deduct from his income on account of income tax."

\* \* \* The circumstances vary so much between different practices that such a list would be lengthy if it covered every possibility, and might be misleading, as suggesting the propriety of deductions only claimable in special circumstances. The statutory rule is that allowable expenses must be incurred wholly and exclusively in earning the income, but that does not prevent the allowance of a reasonable proportion of charges which cover private as well as professional use—for example, a proportion of rent and rates or telephone rent. It may perhaps be useful to mention one or two expenses which are sometimes overlooked, such as a proportion of the cost of board and laundry of a domestic servant employed partly on the professional rooms, the expense of having accounts prepared or audited, bank interest or charges for keeping the practice account, or stationery and postage.

## LETTERS, NOTES, ETC.

## ORAL ADMINISTRATION OF PANCREATIC PREPARATION.

DR. R. D. LAWRENCE (London, W.) writes: Since writing a condemnation of the oral administration of pancreatic preparations in diabetes in your issue of May 19th (p. 875), I have been informed that Messrs. Parke Davis's pancreatic capsules were never on sale to the public, and have not been manufactured for the last two years. At their request I am glad to rectify any misunderstanding that my letter may seem to have cast on this firm.

## TREATMENT OF HAEMORRHOIDS BY THE GALVANO-CAUTERY.

DR. W. S. WHITCOMBE (London, W.) writes: I should like it to be known as far as possible by those who may have adopted my method of treating haemorrhoids by the galvano-cautery (*Journal*, 1925, vol. ii, p. 992) that, very rarely, cases occur (two in three years with me) of rather alarming second attacks occurring on the fourth day after treatment. As my patients are of the size of a pin's head such patients must have a strong haemophilic tendency. There is no danger, in my experience, if they are treated with haemostatic serum and packing.

## MIXED SCHISTOSOME INFECTION.

DR. F. G. CAVSTON (Durban, South Africa) refers to Dr. H. Fairbairn's memorandum on vesical bilharzia (*Journal*, January 14th, p. 52), and writes: The presence of *Schistosoma haematobium* is to be expected in Natal inhabitants infested with *S. mansoni*, *S. spindalis*, or *S. (f.) bovis*, for the same individual *plusopsis* may serve as the carrier for more than one of these parasites. Unfortunately, the urine collected for examination is sometimes obtained from the chamber, and many ova are thus missed. Wherever possible, the last portion should be passed into a wide test tube, for it is the last ounce or two which contains the ova. It is not uncommon to find what are generally regarded as skin parasites or their ova—as, for example, *Tyroglyphus longior*—amidst the bilharzia ova. The urine of two brothers, infected through bathing in the Palmiet River, near Durban, contained ova resembling those of *S. haematobium* and *S. bovis*. While showing these latter ova, which I have found previously in only six cases, all from the same locality, to Dr. Norman Walker at the Natal Pathological Laboratory, we found a *fasciola* ovum in the urine

of one of the patients. This boy had just received his first dose of carbon tetrachloride, which is regarded by veterinary surgeons almost as a specific for *fasciola* infestation.

## PSEUDO-APPENDICULAR ENCEPHALITIS LETHARGICA.

DR. A. T. HEPPLIE MARSDEN (South Shields) refers to G. Cantiero's account of a case of the pseudo-appendicular form of encephalitis lethargica (*Eptome*, December 31st, 1927, para. 603), and reports another case of the same kind. He writes: A lad, aged 18, complained of sore throat and "feeling queer"; he told me that he had felt drowsy for the last week and answered questions very slowly. He had a dull, expressionless face; the wrinkles were smoothed and the face muscles could only be moved with difficulty, while diplopia, double ptosis, and strabismus were present. A coarse tremor occurred periodically. The right Babinski sign was extensor and the left slightly so; all other reflexes were normal. The Wassermann reaction was negative, and the temperature was 99° F. He had a superficial tonsillitis and a vague pain in the abdomen about the umbilicus. On the next day the pain in the abdomen became much more severe and settled in the right lower abdominal quadrant; he had an attack of nausea, but no vomiting. There was tenderness at McBurney's point and sharp pain followed sudden lifting of the hand after deep pressure; pain in the appendix area was caused by pressure over the left side of the abdomen directed towards the middle lobe. There was rigidity over the left iliac fossa, but no mass could be felt. Constipation followed; there was a burning pain on micturition and the urine felt hot. The appendicitis resolved satisfactorily, all pain and other symptoms disappearing in three days. The encephalitis also commenced to clear up; in five days the facial muscles had recovered, and the lethargy was almost gone, but there was slight pyrexia for three weeks. At the end of six weeks he appeared to have recovered, except that he remained rather dull and apathetic. This would appear to have been an acute enteral appendicitis occurring during the course of an encephalitis lethargica, but the differential diagnosis from the pseudo-appendicular form of encephalitis lethargica must often be very difficult. Symptoms and signs pointing to appendicitis would be signs of involvement of other structures in the inflammation—as, for example, the pelvic peritoneum, the right lateral wall of the rectum, the psoas muscle, and the formation of a mass in the right iliac fossa. Continuance of the pain and temperature, without increase in the signs and symptoms, would point to the pseudo-appendicular form of encephalitis lethargica.

## HEAT CRAMP AND HEAT HYPERPYREXIA.

DR. GEO. P. F. ALLEN (Kingston, Jamaica) writes: Dr. J. S. Haldane, in his letter on heat cramp (*April 7th*, p. 609), stresses the importance of "osmotic pressure," which appears to me to play a very important part in the etiology of the allied condition of heat hyperpyrexia. It is generally assumed that heat hyperpyrexia is due to the direct action of solar or atmospheric heat on the body, and many theories of the *modus operandi* of this assumed cause have been advanced, none of which will explain all the features of the condition. Hearn, has pointed out that suppression of sweat is a constant association, and usually occurs many hours before the onset of the hyperpyrexia. He believes that this suppression of sweat is due to paralysis of the sweat glands. Now sweat is manufactured by the sweat glands from lymph which has passed out from the blood vessels into the lymph spaces around the glands. Heat hyperpyrexia occurs in patients who previously have been sweating profusely, and if the suppression of sweat is due to failure of the glands, then oedema due to the accumulation of exudate in the lymph spaces ought to be a constant feature; but in actual practice this is found not to be the case. It is known that a hypodermic injection of atropine increases the liability to an attack of heat hyperpyrexia. The action of atropine on the salivary glands was studied experimentally by Heidenhain many years ago. He found that the depression of the secretion of saliva was not accompanied by any accumulation of lymph in the lymph spaces, and the glands were not oedematous. From this he concluded that the diminution in the secretion was not due wholly to paralysis of the secretory nerve endings, but also to some decrease in the permeability of the vessel walls. By analogy, then, it seems likely that the suppression of sweat in heat hyperpyrexia is due to relative impermeability of the blood-vessel walls; and this is a point that ought to be considered in treating those cases, whatever may be the nature of the substance that produces this alteration in the osmotic pressure.

## OMPHALOGY.

"G. H. G. D." writes from Manchester: I had a confinement yesterday. The other member of the family is a boy of 4. To-day he stood solemnly watching the nurse bathing the new arrival, when, suddenly pointing to the umbilical stump with its knotted ligature, he asked, "Is that where God tied the label on?"

## VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 48, 49, and 50 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 275.



## An Address

ON

THE PLACE OF BIOCHEMISTRY  
IN MEDICINE.DELIVERED AT THE OPENING OF THE COURTAULD INSTITUTE  
OF BIOCHEMISTRY AT THE MIDDLESEX HOSPITAL  
ON JUNE 14TH,

BY

SIR ARCHIBALD GARROD, K.C.M.G., D.M., F.R.S.

For more than a century past every medical man has had, in his consulting room or near it, a shelf with a few bottles of reagents, a spirit lamp, and some test tubes, with which to carry out certain simple chemical investigations which form part of clinical routine. That shelf is the prototype of this great institute, with which the munificence of Mr. Samuel Courtauld has enriched the Middlesex Hospital; and the contrast between prototype and achievement is no greater than that between the medical chemistry of a hundred years ago and the biochemistry of to-day.

Indeed, the year 1828 marked an epoch, for in it the German chemist Wöhler, afterwards the fellow worker with Liebig, obtained that most abundant product of animal chemistry, urea, as a result of a reaction in the laboratory, and so began the removal of the barrier which was believed to separate organic from inorganic compounds—the chemistry of living things from the chemistry of the rocks.

*Early Association of Chemistry with Medicine.*

But the association of chemistry with medicine dates back much further. Even the alchemists tried to prepare the elixir of life. In the early part of the sixteenth century lived that eccentric genius who called himself Paracelsus, who looked upon medicine from the standpoint of chemistry; and in the sixteenth century was born van Helmont, who has been called the father of chemical physiology, of both of whose contributions you may read in Michael Foster's *Lectures on the History of Physiology*. In the seventeenth century our countryman Thomas Willis discovered glycosuria. Many of the pioneers of chemistry were medical men, some of whom occupied chairs both of medicine and of chemistry; and so medicine has played an important part in the building up of this, as of other branches of pure science, and often provided the early chemist with a means of gaining his livelihood. In return chemistry has rendered immense services to the advancement of medicine.

Wherever a medical school was founded a professor of chemistry was appointed, and in Edinburgh, at the end of the eighteenth century, there was a remarkable group of chemist-physicians, which included Cullen, Joseph Black, the discoverer of latent heat, and Daniel Rutherford. In those days numbers of future physicians, and amongst them not a few graduates of Oxford and Cambridge, went to Edinburgh for their clinical training, and some of these, returning to London, brought with them the current teachings of the school. Amongst these was Alexander Marcet, a native of Geneva, and afterwards physician to Guy's Hospital, who made some valuable contributions to pure chemistry, as well as to chemical pathology. A slightly older contemporary was William Hyde Wollaston, a Cambridge man, the discoverer of the ductility of platinum, a property of far-reaching value to chemists and physicists. Wollaston, who abandoned medical practice after failure to be elected to the staff of St. George's Hospital, devoted himself to pure science, and gained distinction in physiology, pathology, mineralogy, optics, and botany. He was the first to make a scientific study of the composition of calculi. A junior contemporary of these, and like Marcet an Edinburgh graduate, was William Prout, who is entitled to a very high place among the founders of chemical physiology, for he was the discoverer of hydrochloric acid in the gastric juice—a vital finding in connexion with the physiology and pathology of digestion. He won fame as a chemist also; for his celebrated hypothesis that the atomic

weights of other elements are multiples of that of hydrogen and that from hydrogen all other elements are derived has ever since set chemists thinking, and has proved a powerful stimulus to research.

The generation which succeeded these men in London produced another group of chemist-physicians, whose work was carried out in the middle years of the last century. Among them Henry Benze Jones may claim a prominent place. He was a pupil of Thomas Graham, who first investigated the colloid state, and of Liebig, and a friend and the biographer of Faraday. His best remembered contribution to medical chemistry was the discovery in urine of the peculiar protein substance which bears his name. Among his contemporaries, and also a pupil of Thomas Graham, was my father—not to refer to him in this connexion would be the outcome of a false modesty. He, in 1848, by means of a test of extreme simplicity, but which calls for some skill to carry it out, demonstrated the presence of uric acid in the blood of gouty subjects, and estimated approximately its amounts. Thus was chemical examination of the blood of living persons first made available as a means of diagnosis; and the developments of such methods, in the hands of Bang, Folin, and others, are familiar to students at the present day. These modern methods yield, with small quantities of blood, drawn from a vein or even from the lobe of the ear, results of great accuracy and diagnostic value. Somewhat younger contemporaries were Thudichum, whose work is now better appreciated than formerly, and Frederick William Pavy, who devoted much time throughout a long working life to the study of diabetes, but did not live to see the discovery of insulin. He it was, also, who first described cyclic albuminuria. It is told that one of his colleagues at Guy's Hospital, himself a great physician, expressed surprise that Pavy should devote all his best energies to the study of an incurable malady; but granting that even now we cannot cure diabetes, the advance made towards that goal shows that the time and energy of those who have worked at the subject have not been wasted.

Meanwhile, in a wider sense, and in a far wider field, the study of animal chemistry was advancing steadily. Much of the advance was due to the teaching, influence, and opportunities of research provided by Justus von Liebig in his laboratories at Giessen, and later in Berlin; and there come to mind the names of other great biochemists of the nineteenth century, among them those of Pasteur, Wurtz, Hoppe-Seyler, Karl Schmidt, Emil Fischer, Huppert, and Arthur Gamgee, to mention only a few.

Nowadays very different conditions prevail. A considerable number of those who obtain medical degrees or qualifications turn aside from the path of practice and devote themselves to laboratory work in the medical sciences, as pathologists, physiologists, biochemists, or pharmacologists. For these men it has been necessary to provide adequate accommodation. The Institute of Physiology no longer houses both biophysics and biochemistry; pathology has split into several branches—namely, bacteriology, morbid anatomy, and pathological chemistry. In biochemistry far more work is being done, and those who pursue it are almost all able to devote their whole time to it. The names of living biochemists who have done or have surpassed such work as that of our forefathers referred to, form a very long list, in which our own countrymen occupy a place of which we may be proud. Centres of biochemical teaching and research, such as that over which Sir Frederick Hopkins presides at Cambridge, are now being formed in various universities in this country, and we are met together for the inauguration of the latest of these to-day.

*Bacteriology and Chemical Pathology.*

It must not be forgotten that the aims and methods of the several branches which are included under the collective name of pathology differ considerably; and this is specially true of bacteriology and chemical pathology, although in the field of immunity they overlap and must collaborate. The bacteriologist studies the actual agents of disease, the stone which, as it falls into the pool, ruffles its surface, whereas the biochemist studies the ripples which spread outwards in increasing circles, from the



point of impact of the stone—in other words, the disturbances of the metabolic processes which result from the bacterial invasion.

Of recent years, under the spell of the advances of bacteriology and protozoology, we have tended to lay all the stress upon the invading malady and to pay too little attention to the reaction of the organism invaded, but there are signs that the pendulum is returning from the limit of its swing, and in its modern dress the revived doctrine of diathesis will rest largely upon a chemical basis.

The newer biochemistry does not restrict itself any longer to the older problems of chemical constitution and the products and methods of metabolism. The physico-chemical aspects of the subject are receiving more and more attention. We may hope that, important as those aspects are, they will not so engross attention that the older problems will be neglected.

Not only does the modern pathological chemistry embrace a far larger field, but the simple methods of our predecessors no longer suffice for its requirements. Examinations of greater and greater delicacy are called for; apparatus is needed which requires ample laboratory space, and which is itself often costly. No wonder that the cost of hospital equipment and upkeep has increased greatly. Fortunately donors are beginning to realize that by providing a great hospital with such an institute as this they are rendering as much, or more, aid to the sick and suffering around us as by the addition of so many more beds. The value of a hospital depends not only upon the number of patients treated, but also upon the quality of the relief given, and, as I shall hope to convince you, the value of such a hospital as this, and the good which it does, is not limited to the area in which it is situated, nor even to its wider clientele; but, so far as it is a place in which knowledge is increased, its influence extends to wherever medicine is taught, and those who are trained here diffuse its teachings all over the world.

#### *The Importance of Biochemistry in the Diagnosis, Prognosis, and Treatment of Disease.*

Let me try, then, to set before you wherein the importance of biochemistry to medicine consists, and why such departments as that which has been opened here to-day are desirable, or even essential, parts of the equipment of such a hospital as this. Let me speak first of the more strictly practical aspects of my subject, of the aid which biochemistry affords in the diagnosis, prognosis, and treatment of disease.

There are a few maladies the diagnosis of which rests upon chemical evidence, or in which the chemical processes are usually the key. It is often the case with diabetes, which is not infrequently first detected on examination of the patient for life insurance, and the earlier the recognition of the malady the better is the prospect of treatment. Indeed, all through the course of diabetes chemical tests are of value, as indicators of relapse or of response to treatment, as well as of the imminence of danger from acetonæmia. The estimation of glucose in a few drops of blood is of special value, especially in distinguishing between true diabetes and varieties of glycosuria which are apparently harmless, which call for no restrictions of diet, and in which such restrictions may be undesirable. From such examinations also the effects of dietetic and insulin treatment can be determined. Again, the reducing power of the urine may be due to sugars which are not glucose, and have quite different significance, and these can be recognized by various chemical tests.

The modern methods employed in these examinations of glycosuric patients demand technical skill in the examiner, and a variety of manipulations which are best carried out in a laboratory.

Another disease which has always been classed as a disorder of metabolism is gout. It looms less largely on the popular, as well as on the medical, horizon than was the case twenty or thirty years ago. Two factors combine to bring this about. First, a large number of conditions formerly classed as gouty are now referred to other categories—oral sepsis or what not; and secondly, owing pre-

sumably to change of habits and modes of life, true gout, the podagra of the ancients, is much less common in London than it used to be. How rarely do we now see the chalk-stones upon the hands, with which our forebears were falsely reported to have been able to score upon the cloth of the card-table. Now that we can measure with accuracy the amount of uric acid in small quantities of blood we can exclude the cases which do not fall into the strict category, and include others the goutiness of which is apt to cause surprise.

There are various rare conditions for the recognition of which testing of the excreta is essential; and by such chemical tests it is often possible to detect a drug which has been administered. Some poisons also are found by examination of certain tissues, such as arsenic in hair.

Chemical tests may afford most important evidence as to the functional efficiency or otherwise of certain organs, and these tests have been multiplied and greatly elaborated in recent years.

In most cases a diagnosis consists of two parts—namely, the nature and the seat of the disease—and it is with the seat that we are at this moment concerned. The detection of albumin in the urine is one of the oldest means of detecting damage to the kidneys, but, as with glycosuria, not all albuminuria is of evil omen. In more recent years the tests of renal efficiency have been greatly multiplied, and have become more delicate: by the administration of urea by the mouth and the study of its excretion we may measure the efficiency of the renal apparatus; by the administration of certain other substances we may obtain information as to which part of the renal apparatus is chiefly at fault. Moreover, by estimation of urea in the blood or cerebro-spinal fluid we can learn about the efficiency of the kidneys from the other side, so to speak, and gain information as to accumulation in the blood and tissues of substances which it is the function of the kidneys to get rid of. So we can estimate the risk of uræmia in a patient whose kidneys are diseased, although urea is not the cause of uræmia, and we do not yet know what is its cause.

Tests on somewhat similar lines, such as administration of levulose by the mouth, and estimation of the tolerance of that sugar, which is more readily excreted in the urine when the liver is diseased, or by the determination of the sugar curve in the blood after its administration, afford valuable evidence as to the functional efficiency of the liver.

One of the most important, and at the same time most elusive, of our organs is the pancreas. Deeply seated as it is, it is almost out of reach of direct clinical examination; only in comparatively recent times was the part played by this gland in connexion with carbohydrate metabolism discovered by von Mehling and Minkowski. Yet, by putting two and two together, by the cumulative evidence of a series of tests, it is often possible to reach a correct diagnosis in cases of pancreatic disease. These tests are for the most part chemical, and the determination of the nature and amounts of the fatty substances discharged from the intestine is the most important of them.

To Prout's discovery of hydrochloric acid in the gastric juice I have already referred, and in recent years methods of increasing delicacy and efficiency have been devised, and are in common use, for the chemical examination of the gastric or duodenal juice obtained after a test meal or by passage of a duodenal sound.

The metabolic processes at work in the living organism are of almost infinite variety; special enzymes are entrusted with each small metabolic task, and if one fails, or is lacking, more or less conspicuous derangements result. We can no longer regard the body as a simple furnace in which the food supplied is burned without discrimination. Nevertheless it is sometimes useful to determine the sum total of the chemical activities of which the body is the seat, and this may be carried out without much difficulty. For example, the metabolic fires burn up, or burn low, according as the thyroid gland is functionally overactive or supplies too little of its hormone; and so by determining the amount of oxygen utilized we may estimate the well-being or otherwise of the thyroid gland.

It is true that these tests can seldom be carried out by

a doctor in busy practice; but it is one of the chief uses of such a department as this to help the practitioner as well as the hospital staff, by reporting upon material submitted to it. In this way the benefits of the biochemical department reach a much wider circle than the staff and patients of the hospital to which it is attached. It may be objected that the more elaborate investigations must needs take time, whereas medicine is always in a hurry, and cannot wait. Grave disease often strikes quickly, and it may be necessary to act before a report can be received. This is true in some cases, but in the majority there is no such urgent haste; and modern diagnostic methods would prove a curse rather than a blessing if the practitioner, trusting to them, neglected to acquire a thorough knowledge of the older methods of diagnosis, which rely upon the use of hands, eyes, ears, and nose. These instruments he has with him always, and, when properly used, they serve him well.

I might go on to speak of the use of chemical tests in prognosis, which is perhaps the most difficult province of medicine. This is well seen in connexion with diabetes. In the domain of treatment, also, biochemistry plays an important part. A better knowledge of the constituents of diet, their utilization, and needful proportions, together with the discovery of vitamins, is revolutionizing the science of dietetics, or rather is creating such a science.

#### *Functions of Biochemical Laboratories.*

I trust that I have said enough to make it clear that the practical applications of biochemistry are of great use for the solution of the problems which confront us at the bedside; that they help in the diagnosis, prognosis, and treatment of disease. That in itself is enough to justify the establishment of biochemical laboratories in connexion with all hospitals. But if that were all we should feel much satisfaction, but not the enthusiasm which is experienced to-day by all who have the welfare of this hospital and its medical school at heart, on the occasion of the opening of this splendid institute.

There are two much greater functions which the institute will perform. In its generations of students will learn from competent teachers biochemical methods, and how to carry out the various tests which are so helpful in clinical work. It is true that many of them may not, in after-life, have the opportunity of performing these tests for themselves; but it is hardly necessary to insist on the point that he who acts on the result of a test should know how it is carried out. If he has himself learned how to do it he is better able to judge of its value and significance.

The students of the London schools distribute themselves over the world, and carry the teaching which they have received into remote parts of the earth. Obviously teaching is one of the chief functions of this institute.

To speak now of the third, and to my mind its most important, function. It is now recognized that, in addition to its teaching, every university and place of advanced study has as one of its duties the furtherance of original research, and that the advanced teacher will do his work better if he has himself advanced knowledge of the subject which he teaches.

Medicine may be looked upon from several distinct standpoints, but, in importance, the chemical standpoint is second to none, as is becoming more clearly recognized from year to year. Biochemistry is not merely a useful preliminary subject of study for the medical man, but is part of the very essence of his science, and, through his science, of his art.

We know that members of different genera and species of animals and plants differ from each other in chemical structure and chemical life, and evidence is accumulating that no two individuals of a species are any more identical in chemistry than in form. It would seem that there is a chemical basis for those departures from type which are styled mutations, and I for one believe that the liabilities of certain individuals to, or their immunity from, certain maladies—what may be called their diatheses—have chemical origins. Undoubtedly the mechanisms by which the body protects itself against bacterial invasions or poisons introduced aro, for the most part, chemical; and it is not necessary to point out the importance of the

parts played in the animal economy by such chemical substances as hormones and vitamins. If all this be true it is obvious that a chemical outlook is needful for the comprehension of morbid processes, and that there are unlimited openings for research in biochemistry.

Here young investigators will be guided and instructed in the methods of research by the professor and other experienced teachers, who will encourage and help them to pursue promising lines, and will extract them from the blind alleys down which they are so apt, in their inexperience, to wander.

Let us wish, then, to all who work within these walls, whether as teachers, learners, or investigators, good success. Let us wish, too, that the numbers of those who shall engage in biochemical research may be as large as the accommodation provided admits, for so will knowledge and wisdom be increased; and in the book of Wisdom it is written that "the multitude of the wise is the welfare of the world."

## ACUTE NECROSIS OF THE PANCREAS.

REPORT OF A SERIES OF CASES.

BY

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ACUTE pancreatitis, although one of the rarer causes of the acute abdomen, in some of its less acute and dramatic manifestations is possibly more common than is generally realized. In reading records of reported cases it is obvious that it is frequently diagnosed prior to operation as intestinal obstruction, perforation of a viscus, etc., by competent surgeons.

It has happened that in the past two years six cases of this condition have come under my personal observation—two in private and four under my care in the Cardiff Royal Infirmary. Prior to this period I had only come across or recognized one undoubted case, and in the above period, after a careful search, I have only been able to find records of five other cases in charge of the other surgeons of the hospital. By their courtesy I am permitted to include these in the following series. As several of these cases present some one or other feature of interest, and as the diagnosis is always difficult and early diagnosis is of vital importance, I have thought them of sufficient interest to record.

In Zachary Cope's *Early Diagnosis of the Acute Abdomen* it is stated that "pancreatitis is a rare condition seldom diagnosed correctly before operation, occurs most commonly in men, and for the most part is only met with in those over middle age." In the following series of twelve cases no fewer than ten occurred in women, and in seven of these their ages ranged from 20 to 33.

A brief analysis of these cases shows: Males, 2 cases; ages 55 and 69. Females, 10 cases; ages 20, 22, 25, 26, 29, 32, 33, 54, 72, and 63. It is seen that whilst the age of the males is in agreement with that usually stated, that of the females shows a striking proportion of very young women, and in 3 cases where the sexual history is given parturition had taken place one month, six weeks, and three months respectively prior to the onset of the attack, and in the last case symptoms of gall-bladder trouble dated immediately from childbirth.

In 10 cases stones were found in the gall-bladder, and in 2 of these in the common duct, and of the latter one was found impacted in the ampulla of Vater, the common duct being greatly distended. In this case the patient died as the abdomen was opened.

At operation fat necrosis was found in 10 cases, hæmorrhagic fluid in the abdomen in 2 cases, "beef broth" fluid in 2, and straw-coloured serous fluid in 2 cases. Brocq states: "des deux phénomènes qui la caractérisent, l'hémorragie et la nécrose graisseuse, seul le premier est constant." In my series fat necrosis was the almost constant sign, whilst hæmorrhagic fluid free in the abdomen was found on only two occasions, and beef broth fluid on two other occasions.

In 2 cases suppurative cholangitis was found. In one of these (No. 4) small stones were present in the common

duct, but no signs of involvement of the pancreas. At necropsy, two days later, however, fat necrosis around the pancreas was found, and muco-pus in the duct of Wirsung. In the other case (No. 5) the patient, aged 72, had undergone cholecystostomy for gall-stones several years previously, and had been free from symptoms until the night before admission, when she was seized with pain that she described as worse than anything she had experienced with gall-stone colic. At operation the only sign of pancreatic disease was one patch of fat necrosis in the gastro-colic omentum, and on palpation the pancreas appeared normal. The main ducts were distended, readily admitting the index finger, and contained muco-pus, but no stones were found, either in the ducts or gall-bladder. At necropsy, some days later, the pancreas was found large, red, congested with numerous necrotic areas, and fat necrosis in surrounding tissues.

In Case 1 haemorrhagic fluid was the one sign which might have pointed to pancreatitis, but was attributed to bleeding from the omentum, which walled off a perforation of the gall-bladder. A week later, when the wound was opened up, the pancreas was found lying as a black slough in an abscess cavity.

In Case 11, after an indefinite illness following child-birth three months previously, where an operation on the gall-bladder was declined, a few days after leaving hospital the typical symptoms of a fulminating pancreatitis developed, with agonizing abdominal pain, constipation, tenderness, rigidity, and cyanosis. At operation a slough of the pancreas 3 inches long was picked out of a large abscess in the lesser sac.

The mortality in this series of cases was excessively high. As regards the operative procedures adopted:

- 2 patients recovered after simple drainage of the gall-bladder.
- 2 recovered where the gall-bladder was stated to have been normal and the pancreas was incised and a drain placed in its neighbourhood.
- 1 died after the same procedure.
- 2 died after drainage of the common duct for cholangitis.
- 1 died on the table as the abdomen was opened.
- 3 died after cholecystectomy for perforation or gangrene of the gall-bladder.
- 1 unoperated on.

The views of Deaver and Maugeret, that pancreatitis is due to infection from the biliary tract via the lymphatics, may theoretically be held to indicate the removal of the focus of infection in the gall-bladder, and may have influenced one in removing it. In the light of my present experience, even with a gangrenous gall-bladder, I should never attempt its removal if signs of pancreatitis were present, but content myself with drainage. The question of drainage of the common duct where with a shrunken gall-bladder this is not available is more difficult to decide. Holding the views of Opie, Moynihan, Brocq, and others, that the cause in most of these cases is the entry into the pancreatic duct of infectious bile or of bile during active digestion, if the common duct were distended and the technical difficulties did not entail too long a prolongation of the operation it would seem desirable to lower the pressure in the biliary system by drainage.

I feel, however, that in all cases where there is reason from the presence of haemorrhagic fluid or any areas of fat necrosis to suspect pancreatitis the condition of the pancreas should be inspected by direct vision after dividing the gastro-colic omentum. It is usually impossible to determine its condition by palpation only. If signs of oedema or haemorrhage are found it should be incised and drained.

#### CASE I.—*Acute Haemorrhagic Pancreatitis.*

A minister of religion, aged about 50, a year previous to his present illness, had an attack of gall-stone colic, for which he was treated at a spa with mineral waters.

On March 2nd, 1926, he was seized with violent abdominal pain, and was treated by injections of morphine without much relief. I saw him in consultation on March 3rd, at night, in the country. He was obviously in very intense pain, in the epigastrium, and was jaundiced moderately deeply. A diagnosis of acute obstructive cholecystitis was made. He was brought into Cardiff and operated on at 10 a.m. the next day.

*Operation.*—Right paramedian incision. The abdomen contained a quantity of blood-stained fluid which was thought to come either from a perforation in the gall-bladder or from a vessel in the omentum which was walling it off. There was no fat necrosis. The perforated gall-bladder was removed and found to contain stones. The vessels and ducts were ligated and a drainage

tube passed down to the stump. The pancreas was not explored, all the symptoms being attributed to the gangrenous and perforated gall-bladder.

For three or four days the patient's progress was satisfactory, then he was suddenly seized with abdominal pain and passed into a state of collapse. About two pints of glucose saline were given intravenously, and this was repeated the next day and the stomach was washed out. He rallied. The abdominal wound was opened up and pus escaped. The urine was found to be loaded with sugar, which persisted. He gradually sank and died in four days.

At a limited *post-mortem* examination the whole pancreas was seen to form a black slough lying free in an abscess cavity. There was extensive fat necrosis in the omenta and mesenteries.

#### CASE 11.—*Acute Pancreatic Necrosis.*

A married woman, aged 26, mother of one child, was admitted to the medical side of the Royal Infirmary on March 24th, 1925, for severe and persistent vomiting of three weeks' duration, which began about a month after the birth of her child. Vomiting came on ten to fifteen minutes after food, was copious, and was preceded by pain in the epigastrium passing back to between the scapulae.

On April 19th I saw her in consultation with the physician in charge with a view to operation for cholecystitis. She did not appear to be very ill, and there were then no physical signs, tenderness over the gall-bladder region, or rigidity, and it was almost impossible to get anything out of her regarding her symptoms. It was arranged to operate on her for cholecystitis, but she went home at her own request, refusing operation.

A week later I was called in by her doctor to see her. She presented the picture of an acute abdominal disaster. The abdomen was rigid all over and acutely tender. The pulse was about 160. There was a cyanotic tinge on the face. Her condition was desperate, but she was removed to a nursing home and operated on at once.

*Operation.*—Right paramedian incision. An abscess was found pointing through the gastro-colic omentum, and when opened a quantity of thick pus with faecal odour came away, together with a black slough of the pancreas four inches by one inch in size, lying freely in the abscess cavity. The retracted gall-bladder was so shrunken that it appeared impossible to drain it, and it was removed. It contained numerous small stones. A large tube brought out through the main wound was passed into the abscess cavity. It discharged quantities of pancreatic juice, which digested all the tissues with which it came in contact and set up a severe dermatitis, although every effort was made to prevent this.

She lingered on for a week.

#### CASE 111.

A woman, aged 32, had been in good health until two years ago, when she began to have attacks of pain and vomiting, lasting two to three days, with varying intervals of sometimes months.

On February 28th, 1927, she had a much more severe attack of pain in the epigastrium, radiating to the right costal margin, to the right inguinal region, and to the back. The pain was accompanied by vomiting. She was sent to hospital by her doctor as an emergency, but was not admitted. She was then sent to me as a case of gall-stones and was admitted on March 10th, 1927. She was very obese, and on admission did not appear to be very ill. The abdomen moved on respiration; there was no rigidity, but some tenderness in the gall-bladder region. Temperature 101° F., pulse 120, respiration 22. Urine, sp. gr. 1020, nothing abnormal. A diagnosis of gall-stones was made.

*Operation, March 12th.*—My house-surgeon remarked that he did not think much would be found. On opening the abdomen extensive fat necrosis was found in omentum and mesenteries. There was no free fluid in the abdomen. The gall-bladder was buried in adhesions to the transverse colon; when these were separated an area 1½ inches in diameter was found on the left side of its wall (gall-bladder) to be completely gangrenous. It was aspirated and then opened, and a quantity of a dirty brown bile was evacuated and two colonies of calculi, one being small round yellow stones, the other larger and faceted. The mucous lining was entirely gangrenous, and it was decided that it had to be removed. This was difficult owing to the depth of the wound and to the liver not rotating. The common hepatic duct was opened and a tube sutured in. Corrugated rubber drains were passed down to Morrison's pouch and to the neighbourhood of the pancreas below the transverse colon. A probe was passed through the ampulla of Vater into the duodenum, meeting no obstruction. One pint of glucose saline was given intravenously. Pulse 140, temperature 100° F.

From the date of operation to March 16th her pulse ranged from 124 to 134. Her temperature kept about 99° up to 100° F. until the 19th, when it reached its highest, 101°, with pulse 140. She felt very ill, with constant nausea, but no vomiting.

#### CASE IV.

A married woman, aged 29, was admitted as an emergency case with pain in the right hypochondrium passing to the right scapula, and vomiting of four days' duration. She had had five similar attacks during the previous nine months, accompanied by jaundice, and at times frequency of micturition. Her expression was anxious. The abdomen moved freely, but there was tenderness and slight rigidity in the right upper quadrant. The gall-bladder was palpable, the tongue moist and clean. There was no jaundice, but bile was present in the urine.

*Operation.*—Under chloroform and ether a right paramedian incision was made. The liver was propped. The gall-bladder was the size of a small pear, very tense, with distended pouch of Hartmann adherent to the common duct; it was removed from the fundus towards the ducts. The common duct was opened and found to contain thin, bile and flakes of muco-pus; two stones

one-sixteenth of an inch in diameter were removed with a scoop. French black gum bougies were passed with difficulty through the splinter of Oddi, and the duct was washed out with saline. No fat necrosis seen or blood-stained fluid in the abdomen. The common duct was drained.

The patient died on December 2nd, 1927.

**Necropsy.**—Acute inflammation in region of liver and numerous adhesions. Common bile duct much inflamed and necrotic in parts. Pancreatic duct also inflamed and containing mucopurulent exudation. Pancreas enlarged and firm and fat in neighbourhood showing necrosis. Spleen soft.

#### CASE V.—Acute Pancreatic Necrosis.

A married woman, aged 72, on whom I had performed cholecystotomy several years previously. She had had several attacks of biliary colic, but since the operation no trouble whatever until the night before admission. Gall-stones had been removed.

On September 30th, 1927, in the middle of the night, she was seized with a sudden attack of agonizing abdominal pain, which she described as being far worse than anything she had had in her previous attacks of gall-stone colic. She was admitted as an emergency with generalized abdominal pain.

**Operation.**—The gall-bladder was distended and adherent to the abdominal wall; adhesions were separated with difficulty. Dense adhesions of liver to diaphragm were not interfered with. The cystic duct and common bile and hepatic ducts were greatly distended; the latter was the size of the index finger, thin-walled, and of a green colour. It was aspirated and then opened: it contained mucopus but no stones. A probe passed down would not enter the duodenum. A tube was sutured in the duct. The gall-bladder was opened: it contained mucopus but no stones; a tube was sutured in. The pancreas was not felt to be enlarged. There was an area, 1 or 1½ inches in diameter, in the lesser omentum of fat necrosis.

For some days she appeared to be doing well, and bile drained from the tubes. The pulse ranged from 80 to 100, but not higher; the temperature remained normal. She died on October 10th, 1927.

**Necropsy.**—Stomach dilated, containing large amount of almost faecal fluid. Gall-bladder contained a small amount of pus, and ducts all showed intense inflammation. Liver friable. Pancreas large, red, congested, with numerous necrotic areas. Fat necrosis in surrounding tissues. Bile taken from gall-bladder at operation gave no growth on culture after three days.

**Post-mortem diagnosis:** acute cholecystitis and cholangitis, acute pancreatic necrosis.

#### CASE VI.

A married woman, aged 20, mother of one child, 1 month old, on August 29th, 1925, went for a walk for the first time after confinement. She was seized with sudden violent pain in the right hypochondrium and epigastrium, and vomited. The pain radiated to the right iliac fossa, back, and shoulder. The symptoms continued throughout the following day, and on August 31st she vomited four times.

She was admitted to the Infirmary on September 1st, at 9 p.m. Examination showed rigidity of both upper recti; Murphy's sign was present; the abdomen moved freely on respiration, but was tender all over. The face was anxious and pale. Pulse 103, temperature 98.4° F. The urine was loaded with sugar.

**Operation.**—On September 2nd the patient looked very ill; she had vomited twice in the night. Glucose was administered by the rectum. Temperature 99°, pulse 116.

A right paramedian incision was made. A quantity of blood-stained serum was present and on the omentum several patches of fat necrosis about an inch in diameter. A very tense gall-bladder 4 in. long by 1½ in. at the fundus, mottled yellowish-white, was found and incised. Brown bile under pressure escaped with small light yellow non-faceted calculi. It was washed out with saline, and showed a typical strawberry appearance, being a brilliant scarlet with yellow dots of lipid. A tube was sutured in it and a corrugated drain to Morrison's pouch. The abdomen was quickly closed with through-and-through silkworm gut. One hour after the blood sugar was 0.188 per cent., pulse 140, temperature 101° F.

On September 5th the urine contained 1 per cent. glucose, and acetone was present.

On September 27th the patient was convalescent.

#### CASE VII.

A very stout married woman, aged 63, had suffered from constant epigastric pain and vomiting for six months. In the early morning of February 21st, 1927, acute epigastric pain and vomiting set in. She was admitted as an emergency case and operated on at 1 a.m. on February 22nd. Pulse 138; slight cyanosis. The abdomen was distended, slightly rigid, and tender. There was no sugar in the urine. Loevy's test positive. Patient very ill.

**Operation.**—Gas-oxygen anaesthesia. Abdomen contained fluid like weak tea. Great omentum dirty grey in colour, with areas of fat necrosis, some the size of a threepenny piece. Owing to patient's condition the abdomen was closed with through-and-through silkworm gut sutures after placing drains down to the foramen of Winslow and root of the transverse mesocolon. She died at 3 a.m.

**Necropsy.**—Extreme obesity. Scattered foci of fat necrosis, especially in region of pancreas. No peritonitis. Pancreas enlarged, indurated, and on being cut into widely necrosed with black areas and practically no normal tissue left. Liver pale and fatty. Gall-bladder enlarged, containing numerous large faceted calculi. No stones felt in ducts.

#### CASE VIII.

A married woman, aged 25, was admitted as an emergency case for a sudden attack of abdominal pain of twenty-four hours' duration. Parturition six weeks previously. She was very stout. The abdomen was tender and slightly rigid.

**Operation.**—General injection of intestines, free serous fluid in abdomen. Greatly thickened omentum with areas of fat necrosis. Lesser sac opened through gastro-colic omentum. Pancreas bulged forward like a cyst. Punctured; two or three drachms of fluid like watery bile escaped. No growth on culture. Drained. Gall-bladder normal. The patient recovered.

#### CASE IX.

A married woman, aged 33, was admitted with a history of attacks of abdominal pain and vomiting, with slight icterus in some, of two years' duration. Flatulent dyspepsia. Four days before admission, on December 29th, 1926, she had a more severe attack.

On admission she was in great pain and looked very ill; her skin was yellow. Temperature 97.6° F., pulse 74. There was no distension or retraction of the abdomen. Movement impaired; tenderness over the right upper rectum.

**Operation** (January 3rd, 1927).—Omentum and mesenterics studded with areas of fat necrosis standing out prominently owing to bile-staining. The pancreas was palpated and found to be somewhat swollen, especially the head. The gall-bladder was not enlarged, but contained small stones estimated at 4,000. Cholecystotomy was performed.

The patient recovered.

#### CASE X.

A man, aged 69, was admitted as an emergency, with pain of nine days' duration referred to the whole abdomen. Constipation had been present for four days. The abdomen was distended.

**Operation.**—Large quantity of straw-coloured fluid in the abdomen. The patient died on the table.

**Post-mortem Examination.**—Extremely fat, slight icterus. Fatty heart; atheroma of coronaries. Acute inflammation of gall-bladder, which contained several large faceted stones. Common bile duct distended, contained a small stone in the ampulla of Vater. Acute haemorrhagic pancreatitis with fat necrosis in retro-peritoneal fat.

#### CASE XI.

A woman, aged 22, was admitted on February 11th, 1928, as an emergency case.

During the past two years she had had three attacks of abdominal pain and vomiting, lasting about two days. She had been getting thinner for the last six months and suffered from backache and severe frontal headache. She was a domestic servant, and had been out of work for two years on account of illness.

On admission she had had pain in the abdomen and back for twenty-four hours and had vomited. Later she had generalized abdominal pain, which doubled her up. That morning she had cramp in both hands, and had vomited four times. She was pale, thin, and anaemic, and looked ill. The abdomen did not move on respiration. The whole abdomen was rigid and tender all over—tympanitic; spasm of muscles caused flexion of wrist and extension of fingers (query tetany). Temperature 98.8° F., pulse 110.

**Operation** (February 14th).—Marked fat necrosis in the omentum, and in appendices epiploicae. Whole abdomen filled with odourless brownish fluid; pancreas exposed, appeared as a congested, purplish, tense swelling; incised, and swelling collapsed. Abdomen mopped out, cigarette drain inserted to pancreas. Gall-bladder appeared normal.

On February 17th there was no discharge from the wound, and the drain was removed.

On February 27th she was convalescing, but the temperature was swinging from normal to 101° F., pulse 100.

#### CASE XII.

A married woman, aged 54, had a sudden attack of epigastric pain on May 7th, 1928, followed by vomiting, after which the pain passed off. Both pain and vomiting recurred the following day. She was admitted as an emergency case on May 9th, but was too ill to be operated on. She died on May 10th.

**Necropsy.**—Liver, numerous pale areas on surface, fatty; gall-bladder, numerous stones. No stones in common bile duct or evidence of inflammation. Fat necrosis in omentum, round the pancreas and perirenal fat. Pancreas enlarged, with numerous haemorrhages; one longitudinal, one at tail.

In reporting these cases I have endeavoured to show that in spite of their extreme gravity, the early symptoms are not always such as would lead one to suspect the condition, and that, even at operation, in certain cases it is possible not to recognize it. If one only thinks of the classical symptoms of a fulminating pancreatitis operation may be delayed unduly.

I desire to thank my colleagues on the staff of the Cardiff Royal Infirmary for their courtesy in permitting me to include a report of the cases under their care.

#### REFERENCES.

<sup>1</sup> *The Early Diagnosis of the Acute Abdomen*, first edition, 1922, Oxford Medical Publications. <sup>2</sup> *Les Pancraticites Aigues Chirurgicales*, par Pierre Brocq, Masson et Cie, Paris, 1926, p. 10.

## THE USE OF ADRENALINE IN MEDICAL AND SURGICAL PRACTICE.

BY

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THE service of adrenaline in medical and surgical practice is apt to be overlooked. And yet the information to be gained from its instillation in the eye is often of great value in estimating the integrity of the sympathetic system.

The supposed danger of producing glaucoma was founded on a series of five cases in which that disease was thought to be aggravated by the instillation of adrenaline.<sup>1</sup> Subsequent investigations have not confirmed the accusation. On the other hand, it has been advocated that adrenaline is not only harmless, but also that it is useful in glaucoma.

Grandclément in 1904<sup>2</sup> insisted that by the use of it glaucoma may be cured without operation if the disease has not advanced too far. Sydney Stephenson in 1908<sup>3</sup> recorded that adrenaline had shown itself of service in the treatment of glaucoma.

O. Loewi in 1907 proposed that the mydriatic response to epinephrine should be used as a diagnostic sign in Basedow's disease and in pancreatic insufficiency.

Coope<sup>4</sup> also supports the value of the response in the case of acute pancreatitis. According to Watanabe and Kato the sensitiveness appears to be somewhat increased in chronic nephritis.

Meltzer and Auer in 1903 pointed out that an increase of excitability to epinephrine occurred in degenerating structures of the car vessels.

Lewandowsky in 1898 showed that the mydriatic effect occurs after degeneration of the sympathetic.

Joseph demonstrated that epinephrine was to some extent counteracted by physostigmine; and Githens and Meltzer state that pituitary extract also counteracts the mydriasis in healthy animals.

The intraocular tension, according to Rupert, is first lowered and then increased.

Sollmann<sup>5</sup> records that this mydriatic effect occurs readily in frogs, but only in mammals under specially favourable conditions.

The mydriatic response in healthy frogs is especially strong, and may, it is said by Meltzer and Auer, be produced by systemic application, in extremely diluted solution, of adrenaline (1 in 100,000).

Post<sup>6</sup> has noticed dilatation of the pupil after instillation of adrenaline in cases of glaucoma and keratitis.

H. Straub in 1919 found that mydriasis occurred if the excitability of the sympathetic is increased as in Graves's disease and in acute pancreatitis. Later it was found that mydriasis occurs in all types of hyperaemia. The sensitiveness is also increased in chronic nephritis.

A mydriatic response may be obtained a few days after excision of the superior cervical ganglion. In many of these cases the mydriasis was accompanied by other evidences of ocular stimulation, such as separation of the lids, and protrusion of the eyeball.

W. H. Schultz records that in mammalia mydriasis only follows after large doses given intravenously; and adds that mydriasis may be obtained if the oculomotor tone is low, with weak illumination.

In man the effect is only invoked in exceptional circumstances, and then it usually signifies a lesion which involves the sympathetic. Straub states that it may occur if absorption is hastened by conjunctivitis.

The signification of a dilated pupil in irritation of the cervical sympathetic from wounds or growths is well known, but that dilatation can sometimes be produced by adrenaline in such diseases as acute pancreatitis and exophthalmic goitre is apt to be overlooked. Given a normal sympathetic system the power of adrenaline over the iris in man is null.

This drug, so frequently used by ophthalmic surgeons, should not be banned from the arsenal of the general physician. I have never seen any ill effects following its

use as a test, nor can I find any reports of cases in which trouble ensued.

Foster Moore,<sup>7</sup> quoting from do Schweinitz, writes: "Instillation of adrenaline, ordinarily inactive in causing dilatation of the pupil, becomes exceedingly active when the sympathetic is cut, or the superior ganglion is removed."

In conclusion it is to be noted that the response does not always occur in the numerous diseases mentioned; and therefore, while a positive reaction is valuable, a negative one does not exclude the suspected disease.

**Method of Application.**—One or two drops of a solution of chloride of adrenaline (1 in 1,000) are dropped into one eye, the other being reserved for comparison. The light should be subdued, as a glare is likely to impede dilatation. The conjunctiva will immediately blanch. If there is no dilatation of the pupil in ten minutes the instillation should be repeated. A dropper that has once been used for atropine should never be employed.

## REFERENCES.

- <sup>1</sup> *Trans. Ophthalm. Soc.*, 1903, p. 374. <sup>2</sup> Grandclément: *La Clin. Ophthalmol.*, 1904, p. 374. <sup>3</sup> *Ophthalmoscope*, 1908, p. 785. <sup>4</sup> Coope, R.: *Diagnosis of Pancreatic Disease*, 1927. <sup>5</sup> Sollmann: *Manual of Pharmacology*, 1926, p. 410. <sup>6</sup> Post: *Ophthalmoscope*, vol. vi, p. 785. <sup>7</sup> Moore, Foster: *Medical Ophthalmology*, p. 85.

## THE 1927 EPIDEMIC OF DENGUE IN EGYPT.

BY

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FOR several years Egypt was practically free from dengue; the last epidemic, prior to that here recorded, occurred in 1906-7 at Port Said and the Suez Canal zone. Last year, however, a sudden epidemic affected the whole country from the shores of the Mediterranean to the extreme south of Upper Egypt, preceded by equally sudden climatic changes. Thunder-storms, winds, and rains swept the whole country, and were followed by the appearance of dengue and other afflictions, such as the invasion of the Nile Valley by locusts, which constituted a very serious danger to agriculture. The epidemic started at the end of September; daily admissions of 30 or 40 cases of dengue were ward in the Government Fever Hospital, Cairo, while thousands of patients were attacked in the town with remarkable rapidity. Groups of policemen on duty in certain streets were attacked as a whole.

Thanks to the experiments organized by the Medical Departmental Research Board of the U.S.A. Army and others, we now know that a patient with dengue fever can infect *Aedes aegypti* (*Stegomyia fasciata*) during, at any rate, the first three days of his illness. The dengue virus appears to remain in the infected mosquito for about eleven days before the mosquito can transmit it to non-immunes, and the infected mosquitos continue to propagate the disease probably throughout the remainder of their lives.<sup>1</sup>

The *Philippine Journal of Science* published in 1926 most important information concerning the insect vector of dengue. It was proved that the vector is *Aedes aegypti* (*Stegomyia fasciata*) and not *Culex quinquefasciatus* (*C. fatigans*). It was also proved that a dengue patient might infect mosquitos during a period from a few hours before the first symptoms appear to the end of the second day of the disease, and possibly, though with less certainty, for another twenty-four hours or so, after which mosquito infection fails.<sup>2</sup>

The virus of dengue is at one stage, at least, an ultra-microscopic filterable one, and is present in the patients' peripheral circulation up to the third day of illness. It is also transmitted by blood or filtrate to non-immunes. The piropasma-like organism of Graham is probably an artefact. The incubation period is usually from four to seven days.

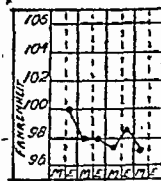


CHART 1.—Abortive type. Duration of illness before admission one day.



The mortality of this epidemic in Egypt was nil and the immunity variable. The following were the chief characteristics of the epidemic.

#### Symptoms and Signs.

Prodromal symptoms were observed in many cases, headache, malaise, and anorexia being the chief complaints. The onset was usually sudden. The patient while on

and lasted from a few hours to one week. It was either morbilliform, scarlatiniform, or petechial (like that of relapsing fever). When it belonged to the first two types it was not so bright. Over the extensor surfaces of the legs and forearms it was decidedly more pinkish. The rash appeared first on the dorsal aspects of the forearms and legs, then on the face, neck, chest, trunk, and upper and lower extremities (including palms and soles), but it was some-

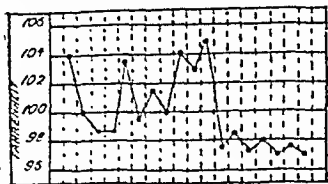


CHART 2.—Intermittent type. Duration of illness before admission one day.

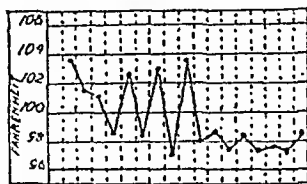


CHART 3.—Intermittent type. Duration of illness before admission two days.

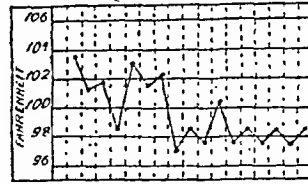


CHART 4.—Intermittent type. Duration of illness before admission three days.

duty developed high fever, preceded at times by rigors; he suffered from severe frontal headache, vomiting, and excruciating pain in the lumbo-sacral region, and over the joints of both limbs. Some patients became unconscious and remained so for a period ranging from a few hours to two days. Many were semi-conscious and drowsy; others were mentally and physically depressed, although their temperature was not high. The face was usually congested and sometimes swollen; the eyes appeared sleepy and photophobia was frequent.

The fever lasted from three to seven days, and was

times absent on the trunk. Desquamation was not the rule, but when it occurred it was of the branny type, accompanied by severe itching, and lasted for a few weeks. This rash is the most characteristic feature of the disease.

**Circulatory Symptoms.**—Precordial distress was noticed in a few cases. No heart lesion could be traced to dengue. Haematemesis, haematuria, and haemoptysis were rare. The pulse was usually slow throughout the disease, but more so towards the end of the fever, ninety beats being the average number per minute, with a temperature of 39° C., and fifty beats when convalescence started. There

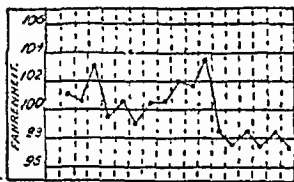


CHART 5.—Remittent or saddle-back type. Duration of illness before admission one day.

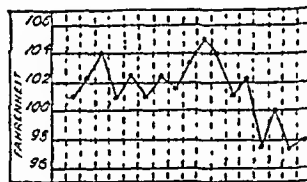


CHART 6.—Remittent or saddle-back type. Duration of illness before admission one day.

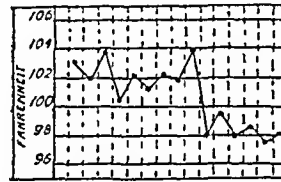


CHART 7.—Remittent or saddle-back type. Duration of illness before admission two days.

usually of the saddle-back type. Very rarely patients were afebrile throughout the disease, and such were, therefore, a constant menace as potential spreaders of the malady. The following were the types of pyrexia noticed:

1. Abortive type in which pyrexia lasted from one to three days (Chart 1).
2. Intermittent type in which pyrexia lasted usually for seven days; the intermissions were sometimes separated by a period of normal temperature for one or two days (Charts 2-4).
3. Saddle-back type or remittent temperature (Charts 5-7).
4. Continuous type with febrile plateau (Chart 8).
5. Long type in which fever continued for ten to fifteen days (Chart 9).

The degree of fever was in no relation to the severity of the attack. High temperatures were sometimes accompanied by mild symptoms, and vice versa. The onset of fever and its decline were both by crisis; rarely the pyrexia ended by lysis. The fall of fever was accompanied by various phenomena, of which the chief were diarrhoea, dysenteric stools, epi-taxis, haematemesis, haematuria, heart failure, and, rarely, syncope.

**The Rash.**—The initial rash, which was nothing more than a flushing of the face and sides of neck and chest, was rather common. It appeared usually on the first day, and lasted from one hour to three days; it was frequently accompanied by inflammation of the throat. The secondary rash appeared about the fifth or sixth day of the illness,

have been cases where the pulse was rapid at first (120 per minute), but most of these ended in bradycardia. Cultures of the virus from the patients' blood were not successful at our laboratory. Examination of the blood showed an average leucopenia of 4,000 to 5,000 per c.mm. as a constant feature. This decrease in the number of leucocytes affected the polymorphonuclears most. A relative increase of eosinophilia and large lymphocytes was also noticed.

Except for the occasional congestion of the nose, throat, and larynx, the respiratory complications were rare. Pulmonary congestion was only seen in a very few cases.

No enlargement of the lymphatic glands was noticed, although it is mentioned that in some epidemics a considerable proportion of patients develop enlarged glands.

The pains were mostly muscular in origin, and therefore aggravated on contraction of the affected muscles. Nearly all muscles were affected, the most common being the ocular, iliopsoas, quadriceps, biceps brachialis, intercostals, and supra-, infra-, and sub-scapular muscles. The degree of pain varied from slight aching to excruciating pains which morphine alone could alleviate. There were no joint lesions. Headache was a prominent symptom in this epidemic; in one instance it lasted over seven days, during which the patient could neither sleep nor obtain ease without drugs.

**Gastro-intestinal Symptoms.**—Fetid breath was noted in

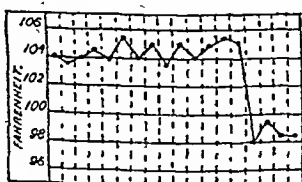


CHART 8.—Continuous type. Duration of illness before admission one day.

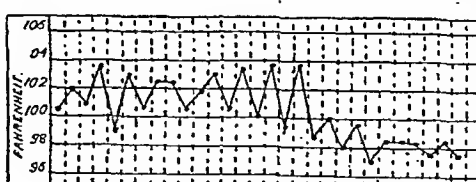


CHART 9.—Long type. One day ill before admission.

a few cases. The tongue was nearly always coated at the dorsum and red at the margins. Tonsillitis and pharyngitis were fairly common. No paratuberculosis was met with. Nausea and vomiting were usual at the commencement, but rarely persisted throughout the disease. Constipation was the rule, and was followed by diarrhoea at the terminal crisis. Dysenteric symptoms were present in a few cases throughout the malady. No changes were observed in liver or spleen that could be attributed to dengue.

**Urinary System.**—Albuminuria was common but transient. One case of acute nephritis was reported. Chronic kidney disease is likely to end by uraemia as the result of an attack of dengue. Diabetic patients when attacked sometimes developed a fatal coma, even during convalescence. Epididymitis, orchitis, cystitis, etc., were not met with.

**Complications.**—These were rare. Those met with were: pharyngitis, rhinitis, gastritis, enteritis, nephritis, and thrombosis.

**Sequelae.**—Itching of body, irritation of palms and soles, mental depression, vertigo, motor paresis, peripheral neuritis, staccato speech.

Children were just as liable to be attacked by dengue as adults. Males and females were affected equally. No deaths occurred among children.

Convalescence may be short or long—one day to three months. Patients lose weight, and usually suffer from mental depression, debility, loss of appetite, bradycardia, migraine, and neuritis. Relapses are rare.

#### Diagnosis.

In this season (December) in Egypt dengue has to be diagnosed from the following diseases:

(a) Malaria: by examination of blood films, size of spleen and liver, time incidence of febrile attacks, and rapid pulse.

(b) Measles: starts less suddenly; presence of Koplik's spots, coryza, absence of pains, rapid pulse, and deep red rash.

(c) Influenza: is usually accompanied by respiratory involvement, rapid pulse, and absence of rash.

(d) Scarlet fever: diagnosed by presence of throat symptoms, rash, rapid pulse, absence of pains, and blood examination.

(e) Small-pox: in the first three days of dengue it is very difficult to differentiate it from small-pox. Later on the course of the malady soon manifests its nature. History of vaccination may help.

(f) Articular rheumatism: diagnosed by history of malady, presence of acid sweats, and joint lesions.

The treatment is symptomatic and prophylaxis involves antimosquito measures.

#### REFERENCES.

<sup>1</sup> *British Medical Journal*, June 27th, 1925, p. 1185. <sup>2</sup> *Ibid.*, September 11th, 1926, p. 489.

## DUPLICATION OF THE SPINAL CORD.

BY

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AN excellent review of the known cases of partial doubling of the spinal cord was written in 1906 by A. Bruce, Stuart McDonald, and J. H. H. Pirie<sup>1</sup>; for the reference to it I am indebted to Dr. Kimmer Wilson. Nevertheless, the following case perhaps deserves a note.

The patient, a well-developed man, aged 51, was admitted to hospital on March 29th, 1928, with a spastic parietic ataxic gait and signs suggesting combined degeneration of the spinal cord. He had a pale, sallow face; the liver was considerably enlarged, and the spleen could be felt, reaching just below the ribs. The gastric contents after a test breakfast contained no free hydrochloric acid. The erythrocyte count was 3,332,000 and the haemoglobin was 70 per cent. The white cells were 17,800 (polymorphonuclears 74 per cent., lymphocytes 17 per cent., monocytes 9 per cent.). The Wassermann reaction was negative. There was a little irregular pyrexia, and apparently a remnant of pneumonia in the middle part of the right lung, which possibly explained the presence of a polymorphonuclear leucocytosis. According to the history obtained the patient had noticed something wrong with his feet in August, 1927, and since December, 1927, he had been taking an "ox-liver juice" twice daily for anaemia. The result of the ox-liver treatment was said to have been good, till weakness in his legs developed ten days before admission.

In the hospital, in spite of liver diet, etc., the weakness in the legs increased, paradoxical incontinence of urine and cystitis, with bedsores, developed, and death occurred on April 26th.

The necropsy and microscopical examination confirmed the diagnosis of combined degeneration of the spinal cord; but during the macroscopical examination it was noticed that, close along the left side of the lower part of the spinal cord, there was another cord-like body of the same consistence as the cord, but smaller (about 1 cm. in diameter) and without nerve roots proceeding from it. Its upper end arose from the substance of the cord by a base somewhat over 1 cm. in diameter, the uppermost part of its insertion being 7½ cm. above the terminal point of the conus terminalis. At its lower (free) end it tapered to a point, which was 1½ cm. above the lower end of the conus terminalis.

Transverse microscopical sections of this macroscopically tumour-like appendage of the spinal cord showed it to be quite obviously a fairly well-developed duplicate cord with a central canal, etc. This was kindly confirmed by Dr. J. G. Greenfield, who also confirmed the fact that the duplicate cord showed well-marked signs of combined degeneration, just as did the main spinal cord (from which the cauda equina arose).

When I saw the long polypoid tumour-like appendage lying along the left side of the lower portion of the spinal cord, I at first thought that I had made a mistake in the diagnosis, and that the patient's paraplegia, etc., might have been due to a tumour; but microscopical examination, as already stated, completely cleared up the nature of the tumour-like structure, proving it to be a congenital abnormality, a doubling of the lower part of the spinal cord. One may wonder whether in this case lipiodol would have been partially arrested at the site of origin of the duplicate cord had it been used to ascertain the site of a possible tumour.

#### REFERENCE.

<sup>1</sup> A Second Case of Partial Doubling of the Spinal Cord, *Rev. Neur. and Psych.*, Edinburgh, 1903, iv, p. 6.

## THE ETIOLOGY OF MONGOLISM;

WITH A CASE OF MONGOL TWIN.

BY

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THE occurrence recently, in my hospital practice, of a case of twins, one of whom was a Mongolian imbecile, the other not, stimulated investigation into the etiology of that distressing and increasingly common type of mental deficiency. But the ultimate cause of Mongolism is, I suppose, as yet unknown, nor can I find much to elucidate it.

The peculiar history so often obtained—namely, that the child is either the first of a very young mother, or, as often happens, is born many years after the previous one, and most frequently of a mother nearing the menopause—warrants the assumption that this developmental error is in some way due to immaturity or exhaustion of her procreative powers.<sup>1</sup> At what stage in the development of the ovum or foetus this makes itself felt has been the subject of a good deal of argument.

The problem is this: Is Mongolism inherent in the unfertilized ovum, or is it acquired after fertilization? A third proposition might be that Mongolism is imparted to the ovum in fertilization, were it not that the history appears to point to the maternal factor so constantly. As a generality it may be assumed that parents are approximately the same age, the father being on the average a year or two the elder. This would make the odds even as between the two parents, were it not that there is no evidence, known to me, that the children of elderly men tend to Mongolism otherwise than when their wives are approaching the menopause. Nevertheless, this possible factor cannot be entirely brushed aside without consideration.

An argument in favour of the post-fertilization embryonic theory is that Mongols are so often the subjects of other congenital abnormalities. Of these the commonest are malformations of the heart, followed a long way behind by congenital cataract—defects which obviously cannot

occur till embryonic development has proceeded far enough to start the formation of the organs implicated; and the heart, for example, is perfectly formed, though in miniature, by the end of the seventh week after conception.<sup>2</sup> By analogy it is argued that similarly the Mongolian characteristics (which are in effect congenital malformations) take their origin in the embryonic<sup>3</sup> period of the first six weeks of intrauterine life. This may be countered by the argument that an ovum already the subject of an inherent defect (of a nature which is wonderfully true to type) is more likely to go wrong in other directions than one which is not.

David M. Greig, in a recent long and erudite article,<sup>4</sup> favours a theory that Mongolism is a defect of foetal growth, though he concludes that this must have started in the embryonic period mentioned already. He bases on his minute and fully recorded observations on three Mongolian skulls the deduction that Mongolism "seems rather to be a defect in growth (foetal) than a defect in development (embryonic)." He states that "the main defect in the skull is want of growth of the facial bones, chiefly the maxillae and of the alveolar processes anteriorly," with various consequences to the adjacent bones, into which I need not enter. As an interesting aside, however, it may be mentioned that although obliquity of the palpebral fissures and nearness of the eyes are characteristic of the Mongolian facies, there was an obliquity of the superciliary margins in these skulls, nor any undue approximation of the bony orbits. With regard to the reported arrest of development of the skull base he goes on to say: "Deficiency of the anterior wall of the acoustic meatus, imperfect closure of the foramen ovale and foramen spinosum, flatness of the occipital condyles, and in the youngest skull an indication of the component parts of the occipital bone, are evidences of delayed development, but are not features which have interfered with the growth or size of the skull-base. If any arrest of development has occurred it is in the brain, not in the bones..."; and later, "Before the age of 16 the growth of the Mongol's brain has ceased." He states as his final opinion that "even from the skull alone there seems evidence that development normally begun has mapped out all structures and features in the embryo, but has failed to lead them to perfection during foetal growth." Pointing out that the first appearance of ossification in the skull appears in the maxillae on the thirty-ninth day, followed by the premaxilla three days later, and the nasal bones on the fifty-seventh day, he says: "Obviously it is during this period that the departure from normal growth shows itself, and this failure in the bones is accompanied or followed by defective growth elsewhere, notably in the nervous system."

For myself, though open to conviction, I believe the maternal influence, which appears to be almost undeniable, and whatever it may be, is exercised upon the ovum during its maturation, and therefore before fertilization has followed and segmentation started.

The chief argument in favour of this theory is the occasional occurrence of twins one of which is Mongol and the other not. This proves beyond a doubt that no maternal influence is present after embryonic development has begun; or that if there be any such influence it is selective in a manner highly improbable, though I recognize this argument is a two-edged sword. It has no bearing on the question of responsibility as between the parents, for obviously if one ovum can be inherently Mongol and the other not so, the same should hold good of the male elements. Known cases of twins both of which were Mongols are so rare—only some three in number—and their original records so inaccessible that although they were of the same sex complete proof that they resulted from uniovular pregnancies is wanting, but the assumption that it was so is warranted. There are also three cases on record where the twins were of the same sex, one being Mongol; but there is equally no proof that these were uniovular pregnancies. But on no occasion has it yet been recorded that twins of different sex were both Mongols, which is in accordance with the mathematical probabilities under this theory. Though the theory does not prohibit the possibility of binovular twins being Mongols it must be remembered that, apart from the six twin cases above

mentioned, and admitting the fact that the Mongol is often the last pregnancy, more than one Mongol in a family is almost, if not quite, unknown. But we are still as far as ever from solving the problem of the malign influence dooming the ovum to Mongolism, and the corollary of prevention.

In January, 1923, Halbertsma of Haarlem<sup>5</sup> collected fifteen cases of twin pregnancies of which one twin was Mongol and the other normal. Occasional additions to this list have since been made, and to these I am able to add another instance.

On December 23rd, 1926, C. F., aged 4 months, was brought to the Royal Liverpool Children's Hospital because "he was not coming on." He was one of twins, the other being a girl, who, at my request, was brought on a subsequent occasion for comparison, and proved to be a normal and healthy child, though small for her age. The boy had the typical Mongolian cranial attributes and facial appearance, with the other characteristics of the Mongolian imbecile, including the loud bruit and the cyanosis of a congenital heart lesion. This child further complied with the frequent Mongolian history by dying of measles, contracted when he was 14 months old. The sister recovered.

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- <sup>3</sup> Ballantyne, J. W.: *Manual of Antenatal Path. and Hygiene*, The Embryo, 1904, iii.
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## A CASE OF PRIMARY ACTINOMYCOSIS OF THE LUNG.

BY

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OWING to the fact that patients admitted to tuberculosis sanatoriums have mostly been diagnosed before admission one is apt to be biased in favour of tuberculous infection and to take for granted that the diagnosis is correct, instead of approaching the case with an open mind. During the course of the illness of a certain patient one or two complications ensued which raised some doubt as to the diagnosis of pulmonary tuberculosis being correct; hence I have thought it worth while to publish an account of the case.

**Previous History.**—Up to the age of 18 the patient had lived in South Africa, where, after leaving school, he was an apprentice in a lithography works. He came to England for a few months' holiday, and then went to Australia with a friend to search for gold. After a few months of unsuccessful prospecting they both worked on a ranch, sheep farming, for about eighteen months or two years. The patient then joined the army soon after the outbreak of war. He was sent to England and thence to France, where he was "gassed" in March, 1918; his war service amounted in all to three and three-quarter years when he was demobilized. He then joined a Government tug boat and remained at this work for four years. He returned to England, and after three months' holiday worked as a bricklayer for five months, later returning to his original work as a lithographer. His health gradually deteriorated, but he remained at work until June, 1927, when he complained of acute pain in the left side, anorexia, and loss of weight. He was first seen by a tuberculosis officer in October of that year, who, after having carefully watched the temperature (99.2°–102°) for a few days diagnosed the case as anaemia and pleurisy with effusion, and recommended sanatorium treatment. The sputum had been examined a month previously, with a negative result. There was no significant family history and no previous illness of importance.

**Condition on Admission.**—The patient was admitted to the Hertfordshire County Sanatorium on October 24th, 1927. He gave his age as 35, was very anaemic, and looked exceedingly ill. He had lost about 2½ st. in weight, and had not had a good night's rest for a fortnight. His temperature was 100° F., pulse 118, and respirations 24. He complained of pain extending from the right shoulder down the outer side of the arm as far as the elbow, but since no definite lesion could be found to cause the pain, it was attributed to neuritis. On examination of the chest the left side was found to be dull on percussion, the dullness being most marked at the left base posteriorly. There was also slight impairment of the note at the right apex. There were moist crepitations throughout the left side, and in addition diminished breath sounds at the base behind with amphoric breathing—signs compatible with pleurisy with a small effusion. His liver was palpable and slightly tender; the abdomen otherwise revealed no abnormalities. The urine contained no albumin or sugar; the specific gravity was 1020 and the reaction acid.

**Subsequent History.**—The pain down his right arm was treated with methyl salicylate and a neuralgia mixture was given. Nephthalin 20m was ordered, and the next day he appeared to

be somewhat easier. Between November 1st and December 24th, ten abscesses developed in various parts of the body, most of which were aspirated or incised under novocain. On two occasions pus was sent for bacteriological examination and inoculation of a guinea-pig requested. The first report was as follows: "Thick grumous blood-stained material. Microscopically non-cellular apart from red blood corpuscles. Tubercle bacilli could not be found." No other organisms found. The second report stated: "Microscopically it is essentially structureless, only a few cell-outlines being seen. Tubercle bacilli could not be found either by direct films or by concentration methods. No other micro-organisms were found on microscopic examination and cultures remained sterile. Animal inoculation of the material for tubercle bacilli is being proceeded with."

During this time the patient's temperature and pulse remained about the same, his general condition seemed to be improving, but the signs in his chest were unaltered. The Wassermann reaction was negative, as also were blood tests for typhoid and paratyphoid infections. On December 12th his temperature began to subside, it being 98.4° F. in the morning and 100° F. in the evening; between December 18th and 22nd it remained between 97.2° F. and 98.5° F. On December 23rd it became subnormal, and remained so until his death six days later. The pulse rate, on the other hand, never dropped below 100, ranging between 100 and 120, with respirations constant at 24.

Special features as regards the case from a differential diagnostic point of view were: (1) all the abscesses developed very quickly; (2) they caused great pain; (3) after the first had been incised the pus, which was quite innocuous, became so fetid that the patient had to be removed from the ward into a separate shelter; (4) the relief experienced after incision and aspiration was very considerable.

A post-mortem examination was performed on December 30th by Dr. G. H. Pringle and myself, and the following observations were made.

There were adhesions on the left side between the left lung and chest wall, becoming denser towards the base. A large abscess was found in the base of the left lung, which showed collapse. Both lobes on the left side and the two upper lobes on the right contained numerous small nodules, which proved to be abscesses. The heart was small, and there was an ounce of greenish fluid in the pericardial sac. There was slight atheroma of the aorta, a little thickening around the pulmonary orifice, and a small abscess in the wall of the left ventricle. Other abscesses were found in the following organs: two in the liver, which was congested and fibrous; one in the left kidney, round which were adhesions; a perinephric abscess, which communicated with the one in the lower part of the left lung through an opening in the diaphragm (the right kidney was normal); and one in the spleen, which was slightly enlarged and friable. There were a few small flattened greyish nodules in the mesentery, but no peritoneal adhesions.

Portions of the abscess tissues from the liver, lungs, and heart were examined histologically, and the organism responsible for the condition was found to be the actinomycetes. The tissue was remarkable in showing a large number of granules, which is rare in human actinomycosis. The guinea-pigs inoculated showed no signs of tuberculous infection, and the pus was presumably, therefore, free from tubercle bacilli.

My thanks are due to Dr. H. Hyslop Thomson, county medical officer of health, for permission to publish this account, and for his assistance, also to Dr. G. H. Pringle for his help in the investigation.

## AN ADJUSTABLE BOARD-BED.

BY

LEONARD HEARN, M.B., B.S. DURN,

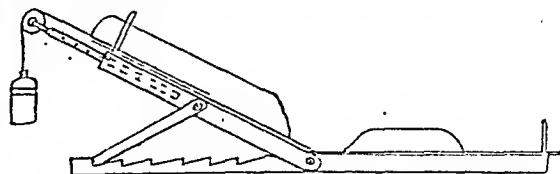
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TUBERCULOUS disease of the hip is unfortunately only too often met with for the first time when the condition is well established and the joint is more or less fixed, with the limb in a bad position of adduction, inward rotation and flexion, and usually a certain amount of shortening. The bed splint to be described has been used with excellent results; it is designed to correct the deformity very gradually and obtain the desired position, with a quiescent condition, before the limb is put up in a plaster splint.

All tuberculous lesions improve as the general condition of the patient grows better, and these cases should be placed on the open verandah day and night in all seasons. This bed splint enables the patients to be treated under open-air conditions; they are really only confined to bed like pyrexial pulmonary cases, and enjoy a maximum amount of comfort, thus benefiting both morally and physically. Often in cases of tuberculous disease of the hip-joint the limb is fixed in plaster, or in a Thomas's hip

splint, in a more or less good position, but this unfortunately may entail a compensatory lordosis of the spine, with subsequent permanent deformity.

This apparatus is essentially a "board-bed," hinged in the middle so that the lower half supporting the legs may be raised or lowered at will by means of a support on a ratchet similar to the method of fixing an ordinary deck chair. Six boards form a box frame for retaining the patient in position, and these swivel from the centre line



of the bed; they are kept in position by means of pegs in rows of holes at the foot and head. The lower end of the frame can be extended to fit any length of patient, and the boards being 3½ to 4 inches high, cradles are unnecessary. Pulleys adjusted by means of thumb-screws carry the extension weights, and move to any position on the lower edge of the frame.

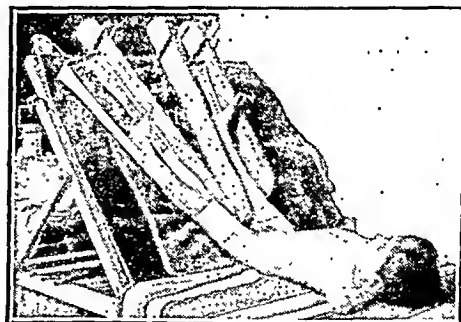
At the commencement of treatment the spine is placed in its natural position, with the limbs raised and with a suitable extension weight applied, the affected joint is gradually abducted, and the leg is lowered as required, the position of the spine not being allowed to vary, so that lordosis is never present.

The case shown is a typical tuberculous arthritis of the left hip; this joint was held in a bad position of flexion and adduction, with two inches of shortening. There were present also all the symptoms of active disease, such as pain, heat, and pyrexia.

The first photograph demonstrates the amount of compensatory lordosis which was present when the affected



leg was kept flat to correspond with the sound leg; this is the position in which so many limbs, after abduction and external rotation, are finally fixed in a plaster-of-Paris or



Thomas's splint. The second photograph shows the patient in position at the commencement of treatment, with the spine in normal position. In the third the corrected limb



is seen after use of the board-bed and ready to be put up in plaster-of-Paris, after having been submitted to very gradual lowering and extension, dependent on the position of the spine.

This patient was never off an open verandah. His general condition is excellent in every way; there is now no pain or tenderness, and the pulse and temperature are quite normal.

The apparatus is simple to use; it can be quickly adjusted in any direction by the medical officer from time to time, and it renders nursing easy. Thus a bed-pan is used by merely hooking up the extension weights and sliding the patient up the bed; he sits back into position when the pan is removed, and the weights again hang free. The splint will lie on any ordinary bed and fit any patient, child or adult. Cradles, which cause draught and discomfort, are rendered unnecessary.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### FRACTURED BASE OF THE SKULL FOLLOWED BY ACUTE MASTOID DISEASE: RECOVERY.

ACUTE mastoid disease is an unusual sequel of fractured base, and the following details of such a case seem to be worthy of record, especially since almost complete recovery followed operative treatment.

While hunting on February 1st, 1926, a lady was thrown from her horse, which rolled over her. She was unconscious on being picked up, and was bleeding from both ears and from the nose. Both clavicles were broken, and there were injuries to some ribs. She was completely unconscious for twelve hours, and only partially conscious for the next four days. It was noticed that she had right facial paralysis, and on recovering consciousness more completely it was found that she had paralysis of the right sixth nerve, causing double vision.

The external auditory canals were kept clean by swabbing with 1 in 20 carbolic solution. On the eighth day there was earache on the right side; no discharge appeared from both ears on the tenth day, and her temperature rose to 100° F. On the twelfth day she complained of earache on the left side. There was considerable swelling around the upper part of the right mastoid, extending above the ear into the temporal region, and in front to just below the zygoma. This had appeared very shortly after the accident. There was a free discharge of pus from this ear, and when the canal was cleaned out it was found to be torn across close to the membrane, which could not be seen properly owing to narrowing of the canal. The left canal contained some dried blood and discharge, but no perforation could be seen in the membrane, which was not reddened. Both mastoids were very tender to pressure, and this had always been the case since she recovered consciousness. Air conduction was diminished, but bone conduction was normal. The temperature was 100.6° F., and the pulse 92. She answered questions intelligently, but when not spoken to lay in a drowsy condition with her eyes closed. The following day the pulse and temperature were normal, and remained so for thirty-six hours, when the temperature again rose to 100° F., the pulse being 88. On the sixteenth day she had "neuralgic" pain in her right ear and mastoid, and there was some increase of the swelling in this region, the ear being pushed forward; the temperature was 101.6° F., and the pulse 100. The left ear was again discharging slightly, and it was obvious that the right mastoid was infected.

**First Operation.**—The usual incision was made, and a fracture could be felt; on retracting the tissues it was seen to run upwards and backwards over the mastoid from the lower part of the bony meatus, and there was some gaping between the edges. A small three-sided trepan was used to make a hole in the bone; this was replaced by larger-sized trepan, and by gentle use of burrs and forceps the hole was enlarged. Some pus was found in the cells just over the antrum, and on opening the latter there was a gush of pus. The surrounding cells were removed, but no attempt was made at a formal operation. The middle ear was washed out through the auditus, and the cavity in the bone, after being mopped out with spirit, was bipped and lightly packed with bipped gauze. The perforation in the left membrane was enlarged. The time of operation was 11 p.m.

The next morning at 8 o'clock the temperature was 98.4° F., pulse 86, but by 10.30 the temperature had risen to 103° F., pulse 132; the breathing was sighing, and she appeared very ill indeed. There were no meningeal or labyrinthine symptoms, but the question of a commencing lateral sinus infection or a perisinous abscess had to be considered, as had also a deep infection of the tissues in the swollen area or in the line of the fracture. By the evening the temperature had dropped to 100.6° F., pulse 104, and she was in much better condition. The temperature remained below 100° F. till the twentieth day, when it again rose to 101.4° F. at 8 a.m., and 101.4° F. at 4 p.m. the next day. The swelling in the temporal and zygomatic region became more marked, the right eyelid was swollen, and the eye was nearly closed; some oedema and reddening over the forehead appeared, extending to the left side.

**Second Operation.**—An incision was made in the temporal region, and the temporal, zygomatic, and sphenomaxillary regions were explored with a very large-bore needle, but no pus was found. A further free incision in the temporal region was made and fomentations were applied. The next day the temperature again

shot up to 103° F., but dropped to 98° F. by 8 p.m.; after this convalescence was rapid and uneventful.

The facial paralysis had almost entirely cleared up by the beginning of May, when she was able to take walks of two to four miles, but the diplopia persisted for about another month. Some granulations had to be curetted out of the right canal. The discharge soon cleared up. As soon as the membranes were soundly healed gentle politizerization was used, and this was later supplemented by massage. From time to time all treatment was stopped for a week to ten days.

The hearing in both ears is now practically normal; there is no narrowing of the right external auditory canal. The patient is again leading her normal life, and has resumed hunting. Headaches, or other sequelae, are absent.

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#### PNEUMONIA WITH ACUTE ABDOMINAL SYMPTOMS AND MULTIPLE ABSCESES.

THE simulation by pneumonia of an acute abdominal condition is not very uncommon, but the following case presents some unusual features and seems, therefore, to be worthy of record.

A young lascar was admitted to the British Cottage Hospital at Algiers, on February 16th, complaining of anorexia and great pain below the liver running down the right side of the abdomen. On palpation muscular contraction prevented exploration of the subjacent viscera, but no tympanites was present and the abdominal respiration was unimpeded. The temperature was 101°. The bowels were loose, but nothing abnormal was found in the faeces; it was decided that there was no necessity for immediate intervention.

He began to cough considerably two days after admission, and examination showed dullness over the upper lobe of the right lung extending into the axilla. The sputum was not particularly viscid and did not present the characteristic colour of pneumonic expectoration. Puncture of the pleura over the dull area brought away only a few drops of blood-stained fluid rich in pneumococci. At the back respiration at the upper part of the lung was blowing and there was pectoriloquy. The crisis occurred on February 25th, when the temperature returned to normal and did not subsequently rise.

The patient improved and began to take food readily, but he complained of pain in the back of the neck on movement in any direction. Nothing abnormal could be made out in that situation by palpation, but there may have been pneumococcal arthritis; Kernig's sign was absent. Then swellings appeared on the arms—one on the outer aspect of the right forearm and two on the outer aspect of the left arm, the uppermost just below the deltoid. The swellings ranged in size from a filbert to a walnut, and fluctuated freely. On being opened they gave exit to creamy pus containing a pure culture of pneumococci. The patient was given three intravenous injections of antipneumococcal vaccine; these were not followed by any rise of temperature, but he became noisy and had to be placed in a separate ward. He ultimately made a good recovery, the abdominal symptoms having cleared up spontaneously in the course of four or five days; the stiffness of the neck subsided gradually.

Judging from the literature of the subject the prognosis in cases of pneumococcaemia before the introduction of vaccines was extremely grave, but this is my second case in which the use of an antipneumococcal vaccine appears to have exerted a favourable influence. I reported a case of pneumococcal polyarthritis in the *British Medical Journal* of September 13th, 1924 (p. 455).

The interesting feature in the present instance is the patient's admission as an acute abdominal case. The fact that pneumonia may simulate appendicitis has long been known, and this is particularly the case in infantile pneumonia. Daussey, in 1913, collected notes of a number of such cases for his Paris thesis. He points out that while some patients treated for pneumonia were found after death to have had appendicitis, on other occasions patients operated upon for appendicitis were found after death to have had pneumonia. He concluded that pneumonia, especially in children, might be accompanied by an abdominal syndrome resembling that of appendicitis. This is not due to an abnormal localization of the pneumococcus; it is quite possible, of course, for the two affections to coexist, and it is obvious that an attack of appendicitis may predispose to an attack of pneumonia. He divides these cases into two main groups—namely, (1) those in which the pneumonia soon dominates the scene while the abdominal symptoms spontaneously clear up, and (2) those in which the appendicitis becomes and remains the principal feature, the pneumonia only being recognized later on. The cases belonging to the first group are usually mild, but the prognosis is not so good in the second. The moral to be drawn from his observations is that in



practice we ought to look after the appendix in our pneumonia patients and keep an eye on the lungs in cases of appendicitis.

Algiers.

ALFRED S. GUNB, M.D.

### PULMONARY SILICOSIS.

THE following case would appear to be worthy of record in view of the question of compensation that arises.

A stone borer, aged 42, had worked in a coal mine for twenty years; there was no history of any previous illness or a family history of disease. Before his employment in the mine he had worked in a quarry, boring with a pneumatic drill and blasting away the hard rock above the coal seam. I am told that this rock is so hard that no other method but explosive will suffice. Last August he complained of an irritable dry cough, which resembled a bark. There were no definite signs then in the lung, and a tuberculosis officer excluded this disease; the x-ray photograph showed mottling, but there was no wasting. In fact, the man said he felt quite fit, but the cough tired him out.

An examination by a laryngologist led to the suggestion of there being pressure on the recurrent laryngeal, with silicosis as the probable cause. The Wassermann reaction was negative. The patient was seen by the regional medical officer, who agreed with the diagnosis of silicosis. Several specimens of sputum were sent to the county bacteriologist with negative results. Dr. Ifor Davies saw the case and also diagnosed silicosis. Early this year the patient had an attack of acute bronchitis with signs of bronchiectasis; cardiac insufficiency and oedema supervened, ending in death. Four or five sputum examinations were made during the last month again for tubercle bacilli, but proved negative each time.

I do not think there is much doubt as to the diagnosis. The patient had been seen by six independent medical practitioners, who agreed as to the nature of the condition.

I am informed that silicosis is not on the schedule; consequently this man's widow and children receive nothing. Tenosynovitis and miners' heat come within the scope of the Workmen's Compensation Acts, when in my opinion a "damaged" lung is a condition with a much less problematic etiology. Compensation is paid should tuberculosis supervene in a previously damaged joint at work; why should it not be available if the lung is damaged through the hazard of occupation?

GWILYM L. PIERCE, L.R.C.P.,  
L.R.C.S. Ed., L.R.F.P.S. Glas.

Penrhifwceller, Glamorgan.

## Reports of Societies.

### THE INTESTINAL AMOEBAE OF MAN.

At the meeting of the Royal Society of Tropical Medicine and Hygiene on June 21st, with Professor J. W. W. STEPHENS in the chair, a paper on "The differentiation of the intestinal amoebae of man" was read by Professor E. BRUMPT, of the Laboratoire de Parasitologie, Faculté de Médecine, Paris.

Professor Brumpt said that English authors had been the first to demonstrate the frequency of occurrence of four-nucleated cysts of *Entamoeba* in individuals who had never been in tropical countries. These cysts had been considered as invariably identical with those of the real *E. dysenteriae*, discovered by Quincke and Roos in 1893, and it was upon this rather hasty identification that all writers had published their statistics. The statistics demonstrated the peculiar fact that four-nucleated cysts were encountered nearly as often in countries where amoebic dysentery was unknown as in those where it was extensive. It had yet to be explained why amoebae were pathogenic for man in one of four persons of the Philippines, one in ten or twenty in various parts of India and Indo-China, while in England, France, and Holland, where millions of cyst-spreaders existed, only a few cases occurred each year, and among those cases contagion from exotic carriers was usually demonstrable. In the speaker's estimation most statistics had been established on a false basis. Nearly all authors had considered all four-nucleated cysts as belonging to *E. dysenteriae*, but in fact these cysts were produced by three different *entamoebae*—namely, *E. dispar*, *E. hartmanni*, and *E. dysenteriae*, and in that order of frequency. *E. hartmanni* was a small amoeba, found in all parts of the world, and one which did not seem to be pathogenic for man. He thought it could be separated from *E. dysenteriae* by its morphological and biological characters. *E. dispar*, which

had been taken for *E. dysenteriae* in temperate countries—in England, for instance—was much more difficult to identify than *E. hartmanni*, for it differed from *E. dysenteriae* only in a negative character. It stood out from *E. dysenteriae* by its natural and experimental habitat, its geographical distribution (which extended beyond that of *E. dysenteriae*), by the way in which it fed in natural hosts and in culture, and by its pathogenic power. This amoeba, dwelling in the large intestine, lived probably on the surface of the epithelium without producing macroscopic lesions. It was incapable of producing liver abscess, though, like *E. hartmanni*, *E. dispar* probably gave rise, when numerous, to various slight digestive troubles. This parasite was widely spread among individuals who seemed to tolerate it quite well, while in *post-mortem* examination lesions of the gut caused by it had never been observed. Differentiation could be made by injection of the cysts into cats. When the agent was the dysenteric amoeba the cat died with the usual lesions; if it was *E. dispar* any infection produced was only mild. Professor Brumpt considered that the dysenteric infections reported during the war by Yoko and others as occurring among recruits who had never been out of England were infectious in which *E. dispar* and not *E. dysenteriae* was implicated. If amongst cyst-bearers—and there were several millions in England—only one or two cases of dysentery occurred each year, it was because these many cyst-bearers were infected with *E. dispar* and *E. hartmanni* and not with *E. dysenteriae*.

Professor Warrington Yorke said that Professor Brumpt had offered a very simple explanation of a puzzling phenomenon—namely, why a definite percentage of apparently healthy people should harbour a pathogenic organism, or what nutil that evening most of those present had believed to be such. Professor Brumpt had said that it was difficult to differentiate these species, *E. dispar* and *E. dysenteriae*, on their morphological characters, but the speaker confessed himself one who still clung to morphology as offering the soundest basis for classification. The onus of proof lay on those who stated that things which appeared to be the same were really different. With regard to the work which he and others had done in 1917 on recruits who had never left England, it was noteworthy that in at least two of these cases infections were produced in cats which were not to be distinguished from those resulting from similar experiments with the excreta of chronic dysenteries. In certain circumstances amoebic dysentery could be contracted in England in indigenous cases, and it was possible that if signs of amoebic dysentery among the population of temperate zones were sought for by skilled observers they would be found much more commonly than at present imagined. Why certain persons should harbour *E. dysenteriae* and exhibit no signs of the disease was not known, but the explanation might well be that before *E. dysenteriae* could produce any disease some additional factor was necessary, such as susceptibility of the alimentary canal. The researches of Adams and himself had shown that cysts of *E. dysenteriae* passed by different individuals, or by the same individual at different times, differed markedly in numbers passed in a day, the stage of development at which they were passed, and their viability as judged by cultural methods.

Dr. H. L. Duke instanced the parallel with regard to trypanosomes. The dualist view was that *T. rhodesiense* and *T. brucei* had very little to do with one another; a recent investigator had linked up *T. rhodesiense* and *T. gambiense* as the same species appearing under different guises, and *T. brucei* was regarded as a trypanosome which had no use for man. The unicists, of which he was one, regarded *T. rhodesiense* and *T. brucei* as very nearly allied, and he himself thought that *T. gambiense* was a variant of *T. brucei* which had become a specialized parasite of man, having been forced to utilize man as its final host owing to the decrease of game in the regions where man and the tsetse fly came into close contact. There was a parallel between the situation in the trypanosomes and as Professor Brumpt had sketched it in the amoebae. The speaker put forward the hypothesis that there was one polymorphic species of amoeba, a parasite of man, but differing in its adaptation to man in different circumstances, and that occasionally this adaptation broke down, resulting in dysentery.

Dr. GORDON THOMSON felt the subject to be extremely difficult because so many unknown factors in the transmission of amoebic dysentery were evidently at work. One important factor was the mass of infecting dose, which was probably negligible in a country like England, but in Egypt, where there were large numbers of flies, and where faeces were deposited all over the ground, it was very considerable.

Dr. C. M. WEXTON pointed out the embarrassment to clinicians should Professor Brumpt's view find acceptance. Hitherto, on the presence of four-nucleated cysts of the *histolytica* type being reported, the patient was put on emetine, but now the clinician would have to await a further verdict, to be tested on the cat, as to whether the agent was *E. dispar* (in which case the patient should be left alone) or *E. histolytica*. Dr. H. M. HASSCHEL, taking up this last remark, said that if Professor Brumpt stayed the routine rush to emetine he would have done a great deal of good, because it was quite clear that amoebic dysentery was not absolutely constituted or demonstrated merely by the fact that in the stool a four-nucleated cyst had been found. Dr. SIBBELAX spoke of experience in two tropical countries—Mexico and Central Africa. In both these countries there was a considerable frequency of amoebic dysentery, but liver abscess, which was exceedingly common in Mexico, was comparatively rare in Central Africa. One differentiating factor was perhaps flies, of which there were a large number in Mexico, but hardly any in the Congo, where dust was more likely to be the principal means of transmission.

Professor BURXER, in reply, spoke of the great difficulty in identifying species on a morphological basis alone. Morphology was in a state of evolution, and was not infallible. Indeed, it was sometimes not possible to distinguish morphologically between certain quite complicated organisms. With regard to the frequency of liver abscess among dysenteric individuals, this was generally, in white men, in the proportion of one in six, but racial factors came in, and it was possible that in Mexico there was a mixture of whites and Indians, which would alter the incidence.

### EDINBURGH OBSTETRICAL SOCIETY.

At a meeting of the Edinburgh Obstetrical Society held on June 13th, with the president, Dr. HAIG FERGUSON, in the chair, a paper by Professor W. STROGANOFF entitled "A plea for the treatment of eclampsia by the improved prophylactic method" was read by the secretary, Dr. DOUGLAS MILLER. The paper followed much the same lines as that communicated to the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on June 15th, and reported in the *British Medical Journal* of June 23rd (p. 1065).

#### *Treatment of Eclampsia.*

Professor Stroganoff began by giving statistics to show that eclampsia still remained a great menace to child-bearing women, and was accountable in Russia, the United States of America, and England for a maternal death rate of nearly 8,000 women and over 14,000 children every year in these countries alone. This mortality could, in his opinion, be greatly reduced by the adoption of his treatment. Twenty years ago, in a series of 360 cases of eclampsia, he reported a 6.6 per cent. maternal mortality and a 21.6 per cent. foetal mortality. This compared very favourably with all other treatments, where the mortality was usually over 20 per cent. During the last twenty years Professor Stroganoff had treated 300 further cases of eclampsia by his improved method, with a maternal death rate of 8. Of these, however, four patients arrived at the clinic moribund and two died from pneumonia and sepsis. In 40.3 per cent. of the 300 cases there was not a single convulsion after the beginning of treatment; in 44.4 per cent. there were from 1 to 3 seizures, and only in 15 per cent. were there more than three. In a large number of cases there was freedom from convulsions for twelve hours before delivery, 63.8 per cent. coming under that category. The mortality among children was a relatively small percentage, being only 16.8 per cent., but if premature children weighing less than 3,000 grams be excluded,

the foetal mortality is reduced to 6 per cent. There was not a single maternal death due to treatment, whereas in the old days, when accouchement forcé was the method of treatment, 4 per cent. of the mothers died as the result of the operation. There was a relatively small number of operative deliveries, and rapid recovery of the patient was general. Of late, Professor Stroganoff had visited clinics in Vienna, Berlin, and London, but the number of eclamptic cases seen in these cities were few and not up to expectation. These visits, however, had not been in vain, as they taught the value of the prophylactic method, and there had been a definite improvement in the mortality rate in the various clinics. In cases at a distance the telephone could be used to instruct the medical attendant as to the treatment to be adopted. This had been done in one hospital where 176 cases of eclampsia had been so treated. In his last series of 85 cases of eclampsia treated over the telephone there was only 3.6 per cent. mortality. Professor Stroganoff deprecated the operation of Caesarean section in the treatment of eclampsia, as such a treatment not infrequently contributed to a fatal issue, and in nearly all cases injured the woman for no good purpose. He did not consider his method ideal, and believed that even now further improvements could be made.

#### *Ovarian Extract after Artificial Menopause.*

Dr. W. T. HAULTAIN read a paper on the value of ovarian extract after an artificial menopause. It had been his practice for the last five years to administer ovarian extract orally in 5-grain doses for six months in cases where both ovaries had to be removed at operation either with or without the uterus. The method of administration was to decrease the dosage gradually, the patient beginning with 5 grains three times a day for the first two months, twice a day for the third and fourth months, and once a day for the fifth and sixth months, but if the symptoms became severe at any time the dose was immediately increased. In order to discover if there was any advantage in this treatment Dr. Haultain sent out a questionnaire based on similar questions asked by J. W. BRIDE, when he was investigating "the further results of removal of the uterine appendages in hysterectomy." The questions asked were: (1) Was the general health improved? (2) Had the patients become stouter since the operation? (3) Had they become very depressed? (4) Had they had severe flushings, for how long did the flushings last, and were they still present? (5) Did they suffer from headache? (6) Were there any marked nervous symptoms following operation? In all 31 replies were received, and of these 31, 24 had taken ovarian extract for one month or more. In those who had taken ovarian extract the results compared very favourably with BRIDE's results in 185 cases, as it was noted that the extract seemed to have helped the patients with regard to adiposity, headaches, nervous symptoms, but chiefly in regard to flushings. As the treatment had been given principally to try and relieve the flushings the results were very gratifying. The immediate result was very little better than in BRIDE's cases, but at the end of twelve months only 33 per cent. of the cases continued to have any flushings, whereas in BRIDE's cases 64.6 to 75 per cent. suffered from flushings after twelve months. Among the hysterectomies only 20 per cent. had flushings after twelve months. About a year ago it was pointed out to Dr. Haultain that injections of ovarian extract might be more beneficial than the oral administration, and for the last year he has treated all his cases by the injection of 1 c.cm. of whole ovarian extract twice a week combined with the oral administration of 5 grains once nightly. He had treated in all 13 cases for a sufficient time to estimate the value of the method, and from a short summary of the cases he showed clearly that with further injections the flushings became very slight, and in many cases entirely disappeared. Several patients had been operated upon some months previously and had suffered severely from flushings; when injections were started the flushings in practically every one of such cases were much improved, and in a large number entirely ceased. Dr. Haultain therefore recommended this treatment for a period of three months at least, especially in younger women where both ovaries had had to be removed at operation.

## Reviews.

### THE FRENCH MEDICAL SERVICE IN THE WAR.

A FURTHER contribution to the history of the great war has been made by Franco in the publication in 1926 and 1927 of *Le Service de Santé pendant la Guerre 1914-1918*,<sup>1</sup> which is the work of Médecin Inspecteur Général A. Mignon. Realizing the magnitude of the task he has undertaken and the vast amount of research entailed, we offer the author our congratulations on the successful outcome of his labours. This history of the French medical service during the war comprises four volumes of 700, 664, 710, and 832 pages respectively, and in this comparatively small compass Inspector-General Mignon has contrived to present a record of every side of medical work during the campaign. His energies have centred chiefly on France, as is only natural, and very little mention is made of the French forces operating in other theatres of war. The author's plan has been to study the war year by year, treating each year from a different medical point of view, and wherever possible he has chosen to discuss events of which he had first-hand information. He has given us succinct accounts of the salient features of every department of the French medical service, combining history and criticism in a manner at once pleasing and instructive.

To be fully appreciated the volumes should be studied in sequence, though separately each has its own tale to tell. Volume i is a recital of trials and tribulations, of pre-war schemes and regulations put to the test of actual warfare, and of reconstruction. The author boldly criticizes the lack of supplies and the means of transport, which hampered the work of the medical service. He shows how the bitter experience of the early battles taught the need for modifications, for new ideas to meet new conditions, for a reorganization of the medical service, and how, during the period of stabilization, administrative difficulties beset their path—as indeed they did until well on in the war. Taking the Third Army as typical of the others, he describes events in Argonne, where disease, in the form of enteric fever, was the greatest enemy; he points out that failure on the part of those in command to realize the necessity for the complete antityphoid inoculation of the troops resulted, in this army alone, in 39,712 cases in seventeen months.

In volume ii we have a very interesting account, from the medical aspect, of the defence of Verdun, dealing in considerable detail with the preliminary attacks from February to June, 1916, and in broader outline with the final operations in 1916 and 1917. The historian speaks with authority concerning the early months, since to him was entrusted the task of preparing and organizing the medical service for the defence. It is with no uncertain pride that he reveals for the first time in print the part played by the medical service in withstanding the fierce onslaught of the enemy on Verdun. A preliminary survey of the medical formations in his charge showed a standard of efficiency as high in some as it was low in others. The task that lay before him was to bring order out of greatest chaos, to inspire enthusiasm and keenness where these had waned, to reorganize the medical formations round Verdun, and to prepare schemes for the care of sick and wounded and for their evacuation from the fortified area. He pays grateful tribute to the loyal assistance of his own staff, but deplores the lack of co-operation on the part of the General Staff and their desire to keep back essential information regarding the movement of troops—factors that will always seriously affect the conservation of man-power, the morale, and the mobility of an army in the field. From this volume the reader gains a vivid impression of the intensity of the struggle—of the almost superhuman efforts of the stretcher-bearers to collect the wounded from the battlefield in the dead of night, and of the difficulties of evacuation under almost constant shelling. It comes as no surprise to learn that

the toll of the French troops at Verdun was roughly 50,000 killed and 216,000 wounded, not counting sick and gassed.

Volume iii passes in review the medical service in action during the offensive operations of the Somme and the Aisne and in Flanders in 1916 and 1917, during the German offensive of March to July, 1918, and during the final advance to victory from August to November, 1918. The author has followed closely the development of the battles day by day as far as possible, taking first the front line medical service and following the progress of the wounded through clearing hospitals to the base. At the same time he has dealt extensively with medical preparations for the attacks, showing wherein lay success and where failure, and emphasizing the importance of co-operation, a point always overlooked in the early days of a war. He shows that it was only when disaster had overtaken the medical arrangements, made with insufficient knowledge of the plans of the General Staff, that the need for joint action was brought home to that service. How reminiscent this is of our own failures in France, Gallipoli, Mesopotamia, and East Africa! Thereafter the medical service was given a place in the councils of the staff, and at last assumed that autonomy which it felt was essential to its most efficient working. This was a wise provision and an acknowledgement that the medical service of a great nation in a world war, when it evacuates, in round numbers, 10,000,000 sick and wounded, does more than doctoring, and becomes a national trustee for conserving the man-power of an army, worthy of whole-hearted trust. The United States, we understand, followed this principle and other nations might well do likewise.

The final and largest volume recapitulates the results, lessons, and developments brought out in the previous volumes. The author has given a broad survey of the cause to which this evolution of the French medical service should be ascribed. We note with pleasure that he emphasizes strongly the importance of the penetration into the army medical service of civilian doctors, surgeons, and specialists; this factor is sometimes overlooked by a regular medical service, but it should never be forgotten for it means that a splendid reserve is always at hand ready and willing to give of its best. The author acknowledges the debt which the medical service owes to civilian aid, to its directors and those who guided its progress, to the various scientists and learned societies of France who unsparingly contributed their knowledge, and to the French Red Cross and other aid societies, who augmented its personnel. Taking each in turn he indicates the part they played throughout the campaign and their influence on the development of the medical service. Changes in regard to the utilization and distribution of personnel, medical and surgical, are discussed in the light of experience, together with improvements in the material and accommodation at their disposal. An entire section is devoted to the development and working of the army medical service from front to base. The progress made in the treatment of wounds, in the evacuation of casualties in the means of transport, in the prevention and cure of disease, in surgery, in hygiene, radiology, and the treatment of gassed cases, is given due significance.

Statistics of sick and wounded have been recorded for specific battles or from separate hospitals, and a short chapter deals with the world's losses in the war. Comparing the statistical records of the French Army with those produced by the United States Army for the period of its campaign, Inspector-General Mignon puts in a plea for the establishment of a separate statistical bureau at headquarters in the event of any future war, so that a true record of statistics might be kept daily, to afford accurate deductions for the benefit of the General Staff and to give a basis for lessons in the saving of men. It is a wish that might find echo in the British medical service.

It would be difficult, even if it were desirable, to compare this medical history with the British official *Medical History of the War*, eleven volumes of which have already been published. The abundant detail which the editor-in-chief, the late Major-General Sir William Macpherson, delighted to provide for his readers is necessarily lacking in a history confined to four volumes. There are one or

<sup>1</sup> *Le Service de Santé pendant la Guerre 1914-1918*. Par le Médecin Inspecteur Général A. Mignon. Paris: Masson et Cie. 1926 and 1927. (61 x 10: Tome I, pp. 700; 13 figures, 17 maps. Tome II, pp. 664; 9 figures, 18 maps. Tome III, pp. 710; 4 figures, 33 maps. Tome IV, pp. 832; 32 figures. 240 fr. the four volumes.)

two points, however, in the French history where, in our opinion, improvements might have been made. In the matter of illustrations we find 100 maps and 27 figures spread over the four volumes, and while these are clear and devoid of unnecessary detail, a more plentiful supply of actual photographs would have considerably increased the reader's interest. The only index comes at the close of the last volume, and takes the form of a table of synopsis, which seems hardly adequate to the importance of the work. A list of abbreviations used throughout the text and an explanation of the signs employed in the maps are given in the first volume only; a repetition in each volume would have been preferable. These are, however, small points compared with the achievement of the author, whose work brings credit to himself and his country, and will amply repay close study.

### PERNICIOUS ANAEMIA.

THE success of liver diet in the treatment of pernicious anaemia has stimulated fresh interest in the nature and etiology of this hitherto fatal disease, and Dr. CORNELL's monograph on *Pernicious Anaemia*<sup>2</sup> appears at a very opportune moment. Although the classical signs and symptoms of this disease are now pretty generally recognized, there is a large mass of information which has been collected bit by bit and been published in various journals and monographs all over the world, and which has hitherto only been available to those with the opportunity to hunt through an extensive literature. Dr. Cornell has brought this information together and has succeeded in turning what might easily have been merely a useful catalogue into a most pleasantly readable and extremely useful book.

In a volume that is full of odd and apparently unexplained observations which give much food for thought it is impossible to do more than note one or two of the points that will be of general interest; of these, the pages on the geographical distribution of the disease, the critical consideration of the diagnosis in those instances that have been reported in young children, the points in differential diagnosis from other diseases which may occasionally show a similar blood picture, and the interpretation of the newer methods of diagnosis by the measurement of the red cells will all find a general welcome. The historical survey of the early descriptions of the disease is eminently fair and well balanced, and throughout the book, although the author quietly indicates his own views, the various hypotheses that have been advanced by others all receive a just appreciation. Summing up the observations on the etiology of the disease Dr. Cornell concludes that it is a superstructure of blood system and nervous system changes superimposed on an unknown foundation, and that the widespread tissue involvement and the peculiar mass of biochemical changes support the view that the underlying fundamental change is a disturbance of metabolism.

The book begins with a chapter for non-medical readers that may perhaps be of more value in its country of origin than here; it ends with a bibliography which not only shows the enormous labour that has gone to its making, but also lays all students of the subject under a deep debt of gratitude to the author.

### CLINICAL PEDIATRICS.

CERTAIN volumes in the series of monographs on clinical pediatrics, under the general editorship of Dr. R. S. HAYNES,<sup>3</sup> have already been reviewed in these columns, and even the nine with which we are now concerned do not appear to have exhausted this subject. It may be said that as a whole the series is uneven, and while the price may not be high for volume xiv, for example, of over 400 pages, sixteen shillings is expensive for vols. i and xii, which contain only half this number of pages. Vol. i, on *Prenatal*

Care, by Dr. R. W. Lobenstine and Dr. H. C. Bailey, is specially disappointing—an unsatisfactory mixture of obstetrics and pediatrics discussed in a very superficial manner. Dr. C. G. Grulee and Dr. B. E. Bonar deal with *The Newborn* in two volumes, numbered ii and iii, of the series. The former is devoted to physiology and care, and the latter to diseases and abnormalities. This distinction is artificial, however, and leads to a great deal of overlapping. For example, the volume on physiology includes articles on asphyxia neonatorum and the haemorrhagic diseases of the newly born, while a discussion on the physiology of the urinary tract would be much more useful if it accompanied the account of disorders of this system instead of appearing in a separate volume. A section on breast-feeding is included, although vol. xii, by Dr. H. B. Wilcox, is devoted entirely to *Infant and Child Feeding*. This is one of the very short volumes already mentioned, and while in general it follows orthodox lines it cannot be considered satisfactory, in a series intended for the general practitioner, to deal mainly with artificial feeding, while breast-feeding is considered only in the two final chapters. Dr. Bronson Crothers writes on *Disorders of the Nervous System in Childhood* in vol. v, and this appears to be a very good contribution to the series. He regards the problem of exact classification as of academic interest only, and devotes himself to the more practical aspects. Can disorders of the nervous system be arrested? Is the lesion progressive? Can education be carried out if the process is no longer active? These are some of the questions he attempts to answer in a stimulating and provocative book. Dr. W. P. Lucas and Dr. A. H. Washburn consider *Diseases of the Blood and Blood-building Organs*, and the degree of overlapping present throughout the series is clearly shown here; the haemorrhagic diseases of the newly born are again discussed when the subject has been dealt with fully in vol. ii, with a brief summary in vol. i. It is unfortunate, too, that these accounts differ on certain points. Infective mononucleosis (glandular fever) is not mentioned except in a table. The account of purpura is good, and the discussion of such difficult subjects as splenic anaemia and Banti's disease is adequately presented. Dr. F. B. Talbot writes on *The Internal Secretory System and Metabolism* in a very satisfactory though small volume (xiii of the series). The normal metabolic processes and their pathological variations are well described, and deficiency diseases are discussed, with good illustrations, although one and a half pages seems a very small allowance for an account of the etiology and symptomatology of rickets. Here, again, overlapping is shown, for cretins and Mongols have already been described in detail in other volumes. *Infectious Diseases of Infancy and Childhood*, by Dr. H. L. K. Shaw, forms vol. xiv; it is a valuable exposition of modern views on these disorders; the question of prevention is kept well to the front, and each disease has the relevant American public health regulations set out at the end of the appropriate chapter. Rheumatic fever has been included, but only ten pages are allotted to this subject, which deserves fuller treatment. Dr. R. W. Bolling deals with *Surgery of Childhood* in vol. xv, excluding orthopaedics, which forms the subject of another volume already mentioned in these columns, and excluding also, apparently, diseases of the ear, nose, and throat. The omission of this latter "specialty" results in such troubles as the consideration of cervical adenitis or acute retropharyngeal abscess without any reference to tonsillectomy as an important measure in their eventual cure. Otherwise the volume gives a clear account of the special features of surgery as applied to the period of childhood.

### FOOD POISONING.

MISCONCEPTIONS still exist about the nature of food poisoning in circles well informed about other infectious diseases. For instance, it is common for illness to be ascribed to ptomaine poisoning in spite of the fact that every proper investigation of such illness has proved the cause to be *Salmonella* bacteria or their toxins. Dr. DAMON's book, *Food Infections and Food Intoxications*,<sup>4</sup> is a useful

<sup>2</sup> *Pernicious Anaemia*. By Beaumont S. Cornell, M.B. London: Cambridge University Press, 1927. (Med. 8vo, pp. xv + 311; 6 figures. 20s. net.)  
<sup>3</sup> *Clinical Pediatrics*. Supervising Editor: Royal Storrs Haynes, Ph.D., M.D. Vols. i, ii, iii, v, xi, xii, xiii, xiv, xv. New York and London: D. Appleton and Co. (Roy. 8vo, vol. i, pp. xiv + 211, 47 figures; vol. ii, pp. xvi + 258, 63 figures; vol. iii, pp. xviii + 429, 82 figures; vol. v, pp. xiv + 242, 64 figures; vol. xi, pp. xi + 233, 5 figures; 2 plates; vol. xii, pp. xiii + 202, illustrated; vol. xiii, pp. xvii + 178, 83 figures; vol. xiv, pp. xxiii + 415, 33 figures; vol. xv, pp. xxvi + 390, 202 figures. 16s. net each vol.)

<sup>4</sup> *Food Infections and Food Intoxications*. By S. R. Damon, A.M., Ph.D. London: Baillière, Tindall and Cox, 1928. (Roy. 8vo, pp. viii + 260; 13 figures, 18 plates. 16s. net.)



summary of present views on food poisoning, and it is to be hoped that it will be widely read. The essential difference between the old and the new point of view lies in this—that it was formerly believed that a poisonous chemical substance was produced during the natural decomposition of food, whereas the true view is that the toxic substances are produced by the growth of a well-defined group of pathogenic bacteria which cause disease in domestic animals, from which source human food becomes contaminated. This commonest of all types of food poisoning is well described by Dr. Damon, though it is to be regretted that he omits references to the Ministry of Health Reports and the Food Investigation Board Reports published since the year 1920.

The other, and much rarer form of food poisoning, botulism, is classified by the author amongst the food intoxications, and finds itself grouped with mushroom poisoning, grain intoxications, potato poisoning, and shell-fish poisoning. The only feature botulism shares with these other intoxications is that the symptoms are due to an organic chemical poison. Botulism differs from these poisonous foods in so many respects, notably in the fact that the germ injures food otherwise wholesome, that its separation from other bacterial diseases seems an artificial distinction. This second part of the book, headed "intoxications from food," is worth special mention because of the information it contains about such subjects as mushroom and shell-fish poisoning, which do not usually receive much attention in public health textbooks. The third part deals with the larger animal parasites transmitted by food and the method of diagnosis of helminth infections. The author does not make any claim to originality in the contents of this book, but he has done a useful service in collecting together in one volume information about the different agents which make food poisonous, derived from books on medicine, public health, bacteriology, chemistry, and biology.

#### OPHTHALMIC OPTICS.

Optics are a necessary part of the training and equipment of the ophthalmic surgeon. Compared with the fascination of clinical work, optics are dry as dust except to a very small minority of those who are mathematically minded, and who revel in equations that do not seem to equal. There has been much improvement in the teaching of optics of recent years. Teachers have clarified their own minds, and have been able to give clearer indications of simple laws. A recent book of American origin is a good exemplar of improved methods of teaching. *The Introductory Course in Ophthalmic Optics*,<sup>5</sup> by Dr. ALFRED COWAN, assistant professor of ophthalmology in the Graduate School of Medicine of the University of Pennsylvania, is an excellent piece of work. He has aimed at giving a working knowledge of ophthalmic optics to medical students and practitioners. He has tried to construct a system that can be followed by one having only an elementary knowledge of mathematics, but a system which is scientifically correct and not inconsistent with thoroughness. He has certainly succeeded in his endeavour. He proceeds from consideration of the elementary laws of light to reflection and refraction at plano surfaces, and then at spherical surfaces; thence to lenses, and the dioptric system of the eye. Myopia, hyperopia, and astigmatism are considered, then accommodation, and finally the clinical methods of ophthalmometry, ophthalmoscopy, and retinoscopy.

In each section the author not only gives the theory and mathematical demonstration of the subject under consideration, but there are experimental demonstrations which can be verified by the student, and which will convey to the least mathematically minded a conclusive proof of the proposition under examination. The rationale of the clinical instruments for the examination of the eye are stated with an enviable precision and directness. Retinoscopy is explained in eight hundred words and three diagrams, but the explanation is complete and accurate. It is a pleasure to come across a teacher of ophthalmology who tells his student that in retinoscopy it is the light reflex which is

the proper subject of observation, and that he should follow the movements of the light, and not of some delusive shadow.

The book is beautifully printed, and the diagrams are admirable. In many of these the ground plan of the problem is given in black ink and the answer to it in coloured inks—a method of printing that is without doubt expensive, but most impressive.

#### THE ALCOHOL PROBLEM.

Dr. H. M. VERNON, in his book on *The Alcohol Problem*,<sup>6</sup> gives a judicial survey of two important aspects of the question: one is the effect of legislation in this and other countries upon the consumption of alcoholic liquors, and the other is the experimental evidence at our disposal concerning the action of alcohol on the human organism.

In his consideration of prohibition in the United States the author is careful to point out that this was of gradual growth, and not a measure thrust on the country suddenly in a wave of war-time excitement. While the press in the United States, as in this country for the most part, is strongly anti-prohibitionist, medical opinion in the United States is strongly in favour of prohibition. Under the prohibition law any doctor who wishes to prescribe alcohol for his patients may do so after taking out a special permit, but it appears that only 22 per cent. of the medical practitioners in the United States hold permits at all. Although the law is flouted in the large industrial areas and the big cities, where in recent years there has been an increase in the number of deaths from alcoholism, in the agricultural districts and small towns, which contain the majority of the population, prohibition is accepted with complacency. Dr. Vernon is inclined to think that the real test of the efficacy, both in America and in Finland, of prohibition should come in twenty or thirty years' time, when the present generation of young people will have reached maturity and power. He next considers the system of partial prohibition in various countries, such as Canada, Australia, New Zealand, Sweden, and Norway, and comes to the conclusion that the principle of avoiding absolute compulsion is the correct one, especially if it is coupled with an unrestricted sale of comparatively innocuous beers containing 3 per cent. or less of alcohol. The methods for controlling the production and sale of alcoholic liquors in this country during the war are next considered, especially those relating to the hours of sale and high taxation, and a chapter follows on the English public house as it is, in which Dr. Vernon acknowledges his indebtedness to Mr. E. Selley's work (see *Journal*, September 17th, 1927, p. 496).

In his chapters on the physiological aspects of the problem Dr. Vernon, who has made so many valuable contributions to the subject, discusses the effect of moderate quantities of alcohol on efficiency, the extent to which food and dilution modify the effects of strong drink, and the influence of alcohol on length of life. He maintains, in opposition to Professor Raymond Pearl, that it will never be possible to obtain clear and conclusive evidence, though he is inclined to agree that the effects of moderate drinking on longevity are small. Although we find no discussion of the relation of liquor to poverty, crime, and prostitution, nor any reference to the place of alcohol in therapeutics, and might for these reasons regard the title as somewhat too wide for the contents, this book is of value as setting out the impartial views of a physiologist on a matter of outstanding importance.

#### NOTES ON BOOKS.

THE first edition of Dr. A. PINEY's *Recent Advances in Haematology* was reviewed in these columns on August 13th, 1927 (p. 269), and already a second edition<sup>7</sup> has appeared with considerable additions, such as a glossary of technical words likely to cause difficulty, among which is "pseudo-leucæmia," with the comment "a term best left to undergo atrophy from disuse." There is a new chapter on the spleen in various

<sup>5</sup> *The Introductory Course in Ophthalmic Optics*. By Alfred Cowan, M.D. Philadelphia: F. A. Davis Company. 1927. (Leiny 8vo, pp. 262; 121 figures. 35s. cloth.)

<sup>6</sup> *The Alcohol Problem*. By H. M. Vernon, M.A., M.D. With a preface by Viscount D'Abernon. London: Baillière, Tindall and Cox. 1928. (Demy 8vo, pp. xv + 252; 24 figures. 9s. net.)

<sup>7</sup> *Recent Advances in Haematology*. By A. Piney, M.D., Ch.B. Birm., M.R.C.P. Lond. Second edition. London: J. and A. Churchill. 1928. (Extra post 8vo, pp. x + 318; 4 plates, 18 figures. 12s. 6d.)



infectious, and additions have been made in the other chapters—for example, in connexion with the liver treatment of pernicious anaemia. The chapter headed "Haemorrhagic diatheses" includes Werlhof's disease (as he prefers to call purpura thrombopenica, inasmuch as the implication of any etiological hypothesis is thus avoided) and aplastic anaemia. Here will be found also an account of David's disease—a haemorrhagic disease so far observed only in women, without evidence of infection or constant thrombocytopenia, and regarded as possibly due to endocrine disturbance. In the preface Dr. Piney replies with some spirit to criticisms in reviews of the first edition, but considering the interesting character of the work as a whole he should perhaps regard these as compliments to be silently accepted.

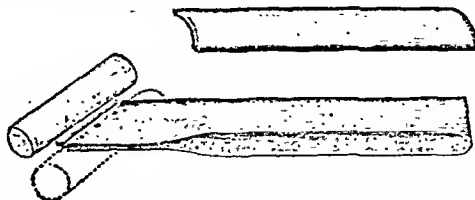
Various clinical methods, routine procedures, and therapeutic measures have been collected together into a *Clinical Handbook for Residents, Nurses and Students*\* by Dr. Victor M. Coppleston, who edits the volume which members of the staff of the St. Vincent's Hospital, Sydney, have written. There are a large number of procedures, often handed down by tradition among the resident workers in a hospital, which are seldom adequately dealt with in books, and it is certainly an advantage for the young house-officer to know something of the ways in which enemata are given, for example, and of the general management of special cases, such as ophthalmic, ear, nose, and throat, and gynaecological patients. The chapters on sterilization, minor surgical procedures, poisoning, and anaesthetics are especially valuable, and it is evident that throughout the book all the methods described are in everyday use at the hospital to which the authors are attached.

\* *Clinical Handbook for Residents, Nurses and Students*. Edited by Victor M. Coppleston, M.B., Ch.M., F.R.C.S. Sydney, Australia: Cornstalk Publishing Co. 1928. (4½ x 7, pp. 153.)

## PREPARATIONS AND APPLIANCES.

### "Ambidex" Wrist Splint.

DR. REUBEN LEVINSON (Goodmayes) sends a description of a simple modification of the Carr splint for Colles's fracture which he has devised. He writes: At present a separate splint is required for the right and left hands. The ease with which one somehow always succeeds in unearthing the right-hand splint when the left is required, and vice versa, is too well known to need enlarging upon, and it consequently occurred to me that a splint which would be suitable for either



hand would be a very definite advantage to the busy medical practitioner and to medical officers of hospitals. In the Carr splint the hand-grip portion is fixed to the head of the splint, but in my modification the hand-grip is arranged on a hinge, which thus makes it possible to swing the hand-grip over from one side to the other for either right or left hand, as the case may be, the faces of the splint being shaped accordingly to take the thenar eminence. This new splint is produced by S. Maw Son and Sons, Limited, 7-12, Aldersgate Street, London, E.1, under the name of the "Ambidex" wrist splint.

## PAPWORTH VILLAGE SETTLEMENT.

### CLIFFORD ALLBUTT MEMORIAL COTTAGES.

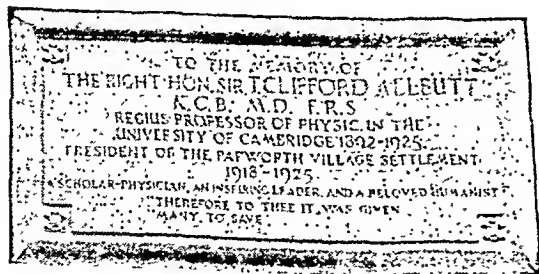
As a memorial to the late Sir Clifford Allbutt, who was president of the Papworth Village Settlement from 1918 to 1925, two cottages have been erected at the settlement from funds subscribed by members of the medical profession. Photographs of the cottages and of the inscribed stone which records the significance of the memorial are reproduced on this page.

The opening ceremony at the cottages was performed by the Prince of Wales on the occasion of a visit to Papworth last month, when he spent about three hours in making an informal but very complete tour of the settlement, under the guidance of the director, Dr. P. C. Varrier-Jones. At the opening of the Clifford Allbutt memorial cottages a brief address was given by Sir Humphry Rolleston, the present president of Papworth,

men pass out into hostels, where the unmarried remain, while the married are housed, with their wives and families, in cottages when these can be provided.

For women patients the present provision is inadequate; there is available accommodation for only five cases, and it is desired to create a similar system to that existing for men. A sum of £4,000 is needed, and up to the present £1,500 has been secured.

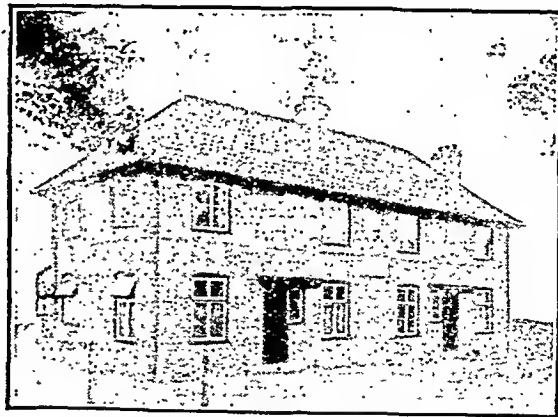
The Papworth Settlement is, apart from other considerations, notable for the development of many crafts and industries among its patients. Work is begun as soon as their condition permits, many of the workshops having been started to provide occupation for patients who already possessed a knowledge of some trade or other when they entered the settlement. Among the industries carried on



The Memorial Stone.

and Lady Allbutt was presented to His Royal Highness. The cottages are being occupied by tuberculous ex-service men who, after treatment in the Papworth sanatorium, desire to settle in the village with their wives and families, and work in the industries.

It is now twelve years since operations were commenced at Papworth with the erection of two shelters in a garden. The Prince, in the course of his visit, saw a community where 500 consumptive patients are being treated, while numerous industries have been built up on a sound footing in what is the largest village settlement in the world. The village clusters round Papworth Hall, the former mansion, which now contains the main wards for men and in the grounds of which are chalets to accommodate some 90 men patients. From the wards and the chalets the



Clifford Allbutt Memorial Cottages, Papworth.

are carpentry, leather work, printing, and upholstery, but there are many others. The working day is restricted to six hours, and conditions are carefully regulated to suit the physical state of the workers. To the provision of facilities for useful activity is attributed the cheerful atmosphere which observers have noted as characteristic of the patients at Papworth. Many of them are men who at the onset or with the progress of the disease had not expected to be able at any time to resume work.

It is interesting to note, moreover, that the financial results have been far from unsatisfactory, when the physical

status of the workers and the limitation of the hours of labour, among other things, are taken into consideration. In the industries carried on, under the management of the tuberculous patients themselves, there has been, during the past nine years, a turnover of about £220,000, and the loss has been the comparatively small amount of £2,000. As it is, therefore, the industries have been practically self-supporting. Apparently they have been hampered by lack of adequate capital resources, and it is believed that if this deficiency could be overcome there would be no loss whatsoever.

## MENTAL HYGIENE.

### THE PREVENTION OF NERVOUS BREAKDOWN.

A WELL-ATTENDED public meeting, arranged by the National Council of Mental Hygiene, was held in the Birmingham Council House on June 21st. A letter was read from the Minister of Health, Mr. Neville Chamberlain, expressing warmest sympathy with the objects of the council, and regret that duties in the House of Commons prevented his attendance at the meeting. The Lord Mayor (Alderman A. H. JAMES) presided, and, in opening the meeting, described mental disorder as one of the most serious problems affecting the country, either on its social or economic side. In 1926 the cost of maintenance, supervision, and treatment of patients amounted to £8,000,000. The net cost to the Birmingham local authority last year was £181,546 for the treatment and care of 2,655 patients, and this was equivalent to a rate of 8d. in the £.

Addressing the meeting on "The prevention of nervous breakdown," Sir MAURICE CRAIG said that physical health had long been the special care of municipalities, but, except for the care of the insane, the mental health of the people had been almost entirely neglected. The word "mental" was considered synonymous with "insane," but now ideas, such as that the prevention of disease far outstripped in value the treatment of disease which had become established, must be developed. In the matter of the insane they had contented themselves with housing those who reached an advance state of mental disorder—a state which, in many instances, need never have been reached had the early phases of the illness been recognized and proper treatment been available. There was no fundamental difference between physical and mental disease. For example, one person might react to stresses, of whatever kind, on the physical side, whereas another might react to similar stresses by some change in mind. The importance of having general and mental hospitals working in close co-operation, and of having a mental clinic in every general hospital, was becoming evident. Mental disorder was not a bolt from the blue, as so many thought; serious disturbance developed, as a rule, slowly, and it was in the early days that it was important to discover what was causing it, and to treat it, and prevent its further development. The minor mental disturbances were of importance, and should never be ignored. It should be remembered that mind had many attributes, and that emotion was one of the most valuable attributes of mind. Emotion must be understood, for if it was allowed to run riot it might end in bringing about mental ruin. Passion—extreme emotion—could devastate the mind for the time being, so that the person so affected might be incapable of reasoned action or judgement. But lesser disturbances required serious consideration. A child whose emotional reaction was unstable might be almost uneducable. Again, disturbed emotion might lead to false reasoning, and false reasoning might give rise to altered behaviour, or to some other failure of adaptation to environment.

### Importance of Early Treatment.

There were two important factors in early treatment: (1) the proper understanding of mind and its activities by laymen; and (2) the wider teaching regarding minor disturbances of the mind in medical schools and hospitals. Now that they were appreciating that mind and its working was an integral part of what was called health, so much the more necessary had it become to see that the study of mind was not divorced from the teaching of

general medicine. The emotional reaction of a patient might determine the ultimate success or failure of a surgical operation, and this was equally true of disease. It was being shown by increasing and overwhelming evidence that mental fatigue was in many instances a matter of even greater importance than physical fatigue among the workers in great industries. Monotonous movement might exhaust the mind in certain types of person to a far greater degree than it fatigued the muscles employed in performing it. Mental hygiene, again, should play a very important part in education, not merely with defective and "problem" children, but with the highly intelligent and brilliant also. Living as they did in times when scholarship was so important a factor in education, they should never forget that the strength of the human brain lay in its slow development, and that if the central nervous system of a growing child were over-stimulated infinite harm might be done from which the child might never recover.

In conclusion, Sir Maurice Craig said that the subject of mental hygiene was a very large one, touching all mental activities from the cradle to the grave. It brought a fresh interest to parents watching the development of their children, while the worker would understand better how to get the best value out of his work and how to avoid the too common minor, but crippling, disabilities. Even in the present state of knowledge, if this were used to the full the number of the insane could be greatly diminished. The task now was to put into action the knowledge already possessed, for it was far better to spend money on prevention than on building big institutions. The present methods were economically wasteful; viewed from the standpoint of medical science they were deplorable, and when measured in terms of human suffering it was difficult to find words strong enough to condemn them.

### Need for Education of the Public.

Dr. CRICHTON MILLER said it was an incontrovertible fact that in affairs of the mind, as in affairs of the body, prevention was the only royal route to eradicate ineffectiveness. It did not matter whether one was dealing with early tuberculosis, or a knocking in the engine of a motor car, or slight irritability on the part of a daughter-in-law, in each case the remedy must be applied early to be successful. From the point of view of good citizenship "mental hygiene" meant a great deal; the phrase was coined in America for something that had not hitherto been thought of. People had lived with the impression that mankind was more or less the same except when mad, and that madness was a special problem unlike any other. If insanity happened in the family circle the other members hung their heads for shame. The whole question of mental hygiene, and the idea of keeping the mind healthy instead of regarding the problem as one that presented itself only when the mind was diseased, had had very little attention, and the public must be educated. A nation's interest lay in keeping its minds healthy. The old phrase *Mens sana in corpore sano* had been misinterpreted to imply that if the body were kept healthy the mind would remain healthy. That never was true, nor was it intended to mean that the mind necessarily remained healthy. If the problem were faced in this country as it was being faced on the other side of the Atlantic, this would make for national efficiency in a very remarkable way. In mental hygiene nothing like the same progress had been made as with tuberculosis. It was not possible to impart such accurate, full, and adequate information as the specialists could about tuberculosis, but an indication could be given on how to prevent nervous and mental breakdown to a certain extent, and it was possible, with the co-operation of the public, but not without it, to do something useful in that direction.

Then in order to impress upon his audience the way in which this problem of mental hygiene affected good citizenship, Dr. Crichton Miller gave a number of telling instances, drawn from the daily life of ordinary people, showing how many difficulties of temperament and character were due to long-past troubles which might have been overcome if only the person concerned had been treated at the right time by somebody trained in the methods of psychotherapy.

## British Medical Journal.

SATURDAY, JUNE 30TH, 1928.

### THE NATIONAL HEALTH INSURANCE AMENDMENT ACT, 1928.

THE National Health Insurance Amendment Bill was read a third time and passed in the House of Lords on June 21st. In our parliamentary notes we have from time to time reported the speeches made in connexion with the various stages of the bill, and have indicated the more important changes that have been introduced during its passage through the House of Commons. We have commented on its provisions on two previous occasions (April 21st, p. 677, and May 12th, p. 811), and now that the bill has been passed in its final form it may be well to recall some of the main points to which attention has been directed in these columns. There are, as we have said, many things in the Act—such as the simplification effected in some of the insurance arrangements, and the establishment at last of a real insurance scheme for deposit contributors who, owing to ill health, are refused membership by approved societies—with which the medical profession is in hearty agreement; but there are others which have excited great misgiving, and which will need both vigilance and firmness on the part of the profession if their effect is not to be detrimental to its liberties, traditions, and interests. Some of these dangers were set out in the two articles to which reference is made, and they have not been removed by any effective amendment of the bill.

In the first place, the Act is one more example of the practice, severely condemned by the Lord Chief Justice and many others, of legislation by the indirect method which authorizes a Government department to make Regulations and prescribe conditions under which various actions may be taken. There are said to be in this comparatively short Act no fewer than sixty-six occasions on which such words as these are used giving the Minister of Health power to impose his will in a manner not specified. Parliament ought by this time to know its own mind in the matter of health insurance legislation, and to those who need it the protection afforded by Statute Law is better than that afforded by Regulations. Our second criticism is that the profession has not been quite fairly dealt with by those in charge of this measure. Before the bill was introduced the British Medical Association received more than one assurance from the Ministry of Health that there would be little or nothing in it which affected the medical profession. The fact has turned out to be that it contains provisions of the utmost importance, especially to those practising as consultants and specialists. In this way the best opportunities for making representations on these points were lost. Next, when it was discovered that the bill actually proposed to repeal Section 75 (5) of the Act of 1924—the only effective safeguard against the interference of approved societies with the medical profession in connexion with additional treatment benefits—it was asserted by the Ministry that the reason and justification for this repeal were that the only additional benefit to which the section could apply had been removed from the list of such benefits;

and it was left for us subsequently to discover that words had been introduced into other specified additional benefits placing them now in a category to which the section would have applied if it had been allowed to remain. Again, when after discussion with the Ministry an amendment had been agreed to ensuring that any scheme by which an approved society contributed towards treatment of its members at a clinic should at the same time make provision for this to be available from practitioners elsewhere than at the clinic, and it was pointed out that the particular amendment adopted by the Ministry offered these forms of treatment as alternatives so that clinic treatment by itself could still be adopted by a society, no attempt was made by those in charge of the bill to remedy this defect and carry out the arrangement which had been accepted. These are grounds for complaint, even though some of the points may yet be safeguarded by Regulations.

It is true that much of the dissatisfaction with the Act arises from what it omits to do as well as from what it does. Lord Gage, moving the second reading in the House of Lords on behalf of the Government, said: "Mr. Chamberlain would have liked the adoption of the Royal Commission's recommendation that the surpluses of approved societies should be partially pooled to enable specialists' services to be made a statutory benefit. The suggested pooling was the only method whereby the necessary funds could be obtained without recourse to the Exchequer. The approved societies have, however, so set their faces against this that Mr. Chamberlain has been prevented from making this necessary and desirable extension." In the House of Commons Sir Kingsley Wood had already said that "but for the opposition of the approved societies it would be perfectly possible to put into operation the scheme for specialist services without bringing any additional funds into the national insurance system at all." Thus the approved societies have been discovered, and unequivocally declared, to be a gigantic obstruction to the main advance, most urgently needed, which ought now to be made in the public health services of the nation. This cannot be forgotten, and should be proclaimed and emphasized at every suitable opportunity. Whatever the usefulness of the societies in some other directions, this remains true. At the same time the Ministry and the Government have shown themselves weak enough to tolerate this obstruction, instead of insisting, at the cost of a little time and courage, on clearing it out of the way. It is claimed that the methods of the new Act in this regard are an alternative, even though they are unsatisfactory and need an apology. In fact, they are not an alternative at all. To tinker with additional treatment benefits for a certain number of privileged insured persons—who, on the whole, need these less than those who do not get them—by permission of the more prosperous approved societies and by means of Regulations reflecting the differing views of successive Ministers, is in no sense a substitute for a publicly organized specialist service for all insured persons alike. When it is found, moreover, that under the proposed system an approved society or a combination of societies will be able to influence strongly, and may even be able to control, the provision, the equipment, the administration, and the staffing of clinics, institutions, or schemes for providing consultant and specialist advice and treatment, it is imperative for the medical profession to express its opinion of legislation which makes this possible, and to give no countenance to any such action. The Council of the British Medical Association at its last meeting

declared that "it is essential, if the medical profession is to take part in the provision of additional treatment benefits, that these, as is the case with statutory medical benefit, shall be administered in such a fashion that the services of the medical practitioners who elect to give advice and treatment in connexion therewith shall not be under the control of any approved society or societies," and that this position ought to receive statutory recognition. It has not received statutory recognition under the new Act. The word "control" in the Council's resolution is admittedly of uncertain connotation in some respects; but it must be remembered that control is often insidious, and may, in fact, be acquired by a minority. Freedom from the administration and control of approved societies, even though this were to be governed by Regulations made by a Minister, was won for general practitioners at an earlier stage. It is equally the duty of the medical profession to see that consultants and specialists are not faced with the alternative of either abandoning a legitimate sphere of practice or submitting to conditions which the experience of the profession in former times has proved to be intolerable.

Under the new Act the Ministry of Health has secured for itself many increased powers, which the present Minister may use wisely and others possibly not so wisely; but it has done this by weakening the position of the medical profession, and in some respects by enhancing that of approved societies. It should be made clear, in these circumstances, that consultants and specialists will only be willing to offer their services under conditions which safeguard their liberties and traditions and assure that they are in no sense the servants of the representatives of approved societies.

#### THE HEALTH OF THE COLONIES.

THE principal speaker at the twenty-first anniversary dinner of the Royal Society of Tropical Medicine and Hygiene on June 20th was the Secretary of State for Dominion Affairs and for the Colonies, Mr. Amery, who gave an interesting review of the position in the colonies, more especially in the tropical dependencies, from the point of view of public health. The Colonial Office, he said, was one which combined many functions, but none was of greater importance than the function of Ministry of Health to the tropics. There was a time when the diseases of the tropics were regarded as the inevitable result of the climate, and only within the last generation was it learned that these diseases were no more inevitable than diseases in temperate regions. The first British statesman to realize clearly the implications of tropical hygiene was Joseph Chamberlain. In his famous dispatch in 1898 Mr. Chamberlain informed the Colonial Governments that he had had under consideration the important question of reducing the mortality among white people resident in the tropical zone. After consultation with leading medical authorities he decided upon two main lines of action. One of these was the establishment of a school of tropical medicine in London (which was soon duplicated at Liverpool, thanks to the generosity of Sir Alfred Jones), where medical officers proceeding to the tropics could be given special instruction in the control and treatment of the diseases encountered there; the other was the encouragement of scientific research into the causes of tropical diseases. Mr. Amery remarked that his famous predecessor was more immediately and directly concerned with the white administrators and traders, but it had since come to be realized that the problems of health for whites

and natives in the Empire were one. The mosquito and tsetse fly were no respecters of races. Mr. Amery then gave some figures showing the expansion of the colonial medical services since Mr. Chamberlain's intervention. The number of medical officers on the Gold Coast had increased from 21 to 100; in Nigeria from 7 to 161; in Ceylon from 34 to 363; in Fiji from 8 to 68. The colonial medical services now had a strength of over 1,700 officers, and were growing every year; the salary and status of these officers had improved also. Just before the war the ordinary salary of medical officers in West Africa and in East Africa was from £400 to £500; it was now, in West Africa, from £660 to £860, and in East Africa from £600 to £900. Mr. Amery expressed the hope that before many years had passed it would be possible to create something in the nature of a single colonial medical service, thereby enabling the best brains in administration to be available to the colonies which most needed them, irrespective of what a particular colony could afford immediately to pay. He claimed confidently that the general level of medical work in the colonial empire had never stood as high as at present. The increased number of officers available enabled more attention to be paid to prevention and research, and thus the officers were not left, as before, continually struggling with the problem of overtaking disease after it had occurred. The Colonial Secretary also touched on the establishment of the hospitals at Singapore, at Accra on the Gold Coast, and at Mulago in Uganda, and then spoke of the various special campaigns and investigations conducted with the encouragement or under the auspices of the Colonial Office. Among these he mentioned the investigation on sleeping sickness begun by the League of Nations, also the very important work done on malaria. He quoted some striking figures to illustrate the great improvement in the health of the tropics. In West Africa in 1904 the death rate of European officers was 27.3 per 1,000, and in 1926 it had fallen to 8.6; in the same period the invaliding rate fell from 67.2 per 1,000 to 19.2. In East Africa the death rate between 1910 and 1926 fell from 14.9 to 5.6 per 1,000, and the invaliding rate from 24.5 to 4.4. It was not possible to give exact figures with regard to the native population, but there was no doubt about the steady improvement here also. The last medical report for Uganda furnished an instructive comparison. In 1920 a sum of £61,000 was spent on medical services in that country; in 1926 the amount was £128,000; the number of new cases among natives treated at the medical centre increased from 62,000 in 1920 to 380,000 six years later. Finally, Mr. Amery spoke of the co-ordinating and other work at headquarters. He said that when he first took charge at the Colonial Office he endeavoured to remedy certain deficiencies in this respect. Two years ago he appointed a chief medical officer at the Colonial Office, whose business it was to keep the importance of the subject before the various administrations. A medical and sanitary advisory committee, a colonial medical research committee, and a bureau of hygiene and tropical disease were all functioning. On the periphery were the Committee of Civil Research, which linked up the Colonial Office with all the other research activities of the Government; also the great schools of tropical medicine in London and Liverpool; and, not least important, the Royal Society of Tropical Medicine and Hygiene, whose health it gave him great pleasure to propose. Dr. Andrew Balfour, who replied, mentioned that the fund for a memorial to Sir Patrick Manson had now reached a total of £3,324. Lieut.-Colonel W. P. MacArthur proposed in happy terms the health of the guests, to which Sir Squire Sprigge responded, and the final toast was the health of the chairman—Professor J. W. W. Stephens, president of the society—which was proposed by Dr. Manson-Bahr.

## EXPERIMENTS ON ANIMALS.

IN last week's *Journal* (p. 1079) we reported the second Stephen Paget Memorial Lecture delivered by Sir Bernard Spilsbury, who spoke on "The work and responsibilities of the pathologist" at the annual meeting of the Research Defence Society. Some excellent illustrations were given by Sir Bernard Spilsbury of the achievements of pathology in the prevention and cure of disease by means of experiments on animals, not merely by immunization against particular infections, but in other ways also, and not merely in the human race, but also in sheep and cattle and domestic animals. It is important that clear and simple illustrations of this sort should from time to time be given to the public, even though their reiteration may seem wearisome to the well informed, for there is no relaxation in the campaign of prejudice and misrepresentation which is being conducted by the British Union for the Abolition of Vivisection, and even by more respectable bodies. An interesting example of a better method of discussion is to be found in the recent correspondence in the *Times* between Sir Bernard Spilsbury and Lord Dawson of Penn on the one hand, and Mr. Stephen Coleridge on the other, though even here it is unfortunate that one or two letters of an altogether different calibre of intelligence have been allowed to appear, and that Mr. Coleridge has been unable to suppress an unworthy but characteristic method of controversy by implying that Lord Dawson is not truthful when he gives a particular instance (necessarily anonymous) in which the use of a mouse has been of service in the case of a boy at one of our public schools. The correspondence began through the complaint of a general hospital that it had some difficulty in getting subscriptions owing to the agitation of certain persons against the holding of a Home Office licence for vivisection by the pathologist on its staff. The claim is that, as Lord Dawson says, "the advantages which accrue to mankind by the use of animals in the study, diagnosis, and treatment of disease can be determined only by those possessed of the necessary special knowledge," mainly scientific and medical workers; and that, so far as these advantages exist, those who are willing to profit by them should not be deprived of their opportunity by the exertions of those who have come to the conclusion that it is ethically wrong so to do. Mr. Stephen Coleridge is, of course, right when he claims that "to many people it is not a question of medicine, but a question of ethics and conduct." It is not open to the expert to deny the advantages; but it is open to them consistently to refuse to accept or use them if they believe them to be achieved by methods ethically wrong. Some such persons (we accept Mr. Coleridge's statement that he is one of them) do refuse treatment by inoculation, but we doubt whether they do, or can, refuse the benefits of much other knowledge gained by means of experiments on animals. But even putting the code of ethics of Mr. Coleridge and his associates at its highest, it is not open to them to impose this upon the medical profession or upon the far greater number of patients, whether in hospital or elsewhere, who, when faced with the quite simple alternatives offered to them for alleviation or cure, do not feel that there is any ethical difficulty whatever.

## INTERNATIONAL CONTROL OF THE TRAFFIC IN OPIUM.

At the recent meeting of the Council of the League of Nations a report from the Advisory Committee on Traffic in Opium and Other Dangerous Drugs was received, to the effect that it is expected that the Geneva Opium Convention of 1925 will come into force in the near future. The new convention is designed to strengthen the Hague Opium Convention of 1912; a notable feature is the provision made for the establishment of a permanent central board to

collect and collate information regarding the world supply of drugs, and to pronounce whether a State is in any given year exceeding the amounts to which it is legitimately entitled. Considerable delay has been experienced in securing the ratification of the convention, and it is only recently that satisfactory progress has been made. The position when the Advisory Committee's report was drawn up was that fifteen States in all had ratified, including four States members of the Council, two being permanent members, as required by the convention. The Netherlands and Rumania have since formally signified their adhesion, and when the Council met the Canadian ratification was reported to be imminent. Several other States are taking steps to conform to the movement. The committee was therefore able to state that there is every prospect of the convention being in operation before the end of the year. From accounts given to the committee, to which we made reference on May 26th (p. 907), it is obvious that energetic and highly organized action is needed if the traffic in dangerous drugs is to be kept within bounds. Great importance is attached by the committee to the collection of full, prompt, and accurate information: there has been some improvement in this respect, but certain producing countries, such as Bolivia, Greece, Peru, and Persia, are not yet giving the desired details, while some discrepancies have been noted in the figures received at Geneva. The Advisory Committee devoted considerable time to a discussion on the constitution of the proposed permanent central board to be set up under the 1925 convention, but in the result most of the details were left to be settled at a later session. A recommendation was received from the League Health Committee that a number of morphine compounds, known as esters of morphine, of which benzoyl-morphine is an example, should be brought under the convention, since they may be abused in the same way as morphine. The convention permits the addition of fresh products to the list of those subject to its control.

## FINE WORK AND EYESTRAIN.

LAST year a report was issued by the Medical Research Council on the effects of eyestrain on the output of linkers in the hosiery industry; in this work the detail to be discriminated is so fine that, however high the illumination provided may be, the eye must be kept quite near the object, with the result that some degree of continuous strain is imposed on the muscles of convergence and accommodation. The investigation clearly showed that benefit was to be gained from the use of spectacles, with which this strain was relieved and output increased. In a new report<sup>1</sup> published this week the investigation has been carried a stage further; each operative brought into the investigation has been examined by an ophthalmic surgeon, Mr. T. G. Clegg, and for each appropriate glasses have been provided, giving the necessary correction for any error of refraction and muscle balance, together with the additional correction for the relief of the excessive convergence and accommodation. Particulars of the glasses ordered are given, and these show that a considerable range of error of refraction was found. Part of the work was connected with weaving and part with mounting electric lamp filaments; both processes are very fine; both demand not only perfect illumination, but power also on the part of the operative to get close up to the work for prolonged periods. No work more likely to cause eyestrain could be chosen. So far as these tests have gone—and their only weakness is the relatively small number of operatives tested—there is strong evidence of the value of

<sup>1</sup> *On the Relief of Eyestrain among Persons performing very Fine Work.* By H. C. Weston and S. Adams. Medical Research Council, Industrial Fatigue Research Board. London: H.M. Stationery Office. 1928. Pp. 25. Price 1s. 3d. net.



the glasses. The relief and assistance thus afforded to the workers enable them substantially to increase their rate of output, the amount varying, in individual cases, from about 8 to 26 per cent. for drawing in (weaving), and from less than 1 per cent. in an exceptional case to nearly 20 per cent. for filament sorting and mounting (lamp making). These figures refer only to experienced workers, and there is evidence that a still greater increase may be expected in the case of learners. It is believed that with them the use of the glasses would shorten the period required to attain proficiency. Particulars are given of each set of experiments, and of the nature of the illumination provided, with graphs of the results. The report concludes that: "It is, therefore, obviously desirable, in the interests of worker and employer alike, that the sight of candidates for fine work should be tested and any defects properly corrected."

#### THE "DRINK-MORE-MILK" CAMPAIGN IN THE UNITED STATES.

THE Danish expert on nutrition, Dr. M. Hindhede, has recently returned from a voyage of discovery, or what would be more accurately described as a tour of critical inspection, in the United States. His impressions are recorded in the journal of the Danish Medical Association, *Ugeskrift for Læger*, for May 31st. The heading of his paper, "The American milk agitation," gives a clue to his own opinions of the efforts made there to induce children to drink more milk. To the casual observer this movement might seem to be inspired by undiluted philanthropy, but Dr. Hindhede has a wonderful scent for the sinister and the dramatic, and his suggestion that capitalism and the farming interest are behind this movement is not to be dismissed offhand. His criticisms fall into two categories: the first may be disposed of in a few words, for in telling such stories as that of the unnamed woman professor who was obliged to resign her appointment because she taught that milk is decidedly not good for any child after a certain age he is not supported by any serious documentation. Also, such vague statements as "I could tell a good deal more of the same kind" are unconvincing. More interesting, and perhaps to some people more convincing, are his criticisms of Professor E. V. McCollum's book *The Nutritional Value of Milk*. This work records experiments in an institute for negro children, some of whom were kept on the institute's original diet, while others were given this diet with the addition of milk. According to Dr. Hindhede, as much as 96 per cent. of this original diet was practically vitamin-free; 3 per cent. contained an uncertain amount of vitamins, and only 1 per cent. contained a more or less ample supply of them. Almost any combination of foods would give good results compared with those obtained with such an unsatisfactory diet; by reducing the vitamin-free proportion of a diet to 52 per cent., and making 42 per cent. of it rich in vitamins, the result, comparatively speaking, must be good, whether the addition of vitamin-rich substances be of milk or of potatoes *plus* other vegetables. Incidentally, Dr. Hindhede points out that, in Professor McCollum's experiment, together with the addition of milk to the original diet, other vitamin-rich foods were increased five times in relation to the calories. Indeed, the milk-fed children received 22 per cent. more calories than those on the original diet. This inequality was, it is true, made good at a later date, but the caloric value of the original diet was brought up to that of the milk diet by the addition of still more vitamin-free foods such as white bread and sugar. Dr. Hindhede suggests that Professor McCollum would have obtained the same results as with the milk diet had he dispensed with milk, reduced the bread ration of the original diet, given wholemeal bread instead of white, and greatly increased the quantity of potatoes and other vegetables. A litre of fresh milk a day for each child is liable to upset the budget of a working-

class family, and the inclusion of much milk in a dietary containing normal quantities of proteins is calculated to be injurious. Referring to Professor McCollum's work and the recent investigations of Dr. Corry Mann (criticized by him in an earlier communication<sup>1</sup>), Dr. Hindhede concludes: "Thus, I cannot see that any proof exists in favour of the teaching that it should in general be profitable to give children a large supplement of milk. The American experiments are just as unconvincing as the English experiment already discussed."

#### CENTENARY OF KING'S COLLEGE, LONDON.

ONE hundred years ago, on June 21st, 1828, at a meeting convened by the Duke of Wellington and the Archbishop of Canterbury, the movement which led to the institution of King's College, London, now an integral part of the University of London, was initiated. Soon afterwards the Crown granted the site adjoining Somerset House in the Strand which the college still occupies, and the new addition to the educational facilities of London came into existence. The illustrious sponsors of the project were moved, perhaps, more by the fear that the newly opened University College, an institution of Radical and Non-conformist colour, might be the means of luring the youth of the "Church and State" party in the rising middle classes from their allegiance than by any passion for the democratization of higher education. King's College was originally, therefore, a very definite rival to the sister institution in Gower Street. The two colleges are still rivals, but in a healthier fashion, and the old party and religious divisions were soon forgotten in a disinterested enthusiasm for learning. In the development of education in the metropolis and in the advancement of science the college has played a large part; it has changed in form and constitution with the establishment of the University of London, the erection of the theological department into a separate school of the University, and the organization of the advanced medical school and the hospital as an independent body. These developments were referred to at a commemorative dinner given at the college on June 21st, when the principal, Dr. W. R. Halliday, in replying to the toast of "The College," spoke of the number of great institutions which it had nursed to maturity and then launched to success. Dr. Halliday added that the time would come when it would be necessary to appeal for funds to carry on the work of the college and to extend its capacity for service. Though flourishing in numbers, he said, it was practically unendowed. Capital expenditure for building which could not be postponed must necessarily be met, and so long as the work of the college was wholly dependent on a fluctuating income from fees, it could not carry on its work as it would like that work to be done. He wanted to convince all members of the college of the overwhelming importance of the present opportunity. Upon their success in turning it to account would depend the future of the college during the years which lay ahead. Great institutions dared not stand still; but—it was best to face the facts—without a very large sum of money they could not go forward. In the course of the proceedings reference was made to the loss sustained by the college through the death of Lord Hambleden, described as "the greatest of its modern benefactors," who was chairman of the delegacy of the college. Lord Hambleden, it will be recalled, was also keenly interested in the welfare of the voluntary hospitals in London, notably in connexion with King's College Hospital, in the administration of which he played a leading part for many years. He participated actively in the business of the British Hospitals Association, and was for a time honorary treasurer of that body.

<sup>1</sup> *Ugeskrift for Læger*, 1928, p. 92.

## MUSEUM OF THE ROYAL COLLEGE OF SURGEONS.

THE Conservator, in his report for the year ending June, 1926, notifies that the additions to the museum of the Royal College of Surgeons of England will be on view in Room I from July 5th (the date of election of new members to the council) until July 28th. One of the largest donations during the year was the Strangeways collection, consisting of several hundreds of specimens of chronic arthritis. These have been handed over to the College by the trustees of the collection, and, with Dr. Strangeways's manuscripts, have been entrusted to Mr. Lawford Knaggs for investigation and revision. The more important research work carried out at the museum includes investigations on nerve suture and nerve regeneration by Sir Charles Ballance, on the pathological changes in cases of colitis by the Conservator, on the evolution of the lymphatic system by Mr. R. H. Burne, and on the anthropology of certain native African races by Mr. L. S. B. Leaky. In the pathological department the curator, Mr. Cecil Beadles, reports the addition of 150 new specimens, and refers more especially to specimens of papillary tuberculosis of the Fallopian tube, carcinoma of the male urethra, old gunshot injury of the brain, necrosis with ossification of the muscles of the thigh following suppuration, the bones from a case of craniocleidodysostosis, malignant endothelioma of the tibia, adamantinoma of the infundibulum, torsion of the gall-bladder, a large lymphadenomatous tumour of the thymus removed by operation, and a fine series of specimens of Recklinghausen's disease showing extensive affection of the cranial, spinal, and sympathetic nerves and the rare condition of involvement of the periosteum (of the tibia) in the hyperplastic process. In a number of specimens (the gift of Dr. William Hunter) from cases of pernicious anaemia are shown the glossitic, gastritic, and enteritic changes which he has described as the starting point of that disease. Two interesting preparations of the afferent vessels of the lymphatic circulation in the cod illustrate Mr. Burne's researches above referred to. Numerous additions have been made in the department of osteology, the most important being an exact cast of the Taungs skull, the gift of Professor Raymond Dart, whose description of the original appeared in *Nature* (February 7th, 1925). In connexion with the compilation of the new catalogue of osteology, Miss Tildesley contributes some interesting notes on skulls from the Andaman Islands, the Dutch East Indies, the Philippines, New Guinea, and the Torres Straits. The Odontological Department, which was closed for structural repairs last year, is now open for the use of students; many additions have been made to the collection, including a series of casts, about 100 in number, presented by Sir James Berry, illustrating the operative measures adopted in the treatment of cleft palate.

## THE ROYAL SOCIETY CONVERSAZIONE.

At the summer conversazione held last week at Burlington House the scientific exhibits in many instances had already been staged at the previous evening function held on May 17th, and were described in our issue of May 26th (p. 912). Of historical interest were the manuscript of Sir Isaac Newton's *Principia* and his marginal notes in the first edition. Drs. Adrian and Bronk gave a demonstration of the impulses travelling up sensory nerve fibres with a rather ingenious mechanism. As each impulse is accompanied by a minute electrical discharge lasting about a five-hundredth part of a second, they amplified the electric changes by thermionic valve, so that when a skin-nerve preparation of the frog set on appropriate electrodes was touched by a camel-hair brush the magnification was sufficient to operate a wireless loud-speaker. Sensory messages can thus be transformed into sound waves, and the same

method can be used to demonstrate the electrical changes accompanying muscular activity. The Marino Biological Association of the United Kingdom gave an interesting demonstration of the modes of respiration in living marine animals, showing how in the varying conditions of existence the animals develop mechanisms for continually bringing fresh sea water in contact with their bodies, a blood circulation with specialized respiratory areas, and respiratory pigments (compounds of iron, copper, vanadium) in the blood to increase its oxygen content. Dr. Pearson and Mr. Hopwood showed specimens of the teeth of fossil animals found in the rocks in China—the so-called "dragon's teeth" of the Chinese medicine men, who use them as charms to cure all manner of diseases. Perhaps the most interesting exhibit of all, and certainly one that attracted much attention, was the demonstration by Messrs. Colour Photographs, Ltd., of their new process of colour photography, which will soon be put on the market. The method would seem to be simple and straightforward enough to be carried out by the average amateur photographer, and when it is realized not only that natural colour transparencies can be taken by the ordinary camera without colour filters or multiple exposures, but that they can be printed on paper in true colours with very little trouble and reproduced as often as is desired, it is probable that the process will become very popular. In order to obtain the negatives a three-ply film pack is inserted into the dark slide in the usual way. The pack is composed of three celluloid films, each about one three-thousandth of an inch in thickness, which are coated with gelatin emulsions of selective colour sensitiveness, and they are arranged in such an order that the front film, which is blue-sensitive, has its uncoated surface towards the lens; next comes the yellow-sensitive film, with its coated side in contact with that of the first; and then behind comes the red-sensitive film. For all practical purposes it may be said that the sensitive surfaces lie on one plane. The photograph of the object is taken in the usual way. It was stated that most of the exposures, certainly for the portraits, were made with half-watt lighting and took about three seconds each. Thus the plate is very speedy in comparison with autochromes, and it is possible that snapshots could be taken outdoor with good lighting. The triple negative is developed, and the three parts appear like ordinary negatives without colour. Each constituent film is inserted in the usual printing frame with a special sensitized transparent cellulose tissue, which is thin but very tough, and they are printed out by direct exposure to light, so that one obtains a yellow, a red, and a blue print from the respective negative films. The printed tissue is simply washed and fixed and hung up to dry. In order to obtain the finished result the red print is wetted and "squeegeed" on to a sheet of paper, a cementing fluid is rubbed over it, the yellow print is superimposed and easily registered, more cementing fluid is applied, and lastly the blue print is put on top, and all of a sudden the true colours emerge and the composite picture is finished. Prints can also be made from panchromatic plates which have been exposed through three coloured filters, and probably this method would give sharper detail.

## OXFORD OPHTHALMOLOGICAL CONGRESS.

THE full programme of the eighteenth annual meeting of the Oxford Ophthalmological Congress has now been issued; preliminary details were given in our issue of March 17th (p. 460). Accommodation has again been offered at Keble College, and members will assemble there informally on the evening of Wednesday, July 4th, at dinner. The meetings will be held in the Department of Human Anatomy at the University Museum, and concurrently there will be an exhibition of ophthalmological instruments and apparatus. On July 5th the congress will be opened

by Mr. Philip H. Adams, the Master, and Professor Leonard Hill will introduce a symposium on "The ultra-violet ray," followed by Mr. W. S. Duke-Elder and others. Subsequently Mr. G. R. de Beer will give an address on "Recent experimental work on the development of the eye and associated structures." The afternoon will be devoted to a series of demonstrations on various aspects of ophthalmology—devices for tests and operative treatment, pathological specimens, drawings illustrating diseases, and the like—and in the evening the annual dinner of the congress will be held in the Hall of Keble College. Professor Arthur Thomson will deliver the Doyne Memorial Lecture at 11 a.m. on July 6th, his subject being "Observations on the eyes of birds." Before this a series of short papers will be given, Lieut.-Colonel Henry Smith dealing with "The nutrition of the lens and vitreous—a speculation," Mr. Burdon-Cooper with "Spectroscopy of the crystalline lens," and Mr. George Young with "Double sclerectomy as now performed by the author." During the last hour of the morning session a paper on "Sympathetic ophthalmia" will be read by Mr. T. Harrison Butler. Arrangements have been made for the members of the congress to visit the Morris motor works in the afternoon. The closing session, on the morning of Saturday, July 7th, will be given to reports of clinical cases, contributed by seven ophthalmologists from various centres. Copies of the programme and other information may be obtained from the honorary secretary, Mr. Bernard Cridland, Salisbury House, Chapel Ash, Wolverhampton.

THE Sheffield Medical School will celebrate the centenary of its foundation on July 11th. Among the ceremonies will be a congregation at the University, when the honorary degree of D.Sc. will be conferred upon Dr. H. H. Dale, Professor Arthur J. Hall, Sir Frederick Gowland Hopkins, Sir Thomas Lewis, and Professor Otto Warburg of Berlin.

AMONG the recently elected foreign members of the Royal Society are Dr. Albert Brachet, professor of anatomy and embryology in the University of Brussels; Emeritus Professor Richard Friedrich Johannes Pfeiffer of the University of Breslau, celebrated for his discovery of the bacillus bearing his name, and for his general researches in bacteriology, immunology, and protozoology; and Dr. Richard Willstätter of Munich, well known for his researches in organic chemistry. Lord Melehurst (formerly Sir Alfred Mond) and Sir William S. McCormick, chairman of the Advisory Council on Scientific and Industrial Research and of the University Grants Committee, have been elected Fellows of the Society.

## THE POST-ENCEPHALITIC PATIENT.

REPORT BY DR. ALLAN PARSONS.

THAT mysterious and distressing malady encephalitis lethargica continues to elude the attacks of the research worker; and the clinician is in no better case, since diagnosis is hampered by the protean manifestations of a disease which was stated by Sir Farquhar Buzzard to be "almost defiant as to treatment and prognosis." It is not surprising, therefore, that Dr. Allan C. Parsons, a medical officer of the Ministry of Health, has found his path beset with difficulties in reporting an inquiry undertaken by him into the after-histories of persons attacked by encephalitis lethargica.<sup>1</sup> Dr. Parsons was largely responsible for a comprehensive report on the epidemiology and clinical features of the disease, published by the Ministry five or six years ago, and discussed in the *British Medical Journal* of October 7th, 1922 (p. 654). His former efforts are admirably supplemented by the document now before us, which has been issued by the Ministry this week.

<sup>1</sup> Ministry of Health Reports on Public Health and Medical Subjects, No. 43, 1923. H.M. Stationery Office. Price 4s. 6d.

The first part of Dr. Parsons's report contains an analysis of data concerning some 3,500 patients, about one-fifth of the total number of cases notified from January, 1919, to December, 1926. The analysis shows that in every 100 cases investigated three years after the primary illness 25 patients, on the average, will have survived without serious consequences, 35 will have died, while 40 will have become more or less disabled in mind and body, or both. It is with the ultimate fate of the forty that the rest of the report is mainly concerned, in the hope of riveting attention on the serious consequences of the disease and the necessity for special consideration.

### *Defective Notification of Encephalitis Lethargica.*

The first difficulty upon which Dr. Parsons lays stress is defective notification. For this many reasons can be assigned. There is the comparative novelty of a condition which was first described by von Economo of Vienna in 1917. In the following year in this country Dr. Wilfred Harris and Professor A. J. Hall simultaneously directed the attention of the medical profession to series of cases, "presenting somewhat remarkable features," which had been observed by them in London and Sheffield respectively. The manifestations of a disease which has only been described so recently, and the incidence of which, in terms of population, is not great, are still unfamiliar to many practitioners. The onset is often insidious and the early symptoms slight. Epidemicity hardly exists away from large centres of population, and positive bacteriological tests are not obtainable. Then, again, many patients consult a doctor for the first time when they are already suffering from late effects of the disease, and many of the missed cases, when ultimately recognized, are not formally notified. The Health Department of the London County Council recently discovered 269 children suffering from late effects of encephalitis lethargica who had never been notified. Dr. Parsons estimates that for every 100 cases notified 50 to 75 cases are not officially reported.

The causes of imperfect notification help also to explain local differences in mortality. Taking the year 1924, which was noteworthy for a very marked epidemic form of the disease, though by far the least fatal of the nine years under review, Dr. Parsons explains the low mortality figures in Sheffield and Glasgow, as compared with Newcastle and Lancashire, by differences in the extent to which mild cases of the disease were recognized. Intensive study in the former towns meant not only the bringing to light of a larger number of mild cases, but also the excluding of some other fatal conditions from the encephalitis lethargica list.

### *After-Effects in Adults.*

There is the further difficulty that a patient after recovering quickly from a mild attack of the disease, and remaining well for months or sometimes years, may develop sequelae which in the end may even prove fatal. In proportion to the comparatively small number of persons attacked there is probably no infectious or contagious disease in this country which produces so much consequent ill health and disablement as encephalitis lethargica. And, though the results of the disease in children are deplorable, and have attracted much attention, Dr. Parsons is concerned to show that the effects on a wage earner or on his wife are no less deplorable. The case of the dribbling "old man" of 15, hunched up in his chair, impassive and slowly dying of Parkinsonism, is set beside that of the intelligent workman who loses job after job and eventually drifts into a Poor Law institution or an asylum, and that of a housewife who becomes lethargic and melancholy, incapable of attending to the needs of her husband, her children, or herself. The pathos of these pictures drawn by Dr. Parsons in his report is relieved to some extent by the account of the female Parkinsonian patient at West Park Mental Hospital who, taking part in some athletic sports, came in first in the 100 yards race! As Dr. Parsons says, *Vires acquirit cundo*. The variability of this symptom or syndrome, which occurs in perhaps 30 to 40 per cent. of those suffering from sequelae, is shown by the record of the young woman whose case seemed hopeless on account of severe Parkinsonism who eventually earned her living as a dancer.

*Classification of Mental Sequelae.*

The late mental manifestations of encephalitis lethargica have been described under many headings. Dr. Mapother broadly classifies them into (a) morbid restlessness, (b) demoralization, (c) "mental anergia." Restlessness he thinks characteristic of cases in children under 8, demoralization in juveniles between 8 and 20, while mental anergia is most common in those over 20 years of age. Dr. Parsons seems to prefer a broader grouping into the depressed and the excitable, and quotes a writer who puts post-encephalitis patients into two groups—"the irritable group of patients who get into trouble with the police or try to throw themselves under a train, and the apathetic group, content to stay at home and look at the fire."

About 27 per cent. of those who suffer from sequelae show symptoms of mental impairment. Sleep disorders are troublesome, and especially the insomnia which turns night into day—the "inverted sleep rhythm" so common in children. A curious occasional sequel is abnormal fatness. A fortunately rare sequel in bedridden sufferers is bedsores. In summing up the differences between the effects of encephalitis lethargica on adults and children, Dr. Parsons says that children show more signs of restlessness and excitement than do adults, whose reactions are more passive and negative. Conduct perversion is common in the former, confusion and the usual symptoms of insanity in the older patient. Some physicians state that children are, generally speaking, more prone to mental, and less to physical, sequelae than are adults.

*After-Care and Control.*

In dealing with the after-care and control of disabled patients Dr. Parsons points out that there is little difficulty in securing treatment for those in the acute stage of the disease. General hospitals are quite willing to admit such patients, the risk of infection to other patients or the nursing staff being very slight. The risk, however, appears to be not completely absent, and instances of infection have been noted in Lancashire and at Portsmouth.

When the acute stage passes off a time arrives when the general or the fever hospital finds the patient no longer welcome, and his bed is required for more urgent cases. Yet the patient is not fit to resume his normal occupation, and in many cases is unfit to resume home life. It appears from the report that a variety of institutions and bodies exist to whose care such a patient can be entrusted; and yet the position, according to Dr. Parsons, is not satisfactory. The Guardianship Society at Brighton may board the sufferer out in a carefully chosen family, or assist in obtaining training and employment suitable to his capacity, and by visiting take a friendly interest in his moral and material welfare. The local education authority may allocate for further care and education children whose training has been impeded by mental or moral deterioration, or may transfer a child to a "special school." The Metropolitan Asylums Board has an "encephalitis lethargica unit" at its Northern Hospital at Winchmore Hill, and other institutions such as Darent Training College. If the mental condition of the patient is such that he can be certified, he will come under the care of the Board of Control; while the Poor Law authorities are largely concerned with poor persons who suffer from the after-effects of encephalitis lethargica.

But, failing all these agencies, a number of post-encephalitis patients are bound to come under the purview of the Home Office, owing to their appearance in a magistrate's court. Dr. Parsons summarizes the various methods—including whipping—which are applicable to juvenile offenders, and shows how frequently offenders may drift into reformatories or Borstal institutions. It is interesting to learn that in some cases the discipline of such institutions has a markedly good effect on the young post-encephalitic patient. The fact remains, however, that, notwithstanding the long list of institutions to which patients may be sent for after-care and control, Dr. Parsons finds that considerable administrative difficulties exist in dealing satisfactorily with certain individual cases or even groups of cases.

*Disposal of Difficult Cases.*

The question of disposal is governed by two considerations: (a) the age of the patient; (b) the nature and extent of his incapacity, especially as regards mental changes. At the school-going age the attention and discipline of the normal children are distracted by association with a post-encephalitic child. On the other hand, the conduct changes in such a child impose severe strain upon teachers in schools for backward children. In many cases, therefore, committal to a reformatory or an industrial school becomes necessary; and during the year 1924 it was found that in about 8,000 children and young persons under detention there were at least 26 with a history pointing to encephalitis lethargica. By the end of the following year 87 such children had been admitted to these schools.

In adolescents the apathic post-encephalitic presents a difficult case. When his period of detention and reformatory training is over, his return home is liable to lead to relapse. If he is transferred to a Poor Law institution, the guardians, unless they adopt him, have no power to retain him unless he wishes to be retained; and the power of adoption only applies so long as the patient is under 18 years of age.

In the majority of older patients the problem, though tragic, is generally domestic. From the medical side the degree of mental disablement is the determining factor in the disposal of the patient; and unfortunately certification is rarely possible except after a lengthy and miserable period of progressive mental or physical deterioration.

Dr. Parsons concludes that the great difficulty lies with patients who, by reason of profound mental disturbance or in consequence of serious moral delinquencies, require special supervision and control in the interests both of themselves and of society. It is especially with the case of the juvenile in this class that the difficulty arises; and it is necessary to consider not only the probable effect of any particular kind of institution upon the patient, but also the patient's effect upon the institution—its normal inmates and staff.

In addition to these troublesome sufferers, consideration has also to be given to the problem of those who have become incapable of fending for themselves, and, while not attracting the same public attention, cause much domestic anxiety and expense. They are often helpless and apathetic creatures, erratic in their behaviour, and absorbing much of the time and energy of their relatives. Such patients tend to wander in and out of a variety of different institutions, without any benefit to themselves or permanent relief to their friends' anxieties.

*Special Institutions: Merits and Defects.*

It is evident that Dr. Parsons leans to a solution of the problem of the treatment of the post-encephalitic by the establishment of special institutions. In his view such institutions would not only lead to improvement in the condition of some of the patients and provide suitable supervision for the rest, they would also serve as valuable clinics for the study of the after-effects of the disease. He admits, however, the existence of an opinion that the association of all classes of cases in such an institution might be too close, and that individual patients might suffer in consequence. And the experience at Winchmore Hill has already suggested that one of the functions of a special institution should be the preliminary sorting of patients. It is noted also that those in charge of the French encephalitis unit—La Colonie de Perray-Vaucluse—receiving boys from 6 to 16 years of age, are doubtful about the value of establishing special institutions for such patients, and consider that they would be better treated under arrangements already existing for backward or mentally impaired children.

It will be gathered from what has been said that Dr. Parsons's inquiry forms a valuable addition to the reports on public health and medical subjects issued by the Ministry of Health; it sets forth ably and in an interesting manner the difficulties connected with the treatment and disposal of the post-encephalitic patient; and it suggests for discussion a possible solution of these difficulties.

## Scotland.

### Scottish Hospital for Crippled Children.

A PUBLIC meeting, under the chairmanship of the Lord Lieutenant, was held at Peebles on June 19th, in connexion with the scheme for building a hospital for cripple children to supply the needs of the south-east area of Scotland, which was outlined in the *British Medical Journal* of May 19th (p. 873). Sir David Wallace, F.R.C.S., who described the proposals, said that one criticism that had been heard was that one or other of the present hospitals might be used for this scheme, but the answer to that was that a central special hospital was essential to co-ordinate the whole scheme. In this there would be a competent surgeon to deal with all the cases, and in it all the essential work would be done. In the cottage hospitals of outlying districts the patients would be treated after the necessary stay in the central hospital. The surgeon of the central hospital would also visit outlying districts and give advice. They were asking from the charitable public a sum of £75,000 to carry the scheme into effect, and, after this, maintenance of the patients would be provided by the local authorities and from Government grants. The scheme would also be of great service in helping to reduce the waiting list in connexion with large institutions, such as the Royal Infirmary of Edinburgh. A committee was appointed to secure support for the hospital in Peeblesshire. Donations amounting to approximately £27,000 have already been received for the hospital.

### New Home for Blinded Sailors and Soldiers in Glasgow.

The Lord Provost of Glasgow, Sir David Mason, on June 11th, opened a branch of the Scottish National Institution for Blinded Sailors and Soldiers at 2, Queen's Crescent, near St. George's Cross, Glasgow. The institution has since the war been accommodated at Newington House, Edinburgh, where the headquarters still remain, but it has been found desirable to open a workshop in the West of Scotland, and the new quarters will provide accommodation for nineteen men. The Rev. Dr. Thomas Burns, chairman of the institution, who presided, said that since the institution was inaugurated in 1915 over £166,000 had been contributed to its funds. The occupations in which men had been trained included boat repairing, basket, brush, and mat making, poultry farming, and pig breeding. The men, after conclusion of their training, had been settled at various places throughout the country and had been assisted with a settlement allowance of £150 in each case. In all 140 men had been trained and most had done well afterwards; some, however, had found great difficulty in obtaining orders and were handicapped by lack of accommodation in their homes for the work. The committee had in operation workshops in Edinburgh and Glasgow, where the men not only could carry on their occupations to advantage, but had the benefit of companionship and daily intercourse. In the workshops at Newington House, Edinburgh, thirty trained men were now employed, and it was hoped that similar success would attend the Glasgow branch. Lord Provost Mason, in declaring the branch open, remarked that the hardship imposed by the necessity of travelling would be minimized. The work at Newington House, Edinburgh, had proved a great blessing, and was deserving of whole-hearted public support. He hoped that the citizens of Glasgow would give their cordial support in the way of orders to the men employed in the local workshops.

### Larbert Colony for Mental Defectives.

A meeting was held at Larbert House on June 16th, under the auspices of the Royal Scottish National Institution, Larbert, with the object of enlisting public support for the industrial colony scheme for the care of mental defectives. Sir Alexander Gracie (Glasgow), chairman of directors, presided, and said that in purchasing the large estate at Larbert House the directors had undertaken a great responsibility, but they hoped to be able soon to secure the necessary amount of money for the erection of

the buildings. The scheme had been largely supported in Edinburgh, but Glasgow had done relatively less for it than any other place. Dr. R. D. Clarkson, medical superintendent of the institution, also addressed the gathering, and explained that it was very necessary from the Scottish national point of view that the scheme should be completed as early as possible. The visitors afterwards inspected the mansion house, which is at present being used for thirty-six cases whose relatives can afford to pay. A number of the children performed musical games and gave demonstrations of physical exercises. This institution is the only national voluntary organization in Scotland for mental defectives; it has been in existence for the past sixty-eight years, providing a home and training for over 500 defectives under 21 years of age for a considerable time past. There is, however, at present no proper provision for many defectives over the age of 21 years, and it is to remedy this that the directors of the institution have purchased Larbert House and estate with the object of building up an industrial colony for such defectives. A sum of £50,000 is still required before the scheme can be completed. A commencement is to be made with the erection of some of the buildings at an early date.

### Hospital Accommodation in Edinburgh.

Considerable interest has been recently taken in the future of Craigleith Hospital, Edinburgh; it was used during the war as a military hospital, and afterwards by the Ministry of Pensions, and reverted to its original proprietors, the Edinburgh Parish Council, on May 28th last. The matter was considered by the Parish Council on June 18th. It was pointed out that the hospital and children's home could be made available for occupation in a very short time and that the two present Poor Law hospitals at Craigleith and Seafield were much overcrowded. It was finally decided to remit the whole question to a committee, with full powers to arrange for the reconditioning and occupation of the children's home, which is adjacent to the hospital, and for the reconditioning and use, immediate and future, of the main buildings. It was intimated that approximately £11,000 was available, representing the sum which had been received by the council from the Scottish Command in respect of structural reinstatement of the buildings, and which had been held in suspense since 1921.

### Noise in Relation to Health.

The Public Health Committee of the Edinburgh Town Council recently considered the question of noises during the night in relation to their effect on health. The matter was brought up on a letter received from the Edinburgh and Leith Division of the British Medical Association, recommending that the local authority should seek greater power to suppress unnecessary noise in the night, by having it declared that any noise between 11 p.m. and 6 a.m. which is capable of being prevented or mitigated, and which is dangerous or injurious to health, should be a nuisance within the meaning of the Public Health Acts. By this means it was considered that the public health authority would obtain powers to deal with such disturbing factors as discordant noises produced by motors, noise and vibration caused by heavy vehicular traffic through residential areas, uncontrolled barking of dogs, and the noisy dispersal of evening parties. It was reported to the committee that there was no evidence to show that ordinary noises of the street had a prejudicial effect upon the organs of hearing, although interference with natural sleep and detrimental effects on the nervous system should be considered as the more important effects of noise and excessive vibration. The report of the Division was minuted by the Public Health Committee for further action.

### Proposed Crematorium for Edinburgh.

The Edinburgh Cremation Society, which has been in existence for a number of years, has now obtained an option from the town council to purchase the house and grounds of Easter Warriston as a site for the erection of a crematorium. Arrangements are being made to form a public company with a view to raising the capital required.



The grounds are very attractive, and the house is a handsome stone building in good condition. Sir Robert Lorimer, R.S.A., has prepared plans for adaptation of the house with chapel, columbarium, retiring rooms, incinerating chambers, etc. The site occupies two acres and lies immediately to the east of Warriston Cemetery.

#### Chiropodists' Conference.

The Scottish Branch of the Incorporated Society of Chiropodists held its summer conference in Edinburgh on June 16th. The morning session of the conference was held at the Edinburgh Foot Clinic in Newington Road, where Mr. C. W. Cathcart, F.R.C.S., welcomed the delegates. He remarked that they were trying to get a register as a definite body, and said that even if they were disappointed for a time he would advise them to hold on and continue trying, and he had no doubt that in the future a definite register of chiropodists would be formed. He gave some interesting personal reminiscences of Lord Lister, under whom he had been a student, and described in detail various of Lister's operation methods. Dr. Cranston Low, physician to the skin department, Edinburgh Royal Infirmary, gave a lecture on some skin diseases affecting the foot, illustrated by wax casts, and at the evening session of the conference Miss Gertrude Herzfeld, surgeon to the Royal Hospital for Sick Children, gave an address on some problems in the diagnosis of foot conditions.

## England and Wales.

#### The Order of St. John and the British Red Cross Society.

STEADY progress in most of its activities is recorded in the eighth report on the work of the Joint Council of the Order of St. John of Jerusalem and the British Red Cross Society. The report covers the period from April 1st to December 31st, the joint council having decided to close its financial year on the latter date instead of on March 31st as formerly; future reports will deal with the work of the calendar year. The number of cases helped by the department of auxiliary hospitals for officers now totals 17,789, most being ex-officers suffering from tuberculosis. Grants for bedside occupational work were made to nine hospitals, six being institutions under the Ministry of Pensions, and the value of these grants, as reflected in the outlook of the patients concerned, has been considerable. It is proposed to change the name of the fund making this provision to the "Ward industries fund." Between 900 and 1,000 men benefited from these grants during the period under review, and teaching and training were provided in twelve handicrafts. The emergency help scheme continues to do an exceedingly useful work in assisting sick and disabled ex-service men and their dependants who are unable to obtain relief from any other source. Over 30,000 new cases were dealt with in 1927. While this shows an increase on the previous year's total, the amount expended in grants was considerably less, and it is expected that the need for such relief will gradually decrease. The funds available are the residue of resources raised during the war, and they are being heavily depleted year by year. It is anticipated, however, that it will be possible to maintain the work, perhaps in an amended form, for some years. Many of the recipients of relief, the report again notes with satisfaction, have made voluntary refunds of amounts advanced. Over £11,500 was so repaid in 1927. Reference is made to the work of the Home Service Ambulance Committee, whose activities in this period, notably in the development of a first-aid service on the roads, were reviewed in the *Journal* of April 7th (p. 603). The mobile x-ray service has been increasingly employed, and although the unit is primarily intended for work near London, it has during the past year been sent as far as Cumberland. It is recorded with regret by the Tuberculosis Committee that a Leeds organization which had for over six years employed an average of 100 tuberculous men—largely ex-service pensioners—has gone into voluntary liquidation. There has again been a considerable shrinkage in some of the joint council's sources of

income, but exact comparison with the previous accounts is not possible, owing to the change in the accounting period and the fact that some classes of income are seasonal in their recurrence.

#### The Winsley Sanatorium.

The number of patients received in 1927 at the Winsley Sanatorium for Consumption, near Bath, was 354, this being above the totals for the two preceding years, but considerably below the number of admissions in the years 1922-24. In the later years, it is interesting to note, the average time spent in the sanatorium by patients treated to a conclusion has grown appreciably. In his report the senior resident medical officer, Dr. J. D. Macfie, discussing the value of graduated labour as practised at Winsley, regrets the tendency in certain quarters, notably among the younger medical superintendents and tuberculosis officers, to decry this. Dr. Macfie holds that the psychological factor is of the greatest importance in the treatment of pulmonary tuberculosis and, if finance permitted, he would like to see the grade system further developed at Winsley on the lines of the Papworth Colony. During the year there was a large increase in artificial pneumothorax cases; this procedure was attempted in thirty cases, in three after a spontaneous pneumothorax had taken place. There were three failures, and in four cases there was only a partial collapse, while in the remainder a good collapse was obtained. Sanoerysin is now being employed at the sanatorium, and a trial is being made with zomine, a preparation invented by Professor Charles Richet of Paris, regarding which Dr. Macfie states that he has not had enough cases to offer any final opinion, but that so far he is satisfied with the results. Tuberculin has been used occasionally; the only patient it seemed to suit was a pulmonary case complicated with tuberculosis of the kidney.

#### Reconstruction of the Middlesex Hospital.

The foundation stone of the west wing—the first part of the reconstruction scheme—of the new Middlesex Hospital building was laid on June 26th by the Duke of York. Prince Arthur of Connaught, the chairman, stated that the entire cost of the reconstruction would be £1,001,670. Since the launching of the scheme three years ago they had received £405,500, so in the course of the next five years, the period needed to finish the work, they had to obtain the sum of £596,170, and £137,700 was required by the close of the present financial year. The governors had set themselves to build a new hospital, a fully equipped outpatient department, and special departments. They would have to endeavour to provide a block for paying patients, as it was certain that in the near future no hospital would be considered up to date unless its service was so extended. In his speech after the ceremony the Duke of York, who was accompanied by the Duchess, recalled that for more than 170 years the Middlesex Hospital had ministered to the needs of many thousands of sufferers. Three years ago the governors were faced with a grave problem; serious defects in the fabric of the building were found, and the board was called upon to make a momentous decision. They now saw the first result of these careful deliberations in the laying of the foundation stone of the new hospital, of which that wing was only the first section. There was ample evidence that the courageous policy of the board was endorsed and approved by the public, who had already contributed very largely to the rebuilding of the hospital. The contributions of the anonymous friend who gave £200,000 for a new nurses' home, and of Mr. S. A. Courtauld, who has provided and partially endowed the new biochemical institute, referred to in our last issue (p. 1083), the Duke described as "magnificent." Continuing, he said there was every justification for the view that the public was becoming more keenly aware of the value of good health, both to the individual and to the community. Those who took part in the rebuilding of the hospital would be sharing in this great national work. He trusted that the new Middlesex Hospital might prosper in the noble task that lay before it. The Duke and Duchess afterwards visited the medical school, the Bland-Sutton Institute, and the Courtauld Institute of Biochemistry.

## Ireland.

### The Local Authorities Bill.

THE Local Authorities (Officers and Employees) Bill was introduced into the Dáil recently by Mr. De Valera, its object being to amend the Local Authorities (Officers and Employees) Act of 1926 in one particular. That Act provided that appointments under local authorities should be made on the nomination of a central board set up by the Government, the Local Appointments Board, only one nomination being made in each case. Mr. De Valera proposed that, instead of naming one person to be appointed, the Board should submit a panel of names from which the local authority should choose one; his argument was that the local authority should not be deprived of all power of choice in the selection of its officers. In opposing the bill Mr. W. Cosgrave, President of the Executive Council, said that the Act had been introduced for one main purpose—to secure in the appointment the best qualified person. Under the bill now before the House local authorities were to be invited to ask for a panel of not less than three, which would mean that canvassing and local influence would be resurrected. The purpose of sending down more than one name could only be to invite the local authorities to appoint someone other than the best qualified candidate. He further stated that the standard of applicants for the various posts had been good. Mr. E. Blythe, Minister for Finance, agreed that an inquiry into the working of the Act might be extremely useful. One of the results of the present system was that there had been great numbers of candidates coming forward, which showed that they had confidence in the methods by which they would be appointed. He saw no reason why officials should be chosen by a particular local authority, just as he saw no reason why civil servants should be chosen by a Minister, because officials were no more the servants of the council or local authority than civil servants were the servants of the Minister. Dr. T. Hennessy said that before the passing of the Act it often happened that a candidate—a medical candidate—passed his final examination one day, had his degree conferred, and then went down the day afterwards, and was elected to a position. Professional experience had mattered little so long as he had enough influential friends on the local board. Dr. Hennessy added that no defeated medical candidate had yet invited any body charged with the defence of professional interests to investigate the facts of an appointment on the ground that he had been unfairly rejected. It is expected that the bill will be defeated.

### School Medical Services.

At a conference of national school teachers held recently in Carlow, Dr. Robert Condy, medical officer of health, stated, in connexion with the medical inspection of school children, that it was the right of every child that his school life be passed with the greatest possible freedom from physical defects. If every child entering school received a thorough physical and mental examination, and was then dealt with according to his particular needs, from the infant up to the highest standard, the result would, in almost all cases, be a first-class health certificate when leaving school. Education without health was useless. The health of the growing child in nearly all cases determined the health of the adult. Dr. Condy suggested that no scheme for the treatment of school children could be complete unless consideration were given to those children under school age who were known to be defective, and the condition remedied without waiting until the child became of school age. The location, structure, and management of school premises and playgrounds was of much importance. A healthy, clean, sanitary environment, the betterment of home conditions, and the education of the parents and children in the prevention of disease were most essential objects. A well-trained school nurse was a link between school physician and teacher. The teacher needed the advice of the school nurse, and together they formed a combination which was bound to have a far-reaching effect on the health of the children.

## Correspondence.

### GASTRIC AND DUODENAL OPERATIONS.

Sir,—In to-day's issue of the *British Medical Journal* (June 23rd, p. 1055) Mr. Strong Heaney expresses his "belief" that my practice in regard to the surgical treatment of duodenal ulcer is an approach to that of the advocates of gastrectomy. I wonder why!

I do not perform gastrectomy for duodenal ulcer. I have not harboured one thought, uttered one word, written one line in its favour. I think it needlessly severe. The published experiences of those who perform it leave me quite unconvinced by their advocacy, and deeply confirmed in my contentment with simpler, safer, yet equally effective methods of treatment.—I am, etc.,

Leeds, June 23rd.

BERKELEY MOYNIHAN.

### MIDWIFERY MORTALITY.

Sir,—I would like to submit the following observations for the consideration of your readers. This increased mortality, if it is real—I have no statistical information on the matter—is due to the shortsightedness and stupidity of a body of medical men, who advised the Government of the day, when the Midwives Bill was introduced, that it was desirable to establish a licensed body of midwives, a trained body, to take the place of the untrained and ignorant women who acted in the capacity of nurses, but who did nothing—did not attempt to do anything—except wait by the bedside of the labouring woman: the responsibility for any examination, opinion, or interference, was laid upon the doctor.

In those days the doctors attended a large number of confinements (100 to 200 per annum) for relatively small fees—£1 1s.; in some districts 10s. These confinements constituted the backbone of a general practice. They were the criterion upon which its value was determined: the reputation for efficiency of the medical practitioner was popularly assessed by his skill in conducting midwifery cases; the loss of a maternity case, especially from puerperal fever, was the most serious thing that could happen to him. The very large experience he acquired, together with the advice and assistance he received from his elder brethren, very soon rendered him highly efficient. His income from his midwifery practice was from a sixth to a third of his total receipts.

All this has changed—partly owing to the Insurance Act, mostly to the establishment of a body of midwives who are licensed to attend cases, who are quite good as far as they go, but who are totally unfit to take the responsibility thrown upon them. Their existence has taken away from the medical practitioner a large mass of experience and a large slice of his income. He is now only asked to see the 10 per cent. of abnormal cases, while at the same time he is deprived of the experience which alone can enable him to distinguish the normal from the abnormal. If he is a wise man he will not attend midwifery cases at all if he cannot make £100 out of 100 simple and difficult cases; it is better for his reputation not to attend any. He cannot ask ten guineas for the difficult 10 per cent. of the cases. But still more serious is the fact that the reduction in the number of his cases has resulted, or must result, in rendering him inefficient—he has no longer the experience which alone can make him efficient; this is what the original advisers of the Government of that day failed to see. It did not matter for ten or fifteen years—there were plenty of efficient doctors then; that is not the case now, or it will not be soon. Very few medical men now have an experience of 1,000 cases, which, in my opinion, is necessary to make a man efficient in any part of his work.

In more ways than one the authorities appear to be losing sight of this fundamental fact. There is a tendency to create, for various purposes, bodies of whole-time doctors whose services are not available to the general public. From an administrative point of view this is probably the easiest and the best method, but it must have the evil effect of rendering less efficient the practitioners who are available to the public.

This is too serious a matter to be ignored. It was ignored when the Midwives Bill was passed, with the present or coming result that the public will have at their command a body of practitioners who cannot get the experience they must have to render them efficient, and a body of midwives whose professional training cannot render them capable of bearing the responsibility thrown upon them.—I am, etc.,

London, W.I, June 8th.

DAVID ROXBURGH.

#### PUERPERAL SEPSIS.

SIR,—I read with pleasure three articles on puerperal sepsis in your issue of June 8th. The address by Dr. James Young of Edinburgh interested me most, chiefly because of certain conclusions he arrived at.

In the first place, Dr. Young says there is evidence that trauma is the most important cause of the death rate from sepsis. I have long held this view. During the past twenty-six years I have, in general practice, attended slightly over four thousand confinements, and years ago I noticed how important a factor trauma was in puerperal sepsis. I do not recollect having a case of puerperal sepsis without it. Many times I have removed an adherent placenta by introducing the hand into the uterus, and have performed this operation in surroundings far from ideal—a dirty room, with a patient who had rarely enjoyed the luxury of a bath, lying on an unclean bed—and never with a bad result. Such cases always caused me much less anxiety than those in which trauma existed.

In the second place, Dr. Young concludes that there is need of an improved machinery for maternity practice based on a midwife-doctor combination. Such a combination is, undoubtedly, all-important. For several years I have insisted on better-class patients going to a nursing home to be confined, and the poorer classes I have refused to attend unless with a certified midwife co-operating. Since following this custom I have not had a single case of puerperal sepsis.

I am convinced that most cases of puerperal sepsis are due to trauma following the improper use of forceps. The doctor is busy, the patient impatient, and instruments are applied hurriedly and too early. With a competent midwife present this does not happen. She soothes the patient and her relatives till the time is ripe for the physician's appearance, and very often such cases end naturally, whereas if the doctor is working alone, or with the aid of one whose only qualification lies in the fact that she is "the mother of a dozen," forceps are applied early, with the usual lacerations and accompanying perils.—I am, etc.,

Dundee, June 18th.

HENRY BUIST, M.B., Ch.B.Ed.

#### ANAESTHETICS AND DIABETES.

SIR,—In the *British Medical Journal* of June 16th (p. 1017) Dr. George J. Laughey, in discussing operations upon diabetic patients, writes: "Chloroform is countermanded as an anaesthetic, but ether appears to be quite safe." This view, in regard to the safety of ether, is probably optimistic, especially if one also considers the ultimate results.

Thus Dr. O. Leyton, in the recent edition of *Treatment of Diabetes Mellitus*, writes: "In my experience the general anaesthetics—chloroform, ether, and nitrous oxide—have caused comparatively mild diabetes to develop into a serious condition." Dr. Leyton emphasizes the point that the effects may not be apparent at once, and cites a case in which the carbohydrate tolerance three months after operation (in which ether was used as an anaesthetic) showed a marked reduction. Hadfield, in *Practical Anaesthetics*, writes: "Chloroform is undoubtedly the most likely to cause this disaster [that is, coma], but ether is not very much better." Campbell and Macleod, in their monograph on *Insulin*, state that, "Ether should be used sparingly, if at all; chloroform never."

In these cases where an infection is present the deleterious effect of the anaesthetic is often obscured by the beneficial effect on carbohydrate tolerance that results from removal or drainage of the septic focus. It is generally agreed that chloroform should never be used, and most people are

also of the opinion that ether should not be employed unless it is essential for the operation. With the advance in the technique of local and spinal anaesthesia such circumstances should rarely occur. Gas and oxygen is considered to be preferable to ether although not free from objections.—I am, etc.,

London, N.W., June 25th.

S. LEVY SIMPSON.

#### IMMUNITY FOLLOWING HERPES.

SIR,—In regard to the recent correspondence on this subject—by Dr. James Taylor (May 26th, p. 920), Dr. H. W. Gell (June 16th, p. 1054), and Dr. H. E. Nourso (June 23rd, p. 1089)—it must be admitted that recurrence of genuine herpes zoster is occasionally seen, but I think that cases of typical "recurrent herpes" of the buttock or elsewhere should not be admitted as evidence against the teaching that true herpes zoster ordinarily confers immunity unless, indeed, it can be shown that the cause of recurrent herpes is the same as that of true herpes zoster. Amongst cases of "recurrent herpes" which have been described as cases of recurrent true herpes zoster I would include that of W. Richter,<sup>1</sup> partly owing to the actual illustration of the eruption that accompanies the description. The illustration shows a vesicular eruption in the lower left part of the abdomen of a woman, aged 46 years, and a similar eruption recurred during fourteen years in that situation whenever menstruation was much delayed on the day when the period should have commenced. Quite a number of the cases of "recurrent menstrual herpes" have been of gluteal distribution. The earliest reported case of recurrent gluteal herpes, according to Adamson, was that described by Bertholle in 1876. It was in a man aged 48, and may be compared to that in a man aged 32 years recently described by Dr. M. Obermayer as one of recurrent true herpes zoster. I have referred to many cases of "recurrent herpes" of the buttock or thigh in a recent paper.—I am, etc.,

London, W.I, June 23rd.

F. PARKES WEBER.

#### GLAUCOMA AND THE CAPILLARY CIRCULATION.

SIR,—It interests me much that Dr. Maitland Ramsay regards the state of the kidney in glomerulo-nephritis as analogous with the state of the eye in glaucoma, for, working on the renal state in eclampsia, I have looked at glaucoma as an example of a similar pathological process. Not that these two states, in their genesis, are comparable, but in their end-results. The increase of intraocular pressure causes blindness by interfering with the nutrition of the essential cells of the retina (by affecting the retinal capillary blood flow): in the pregnant woman, the rise of pressure on and within the kidney, by obstructing the blood flow through the kidney, causes degeneration and necrotic changes of renal tissue cells. I have maintained for some years that the visceral state in eclampsia is an example of ischaemia: the condition of the retina in glaucoma seems another example of this very common condition—witness the present discussion in your columns on "ischaemic contracture."

Dr. Ramsay believes that both these conditions—that is, glaucoma and glomerulo-nephritis—are due to a toxin. According to him the toxin causes a dilatation of the capillaries and an increased permeability of the capillary walls. I do not think this view can be maintained. In the case of the kidney, eclampsia occurs so often in the best type of pregnant woman, the healthiest and strongest, that the imputation of a toxin is unreasonable. In the case of glaucoma, although a toxin or an increase of waste products in the blood may always be present and be the predisposing cause, it does not seem to explain the condition in the way supposed. If the toxin acts primarily on the capillaries, causing their dilatation, etc., then if the supplying arterioles remain patent and the veins are not obstructed, however permeable the intraocular capillaries become, a continued blood flow—not a stagnation—through the eye must occur. The intraocular capillary blood flow must be continued because of the (up to now normal) pressure within the eye, which

<sup>1</sup> *Deut. med. Woch.*, 1925, li, p. 1279.

<sup>2</sup> *Medical Press*, 1928, clxxvi, p. 500.

"supports" the capillaries, and tends to prevent an undue dilatation. There must be some factor other than a simple dilatation of the capillaries: that factor seems to be an increase of pressure within the eye, and that increase of pressure the result of a chemical change.

"It is not the push of a capillary pressure," says Leonard Hill (p. 919), "but the penetrability of the endothelial membranes and the pull of the tissue cells, which is of first importance"—in the genesis of glaucoma. Duke-Elder (p. 1000) agrees. "Changes in the vitreous," says the latter, "are probably the most important factor," causing the increase in penetrability. We have only to assume that the osmotic pressure of the vitreous rises (for which, perhaps, there is reason) to see that an increase in volume of the vitreous and a rise in intraocular pressure would occur. The lens must thus be thrust forward, which would result in the exit of the aqueous into the canal of Schlemm being obstructed. The result must be an increase of pressure on the retinal capillaries, an obstruction to the blood flow, and an impairment in function of the retinal cells. Thus, in the case of the eye, if a toxin be present it would seem to act by affecting the vitreous, raising its osmotic pressure; in the case of the kidney of a pregnant woman about to become eclamptic no such toxin is necessary to explain the renal state.

It is clear that the flow of blood through the capillaries is of paramount importance for the health of the tissue cells, and it is at least reasonable to believe that the tissue cells, in respect of their varying activity, determine and control the blood flow through the related capillaries—doing so always except when pressure conditions arise interfering with the mechanism. Man consists of a mass of tissue cells, for which the blood and the capillaries exist: the tissue cells, not the endothelial cells of capillaries, are the master cells of the body. The pressure of the tissue cells upon their related capillaries must, as Leonard Hill has consistently taught, always be approximately the same as the pressure of the blood within those capillaries. The capillaries are such thin-walled structures that if the pressure outside them, caused by the activity of the tissue cells—for example, in gland and muscle—becomes greater than the intracapillary blood pressure—as, for instance, during systole of the heart—the capillaries become obliterated, the contained blood being compressed into the veins. If the pressure of the tissue cells upon the capillaries becomes much less than the pressure of the blood within the capillaries—if the arterioles do not constrict—an extreme dilatation and even a rupture of the capillaries with exudation of blood must occur. This happens in "shock." It is stated that in shock the dilatation of the capillaries is the primary change. In my view, the primary change is in the tissue cells. The Rouget cells, found on capillaries, imputed to act as dilators, possibly are sensory, not motor, in function. There must, at least, be some mechanism correlating the state of the capillary blood pressure with the state of the supplying arteriole—that is, with the aortic blood pressure.

The pressure within any capillary bed, necessarily depending (in the normal) on the activity of the tissue in question, and upon other internal and external conditions, must be constantly changing, and in different organs or body parts, at the same time, great differences of capillary pressure must exist. The pressure on the pulmonary capillaries, and thus the pressure within the pulmonary capillaries, at the top of Mount Everest is obviously greatly less than when at the base of that mountain. The pressure on the glomerular capillaries in the state of diuresis is obviously much greater than the pressure on those capillaries during a state of renal quiescence. So also must the pressure within the hepatic capillaries vary.

The arterioles of the several capillary beds react to the changing demands and to the physical conditions to which the body is exposed. At the top of Mount Everest the pulmonary arterioles must be constricted, obstructing the blood flow through the lungs, explaining the fearful fatigue experienced by individuals attempting the final stage of the climb. Otherwise, the pulmonary capillaries would burst. During diuresis, the renal arterioles dilate, allowing an excess of pressure to play upon the glomerular

capillaries, thus causing the blood to flow on rapidly into the tubular capillaries and away—without which urine could not be formed; the rise of pressure in Bowman's capsules supporting the glomerular expansion with a pressure equal to or almost equal to the blood pressure within the glomerular capillaries—the kidney becoming swollen and tense. It is plain the arterioles do not present the only peripheral resistance to the flow of blood; the great fall of pressure seems to occur at the outlet of the arteriole, where it expands into the capillary bed, but this fall only occurs during resting states. During activity of a part the capillary pressure within that part is considerable; but the pressure of the tissue cells now is raised, so that in the normal the integrity of the important part of the vascular mechanism—the part which matters—is conserved.—I am, etc.,

Rugby, June 9th.

R. H. PARAMORE, F.R.C.S.Eng.

#### WAR EMERGENCY FUND.

SIR,—In their all too generous tribute to the Honorary Treasurer and Honorary Secretary of the above Fund (*British Medical Journal*, June 16th, p. 1045), Sir Thomas Barlow and Sir Charles Ballance omitted to mention that the Fund owed its origin to the foresight of Dr. Samuel West, at that time President of the Royal Medical Benevolent Fund. He recognized that Territorial medical officers—at the time mobilized for the annual training, and many unable to return home to make arrangements for a long absence—must suffer financially. It was thus that the Fund came to be administered by the officials of the Royal Medical Benevolent Fund. Backed by the immediate response of the profession to the appeal for funds, Dr. West, through his personal influence, obtained a grant of £10,000 from the Prince of Wales's Fund. By his death the committee lost the guidance of a wise counsellor, and one who knew, perhaps better than anyone, where relief was most needed.—I am, etc.,

CHARLES J. SYMONDS,  
Honorary Treasurer.

London, W.1, June 22nd.

#### LITHOLAPAXY.

SIR,—I think Colonel L. P. Stephen, in his letter in the *Journal* of June 23rd (p. 1089), has touched on a very important subject, both from the point of view of the patient and of the State. I think that there can be no doubt of the advantages of litholapaxy over suprapubic cystotomy for the treatment of vesical calculus. There should be no need, however, to go to India for two months to learn a method which at the beginning is not devoid of risk to the patient, and which is becoming more and more out of date—at least, outside India. Litholapaxy with the cystoscopic lithotrite is safe, sure, and speedy, if practised by one expert in cystoscopy. At All Saints' Hospital, in cases of uncomplicated stone, no other method is ever used. The operation is rendered easier by employing the Ryall cystoscopic evacuator, and is easily performed under sacral anaesthesia. In the teaching hospitals litholapaxy is neither taught nor practised, and it would be to the advantage of patients if all cases of vesical calculi were transferred to the special hospitals dealing with this type of case.—I am, etc.,

F. McG. LOUGHNANE,  
Assistant Surgeon, All Saints' Hospital.

London, W.1, June 24th.

#### GASTRIC SECRETION OF NEUTRAL CHLORIDES.

SIR,—May I be allowed to defend the paper on "The origin and significance of gastric chlorides" by F. S. Hansman, Emily M. Day, and R. Clifton (from the Department of Biochemistry, Royal Prince Alfred Hospital), which was criticized by Dr. Goodhart in the *British Medical Journal* of March 24th (p. 521). Dr. Goodhart misrepresented our point of view in several details.

In the first place, we took care to state definitely that we do not deny that fluids secreted by the duodenum, pancreas, and liver may gain access to the stomach, but we maintain, and since writing the article are more than ever convinced, that all the neutral gastric chlorides cannot be accounted for on the assumption of hydro-

chloric acid of the gastric contents being neutralized by alkalis originating beyond the pylorus gaining access to the stomach, and our proof of this contention is a simple mathematical one, based on the normality of the chlorino in fluids removed from the stomach at various stages of the digestive cycle.

In the second place, Dr. Goodhart made much of the fact that we refrained from saying more than that neutral chlorides "passed" through the stomach wall. This we did because there is no definite chemico-histological proof of how the neutral chlorides do get through the stomach, but because we do not know the means that does not disprove the fact any more than in the case of hydrochloric acid itself.

As regards dilution of gastric contents, Dr. Goodhart has misunderstood our meaning. We simply stated that workers who maintain that the total gastric chlorides can be accounted for on the assumption of regurgitating alkaline fluids neutralizing the acid gastric contents have not taken into consideration that one *plus* one makes two—that is, one volume of acid gastric contents *plus* one volume of alkaline duodeno-pancreatic contents equals two volumes of resultant fluid. The chloride contents of this resultant fluid of the "pure regurgitationists" can in a very large percentage of cases be shown to be higher than could possibly be accounted for from the original hydrochloric acid, even if the acid secreted be of maximal possible normality. If Dr. Goodhart continues to refuse to accept the passage of neutral chlorides through the gastric mucosa, the onus is on him to show us where they come from.—I am, etc.,

Sydney, New South Wales, May 8th.

F. S. HANSMAN.

#### ACUTE APLASTIC ANAEMIA.

Sir.—In the *Journal* of June 16th your reviewer states that we make no attempt to substantiate our charge that his quotation is incorrect in detail. We will therefore do so. He mentioned the absence on two occasions of platelets and polymorphonuclear leucocytes. The platelets were only found to be absent on one occasion and the polymorphonuclear leucocytes were never absent. These details can be verified by reference to Table 1 on page 9. He states that similar observations to those made by us are quite frequently to be made in secondary anaemia of various types, and they cannot therefore form the basis of a diagnosis of acute aplastic anaemia. We do not know exactly what your reviewer may mean by secondary anaemia, but any case showing the complete picture recorded is not a secondary anaemia as the term is generally employed. We disagree with him as to the occurrence of all the findings described by us in a secondary anaemia, and we invite him to give any reference to a definite case of secondary anaemia which showed the same blood picture as ours. Myeloid aplasia can, of course, supervene on secondary anaemia, but the case then becomes an aplastic anaemia.

The one objection your reviewer appears to have to our diagnosis is that the haemoglobin was not sufficiently low. Does he then assert that aplastic anaemia cannot be diagnosed in its early stages? Because, if he does not, his objection is invalid. We note that he admits that "as a clinical diagnosis it is perfectly reasonable to suggest that the case was in fact one of acute aplastic anaemia cut short by treatment."—We are, etc.,

A. HAYES SMITH,  
C. J. YOUNG.

Bradford, June 17th.

\* \* Our reviewer writes: The actual figures for the two counts were 60 and 87 polymorphonuclears per c.mm.; it seems quite accurate to describe such a state of affairs as an absence of polymorphs. The authors themselves speak of the condition as "aleukia," which, being interpreted, surely means "absence" of leucocytes.

#### TREATMENT OF HARE-LIP.

Sir,—May I be allowed to correct an error in your report of the discussion on the treatment of hare-lip held at the Royal Society of Medicine on June 6th? I am reported to have said that I have "not seen good results from

primary operations" on hare-lip cases. This is obviously wrong, for everyone must have seen many admirable results from first operations, and most surgeons working in this field can lay claim to a number of very satisfactory ones.

My point, which was evidently misinterpreted, was that the object of the primary operation on any hare-lip case should be a functional closure of the cleft and that, in my opinion, "no surgeon is justified in promising a perfect cosmetic result in one operation." The more perfectly the primary operation is carried out the less need there will be for secondary cosmetic procedures, for the lip whose proper function has been established must develop naturally, and so tend to produce its own cosmetic result without further interference.—I am, etc.,

London, W.1, June 18th.

T. POMFRET KILNER, F.R.C.S.

#### Obituary.

Dr. DONALD MACGREGOR, who died in Edinburgh on June 15th, had been in practice at Jedburgh, Roxburghshire, for the past thirty-two years. He was a native of Inverness, and, after graduating in arts at Glasgow, received his medical education at the University of Edinburgh; in 1883 he obtained the diploma L.R.C.S.Ed., graduating M.B., C.M. a year later, and proceeding M.D. in 1886. In this year also he returned to Scotland and commenced practice at Denholm, removing seven years later to Jedburgh. In this town and the surrounding district he built up an extensive practice and was well known and respected over a large area in the Scottish border counties for his personal and professional qualities alike. He took an active interest in medical affairs, being a Fellow of the Obstetrical Society of Edinburgh, a member of the British Medical Association, and the author of a number of contributions to medical publications. The interment took place at Jedburgh on June 18th after a service in St. John's Episcopal Church, of which Dr. Macgregor had been a member for many years. He is survived by his widow and a married daughter; his only son was killed during the war while serving as an officer with the Gordon Highlanders.

Dr. RICHARD BLACKWELL MITCHELL, who died at a nursing home in Edinburgh on June 18th, was for twenty-eight years medical superintendent of the Midlothian and Peebles District Asylum at Roslynlee. He was a native of Orkney, and received his medical education at the University of Edinburgh, where he graduated M.B., C.M. in 1879, proceeding M.D. (with honours) in 1885. At an early stage in his career he devoted himself to the study of mental disease, becoming assistant medical officer in the Fife and Kinross District Asylum and, later, senior assistant physician under the late Sir Thomas Clouston at the Royal Edinburgh Asylum. In 1888 he was appointed medical superintendent of the Midlothian and Peebles District Asylum, and during his long service there he earned the high respect of all with whom he came in contact. In 1916 he retired and took up his residence in Edinburgh.

Dr. RICHARD TUDOR WILLIAMS, who died suddenly at Villerville, France, on June 18th, was born in 1884. He received his medical education at St. Bartholomew's Hospital, and obtained the diplomas M.R.C.S., L.R.C.P. in 1907, graduating M.B., B.S.Lond. in 1909. After holding house appointments at the Prince of Wales's Hospital and the Metropolitan Hospital, and serving for a time at sea, he commenced practice at Caergwrle, near Wrexham. His character and personality were such that he soon had a considerable connexion, which taxed his strength. During the war he served in the Royal Air Force, and for the past six years was in practice at Llanfairfechan. He was a member of the British Medical Association. Dr. Williams took a great interest in social and local affairs, being for a time a member of the town council. He was an ex-president of the Llanfairfechan Golf Club, and also of the local Liberal association. His early death is a personal sorrow to his colleagues and friends.



## Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

IN the House of Lords, on June 21st, the National Health Insurance Bill was read a third time without debate. The House of Commons has been chiefly concerned with the Finance Bill this week. On Thursday it was asked to set up a timetable for the remaining stages of the Rating and Valuation (Apportionment) Bill. The issue of Mr. Neville Chamberlain's circular to local authorities, outlining the proposed rearrangements of their areas and powers, was expected at the end of the week.

### Parliamentary Medical Committee.

The Medical Committee of the House of Commons met on June 26th, with Dr. Fremantle in the chair. The chairman, on behalf of the committee, congratulated Sir Thomas Watts on receiving the honour of knighthood. The committee decided not to urge a reduction of the tax on petrol used in doctors' cars, as no comparable concessions were being made. It was decided that the committee should meet specially when the report of the Committee on Vaccination was published. The committee regretted that publication had been delayed. A discussion followed on the changes which the Government were contemplating in local government as these would affect hospitals, and also on the projected introduction of block grants which might cover both health and the maintenance of roads, with the consequence that money might be diverted from tuberculosis services and venereal disease measures. The possibility of Poor Law hospitals being transferred to the control of county councils was also mentioned. As Mr. Chamberlain's circular to local authorities was not before the committee it took no decisions on these topics.

### Infanticide Bill.

IN the House of Lords, on June 21st, Lord DARLING moved the second reading of the Infanticide Bill, to meet a legal anomaly defined by Mr. Justice Talbot thus: "It is a felony to procure abortion and it is murder to take the life of a child when it is born, but to take the life of a child while it is being born and before it is fully born is no offence whatever." Lord Darling said there had always been this gap in the law of England, yet the Court of Criminal Appeal had reaffirmed the doctrine of Sir Edward Coke that if injury were inflicted on a child during birth and after that injury the child was fully born and existed as a separate creature, then the person inflicting the injury might be punished. In the proposed codification of the criminal law prepared in 1879 a clause was included to deal with this defect of the law. Twenty years ago Lord Robert Cecil had introduced a bill to remedy the defect, and that bill had passed through second reading and committee, but had lapsed.

Lord PHILLIMORE supported the bill. The LORD CHANCELLOR (Lord Hailsham) doubted whether many cases of this offence had happened without punishment. Still the gap should be closed. The bill would make it an offence wilfully to kill a child in the act of birth. There were cases in which a doctor had to choose between losing the life of the mother and wilfully destroying the life of the child which was being born. Such a state of affairs must be safeguarded and protected by legislation. He was not sure that that matter was covered by the bill as drawn. He understood that Lord Darling was willing that the bill, if read a second time, should be referred to a select committee, which could consider such points.

Lord DARLING said he realized there was anxiety on the part of those who had to assist women in their accompaniment lest they should be obliged, in order that two lives might not be sacrificed, intentionally to sacrifice that of the child. That case was provided for by a clause in Lord Robert Cecil's bill as it emerged from the standing committee, and Lord Darling promised to do all he could to get that provision included in the present bill. The House of Lords then read the bill a second time and sent it to a Select Committee.

On June 26th, on the motion of Lord DARLING, the following peers were constituted a Select Committee to consider the Infanticide Bill: The Earl of Desart, Lord Phillimore, Lord Dawson of Penn, Lord Hewart, Lord Merivale, Lord Darling, and Lord Hanworth.

### National Health Insurance.

Mr. MORE-BELISHA asked the Minister of Health, on June 12th, whether he was in a position to make a statement regarding the recommendations of the Consultative Council in respect of the proposals made by the Royal Commission on National Health Insurance that the scope of the benefit should be extended to include a consultant and specialist service, and that the necessary funds for this purpose should be obtained by a partial pooling of future surpluses of approved societies. Sir KINGSLEY WOOD: The recommendations of the Royal Commission to which the hon. member refers were very fully considered by the Consultative Council, who unanimously endorsed the recommendation that the first extension of the statutory benefits of national health insurance should take the form of widening the scope of medical benefit to include a specialist and consultative service. The Council, however, by a

large majority, declined to endorse the recommendation of the Royal Commission that the cost of this extension should be met by means of a partial pooling of future surpluses of approved societies.

In England and Wales, according to an answer given by Mr. CHAMBERLAIN on June 21st, twenty-two approved societies and 275 branches, with a membership of 317,389, are not giving additional benefits. Such benefits are given by 923 societies and 6,156 branches with a membership of 13,015,180. Mr. Chamberlain is not considering any action to secure equal benefit for all persons compulsorily insured.

### Small-pox.

Answering Mr. W. Baker, on June 21st, Mr. CHAMBERLAIN said that 6,697 cases of small-pox were notified in England, including Monmouthshire, during 1928 up to June 16th. The number of deaths up to the end of May in which small-pox was medically certified as the cause or one of the causes of death was 46; the figures were provisional. No small-pox had been notified this year from a port sanitary district. He had no statistics to show what percentage of persons suffering from small-pox were casuals. Answering Dr. Vernon Davies, Mr. CHAMBERLAIN said that the total number of cases last year was about 14,000. It did not seem that this year there had been any great change in numbers. Dr. FREMANTLE asked when the report of the Departmental Committee on Vaccination would be published. Mr. CHAMBERLAIN answered that it was in print, and would be published within the next week or two. In reply to Mr. Smith Carrington, Mr. CHAMBERLAIN said the number of cases of small-pox among casuals had recently shown a tendency to decrease.

In reply to a question by Mr. Robinson, on June 21st, Mr. CHAMBERLAIN said he had received a report regarding the death of a Keighley boy, aged 10, who was vaccinated as a condition of going to a boys' camp. The Ministry of Health had communicated with the certifying practitioner. No *post-mortem* examination was held, and the certified causes of death were: (1) (a) acute meningitis, (b) tonsillitis; (2) vaccination.

### Slum Clearance Schemes.

IN the House of Lords, on June 20th, the BISHOP OF SOUTHWARK opened a discussion on slums. He asked how many persons would be affected by slum clearance schemes approved by the Ministry of Health but not yet carried out, and whether the Government had any proposals to hasten the abolition or improvement of slum property. They were told that in London, apart from 26,000 people who had been or would be dealt with under slum clearance schemes adopted by the London County Council, at least 100,000 people were living under insanitary conditions. He hoped the Government would, in the near future, do its utmost to remove the slums.

Lord GORELL quoted from reports by medical officers to the effect that the housing shortage and the slum problem were as acute as ever.

Lord GAGE, replying for the Government, said that in the last year for which statistics were available over 1,000,000 houses were inspected for defects; 13,260 were found to be unfit for human habitation and 352,643 were found unfit in minor respects. As a result of action by local authorities in 1926, 600,000 houses were repaired and put into a correct sanitary condition. Since the previous 6,600 new houses had been completed to replace houses demolished or to be demolished. These new houses would accommodate 29,000 or 30,000 persons. Since the war 123 slum schemes had been submitted and 113 confirmed. In the vast majority of clearance schemes considerable work had already been carried out. Of persons displaced by such schemes, about 39,000 had still to be provided for.

Lord BEAUCHAMP spoke of the prevalence of overcrowding in many districts. Infantile mortality, he declared, was 20 per cent. in bad areas and 11 per cent. in good areas.

Lord SALISBURY said he would convey to the Minister of Health the suggestion that the Town Planning Acts should be extended to existing houses to prevent overcrowding by the conversion of dwellings into places of business. The Government was considering whether they could not find a better remedy than the vast schemes of slum clearance and rebuilding. The reconditioning of suitable houses would be cheaper and more speedy.

Sir KINGSLEY WOOD, on June 25th, replying in the House of Commons to Mr. Hurd, said the Minister of Health had not received from the recent conference of local authorities on housing a resolution asking for a return from local authorities of low-standard working-class dwellings in their areas, distinguishing between those houses capable of being reconditioned and those which, because of total unfitness, should be condemned. He was reluctant to add to the burdens of local authorities in the preparation of returns.

### Welsh Board of Health.

In reply to Sir C. Kinloch-Cooke, on June 25th, Sir KINGSLEY WOOD said that on the retirement of Sir Thomas Hughes from the chairmanship of the Welsh Board of Health, the position was reviewed, as was the case from time to time with all sections of the Ministry of Health. This review showed that the bulk of the Board's work was done satisfactorily by the members in their individual capacity, and meetings of the Board for collective deliberation were rarely held. In these circumstances the Minister of Health felt that the employment of four higher officers on the Board was no longer justified, and that the work could be done by three. The Ministry of Health Act, 1919, empowered the Minister to appoint such officers as he thought fit to constitute a

board of health in Wales, and it neither specified any number nor laid down that there should be any chairman. Sir C. KINGSLEY WOOD asked if Sir Kingsley Wood was aware that the abolition of this post was causing indignation, and whether the Minister of Health would receive a deputation on the subject. Colonel WOOLCROFT asked what saving would be effected by the abolition of this post. Sir KINGSLEY WOOD said he believed there would be a saving of about £1,600 a year. If any indignation had arisen over the action of the Minister of Health it was due to misapprehension. Replying to Mr. Morris, Sir KINGSLEY WOOD said the effect of the abolition of the post was not to place the Welsh nation under the jurisdiction of the English Commissioners. The Welsh Board had met on an average only three times yearly. The Minister of Health believed that the duties of the office would be carried on efficiently.

On June 26th Sir KINGSLEY WOOD stated that the saving realized by the recent reorganization of the establishment of the Welsh Board of Health was £1,628.

#### Liquor (Disinterested Ownership and Management) Bill.

Speaking on June 26th, in the House of Lords, on a motion for the second reading of the Liquor (Disinterested Ownership and Management) Bill, moved by Lord Balfour of Burleigh, Lord Dawson of Penn said that the principle of local option carried with it certain disadvantages, not to say dangers. The institution of elections for this or that matter must cheapen elections in the eyes of the people. Experience in regard to elections for boards of guardians and under the Scottish Temperance Act showed that relatively small numbers of people went to the polls. Everyone interested in social reform rejoiced that they had the valuable experiment at Carlisle, but after twelve years, with every advantage, it could not be said that Carlisle was an outstanding success. He could see no end to these *ad hoc* bodies. Possibly they would have the New Health Society asking to have local option in the use of brown bread. Legislation on drink had proved, that unless legislators carried the people with them they defeated their own objects. Education and sanitation had done far more than legislation to promote temperance in this country. The improvement in temperance began long before the war, and the figures showed a steady improvement in that respect among the masses of the people. Nothing was more striking than the rapid and progressive improvement in the temperance of the people. He would give one set of figures which showed that in a large fully licensed house in London 75 per cent. of the people who sat there on one evening were consuming no alcohol at all. The only place where drunkenness seemed entrenched was from time to time behind the motor wheel. The statesmanlike course to pursue if they wanted to increase temperance was to study the causes which worked for temperance, and further them wherever possible. Among those causes was the growth of knowledge through education. The educational propaganda of the last twenty-five years had done a great deal. Another cause was the growth in popularity of recreation and games. Above everything else there was the love of health and fitness. There was the realization of how good alcohol was in its right place and how they ought not to drink too much, and there was growing up a degree of temperance which left little to be desired. There had been a striking improvement in the public houses in this country wherever one went, with the exception of the slums. In some of the newer houses around London food and coffee were provided, and non-alcoholic drinks, with games and amusements, and the management were not paid any commission on the amount of alcoholic drink. Along such lines as these they ought to proceed.

The motion for the second reading of the bill was defeated by 67 votes to 24.

#### Slaughter of Animals (Scotland) Bill.

The House of Commons, on June 22nd, considered the Slaughter of Animals (Scotland) Bill, and passed it through report and third reading. The bill proposes to make the use of the humane killer compulsory for the slaughter in Scotland of cattle, calves, sheep, and lambs, but not of swine. An amendment to allow young lambs and calves to be killed by the knife was defeated. General CHARTERIS referred to an experiment conducted by the chief veterinary officer of Edinburgh, and attended by two independent scientists of Edinburgh. This experiment had determined that from the time when the first incision of the skin was made by the bullet from the captive bolt of the instrument there elapsed no more than four-fifths of a second until complete unconsciousness supervened. With the knife the time was thirty-three and one-fifth seconds. With the humane killer unconsciousness was, for all intents and purposes, instantaneous.

Dr. DAVIDSON SMITH said that sheep required the use of the humane killer more than any other animal.

Dr. ELLIOT (Under Secretary for Scotland) said the Government regarded the bill as an instalment of legislation applicable to the United Kingdom.

**Experiments on Animals.**—On June 26th, in reply to Mr. Maclean, Sir W. JOHNSON-HICKS said that in 1927 there were 13,871 experiments on animals with anaesthetics and 279,431 without anaesthetics. The latter class of experiments were mostly inoculations and feeding experiments, and in no case was an operative procedure more severe than simple inoculation allowed without an anaesthetic. In 1927 there were 253 places registered for conducting experiments in vivisection, and 1,230 persons were licensed to conduct them; 7,647 experiments were performed under certificate B (that is where the experimenter is relieved from the obligation to kill the animal before it recovers from the anaesthetic). Of these, 583 were on cats and dogs.

**Treatment of Tuberculous Pensioners.**—In a reply, on July 21st, to Sir Wilfred Sugden, Major THOMSON said treatment for pensioners suffering from tuberculosis was secured through the local health authorities, who normally made use of their own sanatoriums, approved for the purpose by the Ministry of Health. This practice ensured that local facilities were utilized to the full and was also consistent with the policy of treating pensioners, as far as possible, near their own homes. Cases of this class likely to be suitable for, and to benefit from, ultimate residence in a village settlement after any course of treatment required, would be increasingly few among pensioners whose tuberculosis was directly traceable to their war service, having regard to the stage of their complaint, age, previous occupation, habits of life, and other factors. When such cases arose treatment in a sanatorium attached to a village settlement might be preferable to the normal arrangements of treatment in the sanatorium of the local health authority, and he was prepared to continue to give reasonable facilities for the treatment of suitable cases. There were excellent local sanatoriums in the North of England, and the Ministry of Health desired to make full use of them.

**Death of a Radiographer from Cancer.**—Dr. VERNON DAVIES, on June 25th, asked the Prime Minister whether, in view of the facts disclosed by the inquest held on June 19th at Deptford, on the body of Arthur Augustus Parsons, radiographer at the Seamen's Hospital, Greenwich, for over twenty years, and for six years previously at Westminster Hospital, who died from carcinoma contracted in the course of his duty, he would consider recommending some appropriate method by which the State could show its appreciation of such work for the public good. Mr. BALDWIN said that if Dr. Davies sent him full particulars of this case he would look into it.

**Petrol Tax.**—The House of Commons, in Committee, on June 25th, considered the petrol tax. Mr. Snowden moved to reduce the tax from 4d. to 1d. This amendment was resisted by Mr. Churchill, and defeated by 237 votes to 115.

#### Notes in Brief.

On June 25th Mr. Baldwin stated that it was not proposed to make any alteration in the status of the Ministry of Pensions during the life of the present Parliament.

The effect of coal dust in causing chest diseases among surface workers at collieries is being investigated.

## Universities and Colleges.

### UNIVERSITY OF OXFORD.

#### Radcliffe Prize, 1929.

THE next award for the Radcliffe Prize will be in the year 1929. The prize, of the value of £50, is awarded by the Master and Fellows of University College, Oxford, every second year for research in any branch of medical science comprised under the following heads: human anatomy, physiology, pharmacology, pathology, medicine, surgery, obstetrics, gynaecology, forensic medicine, hygiene. It is open to all graduates of the University of Oxford who have proceeded, or are proceeding, to a medical degree in the University. Candidates must not have exceeded twelve years from the date of passing the last examination for the B.A. degree, and must not, at the date of application, be Fellows or the Foundation of Dr. John Radcliffe. Candidates must send in their memoirs to the Secretary of Faculties at the University Registry, Oxford, by December 1st, 1928. The award will be made in March, 1929. No memoir for which any University Prize has already been awarded is admitted to competition for the Radcliffe Prize, and the prize will not be awarded more than once to the same candidate.

### UNIVERSITY OF CAMBRIDGE.

At a congregation held on June 19th the degree of Doctor of Medicine was conferred on W. D. Keyworth.

A congregation for the conferment of degrees in medicine and surgery will be held on July 21st, at 2 p.m.

The A. R. Graham prize in medicine has been awarded to J. Metcalf.

The following candidates have been approved at the examinations indicated:

THIRD M.B., B.CHIR.—(Part I) *Surgery, Midwifery, and Gynaecology*: M. E. Albury, N. R. Barrett, H. F. Bateman, W. A. G. Bell, P. Bash, S. S. Chester, R. Clayton-Jones, G. C. Dewes, A. J. Dix Perkin, W. G. Drake-Lee, S. G. Elkin, W. A. Elliston, P. H. Fox, Hodkinson, S. H. G. Hamfray, S. D. A. Lankester, P. G. Levick, J. O. F. A. Miles, J. K. Moore, J. R. Peacock, L. S. Penrose, J. B. A. Reynolds, A. M. Rhydderch, A. M. Roberts, W. H. Scott-Easton, C. W. Shaw, H. J. Simmonds, W. H. Simmonds, E. T. O. Slater, T. R. Stevens, H. H. Stewart, H. S. Taylor Young, J. F. Varley, J. Vearhan Bradley, H. S. Waters, L. B. Winter, F. W. J. Wood. *Women*: M. H. D. Carr, M. Leathes, J. R. Lees, M. A. Wilcox. (Part II) *Pathology and Pharmacology*: Barrett, D. H. Balfrage, W. V. G. Drake-Lee, J. S. G. Elkin, S. G. Elkin, J. O. F. A. Miles, J. K. Moore, J. R. Peacock, L. S. Penrose, J. B. A. Reynolds, A. M. Rhydderch, A. M. Roberts, W. H. Scott-Easton, C. W. Shaw, H. J. Simmonds, W. H. Simmonds, E. T. O. Slater, T. R. Stevens, H. H. Stewart, H. S. Taylor Young, J. F. Varley, J. Vearhan Bradley, H. S. Waters, L. B. Winter, F. W. J. Wood. *Women*: M. H. D. Carr, M. Leathes, J. R. Lees, M. A. Wilcox. *Pathology and Pharmacology*: Barrett, D. H. Balfrage, W. V. G. Drake-Lee, J. S. G. Elkin, S. G. Elkin, J. O. F. A. Miles, J. K. Moore, J. R. Peacock, L. S. Penrose, J. B. A. Reynolds, A. M. Rhydderch, A. M. Roberts, W. H. Scott-Easton, C. W. Shaw, H. J. Simmonds, W. H. Simmonds, E. T. O. Slater, T. R. Stevens, H. H. Stewart, H. S. Taylor Young, J. F. Varley, J. Vearhan Bradley, H. S. Waters, L. B. Winter, F. W. J. Wood. *Women*: M. H. D. Carr, M. Leathes, J. R. Lees, M. A. Wilcox.

## UNIVERSITY OF LONDON.

SIR GREGORY FOSTER has been elected Vice-Chancellor for 1928-29, in succession to Sir William Boveridge.

The degree of D.Sc. in Anatomy has been conferred upon Miss I. C. Mann, and that of D.Sc. in Physiology upon Mr. C. H. Best. Dr. J. Fawcett has been appointed the representative of the University at the fourteenth annual conference of the National Association for the Prevention of Tuberculosis, to be held in London in October next.

## UNIVERSITY OF GLASGOW.

A GRADUATION ceremony was held on June 20th, when the following were among the degrees conferred:

HON. LL.D.—Professor G. W. Crile, F.R.C.S. (Cleveland, Ohio).  
M.D.—F. R. Martin.

## QUEEN'S UNIVERSITY, BELFAST.

THE results of Queen's University final examinations, held in June, show an unusually high percentage of passes. For the degree of M.D. seven candidates were successful, representing 75 per cent. of the total number of candidates; while forty-five candidates were awarded the degrees of M.B., B.Ch., B.A.O.—approximately 70 per cent. of those who sat for the examination. The following is a list of the successful students:

M.D.—\*H. W. Black, \*J. S. Campbell, \*J. C. Davison, H. Harris, \*W. F. T. M'Math, R. A. Reynolds, L. Walker.  
M.B., B.Ch., B.A.O.—\*A. J. P. Alexander, \*F. F. Kane, \*W. W. Bassett, \*J. H. Biggart, \*J. A. D. Deeny, \*Eileen M'C. Hill, \*H. C. Lindsay, \*S. Anderson, \*T. H. Baillie, \*Martha E. Cantley, \*F. W. H. Caughay, \*H. M'B. (husband), \*H. H. Collier, \*J. De Lary, \*G. B. W. Fisher, \*J. H. Getty, \*A. D. Glasgow, \*M. J. Gordon, \*S. E. V. Gordon, \*J. Gourley, \*Margaret M. Hosoy, \*Mary E. Houston, \*T. S. Hoy, \*D. J. Hurrell, \*M. Jeffers, \*Elizabeth H. J. Kelly, \*J. M. Kennedy, \*J. S. Kyle, \*A. E. Lavelle, \*K. N. Lavelle, \*W. J. Ludlow, \*W. E. Lyster, \*C. B. M'Carthy, \*W. N. M'Cuilough, \*W. H. M'Ilrath, \*Margt. M. MacNeill, \*Jane E. McNeill, \*W. Morton, \*Alice I. Muir, \*J. Pitt, \*M. Rossefield, \*W. J. Stewart, \*Nora E. Stoupe, \*A. M. Wallace, \*F. L. Wynne.

\*Gold medal.

†With commendation.

†First-class honours.

‡Second class honours.

## SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY—K. J. M. Graham, T. A. P. Proctor, A. F. Quarby, S. M. Rahman, W. Ziv.  
MEDICINE—P. C. Basu, H. C. Clifford-Smith, S. M. Rahman.  
FORENSIC MEDICINE—M. K. Bryce, A. F. Quarby.  
MIDWIFERY—H. H. Jackson, C. P. Madden, H. Murkis.  
The diploma of the Society has been granted to Messrs. K. J. M. Graham and W. Ziv.

## The Services.

## INDIAN MEDICAL SERVICE.

## ANNUAL DINNER IN LONDON.

THE annual London dinner of the Indian Medical Service was held at the Trocadero Restaurant on June 20th, when Major-General Sir R. Havelock Charles, Bt., G.C.V.O., K.C.S.I., was in the chair. The following is a list of the officers present:

Major-Generals: B. N. Deane, C.I.E., A. A. Gibbs, K.H.P., C. F. A. Harris, C.S.I., R. W. S. Lyons, Sir R. C. MacWalt, C.I.E., J. B. Smith, C.B., C.I.E.  
Colonels: J. Crammin, V.C., C.B., C.I.E., V.D., H. M. Cruddas, C.M.G., O.B.E., C. M. Goodbody, C.I.E., D.S.O., T. A. Grainger, C.M.G., C. R. N. Green, J. A. Hamilton, C.M.G., H. Kellock McKay, C.B., C.I.E., A. J. Macnab, C.B., C.M.G., R. A. Noedham, C.I.E., D.S.O., J. J. Pratt, R. G. Turner, C.M.G., D.S.O., F. Wall, C.M.C., C. N. G. Wimberley, C.M.G.  
Lieutenant-Colonels: A. W. Alcock, C.I.E., F.R.S., W. G. P. Alpin, O.B.E., J. Anderson, C.I.E., S. T. C. C. . . . . E. K.H.P., Sir Frank Connor, D.S.O., A. G. . . . . M. Crawford, O.B.E., R. H. Elliot, G. H. Fro . . . . . C.I.E., E. C. Hepper, E. C. Hodgson, D.S.O. . . . . J. B. Hunter, O.B.E., S. P. James, Davenport . . . . . W. H. Leonard, T. M. Macrae, O.B.E., J. Mas . . . . . J. Miller, F. O'Keefe, C.I.E., C.V.O., J. S. O'Neill, M.C., Sir Leonard Rogers, C.I.E., F.R.S., E. R. Rost, O.B.E., S. Browning Smith, C.M.C., R. Steen, Ashton Street, W. A. Sykes, D.S.O., D. W. Sutherland, C.I.E., G. Thomson, C. Sloan, Thomson, W. H. Thornhill, E. L. Ward, C.I.E., D. P. Warhner, A. C. Younan.  
Majors: Norman Briggs, Sir T. J. Carey-Evans, M.C., H. S. Cormack, M.C., A. W. Duncan, P. K. Cilroy, M.C., N. H. Hume, M. L. C. Irvine, J. C. John, O.B.E., R. N. Kapadia, M.C., G. Rigby Lynn, D.S.O., V. Mahadevan, M. B. Mehta, R. V. Morrison, M. A. Nicholson, M. J. Quirke, M. A. Rahman, J. Rodger, M.C., E. C. A. Smith, H. Tait Caldwell, M.B.E., D. R. Thomas, C. Y. Thomson, F. R. Thornton, M.C.  
Captains: M. P. Atkinson, D. P. Bhargava, J. E. Gray, A. C. Hayden.  
Lieutenant: F. T. Harrington.

## COMMISSIONS IN THE R.A.M.C.

THE War Office announces that a limited number of commissions in the Royal Army Medical Corps are being offered to qualified practitioners under 28 years of age. There will be no entrance examination, but candidates will be required to present themselves in London for interview and medical examination. Applications should reach the War Office not later than July 20th. In the meanwhile, all information as to conditions of service and emoluments may be obtained from the Under Secretary of State, War Office (A.M.D.I), Whitehall, London, S.W.1.

## DENTAL OFFICERS R.N.

The gold medal for candidates on entry as dental officers R.N. has been awarded to W. Holgate, surgeon lieutenant (D).

## Medical News.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on Tuesday, July 3rd, Mr. G. Perkins will give a demonstration at the Brockley Hill Country Orthopaedic Hospital at 11.30 a.m. If not less than ten post-graduates notify their intention to be present by telephone to Mayfair 2236. Demonstrations will be given at the Royal Westminster Ophthalmic Hospital on Thursday, July 5th, at 3 p.m., by Mr. M. T. Hine, and at Charing Cross Hospital on Friday, July 6th, at 2 p.m., by Dr. F. G. Chandler: they are open free to members of the medical profession. There will be a special whole-day course at the Prince of Wales's Hospital in medicine, surgery, and the specialties from July 9th to 21st, and a course in proctology from July 9th to 14th at St. Mark's Hospital. Later summer courses are as follows: At the Queen Mary's Hospital in medicine, surgery, and the specialties from August 27th to September 8th; in diseases of the chest at the Brompton Hospital, July 30th to August 4th; in diseases of infants at the Infants' Hospital, August 13th to 25th; in urology at the All Saints' Hospital, August 7th to September 1st. Full particulars, syllabuses, etc., may be had from the Fellowship at 1, Wimpole Street, W.1.

THE annual meeting of the Royal Medico-Psychological Association will be held on July 11th, 12th, and 13th at the West Riding Mental Hospital, Wakefield, under the presidency of Professor J. Shaw Bolton, M.D. On the afternoon of the first day the president will give his address entitled "The evolution of a mental hospital—Wakefield, 1818-1928," and the Gaskell medal and prize for 1927 will be presented to Dr. Elizabeth Casson, and for 1928 to Dr. F. R. Martin. The morning and afternoon sessions of July 12th and 13th will be given up to papers and demonstrations. The general secretary is Dr. R. K. Worth, Springfield Mental Hospital, nr. Tooting, S.W.17.

AT a special meeting of the Royal Anthropological Institute, to be held at 52, Upper Bedford Place, Russell Square, W.C., at 8.15 p.m. on Tuesday, July 3rd, Dr. E. H. Hunt will give an address on the rock-hewn temples of Ajanta and Ellora. On the afternoon of that day, from 2 o'clock, a series of exhibits illustrating the paper—photographs, maps, etc.—will be on view at the Institute. Among them will be photographs of self-mutilation ceremonies and implements of the Raha fakirs of Hyderabad.

A COMPLETE post-graduate course in dermatology and venereology will be held at the clinic for cutaneous and syphilitic diseases at Strasbourg from September 17th to November 3rd. There will also be a laboratory course, including twenty lectures and practical work. The fee for each course is 300 francs. Further information may be obtained from Professor L. M. Pantrier, 2, Quai St. Nicolas, Strasbourg.

ACCORDING to a report issued by the Health Organization of the League of Nations, there has been a great decrease in the incidence of small-pox in European countries during recent years. The only exception to this general rule is offered by Great Britain, where there has been a steady increase in the number of cases officially reported since 1920. In 1927 there were 14,931 cases in Great Britain, as compared with 6,841 in the rest of Europe. The disease is common only in a mild form, known as alastrim, but this mild form has been notably absent from Continental Europe, with the exception of Switzerland, where between 1921 and 1926 it persisted in epidemic form. In 1927, however, no cases were reported in that country. Despite the large number of cases in Great Britain, the mortality has been very low, no deaths having occurred in Scotland between 1922 and 1927, and only 49 deaths in 1927 in England and Wales. During the period under review the disease was limited largely to the North of England and the Midlands. Of 10,141 cases reported in 1926, 10,070 were reported from Durham (6,645), Yorkshire (1,270), Derbyshire (982), Northumberland (843), Nottinghamshire (191), and Lancashire (139). During the winter of 1927-28 a wider diffusion of infection occurred; 4,711 cases were reported from 38 counties in England and Wales in the first quarter of 1928, but the mortality has been almost negligible. The report states that vaccination within ten years appears to give complete immunity to the disease. Thus in 1926 there was not a single case among children below 12 years of age who had been vaccinated in infancy, whereas there were no fewer than 3,980 cases among children below 12 years of age who had never been vaccinated. That part of the report dealing with Russia shows a remarkable decrease in the number of cases since the war. In 1919 there were 186,755 cases, which gives a rate of 30 for every 10,000 inhabitants; in 1926 there were only 16,547, or 1.1 to every 10,000 inhabitants; in 1913 there were 4 cases to

every 10,000 inhabitants. No case of small-pox was reported in Bulgaria, Czechoslovakia, Denmark, Gibraltar, Hungary, Lithuania, Luxembourg, Malta, or Rumania in January or February of this year.

The annual National Conference on Maternity and Infant Welfare will be held at the Guildhall, London, on July 5th and 6th. In addition to Sir George Newman, Dame Janet Campbell, and other representatives of the Ministry of Health there will be present Dr. Helen MacMurchy, chief of the Child Welfare Division of the Canadian Department of Health; Sir Frederick Truby King, director of child welfare for New Zealand; Dr. Jamshyd Munsiff, chief of the Public Health Department, Bombay; and Dr. Ruth Young of the All-India League for Maternity and Child Welfare. We understand that so great has been the demand for tickets that all the seats in the council chamber of the Guildhall have been allotted.

The Hampstead Garden Suburb, which, with other more or less similar schemes for the deliberate creation of new social and communal units, has exercised a considerable influence on the ideas associated with town-planning, is now celebrating the twenty-first anniversary of its inauguration with a week of entertainments and other festivities. The Earl of Lytton performed the opening ceremony on June 23rd, when Sir Philip Cuscliffe-Lister presided.

The Austrian State Publishing Office (Österreichische Staatsdruckerei) Wien I, Seltzerstrasse 24, has published in the German language a reference book on Austrian spas, which is obtainable direct or through any bookseller. It contains much information concerning the various spas, the composition of their mineral waters, and their therapeutical effects. The book has been compiled by well-known Austrian authorities, such as Professor Viktor Conrad, Dr. Karl Diem, Dr. Josef Knett, Professor Hans Horst Meyer, and Dr. Siegfried Steckmayer.

THE American Red Cross Society in April officially closed its relief work for victims of the Mississippi Valley floods, the largest task it has ever undertaken, after a year of strenuous endeavour. In all over 600,000 refugees came under the society's care, and practically all the relief fund raised, amounting to about £3,400,000, has been expended.

M. MAX HUBER, a judge of the Permanent Court of International Justice at the Hague, has been elected to succeed the late M. Gustave Ador as president of the International Red Cross Committee.

THE Minister of Health (the Right Hon. Neville Chamberlain, M.P.) will open the Surrey County Sanatorium at Milford, on Friday, July 20th, at 3.30 p.m. The sanatorium has been designed to accommodate 300 patients and staff at a cost of about £200,000.

THE President of the French Republic has conferred the Cross of Officer of the Legion of Honour on Professor G. H. F. Nuttall, Cambridge; Professor P. Rondopoulou of Athens, editor of *Iatriki Proodos* and *La Grèce Médicale*, has been nominated a Chevalier of the Legion; and Dr. Truc, honorary professor of the Montpellier Faculty of Medicine, has been nominated Commander.

DR. NICHOLAS D. DUNSCOMBE, assistant medical officer of health for Southampton, has been called to the Bar by the Inner Temple.

AS announced in our advertisement pages the Association of Surgeons of Great Britain invite applications for a surgical scholarship of the value of £350 for one year. Applications must be sent to the secretary, 17, Wimpole Street, W.1, by September 30th.

THE forty-third volume of the *Archiv für Verdauungskrankheiten* has been dedicated to the editor, Professor I. Boas, on the occasion of his seventieth birthday. The sixty-eighth volume of the *Monatsschrift für Psychiatrie und Neurologie* has been dedicated to the editor, Professor K. Biquhofer, on his sixtieth birthday, and a like compliment has been paid by *Dermatologische Zeitschrift* to its editor, Professor Eric Hoffmann. A special number of the *Archiv für Verdauungs- und Störungen* has been dedicated to Professor H. ... on attaining the same age.

THE Association of Medical Officers of Missionary Societies has issued a new edition (the fourth) of its pamphlet, *Health Instructions for Missionaries in the Tropics*, which conveys much useful information in a small space. A section is given to emergency treatment, and there is a brief supplement for women. Copies are obtainable from the honorary secretary of the association, 1, Farnley Road, E.4, price 4d. each, or 3s. per dozen (inland post free).

DRS. H. T. CHARLIS and John Willett have been promoted Commanders in the Order of the Hospital of St. John of Jerusalem, and Drs. William Blackwood and William Owen Evans have been appointed officers.

## Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The Editor, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the **BRITISH MEDICAL JOURNAL** alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the **BRITISH MEDICAL JOURNAL** must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the **JOURNAL**, should be addressed to the Financial Secretary and Business Manager.

The TELEPHONE NUMBERS of the British Medical Association and the **BRITISH MEDICAL JOURNAL** are **MUSEUM 9561, 9562, 9563, and 9564** (internal exchange, four lines).

The TELEGRAPHIC ADDRESSES are:  
EDITOR of the **BRITISH MEDICAL JOURNAL**, *Aitology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 10, South Frederick Street, Dublin (telegrams: *Basillus, Dublin*; telephone: 62550 Dublin), and of the Scottish Office, 7, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone 24361 Edinburgh).

## QUERIES AND ANSWERS.

### INCOME TAX.

"F. G. D." bought a car in 1921 for £595, and has now replaced it by a slightly different type of car at a cost of £295, less £17 allowed for the old car. What claim can he make?

For the year 1928-29 he should claim the depreciation allowance on the written-down value as at December 31st, 1927, of the old car—say, £220 at 15 per cent., £33. This will help to pave the way for the allowances to be claimed for 1929-30, which will be (1) obsolescence allowance—that is, £295—£17—£33=£245, and (2) depreciation allowance, £295 at 15 per cent.—that is, £44.

### Gift of Car for Professional Use.

"H. B. L." bought a second-hand Hillman coupé in 1922 for £385. In 1927 he received as a present a Hillman all-weather (1925) car in exchange for the coupé. The value of the former when given was £170 and the latter was sold immediately for £60. The depreciation allowed on the coupé has been: 1925-26 £42, 1926-27 £35, and 1927-28 £30. What should he claim as the depreciation allowance for 1928-29?

Apparently the last depreciation allowance reduced the written-down value to £170. On that basis the depreciation for 1928-29 will be as follows:

Value of car brought forward	£170
Deduct realization value of car replaced	60
	£110
Add value of car acquired	170
	£280
Allowance at 15 per cent.	£42

### Cash Receipts Basis.

"T. H. G." bought an additional practice as from April 1st, 1927, and took in a partner, who acquired one-third share in the combined practices. Book debts were not taken over on either purchase. Past returns have been on the cash basis. Are the expenses incurred in connexion with the proprietorship changes allowable?

The cash basis is justified by convenience only, and is applicable only where the amount received in the year is probably equal to the value of the gross bookings. In the circumstances stated "T. H. G." cannot require his "cash basis" returns to be accepted, and the accounts for 1927-28 should be based on the gross bookings for that year less a deduction, which should be carefully arrived at after a specific valuation of each outstanding debt, for probable losses by bad debts. Cash received for pre-April, 1927, bookings is not liable to tax, because *ex hypothesi* the tax on those earnings has already been accounted for—on the basis of the assumption that the cash receipts represented the true earnings of past years. The expenses of purchase and formation of the partnership are not allowable; they are of a "capital" nature.



*Assistant becomes a Partner.*

"J. L." was an assistant in the employment of A and B until January 1st, 1928, when he became a partner, taking one-fourth share of the profits. On what basis should he return for 1928-29 be made?

\* \* The change in status involves a radical change in the assessment. For 1928-29 he is no longer assessable under Schedule E as an employee of the firm, but for the whole of that year under Schedule D in respect of professional profits. Strictly it is the firm of A, B, and J. L. which is chargeable; he is, not individually assessable. Consequently the new firm will return, and be assessed on the basis of the profits of the old firm for 1927, and one-quarter of that will be attributable to "J. L." and will represent his gross liability. The firm gain, because "J. L.'s" salary will have been deducted in calculating the profits for 1927, but it will not be assessable for 1928-29.

**STATUS EPILEPTICUS.**

"H. C. B.'s" inquiry regarding the treatment of this condition in a child, published on June 23rd (p. 1097), stated, through an error in transcription, that the violent (convulsive) stage of the attacks usually lasted two hours; this should have read "twenty-four hours."

**LETTERS, NOTES, ETC.****LEAD TREATMENT OF MALIGNANT DISEASE.**

DR. J. McNAMARA (Kensington, W.) writes: May I appeal for a fair trial of Professor Blair Bell's lead treatment of cancer? That treatment is the result of over twenty years' investigation, and there is no getting over or explaining away the statistics given by Professor Cunningham in a paper read at the Nottingham meeting of the British Medical Association and published in the *British Medical Journal* of November 20th, 1926. Professor Cunningham showed that of 227 patients suffering from malignant growths between 30 and 40 were cured by lead. Some time ago I heard that there was to be exhibited at a medical meeting in a London hospital a patient undergoing the lead treatment. Having a special interest in the treatment, I went to see the patient before the meeting and learned all the details. At the meeting the patient was shown by a young man, who simply said, "This is a patient undergoing the new lead treatment, and all I can say is that it has done no harm and has done no good." He never mentioned that the treatment had only just begun and that the preparation of lead used was different from that used by Professor Blair Bell. Is this fair? Ideas originating outside London do not seem at first to be accepted with much enthusiasm in the metropolis. Witness the struggle of Listerism to get a footing in the capital. When Dr. Coley of the Cancer Hospital of New York came over here and published his claim that his fluid could cure at least 10 or 12 per cent. of otherwise hopeless cases of sarcoma a half-hearted trial was given to the treatment, but the fluid used was made in London and was not Coley's fluid at all. The result, of course, was disappointing, and gave in this country a knock-out blow to the treatment, from which it has not yet recovered. Nevertheless, Coley's claim is, beyond all doubt, valid. A near relation of my own suffering from round-celled sarcoma of the breast, which recurred after operation, was saved by it. In Sir Jonathan Hutchinson's polyclinic I saw two cases of large inoperable sarcomas cured by Coley's fluid. Sir Victor Horsley once said something about our being different from what we were formerly. He said it used to take twenty years to get an idea into our heads and now it only takes ten.

MR. J. PATTERSON (Crouch End, N.3) writes: In the *British Medical Journal* of June 23rd (p. 1088) Professor Blair Bell says that I originally made my lead iodide preparation on his instructions, when I was working for him in Liverpool. This is not accurate. I first made my lead iodide preparation in May, 1920, more than six months before I gave up all other work to go to Liverpool to take sole charge of the chemical work of his cancer research. Professor Blair Bell suggested to me the preparation of a lead body, and I tried the iodide. This preparation was used on patients at Liverpool before I joined his staff there. Since leaving Liverpool—with regret expressed in writing by both parties to the separation—I have succeeded in improving my preparation. Such success as I have attained is largely due to the kindness of Dr. Drakeley, head of the chemical department, Northern Polytechnic Institute, who put at my disposal all the resources of his department. He also gave me free access to his own private reagents.

**PNEUMONIA AFTER OPERATION FOR GASTRIC AND DUODENAL ULCERS.**

MR. R. CHALMERS, M.D., F.R.C.S. Ed. (Assistant Surgeon, Green Bank Hospital, Darlington), writes: In the *British Medical Journal* of June 23rd (p. 1055) Mr. Strong Heaney's report on the results of operation in a series of the above cases emphasizes again the dreadful toll that chest complications, particularly pneumonia, takes of these cases, and robs the surgeon of the success his efforts and skill deserve. I wish here to record the very successful, almost dramatic, results which followed, in a case of pneumonia after operation for acute perforating ulcer of the stomach, from the use of a vaccine made from Wynn's formula, and given in the large doses he recommends, as soon as

the pneumonia became evident. The case was that of a young man, admitted to hospital thirteen hours after an ulcer near the pyloric end of the stomach had perforated. As it was high up in the portal fissure it was closed with difficulty, omentum being required to seal it over; drains were inserted laterally into Morrison's and suprapubic pouches on second day. Consolidation of the left lower lobe appeared, while the right lower lobe was in a doubtful condition. A few hours after the first injection of the vaccine the patient had taken a turn for the better, his skin was moist, and he expressed himself as feeling much better, if it could only get some sleep. This was procured by a hypodermic injection of heroin; other two doses of the vaccine were given on successive days. Thereafter his recovery was rapid and uneventful. Inquiry for a further supply of this vaccine resulted in the information that the makers (Messrs. Parke, Davis and Co.) had discontinued its manufacture; there was such a small demand for it that it did not pay for the cost of production. This is very unfortunate.

**A SURGICAL PORTRAIT GROUP.**

DR. A. E. WINTER (11, Oakfield Road, Clifton, Bristol) writes: Thirty years ago I had prepared for me a photograph from the picture of the Council of the College of Surgeons (1834) and distributed fifty of the copies over the Empire gratis. There are a few still remaining, which can be obtained from me for schools, universities, or institutes of medicine with students in the English-speaking world, preferably those of Africa or America, since the Empire has already many. The portraits in the group include Sir Spencer Wells (abdominal surgery), Lord Joseph Lister (asepsis, antiseptics), and W. G. T. Wells, Boston, U.S.A. (anaesthetics), who represent and symbolize the advances made in surgery during the Victorian era.

**ENDOCARDITIS IN YOUNG CHILDREN AND LAMBS.**

DR. G. ARMOUR STEPHENS (Swansea) writes: I desire to draw the attention of provincial members of the Association to condition of the heart found in undernourished lambs, in the hope that some of them may test my observations. In large flocks it is well known that many lambs are undernourished because, at a time when they are unable to eat much grass, they cannot obtain a proper supply of milk from their mothers. On examining the hearts of such lambs I have found that there is an inflammatory fringe on the edge of the mitral valve and a smaller one on the tricuspid, while the heart muscle is pale and softer than normal.

Milk, as a time-containing food, is necessary for the growth of bone and the development of blood, and, if the supply is reduced, both suffer. The fact which I have been trying to emphasize—namely, that heart disease occurs only in children who do not get milk (while possessing a perverted appetite for acids such as vinegar)—seems to be corroborated by my observations in connexion with lambs. In both cases the blood lacks proper nourishment, with the result that the interaction between the leucocytes and the endothelium of the blood vessels of the valves is so interfered with as to give rise to an inflammatory exudation there. To what extent the lowered vitality of the lambs under these conditions must be associated with a poison introduced by an insect or an intestinal parasite I am not certain, though I am satisfied that such has undoubtedly a marked determining influence in connexion with the development of endocarditis. This is made very evident by examination of badly nourished children who have been bitten by insects such as midges, harvest bugs, or even fleas, at the end of the summer; many of the children are ill from the bites and often show evidence of endocarditis soon after.

**VICARIOUS MENSTRUATION.**

DR. S. WAND (Birmingham) writes: Dr. Chapman's note (June 23rd, p. 1065) regarding vicarious menstruation prompts me to mention a case I had some time ago. The patient, a girl of 17, had frequent and fairly profuse haemorrhages from her respiratory tract. They were more marked at or about her periods. I had her examined by physicians, laryngologists, and radiologists, but nothing was found. I tried a good many drugs and found that calcium lactate and thyroid combined prevented the haemorrhages for a few months. Later (two years ago) she became pregnant, and she has had no recurrence.

**MEDICAL GOLF.**

THE summer meeting of the Medical Golfing Society was held on June 19th at Walton Heath. All competitors were again the guests of Lord Riddell. The weather was fine and the course in excellent condition. The results of the competitions were as follows:

Lancet Challenge Cup.—T. A. Torrance, 3 up.	
Henry Morris Challenge Cup.—T. A. Torrance, H. T. P. Kolesar, H. Chapple.	
Molson Rev.	
Class 1.—1	Kolesar, tied
at 1 up. Be.	Jagger, H. D.
Gillies, tied at 2 up.	

**VACANCIES.**

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 46, 47, and 48 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenancies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 288.



# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 7TH, 1928.

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## THE BRITISH MEDICAL ASSOCIATION AND COLLECTIVE INVESTIGATION.

### PART II.—A NEW VENTURE.\*

IN July last the Representative Body of the British Medical Association approved at the Edinburgh meeting a scheme of collective investigation to be carried out by the Association. The preliminary work upon the scheme was done by a special subcommittee composed of representatives of the Science Committee and the Insurance Acts Committee. Under the chairmanship of Dr. C. E. Douglas this subcommittee examined the records of similar investigations conducted by the Association in the past, the nature of the growing demand for a fresh attempt to find in the collective experience of the profession the answers to questions which daily confront the individual practitioner, and the resources available for the conduct of the proposed inquiries. The general object in view was found to be identical with that set before the Association by the special committee appointed to consider the question in 1880; the difficulties inherent in its pursuit are essentially similar to those encountered in the course of the experiment then made; but the resources available for the work are now incomparably greater than they were when the total membership of the Association did not far exceed 8,000, and the Divisional machinery which to-day gives a ready means of access to the individual member had yet to be devised. Under the scheme adopted as a result of this preliminary survey it was decided to initiate two inquiries forthwith—one into the treatment of varicose ulceration, and the other into the after-effects of gastro-enterostomy. The scheme as finally elaborated has the cordial support of the Minister of Health, expressed in a letter to the President of the Association dated November 7th, 1927, as follows:

DEAR SIR ROBERT PHILIP,

I learn with much interest that the British Medical Association, after consultation with officers of my Department, is about to institute a collective investigation into certain highly important problems of disease. The intention, as I understand it, is to secure the co-operation of a large number of medical practitioners up and down the country in a scheme of team work on an extensive scale, and so bring together the results of many varying kinds of experience. I need hardly say that this endeavour, which promises to throw light on some problems of disease that press urgently for solution, has my warmest sympathy, and I hope it will be brought to a successful issue.

Yours sincerely,  
N. CHAMBERLAIN.

\* Part I, Past Experience, was printed in the SUPPLEMENT for December 31st, 1927, page 245.

The method of approach has been carefully adjusted to the particular problems chosen for inquiry. In the case of varicose ulceration the object is to obtain a general consensus of opinion as to the most effective method of treatment. Every Division of the Association has been asked in the first instance to obtain the names of as many members as possible who will undertake to share in the investigation. The names of all those willing to co-operate will then be communicated to the Head Office by the honorary secretaries of the Divisions, and the remainder of the work will be done by the individual, the records being passed to the Head Office, where expert assistance will be available for their collation and evaluation. A memorandum explaining the object and scope of the inquiry will be sent to all those who show an interest in the subject, together with a set of questions to be answered in respect of every case recorded, and a request for general observations and conclusions based on individual experience in treatment of the condition. The memorandum and questions are printed in full below. In the case of gastro-enterostomy the object is to obtain a sufficient number of reliable histories to establish the relative values of the short-circuiting operations when performed for ulcerous, cancerous, or other conditions of the stomach or duodenum. In this problem the starting point is the surgeon's record of the exact nature of the operative procedure undertaken, and accordingly the memorandum and questions have been issued in the first instance to the surgeons of every hospital of more than one hundred beds throughout the country. Where the after-history of the cases has been followed up by the surgeon himself, he or the surgical registrar authorized by him to record particulars of his cases will be able to complete the full record. Where this cannot be done an attempt will be made to secure from the practitioner into whose care each patient has passed the particulars of the after-history of the case. The inquiry is limited to cases operated upon during the period 1920-24 inclusive. The memorandum and questions are printed in full below.

It is not intended to limit the inquiry to the cases returned by those to whom the memorandum has, as a matter of practical convenience, been addressed in the first instance, and it is hoped that any surgeon who is willing to co-operate in the work will apply to the Head Office for the necessary forms without delay, whether he has or has not received the personal request for particulars.

## INQUIRY INTO THE TREATMENT OF VARICOSE ULCERATION.

### MEMORANDUM.

Varicose ulceration is a common experience in medical practice, and every general practitioner is frequently called upon to treat it. It is accompanied by much pain and discomfort, and is responsible for a large amount of disability, especially among women. Its treatment is tedious unlike to practitioner and patient; the results are often disappointing, and relapses are common. It is a disease mainly within the province of the general practitioner, for it is he who sees the cases from beginning to end, and it is with him that the provision of treatment rests.

The treatment of varicose ulceration therefore appears to be peculiarly suitable for a collective investigation and record by general practitioners, and the collection and co-ordination of their experience would afford a valuable contribution to clinical knowledge. At present there are many methods and many claims. By a comparison of results it may reasonably be hoped that the most successful methods will be secured.

It is to this end that the accompanying questions have been arranged and are now submitted for your co-operation. The questions provide for the record of an individual case, and any number of cases may be reported. In addition, you are invited to record the conclusions that you have reached from your general experience of the treatment of varicose ulceration.

### QUESTIONS.

1. Patient (name or symbol).
2. Sex.
3. Age.
4. Occupation (precise nature).
5. Is patient insured under National Health Insurance Acts?
6. Has ulceration caused inability to work? Give approximate period.
7. At what age did ulceration first occur?
8. Indicate on the diagram on back page the position of the ulcerated surface and its approximate size before treatment commenced.
9. Has the course of ulceration been—(i) continuous, (ii) healing with relapses?
10. Suggested cause of ulcer.
11. What treatment gave the best results in this case?—namely: (i) Local—(a) bandaging, strapping, etc.; (b) nature and strength of medicaments used. (ii) Internal. (iii) Postural. (iv) Operative (give precise nature). (v) Treatment by injection.
12. For what period, if any, was rest in bed with leg raised adopted; or was treatment ambulatory throughout?
13. By whom was the ulcer usually dressed?
14. If ulcer has at any time been completely healed, were any measures adopted to prevent it breaking down again? If so, what?
15. Condition after (period of treatment).

### GENERAL OBSERVATIONS.

- (1) Please indicate from your experience what conclusions you have arrived at on (i) the preventive, (ii) the curative treatment of varicose ulceration.
- (2) Have you found benefit result from administration of calcium salts, or other internal treatment?

## INQUIRY INTO THE AFTER-HISTORY OF GASTRO-ENTEROSTOMY.

### MEMORANDUM.

It is desirable to obtain information as to the after-history of those who have undergone the operation of gastro-enterostomy during the period 1920-24 inclusive, and many general practitioners are doubtless in a position to supply this information. Surgeons regret that in many instances they are unaware of the history of patients after these have left the hospital, and if reliable information of this order could be obtained it would serve to establish the relative value of the short-circuiting operations when performed for ulcerous, cancerous, or other conditions of the stomach or duodenum.

The accompanying questions provide for an individual case, and any number of cases may be reported.

The questions are divided into two sections. Section A deals with the operative and immediate post-operative history; Section B with after-history—that is, after the patient has ceased to be an in-patient at the hospital. It is recognized that, generally speaking, Section A only of the form will be completed by or on behalf of the surgeon. Where, however, the surgeon is in possession of information relative to after-history, it is requested that he will also arrange for the completion of Section B of the form. Where Section B is not so completed it is desirable to obtain the name and address of the practitioner into whose care the patient passed after leaving hospital. The individual case will then be followed up by the Association through this practitioner.

### QUESTIONS.

#### Section A: Operative History.

1. Patient's name and if possible address.
2. Occupation.
3. Sex.
4. Age.
5. Date of operation.
6. What type of operation was performed (e.g., gastro-enterostomy anterior or posterior)?
7. Briefly, what condition was found (e.g., site and size of ulcer or growth)?
8. Reason why the operation was performed (e.g., for relief of pain, bleeding, vomiting).
9. What was the condition of patient after operation?
10. Did a test meal or an x-ray examination show any change?
11. Name and address of practitioner into whose care patient passed (if patient died in hospital please say so). (*This information is only desired to enable the case to be followed up where the surgeon is unable to supply information relative to after-history. If the surgeon is in possession of this information, it is requested that he will also complete Section B.*)

#### Section B: After-History.

12. Has the patient suffered from pain or other discomfort after food? if so, give particulars.
13. Has patient suffered from diarrhoea or constipation?
14. Is patient able to enjoy every kind of food? If not, what sort of food is avoided?
15. How long was it after operation before patient returned to work?
16. Has patient been able to do full work since then? If not, what has prevented patient from working?
17. Has patient gained or lost weight?
18. Has there been a general improvement or impairment of health and well-being since operation?
19. Mention any subsequent treatment found necessary.
20. If case has terminated fatally give: (a) date of death, (b) cause of death.

The Medical Secretary will be glad to answer any questions and give full information in regard to both inquiries. All who are interested in either subject are asked to apply to him at the Head Office of the Association, Tavistock Square, W.C.1, for the necessary forms and instructions.

## British Medical Association.

### CURRENT NOTES.

#### The Nursing Homes (Registration) Act.

The Nursing Homes (Registration) Bill was read a third time in the House of Commons and was agreed to without a division. Almost at the last moment an amendment was put down to exclude Christian Science homes from the scope of the bill. The matter was brought before the Council of the British Medical Association as one of urgency, and it was unanimously agreed to oppose the clause, even if such a step led to the wrecking of the measure. Steps were at once taken to oppose the clause, as it was understood that if there was any objection to the bill it would not come up for discussion, being a private member's bill. A strong protest was sent to the Minister of Health personally, and the decision of the Council was made known to the medical members of Parliament. During the discussion on the bill the argument was adduced by the Minister that if these homes came within the scope of the bill they would be obliged to have trained nurses on their staffs and qualified doctors in attendance, a thing which in the circumstances was absurd; and that the only alternatives were either to close them down—an act which would be regarded as religious persecution—or to make it plain that these institutions were not nursing homes. On the understanding that the amendment would be altered "in another place" to provide that these institutions should be described as "Christian Science houses" and not homes, the House agreed to the amendment, as it was thought that this designation would prevent persons going into them under the impression that they were ordinary nursing homes. A perusal of the debate (reported under Medical Notes in Parliament in the last two issues of the JOURNAL) shows that several speakers were not altogether satisfied, and it is manifest from the report of the proceedings in the House of Lords that, as is

not uncommon at this stage of the session, the bill was handled with a haste which might almost be described as indecent. The bill received the Royal Assent on December 22nd, 1927.

#### Civil Servants and Membership of the B.M.A.

There has been some doubt as to whether the Civil Service (Approved Associations) Regulations, formulated in accordance with the Trade Disputes and Trade Unions Act, 1927, would prevent an established civil servant from becoming or remaining a member of the British Medical Association. The Medical Secretary is given to understand that there is nothing in these regulations to prevent an established civil servant from belonging to the Association.

#### The Hempton Prize.

Mr. W. E. Hempton has placed at the disposal of the Council, upon his retirement in March next from the post held by him for thirty years of Solicitor of the Association, and as a mark of esteem for the Association and appreciation of his happy relations therewith, a sum of twenty-five guineas, to be awarded as a prize for the best essay or treatise on some phase or branch of public health. The subject approved by the Council for the prize is "A study of personal experiences in the inspection and treatment of school children under the auspices of any elementary education authority." The following conditions govern the award of the prize:

1. Only members of the Association are eligible to compete.
2. Studies must be sent to the Medical Secretary, British Medical Association House, London, W.C.1, not later than December 31st, 1928, and the prize will be awarded at the Annual General Meeting of the Association at Manchester in 1929.
3. No study that has been published in the medical press or elsewhere will be considered eligible.
4. If any question arises as to the eligibility of the candidate or the admissibility of his study, the decision of the Council on any such point shall be final.
5. Each study must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.
6. Inquiries relative to the prize should be addressed to the Medical Secretary.

#### Subscriptions for 1928.

Members of the British Medical Association are reminded that subscriptions fall due on January 1st in each year, and that if each member on receiving an application for his or her subscription from the Head Office will send the amount to the Financial Secretary without delay the work of the office will be very considerably lightened. Members are also reminded of the claims of charity. The amounts at the disposal of those who administer medical benevolence are altogether insufficient to deal adequately with the cases needing help, and the British Medical Association Charities Fund was formed in order to assist. Contributions are urgently needed, and all members are asked to add to their next payment a sum for the credit of that Fund.

### Association Notices.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A clinical and pathological meeting of the Nuneaton and Tamworth Division, arranged by Dr. Pracy, will be held at the Nuneaton General Hospital on Wednesday, January 11th.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division will be held at Maryport on Friday, January 27th. Dr. J. N. Douglas Smith will read a paper on the early treatment of puerperal sepsis.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Enoch Station Hotel on Wednesday, January 11th, at 3.30 p.m. Dr. Douglas Guthrie (Edinburgh) will read a paper on the septic tonsil and discharging ear, with lantern illustrations.

**ESSEX BRANCH: SOUTH ESSEX DIVISION.**—A meeting of the South Essex Division will be held on Tuesday, January 10th, when Mr. E. C. Hughes will give an address on surgical mistakes.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A clinical meeting of the Hyde Division will be held in the Maternity and Child Welfare Centre, Hyde, on Thursday, January 26th, at 8.30 p.m.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next clinical meeting of the City Division will be held on Friday, January 13th, at 4.15 p.m., when Dr. Norman Hill will show cases. Tea.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, January 10th, at 8.45 p.m. Mr. W. S. Porritt will read a paper.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—A meeting of the Hampshire Division will be held at the Hampshire General Hospital on Thursday, January 12th, at 8.30 p.m. Dr. T. Izod Bennett will read a paper on the treatment of gastric ulcer.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A clinical evening arranged by the Lewisham Division will be held at the South-Eastern Children's Hospital, Sydenham, on Tuesday, January 17th.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—By the kind invitation of Mr. H. S. Wellcome a meeting will be held at the Wellcome Historical Museum, 51A, Wigmore Street, W.1, on Wednesday, January 18th, at 8.15 p.m., when the conservator, Mr. Malcolm, will demonstrate in the various sections of the museum. Ladies are invited, and Mr. Wellcome has kindly offered to provide hospitality. Members proposing to bring guests are asked to notify Dr. W. Griffith (honorary secretary), 1, Harley Street, W.1.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—At the meeting of the North Middlesex Division to be held on Wednesday, January 25th, Mr. T. H. C. Benians will read a paper on local immunization and antiviral therapy.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, January 10th, at 9 p.m. Sir Squire Sprigge will read a paper entitled "The middle years."

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, N.W., on Wednesday, January 18th, at 9 p.m. Dr. Christine Murrell will discuss the question of nursing homes for middle-class patients.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, January 13th, at 8.15 p.m. Mr. W. W. King will read a paper on dysmenorrhoea—as a cause and a symptom.

**MIDLAND BRANCH: HOLLAND DIVISION.**—A meeting of the Holland Division will be held at Spalding-to-day (Friday, January 6th), at 3 p.m. Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge, will give a British Medical Association Lecture on the medical aspects of idiosyncrasies.

**NORTH OF ENGLAND BRANCH: BISHOP AUCLAND DIVISION.**—A meeting of the Bishop Auckland Division will be held at the Cottage Hospital, Bishop Auckland, on Friday, January 27th, at 8 p.m. Dr. J. C. Spence will give a lecture on medical emergencies in children.

**NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.**—The Tyneside Division has arranged to hold a dinner on January 13th. Sir Robert Bolam has promised to attend, and the member of Parliament for Tyneside, Major West Russell, has been invited.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the Oxford Division will be held in the Radcliffe Infirmary on Wednesday, January 25th, at 2.30 p.m. Dr. T. Izod Bennett will lecture on recent advances in pernicious anaemia.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, January 19th, at 8.30 p.m. Dr. H. W. Marett Tims will read a paper on heredity in relation to social problems.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The annual dance arranged by the Portsmouth Division in aid of medical charities will be held at the Savoy Café on Tuesday, January 10th. The next meeting of the Portsmouth Division will be held at the Queen's Hotel, Portsmouth, on Thursday, January 12th, at 9.30 p.m., preceded by a supper at 9 o'clock (cost 3s. 6d., including gratuities). Mr. E. Mapother, medical superintendent, Mandsley Hospital, will give an address on the possible co-operation of the profession in the treatment of mental disorders. Members who desire to take part in the Treasurer's Cup golf competition are asked to send their names to Dr. Mearns Fraser, 32, St. Ronan's Road, Southsea. Members intending to be present at the supper are requested to notify the honorary secretary.

**SOUTH-WALES BRANCH: SOUTH-WEST WALES DIVISION.**—Dr. Frederick W. Price will give a British Medical Association Lecture at 3 p.m. on Wednesday, January 11th, at the Carmarthenshire Infirmary, Carmarthen, on some recent advances in the diagnosis, prognosis, and treatment of heart disease. Tea will be provided at the Infirmary.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held in the Library of the Royal Devon and Exeter Hospital, on Thursday, January 19th. Members desiring to bring forward cases, notes, papers, specimens, or notices of motion are asked to notify the honorary secretary, Dr. P. D. Warburton, 15, Southernhay East, Exeter, in order that they may be placed on the agenda paper.

**SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.**—The annual meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, to-day (Friday, January 6th), at 3.30 p.m. Agenda: Representative and flag funds; annual report and balance sheet; election of officers for 1928; public education in health (Dr. A. M. N. Pringle, M.O.H., will explain proposals); address by Dr. J. F. Walker on medical charities. As this is the most important Divisional meeting of the year it is hoped that every member will make a special effort to attend.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, January 11th, when Dr. G. Lewin will give a lantern demonstration on Bazin's disease. The meeting will be preceded by tea at 4 p.m.

**WEST SOMERSET BRANCH.**—A clinical meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital on Tuesday, January 24th, at 3.30 p.m. A paper open to discussion will be read by Dr. W. H. Maidlow (Ilminster) entitled "A to Z. Subjects of interest to the general practitioner." Tea will be served at 4.30 p.m.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—A meeting of the Dewsbury Division will be held at the Batley Hospital on Friday, January 13th. Mr. L. R. Braithwaite (Leeds) will read a paper on chronic pains in the right iliac fossa.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Great Bull Restaurant, Westgate, Wakefield, on Thursday, January 12th. Dr. G. B. Hillman will give a lecture on the insurance practitioner and some of his relationships. Supper (2s. 6d.), at 7.45 p.m., will precede the lecture.

## Meetings of Branches and Divisions.

### EDINBURGH BRANCH: EDINBURGH AND LEITH DIVISION.

#### Reception to New Graduates.

A RECEPTION was given by the Edinburgh and Leith Division on December 15th, 1927, to medical students who had recently graduated, and Mr. DAVID LEES delivered an address on medical ethics. After referring to the great traditions of the Edinburgh School of Medicine, he compared them with the historic rules of conduct associated with the name of Hippocrates. Mr. Lees then dealt with the ethics of medicine, with special reference to the conduct of general practice. He said that ethics defined what a man ought to do and he; its rules were based on a threefold conception of duty—namely, to patients, to colleagues, and to the laws of the State. Daily association with patients required the possession of a sense of duty, conduct, and character which included a decisive mind, self-control, and consideration for the views and opinions of others. Professional rivalry should be encouraged, being always in the interests of individuals and of medicine; professional jealousy, on the other hand, brought medical practice into contempt. Mr. Lees then gave an indication of the course to be adopted in the matter of transference of patients from one doctor to another. He referred to his recent visit to India, and commented on the prevailing lack of any ethical code among many of the graduates of the younger universities in the East. He believed that this resulted in harm to the profession and to patients, and detracted from the respect which should be accorded to a medical practitioner. Mr. Lees referred briefly to the work of the General Medical Council, and urged the members of his audience to make themselves familiar with all their statutory obligations.

### LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held at the Lyceum, Rochdale, on December 14th, 1927, when Dr. E. H. Cox, D.S.O., the chairman, presided.

A resolution of condolence with the widow of the late Dr. James Melvin, sen., was passed, all the members standing in silence.

Dr. L. KILNOR was elected secretary in place of the late Dr. James Melvin, sen.

Dr. DANIEL DOUGAL, lecturer in obstetrics and gynaecology at the University of Manchester, read a paper on "Haemorrhage about the menopause: its investigation and treatment." The address was followed with great interest by the meeting, and, after discussion, Dr. Dougal was heartily thanked for his lecture.

### METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

#### Annual Dinner.

THE annual dinner of the City Division was held at the Trocadero Restaurant on December 1st, 1927, when Dr. PHILIP HAMILL was in the chair. Among the guests of the Division were Dr. W. Langdon Brown, Professor Hugh Maclean, Dr. N. G. Horner (the Assistant Editor of the *BRITISH MEDICAL JOURNAL*), Dr. Anthony Feiling, Dr. R. Brontë, Mr. Capps, and Dr. Lucey. An excellent dinner was enjoyed by the eighty members and guests present, and the latter part of the evening was pleasantly passed enjoying the toasts and musical entertainment.

The toast of "The British Medical Association" was admirably proposed by Professor HUGH MACLEAN, and replied to neatly and shortly by Dr. HORNER. Dr. KENNEL proposed the toast of "The Guests," which was replied to by Dr. Langdon Brown. The toast of "The Chairman" was proposed by Dr. HAROLD LATHAM, and acknowledged by Dr. HAMILL, and many compliments were paid to the honorary secretary, Dr. W. E. A. Worley, for his services to the Division.

The musical entertainment was provided by Mrs. Westerman, the wife of a past chairman, and Mr. Sterndale Bennett, who gave sketches at the piano. The Division owes a deep debt of gratitude to Mrs. Westerman for her kindness in enabling the Division to enjoy singing of a character not obtainable at smoking concerts.

### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at the Town Hall, Cntford, on December 20th, 1927, when Dr. W. E. HALLINAN occupied the chair.

Dr. ROSE JONNAN, tuberculosis officer for Lewisham, read a paper on the differential diagnosis of pulmonary tuberculosis. She said that in Lewisham, with its area of 7,015 acres and population of 187,800, the death rate was 10, and the deaths from tuberculosis in 1920 numbered 162, of which 135 were due to tuberculosis of the lungs. She showed charts illustrating the steady fall of the tuberculous death rate in this borough and in the county generally. Important diagnostic points were the personal and family history and the general appearance. In the physical examination the patient should be stripped to the waist and palpation performed with the flat hand. During auscultation the patient must breathe through the month. Children were much more difficult to diagnose than adults, and it was hard to detect tuberculosis when the chest was full of adventitious sounds, as in bronchial asthma. The bronchitic chest was usually symmetrical, and in cardiac cases sounds were heard at the bases. Bleeding seldom came from the throat and was then always small in amount. Young adults with haemorrhage often did very well, since they had few other symptoms.

Dr. E. OFFENHEIM described Verne's test, as applied to the diagnosis of tuberculosis, and said that there were three known fallacies—namely, the presence of early chancre, advanced cancerous cachexia, and neutrolobar pneumonia.

Dr. F. H. EVANS, G. JONES, BEATTIE, and HALLINAN joined in the discussion, and a vote of thanks was passed to the lecturer.

### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Willesden Division was held at the Willesden General Hospital on December 21st, 1927, when Dr. N. R. BEATTIE, assistant medical officer of health for Willesden, read a paper on public education in health.

Dr. Beattie alluded to the favourable statistics of puerperal morbidity in the Willesden area in the previous year, and he noted this as a striking proof of the value to the community of the health services. He pleaded for the greater co-ordination and centralization of the many official and unofficial health services now operating. He envisaged all medical services under the control of the State as the ideal towards which the present services were inevitably, if slowly, evolving. Dr. Beattie criticized the present teaching of hygiene in the medical schools in view of the elementary character of the instruction and the uninspired manner in which this branch of medicine was presented to the student. Dr. Beattie offered several suggestions for educating the lay public. The teaching of hygiene in schools should be given a prominent place in the curriculum, and should be efficient; the present practice was negative in both these respects. Secondly, the Churches should be explored regarding the possibility of their facilitating the propagation of knowledge of hygiene: co-operation between the priest and the doctor in a joint effort for the dissemination of this knowledge was very desirable. The utilization of the press for the same purpose, if intelligent and on organized lines, could become a most effective channel for instilling into the public mind the laws of health.

A very interesting discussion followed the reading of this paper, and many of the obstacles to be overcome in forwarding a scheme of health education were considered. Dr. Beattie was recorded a hearty vote of thanks, and the question was referred to the Executive Committee.

Dr. W. LOCK presented the report of the Dinner Committee, and was warmly thanked for making the arrangements for a very successful evening.

### SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

A MEETING of the Cardiff Division was held on December 15th, 1927, when Professor W. E. DIXON, M.D., F.R.S., Reader in Pharmacology in the University of Cambridge, delivered a British Medical Association Lecture on the trend of thought in modern therapy, which was attended by about a hundred members of the Division. Professor Dixon was in his very best form, and spoke for fully an hour and a quarter. He dealt with many aspects of modern therapy, and the lecture was thoroughly enjoyed and much appreciated by the audience. At its conclusion Professor Dixon was entertained by the Division to supper at the Park Hotel.

### ULSTER BRANCH: FERMANAGH DIVISION.

As already briefly reported in our issue of December 24th, 1927 (p. 1203), Dr. Leonard Kidd invited, on December 15th, the medical profession to the 10th Donegal dinner in Enniskillen for the 10th anniversary of the Fermanagh Division of the British Medical Association. The meeting Dr. Hennessy (the Irish Medical Secretary). A large and representative company was present, and enjoyed Dr. Kidd's hospitality. The toasts of "The King" and "The British Medical Association" having been duly honoured, Dr. HENNESSY gave a very interesting and instructive account of the working of the British Medical Association and the great part it played in the medico-political, scientific, and economic life of the profession. They were all aware of the benefits derived from membership of such a powerful Association, and it was unnecessary for him to dwell unduly upon this point. He instanced the financial improvement in the salaries of many medical men brought about through the instrumentality of the British Medical

Association. The BRITISH MEDICAL JOURNAL, which members received weekly, was one of the leading medical journals of the world, and would always keep members abreast of current clinical, scientific, and medico-political thought. He was delighted to have invited himself of Dr. Kidd's hospitality and to be amongst them in Fermanagh that evening. Dr. Kidd and he had been very old friends—their common desire (though perhaps differing slightly in their methods) had always been the promotion of the best interests of the profession. He sincerely hoped that the Division would be established on a sure footing in county Fermanagh, and he wished Dr. Kidd and his fellow workers every success in their undertaking.

The following officers were then elected:

Chairman, Dr. L. Kidd. Vice-Chairman, Dr. T. C. Taylor. Secretary-Treasurer, Dr. J. Maguire.

Dr. Kidd subsequently referred to the report of the Poor Law Commission (Northern Ireland). He deplored the fact that there was no mention of a Minister of Health, and criticized various other defects in the report. He drew attention also to the form of medical certificate required by sick jurors at present in Northern Ireland—whereon the precise cause of the illness had to be stated. Dr. Kidd thought that the form should be altered, and advised their representative to bring up the matter at the Branch Council.

Dr. T. A. SMYTH said that the educational committees (regional) now required medical certificates for children when absent from school through illness. In the case of dispensary patients and those unable to pay, the committee had made no attempt to pay for medical certificates. Dr. Smyth had invariably refused certificates in these cases, and would still continue to refuse them (unless the committee made some arrangement with the doctors about payment). This was an important matter, and should be raised in the proper quarter.

Heartly votes of thanks were accorded Dr. Hennessy for his interesting address, and to Dr. Kidd for his kindness and hospitality. The general consensus of opinion was that this had been one of the most enjoyable and profitable evenings ever spent by the profession in Fermanagh.

## National Insurance.

### THE PROVISION OF DENTAL BENEFIT.

THERE can be little doubt that if Parliament were now establishing the national health insurance system with the advantage of present experience, the position of dental benefit and of what are now called additional treatment benefits would be fundamentally altered. There can be no justification in any national health scheme for making dental treatment and certain forms of special medical treatment available only for some, and not for all, insured persons, irrespective of their needs and of the fact that all alike pay the same insurance premium. There is really no excuse for the continuance of this state of things when once its existence has been disclosed as the result of the societies' valuations; and the only explanations are the congestion and inertia of Parliament and the obstinate tenacity with which the societies have clung to the whole of their segregated funds and refused a partial national pooling thereof—a refusal which, it seems, cannot be upset on legal grounds, but can have not the slightest justification on any other ground whatever. So manifestly unjust is the position now seen to be that the continued obstinacy of the societies is beginning to undermine their whole position in public opinion; and the superior foresight of that small minority of approved society officials who have been favourable towards the partial pooling of funds recommended by the Royal Commission for these purposes will probably become evident before very long.

Though they are alike in their partial and haphazard availability, dental benefit and the additional treatment benefits differ from one another as to their provision and administration. Dental benefit is defined as "the payment of the whole or any part of the cost of dental treatment," and the additional treatment benefits are described in sanctioned schemes as "the payment of the whole or part of the cost of" certain forms of medical treatment or ancillary services. In spite of this similarity of definition, approved societies can have nothing to do with the provision and administration of forms of medical treatment, as this is held to be "of the nature of medical benefit," and therefore administrable only by Insurance Committees and not by approved societies; whereas dental benefit being in a separate category in the schedule of additional benefits,

the provision and administration of dental treatment may legally be undertaken by approved societies themselves. This distinction between the provision of the cost of some forms of medical treatment and the provision of the treatment itself is obviously very thin, and it is more than likely that if the profession had been in a position boldly to challenge this departmental distinction at the outset in the law courts, and to carry the case to the House of Lords, the result would have justified the action. It is a question whether it is now too late to make such an action worth while.

As things are, however, the dental profession is in a different position from the medical profession in relation to the approved societies. In the latter case, direct negotiations with regard to terms and conditions of service have always been refused; in the former case such negotiations were clearly a necessity if there were to be any degree of uniformity of benefit or collective influence on the part of dentists. Such negotiations took place last year under the auspices of the Ministry of Health and the Scottish Board of Health by means of a joint committee composed of fourteen dental representatives and a like number of representatives of the societies. Fortunately for the dentists, certain principles and precedents have been established by the Medical Benefit Regulations, which it was agreed to follow; some important points had thus been safeguarded by the previous action of the medical profession. The result of the work of the joint committee is a scheme which, though not binding upon any particular approved society, and always limited by the amount of money disposable in any year for the purpose of dental benefit, has been accepted by societies covering about 95 per cent. of the insured persons concerned. Particulars as to what exactly is included under the term "dental treatment," as to the procedure to be followed when such treatment is claimed, and as to the terms and conditions of service of dentists in connexion therewith, have been communicated to approved societies and to dentists from time to time by means of circulars and professional journals, and certain aspects of the scheme were commented upon in our columns (SUPPLEMENT, October 9th, 1926, p. 161) some months ago. There is still, however, a good deal of ignorance or doubt in connexion with the scheme, and the joint committee has just issued a "Dental Benefit Handbook" (His Majesty's Stationery Office, price 3d.), setting out in convenient form such details and explanations as seem necessary, and giving, in addition, a summary of the principal decisions of the interpretation committee and certain selected decisions of the investigation committee, such committees being in the nature of courts of appeal.

The medical profession is no party to these negotiations or arrangements in any sense whatever. Its interest in them is indirect, and may be said to be of a threefold character. First, practitioners may wish to know sufficient of the scheme to help their patients to obtain any dental treatment to which they are entitled. Secondly, the provisions with regard to anaesthetics in connexion with dental benefit may have some bearing on medical fees for the administration of such anaesthetics. Thirdly, it is possible that certain features of the scheme should be noted, as warnings or otherwise, when any extensions of the insurance medical service come to be discussed in more detail.

Not all societies provide dental benefit. Even when a society does provide it a member does not normally become entitled to such benefit till the beginning of January in the fifth year after that in which he last joined the society. The only obligation of an insurance practitioner is that, if he has advised his patient to obtain dental treatment, if the patient's society has notified the practitioner that the patient is entitled to such treatment, and if the patient is already under certification, he must



enter on the next regular certificate issued to the patient a statement that dental treatment is recommended. But most practitioners will be quite willing, even without charging a fee, to help their patients in this regard without any narrow insistence on this limited obligation. The benefit ordinarily consists of payment by the society of the whole cost of operative treatment and not less than half the cost of dentures; but owing to lack of funds set aside for this purpose certain societies have been authorized to pay only 75 per cent. of the cost of operative treatment; and some have been obliged temporarily to suspend the benefit altogether. This treatment may be obtained by the patient from any registered dentist who is working under the scheme. In order to obtain a grant the member must ordinarily, before any treatment is begun, have submitted the dentist's estimate to the society and have obtained the society's authorization.

The scale of charges agreed upon is no concern of the medical profession. There are some indications that at the moment it is more satisfactory to the dentists than to the societies. The scale of charges for anaesthetics is, however, of some interest. It is not binding on any medical man, and has, in fact, been repudiated entirely by the British Medical Association. It contains two provisions which are of an extraordinary, not to say ludicrous, character. One of these is that where there are extractions from both jaws the anaesthetic fee is to be higher than if the extractions are from one jaw only. The other is that only one administration fee is to be charged to each patient, even if that patient requires more than one administration. No explanation of these remarkable provisions has, so far as we know, ever been vouchsafed. The actual fees prescribed are: (1) simple administration of nitrous oxide or similar anaesthetic, one jaw 7s. 6d., both jaws 10s.; (2) prolonged anaesthesia where not less than twelve teeth are extracted at one operation, £1 1s. These are the fees on which the dentist must estimate, and which will be paid to him if the society accepts his estimate. If he employs a medical practitioner as anaesthetist it is to be presumed that he will not be very willing to pay the anaesthetist larger fees than he will himself be allowed, and he is not allowed to charge his patient any larger fees than these. If, however, the patient himself asks to have his own medical attendant as anaesthetist, and the fee is in excess of those mentioned, the dentist may arrange this with the doctor and charge the excess to the patient.\* The choice of an anaesthetist rests with the dentist. A knowledge of the conditions set out above may be useful to medical anaesthetists arranging their fees with the dentist. In all cases of prolonged anaesthesia the anaesthetist must be "either a medical practitioner or a dentist (other than the dentist performing the extractions) skilled in the administration of a suitable general anaesthetic and included in a list to be approved by the Dental Benefit Joint Committee." As we previously pointed out, the obvious ambiguity of this provision would be completely avoided by the insertion of a comma after the words "medical

practitioner." For some reason the Joint Committee has preferred not to insert the comma, but to explain elsewhere that the proviso applies only to a dentist and not to medical practitioner. Even so, the explanation is expressed incorrectly. The handbook states (p. 15) "any registered medical practitioner, therefore, is entitled to receive a fee under Item 5 (b) (ii) irrespective of the inclusion of his name in the panel." The medical practitioner, cannot be too clearly understood, has no rights or duties under this scheme at all. What is meant is that the dentist has the right to employ a medical practitioner as anaesthetist and to receive the prescribed fee in respect of administration. The difference is not negligible.

There are two points worth noting in connexion with possible developments of the medical insurance service. One is an important difference of function between the regional dental officer and the regional medical officer. The former may be (it seems, usually is) required to judge of the propriety of the dental treatment which his professional colleague proposes to give his patient, and the quality and success of such professional work after has been given. This seems, on the face of it, a highly undesirable state of affairs, and if it must be accepted, the best dentists as a regrettable necessity with regard to dental work and in the present conditions of the dental profession, it cannot be too emphatically stated that inspectorial functions analogous to these would never be tolerated for a moment by the medical profession. The second point is the statement of the joint committee with regard to dental clinics. The committee does not express any definite opinion on the question of the general institution of dental clinics, but "recommends that an experimental dental clinic be set up in a suitable area or areas, if possible under the supervision of the Minister of Health or the Scottish Board of Health," and says that "the steps necessary to give effect to this recommendation are not being taken by the committee." We made some comment on such a proposal in the JOURNAL of August 27th, 19 (p. 355).

## Correspondence.

### Ophthalmic Clinics for Insured Persons.

SIR,—The letter in the SUPPLEMENT of December 24th, 19, from Dr. Bickerton is so misleading that I feel obliged to reply to it. I do not agree with the policy of the Ophthalmic Committee of the British Medical Association; in my opinion they are making a fatal mistake in advocating clinics. Already there are signs that some societies are taking advantage of the favour shown by the British Medical Association to the club system and are actually starting clinics themselves, which as we might have been expected, entirely controlled by the societies.

It is all very well to divide societies into good and bad but it is a false division. A society formed from members of a good social position has a far lower sickness rate than one formed from members of an unhealthy trade. The surplus varies in different societies. One can afford to give its members extra benefits, whereas another finds itself with no surplus funds. Are we to label the latter a "bad" society on that account? It is no good to argue that as there is a surplus of over one hundred millions in the National Insurance Fund therefore the societies can afford to pay the fee required. The fees are paid by individual societies, and not by the nation fund.

The fault of the whole matter is that we have not consented to let certain varieties of defects of sight, mainly cases of presbyopia, go to opticians. It is ridiculous to send every patient, without any discrimination, to an ophthalmic surgeon. The Panel Conference recognized this, and voted accordingly. The dictum, "Send all cases to an ophthalmic surgeon," must be modified. As was stated to the Panel Conference by a representative of the Ministry, it is impossible to pay for the only other way of overcoming the difficulty is to treat cases of presbyopia at a lower fee than the guinea.

To compare school clinics with those that are proposed for societies is a very poor argument. School children are all under one authority, and are treated in most areas by whole-time men as a part of their duty as school medical officers. Suitable

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"Case No. 955. If a patient desires to employ his or her own medical attendant to administer ordinary nitrous-oxide gas, and is willing to pay the fee, is this permissible under the scale?—Decision: If the patient desires to employ his or her own anaesthetist for the ordinary administration of nitrous oxide the patient is liable and must pay the anaesthetist's fee, the dentist charging only the scale fee for the extraction." Some further explanation seems called for.

premises and apparatus are provided by the education authorities, and the children can be dealt with at certain hours in the lump. To compare the two is to suggest that the societies shall set up clinics and work on the same system, which would be disastrous.

We have got to get our living and to protect our profession from being exploited. Does the writer of the letter consider the fees suggested as suitable for clinic work to be at all satisfactory? I think they are an insult. The result of starting clinics will be to lower the whole status of ophthalmic work. How futile it is to suggest that the members should pay the difference between the clinic fee and that of an ophthalmic surgeon if they want the latter! At the present day working men are out to get everything for little or nothing. How many will pay the extra fee?

Then, in the last paragraph, the writer states: "At present those who do not like the clinic scheme need not undertake the work." This is to say that if a clinic is established in the town where I reside I am to lose all my ophthalmic work if I do not join the clinic. That is a nice brotherly position to take up, is it not? If the clinic system is adopted the societies will obtain control, put in the medical man who is willing to do the work at the cheapest rate, and the rest can go to the devil!

If hospital ophthalmic surgeons are so foolish as to do work for nothing, for which they would be paid if they went about it in the right way, it is only another example of the lack of business aptitude of medical men. Every hospital ophthalmic surgeon should put his foot down and say, "I will not treat members of societies at the hospital." If they do not do this they are acting unfairly to themselves and to other colleagues who depend partly on ophthalmic work for a living.

I trust that clinics will not be established. It is by far the best plan to stick to the guinea fee and see the patients at our own rooms, making a modified charge for simple cases, such as presbyopia, or letting them go at their own risk to an optician.

I am afraid the Ophthalmic Committee of the British Medical Association has too many ophthalmic surgeons as members to the exclusion of those who are familiar with panel work and know the conditions of general practice in connexion with the panel. There are many men who have taken up refraction work as a sideline; these should be represented.—I am, etc.,

Hastings, Dec. 27th, 1927.

ARTHUR E. LARKING.

## WILLIAMS-FREEMAN PRESENTATION FUND.

The following is the fourth list of subscriptions received in response to the letter published in our columns of October 1st, 1927 (p. 159):

	£	s.	d.
Amount previously acknowledged ... ..	1,267	17	6
<i>Local Medical and Panel Committee Contributions.</i>			
Worcestershire Local Medical and Panel Committee ..	29	9	0
Somerset Panel Committee ... ..	25	10	6
Midlothian Panel Committee ... ..	2	2	0
Buckinghamshire Local Medical and Panel Committee	33	2	6
Lincolnshire (Holland) Panel Committee ... ..	5	5	0
Hertfordshire Local Medical and Panel Committee ...	10	10	0
Herefordshire Medical and Panel Committee ... ..	43	8	0
Merioneth Panel Committee ... ..	8	18	6
Middlesex Panel Committee ... ..	3	0	6
Bournemouth Panel and Local Medical Committee ...	5	5	0
Anglesey Panel Committee ... ..	15	14	0
Brecon Panel Committee ... ..	20	0	0
... ..	24	0	0
... ..	61	10	0
... ..	75	18	0
... ..	14	2	6
<i>Individual Contributions.</i>			
Dr. G. Candler, Black Torrington, Devon ... ..	10	6	
Drs. Todd and Smalley, Gullington, Devon ... ..	2	2	0
Dr. C. B. T. Musgrave, Lifton, Devon ... ..	1	1	0
Dr. Toye and Wilson, Bideford, Devon ... ..	1	1	0
Drs. Harper, Jonas, Gibbs, and Shaw, Barnstaple, Devon	2	2	0
Dr. L. S. Luckham, Salisbury ... ..	1	1	0
Drs. E. O. and M. G. H. Kingdon, Holsworthy, Devon	2	2	0
Drs. Langran and Crookford, Axminster, Devon ...	1	1	0
Dr. A. Forbes, Sheffield ... ..	1	1	0
Drs. Andrews and Miles, Modbury, Devon ... ..	1	1	0
Dr. Traill, Ottery St. Mary, Devon ... ..	1	1	0
Drs. Twining and Moore, Salcombe, Devon ... ..	2	2	0
Total to January 2nd (morning) ... ..	£1,661	18	6

Cheques should be made payable to the Williams-Freeman Presentation Fund, and addressed to Dr. D. G. Greenfield, Treasurer, c/o the Medical Secretary, British Medical Association, British Medical Association House, Tavistock Square, London, W.C.1.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenant Commanders F. G. Hunt to the *Tamar* for Hong-Kong Dockyard; P. H. Vey to the *Victory* for Portsmouth Dockyard; C. T. Hyatt to the *Field*.

Surgeon Lieutenants D. Duncan to the *Vernon*; J. H. Nicolson to the *Tiger*, temporary, and to the *Cornwall* on commissioning with full complement; S. G. Weldon to the *Acta*, temporary.

### ROYAL ARMY MEDICAL CORPS.

Colonels G. M. Goldsmith, C.B.E., and H. D. Packer, C.I.E., into R.A.M.C., retire on retired pay.

Colonel R. H. Lloyd, late R.A.M.C., is placed on half pay under the provisions of Articles 139 and 485, Royal Warrant for Pay and Promotion, 1926.

Lieutenant-Colonels from R.A.M.C. to be Colonels: E. McDonnell, D.S.O., vice Colonel G. M. Goldsmith, C.B.E., to retired pay; Brevet Colonel A. H. Safford, vice Colonel R. H. Lloyd to half pay; Brevet Colonel J. W. West, C.M.G., K.I.S., vice Colonel H. D. Packer, C.I.E., to retired pay.

Lieut.-Colonel A. McManis, O.B.E., having attained the age fixed for compulsory retirement, retires on retired pay.

Majors to be Lieutenant-Colonels: V. Low, D.S.O., O.B.E., vice Lieut.-Colonel E. McDonnell, D.S.O., promoted; A. N. Fraser, D.S.O., vice Lieut.-Colonel and Brevet Colonel A. H. Safford, promoted; R. H. L. Cordner, vice Lieut.-Colonel and Brevet Colonel J. W. West, C.M.G., K.I.S., promoted.

Captain G. T. Gimlette to be Major (prov.).

Temporary Lieutenant O. A. Owen-Flood (Lieutenant, Regular Army Reserve of Officers, Royal Irish Fusiliers) relinquishes his temporary commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

The promotion of the following officers is announced in the Supplement to the *London Gazette* of January 2nd, containing the list of New Year Honours, etc.: Wing Commander E. C. Clements, O.B.E., to be Group Captain; Flight Lieutenant (Acting Squadron Leader) J. N. MacDonald to be Honorary Wing Commander.

Flight Lieutenants O. J. Griffiths to R.A.F. Station, Bicester; D. B. Smith to Station Headquarters and Storage Section, Andover.

### INDIAN MEDICAL SERVICE.

The services of Lieut.-Colonel G. W. Macdonachie have been placed at the disposal of the Government of Bihar and Orissa, for employment as Officiating Inspector-General of Prisons, Bihar and Orissa.

On reversion from the cadre of Agency Surgeons under the Government of India in the Foreign and Political Department, the services of Major C. J. Stocker, M.C., are placed temporarily at the disposal of the Government of the Central Provinces.

The services of Captain M. T. Khundwalla are placed temporarily at the disposal of the Government of Madras for employment in the Jail Department.

Lieut.-Colonel W. H. C. Forster to be Colonel, vice Colonel A. Fenton, retired.

Lieutenant J. H. Clapp to be Captain.

Lieut.-Colonels T. S. Norris, V.H.S., and W. F. Harvey, C.I.E., have retired from the service.

## VACANCIES.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HINTS HOSPITAL.—House-Surgeon (male) for the Boscombe Branch. Salary £120 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—(1) Two Out-patient Officers; remuneration at the rate of £150 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum.

CROYDON COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Honorary Gynaecologist.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Senior House-Surgeon (male). Salary £200 per annum.

FREMAMONS HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—Resident Medical Officer (male). Salary at the rate of £250 per annum.

GLASGOW ROYAL CANCER HOSPITAL.—Research Worker. Salary £800 to £1,000 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Two House-Physicians. Honorarium £50 for six months.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Casualty Officer (male). Salary £150 per annum, rising to £200.

KENSINGTON, FULHAM, AND CHelsea GENERAL HOSPITAL.—Honorary Dental Surgeon (male).

LEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LINCOLN: THE LAWN.—Medical Superintendent. Salary £700 per annum.

LOCHCANNON PARISH COUNCIL, Ross-shire.—Medical Officer and Public Vaccinator. Salary £135 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon (male). Salary £120 per annum.

MANCHESTER: AXLOTT'S HOSPITAL.—House-Surgeon (Orthopaedic). Salary £100 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Two Junior House-Surgeons. Salary £120 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer. Salary £35 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—Two House-Surgeons for the Whitworth Street West Hospital (Maternity).

MANCHESTER: UNION.—Junior Resident Assistant Medical Officer (female) at the Booth Hall Infirmary for Children. Salary at the rate of £275 per annum.

MARGATE: ROYAL SEA BATHING HOSPITAL.—Two Male House-Surgeons. Salary at the rate of £200 per annum.

METROPOLITAN ASYLUMS BOARD: TUBERCULOSIS SERVICE.—Junior Assistant Medical Officer (male) at St. Luke's Hospital, Lowestoft. Salary £500 per annum.

NORWICH CITY.—Clinical Tuberculosis Officer, Assistant Medical Officer of Health, and Assistant School Medical Officer. Salary £750.

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"Case No. 955. If a patient desires to employ his or her own medical attendant to administer ordinary nitrous-oxide gas, and is willing to pay the fee, is this permissible under the scale?—Decision: If the patient desires to employ his or her own anaesthetist for the ordinary administration of nitrous oxide the patient is liable and must pay the anaesthetist's fee, the dentist charging only the scale fee for the extraction." Some further explanation seems called for.

premises and apparatus are provided by the education authorities, and the children can be dealt with at certain hours in the lump. To compare the two is to suggest that the societies shall set up clinics and work on the same system, which would be disastrous.

We have got to get our living and to protect our profession from being exploited. Does the writer of the letter consider the fees suggested as suitable for clinic work to be at all satisfactory? I think they are an insult. The result of starting clinics will be to lower the whole status of ophthalmic work. How futile it is to suggest that the members should pay the difference between the clinic fee and that of an ophthalmic surgeon if they want the latter! At the present day working men are out to get everything for little or nothing. How many will pay the extra fee?

Then, in the last paragraph, the writer states: "At present those who do not like the clinic scheme need not undertake the work." This is to say that if a clinic is established in the town where I reside I am to lose all my ophthalmic work if I do not join the clinic. That is a nice brotherly position to take up, is it not? If the clinic system is adopted the societies will obtain control, put in the medical man who is willing to do the work at the cheapest rate, and the rest can go to the devil!

If hospital ophthalmic surgeons are so foolish as to do work for nothing, for which they would be paid if they went about it in the right way, it is only another example of the lack of business aptitude of medical men. Every hospital ophthalmic surgeon should put his foot down and say, "I will not treat members of societies at the hospital." If they do not do this they are acting unfairly to themselves and to other colleagues who depend partly on ophthalmic work for a living.

I trust that clinics will not be established. It is by far the best plan to stick to the guinea fee and see the patients at our own rooms, making a modified charge for simple cases, such as presbyopia, or letting them go at their own risk to an optician.

I am afraid the Ophthalmic Committee of the British Medical Association has too many ophthalmic surgeons as members to the exclusion of those who are familiar with panel work and know the conditions of general practice in connexion with the panel. There are many men who have taken up refraction work as a sideline; these should be represented.—I am, etc.,

Hastings, Dec. 27th, 1927.

ARTHUR E. LAUKING.

## WILLIAMS-FREEMAN PRESENTATION FUND.

The following is the fourth list of subscriptions received in response to the letter published in our columns of October 1st, 1927 (p. 139):

Amount previously acknowledged ...	£	s.	d.
<i>Local Medical and Panel Committee Contributions.</i>			
Worcestershire Local Medical and Panel Committee	29	9	0
Somerset Panel Committee	25	10	6
Devon Panel Committee	2	2	0
Devon Medical and Panel Committee	33	2	6
Devon Panel Committee	5	5	0
Hertfordshire Local Medical and Panel Committee	10	10	0
Herefordshire Medical and Panel Committee	43	8	0
Merioneth Panel Committee	8	18	6
Middlesex Panel Committee	3	0	6
Bournemouth Panel and Local Medical Committee	5	5	0
Anglesey Panel Committee	15	14	0
Brecon Panel Committee	20	0	0
Nottinghamshire Panel Committee	24	0	0
Hampshire Panel Committee	61	10	0
Hampshire Insurance Practitioners (Previously acknowledged, £4 4s.)	75	18	0
East Sussex Insurance Practitioners	14	2	6
<i>Individual Contributions.</i>			
Dr. G. Candler, Black Torrington, Devon	10	6	
Drs. Todd and Smalley, Cullington, Devon	2	2	0
Dr. C. B. T. Musgrave, Lifton, Devon	1	1	0
Drs. Toye and Wilson, Bideford, Devon	1	1	0
Drs. Harper, Jonas, Gibbs, and Shaw, Barnstaple, Devon	2	2	0
Dr. L. S. Luckham, Salisbury	1	1	0
Drs. E. O. and M. C. H. Kingdon, Holsworthy, Devon	2	2	0
Drs. Laugran and Crookford, Axminster, Devon	1	1	0
Dr. A. Forbes, Sheffield	1	1	0
Drs. Andrews and Miles, Modbury, Devon	1	1	0
Dr. Traill, Ottery St. Mary, Devon	1	1	0
Drs. Twining and Moore, Salcombe, Devon	2	2	0

Total to January 2nd (morning) £1,661 18 6

Cheques should be made payable to the Williams-Freeman Presentation Fund, and addressed to Dr. D. G. Greenfield, Treasurer, c/o the Medical Secretary, British Medical Association, British Medical Association House, Tavistock Square, London, W.C.1.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenant Commanders F. G. Hunt to the *Tamar* for Hong-Kong Dockyard; J. H. Vey to the *Victory* for Portsmouth Dockyard; C. T. Hyatt to the *Vindicta*.  
Surgeon Lieutenants D. Duncan to the *Fernon*; J. H. Nicolson to the *Tiger*, temporary, and to the *Connaught* on commissioning with full complement; S. G. Weldon to the *Alceste*, temporary.

### ROYAL ARMY MEDICAL CORPS.

Colonels G. M. Goldsmith, C.B.E., and H. D. Packer, C.I.E., late R.A.M.C., retire on retired pay.  
Colonel R. H. Lloyd, late R.A.M.C., is placed on half pay under the provisions of Articles 139 and 463, Royal Warrant for Pay and Promotion, 1926.

Lieutenant-Colonel from R.A.M.C. to be Colonels: E. McDonnell, D.S.O., vice Colonel G. M. Goldsmith, C.B.E., to retired pay; Brevet Colonel A. H. Safford, vice Colonel R. H. Lloyd to half pay; Brevet Colonel J. W. West, C.M.G., K.H.S., vice Colonel H. D. Packer, C.I.E., to retired pay.

Lieut.-Colonel A. McNunn, O.B.E., having attained the age fixed for compulsory retirement, retires on retired pay.

Majors to be Lieutenant-Colonels: N. Low, D.S.O., O.B.E., vice Lieut.-Colonel E. McDonnell, D.S.O., promoted; A. N. Fraser, D.S.O., vice Lieut.-Colonel and Brevet Colonel A. H. Safford, promoted; R. H. L. Gardner, vice Lieut.-Colonel and Brevet Colonel J. W. West, C.M.G., K.H.S., promoted.

Captain O. T. Gimlette to be Major (prov.).

Temporary Lieutenant O. A. Owen-Flood (Lieutenant, Regular Army Reserve of Officers, Royal Irish Fusiliers) relinquishes his temporary commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

The promotion of the following officers is announced in the Supplement to the *London Gazette* of January 2nd, containing the list of New Year Honours, etc.: Wing Commander E. C. Clements, O.B.E., to be Group Captain; Flight Lieutenant (Acting Squadron Leader) J. N. MacDonald to be Honorary Wing Commander.

Flight Lieutenants O. J. Griffiths to R.A.F. Station, Bicester; D. B. Smith to Station Headquarters and Storage Section, Andover.

### INDIAN MEDICAL SERVICE.

The services of Lieut.-Colonel G. W. Macdonachie have been placed at the disposal of the Government of Bihar and Orissa, for employment as Officiating Inspector-General of Prisons, Bihar and Orissa.

On reversion from the cadre of Agency Surgeons under the Government of India in the Foreign and Political Department, the services of Major C. J. Stocker, M.C., are placed temporarily at the disposal of the Government of the Central Provinces.

The services of Captain M. T. Khandwalla are placed temporarily at the disposal of the Government of Madras for employment in the Jail Department.

Lieut.-Colonel W. H. C. Forster to be Colonel, vice Colonel A. Fenton, retired.

Lieutenant J. H. Clapp to be Captain.

Lieut.-Colonels T. S. Norris, V.H.S., and W. F. Harvey, C.I.E., have retired from the service.

## VACANCIES.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HINTS HOSPITAL.—House-Surgeon (male) for the Boscobel Branch. Salary £120 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—(1) Two Out-patient Officers; remuneration at the rate of £150 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum.

CRYSTON COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Honorary Gynaecologist.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Senior House-Surgeon (male). Salary £200 per annum.

FREEMANS HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—Resident Medical Officer (male). Salary at the rate of £250 per annum.

GLASGOW ROYAL CANCER HOSPITAL.—Research Worker. Salary £800 to £1,000 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Two House-Physicians. Honorarium £50 for six months.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Casualty Officer (male). Salary £150 per annum, rising to £200.

KENSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL.—Honorary Dental Surgeon (male).

LEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LINCOLN: THE LAWN.—Medical Superintendent. Salary £700 per annum.

LOCHVARRON PARISH COUNCIL, Ross-shire.—Medical Officer and Public Vaccinator. Salary £133 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon (male). Salary £120 per annum.

MANCHESTER: AXLOTT'S HOSPITAL.—House-Surgeon (Orthopaedic). Salary £100 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Two Junior House-Surgeons. Salary £120 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer. Salary £35 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—Two House-Surgeons for the Whitworth Street West Hospital (Maternity).

MANCHESTER UNION.—Junior Resident Assistant Medical Officer (female) at the Booth Hall Infirmary for Children. Salary at the rate of £275 per annum.

MARGATE: ROYAL SEA BATHING HOSPITAL.—Two Male House-Surgeons. Salary at the rate of £200 per annum.

METROPOLITAN ASYLUM BOARD: TUBERCULOSIS SERVICE.—Junior Assistant Medical Officer (male) at St. Luke's Hospital, Lowestoft. Salary £500 per annum.

KORWICK CITY.—Clinical Tuberculosis Officer, Assistant Medical Officer of Health, and Assistant School Medical Officer. Salary £750.

OLDHAM COUNTY BOROUGH.—Resident Assistant Medical Officer of Health. Salary £450 per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.1.—Assistant Surgeon. ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester Square, W.O.2.—Pathologist (male), part-time. Honorarium £150 per annum and a proportion of teaching fees.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, Otty Road, E.C.1.—House-Surgeon (male). Salary at the rate of £75 per annum.

ST. PANCRAS DISPENSARY, 39, Oakley Square, N.W.—Resident Medical Officer. Salary £185 per annum.

SEAMEN'S HOSPITAL SOCIETY.—Honorary Assistant Physician at the Hospital for Tropical Diseases, Endsleigh Gardens, W.O.

SHANGHAI MUNICIPAL COUNCIL.—Assistant Pathologist in the Public Health Department. Salary 600 taels per mensem.

SYDNEY: PRINCE ALFRED HOSPITAL.—Pathologist. Salary £700 for first year, and £800 for remaining years.

TAUNTON AND SOMERSET HOSPITAL.—Senior and Junior House Medical Officers (male). Salary at the rate of £150 and £100 per annum respectively.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.3.—(1) House-Physician and House-Surgeon; salary at the rate of £100 per annum. (2) Two Out-patient Anaesthetists; payment 10s. 6d. per attendance.

WATFORD: PEACE MEMORIAL HOSPITAL.—Resident Medical Officer (male). Salary at the rate of £150 per annum.

WEST END HOSPITAL FOR NERVOUS DISEASES.—Senior House-Physician. Salary at the rate of £150 per annum.

CERTIFYING FACTORY (announced: Dollar appointments are to the Chief I. (nurses). Applications Whitehall, S.W.1.

MEDICAL REFURGE UNDER THE WORKMEN'S COMPENSATION ACT for the Districts of Blandford, Bridport, Dorchester, Ringwood, Lynton, Poole, and Weymouth, and Wimborne Minster County the Private Secretary, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

HOLDEN, Oscar M., M.D.Birm., D.P.H., Medical Officer of Health for Croydon.

MILLER, J. Wilson, M.B., Ch.B.Glas., D.P.H.Camb., Medical Officer of Health for the Borough of Lewisham.

MORRIS, H. M., M.D.Belf., D.M.R.E.Liverp., Honorary Radiologist to the Eccles and Patricroft Hospital, Manchester.

NOON, Charles, F.R.C.S.Eng., Honorary Surgeon to the Patrick Stead Hospital, Halesworth, Suffolk.

YULE, John, M.B., Ch.B.Glas., Assistant Port Medical Officer to the Hull and Goole Port Sanitary Authority.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Section of Therapeutics.—Tues., 5 p.m.

Section of Psychiatry.—Tues., 8.30 p.m., Dr. William Brown; Theories of Suggestion.

Section of Medicine.—Wed., 8.15 p.m., Naso-oral Sepsis on the Lungs and "E. D. D. Davis and Mr. C. A. S. and Dr. T. Izod Bennett (Medicine) Bullied (Odontology). Clinical Meeting at the National Cases. 8.30 p.m., Mr. W. Stewart aocular Pressure; Mr. Montague L. of the Eyelid and of an Artificial Oral Nerve and its Clinical Significance.

HARVEIAN SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Annual General Meeting.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Pathological Evening.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich, S.E.—Fri., 8.45 p.m., Clinical Meeting.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Royal Eye Hospital, St. George's Circus, S.E.1.—Wed., 5 p.m., Special Clinical Demonstration in Ophthalmology; open to all members of the medical profession. In Medicine, Surgery, and the Specimen Lectures, Ward Rounds, and Operations; fee 15 5s. for two weeks, or 13 3s. for one week. Children's Clinic, and other hospitals: Post-graduate Course in Diseases of Children, mornings and some afternoons; fee 12 2s.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Wed., 4 p.m., Consultations and Demonstrations of Interesting Cases. Fri., 4 p.m., Museum Specimens.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Thurs., 5 p.m., Ringworm Infections.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Surgical, Throat, Nose, 2.30 to 5 p.m., Medical, Skin, and Dental Clinics, 2.30 to 5 p.m., Throat Clinics; Operative Clinics; 2.30 to 5 p.m., Diseases of the Ear, Nose, and Throat; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., (1) Pathological Specimens; (2) Clinical Pathology.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical

Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments; 4.30 p.m., Special Lecture: Dysentery. Tues., 10 a.m. to 1 p.m., Medical Ward VI. Throat, Medical Wards, m., Children's Medical Pathology; 2 1 p.m., Eye and 10 a.m. to 10 a.m. t Department. Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and Women's Hospital: Wed., 4.15 p.m., Obstetrical Cases.

MANCHESTER: ST. MARY'S HOSPITAL (WHITWORTH STREET WEST BRANCH).—Fri., 4.30 p.m., Ante-partum Haemorrhage.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

EDITORIAL SECRETARY (Telegrams: Medisecra Westcent, London).

EDITOR, British Medical Journal (Telegrams: Attitology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (Internal exchange, four lines).

SCOTTISH SECRETARY, 5, Drumchough Gardens, Edinburgh. (Telephone: 24561 Edinburgh).

IRISH SECRETARY, Frederick Street, Dublin. (Telephone: Dublin).

#### Diary of the Association.

JANUARY.

6 Fri. Holland Division: Spaulding, B.M.A. Lecture by Sir Humphry Rolleston on the Medical Aspects of Idiocynerasias, 3 p.m.

South Suffolk Division: Annual Meeting, Crown and Anchor Hotel, Ipswich. Dr. J. F. Walker on Medical Charities, 3.30 p.m.

10 Tues. London: Central Ethical Committee, 2 p.m.

London: Maternity and Child Welfare Subcommittee, 2.30 p.m.

Finchley Division: Finchley Memorial Hospital, 8.45 p.m.

Portsmouth Division: Annual Dance, Savoy Café.

St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Sir Squire Spriggs on "The Middle Years," 9 p.m.

South Essex Division: Mr. E. C. Hughes on Surgical Mistakes.

11 Wed. London: Conference on Puerperal Morbidity and Mortality, 2 p.m.

London: Hospitals Committee, 2.15 p.m.

Croydon Division: Croydon General Hospital. Dr. G. Lewin on Bazin's Disease, 4 p.m.

Lanarkshire Division: St. Enoch Station Hotel. Dr. Douglas Guthrie on the Septic Tonsil and Discharging Ear, 3.30 p.m.

Nuneaton and Tamworth Division: Clinical Meeting, Nuneaton General Hospital.

South-West Wales Division: Carmarthenshire Infirmary, Carmarthen. B.M.A. Lecture by Dr. F. W. Price on Recent Advances in the Diagnosis, Prognosis, and Treatment of

12 Thurs. Committee, 12 noon.

and General Hospital. Dr. T. Izod 8.30 p.m.

Portsmouth. Dr. E. f. the Profession in the Treatment m. Supper, 9 o'clock.

Castleford Division: Great Bull kefeld. Dr. G. B. Hillman on Supper, 7.45 p.m.

13 Fri. London: Public Health Committee, 2.30 p.m.

Clinical Meeting, 4.15 p.m.

ospital, Chesterfield. Mr. 15 p.m.

l. Mr. L. R. Braithwaite 30 Fossa.

17 Tues. Evening, South-Eastern

215 p.m.

218 Wed. 2.15 p.m.

ical Museum, 54, Wig-

ital, Harlesden ing Homes for

ttee, 2.30 p.m.

m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTH.

WELCH.—On December 29th, 1927, at 22, Compton Terrace, Highbury, N.1, to Irugard, wife of Robert Welch, M.D., a daughter.

#### MARRIAGE.

VOIGT-HUTCHINSON.—On December 13th, 1927, at Khartoum Cathedral, by the Rev. H. H. Nash, M.A., Carel Voigt, M.D., Ch.B., D.T.M., only son of Dr. and Mrs. Voigt of Southampton, to Ethel Mary Hutchinson, M.B., B.Ch., daughter of Rev. and Mrs. J. J. Hutchinson of Belfast.

#### DEATHS.

LUNG.—On December 3rd, 1927, at 780, Rochdale Road, Queen's Park, Manchester, James Laing, M.B., C.M., in his 78th year.

MAILES.—At his home, The Manor House, Oban, on December 22nd, 1927, Fitzroy Beresford Maclean, Colonel A.M.S.(ret.), son of the late Surgeon-General Andrew Maclean (Drummin).

MATHISON.—On December 24th, 1927, Arthur John Mathison, M.R.O.S., M.R.C.P.Lond., at 30, Willoughby Road, Hornsey, N.E., aged 53 years.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 14th, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### Illustrations in the "Journal."

DURING the Annual Representative Meeting in Edinburgh a motion was brought forward by the Edinburgh and Leith Division requesting the Council to consider the possibility of improving the general quality of the illustrations appearing in the *BRITISH MEDICAL JOURNAL*. After an explanation had been given by the Chairman of the Journal Committee, in the course of which he emphasized the expense involved in reproducing pictures on special art paper, the motion was withdrawn.

This is a matter to which a great deal of attention has been given, and the efforts to obtain good results will not be relaxed. Pen-and-ink drawings that can be reproduced in line blocks are easily dealt with. The root of the difficulty is that nowadays most of the pictures submitted are photographs, and that they are not taken with a view to reproduction on a rapid press, as are those produced by journalist-photographers for the daily press. The situation was discussed again at the last meeting of the Journal Committee, when the opinion was expressed that some good might be done if an appeal were made to contributors to realize that some of the difficulties in the way of satisfactory reproduction of photographs in the *JOURNAL* can only be overcome if they will give their assistance.

Many of the illustrations sent for reproduction are very far from being suitable. Snapshots taken with a hand camera are a very severe test of a photographer's skill; few amateurs can in this way produce a print suitable for reproduction on the printed page or even on special art paper. For photographs of patients it is best to use a portrait lens. Usually it is preferable to employ a photographer accustomed to portrait work. Care should be taken that the subject is properly lighted and shown against a flat uniform background. The whole effect of photography is in the contrast between the black and white. In most cases a smoothly stretched sheet, white or grey, gives the best contrast; an ordinary wall with fittings in or upon it, or a curtain hanging in folds, are most unsuitable. Satisfactory process reproductions of anatomical details or of *post-mortem* appearances can seldom be obtained from photographs; drawings in black and white without a wash will usually give all the details requisite, and are preferable to photographs or wash drawings. It is often as difficult to get a good result from a wash drawing as from a photograph. Descriptive details should not be written on a photograph or a drawing; reference letters in the margin, with lines to the point to which it is desired to direct attention, should be pencilled in faintly, and the description given in the legend.

The following rules from two contemporaries indicate the view taken by other editors and printers:

*The Biochemical Journal*: "Illustrations and curves accompanying papers must be carefully drawn, about twice the size of the finished block, on smooth white Bristol boards in Indian ink. Any lettering on these drawings should be lightly inserted in pencil."

*The Journal of Physiology*: "Figures should be ready for photographic (that is, process) reproduction. Diagrams should be in Indian ink, and plain white or faint blue-lined paper only should be employed; letters, numbers, etc., should be written in pencil."

#### Subscriptions for 1928.

Members of the British Medical Association are reminded that subscriptions fall due on January 1st in each year, and that if each member on receiving an application for his or her subscription from the Head Office would send the amount to the Financial Secretary without delay the work of the office would be very considerably lightened. Members are also reminded of the claims of charity. The amounts at the disposal of those who administer medical benevolence are altogether insufficient to deal adequately with the cases needing help, and the British Medical Association Charities Fund was formed in order to assist. Contributions are urgently needed, and all members are asked to add to their next payment a sum for the credit of that Fund.

### Association Notices.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Friday, January 27th, at 4 p.m., when finance, hospital accommodation, ethical questions, medical charities, and other important matters will be considered. The Executive Committee will meet at 3 p.m. Professor Bramwell has fixed February 21st as the date of his lecture, the subject of which will be announced later.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division will be held at Maryport on Friday, January 27th. Dr. J. N. Douglas Smith will read a paper on the early treatment of puerperal sepsis.

**CAMBRIDGE AND HUNTINGDON BRANCH.**—A meeting of the Cambridge and Huntingdon Branch, in conjunction with the Cambridge Medical Society, will be held at the Addenbrooke's Hospital, Cambridge, to-day (Friday, January 13th), at 2.30 p.m. The meeting will be devoted to the exhibition of clinical cases and pathological specimens.

**DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.**—A meeting of the West Dorset Division will take place at the County Hospital, Dorchester, on Thursday, January 19th, at 3.30 p.m. Agenda: Cases; election of representative and deputy representative for 1928-29. Tea will be served by the courtesy of the medical and surgical staff of the hospital. Mr. P. Jenner Verrall will deliver a British Medical Association Lecture entitled "Manipulative surgery," at 4.30 p.m. Criticism and discussion are invited. Members unable to get to the meeting by 3.30 p.m. will, it is hoped, attend the lecture at 4.30.

## Range of Medical Service.

[SUPPLEMENT TO THE  
BRITISH MEDICAL JOURNAL]

**ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.**—A clinical meeting of the North-East Essex Division will be held in the out-patients' hall in the Essex County Hospital, Colchester, on Thursday, January 26th, at 8.15 p.m. Professor W. E. Dixon will give an address on the known effects of alcohol in the human body.

**FIFE BRANCH.**—A clinical meeting of the Fife Branch will be held in the Maternity Home, Townsend Crescent, Kirkcaldy, on Thursday, January 26th, at 3.30 p.m. Sir David Wallace will give an address on orthopaedic treatment and organization in the East of Scotland.

**KENT BRANCH: ASHFORD DIVISION.**—The next meeting of the Ashford Division will be held in the North Street Club on January 18th at 4 p.m., when a lecture will be given by Mr. T. G. Taunton, orthopaedic surgeon at Rochester Hospital, on orthopaedics in general practice.

**KENT BRANCH: DARTFORD DIVISION.**—A meeting of the Dartford Division will be held on Wednesday, January 25th. Dr. Lindsay W. Battin will give a British Medical Association Lecture on the medical aspects of child welfare clinic work.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A clinical meeting of the Hyde Division will be held in the Maternity and Child Welfare Centre, Hyde, on Thursday, January 26th, at 8.30 p.m.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A clinical meeting of the City Division will be held to-day (Friday, January 13th), at 4.15 p.m., when Dr. Norman Hill will show cases. Tea.

**METROPOLITAN COUNTIES BRANCH: LAMETHIC AND SOUTHWARK DIVISION.**—A meeting of the Lambeth and Southwark Division will be held at the Lambeth Carlton Club, Coldharbour Lane, S.W.9, on Wednesday, January 25th, when Dr. A. G. G. Thompson, the newly appointed medical officer of health for Lambeth, will read a paper on the Schick test.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A clinical evening arranged by the Lewisham Division will be held at the South-Eastern Children's Hospital, Sydenham, on Tuesday, January 17th.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—By the kind invitation of Mr. H. S. Wellcome a meeting will be held at the Wellcome Historical Museum, 54A, Wigmore Street, W.1, on Wednesday, January 18th, at 8.15 p.m., when the conservator, Mr. Malcolm, will demonstrate in the various sections of the museum. Ladies are invited, and Mr. Wellcome has kindly offered to provide hospitality. Members proposing to bring guests are asked to notify Dr. W. Griffith (honorary secretary), 1, Harley Street, W.1.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—At the meeting of the North Middlesex Division to be held on Wednesday, January 25th, Mr. T. H. C. Bonas will read a paper on local immunization and antiviral therapy.

**METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.**—A meeting of the Stratford Division will be held in the Board Room, Educational Offices, The Grove, Stratford, on Tuesday, January 17th, at 9.15 p.m. Dr. Theodore Thompson, physician to the London Hospital, will give a lecture on some practical points in the examination of cases for life assurance. It is hoped that every member of the Division will make an effort to attend.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, N.W., on Wednesday, January 18th, at 9 p.m. Dr. Christine Murrell will discuss the question of nursing homes for middle-class patients.

**NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.**—A meeting of the Bishop Auckland Division will be held at the Cottage Hospital, Bishop Auckland, on Friday, January 27th, at 8 p.m. Dr. J. C. Spence will give a lecture on medical emergencies in children.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the Oxford Division will be held in the Radcliffe Infirmary on Wednesday, January 25th, at 2.30 p.m. Dr. T. Izod Bennett will lecture on recent advances in pernicious anaemia.

**SOUTHEAST BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, January 19th, at 8.30 p.m. Dr. H. W. Marrett will read a paper on heredity in relation to social problems.

**SOUTHEAST BRANCH: PORTSMOUTH DIVISION.**—A meeting of the Portsmouth Division will be held on Thursday, February 9th. A British Medical Association Lecture will be delivered by Professor Hugh Maclean on renal disease and high blood pressure.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH.**—A clinical meeting of the South Wales and Monmouthshire Branch will be held in the Royal Gwent Hospital, Newport, on Thursday, January 19th, at 4 p.m.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held in the Library of the Royal Devon and Exeter Hospital, on Thursday, January 19th. Members desiring to bring forward cases, notes, papers, specimens, or notices of motion are asked to notify the honorary secretary, Dr. P. D. Warburton, 15, Southernhay East, Exeter, in order that they may be placed on the agenda paper.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, January 17th, at 8.30 p.m. Dr. Edward Bach will read a paper on some interesting facts concerning intestinal toxæmia.

**WEST SOMERSET BRANCH.**—A clinical meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital on Tuesday, January 24th, at 3.30 p.m. A paper open to discussion will be read by Dr. W. H. Maidlow (Minister) entitled "A to Z. Subjects of interest to the general practitioner." Tea will be served at 4.30 p.m.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—A meeting of the Dewsbury Division will be held at the Dewsbury Infirmary on Friday, February 3rd, at 8.15 p.m. Dr. G. Cooper (Leeds) will read a paper on radiotherapy.

**YORKSHIRE BRANCH: LEEDS DIVISION.**—A meeting of the Leeds Division will be held in the General Infirmary, Leeds, on Friday, February 17th, at 8 p.m. Dr. John Parkinson will give a British Medical Association Lecture on common difficulties in cardiac diagnosis. Lantern slides will be shown, and there will be a discussion after the lecture.

## National Insurance.

RANGE OF MEDICAL SERVICE.  
AN OPERATION FOR HAMMER-TOE.

We have received a copy of the report to the Minister of Health of a decision of referees, pursuant to Article 38 of the Medical Benefit Consolidated Regulations, 1924, on the question whether amputation of the second toe at the metatarsophalangeal joint as a cure for hammer-toe is included in the range of medical service within the meaning of that Article and Clause 8 of the Terms of Service for insurance practitioners. The referees were Mr. E. H. Tindal Atkinson (barrister-at-law), Dr. Alexander Forbes, and Dr. John Steed.

The operation had been performed by Dr. S. Depree of Blackpool, and the fact that the patient was an insured person on his list was not communicated to him until after the operation; but in the referees' view this circumstance did not affect the general question submitted for their decision. Both the Local Medical Committee and the Insurance Committee for the county borough of Blackpool were in agreement that this operation was outside the range of medical service.

The inquiry was held at Blackpool on November 25th, 1927. Mr. L. G. Dawson represented the Minister of Health, and Dr. H. T. Barton represented the Minister of Health, and Dr. Depree's qualifications as those of a specialist in surgical operations of this class the referees expressed themselves as satisfied that from his experience he does in fact possess the special skill required to perform this operation.

On the main issue the contentions put forward on the part of the Minister were that (a) this operation is of a simple character, and is and should be well within the competence of a general practitioner; (b) the operator need have no assistance other than that of the anaesthetist; (c) in a normal case the operation can well be performed at the patient's residence, although its performance in a nursing home or hospital may be advantageous in that better nursing facilities would then be available. Medical witnesses called in support of these contentions. They expressed the view that this was a simple minor surgical operation of such a character that any general practitioner should be able to perform it, and that the operation could usually be undertaken without risk at the patient's home.

The contentions of Dr. Barton, on behalf of the committees were that: (a) In the Blackpool area very little minor surgery is undertaken by insurance practitioners. (b) Local housing conditions are of such a character as to render it inadvisable in ordinary cases to undertake this operation elsewhere than in a hospital or nursing home owing to the importance of obtaining aseptic conditions. (c) In the best interests of the patient it is better that the operator should have an assistant other than the anaesthetist. (d) Taking into account these factors the insurance practitioners in the Blackpool area reasonably regard this operation as outside the range of medical service, and in effect there exists a local custom in this area which the referees should take into account under Clause 8 (4) of the Terms of Service. In support of these contentions Dr. Barton called medical witnesses, who emphasized the necessity of asepsis in a bone operation, and although not regarding the operation *per se* as a difficult one, expressed the opinion that general practitioners in the district did not perform operations of this kind, but preferred, in the interests of the patient, that such an operation should be performed in a nursing home or a hospital. One witness considered that it should be undertaken by a doctor in active surgical practice. It further appeared from the evidence that, comparatively speaking, the necessity for this operation is rare in this district.

The referees, in the course of their decision, say that they regard the issues raised as difficult in that they involve the application of Clause 8 (4) of the Terms of Service to a case in which a minor surgical operation is involved. Viewing the matter simply in relation to a criterion which measures the difficulty and degree of skill involved, they accept the view that the operation is simple, and of such a character that it is reasonable to expect its performance at the hands of an average general practitioner. They do not attach much weight to the plea that in the best interests of the patient the operation should be performed in a nursing home or a hospital, and should, therefore, be excluded from the range of service.

"It is obvious that, generally speaking, any operation would be better performed in such surroundings rather than in the patient's home, but to test the range of medical service solely by this consideration would lead to absurdity, nor would it determine the

right of a practitioner to charge a fee. We doubt not that in a proper case—for example, where the local surroundings are wholly unfavourable—the doctor could justifiably insist that, while charging no fee for the service, he should be permitted to operate under more favourable conditions."

On the question of local custom and the weight that should be attached thereto, the referees express the view that no mere agreement among local practitioners to regard a particular operation as outside their contract ran by itself give rise to a local custom. Such an agreement would constitute them the arbiters in the very issue which arises in these inquiries.

"On the other hand, it is clearly necessary to recognize a differing standard of skill in operative work in accordance with local conditions—for example, in a manufacturing district, say twenty miles from a hospital, a higher standard of skill may reasonably be attributed to the practitioner than to one whose experience is limited by the class of persons he attends, and to a certain extent by the local facilities for expert treatment. And in this respect the comparative rarity of the occasions on which the necessity for this operation arises in the Blackpool area must be taken into account.

"There are, however, operations of such a simple character that it would be unreasonable, if not unnecessary, to invoke the provisions of Clause 8 (4) of the Terms of Service as affecting the main test laid down in Clause 8 (1). There appears to us to be some danger in using Clause 8 (4) to narrow the ambit of the services to be rendered by an insurance practitioner except in cases in which the operation itself may be regarded as on the border-line of difficulty—that is, when the skill of an average general practitioner is in question as a criterion.

"The necessity must arise on occasions for an operation of simple character to be performed as a remedy for some complaint which may in the particular district be of rare occurrence. In such circumstances we suggest that, if the operation, as measured by the main test, is comparatively easy, contentions as to a local custom should be examined with some caution. A too ready insistence on such custom would seem to us to be harmful to the broad principles upon which medical service under the National Health Insurance Act is founded."

Applying the foregoing considerations to this particular case the referees have, on the whole, come to the conclusion unanimously that the contentions advanced by the Minister should prevail, and that this particular service was within the range of medical service as laid down in the opening words of Clause 8 (1).

## Correspondence.

### Ophthalmic Clinics for Insured Persons.

Sir,—I was glad to see from various letters on the above subject that many ophthalmic surgeons are against the proposed clinics. For the past seven years I have had experience of clinics for school children under two education committees. In one case I am paid on a sessional basis, and in the other on a capitation basis. I find that, in the case of the clinic paid on the sessional basis, in order that at least eight "new" cases shall be present at each session, many more than eight are written to attend and, as a consequence, the average attendance of "new" cases is twelve or thirteen.

I fear that the same thing will happen in ophthalmic clinics for insured patients, and we shall be fortunate if the payment works out at 6s. per person examined. If an ophthalmic surgeon finds more than eight "new" cases at these clinics and he objects, I am afraid that the societies will bring pressure to bear to force him to examine as many cases as they care to send to the clinics. After all, if one should find ten or twelve cases at a session, one cannot very well go "on strike" after seeing eight cases and refuse to see the remainder.

If we are to have clinics, let us be paid on a capitation basis, and let the basis be at least half a guinea per case. As Dr. Gittings says, the Ophthalmic Committee of the British Medical Association seems determined to have clinics; but I suggest that before the committee goes any further it circularize the ophthalmic surgeons on the British Medical Association list, and ask for replies to the following questions:

(1) Are you in favour of the present system or the clinic system?

(2) If clinics are established, do you prefer to be paid on a sessional basis or on a capitation basis?

If the committee does that, then let us be content to abide by the decision of the majority.—I am, etc.,

ANOTHER OPHTHALMIC SURGEON.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander L. F. Cope, O.B.E., is placed on the retired list with the rank of Surgeon Captain.

Messrs. J. A. K. Fitzgerald, J. W. Nesbitt, A. D. Sinclair, E. R. P. Williams, and A. E. Kingston have entered as Surgeon Lieutenants for short service and appointed to the Victory for Haslar Hospital for course of instruction.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Commander H. J. Murray to be Surgeon Captain.  
Surgeon Commander (retired) R. Willboud, V.D., to be Surgeon Captain (retired).

Surgeon Lieutenant Commanders L. C. D. Irvine and A. C. V. Elder, D.S.L., to be Surgeon Commanders.

Surgeon Lieutenant R. Hall to be Surgeon Lieutenant Commander.

Surgeon Lieutenants T. A. Brand to the *Bombay* for training; F. E. Stabler to the *Victory* for R.N. Hospital, Haslar, for fourteen days' training.

Probationary Surgeon Lieutenant R. L. Stubbs to be Surgeon Lieutenant. To be probationary Surgeon Lieutenants: C. C. Ungley, attached to List 2 of Tyne Division; R. D. Owen, attached to List 2 of Bristol Division.

To be probationary Surgeon Sublieutenants: E. P. Davies, E. C. Thomas, and D. G. Evans, attached to List 2 of Bristol Division; D. A. Williams.

### ROYAL AUSTRALIAN NAVY.

Surgeon Commanders W. E. Roberts to the *Victory* for R.N. Barracks; A. S. Mackenzie to the *Victory* for H.M.A.S. *Australia* for trials.

### ROYAL ARMY MEDICAL CORPS.

Major-Generals Sir Maurice P. C. Holt, K.C.B., K.C.M.G., D.S.O., late R.A.M.C., and Sir Samuel G. Guise-Moore, K.C.B., C.M.C., retired pay, late R.A.M.C., to be Colonel Commandants, vice Major-General Sir William Macpherson, K.C.M.G., C.B., and Lieut.-General Sir Arthur T. Sloggett, K.C.B., K.C.M.G., K.C.V.O.

Lieut.-Colonel A. C. Addeley, D.S.O., half-pay list, late R.A.M.C., retires on retired pay on account of ill health.

Major H. H. A. Emerson, D.S.O., to be Brevet Lieutenant-Colonel.

Major B. H. H. Neven-Spence retires on retired pay.

Lieutenant (on probation) T. F. M. Woods, from the second list, is restored to the establishment.

Temporary Lieutenant S. M. Burrows to be Lieutenant (on probation), and relinquishes the rank of temporary Lieutenant.

### ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders R. W. Ryan and F. E. Johnson to R.A.F. Depot, Uxbridge.

Flight Lieutenants C. V. D. Rose and T. V. O'Brien to R.A.F. Depot, Uxbridge; L. C. Palmer-Jones to No. 288 Squadron, Middle East.

Flying Officer J. Mgaer to Aircraft Depot, India.

### COLONIAL MEDICAL SERVICES.

Dr. R. T. B. Green appointed Second Pathologist, Institute for Medical Research, F.M.S. Dr. R. A. Pallister appointed Health Officer, Malayan Medical Service. Dr. R. Stuppel appointed Government Medical Officer, East. Dr. R. P. Crawford is confirmed in his appointment as Medical Officer, Nigeria. Dr. William E. Clorer promoted Senior Medical Officer in Nigeria. Dr. A. S. Westmorland appointed Senior Medical Officer, Public Hospital, Kingstown, Jamaica. Dr. H. O. Hopkins appointed Malaria Research Officer, Institute for Medical Research, F.M.S.

## VACANCIES.

BETHNAL GREEN HOSPITAL, E.2.—Assistant Medical Officer. Salary £350 per annum.

BIRMINGHAM CORPORATION.—Senior Assistant Medical Officer of Health. Salary £1,100 per annum.

BLUTH BOROUGH.—Medical Officer of Health; School Medical Officer, and Port Medical Officer. Salary £800 per annum, rising to £900.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon (male) for Boscombe Branch. Salary £120 per annum.

BRIGHTON: NEW SUSSEX HOSPITAL FOR WOMEN AND CHILDREN.—(1) Honorary Radiologist. (2) Honorary Surgeon to the Ear, Nose, and Throat Department.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Physician (male). Salary at the rate of £130 per annum.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—(1) Two Out-patient Officers; remuneration at the rate of £150 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Physician to Out-patients.

COVENTRY CITY.—Deputy Medical Officer of Health. Salary £750 per annum, rising to £1,000.

CRYDON COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

DURHAM COUNTY COUNCIL.—Medical Officer of Earl's House Sanatorium for Boys. Salary £450 per annum, rising to £500.

FREEMANS HOSPITAL AND NURSING HOME, 237, Fulham Road, S.W.3.—Resident Medical Officer (male). Salary at the rate of £250 per annum.

CONDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge Road, S.W.—Resident House-Surgeon. Salary £75 per annum.

HEMEL HEMSTEAD: WEST HENTS HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

HUNTINGDON COUNTY HOSPITAL.—House-Surgeon (male). Salary £100 per annum.

LIVERPOOL: ROYAL LIVERPOOL CHILDREN'S HOSPITAL.—(1) Resident Medical Officer at the Hewell Branch; salary £120 per annum. (2) Two Resident House-Physicians and two Resident House-Surgeons at the City Branch; salary £60 per annum.

LOCHERNAON PARISH COUNCIL, Ross-shire.—Medical Officer and Public Vaccinator. Salary £133 per annum.

LONDON FEMALE LOCK HOSPITAL, 283, Harrow Road, W.9.—Second House-Surgeon. Salary £150 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

MANSFIELD AND DISTRICT HOSPITAL.—Senior House-Surgeon (male). Salary £200 per annum.

MARGATE: ROYAL SEA BATHING HOSPITAL.—Two Male House-Surgeons. Salary £200 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Ophthalmic Surgeon.

MIDLOTHIAN, WEST LOTHIAN, AND PEEBLES COUNTIES.—Medical Officer of Health. Salary £900 per annum.

MILDWAY MISSION HOSPITAL, Austin Street, E.2.—Junior Resident Medical Officer (male). Salary £100 per annum.

MINISTRY OF PENSIONS HOSPITAL, Crangthorpe, Manchester.—Junior Medical Officer (unmarried). Salary £300 per annum.

**NOTTINGHAM CHILDREN'S HOSPITAL.**—Resident House-Surgeon (woman). Salary at the rate of £150 per annum.

**NORWICH CITY.**—Clinical Tuberculosis Officer, Assistant Medical Officer of Health, and Assistant School Medical Officer. Salary £750.

**PERKINS HOUSE MENTAL HOSPITAL,** 112, Peckham Road, S.E.15.—Junior Assistant Medical Officer (male, unmarried). Salary commencing at £250 per annum.

**PORTSMOUTH PARIISH.**—Third Assistant Resident Medical Officer for St. Mary's Infirmary, Institution, and Children's Home. Salary £250 per annum.

**PORTSMOUTH ROYAL PORTSMOUTH HOSPITAL.**—Casualty Officer (male). Salary at the rate of £100 per annum.

**ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN,** Waterloo Road, S.E.1.—Non-Resident Casualty Officer for Out-patient Department. Salary £150 per annum.

**ST. JOHN'S HOSPITAL,** Lewisham, S.E.13.—Casualty Officer (male). Salary at the rate of £100 per annum for six months, rising to £125 per annum for three months.

**SEYMOUR'S HOSPITAL SOCIETY.**—Honorary Assistant Physician at the Hospital for Tropical Diseases, Endsleigh Gardens, W.C.

**SHEFFIELD ROYAL HOSPITAL.**—Resident Anaesthetist (male). Salary £80 per annum.

**SOMERSET COUNTY COUNCIL.**—(1) Assistant Tuberculosis Officer. (2) Tuberculosis Officer for Bath City. (3) Tuberculosis Officer for Western Area. Salary £600 per annum each.

**SWINNEY PARISH.**—Pathologist and Bacteriologist. Salary £450 per annum.

**STOCKTON AND THORNTON HOSPITAL,** Stockton-on-Tees.—Junior Resident Medical Officer (male). Salary £150 per annum.

**STROKE-ON-TRENT NORTH STAFFORDSHIRE ROYAL INFIRMARY.**—House-Surgeon. Salary £150 per annum.

**SWINDON BOROUGH.**—Assistant to Medical Officer of Health (male). Salary £600 per annum.

**TACON AND SOMERSET HOSPITAL.**—Senior and Junior Medical Officers. Salary £150 and £100 per annum respectively.

**WAREFIELD CITY.**—Assistant Medical Officer (woman). Salary £600 per annum.

**WEST END HOSPITAL FOR NERVOUS DISEASES.**—Senior House-Physician. Salary at the rate of £150 per annum.

**CERTIFYING FACTORY SURGEONS.**—The following vacancies have been announced: Kilwinning (Ayrshire), Kirkby (Lancashire), and applications to the Chief Inspector of Factories.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

## DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
*Social Evening.*—Mon., 8.30 p.m., Reception by the President and Lady Baily. 9.15 p.m., Address by Dr. Jane Walker: Saints, Medicine, and Surgery (with illustrations). Exhibits lent by the Wellcome Historical Medical Museum and by Miss Marie Leon will be on view. Music and light refreshments.

*General Meeting of Fellows.*—Tues., 5.30 p.m., Ballot for Election to Fellowship.

*Section of Pathology.*—Tues., 8.30 p.m., Professor J. McIntosh. Histology of Some Virus Infections of the Central Nervous System; Mr. A. Fleming: Influence of Temperature on the Agglutination of Bacteria; Dr. F. T. Ridley: A New Mixing Machine.

*Section of Dermatology.*—Thurs., 4 p.m., Cases.

*Section of Obstetrics.*—Fri., 8 p.m., Professor J. B. Cleland (University of Adelaide): Difficult Labour in a Pure-blooded Australian Aboriginal Woman; Mr. G. F. Gibberd: Results of Albuminuria during Pregnancy, with special reference to its relation to pregnancy kidney and death.

*Section of Medicine.*—Sat., 8 p.m., Discussion: Diathermy in the treatment of the various forms of high blood pressure, etc. To be opened by Professor Sidney Russ and Dr. T. F. Cotton, followed by Dr. Justina Wilson and Dr. Agnes Savill.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND,** Lincoln's Inn Fields, W.C.—Hunterian Lectures by Sir Arthur Keith. Mon., Wed., and Fri., 5 p.m. Factors connected in the Growth of the Human Body.

**ROYAL MICROSCOPICAL SOCIETY,** 20, Hanover Square, W.1.—Wed., 7.45 p.m., Presidential Address by Dr. James A. Murray: Staining and Structure.

**ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE,** 11, Chandos Street, W.1.—Thurs., 8.15 p.m., Surgeon Commander D. H. C. Owen, R.N.: Health Organization on H.M. Naval Base, Singapore, and its Results.

**CHILSEA CLINICAL SOCIETY,** St. George's Hospital.—Tues., 8.30 p.m., Clinical Meeting.

**HUNTERIAN SOCIETY,** The Mansion House, E.C.—Mon., 9 p.m., Hunterian Lecture by Dr. Howard Kelly (Baltimore): Rubbing and Reasoning.

**SOCIETY OF MEDICAL OFFICERS OF HEALTH,** 1, Upper Montague Street, W.G.1.—Fri., 5 p.m., Recent Advances in the Knowledge of Food. Speakers: Captain Walter Elliot, M.P., and Professor R. H. A. Plummer.

## POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.**—Lecture at Medical Society, 11, Chandos Street, W.1. Mon., 5 p.m.: Acute Drunkenness. Royal Eye Hospital, St. George's Circus, S.E.1: Clinical Demonstration, Thurs., 3 p.m. The above are open to members of the medical profession without fee. **Bethlem Royal Hospital,** St. George's Fields, S.E.1: Course in Psychological Medicine: Lecture Demonstrations on Tues. and Sat., 11 a.m.; fee £1 1s. for series of eight. **Prince of Wales's General Hospital,** Tottenham, N.15: Course in Medicine, Surgery, and the Specialties: Demonstrations, Lectures, Ward Rounds, and Operations daily, 10.30 a.m. to 5.30 p.m.; fee £3 3s. for the week. **Children's Clinic,** and other hospitals: Post-graduate Course in Diseases of Children, occurring morning and some afternoons: second week.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL,** Gray's Inn Road, W.C.1.—Mon., 1.30 p.m., Hearing Tests. Wed., 1.30 p.m., Examination of the Ear. Fri., 4 p.m., Demonstration of Museum Specimens.

**HOSPITAL FOR SICK CHILDREN,** Great Ormond Street, W.C.1.—Thurs., 4 p.m., Digestive Disturbances in Infancy and their Treatment.

**LONDON SCHOOL OF DERMATOLOGY,** St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Erythema Multiforme. Thurs., 5 p.m., Pathology Demonstration.

**NORTH-WEST LONDON POST-GRADUATE COLLEGE,** Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and

**G.** Tues., 2.30 to 5 p.m., Medical, Clinics; Operations. Wed., 2.30 to 5 p.m., Operations. Thurs., 11.30 a.m., Surgical, and Ear, Nose, and Throat, 10.30 a.m., Throat, Nose, and Ear Medical, and Children's Diseases Clinics; Operations.

**ROYAL INSTITUTE OF PUBLIC HEALTH,** 37, Russell Square, W.C.1.—Wed., 4.30 p.m., The Medical Practitioner in Relation to the Administration of Justice.

**ROYAL NORTHERN HOSPITAL,** Holloway Road, N.—Tues., 3.15 p.m., Clinical Manifestations of Parenteric Infections.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE,** Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments; 4.30 p.m., Special Lecture: Sprue. Tues., 10 a.m. to 1 p.m., Medical Ward VI: Throat, Medical Pathology; 2 p.m., Eye and Ear Department; 4.30 p.m., Chemical Pathology; 5 p.m., Medical Pathology. Thurs., 10 a.m. to 1 p.m., Medical Ward, Fri., 10 a.m. to 1 p.m., Medical Pathology, and Electrical Department; 4.30 p.m., Chemical Pathology. Daily: Operations, 10 a.m. to 1 p.m.

**GLASGOW.** Thurs.—At Western Infirmary: Wed., 4.30 p.m., Whitworth Street West Branch: Fri., 4.30 p.m., and Treatment.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager). Telegrams: Articulate Westcent, London.

**MEDICAL SECRETARY** (Telegrams: Medisecra Westcent, London).

**EDITOR, British Medical Journal** (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 5651, 9862, 9863, and 9864 (internal exchange, four lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Drumshugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin. (Telegrams: Baefillus, Dublin. Tel.: 4737 Dublin.)

### Diary of the Association.

#### JANUARY.

**13 Fri.** London: Public Health Committee, 2.30 p.m.  
Cambridge and Huntingdon Branch: Addenbrooke's Hospital, Cambridge, 2.30 p.m.  
City Division: Clinical Meeting, 4.15 p.m.  
Chesterfield Division: Maternity Hospital, Chesterfield. Mr. W. W. King on Dysmenorrhoea, 8.15 p.m.  
Dewsbury Division: Batley Hospital. Mr. L. R. Braithwaite on Chronic Phis in the Right Iliac Fossa.  
Tyneside Division: Dinner.

**17 Tues.** London: 5 p.m. to 8 p.m. a.m.  
London: 8 p.m. to 11 p.m. noon.  
Croydon Hospital. Dr. Edward Croft on Intestinal Toxaemia, 8.30 p.m.  
Lewisham Division: Clinical Evening, South-Eastern Children's Hospital, Sydenham.  
Stratford Division: Educational Offices, The Grove, Stratford. Dr. Theodore Thompson on Examination of Cases for Life.

**18 Wed.** London: 2.15 p.m.  
Street Club. Mr. T. G. Taunton on Orthopaedics in General Practice, 4 p.m.  
Marylebone Division: Wellcome Historical Museum, 64, Wigmore Street, W.1, 8.15 p.m.  
Reading Division: Wilkeson General Hospital, Unrlesden Road, N.W. Dr. Christine Murrell on Nursing Homes for Middle-class Patients, 9 p.m.

**19 Thurs.** London: Journal Committee, 2 p.m. (attention of time).  
Jersey Division: General Hospital. Dr. H. W. Marett Tims on Heredity, 8.30 p.m.  
South Wales and Monmouthshire Branch: Clinical Meeting, Royal Gwent Hospital, Newport, 4 p.m.  
South-Western Branch: Royal Devon and Exeter Hospital, West Dorset Division: County Hospital, Dorchester, 5.30 p.m.  
B.M.A. Lecture by Mr. P. Jenner Verrall on Manipulative Surgery, 4.30 p.m.

**24 Tues.** London: International Medical Sea Code Committee, 2.30 p.m.

**26 Thurs.** London: Psycho-Analysis Committee, 2 p.m.

**27 Fri.** London: Private Practice Committee, 2.15 p.m.

8 Wed. Council, 10 a.m. FEBRUARY.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 5s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

### BIRTHS.

**IMPEY.**—At Capetown, on December 29th, to Dr. and Mrs. R. Lance Impey, a son.

**WALKER.**—On December 31st, 1927, at "Saxtead" Marshalls Road, Sutton, Surrey, to Sybil (née Hummel), wife of Frederick Oliver Walker, J.R.C.S., L.R.C.P., of 40, Worpole Road, Epsom, and Horton Mental Hospital, Epsom, Surrey, a son.

**WENDEL.**—At 1, Garden Terrace, Aberdeen, on New Year's Day, 1928, to Grace, wife of A. U. Webster, M.C., M.B., Fraserburgh, a son.

### MARRIAGE.

**BUN-CROWLEY.**—At St. Patrick's Church, Soho Square, London, W.1, on December 21st, 1927, Ian Struan Robertson, M.B., L.R.C.P., son of the late Ex-Provost John Bain of Bridge-of-Alan, Scotland, to Frances Mary, daughter of the late William Crowley of Cork, Ireland.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 21st, 1928.

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## British Medical Association.

### NINETY-SIXTH ANNUAL MEETING, CARDIFF, JULY, 1928.

Patron: HIS MAJESTY THE KING.

President: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

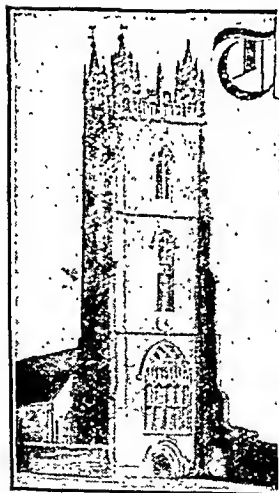
President-Elect: SIR EWEN J. MACLEAN, M.D., F.R.C.P., Professor of Obstetrics, Welsh National School of Medicine.

Chairman of Representative Body: C. O. HAWTHORNE, M.D., F.R.C.P.

Chairman of Council: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



TOWER OF ST. JOHN'S CHURCH, CARDIFF.

THE incoming President, Sir EWEN MACLEAN, will deliver his address to the Association on Tuesday, July 24th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 20th, at 10 a.m., and to continue on the three following week-days. The Representatives' Dinner will take place on Friday evening, July 20th, at 7.30.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 24th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on Thursday, July 26th.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 25th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held at St. John's Church, Cardiff, on Tuesday, July 24th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 23rd, from 2 till 6 p.m.; the formal opening by the President will take place on July 24th at 9.30 a.m. The exhibition will remain open on July 25th, 26th, and 27th from 9 a.m. till 6 p.m.

Saturday, July 28th, will be given up to excursions to places of interest in the neighbourhood.

### THE SECTIONS.

The Scientific Section will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 25th, 26th, and 27th.

The following Sections will meet on Three Days.

#### MEDICINE.

President: Sir THOMAS LEWIS, C.B.E., M.D., F.R.C.P., F.R.S. (Cardiff).

Vice-Presidents: IVOR J. DAVIES, M.D., F.R.C.P. (Cardiff); A. E. GOW, M.D., F.R.C.P. (London); A. FERGUS HEWAT, M.D., F.R.C.P.Ed. (Edinburgh); CYRIL LEWIS, M.D., C.M. (Cardiff); Professor T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. (Dublin); H. LETHBRIDGE TIDY, M.D., F.R.C.P. (London).

Honorary Secretaries: ABEL EVANS, M.B., M.R.C.P., 36, Newport Road, Cardiff; ANTHONY FEILING, M.D., F.R.C.P., 52, Montagu Square, London, W.1.

#### SURGERY.

President: Professor A. W. SHEEN, C.B.E., M.S., F.R.C.S. (Cardiff).

Vice-Presidents: H. G. GRAHAM COOK, C.B.E., M.D., F.R.C.S. (Cardiff); C. H. FAGGE, M.S., F.R.C.S. (London); Professor ANDREW FULLERTON, C.B., C.M.G., M.Ch., F.R.C.S.I. (Belfast); J. W. GEARY GRANT, F.R.C.S. (Cardiff); WILLIAM MARTIN, M.B., C.M. (Cardiff); ALBERT J. WALTON, M.S., F.R.C.S. (London).

Honorary Secretaries: D. J. HARRIES, D.Sc., F.R.C.S., 106, Newport Road, Cardiff; R. ST. LEGER BROOKMAN, M.B., M.Ch., F.R.C.S., 79, Upper Hanover Street, Sheffield.

#### OBSTETRICS AND GYNAECOLOGY.

President: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London).

Vice-Presidents: MARGARET M. BASDEN, M.D., F.R.C.S. (London); ARTHUR E. GILES, M.D., F.R.C.S.Ed. (London); Professor W. FLETCHER SHAW, M.D., Ch.B. (Manchester); Professor H. BECKWITH WHITEHOUSE, M.S., F.R.C.S. (Birmingham).

Honorary Secretaries: B. K. T. COLLINS, M.D., F.R.C.S.Ed., 12, Windsor Place, Cardiff; EVERARD WILLIAMS, M.D., 5, Wimpole Street, London, W.1.



# Annual Meeting, Cardiff: Officers of Sections.

[SUPPLEMENT TO THE  
BRITISH MEDICAL JOURNAL]

## The following Sections will meet on Two Days.

### **PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor E. H. KETTLE, M.D., M.R.C.P. (London).  
*Vice-Presidents:* Professor JOHN CHICKSHANK, M.D. (Aberdeen);  
Sir THOMAS HOUSTON, O.B.E., M.D. (Belfast); W. PARRY MORGAN,  
M.D. (Cardiff); A. F. S. SLADDEN, M.D. (Swansea).  
*Honorary Secretaries:* J. B. DUGUID, M.D., Department of  
Pathology, Welsh National School of Medicine, The Parade,  
Cardiff; LAWRENCE P. GARROD, M.B., M.R.C.P., 68, Gloucester  
Terrace, Hyde Park, London, W.2.

### **MENTAL DISEASES AND NEUROLOGY.**

*President:* EDWIN GOODALL, C.B.E., M.D., F.R.C.P. (Cardiff).  
*Vice-Presidents:* E. D. ADRIAN, M.D., F.R.C.P., F.R.S. (Cam-  
bridge); G. H. R. GIBSON, D.S.O., M.D., F.R.C.P. (Edinburgh);  
BERNARD HART, M.D., F.R.C.P. (London); W. F. NELIS, M.D.  
(Cserleone, Mon.); N. R. PHILLIPS, M.D. (Aberavenny).  
*Honorary Secretaries:* EDWARD LEWIS, F.R.F.P.S., Drymma  
Hall, Skewen, nr. Neath, Glam.; W. R. REYNELL, M.D., M.R.C.P.,  
87, Harley Street, London, W.1.

### **ORTHOPAEDICS.**

*President:* Sir JOHN LYNN-THOMAS, K.B.E., C.B., C.M.G.  
F.R.C.S. (Llechryd).  
*Vice-Presidents:* A. ROCYN JONES, M.B., F.R.C.S. (London); J. J.  
MCINTOSH SHAW, M.C., M.D., F.R.C.S. (Edinburgh); S. ALWYN  
SMITH, D.S.O., O.B.E., M.D., F.R.C.S. (Cardiff); P. JENNER  
VERRALL, M.B., F.R.C.S. (London).  
*Honorary Secretaries:* J. BERRY HAYCRAFT, M.C., M.B., F.R.C.S.,  
31, Cathedral Road, Cardiff; ERIC IVAN LLOYD, M.B., F.R.C.S.,  
33, Wimpole Street, London, W.1.

### **DISEASES OF CHILDREN.**

*President:* ALFRED HOWELL, M.D., M.R.C.P. (Cardiff).  
*Vice-Presidents:* E. A. COCKAYNE, M.D., F.R.C.S. (London);  
HERBERT THOMAS EVANS, M.D., M.R.C.P. (Cardiff); CHARLES  
LEONARD ISAAC, M.B., F.R.C.S. (Swansea).  
*Honorary Secretaries:* DANIEL THOMAS DAVIES, M.D., M.R.C.P.,  
24, Park Place, Cardiff; HILDA N. STORRISGER, M.D., 11, Belmont  
House, Candover Street, London, W.1.

### **OPHTHALMOLOGY.**

*President:* F. P. S. CRESSWELL, M.B., F.R.C.S. (Cardiff).  
*Vice-Presidents:* HERBERT CAIGER, M.B., F.R.C.S. (Sheffield);  
L. V. CARGILL, F.R.C.S. (London); R. J. COULTER, M.B., F.R.C.S.I.  
(Newport, Mon.); F. GRIFFITH THOMAS, M.B., B.Ch. (Swansea).  
*Honorary Secretaries:* J. W. TUDOR THOMAS, M.B., F.R.C.S.,  
1, Park Grove, Cardiff; F. A. JULER, M.D., F.R.C.S., 14, Portland  
Place, London, W.1.

### **LARYNGOLOGY AND OTOTOLOGY.**

*President:* DONALD R. PATERSON, M.D., C.M., F.R.C.P. (Cardiff).  
*Vice-Presidents:* ALBAN EVANS, M.R.C.S., L.R.C.P. (Swansea);  
E. D. D. DAVIS, F.R.C.S. (London); ARCHIBALD MASON JONES,  
M.D., F.R.C.S. (Cardiff).  
*Honorary Secretaries:* A. A. PRICHARD, M.D., 14, Windsor Place,  
Cardiff; D. F. A. NEILSON, F.R.C.S., 40, Queen Anne Street,  
London, W.1.

### **TUBERCULOSIS.**

*President:* HUGH MORRISTON DAVIES, M.D., M.Ch., F.R.O.S.  
(Ruthio).  
*Vice-Presidents:* ALEXANDER BROWNLEE, M.D., F.R.C.S. (Ed-  
inburgh, nr. Cardiff); DAN ARTHUR POWELL, M.D. (Cardiff);  
CECIL WALL, M.D., F.R.C.P. (London).  
*Honorary Secretaries:* J. C. GILCHRIST, M.D., Tuberculosis  
Institution, Welsh National Memorial, Cardiff; J. C. HOYLE,  
M.B., B.S., 28, Malcolm Street, Cambridge.

### **RADIOLOGY AND PHYSIO-THERAPEUTICS.**

*President:* OWEN LEWELLIN RHYS, M.D. (Cardiff).  
*Vice-Presidents:* T. GARFIELD EVANS, M.D., D.M.R.E. (Cardiff);  
C. B. HEALD, C.B.E., M.D., M.R.C.P. (London); THOMAS MARLIN,  
M.D., D.M.R.E. (London).  
*Honorary Secretaries:* T. I. CANDY, M.B., B.Ch., 202, Stow Hill,  
Newport, Mon.; A. J. H. ILES, M.R.C.S., L.R.C.P., Shutterne  
House, Taunton.

## The following Sections will meet on One Day.

### **PREVENTIVE MEDICINE.**

*President:* EDWARD COLSTON WILLIAMS, M.D., F.R.C.S. (Ed-  
inburgh).  
*Vice-Presidents:* W. W. JAMESON, M.D., M.R.C.P. (London);  
DAVID LLEWELYN WILLIAMS, M.C., F.R.C.S. (Cardiff); C. A.  
BRISTOCKE, M.R.C.S. (Haverfordwest).  
*Honorary Secretaries:* H. W. CATTO, M.B., B.S., 198, Stow Hill,  
Newport, Mon.; D. C. KIRKUPPE, M.D. Town Hall, South  
Tottenham, London, N.15.

### **PUBLIC HEALTH.**

*President:* R. M. F. PICKEN, M.B., Ch.B. (Cardiff).  
*Vice-Presidents:* D. T. ROCYN JONES, C.B.E., M.B., C.M. (Ramney,  
nr. Cardiff); J. D. JENKINS, M.D. (Rhonda); S. G. MOORE, M.D.  
(Huddersfield).  
*Honorary Secretaries:* THOMAS EVANS, M.B., Public Health  
Department, Swansea; R. P. GARROW, M.D., Health Office,  
Saltergate, Chesterfield.

### **MEDICAL SOCIOLOGY.**

*President:* WILLIAM EVANS THOMAS, M.D., C.M. (Ystrad,  
Rhonda).  
*Vice-Presidents:* LETITIA DENNY FAIRFIELD, C.B.E., M.D.  
(London); EVAN LEWIS-LLOYD, M.R.C.S., L.R.C.P. (Towyn).  
*Honorary Secretary:* F. Y. PEARSON, M.R.C.S., L.R.C.P.,  
18, Crwys Road, Cardiff.

### **TROPICAL MEDICINE.**

*President:* PHILIP H. MANSON-BAHR, D.S.O., M.D., F.R.C.P.  
(London).  
*Vice-Presidents:* J. B. CHRISTOPHERSON, M.D., F.R.C.P., F.R.C.S.  
(London); Lieut.-Colonel A. G. MCKENDRICK, M.D., Ch.B.,  
F.R.C.S. (Ed.); I. M.S. (ret.) (Edinburgh).  
*Honorary Secretaries:* ERNEST HENRY PRICE, L.R.C.P.I., 153,  
Cathedral Road, Cardiff; H. MCCORMICK HANSHELL, D.S.C.,  
M.R.C.S., L.R.C.P., 35, Weymouth Street, London, W.1.

### **HISTORY OF MEDICINE.**

*President:* WALTER G. SPENCER, O.B.E., M.S., F.R.C.S. (London).  
*Vice-Presidents:* THOMAS WALLACE, M.D. (Cardiff); T. P. C.  
KIRKPATRICK, M.D., F.R.C.P.I. (Dublin); Professor J. A. NIXON,  
C.M.G., M.D., F.R.C.P. (Clifton); CHARLES SINGER, M.A., M.D.,  
F.R.C.P. (London).  
*Honorary Secretaries:* H. R. FREDERICK, M.B., Ch.B., 42, Victoria  
Road, Abertavon, Port Talbot, Glam.; KENNETH R. HAY, O.B.E.,  
M.B., 47, Hill Street, Berkeley Square, London, W.1.

### **THERAPEUTICS AND PHARMACOLOGY.**

*President:* W. LANGDON BROWN, M.D., F.R.C.P. (London).  
*Vice-Presidents:* Professor W. J. DILLING, M.B., Ch.B. (Liver-  
pool); PHILIP HAMILL, M.D., D.Sc., F.R.C.P. (London); W. H.  
MAXWELL TELLING, M.D., F.R.C.P. (Leeds).  
*Honorary Secretaries:* J. P. H. DAVIES, M.B., "Crummoor,"  
The Green, Llandaff, Cardiff; J. H. BURN, M.D., Pharmaceutical  
Society of Great Britain, Pharmacological Laboratory, 17, Blooms-  
bury Square, London, W.C.1.

### **DERMATOLOGY.**

*President:* Sir ROBERT BOLAM, M.D., LL.D., F.R.C.P. (Newcastle-  
on-Tyne).  
*Vice-Presidents:* JAMES BEATTY, M.D., M.R.C.P. (Cardiff);  
WILLIAM GRIFFITH, M.D., M.R.C.P. (London); HENRY SENIOR,  
M.D., M.R.C.P. (London).  
*Honorary Secretaries:* R. H. ENOCH, M.R.C.S., L.R.C.P., Royal  
Infirmary, Cardiff; J. E. M. WIGLEY, M.B., M.R.C.P., 132, Harley  
Street, London, W.1.

The Honorary Local General Secretary of the Annual  
Meeting is Dr. G. I. STRACHAN, 20, Windsor Place, Cardiff.

## British Medical Association.

### CURRENT NOTES.

#### British Medical Association House Extension.

THE work in connexion with the extension of the British  
Medical Association House, in accordance with resolutions  
of the Representative Body at Edinburgh, 1927, has now  
been commenced, and will be pressed forward as rapidly  
as possible. Two of the five houses for demolition have  
already disappeared, and the other three houses, Nos. 18,  
19, and 19A, Tavistock Square, have been vacated and  
handed over to the housebreakers. As a consequence, the  
National Association for the Prevention of Tuberculosis,  
whose offices were previously at No. 19, Tavistock Square,  
and the Federation of the Health Resorts of France, whose  
offices were in 19A, Tavistock Square, have been housed,  
temporarily, in No. 1, Gordon Square, London, W.C.1,  
to which address all communications from members to them  
should be sent. Preparations for the necessary excavations  
are well in hand, and it may be necessary in the com-  
paratively near future to close for traffic the private road  
leading into the Association's House from Tavistock Square,  
and even to close the garage. When the private road is  
closed, it will still be possible for cars to enter the Associa-  
tion's House by making a circuit from Tavistock Square  
through Tavistock Place and Marchmont Street and the  
southern side of Cartwright Gardens, entering through the  
driveway from Burton Street, between the Members'  
Common Room and the Library. Arrangements will, of  
course, be made for foot passengers to enter the Associa-  
tion's House from Tavistock Square during all stages of the  
building operations. It is proposed to publish in these  
columns, from time to time, particulars of the progress

which is made and details of the arrangements for lessening the inconveniences for members of the Association during the period of rebuilding.

#### Some Work of the Week.

During the week ending January 14th meetings were held by the Central Ethical Committee, the Maternity and Child Welfare Subcommittee, the Hospitals Committee, the Insurance Acts Committee, the Public Health Committee, and the Public Education in Health Committee. The main event of the week was, however, the conference on puerperal morbidity and mortality, which took place on January 11th. A full report of this will appear in an early issue of the SUPPLEMENT.

#### Development of Hospital Policy.

On January 11th the Hospitals Committee had before it an interim report from the subcommittee on the co-ordination of hospital provision, and framed answers to the questions on this matter suggested by the Ministry of Health for investigation by voluntary hospitals, health authorities, and boards of guardians. The principles laid down by the committee in these answers will come before the Council of the Association for ratification next month. The committee also had under consideration the amendment of paragraph 2 of the Hospital Policy, to provide that practitioners permitted to treat patients in private wards or nursing homes attached to hospitals shall conform to certain specified criteria, and much time was given to a review of the various contributory schemes, the conditions of which have been reported to the office. It is felt that the time has arrived to call another conference

of the medical staffs of voluntary hospitals to consider this and other developments, and the Hospitals Committee is recommending the Council accordingly. A suggestion that the Association should adopt a standard method of case-taking was rejected by the committee as impracticable.

#### Insurance Acts Committee.

The main business before the Insurance Acts Committee on January 12th was consideration of the draft alterations in the Regulations put forward by the Ministry of Health. The more important changes are those designed to put into force the disciplinary procedure agreed between the committee and the Ministry and approved by the conference. The draft Regulations were, generally speaking, approved as satisfactory, but several points were reserved for further discussion with the Ministry. Difficulties have been, and are likely to be, experienced in connexion with the Regulation embodying the revised procedure for change of doctor, and the committee approved the draft of a letter to local medical and panel committees dealing with this subject. The committee also approved a proposal by its chairman for an alteration of its constitution so as to provide for two extra representatives. It appointed a subcommittee to report on the compilation of a National Formulary, and considered the report of an informal conference between representatives of the committee, the Retail Pharmacists' Union, and the Ministry of Health on the compilation of a list of preparations which should not ordinarily be regarded as medicines for the purposes of the National Health Insurance Act. This last matter will be discussed further with the Retail Pharmacists' Union and the Ministry.

## An Address

ON

## THE MIDDLE YEARS.

DELIVERED TO THE ST. PANCRAS DIVISION OF THE BRITISH MEDICAL ASSOCIATION, JANUARY 10TH, 1928,

BY

SIR SQUIRE SPRIGGE, M.D.,  
EDITOR OF THE "LANCET."

WHEN your secretary gave me the flattering invitation to address you, and asked me to suggest a name for this discourse, I chose the title of "The Middle Years" without quite envisaging what the title might be taken to mean. I meant to talk mainly of the plight of Lister's immediate predecessors; but I came to see that their plight is, and should be, one that we are all of us in, and that the position of the men of that particular date was only a striking episode in the general story of medical progress. After choosing my title I found that Henry James had used the same title, not only in his later biography, but for one of his short stories, which had escaped my attention, and which, noting the complete absence of reference to it in the critical estimates of that much discussed author, I believe to have escaped the attention also of many. I read the story, and as it is illustrative to some extent of what I had proposed to say, as well as of a good deal else, a brief epitome of it may be used as a convenient text.

Henry James's narrative is concerned with an author who in his youth has splendid ideas, and in his middle age still has a plentiful supply of them, and also a perfected technique in which to express them, and a larger experience by the light of which to evaluate, support, or reject them. Those were the middle years for Henry James's hero, who at this point dies—conveniently for the moral which Henry James was pointing, but not for any convincing reason regarded medically. Henry James, so particular to conduct his stories with regard to probabilities, inside the strict limits which he laid down for himself, was not a sound observer of medical happenings.

The hero thus does not live into the third phase of activity—or the reverse—in an author's life, when the freshness of the ideas is lost, while the writing may have become mannered, and the philosophy stereotyped through

reiteration. The pathos of the story is that he dies in the flower of his talents—in the second stage, his middle years. His successes now give him the sense of progress; the good start is being justified, which tragedy prevents him from pursuing. But his life, so far as it was lived, is illustrative exactly of the growth of every branch of science, as well as of the life of every scientific man. In the accomplishments of an individual we have the same time-stages as occur in the development of a science, though it is noticeable that in our own calling the middle phase is often prolonged, so that we see veterans displaying no sign of lost freshness and no diminishing capacity either for receiving or imparting impressions. Remember Clifford Allbutt. For these fortunate few the third phase is never reached, but anyhow that phase is negligible, for it means that the worker is no longer old-fashioned, but obsolete as far as the world is concerned.

The analogy between the development of the individual and the development of the particular art or science concerned is complete if we remember that in neither case will progress cease, for the art or science will always be living and developing in association with that part of the work, done by the individual, which lives and develops when he has passed away. No term can be set to the progress of a doctor, for medical science will incorporate from the individual's activities his essential contributions to the wisdom of the world. No real worker dies. He dies as a man, but that part of his work which adds to the wisdom of the world lives, whether he is associated with it by name or no. Gentlemen, we may all be immortal. With every human activity, and, very exactly, with the science of medicine, we are always in the middle years, passing from the stage of unsupported imaginings into the stage when experience leads to the confirmation of the one thing and experiment to the rejection of another; and only in this way can orderly progress continue. The tentative and orderly progress of to-day will conduct us to the organized position of the future.

#### EARLY MEDICAL PROGRESS.

Orderly progress is a phrase much on our lips, but all who have realized something of the problems of heredity, either in the practice of medicine, in the laboratory, or in the profuse literature of the subject, know that the term "orderly progress" requires any amount of definition,

and to that literature I may refer you, as well as to your practical knowledge. It is sufficient to say that progress will at one time be in accordance with a pattern which can be perceived and anticipated, and at another time it may proceed by fits and starts, à bâtons rompus instead of with roulement, the drum-roll being replaced by the tattoo. It is by the stages of abrupt change that we become most aware of the orderly progress which is always going on, but which might otherwise escape our attention, so much do we take progress for granted; it is by the rapid transitions, as they occur, whether in professional life or in scientific accomplishment, that we become aware that we are always in the middle years—always using the knowledge of the past to make laws for the present, with the belief that the knowledge of the present, through which we may formulate new laws, will be revised for the formation of the laws of the future.

There is a great difference in the way in which new ideas are received, and when the term "old-fashioned" is employed we should be quite clear what we mean by it. For the last thirty or forty years in the obituary notices of a good many physicians and surgeons, all of whom were well known in their day, and some of whom have earned a secure place for ever in our annals, the phrases have occurred that with such a one "a type of the older school" or "one of the last of his day" has gone, or "a link with the past has been snapped"—somehow or other the impression is conveyed that the subject of the obituary notice was "old-fashioned." But, seeing the period of unlimited retrospect which such words as "the past" signify, we may ask what is meant by "old-fashioned"; and we shall find that those to whom the epithet is applied will usually be those whose most prominent work was done, and whose chief claims to remembrance were established, just before one of those fits or starts occurred in the progress of the science: just when the roll of the drum is replaced by the tattoo we become aware that we are in the middle years—we find with a shock that things are moving. The epithet "old-fashioned," as commonly used, seems to put a term to the period of antiquity, and to suggest that by comparison with the length of time which might have been brought into discussion, the range to be considered is brief. When the old-fashioned doctor is spoken of, while we imply that he is one whose methods are out of immediate date, we also imply that those methods have distinct affinity with the procedures of our time. No one would allude to Hippocrates as old-fashioned; and when, leaping not merely Roman civilization but the Dark Ages, we come to Harvey, we should still find the epithet inapplicable to Harvey. Neither of these men is of any time; each is an immortal. On the one hand, their technique bears no relation to modern methods; and, on the other hand, our technique is the result of discoveries and inventions often closely related to their work. And while we seem too far away from the era of the historic protagonists of medicine in our daily routine or our practical procedure to make it suitable to call them more or less old-fashioned, we should be more wrong to call them obsolete when we find constantly that cyclical recurrence of thought may render some of their observations pertinent to existing conditions. For this reason the exponents of early pathology should be approached with real respect, for in the light of new facts discovered and new experiences formulated the fancy of the past may become the fact of the present; the dogmatic statements of our predecessors we may discover to have been not necessarily incorrect because they were saddled in their day with explanations which have since proved to be erroneous. This position we shall see was noticeable after Harvey's discovery, when sound clinicians found that they had been furnished with logical grounds for what they had been doing already empirically.

The whole of what are called the Dark Ages present in most directions a period in which the middle years of human reasoning were marked by no universal revolution of thought. Until the Renaissance and the Reformation occurred the leaders of thought progressed along such traditional lines as had not been absolutely destroyed in the fading out of the Roman Empire; and, remembering that we are here thinking only in terms of medicine, we may

say that no surgeons or doctors during the whole period were called upon to revise seriously the teaching that they had received from Galen, founded upon that of Hippocrates, and not improved. The position which medicine in connexion with the study of natural science had reached in the time of the Ptolemys is comparable to its position in the sixteenth century—nothing between these dates occurred that could be regarded as progressively revolutionary, and, as a matter of fact, no marked changes even then occurred generally or rapidly. Many isolated observations were recorded which have since fallen into their proper places, but whose significance at the time went unrecognized. Along certain clinical paths Hippocrates was an up-to-date physician until Harvey's discovery, and when the Renaissance arrived, while additions were being made to our therapeutic knowledge, the scientific thinkers were actually less ready for the doctrine of the circulation of the blood than they would have been nearly two thousand years earlier in history. Harvey arrived with his grand demonstration of the mystery of the circulation of the blood in 1628, and had hard work to convince his own colleagues that he was right; he might have found it easier to discuss the mechanism of the circulation with the great anatomists of Alexandria than with any of the contemporary mystics. In what are called the Middle Ages of the world—that is, in mediæval days—scientific progress was in many directions imperceptible.

It may be noted that the colloquial use of the term "Middle Ages," in contradistinction to Dark Ages, as referring to the fourteenth, fifteenth, and sixteenth centuries exactly bears out what has been already suggested—namely, that it is only when a big revolution of thought occurs that the fact becomes obvious that we are living in the middle years of a progressive state. Historians regard the Middle Ages, roughly speaking, as covering the thousand years between the fall of the last Emperor of the West and the fall of Constantinople. But in common speech we have taken to applying the term Middle Ages to the last quarter, or less, of that period of a thousand years. The reason, of course, is that it was during this closing epoch that revolution of thought made so dramatic a show, the period when the thinking world became aware that it was in its middle years. The belief that nothing happened at all worth counting in the evolution of society until the humanism of the Renaissance was easy; modern research has shown that this view is superficial and that the progress of European society has been continuous, although not uniform. During that thousand years between the disappearance of ancient learning with the collapse of the Roman Empire and its recovery or rediscovery as a basis upon which the social history of the world could develop, the mental activities of man were not wholly absorbed by the struggles between barbarian races, nor later were they wholly under the spell of feudal rule or ecclesiastical authority. In science, however, compared with political advances, but little did happen throughout the whole period known to historians as the Middle Ages, and it is a fair generalization to say, using the phrase to cover the whole thousand years, that mediæval thought was generally inconsequent and uncritical in scientific matters. The real middle years of medicine as a whole (when the learning of the past was being correlated with the work of the present to form the developments of the future) occurred at the end of that thousand years. Until then no marked difference could have been perceived, either by their colleagues or by the public, between the tenets of one physician and those of his immediate predecessor or his immediate successor. In a local school of thought a fashion might prevail which would for a time give an appearance of old fashion to those who did not fall into line; but there was no disturbance of fundamentals, and until this happens those who are just behind their immediate date have little to warn them of their plight, nor is their slowness much detected by others. The progress that has been going on in their science has been gradually and largely concealed, and the former leaders can remain in close intellectual touch with the developments due to the work of their followers, for this work has been the logical outcome of their own teaching, which was accepted in the main. Every time that revision is called for something is

superseded; but the more that such supersessions take place gradually, the more will it seem that a pause has occurred in the pursuit of knowledge; and we are only brought to a sense that the pause is imaginary by some dramatic and fundamental discovery—something which arises *de novo*, or is a late fructification of ideas sown earlier and arriving at maturity perhaps by accident, just as accident may have checked earlier development.

It has often been pointed out that between discovery of the burning glass and the arrival of the microscope about two thousand years elapsed; if Archimedes had discovered the microscope the history of the world would have been altered.

#### THE RECEPTION OF HARVEY'S DISCOVERY.

Now the history of medicine was definitely altered by Harvey's discovery, incidentally without the aid of the microscope, for he had to assume the existence of the capillary connexion between the arteries and the veins which was demonstrated a few years later by Malpighi. Harvey's discovery was made and promulgated in a faultless way. Before he was ready with the exact demonstration he taught publicly in accordance with his theories, and although so radical a rearrangement of all physiology was not, and was not likely to be, accepted by all and immediately, he had on his side throughout some of the greatest thinkers. Here was no suspension of one technique for another, no isolated improvement in therapeutics, but a complete revolution, rendering immediately those who did not practise medicine in accordance with the new physiology not merely old-fashioned (in the sense that they were disregarding some fresh reading of an observed phenomenon or were neglecting the use of some more effective remedial measure), but obsolete from the point of view of scientific medicine. We may see how the discovery was received by observing what anticipations ushered it in, and what results immediately followed. A convenient way to do this will be to look at the medical science of two acknowledged heroes of medicine whose dates cover the period antecedent to and just posterior to Harvey's discovery. Harvey was born in 1578 and died in 1667, and announced his discovery of the circulation of the blood in the treatise *De Motu Cordis et Sanguinis* in the year 1628. Linaere, the founder of the Royal College of Physicians, was born in 1460 and died in 1524—that is to say, fifty years before Harvey was born, while his fame may be said to have reached its apex about one hundred years before the *De Motu* was published. Sydenham was born in 1624—that is to say, exactly a hundred years after Linaere's death. He lived till 1689, and his active career covered the whole of the period of Harvey's physiological work.

Linaere was more of a scholar than a scientist, although he appears to have been considered a great clinician. He was certainly a fine classical scholar, but his complete reliance on tradition is shown by the fame which he obtained for his translation of the works of Galen into Latin. This translation was acclaimed by Erasmus as being a better version than Galen's original Greek work, and there seems no reason to suppose that Linaere considered that medicine demanded more from him than a translation into the Roman dialect of the writings of the Roman author who preferred to use the fashionable Greek tongue. Linaere certainly performed a great literary exploit, for it is seldom indeed that a translation is able to do real justice to an original. He also founded the Royal College of Physicians of London, and in so doing had a fine conception for the organization and elevation of the medical profession. He was full of the dignity and virtue of his calling; but those who have studied his work do not seem to have recorded to his credit any mission to change the fundamentals of science as it had come down from Hippocrates through Galen. He had no knowledge that he was living in changing times, and medicine generally followed his official lead. At almost exactly the same time an infinitely greater person than Linaere, Rabelais, was manifesting a similar content with existing knowledge. Rabelais was familiar with the scientific knowledge of his epoch, and in 1537 delivered his medical lectures at Montpellier upon the works of Hippocrates. If there had been anything

subversive of the early Greek doctrines contemplated by medicine Rabelais would have known it, and would have exerted in publishing it.

And if Rabelais and Linaere had no prophetic glimpses, we need not be much surprised that the doctors of Harvey's day, save those in his immediate contact, were equally unprepared. Sydenham, Harvey's contemporary, seems not to have recognized the significance of Harvey's work. This is curious in a man who recorded his disapprobation of those who disliked all that is new and who reprobated the promulgation of doctrines to the public which they had not previously heard of. But Sydenham may have been in no mental contact with Harvey. He appears to have been no student of anatomy, but a great clinical physician; thus he was able to act empirically upon lines which the new learning would have justified. Possibly he, like Shakespeare—or so it is often alleged—may have had some sort of knowledge that the physics of the circulation were soon to be made the subject of some drastic discovery, but the arguments for Shakespeare's prevision seem untrustworthy. Shakespeare died the very week that Harvey made his announcement, and the passage in *Coriolanus*, wherein he is held to have foreshadowed the circulation of the blood, is based upon a fable in Aesop. And so far from believing that the arteries contained blood, he speaks of them as containing spirits. Shakespeare had some unexpected anatomical knowledge—for example, his references to the pia mater—and this he may have gained from seeing the illustrations to Helkiah Crooke's *Anatomy*, which was printed, according to Sir Benjamin Ward Richardson, next door to the Globe Theatre; but Crooke's work brings together all known anatomy of the arterial and venous system to the latest point before Harvey's discovery, to which no allusion is made. Nothing that Shakespeare wrote can be strained to mean that he had an acquaintance with Harvey's preliminary studies; and Sydenham was in similar condition, and basked in the title of the English Hippocrates.

How did the exponents of medicine take the unprepared and therefore unexpected revolution in their science? They responded well to the shock which they had received, considering that they were not well adapted to bear it. It is true that the discovery produced this situation among practitioners of medicine—it compelled those who did not accept the truth to remain dependent upon empiricism instead of upon reasoning, but—an important reservation—it did not deprive them of their valuable knowledge. The leaders of medicine after Harvey's discovery did not in any serious way challenge it, but they adapted their clinical methods in accordance with the new teaching, and, to the enormous credit of the old fathers and ancient prophets, no great alterations were needed in day-by-day routine. In a large measure the medical men succeeding Harvey found themselves supplied with reasons for what they had previously been doing upon traditional grounds. This, of course, is a very general statement and becomes less and less accurate as the reference is to periods further and further away from 1628. They showed that the medical man who cannot immediately get into intimate touch with modern developments does not lose his philosophic insight into his calling, where he is the heir to a long lineage of experience and research; for he knows that many truths, when enunciated, have escaped attention or been buried under irrelevancies, and he can console himself with the assurance that the essentials, to which he holds tenaciously, are the things that count for the good of mankind.

When, in the drawn-out story of intellectual progress, there comes a discovery which revolutionizes contemporary thought, the whole situation is changed. A new essential—not a new piece of technique—is added, and, as far as the profession of medicine is concerned, all those who are unable to carry on their work in accordance with the discovery, and in association with its relations to their theory and technique, will become old-fashioned. But those who find themselves in this plight will be obsolete in such measure as previous equipment enables them, or does not enable them, to adapt the teachings of the old essentials to the differences entailed by the new learning. The medical men of the seventeenth century gave a good

account of themselves when they became suddenly aware that they stood in the middle years—between the precepts of the past and the learning of the future. It was a large gap that was suddenly bridged for them—in time a thousand years, and in biology the whole mechanism. They were asked to accept the new doctrines unprepared by any warnings; there had been no general advance in physics to help in the comprehension of the new physiology; and there was no medical or scientific literature having any circulation. They did well.

#### THE RECEPTION OF LISTER'S WORK.

The next great revolution that occurred in our science was, of course, that brought about by Lister. In attempting to estimate the position of the exponents of medicine seventy-five years ago, when they became aware that they were living in the middle years of a progressive science, we must remember, it seems to me, certain things which counterbalance each other. On the one hand, we have the rise in general learning that had taken place, especially in physiology, associated with names, from Hunter onwards, that need not be recapitulated, and this made the acceptance of the new learning easier. But, on the other hand, the challenge was more direct, and here the position of the acknowledged leaders of medicine, when their fundamentals had altered, was rendered much harder, because of the medium of profuse literature and the rapid intercourse which had taken place between populations, national and international. These had changed all the circumstances of the world. In Harvey's time slow infiltration of new knowledge was the only method for its spread, but in the middle of the nineteenth century gospels could be propagated with remarkable speed, and the medical mind had to be made up quickly. This was very difficult for those who might have been compared with Lister in professional standing—his coevals—or those who were a little senior to himself, some of whom had been his teachers. While they had pursued their profession in accordance with traditional doctrine, he had been working intensively and for many years with his theory before him. They did not know, or at any rate had not followed in any detail, that work; while he, when he delivered his great message, had not perfected his technique, and had not envisaged wholly what his discoveries might imply. Few people, indeed, among his seniors or contemporaries had the training to enable them to put the new doctrines to proof, even when they understood what was their aim; while Lister and his personal lieutenants were instructing the modern medical world, there was no one to instruct those whose education had ceased when the discoveries in Glasgow and Edinburgh became widely known.

The attitude taken up by the medical profession, save for a very short space of time and with very little dissent from those whose opinion really counted, was commendable. The senior men, educated along traditional lines, laboured under the drawbacks of unfamiliar procedure, and even when unable to become scientific exponents of the practice they realized its ideals and were insistent upon it in theory and word. Speaking of surgeons alone, with their great heritage behind them and their responsible work to do at the leading hospitals of the world, the extended scope of treatment was welcomed; depreciation was found only in a few quarters. Certain practical criticisms were met by alteration in the original tenets, and the only sign among any of the seniors of a sense that they were being supplanted was manifested by their tendency to point to their own good results before the introduction of antiseptics.

We should recall these facts for two reasons, one of which is more important than the other. The unimportant reason is that to some extent the medical profession is damaged even now by the persistent and ignorant assertion made by all critics of our profession—and heaven knows we have enough—that Lister was impeded systematically and relentlessly by the medical profession in his work; in short, that antiseptic and aseptic surgery arrived in spite of, and not because of, the medical profession. It is usual for our critics at this point to make great play with the fact that Pasteur was not a doctor. He was not; he was an extraordinarily able chemist, and his researches came as a

revelation to Lister in some cases because they indicated the support of discoveries made by himself quite independently of Pasteur. Pasteur both inspired and confirmed Lister; we have here a perfect illustration of the convergence of science, and no question of priorities arises. Such opposition as there was in the medical profession against the teaching of Lister was limited and, considering the sweeping nature of the changes which adherence to his doctrines postulated, lasted for an extraordinarily short time.

But depreciation of the medical profession is unimportant, because it is so volatile. The second reason why it is well to remember the open-mindedness with which the medical profession received the teaching of Lister is a very solid one. We may all find ourselves in the position of those who, in the sixties, threw in their lot with what they could not thoroughly understand, because they could appreciate the honesty of the work and the splendour of the prospect opened out.

The main difference, then, between the reception of the new teaching of Harvey and the new teaching of Lister was determined by the circumstances of the world's general progress. In the days of Harvey intercommunication was slow; in the days of Lister it had already become quick and easy. The consequence was that a more highly educated class of medical men, familiar with the results of a vastly improved chemistry and a greatly extended biology, was rapidly made acquainted with Lister's claims and called upon to take a side with regard to them before any slow permeation of their meaning was possible. Thus, there were places of individual opposition, not necessarily all occurring exactly at the same moment or with regard to exactly the same points; and in this way intelligent doubt, which was legitimate at the time, came to be regarded as obscurantism when it persisted.

#### THE RECEPTION OF PROFESSIONAL CHANGES.

It is in the obituary notices of Lister's immediate seniors and of some of his contemporaries, as they from time to time occurred, that the frequent appearance may be noticed of the epithet "old-fashioned"; but I cannot recall that it had to be said of any of them, save on one or two occasions, that they were more than old-fashioned. They did not continue to remain opponents of the germ theory of disease, and so become obsolete: They obtained the epithet not because they had resisted the new learning, and thus become obsolete, but because the lines of their practices continued to run in accordance with the more leisurely methods of their early training. They continued to place before themselves as the pattern for the conduct of practice the family doctor, from whom they had received their earliest professional upbringing as apprentices. It was not so much the new developments of therapeutics or the vistas of operative surgery or preventive medicine with which they found themselves in ill accord, as the dislocations of daily habit brought about by social progress. A confusion was produced in this way, for men who were looking back at the past in matters of daily habit were held to be unable to look forward in matters of learning. Those who argued in such a way would have been wrong at this date, though usually right. Revolutions in thought commonly bring revolutions of conduct in their train, but it happened that, for the medical profession in the nineteenth century, the professional changes preceded, as well as accompanied, the scientific ones. Before Lister's doctrines had been published numerous practitioners had found themselves unable to appreciate the public benefits which had followed upon the passage of the Medical Act. The virtues of legislation here were so patent that real opposition ceased almost as soon as it had begun, but for many years the falling into desuetude of the apprenticeship system, the prolongation of the medical curriculum and, later, the abolition of unqualified assistants, and finally the Act for the registration of midwives, produced qualms among many. All these things seemed to them to detract from the status of the general practitioner as they had estimated it, honestly believing that the substitution in a measure of hospital teaching and of multiplied examinations for the training given to



pupils or apprentices by individual practitioners was not adding to the wisdom of the profession or turning out a higher class of public servant. There was much that must command our sympathy in these views, for many excellent practitioners were bred on the old pattern, just as we must sympathize with those who see to-day in the encouragement by the State of public medical activities a regrettable limitation to the influence exercised by the practitioner, despite official manifestations to the contrary. The broad purposes for the future escape attention, although they are directed to making medicine a co-operative career, with the public taking its share of responsibility as well as of benefit. Those who advocate a State medical service as a remedy for certain undeniable hardships do not trust the course that progress is taking. A rapidly changing milieu compels us always to accommodate ourselves not only to a new scientific outlook, but also to new professional habits—to face changes in the conduct of practice: “one dam thing after another.” Now, in the latter half of the nineteenth century many doctors found their professional life as much the subject of change as their scientific equipment. Their own knowledge and sincerity, and the passage of time, dealt swiftly with the scientific dilemma, so that opposition to Lister quickly became negligible; but changes in professional life were harder to meet. When the *Medical Register* was established and the General Medical Council came into being all the medical men in the United Kingdom who had earned their position as doctors by acquiring a degree or a diploma from a university or a corporation were entered upon a roll call, on which, in the eyes of the law, there was no difference between themselves and a large body of practitioners who had not undergone the ordeal of professional examination. This they resented, though the hitherto unqualified men had conducted their practices according to traditions received from the masters to whom they had been apprenticed; they had walked hospitals, and as in their day there was no great competition for a qualifying hall-mark, its non-possession, though a bar to any exalted position, was no bar whatever to the earning of a reasonable income. This many of them were obtaining when their professional recognition came under the Act, mainly in the position of unqualified assistants. And if many practitioners disliked parts of the great Medical Act, in hospital circles it also had its critics. Here measures directed to the suppression of competitive quackery had been desired rather than a higher standardization of general medicine. The educational reform entailed by the Medical Act was viewed with mixed feelings by many members of hospital staffs. Although a period of active reform had set in here, and appointments were no longer given in a barefaced manner to young relatives or to fee-paying apprentices, many ornaments of the metropolitan medical schools, at any rate, must have considered little short of shocking their inability to mould the educational activities of the institutions with which they were connected in accordance with their own ideas of what was right. In fact, much of the public value of the Medical Act escaped the attention of the whole profession in those days, and it seems that it still escapes the comprehension of many who write to-day about the disciplinary functions of the General Medical Council. Those who considered that things had been running smoothly, and noticed that many additions had been made to the profession's general wisdom and technical skill, did not allow that the point was reached at which standardization was necessary. But with the passage of the Act many abuses which had previously run side by side with the general progress became patent; the need for confining practice to those who had received, and could prove that they had received, adequate professional training was recognized, and the grievance against the admission of unqualified persons to the first *Register* quickly died down. To-day, the person who makes it a hardship that he or she cannot practise before gaining a legal status because of the mere drawback of having had no professional education is thought silly—except in those silly circles where it is still believed that the healer who works by the light of nature possesses some knowledge that is unrevealed to those who simply attend hospitals and pass examinations.

Those who continue to point out that because the apprenticeship system had its virtues we should return to it are a little in similar case. There is no doubt that the system worked well before medical education was standardized, and there is equally no doubt that, from the day when the General Medical Council came into existence, with the responsibility of admitting to the *Register* only those who could prove the regularity of their training, the system was doomed. The Council took over the inspection of the examinations which gave access to the roll which it was its function to keep at its proper standard. This it was perfectly able to do when dealing with universities and corporations, anxious to co-operate in raising medical education to a high general level and in preventing any downgraded competition between their various selves, but it would be entirely impossible for a similar scrutiny to be instituted of the teaching which apprentices derived from masters of varying capacities and ideas.

So the men of the sixties were faced with vast alterations in fundamentals, both in science and practice; they met the situation bravely, and progress in both directions proceeded, wherever possible, with their active support. The occurrence of grievances and sometimes of real hardships must be common to these revolutions. Many were offended at the inclusion of non-qualified practitioners upon the first *Register*; many were seriously embarrassed by loss of apprentices and later by the inability to employ unqualified assistants; and, later still, many felt that the registration of midwives was an encroachment upon professional territory. It is fair, also, to remember that those who had been practising medicine without qualification, and who proved unable to obtain the necessary testimonials, found exclusion from the first professional roll a severe blow. The necessity which all men feel to-day for the co-operation of the public in the progress of medicine—and this is a prime object with the Ministry of Health—is presenting us now with problems of a similar sort; and will present us with more. These are things which, every whit as much as startling advances in science, recall us to the fact that we are living in Middle Years.

I will bring to your attention one man, because his scientific and professional attitude was typical of that assumed by the best practitioners of the day throughout the country, while he would inevitably have been called old-fashioned by those who judge from exteriors, or who write careless obituary notices. When I first joined the staff of the *Lancet*, now over thirty years ago, what might be called the ethical side of medical practice was watched over for us by Dr. James Grey Glover. Glover, of small stature, with large mobile features framed in side whiskers, wore always the customary black suiting of the professional classes in the sixties and seventies, and drove to the office in a typical doctor's phaeton on certain appointed days. He was courteous in manner, precise in speech—no word of slang ever soiled his lips. His leading articles—he wrote one every week for more than a quarter of a century—were solemn, for he took his responsibilities seriously, but his judgements were charitable even though his tolerance did not extend to certain classes of offenders. On Saturdays he played bowls on a beautifully kept lawn in the suburbs. It would have been impossible for the casual observer to guess that this exterior went with great clinical knowledge carefully kept up to date, with an unerring appreciation for the professional difficulties of colleagues, and with an intimate perception of the circumstances which brought these difficulties about. Glover sat upon the General Medical Council as one of the direct representatives of the profession from the year 1886, when they were first appointed, until his retirement fifteen years later, and during the whole of that time he showed himself able to appraise correctly the changes that were taking place. In welcoming the measure for the registration of midwives he was held by many of his constituency to have misrepresented their views, but Glover was firm in believing that the interests of the medical profession were only vested when it was clear that to disturb them would also be opposed to the public weal, and he pointed out that the midwifery service of the country was a scandal, to remove which many sacrifices would be properly endured. Those of us who had to read the *Andria* for matriculation,

or who happened to see the Westminster play this year, well know that nearly two thousand years ago the midwife's habits were held to be a source of grave danger to Roman women, so that legislation to deal with grosser abuses at the close of Queen Victoria's reign cannot be called hasty. Glover found that it had been unduly delayed. He was a perfect example of the way in which the medical men of his day met a difficult situation, where, in the cause of the public good, they had to press forward in trying circumstances and overcoming logical reluctance. In attitude and manner he was of the older school, but from the beginning he was an ardent convert to scientific progress, and gradually he became a champion of professional reform. We may want such men in the coming time.

#### THE RECEPTION OF FUTURE REVELINGS.

May I pull together the threads of a rambling discourse? I have attempted to point out that medicine has gone always forward, but that this continuity has been marked by fits and starts, which especially bring home to us that we are ever in the middle years of progress. These may react painfully upon us, through troubles both in scientific work and professional routine. The practitioner has responded finely, realizing that he was receiving proofs, if painful proofs, of progress; and where it has proved impossible for him fully to appreciate the significance of the changes, there has been no long resentment of them; on the whole they have been welcomed enthusiastically, and many who remained old-fashioned on the surface were among the heartiest converts to new doctrines. We have had fine examples, and it may behoove us to imitate them in circumstances that will bring us similar troubles.

It is an error to hold that any period in the world's course has been unprogressive, although sometimes the progress has been unnoticed because unpermeated by any striking happenings. As far as physics, physiology, and their medical accompaniments are concerned, a real period of stagnation occurred in the Dark Ages: what is usually termed the Middle Ages being the time when the world woke up, not only to a sense of the past, but a vision of the future. Even in the Dark Ages, however, the cause of medicine was bettered indirectly by the progress that had been always going on in society generally, for inquiring and philosophic minds were encouraged thereby. We receive here a proof, if one were wanted, that the science and art of medicine draw sustenance from all knowledge, general or special. Progress is noted whenever the evolution proceeds by a short cut or mutation, and then those bred of the older doctrines may find it hard to adjust their views. But often their scientific adaptation is more rapid than their acceptance of new professional methods, and we must be careful to discriminate between the old-fashioned man and the one who is positively unresponsive of scientific revision.

Those are the things I have attempted to bring out, and particularly for this reason: Many wise and thoughtful persons believe, from work with which they are personally concerned, that we are on the edge of big things, and it may be difficult to estimate their significance solely by knowledge that we ourselves may have acquired. We shall have to recognize more fully the signification of the growing connexion between chemistry—that is, biochemistry—biology, and psychology as they may be reflected in therapeutics. Much which we consider to be medicine proper may take its place in a large synthesis, when we must be willing to make use in a fuller way of the additions to knowledge made by workers along other special lines than our own. Such work we must regard as reinforcements, not encroachments. Lister had a better field than Harvey, because the medical constituency was better educated. We should do better even than Lister's contemporaries.

That the middle years in which we live, and in which the progress has been steady, and indeed wonderful, may shortly be marked by another such move forward as the seventeenth and nineteenth centuries saw is the strong conviction shared by many scientific men. The sort of convergence between physics, biology, and psychology to which allusion is being made must influence both thought and social custom, if it occurs; for its significance is nothing less than a belief that we are clearing up mysteries on the

way to the solution of basic problems of life. Investigations into inanimate matter have hitherto constituted practically all our researches, but it would seem that when we look into the nature of the processes which underlie radiation and chemical combination we may be enlarging the scope of our inquiries indefinitely. Whatever the inquiries may lead to in which physicists are at present engaged when studying the emission of light by the atom the results may have a message to biologists, and thus to those whose researches are directed towards the central nervous system; while psychologists are attempting to analyse the structure of mind by procuring evidence obtained from the messages of light to the brain. May I refer you to *Archimedes*, the latest volume of the admirable To-day and To-morrow series, wherein Mr. L. L. Whyte sets out the daring aspirations of modern physics. This small volume indicates that the fundamentals of physics and psychology are being disturbed in the same way as the fundamentals of medicine and surgery were disturbed by the work of Harvey and Lister. We may have a harder task than either the contemporaries of Harvey or of Lister, because of the little time that may be left for hesitation and the wide range of knowledge that will be presented for assimilation. To Harvey's contemporaries the news filtered through slowly, and they adjusted themselves slowly. To Lister's contemporaries it was presented more rapidly and in greater volume, but they were prepared to receive it by the levelling up of their scientific equipment in their own subjects. But if the new jump comes, as some predict, the information will reach us through channels where medical learning, as we now define it, will not suffice for its appraisement. Old-fashioned then we may become, but let us not be found resisting the truths as they emerge, and as we become painfully aware that we are in middle years.

### Association Notices.

#### PROPOSED BUXTON DIVISION.

NOTICE is hereby given to all concerned of the following proposal made by the Council of the Midland Branch:

That there be formed a Buxton Division of the Midland Branch, of area as follows: The municipal borough of Buxton; the urban districts of New Mills and Bakewell; and the rural districts of Chapel-en-le-Frith, Bakewell, and Hayfield; and that the area of the Derby Division be modified accordingly.

Written notice of the proposal has been given to the Derby Division, and the matter will be determined in due course by the Council of the Association. Any member affected by the proposed change, and objecting thereto, is requested to write, giving reasons therefor, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than February 21st, 1928.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BATH AND BRISTOL BRANCH.**—A meeting of the Bath and Bristol Branch will be held at the University of Bristol on January 25th at 8 p.m. A debate on hospital policy will be opened by Professor E. W. Hey Groves, and the opposition will be led by Dr. B. G. A. Baskett. The motion is: "That the needs of the community require a better hospital service than that provided by the voluntary system." The chair will be taken by Professor Francis Francis, Pro-Vice-Chancellor of the University of Bristol.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, February 7th. Dr. Brailsford (Birmingham) will read a paper on cholecystography.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, February 8th. Mr. G. A. Raison will read a paper on surgical conditions of the biliary tract.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Friday, January 27th, at 4 p.m., when finance, hospital accommodation, ethical questions, medical charities, and other important matters will be considered. The Executive Committee will meet at 3 p.m. Professor Bramwell has fixed February 21st as the date of his lecture, the subject of which will be announced later.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division will be held at Maryport on Friday, January 27th. Dr. J. N. Douglas Smith will read a paper on the early treatment of puerperal sepsis.

**ESSEX BRANCH: NORTH-EAST ESSEX DIVISION.**—A clinical meeting of the North-East Essex Division will be held in the out-patients' hall in the Essex County Hospital, Colchester, on Thursday, January 26th, at 8.15 p.m. Professor W. E. Dixon will give an address on the known effects of alcohol in the human body.

**FIFE BRANCH.**—A clinical meeting of the Fife Branch will be held in the Maternity Home, Town-end Crescent, Kirkcaldy, on Thursday, January 26th, at 3.30 p.m. Sir David Wallace will give an address on orthopaedic treatment and organization in the East of Scotland.

**KENT BRANCH: DARTFORD DIVISION.**—A meeting of the Dartford Division will be held at the King Edward Hospital, West Hill, Dartford, on Wednesday, January 25th, at 3 p.m. Dr. Lindsay W. Batten will give a British Medical Association Lecture on the medical aspects of child welfare clinic work.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A clinical meeting has been arranged by the Hyde Division for Thursday, January 26th, at 8.30 p.m., in the Hyde Child Welfare Centre, when cases will be shown by members of the Division. It is hoped that every member will endeavour to show at least one case and, if possible, more; they need not necessarily be rare cases, a well marked type is often of greater clinical interest. To facilitate the arrangements members are requested to notify the secretary not later than Saturday, January 21st.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, February 7th, at 9.30 p.m. Dr. H. C. Semon will discuss diagnostic pitfalls in dermatology.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, February 7th, at 8.45 p.m. Dr. F. M. R. Walshe will give a lecture on finth healing.

**METROPOLITAN COUNTIES BRANCH: HAMSTEAD DIVISION.**—A meeting of the Hampstead Division will be held at the Hampstead General Hospital on Thursday, February 9th, at 8.30 p.m. Dr. S. Monekton Copeman, F.R.S., will discuss inoperable cancer.

**METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.**—A meeting of the Lambeth and Southwark Division will be held at the Lambeth Carlton Club, Coldharbour Lane, S.W.9, on Wednesday, January 25th, when Dr. A. G. G. Thompson, the newly appointed medical officer of health for Lambeth, will read a paper on the Schlick test.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—At the meeting of the North Middlesex Division to be held on Wednesday, January 25th, Mr. T. H. C. Benians will read a paper on local immunization and antiviral therapy.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAZ DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 14th, at 9 p.m. Dr. Alfred Cox, O.B.E., Medical Secretary to the British Medical Association, will give an address on "The medical man in public life: his duties and responsibilities."

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—A meeting of the Wandsworth Division will be held at Stanley's Restaurant, Lavender Hill, on Thursday, January 26th, at 8.45 p.m., when Dr. Brineker, senior medical officer in charge of the infectious diseases department of the London County Council, will lecture on diphtheria and diphtheria immunization.

**NORTH OF ENGLAND BRANCH: BISHOP AUCLAND DIVISION.**—A meeting of the Bishop Auckland Division will be held at the Cottage Hospital, Bishop Auckland, on Friday, January 27th, at 8 p.m. Dr. J. C. Spence will give a lecture on medical emergencies in children.

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—At the meeting of the Stockton Division to be held on Friday, January 27th, Dr. W. H. Dickinson (Newcastle-on-Tyne) will read a paper on the diagnosis of pulmonary tuberculosis.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—The annual dance arranged by the Sunderland Division in aid of B.M.A. Charities will take place on Thursday, February 2nd.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the Oxford Division will be held in the Radcliffe Infirmary on Wednesday, January 25th, at 2.30 p.m. Dr. T. Izod Bennett will lecture on recent advances in pernicious anaemia.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—A meeting of the Portsmouth Division will be held on Thursday, February 9th. A British Medical Association Lecture will be delivered by Professor Hugh Maclean on renal disease and high blood pressure.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, January 25th. Dr. H. W. Southgate will give a lecture demonstration on modern laboratory methods as an aid to clinical medicine. Preceded by tea at 4 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 2nd, at 4 o'clock. Sir D'Arcy Power will give an address on the history of medicine. Tea at 3.45 p.m.

**WEST SOMERSET BRANCH.**—A clinical meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital on Tuesday, January 24th, at 3.30 p.m. A paper open to discussion will be read by Dr. W. H. Maidlow (Ilminster) entitled "A to Z. Subjects of interest to the general practitioner." Tea will be served at 4.30 p.m.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—A meeting of the Dewsbury Division will be held at the Dewsbury Infirmary on Friday, February 3rd, at 8.15 p.m. Dr. G. Cooper (Leeds) will read a paper on radiotherapy.

**YORKSHIRE BRANCH: LEEDS DIVISION.**—A meeting of the Leeds Division will be held in the General Infirmary, Leeds, on Friday, February 17th, at 8 p.m. Dr. John Parkinson will give a British Medical Association Lecture on common difficulties in cardiac diagnosis. Lantern slides will be shown, and there will be a discussion after the lecture.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Great Bull Restaurant, Westgate, Wakefield, on Thursday, February 9th. Mr. A. Gough, surgeon to the Women's and Children's Hospital, Leeds, will lecture on menstrual diseases and the menopause. Snapper (2s. 6d.) at 7.45 p.m. will precede the lecture.

## Meetings of Branches and Divisions.

### CAMBRIDGE AND HUNTINGDON BRANCH: CAMBRIDGE AND HUNTINGDON DIVISION.

#### Discussion on Facilities for Maternity Work.

The last general meeting of the Cambridge and Huntingdon Division was held at Addenbrooke's Hospital, Cambridge, on December 23rd, 1927, when Dr. ARTHUR WEBB presided. It was called primarily to discuss the provision of new facilities for the treatment of maternity cases in the town and county of Cambridge. Owing to the stormy weather there was only a small attendance.

After some discussion arising out of the minutes of the last meeting, Dr. STEVENSON opened the discussion on maternity treatment by moving:

That this Division favours a public maternity home, not in connexion with the hospital, for the treatment of maternity cases in the town of Cambridge.

Dr. YOUNG formally seconded the motion. Dr. STEVENSON urged the necessity of a move being made by the Division in a matter about which public feeling was very strong in Cambridge. He outlined a scheme which he thought would meet present requirements, although probably the county would have to make special arrangements.

Dr. ELLIS moved the following amendment:

That this Division favours an arrangement between the public health authorities concerned and Addenbrooke's Hospital for the provision of an ante-natal department and maternity home, to which may be admitted for confinement those cases in which abnormality is expected or is known to exist, plus cases from homes which are considered insanitary or otherwise unsuitable.

He favoured one single scheme for town and county (although the two resolutions were not necessarily antagonistic), and went on to describe past and present conditions, and the futile efforts which, at different times, had been made to improve them.

Dr. ARTHUR WEBB formally seconded.

Dr. CANNY (honorary surgeon in charge of the gynaecological and obstetrical department at the hospital) gave his views, and urged that nothing should be done in a hurry. He admitted the past and present unsatisfactory arrangements for treatment of pathological cases at hospital, but prophesied a big improvement within the next few months. The basis of any scheme was the ante-natal clinic, and his ideal would be a home, run in connexion with the hospital (not of necessity within its precincts) with about twenty beds, a pre-natal department, and an "out"-district, so that students and midwives could be trained. The expenses should be divided among the authorities concerned according to treatment received (or beds occupied).

Dr. ROBINSON described the Oxford scheme, which seemed to work well. It was an essential part of the Radcliffe Infirmary. He advised making use of existing institutions before beginning to build. Both he and Dr. LAIRD had no desire to see the work taken out of the "family doctor's" hands, and they urged that any scheme should be limited to "the treatment of necessitous, abnormal, or filthy cases," roughly.

Most of those present took part in the discussion. It was pointed out that the Ministry of Health would favour, and help to support, a scheme run in connexion with the hospital.

The general feeling was in favour of Dr. ELLIS's resolution, but as the attendance was so poor, and as the question was important and merited more interest being taken in it, on the motion of the CHAIRMAN the discussion was adjourned until January 17th.

### NYASALAND BRANCH.

A well attended meeting of the Nyasaland Branch was held at the Masonic Hall, Zomba, on November 5th, 1927. Interesting papers were read by Dr. W. MILNE TOUGH on some suggestions for the improvement of the African in Nyasaland, from the medico-economic point of view; by Dr. W. McFARLANE on the treatment of malaria by intravenous injections of quinine; and by Dr. H. M. SHELLEY on recent theories on the biochemical pathology of nephritis. It is hoped to hold regular meetings of the Branch every three months.

### SOUTHERN BRANCH: PORTSMOUTH DIVISION.

The annual dance arranged by the Portsmouth Division in aid of medical charities took place at the Savoy-Café, Southsea, on January 10th, when there was an attendance of about 450. The function was in every way a striking success, and the Association's Charities Fund will benefit in consequence.

## BIRTHS AND DEATHS REGISTRATION ACT, 1926.

### PROCEDURE FOR DELIVERY OF DEATH CERTIFICATES.

As a result of the Births and Deaths Registration Act, 1926, inquiries have been made by members of the British Medical Association as to what risk, if any, they ran if they handed death certificates to informants instead of observing the usual method laid down in the Act—namely, of sending the certificate by post in a sealed envelope to the registrar of births and deaths.

The Medico-Political Committee of the Association decided to ask the Registrar-General to furnish a statement on the subject for publication in the *BRITISH MEDICAL JOURNAL*, and he has complied with that request. The statement is as follows.

### STATEMENT BY THE REGISTRAR-GENERAL.

The Births and Deaths Registration Act, 1926, requires that a certificate of cause of death given by a certifying medical practitioner shall be "delivered forthwith" by him to the registrar. The Act does not, however, prescribe the means or method of delivery, or limit a practitioner as to the course which he may adopt for discharging his obligation to deliver. He is presumably entitled, therefore, to employ any means available to him of delivering the certificate—for example, by handing the certificate in person to the registrar, by employing a messenger, or by posting it.

It has, however, been generally taken for granted that the method of postal delivery is that which practitioners would normally adopt; and for this reason representations were made during the passage of the bill on behalf of the medical profession that free postage should be conceded in respect of the postal transmission of such certificates. This concession was accordingly made, and arrangements are in force for the supply to practitioners of postage-free envelopes. But, as already indicated, practitioners are not restricted by law to delivery through the post; and it is thus open to them to adopt other means, provided that such means do in fact discharge the practitioner's duty of delivering the certificate forthwith to the registrar.

Cases have, however, occurred in which it has appeared that the normal method of postal delivery might involve some hardship to the relatives of the deceased, and that such hardship could be obviated if the relative, on visiting the practitioner immediately after the death, could receive the certificate and convey it at once to the registrar. In such cases the Registrar-General has expressed the opinion that there is nothing to prevent a certifying medical practitioner, if he thinks fit to do so, from making use of the relative as his messenger for the delivery of the certificate. Emphasis has, however, been placed upon the fact that the responsibility for "delivery forthwith" will still remain with the practitioner, for the following reasons:

Where this course is adopted the procedure will bear a strong superficial resemblance to the procedure in force prior to the 1926 Act. Under the pre-existing registration law the duty of a certifying medical practitioner was strictly limited to a duty to hand the certificate to the relative or other person qualified to be informant of the death. A separate duty was placed upon the person receiving such certificate to deliver it in his turn to the registrar. It has thus appeared possible that if a practitioner adopts a means of delivery so closely resembling the old procedure an erroneous impression might arise that his legal duties in the matter were identical with those under the old law. This is not, however, the case. Under the old law the practitioner's responsibilities were at an end upon his handing the certificate to the relative. Under the present law, however, if in the circumstances described above the practitioner hands the certificate to the relative, he merely entrusts it to him as to his agent, and himself remains responsible for the delivery "forthwith" of the certificate to the registrar by his agent.

With regard to the consequences of any failure in the prompt delivery of the certificate, the Registrar-General is advised that where delivery is by post, Section 41 of the Births and Deaths Registration Act, 1874, would apply. The effect of that section is that the date on which the letter containing the certificate would be delivered in the ordinary

course of post to the registrar is to be deemed to be the date on which it is received; and a practitioner who proves that the letter was "pre-paid, properly addressed, and put into the post" at a date which satisfies the requirement as to "forthwith" is thus protected against any postal miscarriage of the certificate. No such protection attaches, however, to any other methods of delivery; and in this sense a practitioner adopting any other method does so at his own risk. If he commits a breach of his obligation to deliver forthwith, he is liable on summary conviction under Section 11 of the 1926 Act to a fine not exceeding forty shillings. But the question whether he took reasonable steps to ensure delivery forthwith would doubtless be one of which full account would be taken before any proceedings were instituted, and which the court, in the event of proceedings being taken, would consider in deciding what was the appropriate penalty.

The Registrar-General has expressed the hope that practitioners would adopt the method of delivery through the informant in particular cases where hardship would arise if delivery were made by the normal postal method. He has thought it necessary to draw attention to the legal aspects of the adoption of the alternative method, however, for two reasons. In the first place, it has seemed desirable that practitioners adopting that method should not be misled by the similarity between that procedure and the procedure prescribed by the pre-existing law. Secondly, it has appeared undesirable that, owing to any such misapprehension or for any other reason, the profession should be gradually led to adopt that method in normal circumstances in preference to the method of postal transmission. The system contemplated by the Act under which the certificate reaches the registrar from the practitioner without the intervention of the relatives is one which has long been advocated by the medical profession, and is supported by weighty advantages. Moreover, the present form of certificate, it will be remembered, contains some provisions which depend for their utility upon direct transmission. It would thus be regrettable, in the Registrar-General's opinion, if postal transmission as a normal practice in ordinary cases were substantially departed from in favour of delivery through the informant, however necessary and desirable that course may be to avoid inconvenience and hardship in occasional instances.

## Correspondence.

### Ophthalmic Benefit under the Insurance Act.

SIR,—It is high time that finality should be reached in this matter; and, above all, the scheme must be simple. This is essential for smooth working.

The half-guinea fee would no doubt be agreeable to the approved societies, and would immediately solve their problem. But would it satisfy the oculists? I think not. A large number of the best men object to anything less than one guinea; a larger number still would be satisfied with the half-guinea on one condition—that every case was referred to the oculists.

I do trust that no clinics will be established. They will cost money; they will have all the disadvantages of the out-patient department of the hospital—namely, loss of time and wages to the workers and "members," leading to noise and confusion, to haste and hurried work. I trust the choice will be in favour of "clinical evenings" at the oculists' own rooms, which are already in existence, and are comfortably and fully equipped. Six cases would be quite enough for an evening clinic, considering that both patient and doctor have already had a hard day's work, and are looking forward to rest and a meal. Thus the extra expense of a clinic would be saved, and this saving could be added to the fees.

The oculists are already placed fairly conveniently for the patients throughout the kingdom, and patients do not care to be dragged to clinics away from their homes; it adds to the cost and inconvenience. On these clinical evenings the fee would be the flat fee, but any patient desiring to make an appointment at other times should be allowed to, on condition that he personally makes up the flat fee to one guinea. Many would avail themselves of this advantage, as it would save their time and allow them the privilege of a fuller examination, if necessary.

As there must be cases (though few in number) which require a consultation with a second oculist, a separate panel of the highest authorities in ophthalmology should be made, and these oculists should be paid a higher fee, say £2 2s. They should all be on the honorary full staff of the great hospitals, and be recognized as the "highest tribunal." They could also belong to the ordinary panel, if they so decided.



Then I think the pure oculists should be on a separate panel from the general practitioner oculist. It must be obvious that men making a side-line of ophthalmology can hardly be equal to those who spend their whole lives on their speciality. Some will claim, doubtless, the reverse; but we must remember that every medical man (specialist or general practitioner) has had a full education in the whole range of medicine and surgery.

As regards the higher fee for the highest authorities; at present they are doing these consultations at the hospitals, without fee, and I think it is unfair on them and ungenerous of prosperous societies to accept this charity. At all events, the first consultation should be paid for. I may add I am not one of these authorities, in case anyone may think I am pleading my own cause; but I am ashamed of getting their help without any fee being paid them, for under no condition can these societies be described as "poverty stricken," and the highest members of the profession certainly deserve their reward.

To sum up, I advocate that:

(1) No clinics be established. They will fall into the hands of some corporate body, and probably end up by being absorbed into the hospital system, as the London County Council school clinics have been in many cases, to the loss of freedom of the medical officer.

(2) Clinical hours to be arranged at oculists' houses to suit the convenience of the local insured (probably evenings). On these evenings the flat fee to be charged.

(3) By special appointments (at the desire of the patient) at convenient times, the patient to bring up the flat fee to one guinea. No oculist to use any kind of pressure.

(4) A special class of consultants to be formed for extreme cases needing a second opinion, to be paid a higher fee, and these consultants to be drawn from the honorary staffs of the hospitals.

(5) Lastly, the advantage of having opticians present at the same time as the oculist is, I think, greatly exaggerated. There is little extra trouble in going afterwards to the nearest optician on the panel; he can be seen at all hours of the day. I do not think it would help the oculist much to have him always present.

—I am, etc.,

London, W.

ERNEST C. ARNOLD, F.R.C.S. Eng.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captain J. R. Muir is placed on the retired list with the rank of Surgeon Rear Admiral.

Surgeon Captain W. W. Keir, C.M.G., to the *Tamar* for R.N. Hospital, Hong-Kong. (Amended appointment.)

Surgeon Commanders L. R. Warburton, O.B.E., to the *Victory* for R.N. Hospital, Haslar; A. G. Taylor to the *Cyclops*; J. R. A. Clerk-Hall to the *President* for Medical Department, temporary, supernumerary; G. D. Walsh to the *Columbian* for Port Edgar Base; A. G. Malcolm to the *President* for course at R.A.F. Medical Officers' School of Instruction. Surgeon Lieutenant Commander A. H. Harkins to the *Delhi*. Surgeon Lieutenants J. G. Holmes to the *Harbell*; F. W. Hesley to the *Broke*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenants T. F. Tierney to the *Calliope* for training; A. F. Davey to the *Ark Royal* for training.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel D. S. Skelton, D.S.O., from the seconded list, is restored to the establishment.

Captain J. H. Bayley, M.C., to be Major, May 1st, 1927, with precedence next below R. R. Thompson, M.C. (substituted for notification in the *London Gazette* of July 12th, 1927).

Lieutenant W. D. Speedy resigns his commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant (Honorary Squadron Leader) E. F. N. Currey relinquishes his temporary commission on completion of service.

Flight Lieutenant F. K. Wilson is transferred to the Reserve, Class D II. Flying Officers L. I. Hyder and J. Magner to be Flight Lieutenants. Flying Officer G. T. O'Brien to Home Aircraft Depot, Henlow.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel R. G. H. Tate ceases to belong to the Reserve of Officers on account of ill health.

Lieut.-Colonel H. B. G. Walton, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

### INDIAN MEDICAL SERVICE.

The services of Captain T. R. Khanna are placed temporarily at the disposal of the Government of Madras for employment in the Jail Department. The services of Captain G. H. Fraser are placed at the disposal of the Government of the United Provinces.

Lieut.-Colonel J. C. H. Leicester, C.I.E., V.I.S., has retired from the service.

### TERRITORIAL ARMY.

#### ROYAL AIR FORCE MEDICAL CORPS.

Major J. Wallace, O.B.E., T.D., from T.A. Reserve of Officers, to be Major, with precedence as from October 6th, 1925.

Captain (prov.) R. N. Craig is confirmed in his rank. To be Captains: Captain W. W. Brown, late R.A.M.C. (Special Reserve), with precedence as from April 30th, 1926; Lieutenants A. C. Crawford, D. R. Owen, and C. E. W. Bower.

Lieutenant R. Walkingshaw, M.C., resigns his commission.

To be Lieutenant: C. C. Ryan.

Supernumerary for Service with O.T.C.—Captain J. F. Smith resigns his commission.

### COLONIAL MEDICAL SERVICES.

Dr. W. E. Burton appointed Principal Medical Officer, British Honduras. Dr. C. T. McCarthy appointed Medical Officer, Federated Malay States. Dr. D. Duff appointed an Assistant Director of the Medical Service, Gold Coast. Dr. S. L. Brohier appointed a Senior Medical Officer, Gold Coast. Dr. K. K. Grieve appointed a Senior Medical Officer, Nigeria. Dr. W. E. Glover appointed a Senior Medical Officer, Nigeria. Dr. R. B. Hawes, M.R.C.P., appointed Professor of Medicine in the College of Medicine, Singapore. Dr. V. L. Ferguson to be Chief Medical Officer, St. Lucia.

The following appointments have been made by the Secretary of State for the Colonies during the month ended December 31st, 1927: Messrs. J. P. M. Donnelly, W. S. Thomas, and A. Reid appointed Medical Officers, West African Medical Staff. Dr. A. V. G. Price appointed District Medical Officer, British Solomon Islands Protectorate. Messrs. E. C. Morris and W. E. Holmes appointed Medical Officers, Federated Malay States. Miss V. E. K. Stuart appointed Lady Medical Officer, Federated Malay States. Lieutenant E. L. Robert appointed Medical Officer, Straits Settlements.

### VACANCIES.

BIRMINGHAM GENERAL HOSPITAL.—Casualty House-Surgeon (male). Salary £100 per annum.

BIRMINGHAM CORPORATION.—Senior Assistant Medical Officer of Health. Salary £1,100 per annum.

BLYTH BOROUGH.—Medical Officer of Health, School Medical Officer, and Port Medical Officer. Salary £800 per annum, rising to £950.

Bournemouth: Royal Victoria and West Hants Hospital.—Medical Officer to the Venereal Diseases Treatment Centre. Salary £900 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—(1) Honorary Dental Surgeon. (2) Honorary Assistant Dental Surgeon.

Bristol GUARDIANS.—Second Assistant Medical Officer at the Southmead Hospital. Salary £200 per annum.

CAMBRIDGE: ADDENBROOK'S HOSPITAL.—(1) House-Surgeon (male). (2) House-Physician (male). Salary at the rate of £130 per annum.

CARDIFF ROYAL INFIRMARY.—(1) House-Surgeon—Surgical. (2) House-Surgeon—Physician. Salary at the rate of £50 per annum.

COVENTRY CITY.—Deputy Medical Officer of Health. Salary £750 per annum, rising to £1,000.

DERHAM COUNTY COUNCIL.—Medical Officer of Earl's House Sanatorium for Boys. Salary £150 per annum, rising to £500.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Honorary Assistant Aural Surgeon.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—(1) Assistant Radiologist (part time); £100 per annum. (2) Assistant Pathologist (part time); £150 per annum. Women.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.1.—House-Physician (male). Salary at the rate of £120 per annum.

GERMAN HOSPITAL, E.R.—Honorary Assistant Surgeon.

GREAT OUSEBURN ISOLATION COMMITTEE.—Medical Officer of the Isolation Hospital. Retaining fee £5 per annum and £1 for each case admitted.

GREAT OUSEBURN UNION.—Medical Officer and Public Vaccinator for the Acomb District. Salary £43 15s. per annum and vaccination fees.

HEMEL HEMPSTEAD: WEST HANTS HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

HOCKLEY PROVIDENT DISPENSARY, Birmingham.—Medical Officer (male). Emoluments last year £90.

KILMALLIE PARISH COUNCIL.—Medical Officer and Public Vaccinator. Salary £100 per annum.

LEICESTER ROYAL INFIRMARY.—Casualty House-Surgeon. Salary at the rate of £125 per annum.

LOCHARNON PARISH COUNCIL, Ross-shire.—Medical Officer and Public Vaccinator. Salary £133 per annum.

LONDON FEMALE LOCK HOSPITAL, 283, Harrow Road, W.9.—Second House-Surgeon. Salary £150 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer. Salary £35 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Ophthalmic Surgeon.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) Honorary Assistant Orthopaedic Surgeon. (2) Assistant Surgeon at the Wingfield Orthopaedic Hospital, Headington; salary £600 per annum.

PRESTON: ROYAL INFIRMARY.—House-Surgeon (male, unmarried). Salary £150 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Non-Resident Casualty Officer for Out-patient Department. Salary £150 per annum.

ST. ALBANS: HILL END MENTAL HOSPITAL.—Second Assistant Medical Officer (male, unmarried). Salary £450 per annum, rising to £500.

ST. BARTHOLOMEW'S HOSPITAL, E.C.—Assistant Surgeon.

ST. JOHN'S HOSPITAL, Lewisham.—Assistant Physician.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—Resident Medical Officer and Assistant Resident Medical Officer. Salary at the rate of £175 and £130 per annum respectively.

ST. PANCRAZ PARISH.—Junior Assistant Medical Superintendent at the Highgate Hospital. Salary £325 per annum, rising to £375.

SALFORD CITY.—Medical Officer of Venereal Diseases Treatment Centre. Salary £750 per annum.

SHANGHAI MUNICIPAL COUNCIL.—Assistant Radiologist in the Public Health Department. Salary 700 taels a month.

SHEFFIELD ROYAL HOSPITAL.—Resident Anaesthetist (male). Salary £80 per annum.

SOMERSET COUNTY COUNCIL.—(1) Assistant Tuberculosis Officer. (2) Tuberculosis Officer for Bath City. (3) Tuberculosis Officer for Western Area. Salary £600 per annum each.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—(1) Honorary Assistant Surgeon. (2) Honorary Anaesthetist. (3) Honorary Assistant Aural Surgeon. (4) Honorary Assistant Orthopaedic Surgeon.

TOXBIDGE UNION.—Resident Assistant Medical Officer at the Institution at Pembury (unmarried). Salary £275 per annum, rising to £350 and fees.



**TRURO:** ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary £170 per annum.

**WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.**—House-Surgeon. Salary £200 a year.

**WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL.**—(1) Radiographer. (2) Dispenser.

**CERTIFYING FACTORY SURGEONS.**—The following vacant appointments are announced: Islay (Argyll and Bute) (Berkshire), Fyvie (Aberdeenshire), Portree (Highland), and Whitehead (Cumberland). Applications to the Chief Medical Officer, Home Office, Whitehall, S.W.1.

**MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT** for the Bath, Calne, Chippenham, Devizes, Frome, Hungerford, Malmesbury, Marlborough, Melksham, Newbury, Swindon, Trowbridge, and Warminster County Courts (Circuit No. 52). Applications to the Private Secretary, Home Office, S.W.1, by January 31st.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

**PAGE, Miss Hilda W., M.R.C.S., L.R.C.P.,** a member of the Honorary Medical Staff of the Wilkesden General Hospital, Harlesden Road, N.W.10.

**BOUMASKY, A., M.B., Ch.B., Leeds, F.R.C.S.,** Assistant Ophthalmic Surgeon, London Jewish Hospital, Stepney Green, E.

**STALLMAN, J. F. H., M.B., B.S., F.R.C.S.,** Honorary Surgeon, Children's Hospital, Kingsholm, Gloucester.

**WESTMINSTER HOSPITAL.—House-Physician:** S. Segal, M.R.C.S., L.R.C.P. **House-Surgeons:** P. M. Robottom, M.R.C.S., L.R.C.P., and P. A. M. Soutter, M.R.C.S., L.R.C.P.

**CERTIFYING FACTORY SURGEONS.**—S. Bolton, M.D.Ed., for the Halifax District, York; R. W. Davies, M.B., Ch.B.Ed., for the Rushden District, Northampton; L. C. J. Edwards, M.R.C.S., L.R.C.P., for the Braintree District, Essex; C. P. Oliver, jun., M.B., B.Ch.Camb., for the Maidstone District, Kent; G. H. Warner, M.D.Lond., for the Southwell District, Nottingham.

### DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**

**Section of Odontology.**—Mon., 8 p.m., Mr. Arthur Bulleid: Apical Infection. Mr. H. P. Baylis: Necrosis of the Mandible. Mr. W. Rushton: An Abnormally Small Premolar.

**Section of Medicine.**—Tues., 5 p.m., Discussion: Cardiac Infarction (Coronary Thrombosis). To be opened by Drs. John Parkinson and Evan Bedford, followed by Drs. Carey Coombs, Geoffrey Hadfield, J. A. Ryle, and B. T. Parsons-Smith.

**Section of Tropical Diseases, Dermatology, and Comparative Medicine.**—Wed., 5 p.m., Special Discussion: Cutaneous Mycoses in the Tropics. To be opened by Mr. J. Ramsbottom (Tropical Diseases) and Dr. A. Whitfield (Dermatology).

**Section of Bacteriology.**—Thurs., 5 p.m., Dr. Adolph Schott (Bad Nauheim): Carbon Dioxide Thermo-saline Springs in the Light of Modern Research.

**Section of Urology.**—Thurs., 8.30 p.m., Clinical Pathological Evening.

**Section of Disease in Children.**—Fri., 4.30 p.m., Cases.

**Section of Epidemiology.**—Fri., 8 p.m., Dr. J. E. McCartney and Dr. William C. Harvey: Observations on Diphtheria Carriers.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.2.**—Mon., Wed., and Fri., 5 p.m., Hunterian Lectures by Sir Arthur Keith: Factors concerned in the Growth of the Human Body.

**MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.**—Mon., 8.30 p.m., Discussion: The Treatment of Pernicious Anaemia. To be opened by Professor F. R. Fraser, followed by Sir William Wilcox and Dr. Herbert French.

**MEXICO-LEGAL SOCIETY, 11, Chandos Street, W.1.**—Thurs., 8.30 p.m., Mr. F. Llewellyn-Jones, B.A., LL.B.: Drunkenness and Civil and Criminal Responsibility—a Study in Comparative Law, to be followed by a discussion.

**St. John's Hospital DERMATOLOGICAL SOCIETY, St. John's Hospital, Leicester Square, W.C.2.**—Fri., 4.15 p.m., Clinical Cases. Tea at 4 p.m.

### POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.**—Lecture at Medical Society, 11, Chandos Street, W.1, Mon., 5 p.m.: Mental Defect and its Importance to the Community. **Queen Mary's Hospital, Stratford, E.15.** Mon., 2 p.m., General Surgical Demonstration. **Royal Eye Hospital, Southwark, S.E.1.** Mon., 3 p.m., Clinical Demonstration. The above lecture and demonstrations are open to members of the medical profession without fee. **Bethlem Royal Hospital, St. George's Fields, S.E.1.** Course in Psychological Medicine, Lecture Demonstrations, Tues. and Sat., 11 a.m. Proportionate fees payable, and syllabus sent on application.

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.**—Mon., 1.30 p.m., Examination of the Pharynx and Naso-Pharynx. Wed., 1.30 p.m., Examination of the Nose. Fri., 4 p.m., Multiple Nasal Sinusitis.

**EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.**—Thurs., 4 p.m., Some Congenital Deformities.

**HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.**—Thurs., 4 p.m., Rectal Prolapse in Childhood.

**LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.**—Tues., 5 p.m., Exfoliative Dermatitis. Thurs., 5 p.m., Electrotherapeutics.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.**—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 6 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

**ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.1.**—Wed., 4.30 p.m., Tests for Drunkenness, particularly in relation to Motor Accidents.

**ROYAL NORTHERN HOSPITAL, Holloway Road, N.**—Tues., 3.15 p.m., Indigestion.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.**—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations. Wards; 2 p.m., Surgical Wards, Gynaecology. Tues., 10 a.m. to 1 p.m., Medical Ward Visit. Diseases; 2 p.m., Medical Wards, Throat, & Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients; Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department; 4.30 p.m., Carbohydrate Tolerance Tests (Demonstration). Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.**—At Eye Infirmary: Wed., 4.15 p.m., Cases.

**MANCHESTER: ST. MARY'S HOSPITALS (WHITWORTH STREET WEST BRANCH).**—Fri., 4.30 p.m., Intestinal Indigestion in Children.

**SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.**—At the Royal Infirmary: Fri., 3.30 p.m., Eye Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

**MEDICAL SECRETARY** (Telegrams: Medicrepa Westcent, London)

**EDITOR, British Medical Journal** (Telegrams: Altology Westcent, London).

**Telephone numbers of British Medical Association and British Medical Journal:** Museum 5561, 9862, 9863, and 9864 (internal exchange, four lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Drumsheugh Gardens, Edinburgh. (Telegrams: 24351 Edinburgh.)

**IRISH MEDICAL SECRETARY:** Frederick Street, Dublin. (Telegrams: Dublin.)

#### Diary of the Association.

**JANUARY.**

**24 Tues.** London: International Medical Sea Code Committee, 2.30 p.m. West Somerset Branch: Taunton and Somerset Hospital. Dr. W. H. Maidlow on Subjects of Interest to the General Practitioner, 3.30 p.m.

**25 Wed.** London: Ophthalmic Committee, 2.30 p.m. Bath and Bristol Branch: University of Bristol. Debate on Hospital Policy, 8 p.m. Croydon Division: Croydon General Hospital. Dr. H. W. Southgate on Laboratory Methods as an Aid to Clinical Medicine, 4 p.m. Dartford Division: B.M.A. Lecture by Dr. Lindsay W. Batten on the Medical Aspects of Child Welfare Clinic Work. Lambeth and Southwark Division: Lombeth Carlton Club, Goldharbour Lane, S.W.9. Dr. A. G. G. Thompson on the Schick Test. North Middlesex Division: Mr. T. H. C. Benlans on Local Immunization and Antivirus Therapy. Oxford Division: Radcliffe Infirmary. Dr. T. Izod Bennett on Pernicious Anaemia, 2.30 p.m.

**26 Thurs.** London: Psycho-Analysis Committee, 2 p.m. Fife Branch: Clinical Meeting, Maternity Home, Townsend Crescent, Kirkcaldy. Sir David Wallace on Orthopaedic Treatment and Organization in the East of Scotland, 3.30 p.m. Hyde Division: Clinical Meeting, Hyde Child Welfare Centre, 8.30 p.m. North-East Essex Division: Clinical Meeting, Essex County Hospital, Colchester. Professor W. E. Dixon on the Known Effects of Alcohol in the Human Body, 8.15 p.m. Wandsworth Division: Stanley's Restaurant, Lavender Hill, Dr. Brincker on Diphtheria and Diphtheria Immunization, 8.45 p.m.

**27 Fri.** London: Private Practice Committee, 2.15 p.m. Bishop Auckland Division: Cottage Hospital, Bishop Auckland. Dr. J. C. Spence on Medical Emergencies in Children, 8 p.m. Dumfries and Galloway Division: Royal Infirmary, Dumfries, 4 p.m. Executive Committee, 3.30. English Division (Border Counties Branch): Maryport. Dr. J. N. Douglas Smith on Puerperal Sepsis. Stockton Division: Dr. W. H. Dickinson on Pulmonary Tuberculosis.

**FEBRUARY.**

**1 Wed.** London: Lunacy Law and Administration Committee, 2.30 p.m. Guildford Division: Royal Surrey County Hospital. Sir D'Arcy Power on the History of Medicine, 4 p.m.

**2 Thurs.** Sunderland Division: Annual Dance.

**3 Fri.** Dewsbury Division: Dewsbury Infirmary. Dr. G. Cooper on Radiotherapy, 8.15 p.m.

**8 Wed.** Council, 10 a.m. Nuneaton and Tamworth Division: Nuneaton General Hospital. Mr. C. A. Raison on Surgical Conditions of the Biliary Tract.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

**DAVIDSON.**—On January 11th, 1928, at 6, Lynedoch Place, Glasgow, W., to the wife of Norman Davidson, O.B.E., F.R.C.S.Ed., a son.

**DAVIDSON.**—On January 12th, at Deveron House, Clifton-le-Moors, to Dr. Jessie R. Davidson (née Brash), wife of Dr. J. P. Davidson, a son.

#### DEATHS.

**BELL.**—At The Green, Lockerbie, on December 31st, 1927, Janet Turner Douglas, wife of Dr. John Stohart Bell.

**BROWN.**—On January 15th, 1928, at Tailours, Chigwell, E. Gordon Brown, M.R.C.S., late Surgeon of the City of London Police, Past Master of the Society of Apothecaries, aged 65.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 28TH, 1928.

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### THE PUBLIC HEALTH SERVICE MINIMUM SALARY SCALE.

#### ATTITUDE OF THE BRITISH MEDICAL ASSOCIATION.

Our contemporary *Education*, the official organ of the Association of Education Committees, in its last week's issue printed a leading article headed "Education and medicine: a question of remuneration," which shows a surprising forgetfulness of history, and some misunderstanding of the facts of the case, which is perhaps not so surprising. It may therefore be of some advantage to take note of the article in question, in order that the position may be more clearly understood.

The British Medical Association's present "Scale of Minimum Commencing Salaries for Medical Officers in the Public Health Service" is not a wanton, illogical, hastily conceived scheme adopted merely with a view to enhancing the material interests of such officers, or of members of the Association. On the contrary, it is the result of very prolonged, almost painful, consideration in all its details. The first official move by the Association in the direction of improving the salaries of these medical officers was taken in November, 1918. The matter was brought definitely before the Representative Body in the following year, in 1920, in 1923, and in 1924, and it was not until 1925 that the scale was finally adopted. Those unfamiliar with the British Medical Association's machinery may be informed that, in accordance with the Articles of Association, on all these occasions the operative resolutions had been given two months' public notice and received endorsement by a two-thirds majority. The scale, moreover, within the profession, has received the unqualified approval and support of the Society of Medical Officers of Health, of the Women's Medical Federation, and of influential and independent persons connected with the medical press.

Moreover, throughout the whole of their deliberations, extending over this period of six years or more, and since, the Council and Representative Body of the Association have had even more regard to the interests and requirements of public health than to the emoluments of the officers concerned for their own sakes. Indeed, it was in part the anxiety of the Ministry of Health as to the class of medical practitioner who was entering the public health service that made the matter so important and urgent. The Association found that "not only is the service not attracting promising graduates, but that frequently medical men give up public health work and go into general practice because they are unable, even

after years of experience, to make an adequate income as a public health medical officer." The seriousness of such a state of affairs with regard to public health administration is too clear to need emphasis. It was agreed by all the medical organizations concerned, and by the Ministry of Health, that an improvement in the salaries and prospects of these officers was necessary, and that in order to effect this, and to break down the narrowing tendency of many local authorities to look only to their own staffs when any opportunity of promotion occurred, it was desirable to systematize salaries, and to convert the public health service as far as possible into a co-ordinated whole, in which wider prospect of advancement would be given.

Further, it has never been the desire of the Association to "impose" upon, or "demand" from, a local authority submission to its scale of minimum salaries, or to "fix the remuneration without reference to the employing authority." Over and over again, almost from the very beginning, the Association has made it evident that it wished rather to persuade authorities of the reasonableness of its scale and of the public considerations on which it is based, to give opportunity for the observations of authorities, and to meet their representatives in conference before the details of the scale were fixed; to modify those details in any or every particular if found necessary as the result of such observations or conference; and to insert an arbitration clause under which, if there were dispute between the professional organization and the local authority in individual cases, the matter should be placed before, and determined by, the Ministry of Health.

In May, 1923, a letter in this sense was sent to the various associations of local government or education bodies inviting their comments and promising them consideration. From these several associations either no reply was received or it was intimated that no scale of any kind would receive their countenance. Nevertheless, the Representative Body still asked the Council to meet, if possible, the representatives of these associations, and authorized it to make whatever alterations in the scale might be necessary. In October, 1923, with great difficulty, a conference attended by certain representatives of some of these bodies was got together, but it was entirely unsatisfactory. No discussion took place, as the representatives of the British Medical Association and the Society of Medical Officers of Health were at once met with a statement from the chairman that no scale would be acceptable, and therefore the matter was at an end. The patience of the British Medical Association was not even then exhausted. In February, 1924, under the auspices of the Ministry of Health, which had

become definitely alarmed at the condition of recruiting for the public health service, the profession's representatives began a series of conferences with members of the councils of the County Councils Association, of the Municipal Corporations Association, and, later, of the Rural District Councils Association and others. As a result the scale was materially modified. Among other things, some differentiation was made in favour of certain appointments in rural areas, a wider latitude was given to appointing authorities within certain limits of salary, and it was arranged that in order to militate against making responsible appointments straight from the medical school a certain amount of experience after graduation would be required before the minimum salary should be asked for.

In the end the scale, so modified, received the sanction and support of the Ministry of Health, was regarded by the Association of Municipal Corporations as not unreasonable, and commended by them to their constituent authorities as a guide when making appointments, and was approved by the Council and Representative Body of the British Medical Association. It is unfortunate that agreement was not complete, but it is clear that abundant opportunity was offered, and it is manifestly too late now, when the scale has been operative for more than two years, with success in some 80 per cent. of the vacancies which have occurred, for the Association of Education Committees, which persistently refused the opportunities for consultation offered it, to say "it should not be beyond the wit of representatives of local authorities and representatives of the medical profession to frame a scale of remuneration for members of the medical profession engaged in the education service, in which such factors as preliminary training, qualifications, experience, and conditions of service would have due consideration, and which would be acceptable to both parties."

The British Medical Association is quite unable, in the public interest, to regard the school medical service as other than a part of the whole public health medical service, or to enter into any separate negotiations for a different scale with education committees as such; but it may be desirable to say something with regard to the contention of the editor of *Education* that it is unreasonable and inconsistent to ask for an assistant school medical officer a commencing salary of £600 a year. The main reasons for such a salary are set out in a circular letter, dated May, 1925, which should be quite familiar to our contemporary. They are, in effect: (1) that such officers, before appointment, are required to have passed through the full medical curriculum and obtained their registrable qualification; that in addition it is very desirable, and often compulsory, that they should further have taken the course for and secured the Diploma of Public Health; that they should have had at least three years' experience in the practice of their profession subsequently to qualification; and that therefore they are on appointment commonly about 30 years of age and can very rarely be less than 27; (2) that the number of higher appointments in the service which they have a chance of securing is extraordinarily small; (3) that only too often there is no advancement of any kind, and that their maximum salary remains the same as their minimum, or rises very little above it.

It is quite true, as the leading article with which we are concerned suggests, that in such a matter a comparison with the emoluments enjoyed by other employees of a local authority, and by practitioners engaged in other spheres of medical work, is quite legitimate. We believe that within the education service the proper comparison can only be with the male graduate teacher of like age in a secondary school, who holds a post of special responsibility. Even this comparison must be profoundly modified by reason of the considerations above stated, and several others. It must be remembered, too, that in the teaching profession

almost the whole cost of training—itsself materially smaller than with the medical profession—is often borne by public funds, and only to a small extent by the individual trained; and while this is true the two professions must, in some respects, be on different planes.

The comparison with other branches of the profession did not, of course, escape the attention of those concerned with the framing of the scale. Indeed, it was precisely to bring the public health service into proper competition with these other branches that the scale was adopted in its present form. The remuneration and prospects over a number of years will not be found out of proportion. The comparisons which our contemporary makes with such appointments as those of house-surgeon are entirely inappropriate, and with those of an assistant in private practice largely so. The former are invariably of a temporary, and largely of an educational, character; the latter, in the main, are of the same nature. Hospital appointments in the public service are provided for in the scale itself. The Association has made, and is continuing, efforts to improve the position of assistants. It has laid down by resolution conditions which it desires to see fulfilled, but the circumstances of assistantships vary so greatly that uniformity is impossible to enforce, and it is highly desirable to encourage recently qualified practitioners to take such positions for a time as perhaps the best introduction of all to the private practice of their profession. Both these classes of appointment are totally different from the permanent position of responsible assistant school medical officer, which is to be regarded as the first (often, alas! the last) step in a service offering a career.

## British Medical Association.

### CURRENT NOTES.

#### Sir Dawson Williams.

At its last meeting, on Thursday, January 19th, the Journal Committee, on the proposal of its chairman, Dr. J. A. Macdonald, passed the following resolution, with acclamation, and ordered it to be entered on the minutes:

"The Journal Committee, meeting on the day on which he relinquishes the position of Editor after thirty years in that office, wishes to place on record its deep appreciation of the great services rendered to medical science and the medical profession by Sir Dawson Williams during his long and brilliant editorship; its gratitude for all he has done to advance the British Medical Association in every branch of its work; and its high regard and affection for him personally."

"The Committee trusts that in the leisure earned by forty-seven years of unselfish devotion to the *British Medical Journal*, during which he has raised it to the great position it occupies to-day, Sir Dawson Williams will renew his health to enjoy the honour and esteem in which he is universally held."

On the evening of the same day Sir Dawson Williams was the guest of his senior colleagues on the staff of the Association and *JOURNAL* at an informal dinner in the Hotel Victoria. After dinner Sir Dawson was presented by Dr. Cox, on behalf of those present, with a framed photograph of himself taken in his room at B.M.A. House, Tavistock Square, where, by his consent, it will be hung.

#### Some Work of the Week.

##### Medico-Political Committee.

The Medico-Political Committee, which met on January 18th, is making recommendations to the Council as to the conditions of service of assistants in mental hospitals, and with reference to the infant welfare centres which are being promoted by lay persons for mothers who can afford to pay for such a service and are said to desire it. Both

these questions have been thoroughly explored by sub-committees. The Committee is in communication with the Central Midwives Board and the Ministry of Health on the subject of the detailed ante-natal records which midwives are required to fill up. Other matters under consideration were the appointment by the Government of Canada of Canadian practitioners who are in future to examine all intending emigrants for Canada before they leave this country, and the position of a doctor whose detailed report to a coroner obviates the need for an inquest. With regard to the first point the Committee is informed that the Canadian doctors will be whole-time civil servants and will not be permitted to engage in any form of private practice. On the second point the Committee decided to inform the Divisions of the steps to be taken to secure a fee for reports given to coroners in such circumstances.

#### *Increased Sickness Benefit Claims.*

On January 19th the representatives of the Insurance Acts Committee discussed with representatives of the Ministry of Health the present position with regard to the substantial increase in claims for sickness benefit under the National Health Insurance Acts. A special subcommittee has been appointed by the Insurance Acts Committee to explore the whole question with the representatives of the Ministry, and to determine, if possible, whether the increase is natural and inevitable, or due to some cause over which the profession may have some control.

#### *Remuneration of Non-Professional Teachers and Research Workers.*

For some time there has been evidence that dissatisfaction is felt by a number of universities and medical schools with the scale adopted by the Association in 1926 for the remuneration of whole-time non-professional medical teachers and medically qualified research workers. The scale was originally the work of a committee largely composed of representatives of medical schools, and it was realized from the start that it was by no means easy to handle this matter judiciously, since the value of these appointments is determined by a number of considerations, among which the actual salary, however important, is not necessarily predominant. In view of criticisms recently received from the deans of several medical schools the Council has now decided to review the whole position in the light of the experience gained during the past eighteen months, and to this end has invited a medical representative from each of the medical schools in Great Britain and Ireland to attend a conference at the House of the Association on Friday, February 10th. It is hoped that this discussion may result in some solution of the difficulty, in which both the material interests of an important class of worker and the traditions and resources of the medical schools will be safeguarded.

#### *The B.M.A. and Medical Charities.*

The Association has received from Dr. A. J. Copeland, honorary treasurer of the Malaya Branch, a draft for £35 18s. 2d., collected from members of the Branch and intended as a donation to the Royal Medical Benevolent Fund. Last year the same Branch sent £26 3s. 2d., and Dr. Copeland announces that he hopes to make a still greater improvement next year. This is a notable and most welcome gift, and Dr. Copeland has been warmly thanked for his efforts.

#### *The Half-yearly Indexes.*

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been prepared and will be ready shortly: they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a post-card notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, February 7th. Dr. Brailsford (Birmingham) will read a paper on oboleystography.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, February 8th. Mr. C. A. Raison will read a paper on surgical conditions of the biliary tract.

**BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.**—The annual meeting of the West Bromwich Division will be held at the West Bromwich and District General Hospital, Edward Street, West Bromwich, on Tuesday, January 31st, at 3 p.m. Agenda: The retiring chairman will give a summary of the work of the Division during 1927; programme and election of officers for 1928; education of the public in health matters; question of courtesy calls; inquiry into the treatment of varicose ulceration; chairman's address.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division will be held at Maryport to-day (Friday, January 27th). Dr. J. N. Douglas Smith will read a paper on the early treatment of puerperal sepsis.

**EAST YORK AND NORTH LINCOLY BRANCH: EAST YORK DIVISION.**—At the meeting of the East York Division to be held on Friday, February 17th, Dr. Ritelie Rodger will read a paper on foreign bodies in the air passages, etc.

**GLASGOW AND WEST OF SCOTLAND BRANCH: Ayrshire DIVISION.**—A meeting of the Ayrshire Division will be held in the board room of the County Hospital, Ayr, on Friday, February 10th, at 4 p.m. An address will be given by Dr. J. A. Wilson of Glasgow on diagnosis of pulmonary tuberculosis of the young adult. It is hoped that there will be a good attendance of members.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—The annual meeting of the Mid-Cheshire Division will be held on Sunday, January 29th, at 4 p.m. in the board room of the Altrincham General Hospital. Tea will be served at 3.45. Agenda: Annual report of the Executive; election of officers; charities; branch periodical.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held on Friday, March 30th, when Dr. E. P. Cumberbatch will deliver a British Medical Association Lecture on the use of ultra-violet rays in general as well as in skin disease. It is hoped that there will be a large attendance of members.

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—A meeting of the Camberwell Division will be held at the Bermondsey and Rotherhithe Hospital on Tuesday, February 7th, at 9 p.m. Mr. A. E. Webb-Johnson will give an address on haematuria.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, February 7th, at 9.30 p.m. Dr. H. C. Senior will discuss diagnostic pitfalls in dermatology.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, February 7th, at 8.45 p.m. Dr. F. M. R. Walshe will give a lecture on faith healing.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—A meeting of the Hampshire Division will be held at the Hampstead General Hospital on Thursday, February 9th, at 8.30 p.m. Dr. S. Monckton Copeman, F.R.S., will discuss inoperable cancer.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The next clinical meeting of the Hendon Division will take place at Hendon Cottage Hospital to-day (Friday, January 27th), at 8.30 p.m., when Dr. Archibald Leitch (director of the Cancer Hospital Research Institute) will deliver an address on modern views on cancer.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 14th, at 9 p.m. Dr. Alfred Cox, Medical Secretary of the British Medical Association, will give an address entitled "The family doctor on his trial."

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, February 10th, at 8.15 p.m. Professor A. J. Hall (Sheffield) will discuss certain points in the use of some everyday drugs.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting of the Sunderland Division will be held to-day (Friday, January 27th) at 8.30 p.m. at the Sunderland Royal Infirmary. Agenda: Minutes; annual report; election of officers; any other business. The annual dance in aid of B.M.A. Charities will be held in Meng's Rooms, Sunderland, on Thursday, February 2nd. Reception 8 p.m., dancing 8.30 p.m. to 1 a.m. Tickets 10s. 6d. each, early application for which should be made to Dr. MacMurrey, North Grange, Stockton Road, Sunderland.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, February 16th, at 8.30 p.m. Mr. A. S. Ferguson will read a paper on focal infections of the head.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—A meeting of the Portsmouth Division will be held on Thursday, February 9th. A British Medical Association Lecture will be delivered by Professor Hugh Maclean on renal disease and high blood pressure.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, February 8th. Dr. W. H. Jewell will give a lantern demonstration on malignant diseases of the antrum. Preceded by tea at 4 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 2nd, at 4 o'clock. Sir D'Arcy Power will give an address on the history of medicine. Tea at 3.45 p.m.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—A meeting of the Dewsbury Division will be held at the Dewsbury Infirmary on Friday, February 3rd, at 8.15 p.m. Dr. G. Cooper (Leeds) will read a paper on radiotherapy.

**YORKSHIRE BRANCH: HALIFAX DIVISION.**—A clinical meeting of the Halifax Division will be held in the board room of the Royal Halifax Infirmary on Wednesday, February 1st, at 8.30 p.m. Will members who have cases or specimens to show please notify the honorary secretary, Dr. W. O. Lodge, 3, Heath Hall, Halifax, beforehand if possible.

**YORKSHIRE BRANCH: LEEDS DIVISION.**—A meeting of the Leeds Division will be held in the General Infirmary, Leeds, on Friday, February 17th, at 3 p.m. Dr. John Parkinson will give a British Medical Association Lecture on common difficulties in cardiac diagnosis. Lantern slides will be shown, and there will be a discussion after the lecture.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Great Bull Restaurant, Westgate, Wakefield, on Thursday, February 9th. Mr. A. Gough, surgeon to the Women's and Children's Hospital, Leeds, will lecture on menstrual diseases and the menopause. Supper (2s. 6d.) at 7.45 p.m. will precede the lecture.

## Meetings of Branches and Divisions.

### AUSTRALIA: VICTORIAN BRANCH.

#### *The Year's Work.*

The annual report of the Victorian Branch for the year 1927 contains interesting details which record steady advance in many directions. The number of members increased from 1,311 to 1,343. Various legal and ethical decisions have been published. A resolution adopted by the Branch with regard to supplying information to insurance companies under certain defined conditions was not approved by the Federal Committee. Members have been advised that before divulging confidential information about deceased persons to insurance companies they should secure written permission from the executor. A warning has also been issued that the plea of privilege will not hold when evidence is required in any criminal cases, though such information should not be divulged in civil cases. It was agreed to broadcast a series of lectures on medical subjects. A member was reminded that the Council held that all country members in the neighbourhood of a public hospital should become honorary medical officers to the institution, as it is considered desirable that all medical practitioners attending patients at a public hospital should be members of the staff. The Council disapproved collaboration by a medical practitioner with a layman doing x-ray work. The social activities of the Branch continue to develop, and, in accordance with the usual practice, recent graduates were entertained on the evening of their registration. Delegates to various conferences were entertained from time to time by the Council and members of the Branch. The Scientific Committee arranged the work of the monthly meetings and clinical evenings throughout the year; successful meetings were held at Warragul in June, and at Melbourne in July.

The committee also made suggestions for the revision of the *Pharmacopoeia*, which were adopted by the Council and forwarded to the Federal Committee. Ten monthly meetings of the Branch, seven clinical meetings, and four special meetings were held during the year; various papers were read and demonstrations were given. The Legislative Committee met regularly each fortnight and concerned itself with the principles of medical ethics, standing orders, and the conduct of debates; the rules have been revised and the proposed amendments have received the sanction of the Council. The hospital policy of the Branch has also been reconsidered. The profits of the medical agency were greater than in any preceding year, and attention is drawn to the advantages afforded to members as regards the obtaining of books and journals from abroad at reduced cost. The British Medical Insurance Company is now well established, and is said to offer better terms than any other company in Victoria. It gave £285 in rebate to its members during one half-year, and has made a substantial profit over and above the heavy initial expenses. Successful meetings have been held by the orthopaedic, radiological, gynaecological and obstetrical, and the eye and ear sections of the Branch; the section of neurology and psychiatry has been reorganized and good meetings have been held.

### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held at Nuneaton General Hospital on January 11th.

After preliminary business the members adjourned to the wards of the hospital, where Dr. PRACY (Atherstone) demonstrated the following cases: (1) swelling in lumbar region—a case for diagnosis; (2) fracture dislocation of the astragalus; (3) osteomyelitis of tibia—removal of shaft of tibia; (4) tuberculosis of spine; (5) torsion of testis in a child—removal of gangrenous testis. Later there was a discussion on these cases, and radiograms and pathological specimens from some of them were shown. Dr. Pracy also showed the following specimens: (1) Adenoma of prostate; (2) gangrene of finger—following prick in palm of hand; (3) injury to testis; (4) an unusual form of appendix; (5) popliteal thrombosis; (6) caseous glands; (7) microscopic slides of three primary malignant growths in one person; (8) a rare "surgical instrument" used by a professional bleeder.

On the motion of the CHAIRMAN, seconded by Dr. L. E. PRICE, a hearty vote of thanks was accorded to Dr. Pracy for a most interesting and instructive demonstration.

Correspondence was read from the local branch of the British Legion asking for the assistance of the Division in selecting and classifying cases in which the Legion is endeavouring to secure revision of war pensions awards. After some discussion it was decided that the Division should respond to the appeal of the Legion, and a committee of five members was nominated to act as a medical advisory committee.

### CAMBRIDGE AND HUNTINGDON BRANCH: CAMBRIDGE AND HUNTINGDON DIVISION.

A GENERAL meeting of the Cambridge and Huntingdon Division was held on January 17th at Addenbrooke's Hospital, Cambridge, primarily to continue the discussion on the question of maternity treatment in the town and surrounding extensive rural area.

Arising from the minutes of the last meeting, the question of dental anaesthetics was again discussed, and the following motion was adopted:

That this Division views with disapproval the administration of either nitrous oxide or ethyl chloride in any circumstances under a minimum fee of half a guinea. Likewise no general anaesthetic should be given under a guinea.

It was also agreed:

That this resolution shall not apply in the case of voluntary clinics (that is, where they are neither rate-aided nor State-aided) where all anaesthetics may be given without payment.

The secretary was instructed to send a copy of the above resolutions to all medical officers in the Division who were concerned.

During the discussion on the maternity question Dr. YOUNG occupied the chair, the chairman of the Division, Dr. STEVENSON, being a mover of one of the resolutions. After a very full discussion, in which most of those present took part, both motions—as reported in the SUPPLEMENT of January 21st (p. 21)—were passed. The secretary was instructed to send a copy of both resolutions to each of the public and hospital authorities concerned.

### DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held on January 19th at the County Hospital, Dorchester. The number of members attending was the largest in the history of the Division for a clinical meeting.

Dr. C. J. MARSH was unanimously elected representative, and Dr. K. WILSON deputy representative, of the Division for 1928-29.

Dr. G. G. MORRICE showed a case of follicular impetigo of the scalp in a child, and also a woman of 66, who was suffering from numbness of the left side of the body and a high blood pressure (200 mm. systolic); the urine contained albumin. He regarded it as a case of granular kidney. Dr. SUMNER showed a case of acromegaly.

Mr. P. J. VERRALL delivered a British Medical Association Lecture entitled "Manipulative surgery," and subsequently gave a demonstration of his methods on a lad. The lecture and the demonstration were most interesting, and a hearty vote of thanks was accorded to the lecturer at the close. Tea was served during the meeting by the courtesy of the medical and surgical staff.

### JAMAICA BRANCH.

THE festival dinner in celebration of the jubilee of the Jamaica Branch was held on December 10th, 1927, under the presidency of Dr. C. A. H. THOMSON, and was very well attended. Among the twenty-nine guests were the Governor (Sir Reginald Stubbs), the Chief Justice (Sir Barrett Leonard), the Officer Commanding Troops (Colonel James), the Colonial Secretary, the Attorney-General, and the Mayor of Kingston. The dinner was a great success, and the speeches were of a high order of merit. The ATTORNEY-GENERAL proposed the health and future prosperity of the British Medical Association, the COLONIAL SECRETARY was responsible for the toast of "The Common Health," and a particularly felicitous reference to the guests was made by Dr. G. I. LEESIDE.

### METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.

A CLINICAL meeting of the Lambeth and Southwark Division was held on January 11th at the Belgrave Hospital for Children, Clapham Road, when Mr. L. E. C. NORBURY showed many cases of interest. The chief exhibits were: (1) Three cases of umbilical hernia which had been operated on, with photographs of the condition before and after operation. (2) Three cases of



umbilical hernia before operation. (3) Case of double intussusception. (4) Case of branchial cysts. (5) A boy, aged 9, who had multiple pyemic abscesses following a splinter in the foot—treated with intravenous injection of perchloride of mercury and autogenous (staphylococcal) vaccine.

#### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at the South-Eastern Children's Hospital, Sydenham, on January 17th, when Dr. W. E. HALLINAN took the chair.

Dr. H. M. STEWART showed x-ray plates from a case of fibrocystic disease in a boy aged 6 years. Dr. G. RICHARDSON described a case of fibrocystic disease in the right alvea of a woman. Dr. C. E. CARPMAZ showed x-ray plates and a sequestrum from a child 7½ years old, with acute osteomyelitis of the metacarpal bone; it had been opened under the impression that it was a whitlow. The temperature was 103° F. and there was vomiting and constipation.

Dr. G. RICHARDSON described a case of volvulus neonatorum. A male child was admitted when 4 days old and weighing 8 lb. 8 oz.; it was passing blood per anum continuously, and vomiting was persistent. The abdomen was soft. At the necropsy there was slight distension of the abdomen; the bowel was black and distended with blood. The stomach and duodenum were normal, but the whole small intestine was loose, without any mesentery, and there was anticlockwise rotation of the bowel. Death had occurred on the sixth day.

Dr. CHARSLEY described a case of nephritis in a child aged 6, with a history of recurrent pyelitis, scarlet fever in 1926, and tonsillectomy in December, 1927, followed by pyrexia, albuminuria, and haematuria. He also showed a child, aged 5, admitted in October, 1927, with a history of gastro-enteritis. There was a lump over the right temporal region, and bruising of the eyelid. The child was ill, fretful, and lost weight. Exophthalmos and ecchymosis developed, and the abdomen increased in size. The necropsy showed a sarcoma of the adrenals with hydronephroma; the lump over the eye was also sarcomatous.

Drs. G. JONES, HALLINAN, CHARSLEY, BEATTIE, and DAVIES joined in the discussion. Dr. BUCHAN proposed, and Dr. HALLINAN seconded, the vote of thanks to the hospital staff.

#### METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

A MEETING of the Marylebone Division was held on January 18th, by the kind invitation of Mr. H. S. Wellcome, at the Wellcome Historical Medical Museum, Wigmore Street. Mr. MALCOLM, the curator, gave a demonstration of the general arrangement of the museum and of the objects of interest in the various sections, which was much appreciated by the sixty members who attended.

A vote of thanks to Mr. Wellcome, proposed by Dr. JOHNSON ROBERT, chairman of the Division, was carried by acclamation. The museum contains a unique collection of specimens of historical interest, and Mr. Malcolm stated that it was open every week-day, and that members of the profession and their friends were always welcome to visit it on presentation of their visiting cards.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

At a meeting of the Willesden Division on January 18th Dr. CHRISTINE MURRELL gave an address on the subject of nursing homes for middle-class patients.

Dr. Murrell pointed out that nursing home facilities were very greatly needed for the middle classes, and more particularly for the lower middle classes, to whom the acceptance of charity from the general hospitals was repugnant, and for whom these institutions were not intended. In planning the provision of hospitals for these patients it was most essential that the charges made by such homes should be kept within the means of the lower middle-class patient. Several suggestions for the provision of nursing accommodation had been put forward and merited consideration. One was that the general hospitals should segregate a proportion of beds in their wards for paying patients; this Dr. Murrell thought inadvisable and inadequate on various grounds. A second suggestion was that hospitals should equip paying nursing homes where the services of the hospital would be available for the patients; this, as a general application, was thought unsatisfactory, for many hospitals had already reached so great a size that further extension would entail such difficulties of organization that the expense per patient would be increased rather than diminished. Vested interests in the nursing home under such a scheme would almost certainly become established. Dr. Murrell emphasized strongly the point that whatever scheme of nursing home was ultimately adopted, the principle of continuity of treatment, whereby the family physician should be in charge of the patient throughout his stay in the home, should be strictly adhered to, and that this principle would be in the best interests both of the patient and of the practitioner. Neither of the schemes alluded to would allow of the adoption of this principle. A third suggestion had been that independent nursing homes of comprehensive size, and containing all necessary ancillary services, should be erected, and run on a profit-making basis. Dr. Murrell thought that it would not be possible to make such a venture financially sound and at the same time accomplish the purpose for which it came into existence—namely, the supply of nursing accommodation to the majority of the lower middle classes at prices within their means. Dr. Murrell suggested a scheme whereby the assistance of the King Edward VII Hospital Fund would be invoked to supply the capital expenditure, and that

the nursing homes thus provided should be run by suitably chosen committees. A resolution urging the necessity for the provision of middle-class nursing homes was passed by the meeting.

A hearty vote of thanks to Dr. Christine Murrell for her interesting and stimulating address was moved by Dr. WILLIAM PATERSON, seconded by Dr. G. W. R. SKENE, and was passed unanimously.

#### NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.

A MEETING of the North Northumberland Division was held in the Infirmary, Alnwick, on January 10th, when Dr. LAWRIE was in the chair. It was unanimously decided that a letter be sent to each member of the Division asking him to subscribe £1 to the B.M.A. Charities Fund, those present at the meeting agreeing to pay that amount forthwith. At the close of the business meeting a most interesting and instructive address on abdominal emergencies was given by Mr. HAMILTON BARCLAY, for which he was very heartily thanked, on the motion of Dr. SCOTT PURVES. Tea was kindly provided by the matron after the lecture.

#### SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held at the Queen's Hotel, Southsea, on January 12th, when Dr. LITTLE was in the chair.

Dr. E. MAPOTHER, medical superintendent of Maudsley Hospital, gave an address on the possible co-operation of the profession in the treatment of mental disorders. The speaker indicated the general practitioner as the only possible observer of the genesis and early development of mental disorder; his obligation to ensure suitable hospital treatment for the poor, when available; the greater likelihood that early treatment would be accepted by the well-to-do if it remained chiefly in his hands; and a possible solution of difficulties by association of clinics for voluntary treatment of curable cases in the poor, with paying homes for the well-to-do under the care of their own doctor.

An interesting discussion ensued, in which Mr. INMAN, Dr. MEARNS FRASER, Dr. BEATON, Dr. BOSWORTH WRIGHT, Dr. MONTAGUE WAY, and Dr. STEVENSON took part. A very successful meeting was brought to a close by a cordial vote of thanks proposed by Dr. PHILIP GREEN, and seconded by Mr. LUMB. The attendance at the meeting was over 50, of whom 34 sat down to supper.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH.

A CLINICAL meeting of the South Wales and Monmouthshire Branch was held at the Royal Gwent Hospital, Newport, on November 19th, 1927.

Professor A. W. SHEEN demonstrated two cases of cyst of the mandible, illustrated by plaster casts and skiagrams. The first patient was an edentulous woman, aged 51, with a swelling of eight weeks' duration outside the left lateral incisor and canine. The second patient was a lad, aged 18, with a swelling of the same duration outside the position of the right first and second molars. In both cases the bony walls were removed, the contents of the cyst evacuated, and the cavities healed eventually. The first case was regarded as osteitis fibrosa cystica and the second as a dental cyst. Professor Sheen then discussed twenty-one cases of pelvic injury seen during five years in the surgical unit at the Cardiff Royal Infirmary.

Mr. LAMBERT ROGERS showed a case of spinal tumour (meningioma) in a girl, aged 17, who was completely paraplegic and incontinent. Laminectomy was performed and the tumour removed; there had been no recurrence during eighteen months, and the only remaining symptom was a very slight limp in walking, due to some spasticity of the right leg.

Lieut.-Colonel W. K. BEAMAN showed a case of oedema of the feet and legs in a woman, aged 35, believed to be early parenchymatous nephritis with little involvement of the kidney, no cysts being present in the urine.

Dr. P. C. INGRAM showed a case of aortic aneurysm of syphilitic origin, which had responded well to silver salvarsan and kbar-sulphan with colloidal iodine. He also described the thallium method of treating ringworm of the head, a single dose of not less than 8 or more than 9 mg. for each kilogram of body weight being administered by the mouth in some sweetened water. About the seventh day the hair began to loosen, and by the twenty-first had completely come out, with the exception of a downy fringe above the forehead, which, apparently, was never infected with ringworm. Parasticidal ointment, consisting of one part of phenol and two parts each of sulphur ointment and unguentum hydrarg. nitratils, was rubbed into the scalp night and morning to prevent reinfection of the new hairs, which soon began to grow rapidly. Toxic symptoms were frequent, and consisted of pains and occasional effusion into a joint, drowsiness, malaise, and, rarely, albuminuria. The joint trouble was relieved readily by salicylates, internally and externally, while the drowsiness yielded to thyroid extract.

Dr. T. I. CANDY showed three radiographs of a condition of the fibula discovered while examining a man, aged 24, who had been injured while playing football. Three minute cysts appeared close together at the site of injury, and callus was produced around them subsequently. The cysts invaded the callus, and a diagnosis of myeloid sarcoma was made, necessitating resection of the middle third of the fibula. The unusual features of the case were that the patient was unconscious of pain or swelling until the time of the injury, and the underlying morbid condition would have been easily overlooked but for the clarity of the first radiograph revealing the minute cysts.

Dr. H. CATTO gave a demonstration of pathological sections of microscopic slides, including the invasion of the chest wall by an epithelioma primarily situated in the hand; carcinoma of the

sigmoid colon, producing complete occlusion; malignant endocarditis of the left auricle, with freedom of the valves from disease; and actinomycosis of the Fallopian tube.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

The annual dinner and dance of the Cardiff Division took place at Cox's Café, Cardiff, on January 18th, when Dr. T. W. THOMAS (Caerphilly) presided. The Lord Mayor and Lady Mayoress and Mr. J. Alcock (city treasurer) were among those present.

After the loyal toasts had been honoured, Principal A. H. TROW of University College, Cardiff, proposed prosperity to the British Medical Association. He said that the members of the medical profession were more individualistic than those of any other profession. Though inclined to agree with the old saying that two doctors would never agree, he was sure that on the question of the British Medical Association they were all agreed. He regretted the relatively slow rate at which research in medicine was being carried on, and felt convinced that it could be greatly accelerated by closer association and collaboration with those engaged in the realm of pure science. He was quite sure that the important researches on cancer and other diseases would make much more rapid progress if the medical profession would adopt a greater degree of team work with workers in other sciences. He congratulated the Cardiff Division on the fact that the British Medical Association was to hold its Annual Meeting there this year.

Sir EWEN MACLEAN, in responding, said that every medical man cordially endorsed Principal Trow's plea for greater co-operation in their researches with other sciences. It was, he said, forty-two years since the British Medical Association had held its annual meeting in Cardiff, with a membership numbering 9,000, whereas this year it was around 35,000. There would be a very distinguished gathering at the meeting in July, including eminent members of the profession from the fringes of the empire, as well as from Europe and America. There would be sixteen scientific sections, which would meet in the University College, Cathays Park, which had been practically put at the disposal of the Association for the week. Among the unique features of the meeting would be an exhibition in the National Museum of ancient Welsh medical relics, and he was hoping the display would include the first gold medal presented by the British Medical Association, which was awarded in 1877 to Dr. H. A. Davies for his skill and bravery in the Tynewydd Colliery disaster. They were proud that Dr. Davies's son was a member of their Division.

Dr. W. E. THOMAS, who also responded, expressed his admiration for the work of such a democratic body as the British Medical Association, which had improved the status of the profession in the army and navy, and had upheld the position of medical practitioners under the National Insurance Acts.

Dr. H. G. COOK proposed the toast of "The Guests," coupling with it the names of the Lord Mayor and Mr. John Alcock. The LORD MAYOR, in responding, stated that he had promised to do all he could to make the Annual Meeting of the Association in July a success. Mr. ALCOCK, who also acknowledged the toast, said that the Cardiff Corporation would leave no stone unturned to make the forthcoming Annual Meeting of the British Medical Association a memorable occasion.

Dr. T. W. THOMAS responded briefly to the toast of "The Chairman," proposed by Dr. COLSTON WILLIAMS.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A MEETING of the South-West Wales Division was held on January 11th at the Carmarthenshire Infirmary, Carmarthen, when a large and very appreciative audience heard a most excellent and instructive lecture by Dr. FREDERICK W. PRICE (London) on some recent advances in the diagnosis, prognosis, and treatment of heart disease.

The lecturer dealt with his subject in a most interesting fashion, and by frequent blackboard diagrams illustrated points of difficulty in a most pleasing manner. It was felt by all present that they had derived real help in a subject full of difficulties for practitioners far removed from a teaching hospital.

At the close of the lecture a hearty vote of thanks was conveyed to Dr. PRICE by Dr. D. H. PENNANT, D.S.O. (chairman), and seconded by Dr. A. THOMAS, who said that he and others had come over fifty miles to hear the lecturer, and it had been well worth their trouble. Dr. PRICE having responded, tea was served.

#### SOUTH-WESTERN BRANCH.

AN intermediate meeting of the South-Western Branch was held in the library of the Royal Devon and Exeter Hospital on January 19th. There was a moderate attendance of twenty-two, and Colonel RAMSON PICKARD, C.B., was in the chair.

Mr. NORMAN LOCK read a paper on some remarks on puerperal fever. He gave a very interesting sketch of the difficulties that a surgeon has to contend with in such cases, and by illustrations from his own cases showed that these conditions are frequently of a fulminating type. A vigorous discussion followed the reading of the paper.

Dr. R. L. TAILL read notes on a case of macerated foetus with gas gangrene, which served to show the great odds that general practitioners very frequently are up against, particularly in the country, and illustrated the heroic measures that may be necessary.

Dr. R. V. SOLLY gave a long paper on some observations of cerebro-spinal fluids. He pointed out the great frequency with which an expert examination of the spinal fluid might be of extreme diagnostic value.

#### SURREY BRANCH: GUILDFORD DIVISION.

An ordinary meeting of the Guildford Division was held at the Royal Surrey County Hospital, Guildford, on December 1st, 1927. Mr. H. B. BUTLER was in the chair, and a large number of members were present, including some dozen members of the Midwives Association branch of the Midwives Institute.

#### Address on Puerperal Sepsis.

Dr. JAMES MONTAGUE WYATT, assistant obstetric physician to St. Thomas's Hospital, gave an interesting address on puerperal sepsis. He commented first on the fact that the mortality from this disease had not appreciably declined in the last sixty years. The Registrar-General's figures for 1847 to 1881 showed a death rate of 1.8 per 1,000, and for 1916 to 1920 of 1.48 per 1,000, which indicated that in spite of the great advance in antisepsis with regard to general surgery, a corresponding advance had not been shown in regard to obstetrics. The chief organism concerned was the haemolytic streptococcus, which was found in from 75 to 80 per cent. of all cases. The question was, What was the source of the organism? It had in the past been considered that it was present on the examining finger or on instruments introduced into the vagina; but that would not account for cases of infection that occurred when no examination at all had been carried out. Other possible sources might be the mouth of the attendant, or the mouth or vagina of the patient concerned. Investigations on these lines were now being carried out by Dr. Wyatt in connexion with his work on puerperal infections for the Metropolitan Asylums Board. In regard to predisposing causes, there seemed to be no doubt that the resistance of each individual patient was a potent factor, and that the resistance was undoubtedly lowered by such conditions as prolonged labour, difficult or instrumental delivery, extensive laceration of the soft parts, and haemorrhage. The toxæmia of pregnancy and previous ill health of the patient from causes other than the pregnancy had to be considered. The results of infection varied considerably, and there seemed to be no means of deciding what the condition was which caused the variation. In the first place there was a local infection of the vagina and uterus, which in the past had been termed "sapraemia." Then there were cases in which the infection in the Fallopian tube spread to the peritoneal cavity, producing usually a localized peritonitis, but sometimes a general peritonitis. Thirdly, there was a general infection of the blood stream; and, lastly, those cases not manifesting themselves until the tenth or fourteenth day of the puerperium. Other conditions mentioned were thrombosis of the femoral vein and pelvic cellulitis.

With regard to treatment, in cases of local infection there seemed to be no doubt that the less the interference the better the results. Vaginal douching with one of the antiseptics of the chlorine group, the promotion of drainage by Fowler's position, and the administration of an active principle generally proved

Remington delay in the condition settling. Hobbs's method of intrauterine glycerin injections<sup>1</sup> was of great help. Intrauterine manipulation, except in cases of incomplete abortion, should be avoided. In cases of peritonitis, provided the condition remained localized, expectant treatment again appeared to give the best results; but if there was any evidence of the condition becoming generalized, then laparotomy and drainage should be carried out at once, and combined with this, massive injections of anti-B. *wellchii* serum, as advocated by Williams in his paper in the *Journal of Surgery*. With regard to general infection of the blood stream, the outlook was not at all cheerful; there was at present no specific treatment at all. At the Metropolitan Asylums Board's hospitals various preparations of arsenic and mercury had been tried, but no good results had been obtained. However, it was only by prolonged perseverance that specifics for other diseases had been found, and it was to be hoped that the same good results might eventually be obtained in the treatment of septicæmia. At present, therefore, prophylaxis seemed to be of tremendous importance. The introduction of ante-natal clinics had undoubtedly reduced the number of difficult labours and lessened the number of severe cases of toxæmia, and as the number of these clinics increased, and with it the proficiency of those in charge, this would be a help. Still, it the proficiency of those in charge, this would be a help. Still, great care must be taken during the actual confinement, and any source of infection, either in the patient or attendant, especially from the mouth and teeth, should be looked for and dealt with. An instructive discussion followed, in which Drs. LAWTON MOSS, FLEMING, PARKER, the CHAIRMAN, and the honorary secretary, Dr. G. M. BLUETT, took part. Dr. WYATT, having replied to the questions addressed to him, was accorded a very hearty vote of thanks for his kindness in coming to address the Division on such an important subject to medical practitioners.

#### ULSTER BRANCH: PORTADOWN AND WEST DOWN DIVISION.

A MEETING of the Portadown and West Down Division was held in the Swan Café, Armagh, on January 18th, when twenty-two members were present, which, considering the weather and the distances to be travelled, was very good.

The CHAIRMAN (Dr. W. J. Dawson), before opening the meeting, referred in feeling terms to the loss the Division had sustained by the death of Dr. J. Singleton Darling, who took part at the last meeting, and moved that the sympathy of the Division be recorded on the minutes and also conveyed to Mrs. Darling; this was passed, all present standing. The chairman also referred to the loss by death of Dr. James Taylor, Tandragee, one of the senior members of the Division.

Dr. DEAN and Dr. T. B. Penlow reported some cases of surgical interest and showed pathological specimens. Mr. HOWARD STEVENSON (Belfast) read a paper on methods of

<sup>1</sup> BRITISH MEDICAL JOURNAL, December 31st, 1927, p. 1223.

examination and treatment of stomach cases; this was listened to with great interest and led to a lively discussion. The CHAIRMAN thanked Mr. Stevenson for his paper, and extended a hearty welcome to the vice-chairman, Admiral McKeown, R.N., who was present for the first time.

#### YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

A MEETING of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, Wakefield, on January 12th, when Dr. T. GINSON was in the chair.

The CHAIRMAN congratulated Dr. Hillman upon his appointment as Mayor of Wakefield.

Correspondence from headquarters of the British Medical Association regarding the inquiry into the treatment of varicose ulceration was read. On the motion of Dr. STEVEN, seconded by Dr. SCHOLEFIELD, it was agreed that the honorary secretary should write to all members of the Division asking for their active support.

Dr. HILLMAN gave an interesting, lucid, and thorough survey of the relationships of the insurance practitioner to his fellows and the public. He ventured the opinion that the reputation of the panel doctor was quite good now, and had gradually improved since the days of the inception of the Insurance Act, and he considered that the British Medical Association had done a good deal towards this end. He thought that every effort should be made to preserve the relationship of the doctor and patient upon the old "family doctor" lines. He also felt that the relationship of the doctor to the sanitary authority should be helpful, and at the same time critical, and that the future of medicine would undoubtedly be more on the preventive side than it had been in the past. In conclusion, Dr. Hillman discussed the question of excessive prescribing, and made a plea for the centralization of administration in medical affairs.

In the subsequent discussion, in which Drs. DOWKIE, GIBSON, GREAVES, RADCLIFFE, SCHOLEFIELD, STEVEN, SULLIVAN, WALKER, and TWIST took part, many interesting points were brought out.

### Correspondence.

#### A Referendum on Ophthalmic Benefit?

Sir,—May I subscribe my support to "Another Ophthalmic Surgeon" in his suggestion (SUPPLEMENT, January 14th, p. 11) for a referendum with reference to ophthalmic clinics?

Over two years ago I made the suggestion to the headquarters of the British Medical Association that the fee per case should be 10s. 6d.—that is, for the whole of the ophthalmic work amongst insured persons. I received a reply to the effect that the Ophthalmic Committee would not consider such a proposal, although I pointed out that the largest and most important approved societies were willing to agree to such terms. The reason given was that if a proposal of this kind were accepted, it was probable that some distinguished ophthalmic surgeons would retire from the list. Surely it would have been better to have permitted them to retire, and for the remainder to have received reasonable remuneration, rather than to have grasped the shadow of £1 1s. per case and lost the substance of 10s. 6d. per case.

I have not the slightest intention of hindering the progress of the difficult work of the Ophthalmic Committee, but it is patent that the committee is out of touch with the general feeling of, shall we say, the "new ophthalmic surgeons," who have been discovered by the British Medical Association list, and that the only way it can get to know that feeling is to take a referendum—and abide by the result. We shall then not drop from the Utopian £1 1s. to a sweated 6s. I am convinced that the large majority of the ophthalmic surgeons on the British Medical Association list would be willing to set apart a convenient number of, say, evening hours to ophthalmic benefit cases, if the whole of the eye cases were referred, at a fee of 10s. 6d. per case; patients requiring special appointments to bring the fee up to the usual private fee. It is useless to spend money on equipping clinics and on administration when everything necessary is available in ophthalmic surgeons' consulting rooms.—I am, etc.,

January 16th.

M.D.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander F. E. Anley is placed on the retired list with the rank of Surgeon Captain.

Surgeon Commanders L. S. Goss, O.B.E., to the *Pembroke* for R.N. Barracks, Chatham, temporary; A. G. Malcolm to the *Courageous* for trials and to the *Courageous* on commissioning; T. Cock to the *Cormorant*.

Surgeon Lieutenant Commander T. Madill to the *Ambrose*. Surgeon Lieutenants A. E. Phillips to the *Bee*, temporary; R. G. Anthony to the *Pembroke* for R.N. Infirmary, Deal; P. J. Maguire to the *Montrose*; C. B. Nicholson to the *Constance*; G. S. Rutherford to the *Ceres*; W. R. S. Panckridge to the *Alecto*; S. G. Weldon to the *Vernonia*.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Lieutenant R. Pedlow to the *Rodney* for training. J. D. Simpson has entered as probationary Surgeon Sublieutenant and attached to List 2 of the London Division.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel C. R. Sylvester-Bradley, half-pay list, late R.A.M.C., retires on retired pay on account of ill health.

Captain B. L. Davis, O.B.E., to be Major (prov.).

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flying Officer J. D'I. Rear is promoted to the rank of Flight Lieutenant and is appointed to Headquarters, Iraq.

Flying Officers J. Hill and M. O'Regan to Headquarters, Iraq.

#### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Captain G. J. Pillans, M.C., late R.A.M.C., to be Lieutenant, with precedence as from November 13th, 1924, and relinquishes the rank of Captain.

Lieutenant N. Capstaff to be Captain.

### VACANCIES.

ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—(1) Honorary Consulting Physician. (2) Honorary Medical Officer. (3) Honorary Surgical Registrar.

DEVON COUNTY HOSPITAL.—Assistant House-Surgeon (male, unmarried). Salary £130.

BIRKENHEAD GENERAL HOSPITAL.—(1) Honorary Gynaecologist. (2) Honorary Orthopaedic Surgeon. (3) House-Physician (male); salary £150 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—House-Surgeon (male). Salary £120 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Honorary Physician for Out-patient Department.

CALCUTTA: PRESIDENCY COLLEGE.—Professor of Physiology. Pay Rs.800 per calendar month, rising to Rs.1,000 plus overseas pay of £25 a month.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—House-Surgeon (male). Salary at the rate of £130 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

CITY OF LONDON MATERNITY HOSPITAL, City Road, E.C.1.—Registrar. Honorarium at the rate of £100 per annum.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House-Surgeon (male). Salary £200 per annum.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—(1) Assistant Radiologist (part time); £400 per annum. (2) Assistant Pathologist (part time); £150 per annum. Women.

GRANT YARMOUTH: GENERAL HOSPITAL.—House-Surgeon (male, unmarried). Salary £150 per annum.

HERTFORD COUNTY HOSPITAL.—Honorary Assistant Surgeon.

HOSPITAL FOR WOMEN, Soho Square, W.1.—Honorary Medical Officer in charge of Out-patients.

HULL: BEVERLEY ROAD INFIRMARY.—Visiting Operating Surgeon. Salary £200 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon (male). Salary at the rate of £150 per annum.

LEICESTER ROYAL INFIRMARY.—(1) Honorary Physician. (2) Assistant Honorary Physician. (3) Casualty House-Surgeon; salary at the rate of £125 per annum.

LIVERPOOL CORPORATION.—City Coroner. Salary £1,000 per annum.

LOCHMARON PARISH COUNCIL, Ross-shire.—Medical Officer and Public Vaccinator. Salary £133 per annum.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Endsleigh Gardens, W.C.—Research Studentship in Protozoology. Value £250 per annum.

LONDON UNIVERSITY.—University Chair of Public Health, tenable at the London School of Hygiene and Tropical Medicine. Salary £1,300 a year, together with allowance of £200 a year.

MIDDLESBROUGH COUNTY BOROUGH.—Assistant to Medical Officer of Health (male, unmarried). Salary £450 per annum.

MOUNT VERNON HOSPITAL.—Assistant Physician.

PRESTON COUNTY BOROUGH.—Assistant School Medical Officer (male). Salary £600 per annum.

QUEEN MARY'S HOSPITAL FOR THE EAST END, E.15.—Anaesthetist. Honorarium 25 guineas per annum.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.1.—Assistant Surgeon.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.13.—Resident Medical Officer and Assistant Resident Medical Officer. Salary at the rate of £175 and £130 per annum respectively.

ST. THOMAS'S HOSPITAL.—Physician in charge of Out-patients.

SKIMEN'S HOSPITAL SOCIETY.—Honorary Assistant Physician at the Hospital for Tropical Diseases, Endsleigh Gardens, W.C.

SHEFFIELD ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon.

SHOREBURGH BOROUGH COUNCIL.—Assistant Medical Officer of Health (male). Salary £650 per annum, rising to £750.

SHREWSBURY: ROYAL SALOP INFIRMARY.—House-Physician (male, unmarried). Salary at the rate of £160 per annum.

SHERBURN COUNTY BOROUGH.—Lady Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

SOMERSET COUNTY COUNCIL.—County Assistant Medical Officer. Salary £600 per annum.

STOKE-ON-TRENT: NORTH STIFFORDSHIRE ROYAL INFIRMARY.—(1) Honorary Assistant Surgeon. (2) Honorary Anaesthetist. (3) Honorary Assistant Rural Surgeon. (4) Honorary Assistant Orthopaedic Surgeon.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary £170 per annum.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—Radcliffe-Crocker Travelling Scholarship in Dermatology. Approximate value £280.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Honorary Obstetric Registrar.

WEST RIDING COUNTY COUNCIL.—School Oculist. Salary £600 per annum, rising to £700.

WILTS COUNTY COUNCIL.—School Dentist. Salary £500 per annum.  
WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon.  
Salary £200 a year.

CRIPPLING F.—  
announced  
Peasenhall  
Fort William (Inverness);

MEDICAL REFEREES UNDER THE WORKMEN'S COMPENSATION ACT.—(1) Ophthalmic Specialist for County Courts in Circuits 15 and 17 (East Riding of Yorkshire and Lincolnshire). (2) For the districts of the Blandford, Bridport, Dorchester, Ringwood, Lyminster, Poole and Bournemouth; Wareham; Weymouth and Wimbome Minster County Courts (Circuit No. 65). Applications to the Private Secretary, Home Office, London, S.W.1, by February 7th and 10th respectively.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

CUTP, Cyril H., M.B., B.S., F.R.C.S.Ed., Consulting Surgeon to the Government of Cyprus.  
GEMMELL, Reginald W., M.D., Liverpool, D.M.R.E., Honorary Radiologist, David Lewis Northern Hospital, Liverpool, vice W. C. Oram, M.D., deceased.  
INGRAM, J. T., M.D., M.R.C.P.Lond., Lecturer on Diseases of the Skin, University of Leeds.  
RIDDETT, Stanley A., M.C., L.D.S., M.R.C.S.Eng., L.R.C.P.Lond., to be Honorary Dental Surgeon to the Royal London Ophthalmic Hospital (Moorfields Eye Hospital).  
STEELE, Richmond, M.B., Ch.B.Glas., Honorary Radiologist to Southport Infirmary.  
WHEELER, Donald R., M.B., B.Ch., B.A.O., F.R.C.S., Aural Surgeon to the Kent County Ophthalmic and Aural Hospital, Maidstone.

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Section of History of Medicine.—Wed., 5 p.m., Dr. G. A. Auden: (1) The Child of the Barber Surgeons of the City of York; (2) An Ancient Medical Manuscript in the Library of York Minster.  
Section of Surgery.—Wed., 8.30 p.m., Pathological Evening.  
Section of Tropical Diseases.—Thurs., 8.15 p.m., Discussion: Life Assurance in the Tropics. To be opened by Sir William Prout, followed by Mr. H. E. Raynes and Dr. J. F. C. Haslam.  
Section of Laryngology.—Fri., 4 p.m., Cases.  
Section of Anaesthetics.—Fri., 8.30 p.m., Mr. A. Douglas Cowburn: Death occurring under operation or before recovery from anaesthesia.  
Section of Otolaryngology.—Sat., 9.30 a.m., Cases. 10.30 a.m., Dr. Alexander Fleming: The Bactericidal Power of the Blood and Methods of Altering It; Dr. A. Lowndes Yates: Methods of Estimating Alterations in the Middle Ear by means of Quantitative Tests of Hearing (demonstration of audiograph).

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn Fields, W.C.2.—Mon., 5 p.m., Mr. W. E. M. Wardill: Cleft Palate. Wed., 5 p.m., Mr. H. S. Souttar: New Methods of Surgical Access to the Brain. Fri., 6 p.m., Mr. E. M. Atkinson: Abscess of the Brain.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Lecture at Medical Society of London, 11, Chandos Street, W.1: Mon., 5 p.m., The Principles of Spa Treatment. Brompton Hospital for Chest Diseases, Brompton: Mon., 10 a.m., Clinical Demonstration, Royal National Orthopaedic Hospital, 234, Great Portland Street, W.; Thurs., 2 p.m., Special Clinical Demonstration. Royal West Charing Cross, W.C.2: Fri., 5 p.m., Lecture—Its Causes and Treatment. Bethlehem R Fields, S.E.1: Course in Psychological Medicine, Tues. and Sat. at 11 a.m.; proportionate fees payable.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Mon., 1.30 p.m., Examination of Accessory Sinuses. Wed., 1.30 p.m., Examination of Larynx.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Thurs., 4 p.m., Broncho-pneumonia.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Respiratory Diseases in Child and Adult.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Alopecia. Thurs., 5 p.m., Xanthoma, Herpes.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.1.—Wed., 4.30 p.m., Medical-Legal Problems of Lunacy.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Anaesthesia. St. Paul's Hospital, Endell Street, W.C.2.—Thurs., 4.30 p.m., Some New Devices in Urinary Surgery.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Batham, S.W.12.—Wed., 4 p.m., The Surgical Aspect of Goitre.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.5.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments; Tues., 10 a.m. to 1 p.m., Medical Ward Visit, Demonstrations in Venereal Diseases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Sick Children, Wed., 4.15 p.m., Medical Cases.  
MANCHESTER: ST. MARY'S HOSPITALS (WHITWORTH STREET WEST BRANCH).—Fri., 4.30 p.m., Occipito-Posterior Positions.  
SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—Fri., 3.30 p.m., Clinical Cases.

### British Medical Association. OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).  
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).  
EDITOR, British Medical Journal (Telegrams: Aitology Westcent, London).  
Telephone numbers of British Medical Association and British Medical Journal, Museum 8851, 8852, 8853, and 8854 (internal exchange, four lines).  
SCOTTISH MEDICAL SOCIETY, 6, Dunsborough Gardens, Edinburgh. (Telegrams: 24351 Edinburgh).  
INSITU MEDIC, 7, Frederick Street, Dublin. (Telegrams: 24351 Dublin).

#### Diary of the Association.

- JANUARY.
- 27 Fri. London: Private Practice Committee, 2.15 p.m.  
Dumfries and Galloway Division: Royal Infirmary, Dumfries, 4 p.m. Executive Committee, 3.30.  
English Division (Border Counties Branch): Maryport. Dr. J. N. Douglas Smith on Puerperal Septic.  
Hendon Division: Clinical Meeting, Hendon Cottage Hospital. Dr. Archibald Leitch on Modern Views of Cancer, 8.30 p.m.  
Sunderland Division: Sunderland Royal Infirmary, 8.30 p.m.  
Mid-Cheshire Division: Altrincham General Hospital, 4 p.m.  
29 Sun. London: Puerperal Morbidity and Mortality Committee, 3 p.m.  
31 Tuca. West Bromwich Division: Annual Meeting, West Bromwich and District General Hospital, Edward Street, West Bromwich, 3 p.m.
- FEBRUARY.
- 1 Wed. London: Lunacy Law and Administration Committee, 2.30 p.m.  
Halifax Division: Clinical Meeting, Royal Halifax Infirmary, 8.30 p.m.  
2 Thurs. Guildford Division: Royal Surrey County Hospital. Sir D'Arcy Power on the History of Medicine, 4 p.m.  
Sunderland Division: Annual Dance, Meng's Rooms, Sunderland, 8 p.m.  
3 Fri. Dewsbury Division: Dewsbury Infirmary. Dr. G. Cooper on Radiotherapy, 8.15 p.m.  
4 Tues. Camberwell Division: Bermondsey and Rotherhithe Hospital. Mr. A. E. Webb-Johnson on Haematuria, 9 p.m.  
City Division: Metropolitan Hospital, Kingsland Road, E. Dr. H. C. Simon will discuss Diagnostia Pitfalls in Dermatology, 8.30 p.m.  
Coventry Division: Coventry and Warwickshire Hospital. Dr. Brailsford on Cholecystography.  
Finchley Division: Finchley Memorial Hospital. Dr. F. M. R. Walsh on Faith Healing, 8.45 p.m.  
8 Wed. General Hospital, Dr. W. H. of the Antrum, 4 p.m.  
10 Thurs. Hampstead Division: Hampstead General Hospital. Dr. S. Monckton Copeman will discuss Inoperable Cancer, 8.30 p.m.  
Portsmouth Division: B.M.A. Lecture by Professor Hugh Maclean on Renal Disease and High Blood Pressure.  
Wakefield, Pontefract, and Castleford Division: Great Bull Restaurant, Westgate, Wakefield. Mr. A. Gough on Menstrual Diseases and the Menopause. Supper preceding lecture, 7.45 p.m.  
10 Fri. Representatives of Medical Schools with Hospital, Ayr. Dr. J. A. Wilson on the Young Adult, 4 p.m.  
11 Fri. Maternity Hospital, Chesterfield. Professor A. J. Hall on the Use of Some Everyday Drugs, 8.15 p.m.  
14 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. Alfred Cox on the Family Doctor on His Trial, 9 p.m.  
15 Thurs. Jersey Division: General Hospital. Mr. A. S. Ferguson, Focal Infections of the Head, 8.30 p.m.  
17 Fri. East York Division: Dr. Ritchie Rodger on Foreign Bodies in the Air Passages.  
Leeds Division: General Infirmary, Leeds. B.M.A. Lecture by Dr. John Parkinson on Common Difficulties in Cardiac Diagnosis, 8 p.m.
- MARCH.
- 30 Fri. Southport Division: B.M.A. Lecture by Dr. E. P. Cumberbatch on the Use of Ultra-Violet Rays.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 5s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTHS.

FULTON.—On January 15th, 1928, at Homildon House, Wooler, Northumberland, in the wife of T. Ronald Fulton, M.B., Ch.B.Glas., a daughter.  
LISHMAN.—On January 20th, at Beresford House, Caversham, Plymouth, to Dorothy Irene (née Valentine), wife of William Eric Lishman, M.B., M.R.C.S., a daughter.

#### DEATH.

—On January 23rd, at "Bickerton," Namu Road, Bourne, L.R.C.P. and S.Ed., aged 70, late of Horbury



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 4TH, 1928.

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### British Medical Association.

#### CONFERENCE ON PUERPERAL MORBIDITY AND MORTALITY.

##### THE PREVENTIVE ASPECTS OF MIDWIFERY.

A CONFERENCE on puerperal morbidity and mortality, called on the initiative of the British Medical Association committee entrusted with that subject, was held at the Association House, Tavistock Square, on January 11th. In addition to members of the committee, those attending included representatives of the Ministry of Health, the Scottish Board of Health, the Royal College of Physicians of London, the Royal College of Surgeons of England, the Royal Society of Medicine, the Central Midwives Board, and the Society of Medical Officers of Health, and there were certain other medical men present by invitation. In the unavoidable absence of Sir Ewen Maclean (chairman of the committee), Dr. T. WATTS EDEN presided, and the first part of the proceedings was given up to the reading of four short papers dealing with distinct aspects of the subject, after which there was a general discussion.

The CHAIRMAN sketched briefly the objects of the committee and the nature of its uncompleted investigations. Its desire was to encourage the medical profession to view the preventive aspects of midwifery in a more serious light than hitherto. Despite the noteworthy increase in midwifery beds, the progress towards a solution of the whole problem had not been as great during the last few years as might have been hoped, and the question was whether the best use was being made of the means available. He hoped that that conference would bring forth some practicable suggestions.

##### Co-operation of Medical Practitioner and Midwife.

Dr. J. S. FAIRBAIRN, in an opening paper, recapitulated some of the points discussed by him in a previous paper published in the BRITISH MEDICAL JOURNAL (January 8th, 1927, p. 47) as to why the midwives of the Queen Victoria Jubilee Institute were able to attend some 50,000 confinements a year and declare a mortality rate below half that of the country as a whole. He explained that in his view it was because the medical man called in to midwifery cases had to do more than secure normal function—he had to relieve the patient. It was relief that the parturient woman asked for from her medical attendant, and this was usually given by anaesthesia and a speedy and artificial end to labour. But, as hospital records

showed, all internal interference involved an increased morbidity. Under good conditions the risk was very small, but in total, spread over thousands of cases, it accounted for an appreciable addition to mortality. On the other hand, the class of women attended by midwives, with medical assistance available for difficult and complicated cases, showed a lower mortality because of less interference. Incidentally, Dr. Fairbairn expressed his entire disagreement with the policy of the British Medical Association in seeking to prohibit the use by midwives of such simple sedatives as laudanum and chloral. The commonest causes of weakening of uterine powers were fatigue and the emotional disturbance from anxiety and recurrent pains. To remove the cause was the first principle in preventive medicine, and to treat a condition at its very beginning was the second. A dose of laudanum sufficient to give relief and rest for the time would often secure a natural end to labour. He differed also from the Association's Maternity and Child Welfare Subcommittee in its attitude towards the ante-natal record card issued by the Central Midwives Board for the use of midwives. If pupil midwives were taught ante-natal work they must be expected to carry it out in practice, and, in his opinion, the more that could be done in the way of ante-natal work by the midwife the better; it would all help to narrow the mesh of the net. It was the midwife rather than the doctor who might often have the opportunity of going through the obstetrical part of the ante-natal examination of the woman. He hoped it would not be long before there came about the gradual adoption of the midwife as one of the team in private practice. The chief difficulty in the way was that of attracting the best type of trained women into practice. Not one-quarter of the women who took the C.M.B. examination practised as midwives, and of those who did so very few were the highly trained. Something might be done to attract a better class into the service if the posts of health visitor or inspector of midwives or other whole-time jobs in the health service were awarded to those well trained women who had borne the burden of day and night in the rough-and-tumble of midwifery practice.

##### Bacteriological Investigation.

Dr. LEONARD COLEBROOK raised the question of the practicability of preventive immunization against the risk of puerperal infection. Unfortunately, no satisfactory evidence was as yet available from lying-in wards that women could actually be protected in this way. The haemolytic streptococcus as the cause of puerperal fever had been known for many years, but the results of most workers along this line of inquiry had been negative. Nature was niggardly in her arrangements for killing these organisms. Certain experiments with vaccines had, however, been made abroad for which encouraging results were claimed. He showed a chart giving the results obtained by Jotten in Germany, relating to something like 1,500 women. This worker, starting with small doses of a vaccine, found an



increase in phagocytic power and a steady decrease in the percentage of morbidity as the dose was given in larger quantities. The speaker also cited figures by Maroudi of Athens, comparing 1,200 inoculated cases with 780 cases uninoculated. Here again there was a suggestion of benefit. In the inoculated group there were no deaths and only two local streptococcal infections; in the non-inoculated group there were seven deaths and eight local infections. This was all the evidence the speaker had been able to find in literature. It was certainly premature at present to suppose that the parturient woman could be successfully immunized. Certain difficulties came to mind in connexion with this prophylactic work. When was it going to be carried out? If before labour, would the immunity be lost should labour be delayed? And if during labour, was there any possibility that harm might be done or that the immunity might not be conferred in time? He thought the committee might usefully consider whether arsenical drugs could not hopefully be employed in prophylaxis. With regard to treatment, there were two schools of thought among research workers. One school, having in mind the recent work on scarlet fever, looked upon puerperal fever as primarily a toxæmia—in other words, that there was a specific toxin produced by the streptococcus which must be neutralized. The other school thought it not proved that toxin was the essential feature, but rather that the micro-organism itself appeared to find conditions for multiplication and proliferation in the patient's body, and that the problem was to kill the micro-organism. Dr. Celebrook inclined to the latter view, and pointed out certain distinctions between scarlet fever and puerperal fever. The object should be to help the body to kill off the streptococci rather than primarily to neutralize the toxins. Here came in the usefulness of organic compounds of arsenic, which in nearly all patients increased the power of the blood to kill streptococci, and in all of them increased the power of the serum. He emphasized the necessity of getting the cases at the earliest stage, and the advisability of arsenical treatment in every case that developed even a small temperature.

#### *Midwifery and the General Practitioner.*

Dr. C. E. DOUGLAS, a member of the B.M.A. Committee, in a further paper, touched upon the vexed question of instrumental intervention. His impression was that the midwife of to-day, in many parts of the country at any rate, held on to her case till she felt that it was not going to do alone, and sent for the doctor really that he might give the relief that was desired. Therefore, a high proportion of cases would necessarily be forceps cases. This might be contemplated with perfect equanimity if men would observe two simple rules: perfect antiseptics, and withholding of the forceps until the second stage had gone on for over two hours. In thirty years' practice, out of 1,620 cases he had applied forceps 283 times. There were no deaths, but during that time he had two deaths from sepsis in specially easy cases. Another question bearing on the point of co-operation was whether the midwife should give drugs. Strictly speaking, she should not. She was allowed only to undertake normal labours, which should not require drugs. But of late years there had come a change in practice. For many years it was considered bad form to give opiates. At present this was not the case, largely by reason of the so-called "twilight sleep" method. If midwives were to be encouraged to adopt a waiting attitude they should certainly be trained in the use of morphine and chloral; pituitrin he thought pretty dangerous, even in other hands than theirs. With regard to medical education, there was an impression that the medical student was being imperfectly trained. The available clinical material was limited, and had now to be shared with the growing class of pupil midwives. Another thing to be said was that if it was desired to send out competent and reliable men this would not be done by putting "the fear of death" upon them if they so much as dared to apply forceps. Men should be trained and warned, not frightened. Ante-natal care had immense possibilities. The effect of the recommendation of the Scottish Departmental Committee—that this be made compulsory for students—would be far-reaching and beneficial. It was surprising—vide that report—that the watch for eclampsia should require emphasis at this late day. Since 1899 watch had been kept by him on every woman who had engaged him for her confinement, and he had had no case all these years. As a general scheme for the future nothing could be better than that ante-natal care should

be with the doctor, the actual confinement under the midwife, with the doctor in reserve for emergencies, and hospital treatment for exceptional cases; and that the doctor should see, by post-natal examination when requisite, that the woman was restored to functional efficiency.

#### *The Role of the Medical Officer of Health.*

Dr. DUNSTAN BREWER discussed the subject from the point of view of the special duties of the medical officer and his staff which bore upon the reduction of maternal morbidity. These duties, he said, were of three kinds—those relating to the people themselves, to his professional colleagues, and to scientific investigation. The duties under the first head were to ensure that all persons in his district could obtain such medical skill as was available, and that they did in fact obtain it, and obtain it in time. His duties to his colleagues were embodied in the Midwives Act and the Puerperal Pyrexia Order. The provisions of the latter had given rise to some objections, due entirely to misunderstanding. About one delivery in fifty was followed by pyrexia as defined by the Order—an average of two notifications by every practitioner in a year. The notification form allowed the practitioner to ask for certain facilities if he required them. It was for the practitioner to say what he wanted, and for the medical officer to see that it was forthcoming. With regard to the third part of the medical officer's duties, the investigation of maternal deaths could be undertaken only by the public medical service. These inquests required great tact, and were impracticable unless the medical officer was on the most friendly terms with the practitioners in his district. In his own experience, in his district he had not discovered a single case of a mother who had lost her life through lack of medical skill, though many had died because that skill was not available until too late. The midwives were occasionally to blame, but the patients themselves were the chief offenders, occasionally from stupidity, more often from ignorance. The public health service might also not be without fault for failing to supply facilities which it was its duty to supply. If the compulsory notification of pregnancy were feasible and properly carried out, and sound administration founded upon it, it might put a stop to maternal mortality. At present such a provision was not practicable, but without it much might be done to prevent fatalities by supervision in pregnancy as far as possible, involving machinery for drawing upon medical skill without difficulty, formality, or delay, and other machinery, non-medical in character, whose main function was to watch and to detect immediately any departure from a state of health when medical intervention must be sought.

#### GENERAL DISCUSSION.

Professor BECKWITH WHITEHOUSE (Royal Society of Medicine) said that during the last few years there had been, in connexion with the Maternity Hospital at Birmingham, an experimental clinic with a team headed by a sister who really knew her job, intent upon securing sufficient ante-natal care in some of the worst districts of the city. The women were attended in their own homes, none but selected cases going on to hospital. In the first 1,000 cases the morbidity rate was only 2 per cent., and only one woman in the 1,000 died—from ruptured uterus—but she, as it happened, had not had the full ante-natal supervision. In contrast to this he mentioned what he had discovered in a high-class maternity nursing home—the incidents, all happening within one month, were touched for by the matron and sisters—namely, a refusal to have obstetric forceps boiled, a refusal to wear a sterilized gown during labour, the placing of sterilized instruments upon an unsterilized area, and the use of silkworm gut direct from a box without sterilization of any kind. None of the cases went wrong, but that was a wonderful testimony to the resistance of the patients. As a constructive measure he urged the special post-graduate training of certain general practitioners, particularly to imbue them with "surgical sense" and to make them obstetric specialists, and that the possibility might be considered of obstetric work in any area being in charge of men who held a post-graduate diploma, and who would hand over normal cases to the midwives and pass on to maternity hospitals cases of grave obstetric difficulty. Something must be asked also from the midwife. More care might well be taken to eliminate unsuitable women; the training of midwives might be improved by the greater concentration of training centres, so that the best teachers would be more generally avail-

able; post-graduate training might be made universal; and no age limit for retirement from the service imposed. He also suggested the provision of depots where sterilized gowns, towels, and gloves would be available for obstetric purposes. An ante-natal centre would be the ideal place for this, and the cost, in the case of the poor, might be defrayed from maternity benefit. Another suggestion was that the committee should draw up a form, to be completed by the practitioner called out to a case of pyrexia during the puerperium, and forwarded to the inspector. A little care was necessary lest there be any loophole in the puerperal pyrexia regulations.

Dr. MADEL RAMSAY (B.M.A. Committee) asked why Dr. Colebrook had recommended arsenic. She had had good results with colloidal silver in about fifteen cases, treated with doses of 10 to 20 c.cm.

Mr. WYATT pointed out the wide field for investigation which remained in connexion with the sources of infecting organisms. Until the source and mode of conveyance were known it was difficult to advise midwives and practitioners how to avoid puerperal infection. It could not be doubted that in a great many cases there was mouth infection, haemolytic streptococci being breathed by the obstetrician into the vagina. In general surgery no one would think of opening the abdomen without wearing a mask. With regard to treatment, he was not quite so hopeful of arsenic as Dr. Colebrook. He had seen no really encouraging results with this agent, though he could speak only of a limited number of cases, and therefore perhaps he was not in a position to judge.

Dr. MIDDLETON MARTIN (Society of Medical Officers of Health) spoke of the conditions in Gloucestershire, with a population of 330,000, where, when the Midwives Act came into operation, there were 250 untrained women and 25 trained. These figures were now reversed, but, so far as he could observe, there had been little change during these twenty-five years in the incidence of disease. In 1927 there were sixteen cases of puerperal fever notified in his area. An analysis, which was incomplete, bore out Dr. Fairbairn's point that it was not only in cases where there had been intervention that these conditions arose. Out of 46 cases analysed, there had been no intervention in 20. Despite the most elaborate precautions, infection was in some way introduced. Was it necessary to assume in puerperal cases that there was an introduction of organisms from without? Much could be learned and much could be done by following up the slight cases. His experience of the work of midwives, especially those connected with the county nursing association, had been favourable; he admired their patience and conscientiousness. One of the difficulties in a large area like Gloucestershire—1,250 square miles—was to spread the machinery so that no part of it should be neglected. It was important, he thought, that there should be a room in every cottage hospital to which the pregnant woman could go.

Mr. DONALD W. ROR (Royal College of Surgeons) gave statistics relating to the work of a hospital ante-natal service. In the period 1904-09, when a good deal of ante-natal work was done, although it was not systematized as it became later, there were 4,200 in-patient and 12,365 out-patient deliveries, with 20 deaths, a mortality of 0.13 per cent. Of the 20 patients who died about 15 had been sent in by doctors or came from neighbouring institutions for which the service itself was not responsible until the moment of admission. Ten of the deaths were due to eclampsia, and one to sepsis. In the period 1922-26 there were 4,719 in-patient and 8,348 out-patient deliveries, and the total deaths numbered 13, or 0.099 per cent. Seven of these fatal cases were emergencies, with which, ante-natally, the service had had nothing to do. Of the 13 deaths one was due to eclampsia and one to sepsis. This was primarily a midwives' service, supervised by medical men, chiefly the house-physician. The extreme value of ante-natal work needed no emphasis. In the cases covered by a well organized service it was rare for a quite unforeseen emergency to arise. There was still need for propaganda among practitioners generally with regard to the value of systematic ante-natal work, and also of extremely good antiseptic technique, should intervention be necessary. He did not agree that there was a tendency on the part of teachers to put the "fear of death" into the men who used forceps, but the pendulum having swung so far in the direction of operative intervention, it was not remarkable if teachers tried to correct matters by stating the other case. He thought it most important that

lying-in institutions should be of sufficient size to have resident medical officers working under the supervision of skilled obstetric teachers. The multiplication of small maternity homes was not for the good of obstetric teaching in the long run.

Mr. E. B. TURNER (B.M.A. Committee) gave some interesting details of his father's practice in Dorset, Essex, and London from 1841 to 1882, during which time he treated nearly 2,000 midwifery cases, under all sorts of conditions, and did not lose one of them; also of his uncle who, qualifying in 1836, practised until 1886, and had nearly 4,000 cases of midwifery, with only seven deaths, five of them in one month, due to a scarlet fever infection. He was not advocating a return to the conditions under which those men worked, but he thought there was something in the success of those old practices which, if it were studied, might bring very near a solution of the present problem.

Dr. CHRISTINE MURRELL (B.M.A. Committee), speaking as a general practitioner, said that there did not seem to be sufficient evidence that puerperal sepsis was due entirely to introduction from without. This question would not be tackled satisfactorily until all the various and obscure sources of septic infection were investigated. She also spoke of the importance of ante-natal inspection. Every woman ought to have during her pregnancy at least one inspection by a doctor. The question of expense loomed large, but she thought that to proceed along these lines would be more remunerative than other expenditure suggestions which had been made, such as the provision of depots for sterilized garments.

Dr. H. B. BRACKENBURY (Chairman of Council, British Medical Association) took up Dr. Fairbairn's complaint of the Association policy in denying the right of midwives to administer certain drugs. The resolution in question included opium and pituitrin, and with regard to the danger of the latter he thought everybody was agreed. But so far as opium was concerned also he was of opinion that the Association's position must be maintained. Drugs of this kind could not be safely placed in the hands of other than medical men. He saw no practical difficulty about the matter in those areas where the doctor's services could easily be obtained. If the condition of affairs was such that the midwife thought the patient ought to be given a drug of this kind the doctor should be called in and the drug given, if at all, on his responsibility. There were cases in sparsely populated areas where to bring in the doctor for this purpose might be difficult, or even impossible, but surely it was better to lay down a general rule of prohibition, even if very rare exceptions had to be admitted, than to advocate, as Dr. Fairbairn apparently did, that midwives should be allowed to use drugs whenever they pleased. With regard to ante-natal examination by midwives, again, surely nobody but a qualified medical practitioner could give a guarantee that nothing was wrong with the patient, and that was the object of ante-natal examination, which, as Dr. Fairbairn himself had said, was medical work, and, if it was thoroughly done, was to be regarded as of the same category as examinations for insurance or for admission to the Services. To place such a responsibility on the midwife was utterly wrong, and it was, in fact, the best midwives who objected to having to make the record to which Dr. Fairbairn had alluded, and to take this responsibility, while those least qualified did it most readily. With regard to medical students, almost all the teaching bodies were giving attention to the question of the training of students in ante-natal work. The General Medical Council was busying itself at present in seeing how far the obligations in this respect were being carried out. Dr. Brackenbury uttered a protest against the idea, put forward again in the present conference, that no qualified medical man was to be allowed to practise in any particular direction in his profession unless, after his qualification, he had taken a post-graduate course and obtained an additional diploma in that particular branch of his profession. It was a false idea. There might be, for example, doctors who were imperfect in their treatment of pneumonia; but was a special post-graduate course going to be made compulsory before medical men were allowed to treat cases? He thought it was quite absurd to require these super-numerary diplomas in this, that, or the other department of medicine before a man could be considered a duly qualified medical practitioner. With regard to the great desirability of securing ante-natal observation, and, if necessary, ante-natal treatment by a registered medical practitioner for every pregnant

woman, the question was how this could be done. The class of women who could pay for their private practitioner could be reached only by a process of education and persuasion. Even if there were compulsory notification of pregnancy, compulsory ante-natal examination would have to be added on to it before any good could be done. The insured woman could be reached through the insurance medical service, and, by way of maternity benefit, the wife of the insured man not herself insured. There would remain a small number, many of whom might be reached through the work of the ante-natal centres. What the profession had to say was that it was out to secure, by State aid where necessary, or by persuasion, ante-natal examination of every pregnant woman by a medical practitioner during pregnancy, and it could not tolerate the taking over of this work by the midwife, because that would be clearly a second-best procedure, and in the present state of public opinion and public affairs insistence on the second best was a distinct obstruction.

Dr. T. F. DEWAR (Scottish Board of Health) agreed with the general trend of the discussion, which indicated the realization that normal cases were the sphere of the midwife, and that abnormal midwifery, more strictly than ever, should go to the practitioner. He spoke of some recent inquiries in Scottish cities which showed that quite a large proportion of women—30 per cent. was mentioned—were receiving some ante-natal examination. The investigation of every maternal death had not yet been brought about, but he dared to hope that it would be.

Lady BARRETT (B.M.A. Committee) realized the difficulty of demanding a post-graduate diploma from all who practised midwifery, but she thought that a period of assistantship under a trained leader of an ante-natal clinic would be very valuable. One line of investigation which might be fruitful was to endeavour to find out what it was that made the vast majority of women resist infection. It would show what an extraordinarily powerful thing was normal resistance.

Dame JANET CAMPBELL (Ministry of Health) said that the Ministry desired to do all that it could from the administrative point of view to secure co-ordination between the various agencies concerned in the solution of this problem. No one body, whether of practitioners or midwives, could solve it alone. There was need also for central co-ordination, for the number of cases in any one district or hospital was too small for conclusions to be based upon them. Especially was it necessary to obtain help from the general practitioner, who saw these cases in their early stages. A committee charged with investigation on the bacteriological and clinical sides of the question might be very useful. An inquiry into every maternal death would also be helpful, if carried out in the right way; it could be done quite confidentially, and without hurting anybody's feelings. There were also many cases in which the practitioner concerned was unaware of the facilities which were available for his assistance. There was room for more co-operation in this respect between practitioners and medical officers. The difficulty of ensuring a medical examination for every pregnant woman was that of cost. The woman could not afford to pay for it, and the doctor could not afford to do it for nothing. Some modification of the insurance maternity benefit afforded almost the only hope of bringing the majority of women—84 per cent. of women were insured or the wives of insured men—into such a scheme.

Dr. FAIRBAIN, briefly replying to Dr. Brackenbury, still affirmed that midwives might be trusted to administer certain drugs which it was necessary should be given at an early stage when the woman began to show signs of fatigue. There had been no case of abuse before the Central Midwives Board. From the point of view of preventive medicine, if the midwife was not taught the use of something to avoid fatigue there would be more calamities. With regard to the ante-natal work of the midwife, he thought her role could be very much like that of a sister in a ward—carrying out the instructions of the medical man, making observations for him, and relieving him of a great deal of unnecessary work. From the point of view of the lying-in he thought ante-natal training essential to the midwife.

The conference ended with a vote of thanks to the Chairman, who remarked that the views expressed would be of great use to the committee in carrying through the further stages of its inquiry.

## THE PROVISION OF OPHTHALMIC BENEFIT.

ADDRESS BY DR. BRACKENBURY.

A FULL meeting of the Ophthalmic Benefit Committee was held at the Hastings Hall of the British Medical Association House, on January 31st to hear an address by Dr. H. B. Brackenbury, Chairman of Council of the British Medical Association. Mr. H. L. EASON, and afterwards Dr. G. W. KENDALL, presided.

Dr. BRACKENBURY, at the outset, instituted a parallel between the present ophthalmic position and the dental position previous to the passing of the Dentists Act, 1921. At that time it was clear that the supply of properly qualified dentists was inadequate to the public needs, and similarly it now had to be recognized that in the country as a whole the supply of properly qualified ophthalmic service was inadequate. It was interesting to consider how the public was supplied with such treatment as it received—he was thinking chiefly of refraction, but also of the treatment of more or less minor eye troubles. To a quite considerable extent the needs of the public were met by a commercial supply of cheap spectacles. The dimensions of this business were surprising. In one of the cheap stores, which he named, a million and a quarter spectacles were sold in a year. People went into these stores, picked up spectacles from a tray, and tried them until they found the glasses which suited them best. No doubt this resulted in a certain amount of harm to individuals, though there was no evidence that it constituted a grave public evil.

### *The Sight-testing Optician.*

The second way in which the public supplied its needs was by going direct to the sight-testing optician for defects of vision. The three representatives of the sight-testing opticians on the Departmental Committee contended, not merely that the opticians' work was better than the medical practitioners' work in general, but that it was better than the ophthalmic surgeons' work so far as refraction was concerned and things incidental thereto. The ideal of the sight-testing opticians was to be placed in the same position as the dentists, whereas the medical view was that they should be placed in a position analogous to that of the dispensing chemist. The opticians desired to have a Board which would prescribe a course of study approximating to the medical curriculum, with special reference to eye diseases, in exactly the same way as the dental student went through a truncated medical curriculum and then devoted himself to certain special subjects, and got a registrable diploma in dentistry. He was bound to say that, leaving out school children and those who received attention at hospitals, the great majority of the British public were receiving attention for defects of vision from sight-testing opticians rather than from medical practitioners. That being so, it was argued that the public should be protected by a State register consisting of those opticians who really did know something about their job, so as to enable them to be distinguished from others—admittedly a large number—who knew little or nothing.

The medical evidence before the committee showed two things: first, that there were appreciable dangers in defects of vision being dealt with by those who had not a complete medical education; and secondly, that there was a prospect in the not distant future of the medical profession being able to supply the public with the facilities which it needed for first-rate treatment. These were propositions which needed to be proved if the claim—on the face of it, in the existing state of affairs, not an absurd one—that there should be a State register of ophthalmic opticians, following on a definite curriculum, was to be withstood.

The third way in which the public got its ophthalmic requirements was through the school medical service, the hospitals, and the private practitioner. But unless it could be shown that the medical profession was able to supply the public needs by a first-rate service the case of the sight-testing optician was unanswerable. If, in fact, the public could be supplied only in the second-best way it was right to distinguish that second-best way from a third-best way by the setting up of a register. The medical evidence before the committee on the Registration Bill showed that there was danger in the second best, and that there was a reasonable prospect of the first best being supplied, and this was accepted by the committee.

The problem was to supply the first best by an adequate service of medical men and women competent to give ophthalmic treatment. The General Medical Council was doing something to help, and, partly owing to the greater concern of the public about eyesight, partly to the demands of the sight-testing opticians for recognition, and partly to the giving of ophthalmic benefit by approved societies, there had been recently an awakening on the part of the medical profession

to its duties and opportunities in this respect. The new curriculum laid down by the General Medical Council some years ago, in which emphasis was laid upon the study of ophthalmic conditions, was only now maturing, and there was clear evidence that a large number of senior students in the medical schools did intend, whether as general practitioners or not, to continue the study of ophthalmic surgery and to practise it. There was thus an increasing supply of medical practitioners interested in and willing to practise specially—not entirely—in this direction. How to get them distributed properly over the country was a more difficult problem, but he supposed it would be solved by financial arrangements made for the people in the more sparsely populated areas.

#### *The Approved Societies.*

Another factor in the situation was that the approved societies in supplying ophthalmic benefit were now handicapped. Earlier valuations had shown surprisingly large surpluses, but in 1926 there were enormous claims for sickness and disablement benefit, which were put down to the peculiar circumstances of that year—the general strike and the coal deadlock. But in 1927 the claims were vastly in excess of those even of 1926, so that it looked as if there was some underlying and continuing cause. If this was so, the next valuation would reveal for many societies no surplus at all, and therefore no ophthalmic or other special benefits would be possible. The societies were right in saying now that they could not afford to pay a guinea for each ophthalmic case. All the societies, except one—though that one was the largest—had said frankly that they would prefer to have treatment for their members by registered medical practitioners rather than by opticians. The Prudential, on the other hand, was inclined to the extreme view of the sight-testing opticians, that they could do the job better than the doctor. Some of these other societies had thought, as did the representatives of the medical profession at the time, that a guinea fee would be satisfactory; but it was now plain that for the bulk of them this amount was beyond their means, and their means, so far from improving, were apparently going to be attenuated further, unless the underlying cause of the increased claims could be discovered and proved to be remediable, which he doubted.

What, then, was to be done? Some offer had to be made to the public which would approximately halve the present cost of ophthalmic benefit. The Departmental Committee clearly saw that the public interest called for a State register of sight-testing opticians as the second-best thing if the first-best thing was not forthcoming.

#### *The Proposed Ophthalmic Clinics.*

One way of meeting the position, advocated in letters to the *BRITISH MEDICAL JOURNAL*, was the simple plan of reducing the guinea fee to half a guinea; but it appeared that that proposition would not be acceptable to a considerable proportion of those on the British Medical Association list, and if they withdrew, the available facilities, instead of enlarging, would diminish. It had therefore been suggested that conditions should be arranged, primarily in the large towns, by which the work of the ophthalmic surgeon could be eased so that in the new circumstances he might be willing to set apart a certain time for a smaller fee, reserving to himself otherwise the right to charge the guinea fee under the conditions originally contracted for, or to charge his ordinary private fee. In this direction certain offers had been made for the establishment of clinics, as they had been loosely called. Offers had been made to establish central premises, with full equipment, clerical and nursing assistance, and the presence of an optician for measuring, etc., so that the ophthalmic surgeon would have everything done for him short of the actual examination. It was thought that in this way he might set apart a session at which cases would be seen by him for half a guinea. It was further suggested that in connexion with these clinics in large centres certain facilities should be provided at stated times in satellite towns, where premises and assistance would be furnished, but where the surgeon would probably take his own equipment.

Clinics in London, and in five or six other large towns, had been established by the National Insurance Beneficence Society, which was the approved societies under another form, technically a charitable organization. The British Medical Association had discountenanced these clinics, but the society had come forward and said that if a plan could be agreed upon it would be prepared to finance and extend them further. The dispensing opticians had also come forward with a similar offer. There seemed to be no other auspices—unless the British Medical Association itself undertook the financial responsibility and administrative work, which he did not think it would be inclined to do—whereby the position could be met. The plan which was preferred by the representatives of the Ministry and of the medical profession was that of the dispensing opticians. In effect, the plan was that there should be set up a central committee on which the medical profession,

through the British Medical Association and such other organizations of ophthalmic workers as might seem desirable, would be represented; there would be also an entirely medical sub-committee, to which all medical questions should be referred. The dispensing opticians would finance the establishment of these clinics, which, of course, would not appear all at once, but would spread gradually in various centres. The medical men, on their part, would undertake to put in the requisite number of afternoons or evenings a week of these premises, which would be properly equipped and attended, and to do the work, not at a sessional fee, which was at first proposed, but at a fee of half a guinea per case.

This method was not intended to supplant other more private methods of supplying ophthalmic treatment. There would be an option—indeed, he thought that it would be in most places the rule—for ophthalmic practitioners to hold such sessions in their own houses. In that case, of course, they would supply their own equipment, and the dispensing optician would attend for the purpose of measuring the patients for spectacles, and so on. There would also remain a proportion—it must be recognized that it would probably be a diminishing proportion—of cases in which the patient would prefer to go quite privately and have attention at the guinea fee, half of this being provided possibly by the society.

At the moment, therefore, the position was this—that the profession should supply to members of approved societies entitled to ophthalmic benefit, at half a guinea per head, the ophthalmic service required, and that this should be accomplished either by a session in the private practitioner's house or by a session in a separately established clinic, at which certain arrangements had been made with regard to equipment, nursing, and so forth.

In conclusion Dr. Brackenbury begged that the ultimate aim in view might not be forgotten. The continuance of ophthalmic benefit to members of approved societies as such was not the ideal at all. What it was desired to carry out was the plan put forward in the evidence of the British Medical Association to the Royal Commission on National Health Insurance and recommended by the Commission—an extension of medical benefit to include specialist and consultant treatment, of which, of course, ophthalmic treatment would be one branch, and would be on the same principles and terms as all other specialist and consultant services, this to be the right of the whole of the insured population, and not dependent upon the accident of the societies' surplus.

#### QUESTIONS.

At the close of his address many questions were put to Dr. Brackenbury. In reply to one question he stated what were the recommendations on the subject which were being made by the Ophthalmic Committee of the British Medical Association for presentation to the Council on February 8th. The Council had authority from the Representative Body to sanction a scheme of the kind he had outlined if it approved the conditions and the auspices under which the scheme was run. The Ophthalmic Committee was recommending approval of the scheme subject to its conformity to certain conditions laid down. If the scheme went forward it would mean that the conditions under which men and women had placed their names on the British Medical Association list would be materially altered, and therefore they would have to be consulted on the matter. It was hoped that the list would be extended; it should have at least 1,000 names, some 200 more than at present.

In answer to further questions, Dr. Brackenbury said that the dispensing opticians had stated that they were prepared to start the scheme with a number of clinics in large centres, and as the need arose these would be multiplied, though in most parts of the country there would be, for the present at all events, no question of a separate clinic. The selection of medical men to take sessions at a clinic, supposing there were more men available than sessions arranged, would be a matter for friendly adjustment between themselves, subject to the right of appeal to the central medical committee in the unlikely event of anyone feeling himself aggrieved.

Asked if there would be room for free choice of doctor, Dr. Brackenbury pointed out that there could not be free choice at a particular session, but that the principle of free choice was preserved by the fact that the patient could go to any doctor in the area who chose to say, "If you come to me at a certain time I will see you for half a guinea." He added that it should be made clear that the position of anyone who desired to remain on the list, but was not willing under present conditions to see any patient except at a guinea, was not prejudiced. He need not take part in the work of the "clinics" at all, although, of course, such a practitioner must recognize that a proportion of what had hitherto been his clientele might be drawn away through the effect of these other provisions.

At the close of the questions a hearty vote of thanks was accorded to Dr. Brackenbury.



Cheques should be made payable to the Williams-Freeman Presentation Fund, and addressed to Dr. D. G. Greenfield, Treasurer, c/o the Medical Secretary, British Medical Association, British Medical Association House, Tavistock Square, London, W.C.1.



## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders T. C. Patterson to the *President* for Medical Department, temporary; C. E. Gresson to the *Victory*, February 6th, and to the *President* for H.M. Experiments Station, Porton, for course of instruction, February 13th, and to the *Victory*, March 12th; H. M. Braithwaite to the *Egmont* for R.N. Hospital, Malta.  
Surgeon Lieutenant Commander W. J. Colborne to the *Field* for R.N. Hospital, Plymouth.  
Surgeon Lieutenant G. S. Rutherford to be Surgeon Lieutenant Commander.  
Surgeon Lieutenants J. W. Simpson to the *Infant*; R. W. Higgins to the *Impregnable*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenants D. C. Livingston and D. R. Goodfellow to be Surgeon Sublieutenants.  
A. H. Shelswell has entered as probationary Surgeon Lieutenant, and is attached to List 2 of the London Division.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. F. Shea, D.S.O., having attained the age limit for compulsory retirement, retires on retired pay.  
Major H. St. M. Carter, D.S.O., to be Lieutenant-Colonel, vice Lieut.-Colonel H. F. Shea, D.S.O., to retired pay.  
Major B. H. H. Neven-Spence is re-employed under Article 507 (b), Royal Warrant for Pay and Promotion, 1926.  
Captains W. Millerick, M.C., and R. Johnson, M.B.E., to be Majors (prov.).  
Temporary Captain J. W. Darling, M.C., relinquishes his commission and retains the rank of Captain.  
Lieutenant on probation V. G. Rentilf resigns his commission.  
W. G. Rees to be temporary Lieutenant.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants E. G. Howell to the School of Army Co-operation, Old Sarum; D. R. Smith to R.A.F. Station, Upper Heyford; H. Pennam to No. 26 Squadron, Catterick; G. M. Anderson to R.A.F. Station, Biggin Hill.  
Flying Officer C. J. S. O'Malley to be Flight Lieutenant.  
Flying Officers N. I. Smith to Station Headquarters and Storage Section, Andover; J. P. Hederman to R.A.F. Depot, Usbridge; E. A. Rice to R.A.F. Station, Worthy Down.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. H. Goddard, D.S.O., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel F. P. Mackie, O.B.E., Director of the Haffkine Institute, Bombay, appointed as Honorary Surgeon on the personal staff of His Excellency Lord Irwin, Viceroy and Governor-General of India.  
Captains P. Vernon and J. M. Shah, M.B.E., to be Majors.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Major W. W. MacNaught, M.C., Reserve of Officers, to be Captain, with precedence as from March 30th, 1918.  
Lieutenant T. D. Orend to be Captain, with precedence as from January 21st, 1927.  
R. N. Kinnison to be Lieutenant.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Major D. E. Finlay, having attained the age limit, relinquishes his commission and retains his rank.  
Hygiene Companies.—Lieutenant R. E. J. Currell, from the active list, to be Lieutenant.

## VACANCIES.

ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—(1) Honorary Consulting Physician. (2) Honorary Medical Officer. (3) Honorary Surgical Registrar.

BEDFORD COUNTY HOSPITAL.—Assistant House-Surgeon (male, unmarried). Salary £130.

BIRMINGHAM CITY.—Two Assistant Medical Officers for the Public Health Department, Tuberculosis Section (male, unmarried). Salary at the rate of £450 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary £150 per annum.

CARDIFF ROYAL INFIRMARY.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

CHARLSE: CUMBERLAND INFIRMARY.—Medical Officer as House-Surgeon for six months; salary at the rate of £155 a year. (2) Resident Medical Officer as Junior House-Physician; salary at the rate of £135 per annum.

CHILDREN'S MEDICAL HOME, Waddon, Croydon.—Medical Officer (V.D.). Salary £150 per annum.

CHURCH MISSIONARY SOCIETY.—Medical Officer for Church Missionary Society Hospital, Omdurman.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

CITY OF LONDON UNIVERSITY HOSPITAL, City Road, E.C.1.—Assistant Resident Medical Officer. Salary at the rate of £80 per annum.

CROYDON COUNTY BOROUGH.—Deputy Medical Officer of Health and Deputy School Medical Officer. Salary £780 per annum.

DERBYSHIRE COUNTY COUNCIL.—Woman Medical Officer. Salary £600 per annum, rising to £750.

DEVONPORT: ROYAL ALBERT HOSPITAL AND EYE INFIRMARY.—Assistant House-Surgeon (unmarried). Salary at the rate of £50 per annum.

EDINBURGH: ELISE INGLIS MEMORIAL MATERNITY HOSPITAL.—Two House-Surgeons (females).

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) House-Surgeon, (2) House-Physician. (3) Junior House-Surgeon (non-resident); remuneration at the rate of £25 per annum. Females.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

EDINBURGH ROYAL INFIRMARY.—Senior Clinical Assistant and Clinical Tutor in the Ophthalmic Department. Emoluments £145 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Resident Casualty Officer and House-Physician to the Radium, X-Ray, and Electrical Department (male). Salary at the rate of £100 per annum.

GLASGOW EYE INFIRMARY.—(1) Resident Assistant House-Surgeon; salary £75 per annum. (2) Visiting Surgeon.

GREY YARMOUTH: GENERAL HOSPITAL.—House-Surgeon (male, unmarried). Salary £150 per annum.

GUILDFORD UNION.—Resident Male Assistant Medical Officer at the Institution. Salary at the rate of £150 per annum.

HERTFORD COUNTY HOSPITAL.—Honorary Assistant Surgeon.

IRSWICK PARK.—Assistant Resident Medical Officer (female) at Heathfields Infirmary, Heathfield House, and St. John's Home for Children. Salary £250 per annum.

ISLAY: PARISH OF KILDULTON AND O.—Medical Officer and Public Vaccinator. Salary from Parish Council £100, and grant from Highlands and Islands (Medical Service) Fund £180.

LEICESTER ROYAL INFIRMARY.—(1) Honorary Physician. (2) Assistant Honorary Physician.

LEWISHAM BOROUGH COUNCIL.—Assistant Medical Officer and Maternity and Child Welfare Medical Officer. Salary £650 per annum, rising to £750.

LIVERPOOL: HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Assistant Medical Officer and Pathologist (non-resident). Salary £150 per annum.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE, Endleigh Gardens, W.C.—Research Studentship in Protozoology. Value £250 per annum.

LONDON UNIVERSITY.—University Chair of Pathology, tenable at the London (Royal Free Hospital) School of Medicine for Women. Salary £1,000 a year.

MANCHESTER AND Salford HOSPITAL FOR SKIN DISEASES.—House-Surgeon. Salary £100 per annum.

MIDDELBROUGH COUNTY BOROUGH.—Assistant to Medical Officer of Health (male, unmarried). Salary £450 per annum.

MIDDELBROUGH: NORTH RIDING INFIRMARY.—Senior and Junior Resident Surgeons (male). Salary at the rate of £200 and £150 per annum respectively.

MINISTRY OF HEALTH.—Medical Officer (male). Salary £600 per annum, rising to £1,100, and bonus, at present £175 7s.

PRESTON COUNTY BOROUGH.—Assistant School Medical Officer (male). Salary £600 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Resident Medical Officer. (2) Casualty Officer. Salary £200 and £100 per annum respectively.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—House-Physician (unmarried). Salary at the rate of £175 per annum.

ROYAL FREE HOSPITAL AND LONDON (R.F.H.) SCHOOL OF MEDICINE FOR WOMEN.—Anaesthetist for Obstetrical and Gynaecological Unit. Honorarium £100 per annum.

ROYAL NATIONAL ORTHOPEDIC HOSPITAL, 234, Great Portland Street, W.1.—(1) House-Surgeon. (2) House-Surgeon at Country Branch at Stanmore. Salary £150 per annum each.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Ophthalmic Surgeon.

ST. JOHN'S HOSPITAL, Lewisham, S.E.13.—Assistant Physician.

ST. THOMAS'S HOSPITAL.—Physician in charge of Out-patients.

SEVEN'S HOSPITAL SOCIETY.—Honorary Assistant Physician at the Hospital for Tropical Diseases, Endleigh Gardens, W.C.

SHEFFIELD COUNTY BOROUGH.—Lady Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

SOMERSET COUNTY COUNCIL.—County Assistant Medical Officer. Salary £600 per annum.

STOKE-ON-TRENT CITY.—Medical Officer of the Venereal Diseases Centre. Salary £850 per annum.

TURBO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary £170 per annum.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.—Radcliffe Crocker Travelling Scholarship in Dermatology. Approximate value £280.

WARWICK COUNTY MENTAL HOSPITAL, Hatton.—Assistant Medical Officer. Salary £300 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Honorary Obstetric Registrar.

WEST BIRING COUNTY COUNCIL.—School Oculist. Salary £600 per annum, rising to £700.

WILTS COUNTY COUNCIL.—School Dentist. Salary £500 per annum.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House-Surgeon. Salary £200 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Middleton-in-Teesdale, co. Durham, is vacant. Applications to the Chief Inspector of Factories, Home Office, London, S.W.1.

MEDICAL REFEREE UNDER THE WORKERS' COMPENSATION ACT, 1925, for the (a)rn). Application London, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

LEWIS, M. G., M.B., Ch.B.Ed., Honorary Anaesthetist to the Hull Royal Infirmary.

MASON, Malcolm, M.D.Glas., D.P.H.Camb., Medical Officer of Health and School Medical Officer, Wood Urban District, vice W. E. Porter, M.D.Ed., D.P.H.Camb., retired.

MARSHALL, C. M., M.B., Ch.B.New Zealand, Resident Medical Officer to the Freeman's Hospital.

REID, E. Neil, M.B., Ch.B.St.And., Assistant Deputy Medical Officer for Dumfriesshire.

## DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
*Section of Orthopaedics.*—*Tues.* 4.30 p.m., Cases.  
*Section of Pathology.*—Laboratory Meeting at the Bernhard Baron Institute of Pathology, London Hospital, E.1, *Tues.* 8.30 p.m., Demonstrations:—*H. E. Roaf:* Method for Testing Colour Vision; *S. P. Bedson:* Experimental Tetanus; *H. D. Ray:* Test for Renal Function; *E. D. Ray and R. L. Al:* Method; *A. B. Bratten:* Pathological Specimens; *R. H. Lauermau:* Preparation of Coflodon Membranes; *J. R. Marrack:* Osmotic Pressure of Serum Proteins in Nephritis; *P. Fildes:* Motility and Germination of *B. tetani*.  
*Section of Surgery.*—*Subsection of Proctology.*—*Wed.* 5.30 p.m., *Mr. F. J. McCann:* Operation for Prolapse of the Rectum in the Female; *Mr. Zachary Cope:* Treatment of Irreducible Sigmoido-rectal Intussusception in Old People; *Mr. W. B. Gabriel:* Five Cases of Small Gut Obstruction round Colostomies; *Dr. . . . . .* Demonstration of Sigmoido-scope Appearances of . . . . .  
*Sections of Ophthalmology.*—*Orig.* . . . . . Cases, 8.30 p.m., Special Discussion: Ocular Complications of Encephalitis Lethargica. To be opened by *Dr. James Collier* (Neurology) and *Mr. F. A. Williams-Noble* (Ophthalmology); followed by *Dr. A. Feiling*, *Dr. J. R. Perdrau*, *Mr. M. L. Hine*, *Mr. R. Foster Moore*, and *Dr. W. J. Adie*.  
*Clinical Section.*—*Fri.* 5 p.m., Cases.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND,** Lincoln's Inn.—*Mon.* 5 p.m., *Sir Percy Sargent:* Surgery of the Posterior Cranial Fossa, *Wed.* 5 p.m., *Mr. G. Grey Turner:* Treatment of Congenital Defects of the Bladder and Urethra by Implantation of the Ureters into the Bowel. *Fri.* 5 p.m., *Mr. J. H. Sheldon:* An Undescribed Disease of Bone.

**BIOCHEMICAL SOCIETY,** Lister Institute, Chelsea Bridge Road, S.W.—*Mon.* 6 p.m., (i) *H. Jephcott* and *A. L. Bacharach:* The Quantitative Estimation of Vitamin B; (ii) *A. L. Bacharach* and *E. Allehorner:* The Vitamin B Content of Malt Extract; (iii) *M. G. White* and *J. J. Williams:* The Alcohol Fermentation of Pentoses by *Fusarium lini*; (iv) *A. V. Hill:* Increased Anaerobic Metabolism in Muscle following Stimulation; (v) *D. Jordan Lloyd* and *W. B. Pleas:* The Effect of Nitrates on the Absorption of Water by Gelatin; (vi) *W. W. Kinnearley*, *R. A. Peters*, and *V. Reader:* Metabolic Constancy in the Pigeon; (vii) *R. T. Brain* and *H. D. Kay:* Phosphate Excretion; (viii) *R. P. Oook* and *B. Woolf:* The Deamination and Synthesis of L-Aspartic Acid in the Presence of Bacteria; (ix) *R. Robison* and *K. M. Soames:* Calcification *in vitro*.

**MEDICAL OFFICERS OF SCHOOLS ASSOCIATION,** 11, Chandos Street, W.1.—*Fri.* 5 p.m., *Dr. A. A. Mumford:* The School Medical Officer of the Future.  
**WEST KENT MEDICO-CHIRURGICAL SOCIETY,** Miller General Hospital, Greenwile Road, S.E.10.—*Fri.* 8.45 p.m., *Dr. R. Travers Smith:* The Origin and Diagnosis of Functional Cardiac Murmurs.

## POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Lecture,* Medical Society of London, 11, Chandos Street, W.1. *Mon.* 5 p.m., Secondary Forms of Mental Deficiency. *Paddington Green Children's Hospital,* W.2: *Fri.* 2 to 3 p.m., Clinical Demonstration. *St. Mark's Hospital,* City Road, E.C.: *Mon.* 2.30 p.m., Clinical Demonstration. *Royal Westminster Ophthalmic Hospital,* Charing Cross, W.C.: *Fri.* 5 p.m., Clinical Demonstration: Cataract. The above are free to medical practitioners. *Paddington Green Children's Hospital* and *Victoria Hospital for Children:* Combined Course in Diseases of Children. Mornings and afternoons, Lectures, Demonstrations, and Operations; fee £3 3s. for two weeks. *St. John's Hospital for Diseases of the Skin,* Leicester Square: Course in Dermatology every afternoon; Pathology Course arranged. *Bethlem Royal Hospital,* St. George's Fields, S.E.1: *Tues.* and *Sat.* mornings, Clinical Demonstration in Physiological Medicine. *National Hospital,* Queen Square, W.C.1: Course in Neurology every afternoon; Demonstrations; Lectures at certain times.**

**CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL,** Gray's Inn Road, W.C.1.—*Wed.* 4 p.m., Consultations and Demonstrations of Interesting Cases. *Fri.* 4 p.m., Early Mastoid Operations.

**EAST LONDON HOSPITAL FOR CHILDREN,** Shadwell, E.1.—*Thurs.* 4 p.m., Heart Problems in School Children.

**HOSPITAL FOR SICK CHILDREN,** Great Ormond Street, W.C.1.—*Thurs.* 4 p.m., Oystoscopy.

**LONDON SCHOOL OF DERMATOLOGY,** St. John's Hospital, Leicester Square, W.O.2.—*Tues.* 5 p.m., Lichen Planus. *Thurs.* 5 p.m., Lupus Erythematosus.

**NATIONAL HOSPITAL,** Queen Square, W.O.1.—*Mon.* *Tues.* *Thurs.* and *Fri.* 2 p.m., Out-patient Clinics. *Tues.* and *Fri.* 9 a.m., Operations: 5 p.m., Methods of Examination of the Nervous System. *Mon.* 3.30 p.m., Papilledema. *Tues.* 3.30 p.m., Diagnosis of Spinal Tumours. *Thurs.* 3.30 p.m., Neuro-syphilis. *Fri.* 3.30 p.m., Demonstration of Re-educative Methods.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE,** Prince of Wales's General Hospital, Tottenham, N.15.—*Mon.* 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. *Tues.* 2 p.m., Special Demonstration of Ear, Nose, and Throat Cases; 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. *Wed.* 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. *Thurs.* 11.30 a.m., Dental Clinics, Special Demonstration of Medical Cases; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. *Fri.* 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

**ROYAL INSTITUTE OF PUBLIC HEALTH,** 37, Russell Square, W.O.1.—*Wed.* 4.30 p.m., Some Problems of Forensic Psychiatry.

**ROYAL NORTHERN HOSPITAL,** Holloway Road, N.—*Tues.* 3.15 p.m., Lichen Planus.

**ST. PAUL'S HOSPITAL,** Endell Street, W.O.2.—*Wed.* 4.30 p.m., The Enlarged Prostate.

**SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION.—*Wed.* 3.30 p.m., Visit to Wellcome Historical Medical Museum, 54, Wigmor Street, W.1.**

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE,** Hammersmith, W.6.—*Mon.* 10 a.m. to 1 p.m., Genito-urinary Operations.

*Wards:* 2 p.m., Surgical Wards, Gynaecology. *Tues.* 10 a.m. to 1 p.m., Medical Ward Visit. *Diseases:* 2 p.m., Medical Wards, Throat, & . . . . .

*Wed.* 10 a.m. to 1 p.m., Children's Med Wards, Demonstration in Medical Pathology. . . . .

*Eyo Department.* *Thurs.* 10 a.m. to . . . . .

Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. *Fri.* 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Ear, Nose and Throat Hospital; *Wed.* 4.15 p.m., Cases.**

**MANCHESTER: ST. MARY'S HOSPITALS** (WHITWORTH STREET WEST BRANCH).—*Fri.* 4.30 p.m., Obstetric Operations.

**SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At the Royal Infirmary; *Fri.* 3.30 p.m., Clinical Cases.**

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Telegraph Building, 1, Abchurch Lane, London).

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SCOTTISH MEDICAL SOCIETY, 6 Drumshigh Gardens, Edinburgh. (Telephone: 24361 Edinburgh).

IRISH MEDICAL SOCIETY, 737 Dublin. (Telephone: 737 Dublin).

## Diary of the Association.

- 3 *Fri.* London: Ultra-V . . . . . 3.30 p.m.  
 Cambridge and . . . . . enbrooke's Hospital.  
 Dr. S. Fraser . . . . . and the Medical  
 Profession of the Eighteenth Century, 2.30 p.m.  
 Dewsbury Division: Dewsbury Infirmary. Dr. G. Cooper on  
 Radiotherapy, 8.15 p.m.  
 6 *Mon.* London: Library Subcommittee, 2.30 p.m.  
 7 *Tues.* Cambervell Division: Bernondsey and Rotherhithe Hospital.  
 Mr. A. E. Webb-Johnson on flacciduria, 9 p.m.  
 City Division: Metropolitan Hospital, Kingsland Road, E.  
 Dr. H. O. Semon will discuss Diagnostic Pitfalls in  
 Dermatology, 9.30 p.m.  
 Coventry Division: Coventry and Warwickshire Hospital. Dr.  
 Brallford on Cholecystography.  
 Finchley Division: Finchley Memorial Hospital. Dr. F. M. R.  
 Walsho on Faith Healing, 8.45 p.m.  
 8 *Wed.* Council, 10 a.m.  
 Crocydon Division: Crocydon General Hospital. Dr. W. H.  
 Jewell on Malignant Disease of the Antrum, 4 p.m.  
 Nuneston and Tamworth Division: Nuneston General Hospital.  
 Mr. C. A. Raison on Surgical Conditions of the Biliary Tract.  
 9 *Thurs.* Brighton Division: Conjoint Meeting, Royal York Hotel, Old  
 Steine, 8.30 p.m.  
 File Branch: Clinical Meeting, Maternity Home, Townsilk  
 Crescent, Kirekady. Major Anderson, F.R.C.V.S., on Milk  
 Production, 3.30 p.m.  
 Hampstead Division: Hampstead General Hospital. Dr. S.  
 Monckton Copeman will discuss Inoperable Cancer, 8.30 p.m.  
 Portsmouth Division: Queen's Hotel, Southsea. B.M.A. Lecture  
 by Professor Hugh Maclean on Renal Disease and High Blood  
 Pressure, 9.30 p.m., preceded by Supper.  
 Wakefield, Pontefract, and Castleford Division: Great Bull  
 Restaurant, Westgate, Wakefield. Mr. A. Gough on Menstrual  
 Diseases and the Menopause. Supper preceding lecture,  
 7.45 p.m.  
 10 *Fri.* London: Conference of Representatives of Medical Schools with  
 Science Committee, 2 p.m.  
 Ayrshire Division: County Hospital, Ayr. Dr. J. A. Wilson on  
 Pulmonary Tuberculosis of the Young Adult, 4 p.m.  
 Chesterfield Division: Maternity Hospital, Chesterfield.  
 Professor A. J. Hall on the Use of Soma Everyday Drugs,  
 8.15 p.m.  
 14 *Tues.* St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1.  
 Dr. Alfred Cox on the Family Doctor on His Trial, 9 p.m.  
 15 *Wed.* Brighton Division: Clinical Meeting, Sussex Eye Hospital,  
 Queen's Road, Brighton, 3.45 p.m.  
 16 *Thurs.* Jersey Division: General Hospital. Mr. A. S. Ferguson on  
 Focal Infections of the Head, 8.30 p.m.  
 17 *Fri.* East York Division: Dr. Ritchie Rodger on Foreign Bodies  
 in the Air Passages.  
 Leeds Division: General Infirmary, Leeds. B.M.A. Lecture by  
 Dr. John Parkinson on Common Difficulties in Cardiac  
 Diagnosis, 8 p.m.  
 18 *Sat.* Brighton Division: Supper, Royal Albion Hotel, Brighton.  
 Mr. J. H. Rothwell on the Municipality and the Medical  
 Profession, 8 p.m.  
 21 *Tues.* London: Medical Students and Newly Qualified Practitioners  
 Subcommittee, 2.30 p.m.  
 23 *Tues.* London: Committee on Causation of Puerperal Morbidity and  
 Mortality, 2.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## MARRIAGES.

**CAMPBELL-STANSFIELD.**—On January 25th, at the Parish Church, East Hoochby, by the Rector, the Rev. J. F. Groves, M.A., Angus Henry Campbell, M.B., Ch.B.Ed., B.Sc., D.P.H., only son of the late Alexander Campbell and of Mrs. W. M. Campbell of Edinburgh, to Helen Lucy, younger daughter of Mr. and Mrs. J. E. Stansfield of Caburn, Halland, Sussex.

**FINLAYSON-LAWSON.**—On January 25th, 1928, at the Cathedral, Calcutta, John Taylor Finlayson, eldest son of the late J. H. Finlayson and of Mrs. E. Finlayson of Ringwood, Surrey, to Miriam Lawson, M.R.C.S., L.R.C.P., only daughter of the late Dr. H. A. Lawson and of Mrs. E. Lawson of Celot, Epping.

## DEATH.

**HOWELL.**—On January 15th, 1928, at St. Bartholomew's Hospital, London, Trevor Howell, M.O., F.R.C.S.Ed., aged 50 years.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 11th, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### London Clinic for Rheumatic Diseases.

On seeing the report of the inaugural meeting of this clinic,<sup>1</sup> the Medical Secretary of the British Medical Association wrote to Sir Arthur Stanley, chairman of the executive committee of the British Red Cross Society, asking what is to be the method of access of the public to the clinic. The Medical Secretary asked whether the clinic is to be open to anyone who likes to go and pay a fee for treatment or is it intended only for patients who are sent with a medical recommendation; and he pointed out that unless the cases are sifted beforehand the clinic may easily be flooded with all kinds of unsuitable patients; and, moreover, the medical profession would regard with grave suspicion any medical institution which opened its doors to all and sundry who might think it worth their while to try a course of treatment. Sir Arthur Stanley has replied saying that the point is an important one, and that the procedure to be adopted has been referred by the clinic committee to the medical subcommittee for consideration. He adds that the Association may rest assured that the recommendations of the subcommittee will be satisfactory to it.

##### Committee Work of the Week.

The Committee on Puerperal Morbidity and Mortality met on January 31st and discussed the suggestions put forward at the recent conference, a full report of which appeared in last week's SUPPLEMENT. On February 3rd the special subcommittee appointed by the Science Committee to consider the effect of the growing propaganda for the general use of ultra-violet light and the indiscriminate supply of apparatus for the purpose to the lay public met, and after reviewing the existing position in this respect formulated detailed recommendations for the consideration of the Science Committee at its next meeting. The special Lunacy Committee also met during the week.

##### Annual Session of American Medical Association.

The annual session of the American Medical Association is to be held in Minneapolis, Minnesota, from June 11th to 15th, 1928. The Medical Secretary would be very glad to be informed at the earliest possible moment of any member of the British Medical Association who is proposing to attend the meeting at Minneapolis.

##### Medical Appointments Abroad.

The head office of the British Medical Association has a good deal of information placed at its disposal by its Branches overseas, which may be very useful to those proposing to accept medical appointments abroad. Practitioners are cordially invited to apply to the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, for any information that may be available regarding overseas appointments in which they may be interested.

### Meetings of Branches and Divisions.

#### JAMAICA BRANCH.

The monthly meeting of the Jamaica Branch was held in Port Maria Public Hospital on January 19th, when Dr. LECESNE read a paper on eclampsia. He also presented three cases of ectopic gestation for discussion.

The St. Mary members entertained the Branch to lunch at the Palm Beach Hotel, and the afternoon was spent at the Robin's Bay golf house.

#### OXFORD AND READING BRANCH: OXFORD DIVISION.

The first meeting of the year of the Oxford Division was held in the Radcliffe Infirmary on January 25th, when Dr. MONTGOMERY was in the chair and forty members were present.

Mr. H. WHITELOCKE read notes of a case of prolapse of bowel through a persistent umbilical fistula, through which faeces had passed regularly three or four times daily since birth. When the infant was four weeks old about eight inches of intussuscepted bowel protruded through the opening, and was reduced by operation. The convalescence was complicated by pneumonia, but four weeks after the operation the wound was well healed and the child was putting on weight.

Dr. R. WARREN TAYLOR reported the case of a child, aged 11, who was first seen in May, 1924. The patient then had what seemed to be an ordinary attack of chorea, with marked and universal movements of all her limbs, and was at that time suffering badly from want of sleep, a symptom very difficult to relieve. Treatment was given on ordinary lines. The condition continued for some nine weeks, when a gradual improvement set in. The child was sent away to the seaside, where she appeared to be normal in health. At the end of August, however, in the same year, she returned home, and had then a marked Parkinsonism, with a very emotional nature. This condition became steadily worse, and she passed into a condition of spastic rigidity, with very marked tremor. The original diagnosis of chorea, although entirely incorrect, was at first supported by a history of "growing pains." There was never any definite cardiac lesion or any symptoms pointing to a rheumatic infection. Dr. Taylor added that it was difficult to see how the diagnostic error could have been avoided, even though the subsequent course of the illness proved it to be a clear case of encephalitis lethargica.

Dr. R. W. CRUICKSHANK and Dr. W. T. COLLIER showed two cases of cow-pox. The first, a boy aged 15, had complained of distinct illness on January 15th—namely, headache and general lassitude: he seemed to be feverish and perspired a good deal. He remained in bed for the next two days, and an inflamed spot appeared on his right index finger. He had a crack in the skin behind the lobe of the right ear due to frost and cold. On January 18th there was much swelling and thickening around this crack, and a crusted scab was found around this. The glands under the angle of the jaw were enlarged and tender, so also were the axillary glands. On January 22nd the finger showed a bluish-black scab and the tissues immediately round this were ulcerating; a thinish discharge of purulent appearance was oozing from under the scab. The ear lesion showed much the same condition. There was also a spot on the left wrist—first a papule, then a vesicle, and lastly a dark umbilicated scab.

On January 14th a man, aged 22, complained of "sore throat" and enlarged submental and maxillary glands; he looked flushed and ill, and the throat and tonsils were slightly congested. The temperature was 101° F. On the inside of the left nostril, at the junction of the skin and mucous membrane, there was a papular swelling which, on January 16th, showed a black crust; a purulent foul-smelling discharge oozed later from under this. Both the patients were employed at the same farm and were looking after and milking cows which had been suffering from some eruption and sore places on their teats. Dr. Cruickshank added that it was interesting to note that the first patient had not been vaccinated in infancy and that the second one had only been vaccinated as an infant. In the unvaccinated lad the infection was multiple, and in the one vaccinated in infancy infection was single.

Dr. IZOP BENNETT read a very interesting paper on recent advances in pernicious anaemia. An unusually large number of

<sup>1</sup> BRITISH MEDICAL JOURNAL, January 28th, p. 152.

members took part in the discussion which followed. A vote of thanks to Dr. Izod Beckett, proposed by Dr. Collier, sen., and seconded by Dr. Gimson, was enthusiastically carried.

## Association Notices.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.**—At the meeting of the East York Division to be held on Friday, February 17th, Dr. Ritchie Rodger will read a paper on foreign bodies in the air passages, etc.

**EDINBURGH BRANCH.**—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Wednesday, February 29th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. W. A. Cochran, 24, Walker Street. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30 p.m. Those who have patients, specimens, etc., to show are requested to communicate with Mr. W. A. Cochran by February 18th. At 7.15 p.m. dinner will be held in the North British Station Hotel; morning dress. Diuner ticket, 10s. Ladies will be welcomed. Members are asked to notify the honorary secretaries by February 25th whether they intend to be present, and whether they will be accompanied by ladies or other guests.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at the County Laboratory, Hamilton, on Wednesday, February 22nd, at 5.30 p.m. Dr. James L. Brownlie will read a paper on the bacteriological laboratory and the practitioner.

**KENT BRANCH: ISLE OF THANET DIVISION.**—A meeting of the Isle of Thanet Division will be held at the Queen's Highcliffe Hotel, Margate, on Thursday, February 16th, at 8.30 p.m., when Dr. Raven will be in the chair. Agenda: Medical charities; the British Medical Association collective investigation on after-results of gastro-enterostomies, also treatment of varicose ulcers; paper by Dr. F. E. Nichol entitled "De Omnibus."

**LANCASHIRE AND CHESHIRE BRANCH.**—A science meeting of the Lancashire and Cheshire Branch will be held at the Salford Royal Hospital on Thursday, February 23rd, at 3 p.m. The following short papers will be read:—(1) Mr. Garnett Wright: Volvulus of the sigmoid; (2) Mr. R. Ollerenshaw: Fractures in the region of the elbow joint; (3) Dr. G. J. Langley: Some problems of glycosuria; (4) Mr. J. B. Macalpine and Mr. E. D'A. McCrea: Stricture of the urethra. After tea there will be an exhibition of cases, a display of exhibits from the pathological laboratory, and a demonstration by Dr. R. Gibson on the treatment of varicose veins by injection.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held on Friday, March 30th, when Dr. E. P. Cumberbatch will deliver a British Medical Association Lecture on the use of ultra-violet rays in general as well as in skin disease. It is hoped that there will be a large attendance of members.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held at the Great Western Hotel, Paddington (opposite Praed Street Station), on Wednesday, February 15th, at 8.45 p.m. Agenda: An address by Dr. A. Remington Hohbs (medical superintendent of St. Mary Abbott's Hospital and consulting gynaecologist to the Royal Borough of Kensington) entitled "Puerperal sepsis." Dr. Robert Donaldson and Mr. John Ellison will open the subsequent discussion, the former from the pathological and the latter from the surgical point of view. Light refreshments can be obtained at moderate charges during the meeting; smoking. Members who intend to enter for the Treasurer's Cup golf competition are asked to notify the honorary secretary as soon as possible, as the drawing for opponents must take place soon.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Cufford, on Tuesday, February 21st, at 8.45 p.m. Dr. J. Stanley White will read a paper on some recent aspects of biological therapy, illustrated by lantern slides and a film, "How biological products are made." Dr. Jane Hawthorne having had to leave for the Continent the address on March 20th to the Division at the Town Hall, Cufford, will be on the general practitioner and the prevention of venereal disease, by Mr. Wansey Bayly.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 14th, at 9 p.m. Dr. Alfred Cox, Medical Secretary of the British Medical Association, will give an address entitled "The family doctor on his trial."

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, N.W.10, on Wednesday, February 15th, at 9 p.m. Dr. McKinstry, pathologist to the hospital, will give a practical demonstration on the examination of cerebro-spinal fluids. Entries for the Treasurer's Cup golf competition should be sent to Dr. G. F. Buchan, 54, Winchester Avenue, N.W.6, not later than February 29th.

**MIDLAND BRANCH: LINCOLN DIVISION.**—A joint meeting of the Lincoln Division with the Lincoln Medical Society will be held at the Lincoln County Hospital (massage department) on Thursday, February 16th, at 4 p.m. Sir Richard H. Luce, M.P. for the borough of Derby, lately surgeon to the Derby Royal Infirmary, will deliver an address entitled "The future of hospital service."

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The first clinical meeting of the Branch will be held at Gray's Hospital, Elgin, on Thursday, February 16th, at 3.30 p.m., when Dr. Shiach, L.D.S., will read a paper on oral sepsis. After the paper, tea will be served and will be followed by a demonstration of cases by members of the Banff, Moray, and Nairn Division. Two other clinical meetings will be held this winter: (1) at the Northern Infirmary, Inverness, on March 15th; (2) at the District Asylum, Inverness, on April 12th.

**NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.**—A meeting of the Newcastle-upon-Tyne Division will be held at 7, Windsor Terrace, on Tuesday, February 14th, at 8.30 p.m. Agenda: Consider letter from the Central Ethical Committee; election of representatives and deputy representatives; reports of (a) Subcommittee re Public Education in Health, (b) Medical Charities Subcommittee, (c) Reception and Dance Subcommittee.

**NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.**—A meeting of the North Northumberland Division will be held in the Infirmary, Alnwick, on Tuesday, February 14th, at 2.45 p.m. Agenda: Annual report; election of representatives. At the close of the meeting an address will be given by Dr. Nottrass entitled "Clinical forms of nervous syphilis." Tea will be provided.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, February 15th, at 8.15 p.m., when Dr. Alfred Parkin will give a lecture entitled "The medico-legal aspect of the Workmen's Compensation Act."

**OXFORD AND READING BRANCH: WINDSOR DIVISION.**—A joint meeting of the teaching and medical professions and of others interested in education will be held at the Town Hall, Windsor, on Friday, February 17th, at 5.15 p.m. A discussion will be opened by Dr. A. W. Sikes, divisional medical officer, London County Council, on the school child of yesterday and to-day. Dr. John Goff (Windlesham) will be in the chair, and the following have promised to speak: Miss Agate (head mistress, girls' council school, Egham), Mr. E. A. Bell (head master, council school, Maidenhead), and Dr. J. J. Paterson (M.O.H., Maidenhead). All doctors, whether members or not of the British Medical Association, and all teachers, school managers, and other educationists are invited to the meeting.

**SHROPSHIRE AND MID-WALES BRANCH.**—A clinical meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary on Tuesday, February 14th, at 3.45 p.m., when Dr. Stanley Barnes, physician to the Birmingham General Hospital, will deliver an address, illustrated by lantern slides, upon the simulation by functional disorder of organic disease of the nervous system. Tea will be provided by kind invitation of Dr. Urwick, chairman of the Clinical and Pathological Section.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, February 16th, at 8.30 p.m. Mr. A. S. Ferguson will read a paper on focal infections of the head.

**SURREY BRANCH: REIGATE DIVISION.**—A Divisional meeting will be held at the East Surrey Hospital on Tuesday, February 14th, at 8.45 p.m. Agenda: Election of representative; paper by Mr. Clifford White: Abdominal pain in women, with special regard to pregnancy.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—The next clinical meeting of the Brighton Division will be held at the Sussex Eye Hospital, Queen's Road, Brighton, on Wednesday, February 15th, at 3.45 p.m. The Brighton Division supper will be held on Saturday, February 18th, at 8 p.m., at the Royal Albion Hotel, Brighton. Mr. J. H. Rothwell, C.B.E., town clerk of Brighton, will be the guest of the evening, and will give an address on the relationship of the municipality to the medical profession. Members are invited to municipality to the medical profession. Members are invited to bring guests, medical or otherwise; ladies are especially invited. Price of tickets 5s. (exclusive of wines); morning dress. Applications for tickets, accompanied by remittance, should be made to Dr. St. George B. Delisle Gray, 20, Norton Road, Hove.

**YORKSHIRE BRANCH: LEEDS DIVISION.**—A meeting of the Leeds Division will be held in the General Infirmary, Leeds, on Friday, February 17th, at 8 p.m. Dr. John Parkinson will give a British Medical Association Lecture on common difficulties in cardiac diagnosis. Lantern slides will be shown, and there will be a discussion after the lecture.

## National Insurance.

### LONDON INSURANCE COMMITTEE.

#### Disciplinary Action.

THE meeting of the London Insurance Committee, held on January 26th, was chiefly remarkable for the number of complaints formulated against chemists for faulty dispensing. In sixteen out of about twenty cases the chemists were either censured or cautioned, and in three of the cases it was decided, in addition to censure, to report the facts to the Ministry of Health. Two practitioners who had been found guilty of a breach of the terms of service in accepting a fee for treatment of an insured person were censured, and it was decided to report the facts to the Ministry. A communication was received from the Ministry relating to two practitioners who had failed to keep proper records. It was stated that as the practitioners in this possibly not appreciated the full extent of their duties in this respect, the Minister had decided on this occasion not to withhold any part of the moneys payable in respect of medical benefit, but he warned the practitioners that their record cards would be inspected again in the course of the next twelve months, and if they were then found not to have been kept in



accordance with the instructions, the Minister would have no alternative but to withhold a sum which, if the defects were serious, might be substantial. The Minister pointed out that the practitioners were not dealing fairly with their colleagues, who might afterwards have to treat these same cases, if they failed to fulfil their obligation to furnish a continuous medical history.

#### The Final Certificate.

Mr. H. MILLS, chairman of the Medical Service Subcommittee, said that in cases which had come before the subcommittee complaints had been made against practitioners because the insured person had not been able to get a second opinion when his practitioner had—improperly, as the insured person thought—insisted on giving a final certificate. One insured person asked leave to go to the regional medical officer, but that was refused by his society, which held that the regional medical officer was brought into existence to protect the society against its members. There was a difference of opinion as to whether the society was justified in that attitude. It was suggested that if some method could be found whereby the insured person would know what was his proper course under such circumstances it would simplify the work of the Medical Service Subcommittee. In a brief discussion some astonishment was expressed that any society should refuse its members permission to go to the regional medical officer, because the alternative, as to which the society had no option, was the clumsy procedure of arbitration. It was agreed that the chairman and another member should seek an interview with the officials of the society which had withheld consent and endeavour to discover some compromise.

#### Change of Doctor.

The total number of notifications by insured persons of their desire to change doctors in the same district received in London during the last three months of 1927 was 5,834. The greatest number on any one day was 107 on November 3rd. The number of irregular transfer acceptances sent in by practitioners and rejected during the same three months was 2,198.

#### LONDON PANEL COMMITTEE.

At a meeting of the London Panel Committee on January 24th, Dr. H. J. CARDALE presiding, Dr. W. L. Templeton was appointed a member to fill a vacancy in the representation of Islington.

#### Alleged Canvassing for Patients.

The case of a practitioner who, it was alleged, had contravened the warning notice in regard to canvassing for patients came again before the committee. At its last meeting the committee decided to report the case to the registrar of the General Medical Council. A letter was now read from the registrar asking whether, in the event of an inquiry, the committee would be prepared to lay the facts before the Council at the hearing. After discussion, the committee decided that its funds did not permit it to appear before the Council in the role of prosecutor, and that it would be the more proper course to refer the matter to the Medical Service Subcommittee of the London Insurance Committee to be dealt with as a complaint, and then it would be for the Insurance Committee to decide whether the case should go forward to the General Medical Council. It was agreed that this should be done.

#### Proprietary Preparations.

On the question coming forward as to whether certain proprietary preparations should be allowed at the cost of the Drug Fund, a member complained that there did not seem to be any intelligent system whereby any proprietary article was admitted and another refused. The CHAIRMAN replied that primarily every practitioner must be a law unto himself in this matter. There was no fixed list published, but from time to time the question of certain preparations came before the Panel Committee, on the request of the Insurance Committee, as to whether it was considered that they should be paid for out of the Drug Fund. A number of opinions by the Panel Committee were now on record; but the whole question was one of common sense. If a practitioner thought that a certain preparation suited his patient better than a preparation in the *Pharmacopoeia*, it would be comparatively easy for him to justify it before the authorities. A practitioner had only to say that in his experience he had found the proprietary article do his patients more good than the usual prescription, and his point of view would almost certainly be accepted without further question. The London Insurance Committee was going to notify practitioners of all preparations definitely turned down.

#### Public Medical Service.

At a meeting of the committee of the London Public Medical Service, which followed the meeting of the Panel Committee, it was announced that the number of subscribers was now 8,434.

## Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander D. H. O. Given to the *Victory* for R.N. Barracks, Portsmouth.  
Surgeon Lieutenant T. G. B. Crawford to the *Concord* on completing.

#### ROYAL ARMY MEDICAL CORPS.

Major F. B. Dalgleish retires on retired pay and is granted the rank of Lieutenant-Colonel.  
Major C. M. Rigby retires on retired pay.  
Captain T. C. Bewle to be Major.  
The following Captains to be temporary Captains and temporarily relinquish the rank of Captain: B. D. Merrin and J. B. Woodrow.  
Temporary Lieutenant I. MacV. Bourke relinquishes his commission.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants J. J. Clarke and B. Pollard are transferred to the Reserve Class DII.  
Flying Officer N. 1. Smith to be Flight Lieutenant.  
Flying Officers V. V. Brown to No. 5 Flying Training School, Sealand; M. Clancy to No. 1 Flying Training School, Netheravon; F. E. Lipscomb and O. P. O'Toole to R.A.F. Depot, Uxbridge; S. B. S. Smith to Electrical and Wireless School, Flowerdown; G. H. Williams to Aeroplane and Armament Experimental Establishment, Martlesham Heath; D. A. Wilson to Headquarters, Air Defence of Great Britain, Uxbridge.

#### RESERVE OF AIR FORCE OFFICERS—MEDICAL BRANCH.

Flight Lieutenant G. R. Nodwell is transferred from Class DI to DII.

#### VACANCIES.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—(1) Second House-Surgeon. (2) Third House-Surgeon. (Non-resident.) Salary at the rate of £153 per annum each.  
BIRMINGHAM: QUEEN'S HOSPITAL.—Medical Registrar. Honorarium £100 per annum.  
BIRMINGHAM UNION.—Technical Laboratory Assistant at Selly Oak Hospital (male). Salary £4 per week, rising to £5.  
BLACKBURN COUNTY BOROUGH.—Medical Officer of Health and School Medical Officer. Salary £1,000 per annum.  
BOOTH BOROUGH HOSPITAL.—(1) Senior Medical Officer. (2) Two Junior Medical Officers. Males. Salary £150 and £125 respectively.  
BRISTOL GENERAL HOSPITAL.—House-Physician. Resident. Obstetric Officer, House-Physician and Department. Casualty House-Surgeon. Salary, each, rising to £100 if reappointed.  
BRISTOL ROYAL INFIRMARY.—(1) Two House-Physicians. (2) Four House-Surgeons. (3) House-Surgeon to Ear, Throat, and Nose Department. (4) House-Surgeon to Gynaecological, Ophthalmic, and Dermatological Departments. (5) Obstetric House-Physician. (6) Casualty House-Surgeon. (7) Assistant House-Surgeon and House-Surgeon to Ophthalmic Department. (8) Dental House-Surgeon. Salary (1) to (7) at the rate of £80 per annum, but if candidate had previously held resident appointment in Infirmary £100, and for (8) £80 per annum if resident, and £116 if non-resident.  
BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician (male). Salary £150 per annum, rising to £175 after three months.  
CANTERBURY: KENT AND CANTERBURY HOSPITAL.—(1) Honorary Assistant Physician. (2) Two Honorary Assistant Surgeons.  
CHILDREN'S MEDICAL HOME, Waddon, Croydon.—Medical Officer (V.D.). Salary £150 per annum.  
CHURCH MISSIONARY SOCIETY.—Medical Officer for Church Missionary Society Hospital, Omdurman.  
CROYDON COUNTY BOROUGH.—Deputy Medical Officer of Health and Deputy School Medical Officer. Salary £780 per annum.  
CYRUS.—District Medical Officer. Salary £600 per annum.  
DERBYSHIRE COUNTY COUNCIL.—Woman Medical Officer. Salary £600 per annum, rising to £750.  
DEWSBURY AND DISTRICT GENERAL HOSPITAL.—House-Surgeon (male). Salary £200 per annum.  
EDINBURGH: ELISIE INGLIS MEMORIAL MATERNITY HOSPITAL.—Two House-Surgeons (females).  
EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) House-Surgeon. (2) House-Physician. (3) Junior House-Surgeon (non-resident); remuneration at the rate of £25 per annum. Females.  
EDINBURGH ROYAL INFIRMARY.—Senior Clinical Assistant and Clinical Tutor in the Ophthalmic Department. Emoluments £145 per annum.  
GUILDFORD UNION.—Resident Male Assistant Medical Officer at the Institution. Salary at the rate of £150 per annum.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Assistant Pathologist and Research Fellow. Salary £450 per annum.  
LIFORD EMERGENCY HOSPITAL.—Senior and Junior House-Surgeons (male, unmarried). Salary £110 and £90 per annum respectively.  
IPSWICH PARISH.—Assistant Resident Medical Officer (female) at Heathfields Infirmary, Heathfield House, and St. John's Home for Children. Salary £250 per annum.  
KEESINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL, S.W.10.—Senior and Junior Resident Medical Officers. Salary at the rate of £125 and £100 per annum respectively.  
LEICESTER ROYAL INFIRMARY.—Two House-Physicians. Salary at the rate of £125 per annum.  
LIVERPOOL AND DISTRICT HOSPITAL FOR DISEASES OF THE HEART.—House-Physician.  
LONDON UNIVERSITY.—University Chair of Biochemistry tenable at the London School of Hygiene and Tropical Medicine. Salary £1,300 a year and allowance of £200.  
MANCHESTER AND Salford HOSPITAL FOR SKIN DISEASES.—House-Surgeon. Salary £100 per annum.  
MINNLESBROUGH: NORTH RIDING INFIRMARY.—Senior and Junior Resident Surgeons (males). Salary £200 and £150 per annum respectively.  
MILBURN MISSION HOSPITAL, Austin Street, E.2.—Junior Resident Medical Officer (male). Salary £100 per annum.  
MINISTRY OF HEALTH.—Medical Officer (male). Salary £600 per annum, rising to £1,100 and bonus, at present £175 7s.  
QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Resident Medical Officer. (2) Casualty Officer. (3) Two House-Physicians. Salary for (1) £200 and for (2) and (3) £100 per annum.  
RICHMOND, SURREY: ROYAL HOSPITAL.—Junior Assistant House-Surgeon (male). Salary at the rate of £100 per annum, rising to £150 on appointment as Senior.  
ROCHFORD UNION.—District Medical Officer and Public Vaccinator of the Southend-on-Sea (West) District. Salary £120 per annum and usual medical and vaccination fees.  
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Member of Court of Examiners.  
ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—(1) House-Surgeon. (2) House-Surgeon at Country Branch at Stanmore. Salary £150 per annum each.  
ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—(1) Ophthalmic Surgeon. (2) House-Surgeon; salary at the rate of £70 per annum.  
ST. GEORGE'S HOSPITAL, S.W.1.—Assistant Radiologist. Remuneration at the rate of £110 per annum.  
ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester Square, W.C.—Honorary Medical Registrar.  
ST. THOMAS'S HOSPITAL.—Physician in charge of Out-patients.



STOCKPORT INFIRMARY.—Resident Surgical Officer. Salary £250 per annum.  
 STONE AND WOLSTANTON UNION.—Assistant Medical Officer at the London Road Institution. Salary £250 per annum.  
 STROKE-ON-TRENT CITY.—Medical Officer of the Venereal Diseases Centre. Salary £850 per annum.  
 TETRO: ROYAL CORNWALL INFIRMARY.—Honorary Assistant Surgeon.  
 WARWICK COUNTY MENTAL HOSPITAL, Hatton.—Assistant Medical Officer. Salary £300 per annum.  
 WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Honorary Obstetric Registrar.  
 WEST NORFOLK AND KING'S LYNN HOSPITAL.—(1) Resident Surgical Officer. (2) Assistant House-Surgeon. Salary £400 and £100 per annum respectively.  
 YORK MATERNITY HOSPITAL.—House-Surgeon (female). Salary at the rate of £350 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Aberystwyth (Cardiganshire), Rothesay (Buteshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

EDDISON, Herbert W., M.B., B.Ch., D.P.M.Camb., Medical Superintendent of Wonford House Mental Hospital, Exeter, vice W. B. Morton, M.D.Lond., deceased.  
 GREGG, R. Ashleigh, M.D., D.P.H., County Medical Officer of Health to the East Sussex County Council.  
 JONES, Archibald M., M.D., F.R.C.S.Ed., Honorary Surgeon to the Ear, Nose, and Throat Department of Cardiff Royal Infirmary.  
 MARLEY, J., M.R.C.S., L.R.C.P.Lond., Certifying Factory Surgeon for the Hoveyale District, county of Chester.  
 ROBINSON, J. S., M.B., B.Ch.Dub., F.R.C.S.Ed., Consulting Surgeon to the Tewkesbury Hospital.  
 ROXBURGH, A. O., M.D.Cantab., M.R.O.P.Lond., Physician in charge of Skin Department, St. Bartholomew's Hospital.

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
 For Section.—Mon., 5 p.m., Surgeon Commander S. F. Dudley, R.N.: Somo Asper.  
 Section of P.—at the Maudsley Hospital, Denmark Hill.  
 Prognosis of Acute Schizophrenia; preceded by display of series of cases.  
 Social Evening.—Wed., 8.30 p.m., Reception by the President and Lady Berry. 9.15 p.m., Address by Lieut.-Colonel W. P. MacArthur, R.A.M.C.: Some Medical References in Papyrus (with illustrations).  
 Section of Dermatology.—Thurs., 4 p.m., Cases.  
 Section of Obstetrics.—Fri., 8 p.m., Dr. Bethel Solomons: Two Uteri removed for Puerperal Sepsis. Mr. J. Ellison: Two Extreme Cases of Multiple Myomata in Sisters of under 25 years; Mr. Frederick Roques: Encephali.  
 Section of Irradiation h.—Cinematograph Demonstration including the Action of

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.2.—Mon., 5 p.m., Dr. Adolphe Abraham: Physiology of Violent Exercise in relation to the Possibility of Strain. Wed., 5 p.m., Mr. A. Fleming: Lysosyme. Fri., 5 p.m., Dr. Ida C. Mann: Regional Differentiation of the Vertebrate Retina.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Thurs., 8.15 p.m., Dr. A. R. Paterson, Deputy Director of Sanitary Service, Kenya: The Provision of Medical and Sanitary Services among Rural Populations in Tropical Africa; preceded at 7.45 p.m. by a demonstration.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: The Use and Abuse of Ultra-violet Light Therapy. To be introduced by Professor Leonard Hill, Dr. O'Donovan, and Dr. C. B. Heald.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Lecture at Medical Society of London, 11, Chandos Street, W.1, Mon., 5 p.m., Hysterical Breasts. West End Hospital for Nervous Diseases, Welbeck Street, W.1: Clinical Demonstrations, Mon., 5 p.m. St. Peter's Hospital, Henrietta Street, W.C.2: Clinical Demonstrations, Fri., 5 p.m. Royal Westminster Ophthalmic Hospital, Charing Cross, W.C.2: Lecture Demonstration: The Clinical Application of Perimetry, Fri., 5 p.m. The above are open to all members of the medical profession without fee. St. John's Hospital, Leicester Square, W.C.2: Course in Dermatology every afternoon. Pathology Course arranged. National Hospital, Queen Square, W.C.1: Course in Neurology every afternoon; Demonstrations. Lectures at certain times.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Dysphagia—Pain in Swallowing.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Thurs., 4 p.m., Acute Abdominal Emergencies.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Modern Methods of Control cases.

LONDON SCHOOL OF DERM.—Leicester Square, W.C.2.—Tues., 5 p.m., Pathology Demonstration. Thurs., 5 p.m.,

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Operations. 5 p.m., Examination of the Nervous System. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Cranial Nerve Palsies. Tues., 3.30 p.m., Cranio-cerebral Topography. Thurs., 3.30 p.m., Cranial Nerve Palsies. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Muscular Atrophies.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2 p.m., Demonstration of Gynaecological Cases; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2 p.m., Demonstration of Eye Cases; 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL CHEST HOSPITAL, City Road, E.C.—Tues., 3.15 p.m., Early Diagnosis of Pulmonary Tuberculosis.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.1.—Wed., 4.30 p.m., Medico-Legal Aspects of Jewish Life.  
 ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Wed., 4.30 p.m., Retention of Urine.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.12.—Wed., 4 p.m., Blood Transfusion.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments; 4.30 p.m., Special Lectures: The Anxiety Neurosis. Tues., 10 a.m. to 1 p.m., Medical Ward Visits. Demonstrations in Venereal Diseases; 2 p.m., Medical Wards, Throat, Nose.

Wed., 10 a.m. to 1 p.m., Children's Medicine Wards, Demonstration in Medical Pathology; Eye Department. Thurs., 10 a.m. to 1 p.m., Demonstration of Fractures; 2 p.m., Eye and Operations, Dental, Skin, and Electrical Department. Fri., 10 a.m. to 1 p.m., Surgical Wards, Throat, Nose, and Ear Department; 4.30 p.m., Special Lecture: Surgical Emergencies. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and Women's Hospital: Wed., 4.15 p.m., Obstetrical Cases.

MANCHESTER: ST. MARY'S HOSPITALS (WHITWORTH STREET WEST BRANCH).—Fri., 4.30 p.m., Congenital Pyloric Stenosis.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Infirmary: Fri., 3.30 p.m., Surgical Cases.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcott, London).

MEDICAL SECRETARY (Telegrams: Medisera Westcott, London).  
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SCOTTISH MEDICAL SECRETARY: 5 Drumshough Gardens, Edinburgh. (Telegrams: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 24361 Dublin. (Telegrams: Dublin.)

### Diary of the Association.

FEBRUARY.

- 10 Fri. London: Conference of Representatives of Medical Schools with Science Committee, 2 p.m.
- 14 Tues. Newcastle-upon-Tyne Division: Infirmary, Alawick. Dr. North Northumberland Division: Clinical Forms of Nervous Syphilis, 2.45 p.m. Natrass on Clinical: East Surrey Hospital. Mr. Clifford White on Abdominal Pain in Women, 8.45 p.m. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. Alfred Cox on the Family Doctor on His Trial, 9 p.m. Royal Shropshire and Mid-Wales Branch: Clinical Meeting, Royal Shropshire Infirmary. Dr. Staalby Barnes on Simulation by Functional Disorder of Organic Disease of the Nervous System, 3.45 p.m.
- 15 Wed. Brighton Division: Clinical Meeting, Sussex Eye Hospital, Queen's Road, Brighton, 3.45 p.m. Kensington Division: Great Western Hotel, Paddington. Dr. A. Remington Hobbs on Puerperal Sepsis, 8.45 p.m. A. Remington Hobbs on Puerperal Sepsis, 8.45 p.m. Jersey Division: General Hospital. Mr. A. S. Ferguson, Fecal Infections of the Head, 8.30 p.m. Lincoln Division: Lincoln County Hospital. Sir Richard H. Luce, M.P., on the Future of Hospital Service, 4 p.m. Northern Counties of Scotland Branch: Clinical Meeting, Grays' Hospital, Elgin. Dr. Shlach, L.D.S., on Oral Sepsis, 3.30 p.m. Snaderland Division: Royal Infirmary, Sunderland. Dr. Alfred Parkin on the Medico-legal Aspect of the Workmen's Compensation Act, 8.15 p.m. Willenden Division: Willenden General Hospital, Harlesden Road, N.W.10, 9 p.m.
- 17 Fri. London: Lunacy and Mental Disorder Committee, 2.30 p.m. East York Division: Dr. Ritchie Rodger on Foreign Bodies in the Air Passages. Leeds Division: General Infirmary, Leeds. B.M.A. Lecture by Dr. John Parkinson on Common Difficulties in Cardiac Diagnosis, 8 p.m. Windsor Division: Town Hall, Windsor. Discussion on the School Child of Yesterday and To-day; to be opened by Dr. A. W. Sikes, 6.15 p.m.
- 18 Sat. Brighton Division: Supper, Royal Albion Hotel, Brighton. Mr. J. H. Rothwell on the Municipality and the Medical Profession, 8 p.m.
- 21 Tues. London: Medical Students and Newly Qualified Practitioners Sales Committee, 2.30 p.m.
- 23 Tues. London: Committee on Causation of Puerperal Morbidity and Mortality, 2.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

### BIRTHS.

PURSELL.—At Delhi, India, on January 15th, 1928, to Ruth Purcell, M.B., B.S.Lond. (née Scott), wife of R. S. Purcell, Indian Telegraph Department, a son.

THOMAS.—On Sunday, February 5th, at 3, Edith Villas, Kensington, to Catherine M. Thomas, M.R.C.S., L.D.S. (née Williams), wife of Major E. Claude Thomas, a daughter.

### DEATH.

KERR.—At 5, Airlie Place, Dundee, on January 25th, 1928, Annie Gerlude, aged 52, wife of Dr. Charles Kerr, O.B.E.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 18TH, 1928.

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### British Medical Association.

#### REMUNERATION OF NON-PROFESSORIAL UNIVERSITY WORKERS.

##### CONFERENCE OF REPRESENTATIVES OF MEDICAL SCHOOLS WITH THE SCIENCE COMMITTEE OF THE ASSOCIATION.

A CONFERENCE of representatives of medical schools with the Science Committee of the British Medical Association was held at the House of the Association on February 10th for the purpose of discussing the question of the remuneration of non-professorial medical teachers, laboratory workers, and research workers at the universities. Mr. H. S. SOUTTAR, Chairman of the Science Committee, presided, and was supported by Sir Robert Philip, President of the Association, Dr. C. O. Hawthorne, Chairman of the Representative Body, and Mr. Bishop Harman, Treasurer. Almost all the medical schools of Great Britain and Ireland were represented, in the majority of cases by their deans.

The CHAIRMAN, after thanking those present for their attendance, said that it might be asked what was the interest of the British Medical Association in a purely university matter. In the first place, many of those who came into the category just stated were members of the Association, whose interests had to be safeguarded, and, in the second place, the Association was bound to exercise a very careful control over the advertisements of appointments in its JOURNAL. The Association had had to put up a certain scale of salaries for medical officers employed by local authorities, and to scrutinize advertisements by public bodies with this scale in view. It was admitted that laboratory workers employed by universities might come into a different category from similar officers employed by public bodies, and that considerations other than the mere question of salary might arise in their case which did not arise in others, but the difficulty of making any such discrimination in regard to advertisements for posts would be understood. As long ago as 1919 a subcommittee was formed, under the leadership of the late Sir Clifford Allbutt, to go into this matter, and it was upon the report of that subcommittee that certain resolutions were adopted by the Representative Body in ensuing years, and following subsequent discussions the policy of the Association in this respect was framed in 1926, when a certain scale was adopted at the Annual Representative Meeting of that year.<sup>1</sup> This was reported to the governing bodies of the universities, and certain criticisms had been received, from which it appeared to be the opinion of some that the university point of view had not had sufficient consideration. Hence the present conference.

SIR ROBERT PHILIP, who spoke as representing the University of Edinburgh, said that it would have been all to the good had such a conference been summoned earlier. The interest of the Association in the matter had been truly stated by the chairman, but it was also the duty of the Association to keep a large and wide outlook on the whole question of the

training of the profession. The Association had perhaps restricted itself too sharply to the immediate financial interest of individuals. The junior teachers attached to medical schools were from certain aspects a remarkably privileged class; their misfortune was in being attached to institutions with very limited resources. They were in a sense apprentices or pupils, not so much officers as sons, and their remuneration might be considered rather from the point of view of the filial relation than from that of the hireling. The universities—at least those of which he had cognizance—were not able, like other public bodies, to enlarge their resources by an additional penny on the rates, and they were compelled to "spread the butter" carefully. They made as many posts as they could, and rewarded them in such manner as they were able to afford. At Edinburgh many of these workers were on temporary engagements, and regarded it as a privilege to serve for a time under the head of a department whose scientific eminence gave their experience an added value. Another consideration was that there were other faculties in the university employing similar assistants who, if the scale under consideration were enforced in the medical faculty, would feel that they had similar rights; and these men in the other faculties would go on to a career in which the remuneration was not so high as the positions at which many of the men in the medical profession were aiming. The dilemma was therefore a very real one. One practical suggestion he would make was that in the advertisements for such university posts it might not be considered necessary to state the salary at all.

Dr. A. MACGILLIVRAY (St. Andrews) said that when this matter came before the Dundee Branch of the Association in May, 1926, a recommendation was arrived at unanimously that the Council should be empowered to exempt from the operation of the scale any appointment with regard to which it was satisfied that the exemption was justified by the financial position of the school or by other special circumstances. Although St. Andrews was the oldest university in Scotland it had the youngest and smallest medical school. This did not mean that its staff was unduly reduced, for it had actually fifty-seven teachers, a great number of whom, of course, were part-time men, whose case did not arise in the present discussion. The adoption of this scale at St. Andrews would mean a diminution in the number of posts; the professors and full-time men would have much more teaching work to do, and consequently less time for research. Insistence on the scale would handicap the university considerably. It was true that the university got a Government grant, but a large proportion of this had to go into building development.

Professor E. FAWCETT (Bristol) said that it would be useful to know what universities had adopted the grading system suggested by the Association of University Teachers some years ago. Some, he knew, had adopted it with the full financial obligations attached to it at that time; others had adopted the scheme without those full obligations. At Bristol the principle of the scheme had been adopted, and all the full-time people were graded.

Professor J. R. CURRIE (Glasgow) said that grades had been adopted at Glasgow not very different from those proposed by

<sup>1</sup> BRITISH MEDICAL JOURNAL SUPPLEMENT, April 24th, 1926, page 143, and July 24th, 1926, page 42.

the British Medical Association. The crux of the question related to the ungraded assistants. These people were often anxious to come to the university to gain experience and do research; sometimes there was a personal link between the assistant and the head of his department, and the question of salary was not very closely regarded. These people came in order to prepare themselves generally for their profession, and some of them afterwards went into the public service and others into special branches of medicine, or into ordinary general practice, all having derived benefit from the probationary period in the university. In Glasgow it was felt that if these scales were insisted on the field would be encumbered by another class of person less suitable. He also wished to suggest that there was no true parallel between the junior assistants at the universities and the junior assistants in the public services, in spite of a certain similarity in the character of their work. In the public services, with their huge extensions into tuberculosis work, maternity and child welfare work, and the school medical service, despite the fact that the heads of the various administrations were highly paid (at least in comparison with professorial posts), these highly paid positions were not numerous enough to give the junior officer much of a chance of being anything other than a junior officer; yet in the junior position a man was doing important and necessary work for the community, and therefore the Association was right in determining to maintain his status and remuneration at certain levels. If such officers did not get promotion—and few of them did—they would be permanently in the lower-grade work to which the scale rightly applied. On the other hand, the junior at the university was there for a short time only, chiefly with the object of gaining experience.

Dr. C. O. HAWTHORNE said that the university appointments of which Professor Currie had been speaking were domestic arrangements between the professor on the one side—with the nominal covering of the university court—and the individual student on the other. The Association had no desire to interfere with arrangements which were domestic and personal. Such appointments, neither permanent nor advertised, did not come under this scheme. On the other hand, a man who was appointed a lecturer, unless his lectureship was limited to a certain duration, had an appointment which involved the quality of permanence.

Professor T. R. ELLIOTT (University College Hospital) said that the resolutions, if insisted on, would interfere with the responsibility of all the universities in Great Britain. To clear the ground he urged that teaching posts be excluded from the ambit of the resolutions.

Professor CURRIE, in reply to the CHAIRMAN, said that at Glasgow the grades were in force for those whose work might be described as senior, though their tenure of the posts was temporary; their duties were to lecture, and they were generally attached to a department, where they had departmental duties also, and did research. A few of these men remained until they got into Grade I, "hanging on" chiefly in the hope of a chair, which was sometimes realized. The graded workers were appointed for a term of years; the ungraded from year to year.

Professor A. W. SHEEN (Welsh National School of Medicine) said that in his university it had been found almost impossible to work to a scale. The contingent future advantages of an appointment were not to be disregarded. In the department of pathology, for example, the professor was desirous of having two demonstrators, and two qualified people were appointed at a salary of £250 a year. Both were perfectly satisfied, and were doing good work; the salary in such cases was not the primary consideration. In the departments of clinical medicine appointments might lead to the hospital staff and to consulting practice in the district. On the physiology side larger sums had to be paid, because the class of men needed were not so readily forthcoming. He thought it would be an advantage if there were no scale at all.

Sir HUMPHRY ROLLESTON (Regius Professor of Physic, Cambridge University) said that it was obvious that what was laid down for Grade III (comprising those who were junior workers temporarily employed on probation, remaining in the grade for not more than two years at a minimum salary of £300 for the first year and £350 for the second) would have to be referred back to the Science Committee.

Dr. HAWTHORNE thought that the conference might reasonably feel that there was a case for reconsideration. The very fact

that the conference had been called was an indication that those primarily responsible for the policy of the British Medical Association recognized that in connexion with academic appointments some alteration of the scale had to be made. But those present would appreciate how difficult it was for the Association to insert an advertisement in the JOURNAL offering £600, say, for an appointment in the public health service, and another offering £300 or £350 for an appointment in the academic service. No doubt the academic people felt that their appointment involved large opportunities for the future, but the public health people would say exactly the same thing. The public health people would not agree that any appointment of theirs was necessarily one which led to an impasse, nor would they agree that every junior university appointment did effectively carry with it a reasonable chance of promotion. Possibly Sir Robert Philip's suggestion was a practical one, that advertisements for academic appointments need not specify salary, but he hoped that other practical suggestions would be forthcoming.

Professor W. J. DILLING (Liverpool University) said that it would be helpful if representatives of universities which had a grading system would say what grades existed and the salary attached. In Liverpool it had been found necessary to divide Grade II (laboratory or research workers), or teachers permanently or exclusively employed as such) into two categories, with certain variations as to the scale, the first category including a number who, while very good teachers, were not likely to advance beyond that grade.

Professor KAY JAMIESON (Leeds University) said that in the faculty of medicine the majority of the staff were on their way to other lines of professional work, and the same was true in other faculties. Few were permanently on the academic staff. Those who had permanent positions had been sifted out from the others who were moving on. The university deliberately made as many positions available as possible in order to afford men experience fitting them for various lines of professional life. It was scarcely necessary for the Association to lay down rigid scales in the interests of its own members in the universities. The universities were doing their best for their staffs; moreover there was a considerable number of persons on the academic staffs who were not in the profession at all, and not affected by any action of the Association.

Professor J. S. B. STOPFORD (Manchester) said that in Manchester the adoption of Grade III with the salaries stated would have the effect of quite definitely reducing the staff.

Dr. ARNLEY WALKER (Dean of the Faculty of Medicine, Oxford University) said that at Oxford Grade III would correspond to a class of persons who were called departmental demonstrators; they were not appointed by the university, but by the professor himself, for a maximum period of three years; they could be reappointed for a further three years, but no more.

Professor DOUGLAS (Sheffield) said that at Sheffield no system of grading had been adopted in any faculty. He agreed with the remarks made by Professor Jamieson, though there was this difference between Leeds and Sheffield, that at the latter university the junior people were not as a rule appointed for any definite length of time.

The CHAIRMAN thought it was now possible to draw some definite conclusions from the discussion. The conference seemed to be generally agreed that the scales of salaries suitable for public appointments were not directly applicable to academic appointments, that the Association required more information with regard to the salaries of laboratory workers throughout the kingdom, and that it would be an advantage if salary was not mentioned in advertisements of academic appointments.

Mr. BISHOP HARMAN trusted that no hopes would be held out that advertisements could be inserted in the JOURNAL without a specific statement as to salary. He felt sure that this would never pass the Representative Meeting. He read the resolution of the Annual Representative Meeting, 1919, to the effect that no advertisements of public appointments should be accepted unless the salary was definitely stated in the advertisement. Dr. MACGILLIVRAY suggested that "public appointments" meant appointments by a body of men elected by the ratepayers.

Sir ROBERT PHILIP put forward tentatively the following resolution:

This conference, having had evidence of the variation in respect of privileges of non-professorial medical assistants in

the different universities and medical schools, is of opinion that scales of salary suitable for public appointments are not directly applicable to academic appointments.

The conference would ask the Science Committee of the British Medical Association to consider the desirability of recommending to the Association: (1) to exempt such assistantships from the application of a fixed scale of salaries; (2) to allow advertisements bearing on such appointments to appear in the *British Medical Journal* without a statement of the salary payable; and (3) in the meantime to obtain further information as to the salaries and conditions in force at the different universities and medical schools.

Dr. MacGILLIVRAY demurred to the last clause, and stated that universities, especially in Scotland, would not be inclined to furnish figures. The salaries were private and could not be given. Professor CUNNINGHAM also said that he could not commit his university (Glasgow) to give the information. Dr. HAWTHORNE pointed out that it was administratively impossible for the Council to consider each individual advertisement on its merits, and therefore a standard had to be set up for the guidance of the officials.

After some further discussion the latter portion of the resolution was dropped, and the remainder was carried unanimously, as follows:

This conference, having had evidence of the variation in respect of privileges of non-professional medical assistants in the different universities and medical schools, is of opinion that scales of salary suitable for public appointments are not directly applicable to academic appointments.

The conference would ask the Science Committee of the British Medical Association to consider the desirability of recommending to the Association the exemption of such assistantships from the application of a fixed scale of salaries.

The CHAIRMAN, in closing the conference, reminded those present that the organization of the British Medical Association was a complex one, and that the powers of action of the Science Committee without further reference were strictly limited. However much the committee might agree with what had been put forward, it was finally controlled by the Representative Body, whose endorsement of any new procedure must be sought.

A vote of thanks was accorded to Mr. Sontar for his services as chairman, and the conference terminated.

### LEICESTER PUBLIC MEDICAL SERVICE.

The report of the board of management of the Leicester Public Medical Service for 1922, in recording the resignation of Dr. Wallace Henry from the board, calls attention to the fact that he had played an outstanding and distinctive part in laying the foundation of the service, and rendered invaluable service for many years. In recognition of his work Dr. Wallace Henry has been elected president and an *ex officio* member of the board of management.

The number of subscribers to the various sections of the service was 41,843 for the first half of the year and 41,932 for the second half. In addition, the State-insured members of the Foresters and Oddfellows Friendly Societies and some insured members of the Leicester United Friendly Societies' Medical Association were paid for through the service. As might be expected, the continued industrial depression adversely affected the receipts. The board continued the arrangements with the People's Dispensary and the Foresters' Medical Association, whereby medicines, etc., were dispensed at the Public Medical Service branches for those members who desired to avail themselves of the facilities. During the year 222,000 prescriptions were dispensed. The ophthalmic, aural, radiological, and dental departments were continued, and subscribers took great advantage of the facilities afforded by the first two named. By arrangement with the Ministry of Health a consulting room with waiting room accommodation was provided at the Central Dispensary for the regional medical and dental officers, and accommodation was also provided for the City of Leicester Health Department in connexion with the dental treatment of expectant mothers. Accommodation, by arrangement with the committee of the Leicester and the Leicestershire Maternity Hospital, was provided also for the ante-natal clinic of the hospital.

The Benevolent Fund, established for assisting uninsured people unable to purchase insulin at the ordinary prices to obtain it at a greatly reduced cost, proved very useful in a number of cases.

The report of the committee of the Union of Medical Practitioners (Leicester Subdivision) states that the scheme of collective locumtenencies during holidays and sickness, inaugurated in 1919, was successfully continued. Donations amounting to £113 were made to medical charities, while £193 had been credited to the National Insurance Defence Trust and £48 to the Medical Representation of Parliament Fund for 1922.

## INDIAN MEDICAL SERVICE.

### RECRUITMENT FOR PERMANENT COMMISSIONS.

We published in the *JOURNAL* of January 28th (p. 160) an announcement that the Secretary of State for India would shortly make a number of appointments to permanent commissions in the Indian Medical Service. For some years past, it will be remembered, recruitment for the I.M.S. has been by way of temporary commissions.

A Memorandum on the terms and conditions of appointments to permanent commissions has now been issued from the India Office, and as the matter is of great importance we reprint this document below, substantially in full. Comment on the conditions stated in the Memorandum must be deferred until after the Naval and Military Committee of the British Medical Association has met and considered it in all its hearings.

#### MEMORANDUM ON APPOINTMENT TO THE I.M.S. AND CONDITIONS OF SERVICE.

1. The conditions contained in this Memorandum are those in force at the present time. They are subject to any alterations that may be determined on. For detailed regulations reference should be made to Army Regulations, India.

#### Method of Appointment.

2. Since the open competitive examination held in July, 1915, for admission to the I.M.S. no similar examination has been held, but such appointments as have been required to meet the needs of the service have been made by nomination by the Secretary of State. This method of recruitment will continue to be in force until further notice. To assist him in making appointments the Secretary of State has appointed a Selection Committee, who will summon and interview such applicants as may appear to be prima facie suitable and make recommendations for appointment. A similar committee has been appointed in India to investigate applications and forward recommendations to the Secretary of State. Applications from Europeans resident in Europe should be addressed to the Secretary, Military Department, India Office, Whitehall, S.W.1. Other applications should be addressed to the Director-General, I.M.S., Simla (or Delhi), India. The applications of all Indian candidates are considered by the Selection Board in India, and no useful purpose is served by such candidates presenting themselves for interview before the Selection Board in London. Applications from Indians in this country to appear before the London Selection Board will only be entertained where the Board is of opinion that the circumstances are exceptional. All correspondence regarding applications should be marked "Medical Recruitment" at the top left-hand corner of the envelope.

#### General Qualifications and Limits of Age.

3. Every candidate must be either (a) a British subject of European descent in the male line, whose father was, at the time of the candidate's birth, a British subject, or (b) a British subject whose father was, at the time of the birth of the candidate, either a British subject domiciled in British India or a subject of a State in India. In either case, such father must still be, or have continued to be to his death, a British subject or a subject of such a State in India. Provided that a subject of any State in India, in respect of whom the Governor-General in Council has made a Declaration Note, under section 95A of the Government of India Act, shall be deemed to be eligible. Every candidate must also be of sound bodily health, and, in the opinion of the Secretary of State for India in Council, in all respects suitable to hold a commission in the I.M.S. He may be married or unmarried. He must possess a qualification registered in Great Britain and Northern Ireland under the Medical Acts in force at the time of his appointment. Candidates must be under 32 years of age at the time of application.

#### Declaration to be Submitted.

4. Candidates must subscribe and send in to the Secretary, Military Department, India Office, Whitehall, a declaration in the terms printed on the form of application.

5. This declaration must be accompanied by the following documents: (a) *Proof of age*, in the form of a birth certificate or, where such certificate is not available, a declaration signed by the candidate's own statutory declaration, forms for which can be obtained at the India Office, supported, if required by the Secretary of State, by such evidence as he may consider satisfactory. A certificate of baptism which does not afford proof of age will not be accepted. (b) A recommendation and certificate of moral character from each of two responsible persons—not being members of the candidate's own family—to the effect that he is of regular and steady habits and is likely, if appointed, to prove in every respect creditable to the I.M.S. (c) A certificate of having attended a course of instruction for not less than three months at an ophthalmic hospital, or the ophthalmic department of a general

hospital, which course shall include instruction in the errors of refraction. (d) Evidence of registration under the Medical Acts in force in Great Britain and Northern Ireland.

6. The physical fitness\* of each candidate is determined by a Board of Medical Officers appointed by the Secretary of State for India. Detailed regulations as to the physical requirements are printed separately.

#### Courses of Instruction.

7. An officer shall, on appointment, attend such courses of instruction as the Secretary of State may direct, either in the United Kingdom or in India, in the subjects mentioned below. His retention in the service is subject to his attaining a reasonable standard of efficiency in any examination that may result from these courses: (1) Hygiene; (2) military and tropical medicine; (3) military surgery; (4) pathology of diseases and injuries incidental to military and tropical service; (5) midwifery and diseases of women and children; (6) military medical administration: (a) internal economy; (b) Army Service Corps subjects; (c) hospital administration; (d) stretcher and ambulance drill; (e) equitation. An officer is also required to attain a certain standard of proficiency in Hindustani in the early part of his career.

#### Date of Appointment, War Service, and Antedates.

8. The date of appointment will ordinarily be that on which the candidate commences the course of instruction referred to in paragraph 7, or in special cases one month prior to the date of embarkation for India. Any service rendered by an officer during the war as a medical or combatant officer, or in a position usually filled by an officer, may be counted as service for increments of pay, promotion, retirement and retired pay, but not for gratuity (see paragraph 45). One-half of any service in the ranks during the war may be counted as service for retirement and retired pay only. An officer who has held a resident appointment of not less than one year in a recognized civil hospital in the United Kingdom or in India may be granted an antedate not exceeding one year, provided that the interval between the termination of the hospital appointment and the date of entry into the service shall not ordinarily exceed six months. This antedate will count as commissioned service for the purpose of increments of pay, promotion, retirement and retired pay, but not for gratuity. A candidate who at the time of selection for appointment holds, or is about to hold, a resident appointment in a recognized civil hospital in the United Kingdom or in India, may be seconded for the period, not exceeding one year, during which he holds the appointment. While seconded he will not receive pay from Government funds, but the period will count as commissioned service for the purpose of increments of pay, promotion, retirement and retired pay, but not for gratuity.

9. An officer will not be permitted to remain in the service if at any time during the first three years from the date of his first commission his retention therein is considered undesirable. Service previous to appointment to a permanent commission in the I.M.S. will not count for this purpose.

#### Postings.

10. Candidates will be required to conform to such rules of discipline as may from time to time be laid down. They will be liable for military or civil employment as may be required, but are required to perform two years' military duty subsequent to permanent appointment before they can be considered eligible for civil employment. With a view to possible future transfers to civil employment, each officer will be assigned to one of the following civil areas: (1) Madras and Burma; (2) Bombay, with Aden; (3) Upper Provinces—that is, United Provinces, Punjab, and Central Provinces; (4) Lower Provinces—that is, Bengal, Bihar, and Orissa, and Assam. The allocation of officers to these areas of employment will be determined upon a consideration of all the circumstances, including, as far as possible, the candidate's ordinary employment within the area to which they may have been assigned, remain liable to employment elsewhere, according to the exigencies of the service. On transfer to a civil appointment an officer is placed on probation for a period of two years.

#### Ranks and Promotion.

11. The ranks of officers in the I.M.S. are six in number—namely (1) Major-General,† (2) Colonel, (3) Lieutenant-Colonel, (4) Major, (5) Captain, (6) Lieutenant.

12. A Lieutenant is normally promoted to Captain on completion of three years' full-pay service, if he has previously qualified for promotion in such manner as may be prescribed, service previous to permanent appointment in the Indian Medical Service being permitted to account for such purpose (see paragraph 8).

13. A Captain, if in all respects qualified and recommended, is promoted to Major on completion of 12 years' full-pay service, subject to the same condition as regards service previous to permanent appointment in the I.M.S. All officers before promotion to Major will be required to attend the senior officers' course at the Royal Army Medical College, Millbank, and qualify, in the examination held on its conclusion. An officer who fails at the first attempt will be allowed a second trial. Attendance at this course will be regarded as duty and will carry with it a free passage to and from the United Kingdom.

\* A candidate may, if he wishes it, undergo a preliminary examination as to his physical fitness by the Medical Board at the India Office on payment of a fee of two guineas. Particulars regarding such examinations may be obtained from the Under Secretary of State, India Office, Whitehall, London.

† The Director-General, I.M.S., will rank either as Major-General or Lieutenant-General, as may be decided in each case by the Secretary of State for India in Council.

14. A Major, if in all respects qualified and recommended, is promoted to Lieutenant-Colonel on completion of twenty years' full-pay service, subject to the same condition as regards service previous to permanent appointment in the I.M.S.

15. Time (not exceeding one year) passed on the temporary non-effective list, in the case of an officer placed thereon on account of medical unfitness caused by duty, military or civil, reckons as service for promotion and pension.

16. Promotion from the rank of Captain to the rank of Major, or from Major to Lieutenant-Colonel, may be accelerated by not more than six months in the case of officers who produce satisfactory evidence of progress in any branch of knowledge which is likely to increase their efficiency. A certain number of Lieutenant-Colonels are specially selected for increased pay for ability and merit.

17. All promotions from the rank of Lieutenant-Colonel to that of Colonel, and from the rank of Colonel to that of Major-General, are made by selection for ability and merit.

18. The tenure of office of Major-Generals and Colonels is limited to four years, subject to the limits of age as laid down in paragraph 45.

19. Colonels, if not disqualified by age, are eligible either for employment for a second tour of duty in the same grade, or for employment in the higher grade of Major-General by promotion thereto.

20. Absence from duty for longer than eight months consecutively involves the vacation of an administrative appointment of limited tenure.

21. Officers of the I.M.S. are eligible for the military distinction of the Order of the Bath, and for other Orders, British and Indian, and for good service pensions. Six of the most meritorious officers on the active list are appointed Honorary Physicians, and six Honorary Surgeons, to His Majesty. On appointment as Honorary Physician or Honorary Surgeon to His Majesty, an officer below the rank of Colonel may be promoted to the brevet rank of Colonel. A Captain after at least six years' service, a Major, or a Lieutenant-Colonel may be promoted to the next higher rank by brevet for distinguished service in the field, or for meritorious or distinguished service of an exceptional nature other than in the field.

#### Pay and Allowances.

22. Officers on appointment will receive an outfit allowance of £50.

23. Pay will normally commence from the date of appointment and is issued monthly in arrear in this country up to the date of embarkation at the rates of leave pay shown in paragraph 31, except that during the course of instruction referred to in paragraph 7, the R.A.M.C. rates of pay and allowances are admissible. An advance of two months' pay at the rates shown in paragraph 31 is also made before embarkation, if desired. This advance will be recoverable from the officer's pay in India.

24. The following are the monthly rates of Indian pay payable from the date of arrival in India:

Rank.	Service in Rank.	Basic Pay.	Overseas Pay.	Year of Total Service.
1.	2.	3.	4.	5.
		Rs.	Rs.	
Lieut. ...	...	500	150 150 150 150	1st 2nd 3rd 4th
Captain ...	(i) During first 3 years' service as Captain	650	15 15 15	5th 6th 7th
	(ii) With more than 3 and less than 6 years' service as Captain	750	25 25 25	8th 9th 10th
	(iii) With more than 6 years' service as Captain	850	25 30	11th 12th
Major ...	(i) During first 3 years' service as Major	950		
	(ii) With more than 3 and less than 6 years' service as Major	1,100		
	(iii) With more than 6 years' service as Major	1,250		
Lieut.-Col. ...	(i) Until completion of 23 years' total service	1,500	30	13th and over
	(ii) During 24th and 25th years' service	1,600		
	(iii) After completion of 25 years' total service	1,700		
	(iv) When selected for increased pay	1,850		

Note.—(1) Until the completion of 23 years' total service, basic pay is regulated according to rank and service in rank (columns 1 and 2), which, owing to the system of accelerated promotion, may be in advance of the time scale of promotion.

(2) Overseas pay is admissible only in the case of officers who, at the date of their appointment to the I.M.S., had their domicile elsewhere than in Asia, and is regulated solely with reference to length of total service.

25. In addition to the above rates of pay, various allowances are admissible to officers holding special appointments, such as:

(a) Command pay drawn in addition to pay of rank by Indian Medical Service officers for the command and second in command of Indian Military Hospitals:—

	Command.	Second in Command.
	Rs.	Rs.
1st class Station Hospital ...	240	120
2nd class " " ...	180	90
3rd class " " ...	120	Nil



(b) Allowances for charge of Cantonment Hospitals and Cantonment Dispensaries at rates approved by the Cantonment authority concerned and sanctioned by the General Officer Commanding-in-Chief, the Command.

(c) Charge pay varying from Rs. 30 to Rs. 240 per mensem for the medical charge of staffs of certain stations, depots, factories, etc.

(d) Specialist pay of Rs. 100 per mensem in each case attaching to specialists' appointments in certain subjects, including: Advanced Operative Surgery, Medicine, Ophthalmology, Gynecology and Midwifery, Dermatology, including Venereal Diseases, Prevention of Disease, and Charge of Brigade Laboratory. There are 50 such specialists' appointments, for which officers of the I.M.S. in military employment below the rank of Lieutenant-Colonel are eligible together with officers of the R.A.M.C. A candidate for one of these appointments must give proof to the satisfaction of the Director-General, I.M.S., of special knowledge in the subject selected.

(e) Monthly allowances for officers holding certain civil posts, as for instance: Professorial appointments, Rs. 250; Principalships of " " 150; Appointments as Superintendents of 1st class jails, Rs. 150; (h) 2nd class jails, Rs. 50.

#### Administrative Appointments.

26. The following are the principal administrative appointments and the salaries attaching to them when they are held by officers of the I.M.S.:

Deputy Director, Medical Services, Command, Major-General	Rs. 3,500 per mensem.
Deputy Director, Medical Services and Director, Hospital Organization, Army Headquarters	Rs. 3,200 per mensem.
Assistant Director, Medical Services District Director, Medical Organization for War " Director, Hygiene and Pathology, Army Headquarters	Rs. 2,750 per mensem.
Assistant Director, Medical Services, Army Headquarters	Rs. 2,500 per mensem.
Deputy Assistant Director (Medical Services or Hygiene and Pathology), Army Headquarters, Commands Districts	Rs. 2,400 per mensem.
Assistant Director of Hygiene and Pathology, Commands	Rs. 2,150 per mensem.
I.M.S. pay of rank and service plus an additional pay of Rs. 250 per mensem.	

27. Unemployed pay is granted to Administrative Officers at the following rates:

(a) *Out of India.*—A Colonel will receive the half-pay of rank of an R.A.M.C. officer of corresponding rank, as laid down in the Royal Warrant, i.e., £1 5s. 6d. a day = £53 7s. 6d. a year, with an Indian allowance, at present £200 a year. A General Officer will receive the half-pay of rank of a British Service officer of corresponding rank, as laid down in the Royal Warrant, i.e., £2 5s. a day = £821 5s. a year.

(b) *In India.*—The rates of unemployed pay for officers remaining in India during such unemployment will be the same as those payable in this country, converted into rupees at the current rate of exchange as defined in Indian Army Regulations. Unemployed pay cannot be drawn for any period exceeding three years, and in no case will time on the unemployed list count as service for pension.

#### Civil Appointments.

28. A number of civil appointments under the Government of India and Provincial Governments are reserved for officers of the I.M.S. in order to provide for a War Reserve and for medical attendance on European officers of the Superior Civil Services and their families. The reserved appointments include the following:

Rs. 2,500-3,500 per mensem.	to the Government of India (salary).
Other Public Health appointments.	
Port Health officers.	
Appointments under the Foreign and Political Department of the Government of India.	
Research appointments.	
Professorial and Hospital appointments.	
Civil Surveillances (including District Medical and Sanitary officers in Madras).	
Jails Department:	
Inspectors-General of Prisons (salary, Rs. 2,360-2,500 per mensem).	
Superintendents of Central Jails.	

In addition to these reserved appointments, officers of the I.M.S. are eligible for appointment to other posts included in the cadre of the Provincial Civil Medical Services, the pay and conditions of which are regulated by Provincial Governments.

29. With the exception of Administrative Officers, military or civil, and officers holding certain special appointments, officers of the I.M.S. are not debarred from taking private practice, so long as it does not interfere with their proper duties.

#### LEAVE RULES.

30. Leave cannot be claimed as a right, but is granted at the discretion of the competent authority in India under whom an officer may be serving.

\* Normally one or the other of these posts is held by an officer of the British Service.

† I.M.S. officers holding these posts may, if they fulfil the conditions laid down in Army Instruction (India), 401 of 1925, draw in addition sterling overseas pay at £13 6s. 8d. per month.

‡ The Royal Warrant rates of half-pay are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919. With effect from July 1st, 1927, a reduction of 6 per cent. on this account has been made from the amounts shown above. A further revision will take place on July 1st, 1930, and every three years thereafter to an extent not exceeding 20 per cent. in all.

§ Gratuitous in the case of officers, but not of their families.

31. Officers of the I.M.S. in military employment, below the rank of Colonel, may be granted—(1) privilege leave on full Indian pay under such regulations as may from time to time be in force; (2) furlough out of India on private affairs or on medical certificate for a period not exceeding one year in the first instance, on the rates of pay shown below (plus ration allowance at the rate laid down from time to time in Army Council Instructions).

	Per diem.	Per annum.
	£ s. d.	£ s. d.
Lieutenant ... ..	1 2 0	401 10 0
Captain ... ..	1 7 0	492 15 0
" (after 8 years' com. service) ...	1 10 0	547 10 0
" (after 10 years' com. service) ...	1 12 6	583 2 6
" (holding higher brevet rank in addition) ... ..	0 2 0	36 10 0
Major ... ..	1 17 6	681 7 6
" (after 15 years' com. service) ...	2 2 6	775 12 6
" (after 18 years' com. service) ...	2 5 0	821 5 0
" (after 20 years' com. service) ...	2 10 0	912 10 0
Lieutenant-Colonel ... ..	2 17 6	1,048 7 6
" (after 3 years as such) ... ..	3 2 6	1,140 12 6

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919. With effect from July 1st, 1927, a reduction of 6 per cent. on this account has been made from the amounts shown above. A further revision may take place on July 1st, 1930, and every three years thereafter to an extent not exceeding 20 per cent. in all.

(3) Leave in India, other than privilege leave, on the following monthly rates, to which full overseas pay will be added when admissible:

	Rs. per mensem.
Lieutenant ... ..	375
Captain, for first three years in the rank ... ..	500
" after three years in the rank ... ..	600
" after six years in the rank ... ..	700
Major, for first three years in the rank ... ..	750
" after three years in the rank ... ..	900
" after six years in the rank ... ..	1,050
Lieutenant-Colonel, until completion of 23 years' service ...	1,200
" during 24th and 25th years of service ... ..	1,300
" after 25 years' service ... ..	1,400
" when selected for increased pay ... ..	1,550

32. No extension of leave involving absence from duty for more than two years, whether taken in or out of India, can be granted except on specially urgent grounds and without pay.

33. An officer unable on account of the state of his health to return to duty within the maximum period of two years' absence, unless he is, under paragraph 32, specially granted an extension of leave without pay, is placed on the temporary non-effective or the retired list, as the circumstances of the case may require. An officer is also liable to be placed on the temporary non-effective list or the retired list should his health require an undue amount of leave, whether in or out of India. In no case will an officer be granted an extension of leave on medical certificate or he placed on the temporary non-effective list if there is no reasonable prospect of his becoming fit to return to duty.

34. An officer on leave, whether in India or out of India, is required to rejoin at once on being recalled to duty, unless certified by a Medical Board to be unfit to do so.

35. Officers of the Administrative Grade may, during their tenure of appointment, be granted such privilege leave as is due to them, and in addition six months' furlough (on private affairs or on medical certificate), which may be combined with the privilege leave. Such combined leave may be taken in one or two instalments up to a total of eight months in all. Privilege leave will be on full pay and furlough at the following rates:

(a) <i>Out of India.</i>	£
Colonel ... ..	1,175
Major-General ... ..	1,250
Director, Medical Service in India (Lieutenant-General or Major-General) ... ..	1,350

(b) *In India.*—At twice rates, which are approximately 75 per cent. of full pay, plus overseas pay in full, if admissible.

36. An I.M.S. officer in civil employment (subject to certain exceptions in regard to posts of limited tenure) becomes subject to the civil leave rules from the date of first substantive appointment to a post in civil employ, or from the date of completion of three years' continuous officiating duty in such service, whichever is earlier.

The following is only a short summary of the civil leave rules, and must not be taken as overriding the provisions of the Fundamental Rules for the time being in force, with reference to which any disputed question will be decided.

#### "Special" Leave Rules for Officers with Domicile Outside Asia.

Leave is calculated in terms of "leave on average pay," and the amount of "leave on average pay" with which an officer's leave account is credited is three-twenty-seconds of the period spent on duty. Subject to certain maxima and minima, and to the limitations noted below, an officer may draw, at his option, leave salary equal to the average pay of the last twelve months of completed duty or to half such average pay. All leave on average and half the period on half average pay is debited in the leave account. An officer may take his leave on average pay, on half average pay, or on a combination of the two, provided that his continuous absence from duty does not exceed twenty-eight months, and that the amount of leave taken on average pay does not exceed eight months at any one time. The maximum amount of leave admissible during an officer's career, expressed in terms of the period spent on duty, is three years, plus one-eleventh of the period spent on duty, of which not more than one year, plus one-eleventh of the period spent on duty, may actually consist of leave on average pay.

**"Ordinary" Leave Rules for Officers with Asiatic Domicile.**

Leave is calculated in terms of "leave on average pay," and the amount of "leave on average pay" with which an officer's leave account is credited is two-elevenths of the period spent on duty. Subject to certain maxima and minima, and to the limitations noted below, an officer may draw, at his option, leave salary equal to the average pay of the last twelve months of completed duty or to half such average pay. All leave on average pay and half the period on half average pay is debited in the leave account. An officer may take his leave on average pay, on half average pay, or on a combination of the two, provided that his continuous absence from duty does not exceed twenty-eight months, and that the amount of leave taken on average pay does not exceed, at any one time, four months, if taken without medical certificate and spent in India or Ceylon, or eight months, if taken on medical certificate or spent elsewhere than in India or Ceylon. The maximum amount of leave admissible during an officer's career, expressed in terms of leave on average pay, is two and a half years, plus one-eleventh of the period spent on duty, of which not more than one-eleventh of the period spent on duty may actually consist of leave on average pay, provided that, in the case of an officer who either takes leave on medical certificate or spends his leave elsewhere than in India or Ceylon, leave on average pay up to a maximum of one year, plus one-eleventh of the period spent on duty, is admissible.

**General Rules, Applicable to both Special and Ordinary Leave.**

Leave not due and carrying half average pay (or subsistence grant as indicated below) may be granted on medical certificate, and within certain limits, for other reasons. Such leave, except for a maximum period of three months in all during the officer's service, expressed in terms of leave on average pay, is debited in the leave account, and an officer will not again begin to earn leave until the expiration of a fresh period of duty sufficient to earn a credit of leave equal to the leave taken before it was due and debited in the leave account. After twenty-eight months' absence from duty an officer draws subsistence grant. Leave salary is ordinarily payable in rupees if the officer spends his leave in Asia, and in sterling if he spends it elsewhere.

**Study Leave.**

57. Extra leave (known as study leave) may be granted to officers desirous of pursuing special courses of study. These courses must be definite courses of post-graduate study at a recognized institution, or of study ordinarily associated with post-graduate work, and must be approved as suitable by the Director-General, I.M.S., or by the Medical Adviser to the Secretary of State for India. (Courses of study intended for students preparing for their primary medical qualifications will not be approved.) The satisfactory completion of such approved courses is taken into consideration for the purposes of accelerated promotion under the terms of paragraph 16. The period of study leave will be calculated at the rate of one-twelfth of pension service, but will not exceed twelve months in all during an officer's service. Study leave may be combined with other leave provided that the period occupied in study is not less than two months. The minimum period of study leave taken by itself is six months. For the course of study, study allowance, at present fixed at the rate of 12s. a day in the United Kingdom, £1 a day on the Continent of Europe, and £1 10s. in the United States of America, will be granted after the completion of the course on the production of satisfactory certificates, as required by the Study Leave Rules. Study leave will count as service for promotion and pension, but not for leave. Officers of Asiatic domicile, immediately after completing the senior officers' course at the Royal Army Medical College, Millbank, will be regarded as eligible for a period of study leave, during which they will retain a lien on their free return passage to India. If the exigencies of the service make it necessary in any particular case to refuse an application for such study leave, the officer in question will subsequently be eligible for a free passage between India and the United Kingdom on one occasion during his service for the purpose of taking study leave.

**Passages.**

32. An officer on appointment is provided with a free passage to India, normally by transport. The wives and families of officers who are married prior to the date of the officer's embarkation on first appointment to the I.M.S. will also be provided with free passage to India.

33. Subject to the limitations in paragraph 40, an officer of non-Asiatic domicile at the date of appointment to the I.M.S. is entitled during his service to passages of a total value equal to the cost of the number of passages between Bombay and London by P. and O. 1st Class B., shown below:

I. For the officer himself: If under 31 years of age, four return passages; if 31 years or over, but under 38 years, three return passages.

II. For his wife, the same number of return passages to which the officer himself is entitled; provided that in the case of an officer who has been married after the date of his entering Indian Service, the scale of benefits for his wife shall be as follows: If the officer's age at date of marriage is under 31 years, four return passages; if 31 years or over, but under 38 years, three passages; if 38 years or over, but under 45 years, two passages; if 45 years or over, one passage.

III. For each child, one single adult passage.

40. The scheme of concession passages stated in the previous paragraph is based on the assumption that an officer continues in the service till qualified for pension. All officers, however, possess the option of retirement on a gratuity, and the following condi-

tions are, therefore, laid down governing the grant of passages during the early years of an officer's service:

(a) No concession passage will be granted during an officer's first five years of service. On the completion of that period an officer becomes eligible for concession passage, provided that he has not given notice of his intention to retire with a gratuity in accordance with the terms of paragraph 45. On the completion of eleven years' service he becomes eligible for a second concession passage, subject again to his not having given notice of retirement. The remaining passages due to an officer may be taken at any time during the rest of his service, subject to the exigencies of the service.

(b) An officer invalidated home on sick leave during his first twelve years of service will be provided with a passage, but any such passage granted to him will count against any concession passage or passages to which he may subsequently become entitled. In the event of his retiring otherwise than on account of ill health, before becoming entitled to full benefits under the concession passage rules, he will be required to refund the cost of any passages granted to him on sick leave.

(c) An officer who retires with a gratuity at the end of either six or twelve years' service in accordance with the terms of paragraph 45 will be provided with a free passage to the United Kingdom for himself and his family.

**Pensions and Gratuities.**

41. Officers of the I.M.S. are allowed, subject to the right of Government to suspend retirements in times of emergency, to retire on the following scale of pension, on completion of the required periods of service for pension:

	Per annum.		Per annum.
After 17 years' service ...	£ 400	After 23 years' service ...	£ 620
" 18 " " " " " " "	410	" 24 " " " " " "	660
" 19 " " " " " " "	420	" 25 " " " " " "	700
" 20 " " " " " " "	500	" 26 " " " " " "	750
" 21 " " " " " " "	540	" 27 " " " " " "	800
" 22 " " " " " " "	580		

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919. With effect from July 1st, 1927, a reduction of 4½ per cent. on this account has been made from the amounts shown above. A further revision may take place on July 1st, 1930, and every three years thereafter, to an extent not exceeding 20 per cent. in all.

42. Service for pension reckons from the date of commission, and includes leave taken under the leave rules, time passed on the temporary non-effective list (if the officer is placed thereon on account of medical unfitness caused by duty) up to one year, and previous war service.

43. A Major-General, after three, two, or one years' service in the substantive rank, is entitled to retire upon a pension of £350, £315, or £285 per annum respectively, in addition to the pension to which he may be entitled under the above scale.

44. A Colonel, after four, three, two, or one years' service in the substantive rank, is entitled to retire upon a pension of £250, £185, £125, or £65 per annum respectively, in addition to the pension to which he may be entitled under the above scale.

45. An officer is entitled to retire on a gratuity at any time after the completion of six years' service from the date of permanent appointment to the I.M.S., provided that he has given notice of his intention to do so twelve months in advance. The amount of the gratuity for an officer with over six years' and less than twelve years' service is £1,000, and for an officer with twelve years' service or over is £2,500. Privilege leave will be allowed to count towards service for a gratuity, but not ordinary furlough or sick leave.

46. Officers of the rank of Lieutenant-Colonel and Major are placed on the retired list when they have attained the age of 55 years, Colonels when they have attained the age of 57 years, and General Officers when they have attained the age of 60 years.

47. An officer is liable, after retirement on pension or with a gratuity after not less than twelve years' service, to recall to military duty in case of emergency up to 55 years of age. Officers will be recalled to duty only in the event of an emergency arising which exhausts the reserves permanently maintained in civil employ in India.

48. An officer who, before completing seventeen years' service, has become permanently incapacitated for further service in India on account of unfitness caused by duty may be granted an invalid pension varying from £60 to £370 per annum, according to length of service. Provision is also made for the grant of additional disability pensions of from £20 to £100 per annum.

49. Officers placed on the temporary non-effective list are granted temporary invalid pensions at the half-pay rates of the British Army—namely:

**Rates of Half-pay.**

	Per diem.	Per annum.
	£ s. d.	£ s. d.
Colonel ...	1 9 6	538 7 6
Lieutenant-Colonel, after 3 years' service as such ...	1 7 6	501 17 6
Lieutenant-Colonel, under 3 years' service as such ...	1 3 9	433 8 9
Major ...	0 15 9	287 8 9
" after 5 years' service as such ...	0 18 6	337 12 6
Captain ...	0 11 9	214 8 9
Lieutenant ...	0 8 0	146 0 0

These rates are subject to alteration on account of a rise or fall in the cost of living as compared with the year 1919. With effect

from July 1st, 1927, a reduction of 6 per cent. on this account has been made from the amounts shown above. A further revision may take place on July 1st, 1930, and every three years thereafter, to an extent not exceeding 20 per cent. in all. An officer of less than three years' service, although he may be transferred to the temporary non-effective list under the general conditions of transfer, will not be granted any temporary invalid pension unless his unfitness has been caused by duty.

50. The claims to pension of widows and families of officers are treated under the provisions of such Royal Warrant regulating the grant of pensions to the widows and families of British officers as may be in force at the time being.

51. The widows and families of officers are also entitled to pensions under the Regulations of the Indian Military Widows' and Orphans' Fund. Subscription under these Regulations is a condition of appointment, except in the case of Indians, for whom it is optional.

## British Medical Association.

### CURRENT NOTES.

#### Consulting Pathologists Group.

THE Council of the British Medical Association, at its meeting on December 14th, 1927, approved the formation of a Group of Consulting Pathologists, to comprise all those members of the Association (not being members of the Public Health Service) who are working in institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes. The official notice summoning the first meeting of the members of this Group for Friday, March 2nd, at 2.30 p.m., appears in the adjoining column. It is hoped that all members eligible for inclusion in the Group will make a special effort to attend.

#### The Hempson Prize.

Mr. W. E. Hempson has placed at the disposal of the Council, upon his retirement in March next from the post held by him for thirty years of Solicitor of the Association, and as a mark of esteem for the Association and appreciation of his happy relations therewith, a sum of twenty-five guineas, to be awarded as a prize for the best essay or treatise on some phase or branch of public health. The subject approved by the Council for the prize is "A study of personal experiences in the inspection and treatment of school children under the auspices of any elementary educational authority." The following conditions govern the award of the prize:

1. Only members of the Association are eligible to compete.
2. Studies must be sent to the Medical Secretary, British Medical Association House, London, W.C.1, not later than December 31st, 1928, and the prize will be awarded at the Annual General Meeting of the Association at Manchester in 1929.
3. No study that has been published in the medical press or elsewhere will be considered eligible.
4. If any question arises as to the eligibility of the candidate or the admissibility of his study, the decision of the Council on any such point shall be final.
5. Each study must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.
6. Inquiries relative to the prize should be addressed to the Medical Secretary.

#### Annual Session of American Medical Association.

The annual session of the American Medical Association is to be held in Minneapolis, Minnesota, from June 11th to 15th, 1928. The Medical Secretary would be very glad to be informed at the earliest possible moment of any member of the British Medical Association who is proposing to attend the meeting at Minneapolis.

#### The Half-yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been printed; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

## Association Notices.

### ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE THE UNITED KINGDOM.

THE following is a list of the nominations received for the election of the Council for 1928-31 by Branches outside the United Kingdom:—

- Mr. T. P. DUNNILL, C.M.G. (London), South Australian, Tasmanian, Victorian, and Western Australian Branches.  
 Sir JENNER VERRALL, LL.D. (Leatherhead), New South Wales and Queensland Branches.  
 Dr. G. CLARK TROTTER (London), New Zealand and Fiji Branches.  
 Hong-Kong and China, and Malaya Branches. No nomination.  
 Dr. J. BUCKROFT ANDERSON (London) and Dr. W. WATKINS-FITCHFORD (Bridgnorth, Salop), Border (South Africa), Cape Eastern, Cape Midlands, Cape Western, Egyptian, Gibraltar, Giquiland West, Kenya, Malta, Mashonaland, Matabeleland and Northern Rhodesia, Natal Coastal, Natal Inland, Nyasaland, Orange Free State and Basutoland, Pretoria, Sierra Leone, South-West Africa, Tanganyika Territory, Uganda, Witwatersrand, and Zanzibar Branches.

Voting papers for the African Group of Branches were posted from the Head Office on February 11th; they are returnable not later than Monday, April 14th, 1928, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

The candidates referred to in the remaining Groups, being the only candidates nominated for those Groups, are hereby declared elected members of the Council for 1928-31.

The following is the position as regards the other Groups of Branches outside the United Kingdom:

- Lieut.-Colonel ASHTON STREET, I.M.S.(ret.) (London) *was elected for the three years 1927-30*, Assam, Baluchistan, Bombay, Burma, Ceylon, Hyderabad, Mesopotamia, Northern Bengal, Punjab, and South Indian and Madras Branches.  
 Dr. F. J. GOMEZ (South Petherton) *was elected for the three years 1927-30*, Barbados, Bermuda, British Guiana, Grenada, Jamaica, Leeward Islands, St. Lucia, and Trinidad and Tobago Branches.

#### CONSULTING PATHOLOGISTS GROUP.

A MEETING of the recently formed Consulting Pathologists Group of the Association will be held at the B.M.A. House, Tavistock Square, London, W.C.1, on Friday, March 2nd, at 2.30 p.m.

The Group comprises all those members of the Association (not being members of the Public Health Service) who are working in an institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes.

The agenda of the meeting is as follows:

- (1) Elect a chairman.
- (2) Elect Group committee of six.
- (3) Consider arrangements to be made for provision of pathological service in connexion with National Health Insurance.
- (4) Any other relevant business.

ALFRED COX, Medical Secretary.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Tuesday, February 21st, at 2 p.m., when Professor Edwin Bramwell will give a lecture on some clinical aspects of pain. As the lecture is especially for the general practitioner, and as the hour fixed is to suit those from a distance, it is hoped that all members and their friends will make a special effort to be present. Tea will be served.

**EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.**—At the meeting of the East York Division to be held to-day (Friday, February 17th), Dr. Ritchie Rodger will read a paper on foreign bodies in the air passages.

**EDINBURGH BRANCH.**—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Wednesday, February 29th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. W. A. Cochrane, 24, Walker Street. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30 p.m. Those who have patients, specimens, etc., to show are requested to communicate with Mr. W. A. Cochrane by February 18th. At 7.15 p.m. dinner will be taken in the North British Station Hotel; morning dress. Dinner ticket, 10s. Ladies will be welcomed. Members are asked to notify the honorary secretaries by February 25th whether they intend to be present, and whether they will be accompanied by ladies or other guests.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at the County Laboratory, Hamilton, on Wednesday, February 22nd, at 3.30 p.m. Dr. James L. Brownlie will read a paper on the bacteriological laboratory and the practitioner.

**LANCASHIRE AND CHESHIRE BRANCH.**—A science meeting of the Lancashire and Cheshire Branch will be held at the Salford Royal Hospital on Thursday, February 23rd, at 3 p.m. The following short papers will be read:—(1) Mr. Garnett Wright: Volvulus of the sigmoid; (2) Mr. R. Ollerenshaw: Fractures in the region of the elbow joint; (3) Dr. G. J. Langley: Some problems of glycosuria; (4) Mr. J. B. Macalpine and Mr. E. D'A. McCrea: Stricture of the urethra. After tea there will be an exhibition of cases, a display of exhibits from the pathological laboratory, and a demonstration by Dr. R. Gibson on the treatment of varicose veins by injection.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A meeting of the Hyde Division will be held in the Dukinfield Town Hall on Thursday, February 23rd, at 8.30 p.m., when an address will be delivered by Dr. A. Corsar Sturrock.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held on Friday, March 30th, when Dr. E. P. Cumberbatch will deliver a British Medical Association Lecture on the use of ultra-violet rays in general as well as in skin disease. It is hoped that there will be a large attendance of members.

**LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.**—A meeting of the Warrington Division will be held at the Infirmary, Kendrick Street, Warrington, to-day (Friday, February 17th) at 8.30 p.m. Mr. E. Fox will give a lantern demonstration on radiography as an aid to diagnosis.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next meeting arranged by the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, March 6th, at 9.30 p.m. Mr. Norman Patterson will read a paper on ear trouble in general practice.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, March 6th, at 8.45 p.m. Dr. J. W. McNeef will discuss the clinical features of thrombosis of branches of coronary arteries.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, February 21st, at 8.45 p.m. Dr. J. Stanley White will read a paper on some recent aspects of biological therapy, illustrated by lantern slides and a film, "How biological products are made." Dr. Jane Hawthorne having had to leave for the Continent the address on March 20th to the Division at the Town Hall, Catford, will be on the general practitioner and the prevention of venereal disease, by Mr. Wansey Bayly.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Whipp's Cross Hospital, Leytonstone, on Tuesday, March 6th, at 3.30 p.m. Dr. J. C. Muir, medical superintendent, will give a clinical demonstration.

**METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.**—A meeting of the Stratford Division will be held in the Board Room, Educational Offices, The Grove, Stratford, on Tuesday, February 21st, at 9.15 p.m. Lecture by Mr. W. Rowley Bristow, orthopaedic surgeon, St. Thomas's Hospital: Common disabilities of the knee-joint, and their treatment.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, March 9th, at 8.15 p.m. Mr. Graham S. Simpson will discuss the value of operations.

**NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.**—A meeting of the Bishop Auckland Division will be held in the Cottage Hospital, Bishop Auckland, on Friday, February 24th, at 8 p.m. Dr. Harvey Evers will give a lecture on uterine haemorrhage.

**NORTH OF ENGLAND BRANCH: STOCKTON DIVISION.**—A meeting of the Stockton Division will be held on Friday, February 24th, Dr. George Hall (Newcastle-on-Tyne) will give an address on infantile paralysis.

**SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.**—A general meeting of the Bedfordshire Division will be held at the Bedford County Hospital on Wednesday, February 22nd, at 3 p.m. Agenda: Letters and communications (a) from the Malta Branch re undulant fever; (b) from the Leicester Personal Health Association and from the British Medical Association on public education in health. Discussion: The treatment of varicose ulceration, to be opened by the chairman, Dr. H. D. Pollard.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 21st, at 8.30 p.m. Mr. A. E. Hayward Finch, medical superintendent of the London Radium Institute, will read a paper on radium. On February 22nd a lecture-demonstration will be given by Mr. E. T. C. Milligan at the Croydon General Hospital on practical points about rectal diseases, which will be preceded by tea at 4 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 1st, at 4 o'clock. Sir Thomas Lewis will give an address on the rheumatic heart in children. Tea will be served at 3.45 p.m.

**SUSSEX BRANCH: CHICHESTER AND WORTHING DIVISION.**—A meeting of the Chichester and Worthing Division will be held in the Burlington Hotel, Marine Parade, Worthing, on Wednesday, February 22nd, at 6 p.m. Business: Communication from head office about the inquiry into the treatment of varicose ulceration; organization of medical charities; paper by Dr. R. Brooke (Chichester): The modern operative treatment of hernias, illustrated by lantern slides and cases. Dinner will be served in the Burlington Hotel at 7.30.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Stratford Arms Hotel, Wakefield, on Thursday, March 8th. Dr. R. A. Veale, physician-in-charge of the skin department, General Infirmary, Leeds, will give a lecture on common skin diseases. Supper (2s. 6d.), at 7.45 p.m., will precede the lecture.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

The annual meeting of the West Bromwich Division was held on January 31st. The report of the work of the Division during 1927 stated that the chief matter of interest was the appointment of medical officer of health for West Bromwich, which was successfully negotiated. The contract rates in the Tipton area had been reformed and brought up to the recognized scale. The members of Parliament for West Bromwich, Smethwick, and Wednesbury had been written to and asked to vote against the Dogs' Protection Bill.

The following officers were appointed for 1928:

Chairman, Dr. D. M. Spring. Vice-Chairman, Dr. E. Ashton. Honorary Secretary, Dr. A. F. Adamson. Representative in Representative Body, Dr. J. M. Mitchell. Deputy Representative in Representative Body, Dr. D. M. Spring.

The Executive Committee will meet at an early date to arrange a programme for 1928.

It was decided to consult with the medical officers of health before taking any further steps regarding the education of the public in health matters.

Drs. Spring and Davidson agreed to supply the information as required for the inquiry into the treatment of varicose ulceration.

The new chairman, Dr. Spring, showed a case of rodent ulcer which was cured under treatment by ultra-violet rays, and also a case of carcinoma mammae which was steadily improving under the same treatment.

### BOMBAY BRANCH.

A MEETING of the Bombay Branch was held on November 22nd, 1927, at the Pathological Laboratory of the Grant Medical College, when Dr. R. Row was in the chair.

Dr. ARTHUR SWAIN, who had passed many years in China and was in India only temporarily on account of the unsettled conditions in China, read a paper on "The medical and important paper entitled "and medicinally: a medical man's interest... seised the good and the bad in the Chinese customs and beliefs, and in their social habits. Throughout he showed impartiality and an appreciation of the Chinese point of view, without any ridicule or contempt. He could not discuss the political aspect for want of time; but he gave a good account of the medical aspect. The Chinese relied greatly on the character of the pulse for their diagnosis, and it was described in the Chinese books as exhibiting more than a hundred different varieties. From the treatment point of view their stronghold was dietetics. Throughout all their methods a very great amount of superstition and evil spirits pervaded.

Dr. Row thanked the lecturer for his discourse and expressed the hope that Dr. Swain would be able to address the Branch again on the subject during his stay in India.

Dr. TURNER showed two samples of coloured urine that he was asked to examine during the last few months—one was pink and the other blue. Neither case showed any other abnormality. The pink colour was proved ultimately to be due to phenolphthalein present in chocolate that the child was fond of taking. The other was due to methylene blue in some preparation that the other child was taking.

### GLOUCESTERSHIRE BRANCH.

A MEETING of the Gloucestershire Branch was held at the General Hospital, Cheltenham, on January 12th, with Dr. J. G. SOUTAR, vice-president, in the chair.

The adjourned discussion on new growths of the breast was continued by Dr. CURTIS WEBB, who recommended the hardest rays possible for post-operative treatment, and others.

Mr. J. S. KELLET SMITH read a paper on painful spine in adults, dealing chiefly with those cases resulting from mechanical strain connected with lateral curvature. He said that the causes of tenderness and pain in such cases were inflammatory mischief in the joints, osteitis and periostitis set up by tension on ligaments and by direct pressure between bony points, and painful hypertonus of the spinal muscles. This last factor was especially important, and might be the chief element in the trouble, but all the factors named were often active and formed a very obstinate vicious circle. The reason for a lateral curvature making its appearance in the adult frequently demanded a close clinical and radiological analysis. Films were shown demonstrating postural curves associated with such conditions as sacralization of the fifth lumbar vertebra and renal calculus. Special stress was laid upon



the fact that a small inequality in the standing height of the legs, even so small as that due to the development of a one-sided flat-foot, would cause a side tilt of the pelvis which might result in a painful compensatory curvature of the spine. This sequence of events, and the mechanics of curvature in the dorsal region, were fully illustrated by anatomical slides and radiograms of cases. Mr. Kellett Smith thought that not enough attention was paid to the fact that the spine presented a large number of fairly big joints, which were very liable to sprain, capable of traumatic arthritis of acute and subacute type, and the possible site of adhesions. Lumbago, for instance, was generally attributed to "rheumatism in the muscles," because they felt hard and were tender. This was very often a manifestation of the rigidity and tenderness of a protective hyperlombus, and the occasional success of the osteopath in curing "bad backs," by putting the spine through movements to the full physiological excursion of all its joints, might be due to the breaking down of articular adhesions.

The beautiful illustrations, in films and slides, were a special feature of the address, and Mr. Kellett Smith was very cordially thanked on the motion of Dr. Soutar.

#### METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.

A MEETING of the Lambeth and Southwark Division was held on January 25th at Lambeth Carlton Club, Coldharbour Lane. Dr. R. G. W. St. Cenn was in the chair.

Dr. A. G. THOMPSON, medical officer of health for Lambeth, read a most interesting and instructive paper on the Schick test and immunization against diphtheria, with demonstration and charts. He began by reminding his hearers that the Schick test was a means of indicating with considerable accuracy the susceptibility to diphtheria of any subject tested—in other words, it was possible by this means to pick out all those in a community who were susceptible to the disease and to immunize them, while the remaining non-susceptibles could be ignored altogether. The main points in Dr. Thompson's paper were as follows: (1) The absolute safety of the individual immunized with British material. (2) The absurdly easy technique of immunization—merely three hypodermic injections of material which was neither pain-causing nor expensive. (3) The certainty of rendering the subject so tested immune to diphtheria. (4) The death ratio of diphtheria in proportion to age was 16 per cent. under 1 year old, 14 per cent. from 1 to 2 years old, 7 per cent. from 3 to 5 years old, 3 per cent. from 5 to 15 years, and almost negligible later in life, showing the paramount necessity of immunizing infants within the first few months of life. (5) In practice so few children of 5 and under were immune that it was not worth while to perform the Schick test, but it was better to immunize all, treating all as susceptibles. (6) The ease, certainty, safety, and cheapness of immunization made it eminently suitable for the general practitioner to undertake. Moreover, the general practitioner was in the best position to advise the great majority of parents, who looked, naturally, to him for friendly guidance on medical matters.

A detailed survey of diphtheria during the past ten years in Lambeth was presented by Dr. J. GRAHAM FORBES of the Public Health Department, London County Council. In that period there had been a total of between 6,400 and 6,500 notified cases, and over 500 deaths, among a population ranging approximately from 302,000 to 310,000, and giving an average attack rate for the whole borough of over 2 per 1,000; a death rate of nearly 17 per 100,000 of the inhabitants, and a case mortality of over 8 per cent. per annum. As was to be expected, the incidence and mortality had mainly fallen upon children under the age of 15, and of the above-quoted total there had been a proportion of roughly 2,000 cases and 300 deaths in the first five years of life, and 3,000 cases and 200 deaths between the ages of 5 and 15. The case mortality of the two age groups was respectively 14 and 7 per cent.; the attack rates having been over 8 per 1,000 under 5, and 5.6 per 1,000 of the population between 5 and 15 years, and the death rates nearly 120 per 100,000 under 5, as compared with 40 between the ages of 5 and 15. Dr. Forbes went on to discuss at some length the distribution of diphtheria in the borough, the more populous parts having suffered most, where contact was freer, with more crowded conditions of living and a higher population density per acre. Diphtheria as a cause of death in Lambeth, compared with other diseases in the ten years 1917 to 1926, had occupied a high position, as the following figures showed: In a total of 39,636 deaths in the borough in those ten years the rate per 1,000 deaths was as follows: measles 15.3, diarrhoea 14.3, diphtheria 13.2, whooping-cough 9.2, and scarlet fever 3.0, showing that diphtheria still occupied far too prominent a place. Dr. Forbes then gave a summary of the basis of evidence supporting the value of the Schick test and toxoid antitoxin immunization, which he stated rested mainly on what had followed its use in Great Britain and in the United States, as well as in many other parts of the world, in the control of diphtheria outbreaks in residential schools, institutions, and hospitals, as had been dealt with at length in the report published in May, 1927, by the Medical Research Council. In conclusion, he emphasized the point that the technique of the Schick test and of toxoid antitoxin inoculation was simple, but required practice, full knowledge of the procedure, and minute attention to detail. Moreover, the replacement of toxin antitoxin still in use outside this country by the later production toxoid antitoxin, carefully supervised and standardized, and now generally employed throughout Great Britain, had minimized the risk of any untoward result or serious reaction, and ensured complete security.

A hearty vote of thanks was proposed by Dr. R. S. PEARSON, who gave details of the work done and results obtained at the Spurgeon's Orphanage, Stockwell. Dr. V. V. PARTRIDGE seconded the vote of thanks to the lecturers for their informative remarks.

#### PRETORIA BRANCH.

THE report of the honorary secretary of the Pretoria Branch of the Medical Association of South Africa (British Medical Association) states that the Branch now numbers 109 members (40 country and 69 town); 24 new members joined during the year, while 3 had been transferred to other branches. Since the annual meeting in January, 1927, there had been ten general meetings, with an average attendance of 24.6. Four of the meetings had been devoted to the reading of papers, when the members took an active part in the discussions which followed, while six were mainly clinical meetings, when excellent clinical material had been presented. A new feature had been the display of interesting x-ray films, and the medical officers in charge of the cases gave brief clinical notes. The honorary secretary records his thanks to Mr. Ensor of the x-ray department of the Pretoria Hospital for his labours in making this feature a success.

The Branch Council held twelve meetings at the house of the president, when a large number of important matters were discussed. Organization rules had been adopted, and the questionnaire of the Federal Council regarding the medical staffs of public hospitals was still under consideration. A start has been made towards establishing a reference library, and the hope is expressed that when the new hospital is completed the reference library will be placed on a better basis.

Prolonged negotiations between the Branch Council and the representative of the Municipal Employees' Sick Fund have led to a satisfactory arrangement for medical service to the members of the sick fund, subject to certain minor adjustments. It is hoped that when the whole matter comes up for review in a year's time it will be found possible to continue the scheme.

Negotiations with the Hebrew Order of David and the Pretoria Sick Benefit Society were reported to a general meeting on November 8th, 1927, when the following principles were unanimously agreed to:

1. An income limit for members of the benefit society. This income limit to be fixed by the Branch Council and approved of by the Branch in general meeting.
2. Free choice of doctor by patient and of patient by doctor.
3. Remuneration to be for services rendered at the minimum fixed by the Branch.
4. Payment must be guaranteed by the benefit society.

Draft rules for the administration of the Central Benevolent Fund of the Medical Association of South Africa have been formally approved. The Hospital Survey Committee report has been considered and the principles advocated therein have been generally approved, with the recommendation that, as preventive and curative medicine can only be co-ordinated under one control, that control should be vested in the Union Government.

The annual dinner, when several distinguished visitors were present, was a great success.

#### SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held on February 9th at 9.30 p.m. at the Quenn's Hotel, Southsea. The meeting was preceded by a supper.

Professor HUGH MACLEAN gave a British Medical Association Lecture on renal disease and high blood pressure. The speaker, who gave an address last year, on rising to speak, was given an enthusiastic reception. The points of the lecture were emphasized by some interesting specimens. A discussion followed, in which the following took part: Drs. BLACKMAN, CLARK, DEWEY, T. A. M. FORD, PHILIP GREEN, Mr. INMAN, Drs. LYTLE, McASKIE, WARREN, and BOSWORTH WRIGHT. An instructive and entertaining evening was brought to an end by a vote of thanks to Professor Maclean, proposed by Dr. CLARK and seconded by Dr. JEANS, which was carried with much applause.

#### SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

THE annual meeting of the West Suffolk Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on January 24th.

Arising out of the minutes, the SECRETARY reported that he had heard from the clerk to the county council to the effect that the council would be willing to pay a fee of 10s. 6d. for cases in which a doctor furnished a report in response to a request from the coroner, as a result of which the holding of an inquest was avoided.

The following officers were elected:

Chairman, Dr. E. C. HARDWICKE. Vice-Chairman, Dr. Grace Griffith. Honorary Secretary, Dr. B. E. A. BATT. Representative at Annual Representative Meeting, Dr. Grace Griffith. Deputy Representative, Dr. F. R. BARWELL.

After a prolonged discussion it was agreed, on the motion of Dr. BARWELL, and seconded by Dr. BIRD, that the capitation rate for attendance on all juvenile members of friendly societies should not be less than 8s. 6d.; that the new rate should be enforced not later than July 1st, 1928; and that doctors should in future insist on having a written contract, in which should be stated the radius within which they were prepared to act, the fact that they would only be liable for those on their list, and the notice necessary on either side to terminate the contract. It was also decided to advise all the doctors in the area that they should insist on having a list of juvenile members whom they had accepted, preferably in a card index form, and that this list should show the date of initiation of each member and the age at initiation. The secretary was instructed to send a copy of the resolutions and suggestions to all practitioners in active practice, whether members or not, and to the secretaries of all neighbouring Divisions.

In regard to the education of the public in health matters, the small subcommittee elected by the Executive Committee was



empowered to consult with all local bodies interested in the public health—namely, the county council, borough councils, district councils, National Health Insurance Committee, and the committee of the West Suffolk General Hospital.

The SECRETARY gave a brief explanation of the nature of the collective investigation into varicose ulceration and the kind of form that would be required to be filled up. Several members undertook to take part.

Dr. BIRD suggested that the Division should send out a circular stating the fees to be charged for various services, such as examinations for life insurance, workmen's compensation, etc. It was agreed that the revision of the circular issued by the Division some years ago should be undertaken at a later date.

#### ULSTER BRANCH.

A GENERAL meeting of the Ulster Branch was held in the Medical Institute, Belfast, on January 19th. Dr. W. PORTER (Portlough), the president, occupied the chair, and provided tea for the members.

Dr. F. M. B. ALLEN read a paper on the use of acidified milks in infant feeding. He said that though breast-feeding was the most satisfactory, it was sometimes impossible for various reasons; proprietary or patent foods were of use occasionally. But in four out of every five cases in artificial feeding cow's milk was used, and cow's milk required the addition of more hydrochloric acid. Acidified milk was exemplified by the use of buttermilk for very many years in Holland, and of Bulgarian koumiss. Alkali slowed down the emptying stomach. Two and a half years ago, as the result of suggestions in American journals, Dr. Allen had tried acidified milk in the Queen Street Hospital for Sick Children, and had elsewhere explained the process and his success in its use. In one of his cases the mother had asked for a return to lactic acid after a change to the citric acid, stating definitely that the child was better with the former. Dr. Allen outlined the indications for the use of acidified milk and the method of preparation, which could be undertaken by any intelligent mother. Diarrhoea, wasting, and vomiting were cured, and he did not see why rickets, tetany, and coeliac disease should not improve; cod-liver oil and fresh fruit juice might be added.

Mr. G. D. McFANDER read a paper on the production and treatment of obstetric paralysis. He showed a large number of cases illustrating variations in the affection; and with the aid of numerous diagrams explained the direct and predisposing causes, and how some of the methods, such as twisting the head round, which were adopted to expedite delivery, might bring about the complication. He added that some cases of sudden death of the infant were due to injury to the medulla.

### Correspondence.

#### Change of Doctor.

SIR,—Like most of the doctors with whom I have discussed the matter, I object to the cumbersome new regulations for change of doctor in national health insurance. The worst feature of the whole business, however, is that of the signing of the pink slip which the Insurance Committee attaches to the inside of the insured person's card after he has taken his card to the committee's office and notified his desire to change. The card, with the slip attached, is then returned to the insured person, who is requested to take it again to the "new" doctor to be signed by him. As the insured person has already sat for perhaps an hour in a crowded waiting room waiting to see the "new" doctor in the first instance as regards the desire for change, he simply will not bring the card a second time.

My experience is that the card is put in a drawer until the next time the insured person is ill, and is produced with the confirmatory pink slip, of course unsigned up to that date.

To say that free choice of doctor is not interfered with is mere eye-wash.—I am, etc.,

Darlington, Feb. 1st.

C. J. KINK.

#### Ophthalmic Benefit and Clinics.

SIR,—One aspect of the subject under discussion has not been noted by your correspondents—namely, the large number of patients who need repeated attention and to be seen very often. I have just gone through my card index for this month and find that I have seen 22 persons under the ophthalmic benefit scheme. Of this number only 11 were refraction cases. The others were as follows:

Two patients each with two large Meibomian cysts, which were evacuated under cocaine: seen once.

Corneal abrasion: seen four times.

Severe interstitial keratitis: seen first in September and twelve times to date.

Acute iritis: now cured, but seen ten times in all.

Angular conjunctivitis and blepharitis: seen three times.

Chronic glaucoma: I have operated on one eye successfully, and I have seen the patient in all seven times at my house, besides attendance at hospital; I shall be seeing him again.

Severe iridocyclitis: seen six times to date.

Deep septic ulcer of cornea: seen, so far, twice.

Two patients with neglected foreign body on cornea, with resulting ulcer and keratitis: one seen three times and now cured; the other had considerable keratitis when first seen, and has been seen three times to date.

The glaucoma patient had already been to two opticians the second time having been sent by his society. Six weeks of most valuable time had thus been wasted. I had to examine him, examine him again after intensive eserine treatment do tonometric readings (they were 40 and 50), and see him three times before I took him into hospital; I have seen him four times since. In course of time I hope to receive on guinea for my work from his society, who might have had to pay him sick benefit for years. It does not seem to be realized that the fee of one guinea covers all cases. It will be seen that I have received anything from eighteenpence to one guinea per attendance, and that a total of sixty-three attendances divided into twenty-two possible guineas works out at not quite 7s. an attendance for the average, but is really less, as some of the cases are not finished. Also, most of the inflammatory cases were sent as emergencies by their medical men, and had to be treated, the application for benefit being sent in after I had seen the patients. In some cases the benefit may be refused. Not long ago, by the time a septic ulcer had healed the patient received a form from his society to take to an optician "who would then say whether he needed to see a specialist." The ulcer was then healed and he was told that his society could take no responsibility for my fee, as he had not waited for instructions before applying to me. So I speak of "possible guineas." That reduces it down to a probable 5s. per attendance. Writers in the JOURNAL, and others who do not know what a busy ophthalmic practice is really like, apart from a West End consulting room, would like to reduce the fee to 10s. 6d. per case. That brings the payment for the above attendances down to a probable 2s. 6d. Now the average time for those attendances, I think, would be twenty minutes to half an hour. It is necessary to allow not less than half an hour for a refraction case, and a glaucoma case took an hour on one occasion; the suggested fee of half a crown is absurd.

I may add, perhaps, that I am acquainted with West End practice as well as "suburban" practice, and that the above cases were seen at my home address in Surrey just outside the London area. Before the ophthalmic benefit scheme was begun (there is no settled scheme yet) I used to see the above type of patient for no fee, or for a reduced fee, at the request of the patient's medical man, and they knew that they were being seen under exceptional circumstances. Now it is suggested that, if my name is on the "ophthalmic benefit list," they will have the right to see me for a total fee of 10s. 6d., which, as I have pointed out, is probably about 2s. 6d. per attendance. Is it surprising that some of us feel inclined to withdraw our names at once, and see patients who are poor, and sent by their doctors, in the old way?

The medical man who takes up ophthalmology and expects to receive "specialists' fees" must have had at least as good a training in his special line as the dentist has for his life-work. Within a few years such a man will find that he has as much work as he can manage, that 40 per cent. of his cases are not refraction cases, that half his time is taken up by medical and surgical ophthalmic cases, and that he must be something of a neurologist. To hear and to read some of the discussion about "ophthalmic benefit" it might be supposed that an ophthalmologist did nothing else but correct presbyopia. Let us endeavour to remove this impression from the minds, not only of insurance officials, but of medical practitioners who should know better.—I am, etc.,

London, W.1, Jan. 31st.

M.D., D.O.M.S.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders W. J. Morris to the *Dragon*; W. F. Beattie to the *Conquest*; L. S. Goss, O.B.E., to the *Suffolk* on commissioning; T. J. O'Riordan to the *Tulcan*; R. P. Nipps to the *Pembroke* for R.N. Barracks, Chatham; W. H. Murray to the *Frobisher* on recommissioning and as Squadron Medical Officer on transfer of flag.

Surgeon Lieutenants C. B. Fox to the *Virid* for R.N. Hospital, Plymouth, temporary; G. W. Garde to the *Centurion*; O. Watson to the *Suffolk* on commissioning; E. R. Sorley to the *Pembroke* for R.N. Barracks, Chatham; J. B. Patrick to the *Frobisher* on recommissioning; A. S. Burns to the *Calliope*.

Messrs. R. A. Graff, T. L. Cleave, G. D. J. Ball, E. S. Bolton, and S. L. Lord have entered as Surgeon Lieutenants for short service and appointed to the *Pietory* for R.N. Hospital, Haslar, for course of instruction.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Commander F. H. Watson is placed on the retired list.

## ROYAL ARMY MEDICAL CORPS.

Major W. I. Thompson, D.S.O., retires on retired pay on account of ill health and is granted the rank of Lieutenant-Colonel.  
Captain J. C. Harris, half-pay list, late R.A.M.C., retires on retired pay on account of ill health contracted on active service.  
Lieutenant (on probation) W. R. C. Spicer, from the seconded list, is restored to the establishment.

## ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant G. J. Griffiths is transferred to the Reserve, Class DH. Flying Officers D. A. Wilson to R.A.F. Station, Bicester; J. Kemp, H. B. Kennedy, J. I. MacAndrews, R. F. MacLachy, J. B. Murphy, J. C. Neely, F. A. O'Connor, L. O'Connor, and J. J. Quinlan to the Medical Training Depot, Halton, and appointment to short service commissions.

## INDIAN MEDICAL SERVICE.

Colonels R. W. Knox, D.S.O., and A. Fenton and Lieut.-Colonel L. T. R. Hutchinson have retired from the Service.

Consequent on the appointment of Brevet Colonel S. R. Christophers, C.I.E., O.B.E., Director, Central Research Institute, Kasauli, as Member and Secretary of the Medical Research Institute Committee, Captain K. R. K. Jeunger, Assistant Director, Central Research Institute, is appointed to officiate as Director of the Institute.

Lieut.-Colonel F. E. Wilson, an Agency Surgeon and Civil Surgeon, Quetta, is appointed to officiate as Residency Surgeon and Chief Medical Officer, Baluchistan, in addition to his own duties.

The services of Major M. G. Bhambhani are placed permanently at the disposal of the Government of Bombay for employment in the Jail Department.

The services of Major K. B. Bhambhani are placed permanently at the disposal of the Government of Bihar and Orissa for employment in the Jail Department.

The services of Captain Som Dutt, M.C., are placed at the disposal of the Government of Bengal temporarily for employment in the Jail Department.

Captains S. A. Phatak and R. A. Warters to be Majors.

## TERRITORIAL ARMY.

## ROYAL ARMY MEDICAL CORPS.

Major H. E. S. Richards, M.C., T.D., having attained the age limit, is retired, and retains his rank with permission to wear the prescribed uniform.

Major (prov.) A. H. Fullerton is confirmed in his rank.

Captain W. Lumley, late R.A.M.C., to be Captain, with precedence as from July 26th, 1924.

Lieutenants to be Captains: F. N. Foster, E. Holmes, F. A. Smorfitz, and P. C. Lewis.

To be Lieutenants: Lieutenant J. S. Fulton, late R.F.V. (Special Reserve), and A. C. King.

Superannuation for Service with O.T.C.—Captain W. R. Martine from General List, T.A., to be Lieutenant with precedence as from July 24th, 1925, superannuation for service with Medical Unit, Edinburgh University Contingent, Senior Division, O.T.C., and relinquishes the rank of Captain.

## TERRITORIAL ARMY RESERVE OF OFFICERS.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. B. Jamieson, T.D., and Major J. A. Davies, having attained the age limit, are retired and retain their rank, with permission to wear the prescribed uniform.

Captain B. Holroyd, having attained the age limit, relinquishes his commission and retains his rank.

## COLONIAL MEDICAL SERVICES.

Dr. W. L. Peacock appointed Senior Medical Officer, Masindi, Uganda. Drs. E. A. C. Langton and S. W. T. Lee appointed District Medical Officers, Mbende and Arua, Uganda, respectively. Dr. C. J. Macquillan, Medical Officer, Tanganyika. Dr. W. C. Smith, Medical Officer, Nigeria. Dr. G. V. Allen, Senior Medical Officer, Nigeria.

Dr. H. C. Wilkinson, Medical Superintendent, King Edward VII Memorial Hospital, Bermuda, appointed Director of the Medical and Health Department, Bermuda. The following appointments have been made by the Secretary of State for the Colonies during the month ended January 31st: Captain J. M. Wallace, Bacteriologist, Trypanosomiasis Research, Uganda. Dr. H. M. Soar, Medical Officer, West African Medical Staff. Dr. D. W. McLaren, Medical Officer, West African Medical Staff. Dr. F. Kane, Medical Officer, Cold Coast. Lieutenant C. W. Hope-Gill, Medical Officer for Tsetse Fly Investigation, West African Medical Staff, Nigeria. Miss J. R. Mason, Lady Medical Officer, Gold Coast. Mr. W. H. Emslie, Medical Officer, West African Medical Staff. Dr. A. C. Lovett-Campbell, West African Medical Staff. Dr. H. C. Curtis, Medical Superintendent, King Edward VII Memorial Hospital, Bermuda. Miss E. A. Robertson, Medical Inspector of Schools, Federated Malay States.

## VACANCIES.

BILFORD HOSPITAL, Fort William, Inverness.—Medical Superintendent and Surgeon. Salary £100 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—(1) Second House-Surgeon. (2) Third House-Surgeon. (Non-resident.) Salary at the rate of £150 per annum each.

BLACKBURN COUNTY BOROUGH.—Medical Officer of Health and School Medical Officer. Salary £1,000 per annum.

BOOTH BOROUGH HOSPITAL.—(1) Senior Medical Officer. (2) Two Junior Medical Officers. Males. Salary £150 and £125 respectively.

BRADFORD MUNICIPAL GENERAL HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary £200 per annum each.

BRISTOL ROYAL INFIRMARY.—(1) Two House-Physicians. (2) Four House-Surgeons. (3) House-Surgeon to Ear, Throat, and Nose Department. (4) House-Surgeon to Gynaecological, Ophthalmic, and Dermatological Departments. (5) Obstetric House-Physician. (6) Casualty House-Surgeon. (7) Assistant House-Surgeon and House-Surgeon to Ophthalmic Department. (8) Dental House-Surgeon. Salary (1) to (7) at the rate

of £80 per annum, but if candidate had previously held resident appointment in Infirmary £100, and for (8) £80 per annum if resident, and £116 if non-resident.

BRISTOL: WALKER DEXTER PRIVATE HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Anaesthetist (female).

BURY INFIRMARY.—Second House-Surgeon (male). Salary at the rate of £175 per annum.

CAMBRIDGE: PARISH OF ST. GILES.—Locumtenent Assistant Medical Officer. Salary £7 7s. per week.

CANTON HOSPITAL, Fulham Road, S.W.3.—Surgical Registrar.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—Junior House-Surgeon (male). Salary £150 per annum.

CHURCH MISSIONARY SOCIETY.—Medical Officer for Church Missionary Society Hospital, Omdurman.

CYFRUS.—District Medical Officer. Salary £600 per annum.

HARFORD COUNTY AND CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male, unmarried). Salary £350 per annum.

HARTFORD COUNTY HOSPITAL.—(1) Resident Surgical Officer. (2) House-Physician. Salary £250 and £150 per annum respectively.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) Assistant Pathologist and Research Fellow; salary £450 per annum. (2) Part-time Junior Casualty Officer for six months (non-resident). Salary £75.

JOHANNESBURG: UNIVERSITY OF WITWATERSRAND.—Senior Lecturer in Physiology. Salary £516 per annum, rising to £726.

KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL, Maidstone.—Ophthalmic House-Surgeon (male). Salary at the rate of £200 per annum.

LEICESTERSHIRE COUNTY COUNCIL.—Assistant Medical Officer for Maternity and Child Welfare and Assistant School Medical Officer (female). Salary £600 per annum.

LEICESTER ROYAL INFIRMARY.—Two House-Physicians. Salary at the rate of £125 per annum.

LINCOLN CITY AND COUNTY BOROUGH.—Medical Officer of Health. Salary £1,000 per annum.

LINCOLN COUNTY HOSPITAL.—Junior House-Surgeon (male, unmarried). Salary £150 per annum, rising to £200 after six months' approved service.

LIVERPOOL: SAMARITAN HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £160 per annum.

LIVERPOOL: STANLEY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Salary at the rate of £100 per annum each.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Resident Medical Officer. Salary at the rate of £175 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Resident Medical Officer. (2) House-Physician. (Males, unmarried.) Salary £250 and £125 per annum respectively.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—House-Surgeon. Salary £200 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (3) Casualty House-Surgeon. (4) Obstetric House-Physician. Males. Salary at the rate of £120 per annum.

PLYMOUTH: HOMOEOPATHIC AND GENERAL HOSPITAL.—House-Surgeon (male). Salary £100 per annum.

PRICE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—Radiographer.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—(1) Assistant Resident Medical Officer (male); salary at the rate of £80 per annum, rising to £100 on appointment as senior. (2) District Resident Medical Officer; salary at the rate of £80 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Resident Medical Officer. (2) Two House-Physicians. (3) Clinical Assistant in the Orthopaedic Department for Out-patients; honorarium 5s. per attendance. Salary for (1) £200 and for (2) £160 per annum.

RICHMOND, STREY: ROYAL HOSPITAL.—Junior Assistant House-Surgeon (male). Salary at the rate of £100 per annum, rising to £150 on appointment as Senior.

ROYAL CHEST HOSPITAL, City Road, E.C.—Assistant Tuberculosis Officer (non-resident). Salary £600 per annum.

ST. GEORGE'S HOSPITAL, S.W.1.—Assistant Radiologist. Remuneration at the rate of £110 per annum.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL, Hyde Park Corner, S.W.1.—Whole-time Worker in Research Department. Initial salary £500 per annum.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester Square, W.C.—Honorary Medical Registrar.

SWANSEA FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Assistant House-Surgeon (male). Salary £100 per annum.

SOUTHEND VICTORIA HOSPITAL.—Junior House-Surgeon (male). Salary at the rate of £150 per annum.

TENBRIDGE WELLS AND COUNTY GENERAL HOSPITAL.—House-Surgeon. Salary £160 per annum.

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—Senior and Junior Honorary Anaesthetists. Honorarium £1 ls. per visit.

WEST HAM UNION.—Assistant Medical Officer at the Whipps Cross Hospital. Salary £300 per annum, rising to £250.

WEST NORWICH AND KING'S LYNN HOSPITAL.—(1) Resident Surgical Officer. (2) Assistant House-Surgeon. Salary £400 and £100 per annum respectively.

WILLESDEN MUNICIPAL HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL, Shooters Hill, S.E.18.—(1) Honorary Senior Anaesthetist. (2) Two Honorary Anaesthetists. Honorarium 50 guineas per annum each.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Whitehaven (Cumberland), Chesham (Buckinghamshire), Clydesdale (West Yorkshire), Montgomery (Montgomeryshire), Oakham (Rutlandshire), King's Lynn (Norfolk), Newburgh (Fife), Applications to the Chief Inspector of Factories, Home Office, Whitehall, London, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the Districts of Chester (Chesham No. 7), Holywell and Flint, and Mold (Chesham No. 29) County Courts. Applications to the Private Secretary, Home Office, Whitehall, S.W.1, by March 3rd.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

ROYAL CHEST HOSPITAL, City Road, E.C.—Tues., 3.15 p.m., Intrathoracic Tumours.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.1.—Wed., 4.30 p.m., Some Aspects of Legal Live Birth.

ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Thurs., 4.30 p.m., Methods of Diagnosis in Renal Conditions.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Ballham, S.W.12.—Wed., 4 p.m., Lantern Demonstration: The Radiographic Values in Bones and Joints.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Telegrams: Articulate Westcott, London).  
MEDICAL SECRETARY (Telegrams: Medisecra Westcott, London).  
EDITOR, BRITISH MEDICAL JOURNAL (Telegrams: Aitiology Westcott London).  
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (Internal exchange four lines).  
SCOTTISH MEDICAL SECRETARY: 6, \_\_\_\_\_ (Telegrams: Associale, Edinburgh).  
IRISH MEDICAL SECRETARY: 16, \_\_\_\_\_ (Telegrams: Bacillus, Dublin. Tel. 4737 Dublin).

DEATH.

MCDONALD BROWN.—On February 9th, 1923, suddenly, at 18, The Cloister Crofts, Leamington Spa, Caroline Helen, beloved wife of John Macdonald Brown, J.P., M.D., F.R.C.S., late of 64, Upper Berkeley Street, London, W.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 25TH, 1928.

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## British Medical Association.

### PROCEEDINGS OF COUNCIL.

Wednesday, February 8th, 1928.

A MEETING of the Council of the British Medical Association was held on Wednesday, February 8th, at Tavistock Square, when Dr. H. B. BRACKENDURY was in the chair, and the following were present:

Sir Robert Philip (President), Dr. C. O. Hawthorne (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Sir Ewen Maclean (President-Elect), Dr. A. Lyndon (Deputy Chairman of Representative Body), Sir Robert Bolam (Immediate Past Chairman of Council), Dr. J. Barcroft Anderson, Dr. J. Armstrong, Dr. F. J. Baidon, Sir Alfred Blenkinsop, Dr. J. W. Bone, Dr. H. C. Bristow, Dr. G. F. Buchan, Dr. H. G. Dain, Dr. C. E. Douglas, Mr. T. P. Dunkhill, Mr. W. McAdam Eccles, Dr. F. W. Goodbody, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. R. W. Leslie, Dr. E. Lewys-Lloyd, Dr. J. Livingstone London, Sir Richard Luce, M.P., Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Dr. O. Marriott, Dr. J. C. Matthews, Dr. G. W. Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Dr. W. Paterson, Dr. J. R. Prytherch, Dr. F. Radcliffe, Dr. E. H. Snell, Mr. H. S. Souttar, Dr. E. A. Starling, Dr. John Stevens, Lieut.-Colonel Ashton Street, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker, Mr. A. M. Webber, Sir William Wheeler, and Dr. W. E. A. Worley.

Apologies for absence were received from: Mr. R. G. Hogarth, Dr. D. E. Finlay, Dr. T. Fraser, Dr. F. J. Gomez, Dr. E. K. Le Fleming, Dr. J. G. McCutcheon, Dr. A. Manknell, Lieut.-Colonel F. O'Kinealy, Mr. J. Patrick, Dr. R. C. Peacocke, Group Captain N. J. Roche, Dr. Lockhart E. W. Stephens, and Dr. D. Walshe.

#### Preliminary Business.

The Chairman said that since the last meeting a colleague who had been present at the Council on that occasion had passed away—Sir Percy Bassett-Smith. Sir Percy was a man greatly esteemed by all who knew him. In the work of the Council, though primarily interested in his own special department of medical practice, he had shown a catholic sympathy. The members, by a standing vote, authorized the Chairman to forward a letter of condolence to the family.

The congratulations of the Council were accorded to Sir Percy Sargent, a member of the Association, and to Sir Frederic Hallett, an honorary member, on their recent honours.

An invitation from the American Medical Association to send an official delegate or delegates to the annual congress, to be held in Minneapolis in June, was considered. It was stated that the President of the Association might be able to attend, but that domestic reasons made it somewhat doubtful, and that Sir Robert Philip would like some deputy to be appointed. The matter was left in the hands of the Officers of the Association. A somewhat similar course was taken in respect to the customary celebration of the Faculty of Medicine, Cairo, and the International Congress of Tropical Medicine and Hygiene,

to take place in Egypt next December. The President hoped to be able to attend.

Dr. G. F. Buchan and Dr. I. W. Johnson, members of the Council, were appointed delegates to attend the Royal Sanitary Institute Congress in July.

#### Election of Future President.

A communication was received from the Manchester Division intimating that it desired formally to nominate Mr. A. H. Burgess, F.R.C.S., honorary surgeon to the Manchester Royal Infirmary, and professor of clinical surgery at Victoria University, Manchester, as President of the Association in 1929-30. The Council unanimously agreed to a motion by the Chairman that a recommendation in this sense be made to the Representative Body.

#### Vice-Presidents.

The Chairman also moved that it be recommended to the Representative Body that Sir Robert Bolam and Sir Dawson Williams be elected Vice-Presidents of the Association in recognition of their services as Chairman of Council, 1920-27, and Editor of the BRITISH MEDICAL JOURNAL, 1898-1923, respectively. This was carried unanimously.

#### Sir Dawson Williams.

A further recommendation to the Representative Body, that Sir Dawson Williams be offered the title of Emeritus Editor of the BRITISH MEDICAL JOURNAL, was also unanimously adopted.

The Chairman said that on the report of the Editorial Staff Committee, to be brought up later, there was a resolution passed by that committee placing on record its profound appreciation of Sir Dawson Williams's great services. He thought the Council would desire that this resolution should be adopted as its own, and he proceeded to read it as follows:

The Council of the British Medical Association, at its first meeting after his retirement from the position of Editor of the BRITISH MEDICAL JOURNAL on completing thirty years in that office, wishes to place on record its profound appreciation of Sir Dawson Williams's great services to the Association and the medical profession during the past forty-seven years. The Council recognizes with gratitude the high position the JOURNAL has attained under Sir Dawson Williams's direction, and offers to him on behalf of the Association its warmest wishes for a renewal of health in the leisure he has so well earned by his long and devoted service.

The Chairman having moved this from the chair as the expression of the feeling of the Council, it was seconded by the President, and carried unanimously and with acclamation.

*Election of Overseas Members of Council.*

It was declared that the following, being the only nominations received, were duly elected members of Council for the years 1928-31: Mr. T. P. Dunhill (South Australian, Tasmanian, Victorian, and Western Australian Branches); Sir T. Jenner Verrall (New South Wales and Queensland Branches); Dr. G. Clark Trotter (New Zealand and Fiji Branches).

*Appointment of Solicitors.*

The Council considered the appointment of a Solicitor to the Association for the period April 1st, 1928, to March 31st, 1929. Mr. W. E. Hempson had intimated his decision not to seek reappointment. After discussion it was the opinion of the Council that there were certain advantages in appointing a firm rather than an individual, and on the motion of Sir Robert Bolam it was agreed that Messrs. Hempsons, of Henrietta Street, W.C., the firm of which Mr. W. E. Hempson has been for many years the leading member, be appointed Solicitors to the Association for the period stated.

*MEDICO-POLITICAL BUSINESS.**Contract Rate for Juvenile Oddfellows.*

Dr. Bone, chairman of the Medico-Political Committee, said that his committee had been approached by the Manchester Unity of the Independent Order of Oddfellows with the suggestion that the Association should consider the adoption of a standard fee for medical attendance and medicine supplied to juvenile members of the society. In the course of a conference it was stated that the board of directors of the Order was prepared to advocate general acceptance by all juvenile branches of a standard rate of 8s. 8d. per head per annum for medical attendance and medicine, with a slightly lower rate for exceptional areas, where, owing to economic conditions, the standard rate was not feasible, free choice of patient by doctor and doctor by patient to be safeguarded. A recommendation in this sense to the Representative Body was accordingly brought before the Council.

Dr. Starling said that this raised a question which had been before the Representative Body, as well as the Divisions, on many occasions. It was well known that medical attendance on children and young people was much more onerous than attendance on adults. This matter ought to be considered very closely before a capitation fee was fixed at a lower rate than under national health insurance, where the fee was for attendance alone. In 1925 the Council of his Branch was approached by a local juvenile lodge of the Independent Order of Oddfellows, and asked to suggest a suitable capitation rate for the medical officer. After discussion and negotiation a capitation fee of 9s. for medical attendance and the provision of drugs was suggested, and was accepted by both the doctor concerned and the lodge, and he believed it still obtained. If the present recommendation were passed it would make a difficulty for medical men in other circumstances in holding out for more than 8s. 8d.

Dr. Radcliffe asked whether it was not the policy of the Association to oppose all contract practice, in spite of the National Insurance Act. Dr. Bone replied that it certainly was not.

Dr. Johnson opposed the recommendation. If he interpreted aright the feelings of his brother practitioners of Lancashire, this proposal would receive universal condemnation.

Dr. Walker asked within what ages these juvenile members came, and whether they were examined before admission. He reminded the Council that this was not a question of treating with individuals, but with a society which had large reserves, accumulated to a considerable extent owing to the wretched fees paid to medical men in the old days.

Dr. Bone replied that the children might be of any age from birth up to 16 years, and he believed that it was not customary to have a medical examination before entry.

Dr. Hawthorne thought that before the Council decided on this proposal the opinion of the Insurance Acts Committee should be ascertained, as, if such a decision were made, it would have an important bearing on the fee to be paid for dependants of insured persons if and when these dependants were brought into national health insurance. He moved that the recommendation be postponed until after consideration by the Insurance Acts Committee, and this was seconded by Dr. Lyndon, and carried.

The Chairman pointed out that what was intended here was not to encourage the extension of contract practice, but to raise the fee from the more usual 6s. 6d. to 8s. 8d.

It was agreed that the matter should be reported to the next meeting of Council after the Insurance Acts Committee had considered it.

*Assistant Medical Officers at Mental Hospitals.*

Dr. Bone brought forward certain propositions with regard to the salaries and emoluments of assistant medical officers to mental hospitals. The policy of the Association in this matter was laid down in 1915, and therefore the figures did not correspond with the present cost of living. The Council now agreed, on Dr. Bone's motion, to express the following opinions, not with a view to recommendation to the Representative Body, but as a matter of record:

(i) That all assistant asylum medical officers should be able to look forward to a salary which with emoluments would amount to at least £600 per annum after some five years' service; that this end could be attained by a provision that assistant asylum medical officers should be given a minimum commencing salary of £350, with annual increments of £25 a year rising to £450, with emoluments in addition valued at £150, which should include board, lodging, laundry, and attendance;

(ii) that assistant asylum medical officers should be encouraged to take a Diploma in Psychological Medicine;

(iii) that (having in mind the view expressed by the Royal Commission on Lunacy that in a large number of institutions the medical staff should be enlarged) a whole-time medical officer of a mental hospital should not take charge of more than (a) 50 acute cases together with 50 convalescent patients, or (b) 400 chronic cases, as understaffing of hospitals means that the patients therein receive insufficient treatment, and this entails a corresponding low recovery rate;

(iv) that practitioners who are acting as clinical assistants in mental hospitals should not be required to undertake the duties of junior assistant medical officers;

(v) that practitioners engaged in the trying work of continuous attendance on mental patients in mental hospitals should have at least four weeks' leave each year, and that they should not be obliged to take more than two weeks of this consecutively.

The Council also agreed to recommend to the Representative Body that the minimum commencing salary be as set out in paragraph (i) above; that officers who possessed the diploma should receive an additional £50 a year; that temporary medical officers should not be employed on the staffs for more than three months, except as relief during holiday periods or when a member of the permanent staff was incapacitated by illness, or had been seconded for any purpose; and that every mental hospital should contain a separate house suitable for a married assistant officer, or two such houses where the hospital had four or more assistants.

Dr. Bone added that it was proposed at once to send copies of these recommendations to the County Councils Association and the Association of Municipal Corporations for comment, and to all the county and county borough councils. It was the desire of his committee to consult the important associations just named before the policy had become stereotyped, and the Council would have time to consider any comments before the recommendations came up to the Representative Body.

It was agreed also to consult any other representative associations, such as the Parish Councils Association of Scotland, whose views might be useful.

*Treatment of Employers of Ordnance Survey Department.*

The last Annual Representative Meeting instructed the Council to approach the authorities concerned with a view to obtaining an increase in the fees paid to doctors for casual cases in the Post Office Telegraph Survey Department. It had been ascertained that the persons referred to were employed by the Ordnance Survey Department. Dr. Bone gave an account of the fees offered to practitioners, and said that, although inadequate, they were less so than fees paid by certain other Government departments which were accepted by the profession, and his committee thought that no action should be taken in the matter.

Dr. Walker said that the fees were very inadequate—2s. 6d. for consultation and medicines, 3s. 6d. for visit and medicines, while night visits, for which there was a slight addition, were supposed to be visits between 10 p.m. and 7 a.m., which implied that the practitioner's working day was from 7 a.m. to 10 p.m. It was a poor reason for taking no action that other cases were worse, and he moved the reference back.

The Chairman said that in other connexions the Association



had succeeded in establishing the hours from 8 p.m. to 9 a.m. as the "night" period, and he hoped that these would be established in every connexion as the proper hours.

Dr. Bone said that he was not out to defend the scale; but the fact was that here, as with other Government departments, there were always practitioners who were prepared to accept the scale. There was a scale of fees for attendance on seamen away from their ships, and another for attendance on soldiers at home, by civilian practitioners, which were not such good scales as this. There appeared to be enough practitioners in every area to give attendance on these terms.

It was agreed that the views of the committee he reported to the Representative Body, but not in the form of a recommendation.

#### *Paying Centres for Infant Hygiene.*

A long discussion took place on certain recommendations arising out of the recent promotion of schemes for the establishment of infant consultation centres for better class families. Representations had been made to the Association by the Association of Infant Welfare and Maternity Centres, putting forward the strong feeling amongst a section of the middle-class public that the mothers of this class should be able to get that instruction which was provided for a different class of the population by the municipal maternity and child welfare clinics. These mothers were willing to pay for the instruction, and at one institution of the kind, known as the Chelsea "Babies' Club," the charge proposed was five guineas a year for each child. It had been stated by a deputation which met the Maternity and Child Welfare Subcommittee of the Association that many private practitioners were unable or unwilling to give the kind of instruction required. It was not proposed at these centres to give medical treatment.

Dr. Bone said that his committee was not desirous of encouraging the extension of these centres among well-to-do people, but at the same time it believed there was a good deal of truth in the assertion that many medical men were not specially interested in this branch of work, and that a case had been made out for the establishment of the centres under discussion. The ladies who had brought forward the matter attached great importance to these clubs, asserting that they found a reluctance on the part of the ordinary practitioner to give detailed advice on the feeding and management of small children, and they were determined that these centres should be formed. That being the case, it was necessary to consider ways in which they should be run. He therefore moved the first of several recommendations to the Representative Body as follows:

(i) That the education of all mothers in preventive medicine, as applied to the care of the infant and the conditions of the home, is desirable; (ii) that it is considered that there already exist means by which both of these objects may be partially attained; (iii) that any further establishment of special paying centres should be for the purpose of education and health propaganda and not for the purpose of treatment; and (iv) that should mothers prefer to avail themselves of paying centres it is desirable that attendance at such centres should be with the knowledge of the family medical attendant.

Dr. I. W. Johnson said that this was to his mind one of the most preposterous propositions that had ever come before the Council. The committee appeared to have been unduly swayed by the representations of a few ladies from Chelsea. Apparently the ordinary medical practitioner was judged not to be capable of advising on the care of the baby.

Dr. Stevens also expressed strong dissent. How was a distinction to be made between medical advice and medical treatment? If these centres were established there would be conflict between them and the private practitioner. He thought this was a matter with which the Association ought to have nothing to do.

The Chairman said that he imagined the opponents did not wish to negative all the propositions set forward in the recommendation, and if they wished to say that the Association should not countenance the establishment of such clinics it would be better to put forward an amendment in that form.

Dr. Johnson desired to move to proceed to the next business, but the Chairman declined to accept such a motion at that stage.

Dr. Starling thought the encouragement by the Council of such a policy as was laid down in the recommendation was likely to be disadvantageous. The work of the private practitioner had already suffered sufficient inroads without this fresh

one. His experience was that a large number of general practitioners were much interested in the management of infants and anxious to give advice on the subject. The distinction between advice and treatment would be very hard to draw.

Dr. Christine Murrell said that there was more than one middle-class centre already in existence. She believed that when infant welfare centres for the industrial classes were started the attitude of the Council was somewhat similar to that which had been expressed by the previous speakers. But was the Council really acting in the interests of the general practitioner when it washed its hands of this thing? Was it not better to take an interest in and to guide the early stages of this movement? The movement might be dangerous, but it was more dangerous to ignore it.

Dr. Bristowe felt that, whether the Association discouraged or approved them, these centres had come to stay. The wisest thing the Association could do was to try to guide them into the right paths.

Dr. J. A. Macdonald considered that each one of these developments was a step towards the establishment of a State medical service.

Dr. Radcliffe supported the opposition, urging that it was impossible for any medical man to give the mother the best advice unless he was acquainted, as the private practitioner was, with the home surroundings, the economic situation, and other circumstances.

Mr. E. B. Turner said that while he shared the feelings of others with regard to these movements it was necessary to face such a fact as this, that one of these centres was started by a lady who had asked her practitioner how to manage her baby, and he had told her that he knew very little about these things. It was not a few ladies of Chelsea, as Dr. Johnson had said, who swayed the committee, but the accredited representatives of an organization which covered the whole kingdom—namely, the Association of Infant Welfare and Maternity Centres. Some of these centres were already in existence, and members of the profession who belonged to what he called the "publicity brigade" had addressed them. But the whole question was largely in the hands of the members of the profession. If they chose to do this work in the ordinary course of their private practice the need for such centres would not arise.

The Chairman reminded the Council that the Representative Body had committed it to a campaign in the direction of health education and propaganda. It might be said that a thing of this kind was not a right method of propaganda, but it was not for the Council to oppose education and propaganda in connexion with infant hygiene. If there was a demand for public information and education with regard to infant hygiene—a demand not completely met by private practitioners—then some such organization as this was a proper thing, but it ought to be confined to that particular sphere of education and propaganda.

Dr. Johnson having moved that the whole matter be referred back,

Dr. Bone said he could not agree that these careful recommendations should be scrapped. The committee did not come to its decision lightly, and the deputation which it received was not a local affair, but representative of a national body, on which, by the way, the Council of the British Medical Association itself was represented. All the arguments advanced that morning, such as the difficulty of distinguishing between treatment and advice, were equally applicable to the municipal clinics which for some time now had had the approval of the Council. He sometimes thought that the interests of the profession were looked after a little too minutely; its monetary interests were considered to the disadvantage of the wider view. That seemed to be the underlying consideration of the dissentients who had spoken. Even on this ground he did not think that any money was going to be lost to the profession, because this was entirely new work, which had not been done in the past. It seemed evident that ladies would not be willing to pay five guineas a year for each child if they could get the information from their family doctor. It appeared, therefore, that there was a need for these centres, and if there was a need they would be forthcoming. Could the Association, even if it wished, do anything to stop them? And if not, why not try to guide them in the right path?

The amendment to refer back was lost by 20 votes to 11.

Mr. Bishop Harman then moved another amendment, substituting for the recommendation a form of words which had been adopted by the Council in 1917 in connexion with a similar proposal then made by the Mothers' Union:

The Council, with reference to a proposal to establish infant consultation centres for better-class families, states that it fully appreciates the value of the work proposed to be done at such centres in the way of giving lectures on infant management, but it does not approve of these centres providing consultations and advice in respect of mothers and young children belonging to classes of the community which are quite able to consult their own family doctor.

Dr. Johnson seconded this amendment.

Mr. Hawthorne considered that this amendment was vicious in principle and dangerous in practice. It was to encourage a method of giving advice to patients *en masse*. Lectures necessarily dealt with general propositions, whereas medical practice was the application of knowledge to individual circumstances. Something might be said for a centre or an arrangement by means of which the opinion of an expert practitioner could be obtained in reference to an individual child, but nothing could be said to defend a proposition which would let loose upon the public a number of lecturers who would be giving general advice, to the confusion, in many instances, of the individual advice furnished by private practitioners. Public pronouncements by medical practitioners regarding health appeared frequently in the newspapers, and some medical men like himself were aware that in their own practice these pronouncements were quoted against them in reference to the particular advice they themselves had given. Consequently there was a danger of prejudicing the private practitioner responsible for the individual patient by the public pronouncements so made. Mr. Bishop Harman apparently wished to multiply these public pronouncements. That was a form of medical advice which the Council ought obstinately to oppose. The disadvantage of lectures was that they dealt with general propositions and not with individual cases.

Sir Robert Bolam hoped the Council would not take Mr. Bishop Harman's way out of an admitted difficulty. He was personally left quite cold by Dr. Bone's suggestion that because infant welfare centres had been satisfactory for a certain grade of the population, therefore the Council should at once agree to their operation in other grades. But did the practitioner in fact give this service which was asked for? Was this a new field which was being opened up? On their decision as to what extent it was new might well depend their attitude towards it. If the Council was satisfied that the movement would rather extend the field of medical practice than the result from the point of view of public health would be all to the good.

Mr. Nuthall doubted whether, the country over, there was a demand for these centres. There was no sufficient evidence, he thought, that this advice was not forthcoming from private practitioners.

Dr. Paterson said that the committee was informed that six centres had already been started, and it was proposed to form more of them. Those concerned were anxious for the approval and help of the Association so that their schemes might be assured of the goodwill of the profession. The committee had put forward what it believed to be the best way of meeting the situation.

Mr. Bishop Harman's amendment was lost by 20 to 17, and the committee's recommendation was then carried.

Further recommendations were adopted to the effect that any body of persons considering the formation of a centre should communicate with the local profession, preferably through the Division; that it was for the committee of the centre, on the recommendation of the local medical profession, to decide whether the medical staff of a centre should be selected from among specialists or general practitioners, and whether from those practising in the area or outside; that the local medical profession should be represented on the committee of management; and that the remuneration of the medical staff must be a matter of arrangement between the committee of management and the local profession.

Certain model rules were then suggested by the committee. Sir Jenner Verrall thought it better not to put forward model rules at this stage, but an amendment to that effect was lost. In the first of the rules, which laid it down that the object of the centre was to give "education and advice," Dr. Radcliffe wished to delete the word "advice," but Dr. Bone thought

that the connotation of the word, as expressly excluding treatment, was familiar to every member of the Council. The word was allowed to stand. Discussion arose on a form of words which should make it evident that advice relating to a child who was really ill should not be given at the centre, and a phrase proposed by Mr. Bishop Harman was agreed to—namely, "advice on the general welfare of children." Mr. Harman at first proposed "diet and general welfare," but Dr. Hawthorne urged that "diet" was part of medical treatment. One of the model rules, that the subscription entitled subscribers to home visits by the nurse-superintendent, gave rise to some objections and was withdrawn. Other rules, emphasizing the desirability that any mother wishing to attend the centre should inform her family medical attendant of her intention and obtain his co-operation; that should any illness be discovered at the centre the subscriber should be referred to the family attendant; that the medical officer of the centre should not be at liberty to attend the children of subscribers in illness except in consultation with the private doctor; that medical advice should not be given by telephone or correspondence; and that children acutely ill, or who had been in contact with infectious disease, must not be brought to the centre, were adopted.

#### *Protection of Children During Birth.*

Following upon a resolution passed by the Public Health Section at the Annual Meeting, 1926, requesting the Council to approach the Government with a view to securing legislation to protect the unborn child against intentional violence during its passage from the mother's body, Dr. Bone pointed out that the Births and Deaths Registration Act, 1926, perpetuated the legal position that the child was not "born" until it was completely expelled, and the Council agreed to an expression of opinion that no useful purpose would be served by an attempt, at any rate at present, to take action on the lines suggested in the resolution.

#### *Education Authorities and Hospital Staffs.*

The committee reported that in connexion with contributory schemes for hospital benefit some education authorities which had hitherto paid fees for medical attendance on school children were now taking advantage of the existence of these schemes by advising parents of children needing medical attention who were contributors to such a scheme to send their children to the hospital, thereby avoiding the necessity of fees being paid for them either by the education authority or by the parent. The committee was advising Divisions and Branches with regard to this position, as indicated by the policy of the Association, pointing out that the medical staff of the hospital should refuse to perform operations without a fee on any children for whom the education authority was responsible. Mr. Bishop Harman drew attention to some points of difficulty in the wording of this advice, and it was agreed to refer the matter back and bring it up at a future meeting.

#### *X-ray Examinations in Bone Injuries.*

Dr. Bone stated that his committee had asked that the attention of the Science Committee be drawn to the statement by the Medical Defence Union relating to its possible refusal to accept liability unless its members made a rule of advising patients to undergo x-ray examination in every case of injury to a bone or joint. It seemed necessary that some pronouncement on this important matter should be formulated. Dr. Lyndon observed that the matter had been brought to the attention of the committee by a few members of the Medical Defence Union, and he questioned whether it was wise to take action on such basis, when the result might be possibly to bring about conflict with another professional organization. The members concerned would have the opportunity of raising the whole matter at the annual meeting of the Union. Dr. Bone replied that his committee thought it a very important question, quite irrespective of the means by which it had come forward, and all it had done at present was to ask that it be referred to the Science Committee.

#### *PUBLIC HEALTH BUSINESS.*

##### *The Sir Charles Hastings Lecture.*

Dr. Lewys-Lloyd, chairman of the Public Health Committee, brought forward recommendations empowering his committee to make arrangements for the delivery in the spring of 1928 of a public lecture, to be known as the Sir Charles Hastings

Lecture on education in health. These were agreed to, and the names of possible lecturers and chairmen were suggested.

#### Combined Appointments.

Dr. Hawthorne brought forward a report of a joint meeting of the Medico-Political and Public Health Committees which had been held to consider the question of combined appointments of whole-time medical officer of health, Poor Law medical officer, and public vaccinator. The occasion of the joint meeting arose out of what is known as the Godstone case, discussed at the last meeting of Council.<sup>1</sup> The joint meeting brought forward a recommendation for submission to the Representative Body as follows:

(i) That domiciliary attendance should, in the best interests of the patients, be provided by private practitioners in the area concerned and not by a whole-time medical officer; (ii) that the adoption of the above resolution leaves unimpaired the position of any medical officers at present holding whole-time appointments in which domiciliary attendance is one of the duties; (iii) that if there are in the area no practitioners willing to undertake the domiciliary work on suitable terms, the resolution (paragraph (i)) shall not apply.

He said that it was felt that it would be unfair to make the proposition retrospective, and, moreover, the possibilities indicated in paragraph (iii) had to be borne in mind.

Dr. Morton Mackenzie asked whether the Godstone case was covered. Dr. Hawthorne replied that this was a recommendation to the Representative Body, and if it was passed it would begin to operate from the date of its passing, so that the Godstone and other appointments would then be covered by paragraph (ii).

Dr. Morton Mackenzie then moved, and Dr. Lyndon seconded, that words be added in paragraph (ii) "prior to the origin of the Godstone case." This amendment was lost, and Mr. Harman moved the deletion of the whole of paragraph (ii), and Dr. Mackenzie seconded. Dr. Hawthorne urged that this would be unjust to individuals, and this amendment also was lost, and the recommendation as it stood was agreed to.

Dr. Hawthorne further moved as a recommendation to the Representative Body:

"That there is no objection in principle to the combination in one and the same whole-time appointment of the duties of medical officer of health and those of Poor Law institutional medical officer, but the application of this principle in any individual instance must be governed by local circumstances and by the opinion of the Division or Divisions concerned."

This was agreed to, and Dr. Hawthorne further moved that there was no objection in principle to the combination in one and the same whole-time appointment of the duties of medical officer of health or of Poor Law institutional medical officer and those of public vaccinator, subject to the same provision with regard to the local circumstances. This also was agreed to.

Dr. Morton Mackenzie moved a resolution regretting the lack of co-operation shown by the Council of the Society of Medical Officers of Health in not urging its members to postpone applying for the post recently advertised in the public press by the Godstone board of guardians. He reminded the Council of the circumstances of the Godstone case and of the fact that the Council, at its last meeting, confirmed the issue of an Important Notice. Six applications were received for this post, from which three selections were made. Two of the three applicants withdrew, and the third was appointed. An appeal was made to this applicant to withdraw his application, but he refused, and based his refusal on a letter from the Society of Medical Officers of Health, in whose hands he had placed himself, which stated that no decision was taken by the council of the society in support of the Important Notice issued by the British Medical Association, and that the council had passed to the next business. Dr. Mackenzie thought that this was falling a little short of what might be expected from the sister society, which the Association had supported, incurring some odium in so doing. Here was a case in which the local profession felt very strongly, and yet the society could give their own member no positive advice on the subject.

Dr. Starling seconded the resolution. The area in question, he said, was within the constituency which he represented on the Council, and there it was felt very strongly indeed by a large number of those with whom he came into contact that all possible steps should be taken to preserve the practice of private practitioners. It had always been his object to try to get the

two branches of the profession to work together in harmony, but he thought the Council should register its regret at what had happened in this instance.

Dr. Snell regretted to see such a resolution as this on the agenda. At the previous meeting of the Council there was considerable difference of opinion over the Godstone case, and after a long discussion the resolution was carried only by 23 votes to 19. To have on a resolution so carried a resolution of regret or censure relating to another society would be quite out of place. Similar appointments had been held by whole-time officers for over thirty years, and there was no expressed policy of the Association on record. But in 1911 the policy was laid down by the Annual Representative Meeting that the Association should do what it could to make all medical officers of health appointments whole-time appointments. If this Godstone advertisement had offered opportunity for general practice to the man appointed it would have contravened the policy as stated in 1911. In 1910 a memorandum was issued by the Local Government Board in support of the combination of appointments with a view to securing whole-time medical officers of health, and the Council had not expressed a contrary opinion. Therefore when this advertisement was on the Association's books there was nothing laid down by the Association directing its members not to apply for such an appointment. With regard to the relationship between general practitioners and the medical officer of health, it might be of interest if he stated that he, an M.O.H., had been a member of the Association for nearly forty years, and whenever he had expressed a desire to attend the Annual Representative Meeting his Division had always sent him. He moved that the Council proceed to the next business.

Mr. Webber seconded, and the motion to pass to the next business was carried by 17 to 13.

#### HOSPITALS BUSINESS.

##### Co-ordination of Hospital Provision.

Several important recommendations were brought forward by Mr. McAdam Eccles on behalf of the Hospitals Committee. The first related to the co-ordination of hospital provision. The Minister of Health, he said, was in correspondence with the British Hospitals Association with regard to this matter of co-ordination, and the Hospitals Committee, hearing of this, had thought it well that the British Medical Association should look into the matter also, and a subcommittee was appointed for this purpose under the chairmanship of Sir Richard Luce. The Hospitals Committee considered that the Association should take an active part in attempting to guide any legislation which might be the outcome of any of the principles adopted as a result of the consideration of the answers to the questions which had been suggested by the Minister of Health. The policy of the Association should be framed before any bill was introduced by the Minister into Parliament. The subcommittee had prepared a scheme, but it had not yet been before the full committee. In the meantime, however, the committee brought forward certain recommendations in order to gauge the feeling of the Council. The first was:

That all hospitals in a given area should be grouped round a parent or primary hospital, which hospital, in view of the existing state of affairs, will generally be one of the bigger voluntary general hospitals. In any area of co-ordination in which there is a hospital with a recognized medical school attached, such teaching hospital must necessarily be the hospital round which the others are grouped.

Mr. Eccles added that the committee was quite aware that some so-called Poor Law—in future probably to be called municipal—hospitals were exceedingly good in their buildings, equipment, and staff, but they had not got the same facilities as the larger voluntary hospitals, particularly those with medical schools attached, for research work and other matters.

Sir Robert Bolam suggested that the term "primary hospital" might cause confusion with some similar term in the report of the Consultative Council. On the understanding that the phraseology in this respect might be made plainer, the recommendation was agreed to.

Mr. McAdam Eccles then brought forward some replies which he suggested might represent the Association's point of view in answer to the questions which the Minister of Health had suggested that voluntary hospitals should examine in conjunction with local authorities. The discussion in the Council on these answers was almost entirely devoted to terminology, particularly the description of what was variously termed the primary or

<sup>1</sup> SUPPLEMENT, December 24th, 1927, p. 228.

parent hospital or base hospital. The term "central or base hospital" appeared to find most favour. The Minister's questions (Q) and the proposed replies (A), as agreed to after the discussion in the Council, are set out below:

Q.—Having regard to the nature of the hospital accommodation available in the area, both in voluntary and public hospitals, are there any categories of cases which should, so far as practicable, be allocated to one type of hospital or the other?

A.—No class of case other than infectious or insane should be excluded from the central or base hospital. Certain categories of cases might, according to local circumstances, be allocated to other hospitals of the area, provided they were still available for teaching purposes when necessary.

Q.—Is it possible, after taking stock of local needs, to agree on any line of demarcation between the province of the voluntary and public hospitals in the area?

A.—The line of demarcation must depend upon the staffing and equipment of the hospitals concerned.

Q.—Assuming that some understanding is reached as to the line of demarcation between the voluntary and public hospitals in a given area, to what extent would this modify schemes of enlargement in hand or in contemplation?

A.—The public hospitals must provide accommodation for those cases which are outside the province of the respective voluntary hospitals, but the public hospitals should not develop in competition but in co-ordination and co-operation with the voluntary hospitals. Where a voluntary hospital is already holding the leading position, and is progressive and locally supported, it should maintain this position, and any further developments which are necessary should be made in co-operation with it.

Q.—If there is a shortage of voluntary hospital beds, in what respect is the shortage most serious—for example, is it a shortage of general, surgical, or medical beds, gynaecological or maternity beds, or orthopaedic? Is there vacant accommodation in public hospitals suitable, or capable of being adapted, for the type of case for which accommodation is specially needed?

A.—The shortage of voluntary hospital beds must vary in different localities. In industrial areas the shortage is chiefly in general medical and surgical beds (in surgical beds particularly for those cases of which the urgency depends upon industrial rather than medical causes). In London, on the other hand, it appears that the shortage is partly in general medical and surgical beds, but mainly in beds for special departments—for example, throat and orthopaedic cases. Where there is vacant accommodation it will probably be necessary to adapt such accommodation to meet the special needs, and to provide adequate and efficient staff.

Q.—Could not some "clearing house" arrangement be established by agreement between the voluntary hospitals and the local authorities (including the guardians) which would ensure a better distribution of patients and the more rapid admission of cases requiring institutional treatment?

A.—A "clearing house"—that is, a central bureau—to co-ordinate the distribution of cases requiring admission to the various hospitals would be essential under a system of co-ordination of grouped hospitals. It should work in close connexion with the primary hospital, and be situated near it, or even within it, but should be under the control of a central committee of co-ordinated hospitals of the area. It should also co-ordinate the hospital ambulance transport of the area.

Q.—To what extent and under what conditions could the medical staffs of the voluntary hospitals undertake responsibility for cases, or for a definite number of beds, in public hospitals, so that the patient may be secured of the special type of experience required, whether medical or surgical, without regard to whether the bed he occupies is under voluntary or public management?

A.—The members of the medical staffs of the existing voluntary hospitals could undertake the responsibility for cases in public hospitals in one of the following ways: (a) as visiting consultants to the public hospitals; (b) as members of the active staffs of the public hospitals with direct charge of beds. All classes of cases could be dealt with in one of the above ways with the assistance of a resident medical staff. It must, however, be made clear that any extension of this work to the care of those for whom the Government and local authorities make themselves responsible must be remunerated, and it is considered that the remuneration should take the form either of a fixed salary or of an honorarium for definite services and responsibility. It is essential that such visiting staff have the right of access directly or indirectly to the governing body of the particular hospital.

Dr. Radcliffe desired to delete the words "or indirectly" from this last paragraph. Mr. Eccles pointed out that the staff of a public hospital, in exercising their right of access to the governing body, would do so in all save very exceptional cases indirectly through the medical superintendent. But there might be circumstances in which they desired direct access—that is, over the head of the medical superintendent—which would probably lead to very severe friction. No staff would go over the head of the superintendent unless it had first tried the more ordinary means and had failed.

Sir Robert Bolam hoped the chairman of the committee would accept the amendment. The normal routine of the hospital did not contemplate access to the governing body, but it was essential in the last resort that members of the visiting staff should have direct access.

It was agreed that the words "or indirectly" be omitted. The recommendations were then approved, and it was agreed that they should be communicated to the Ministry of Health at an appropriate time.

Other matters brought forward in the report of the Hospitals Committee included a recommendation to the Representative Body laying down certain criteria for practitioners treating patients in private wards or nursing homes attached to hospitals. Mr. McAdam Eccles said that when practitioners were desirous of treating their patients in paying wards or nursing homes attached to hospitals the authorities might reasonably ask for proof that the practitioners were really competent to do the special service required by the patient, and the proposal was to amend the hospital policy by setting out the conditions, one or more of which should be satisfied by the practitioner, in a special case of this kind before undertaking the treatment. The motion, as a recommendation to the Representative Body, was agreed to. Mr. Eccles said further that the contributory schemes for hospital benefit were being watched, and he asked, and it was agreed, that the Hospitals Committee might be empowered to convene at an appropriate time a conference of representatives of medical staffs to consider this subject.

#### OPHTHALMIC CLINICS.

Dr. Wallasey Henry brought forward a report of the Ophthalmic Committee embodying certain principles for incorporation in any scheme for the provision of ophthalmic examination and advice through clinics. He detailed the recent history of this subject as set out at greater length by Dr. Brackenbury in his recent address to the Ophthalmic Benefit Committee (SUPPLEMENT, February 4th, p. 36), and said that the matter had a certain amount of urgency in view of the report of the Departmental Committee on the registration of sight-testing opticians. When he and Mr. Bishop Harman and the Medical Secretary, as witnesses for the Association, gave evidence before that committee a large part of the cross-examination turned on the question whether it was possible for the medical profession to provide a sufficient number of men to do the ophthalmic work. The Association's witnesses practically pledged the Association that it would take every possible step to provide medical ophthalmic treatment.

The recommendation set out the conditions as to representation of the Association on the central board of management, the composition of an entirely medical executive committee to deal with medical questions, and the methods under which treatment should be provided—namely:

(i) Clinics established apart from the practitioners' private consulting rooms where necessary, the practitioner receiving 10s. 6d. per case for ophthalmic examination and advice.

(ii) Arrangements whereby ophthalmologists on the list might see patients at their own private consulting rooms at fixed hours on terms similar to those applicable to patients seen at clinics, provided that the prescriptions were forwarded to the optician at the clinic.

(iii) A continuance of the existing arrangements whereby an ophthalmologist upon the list will only see patients at his own private consulting rooms at a fee of one guinea, payable by the approved society, or, alternatively, will accept a fee of half a guinea from the society, the balance being obtained from the patient, provided that the prescriptions were forwarded to the optician at the clinic.

It was also laid down that practitioners wishing to serve should be chosen from the British Medical Association list by the Medical Executive Committee, that the central board of management should be responsible for all appointments, both as regards ophthalmologists and dispensing opticians, and should make arrangements where necessary for a suitable service in satellite towns, and that the arrangements for attendance at sessions at the clinics must be primarily a matter for arrangement between the area ophthalmologists themselves.

The recommendation was agreed to, as also were further recommendations approving the scheme of the Association of Dispensing Opticians, subject to the committee being satisfied that the scheme complied with the general principles just stated, and another empowering the committee to approve any scheme for the provision of ophthalmic benefit which satisfied these principles.

#### OTHER COMMITTEE BUSINESS.

On the motion of Dr. Dain, it was agreed to recommend to the Representative Body that the Insurance Acts Committee be enlarged by the addition of two members so as to facilitate

a rearrangement of the groups of areas, whereby Wales would become a group by itself instead of being, as hitherto, linked with Cheshire.

It was agreed that a History of the British Medical Association should be prepared, to appear about the time of the Association's centenary in 1932, and that Sir Dawson Williams be asked to consider the matter, and to give his views on the best arrangements for the production of such a history.

It was announced that Dr. Andrew Balfour, director of the London School of Hygiene and Tropical Medicine, had compiled a handbook dealing in full detail with the way in which to obtain education and qualification in public health and tropical diseases. Dr. Balfour had offered to edit and give it to the Association if the Association would publish it. The Chairman stated that this was a most valuable and laborious piece of work, and he thought the offer should be gratefully accepted. The Council signified its assent by applause.

Several committees presented routine or interim reports which gave rise to no discussion. Among these were the Puerperal Morbidity and Mortality Committee, the Central Ethical Committee (on whose recommendation an amendment of the regulations relating to Important Notices was agreed to), the Organization Committee, the Private Practice Committee, the International Medical Sea Code Committee, and the Lunacy and Mental Disorder Committee.

On the rising of the Council at 7 p.m., Sir Robert Bolam expressed to the Chairman, Dr. Braekenhury, the wishes of the Council for a successful and health-restoring voyage to South Africa as the Association's delegate at the South African Medical Congress to be held in Bloemfontein next month. It was agreed by the Council that the Chairman of the Representative Body (Dr. Hawthorne) should act as Chairman of Council during Dr. Braekenhury's absence.

## British Medical Association.

### CURRENT NOTES.

#### Consulting Pathologists Group.

THE Council of the British Medical Association, at its meeting on December 14th, 1927, approved the formation of a Group of Consulting Pathologists, to comprise all these members of the Association (not being members of the Public Health Service) who are working in an institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes. The official notice summoning the first meeting of the members of this Group for Friday, March 2nd, at 2.30 p.m., appears in the adjoining column. It is hoped that all members eligible for inclusion in the Group will make a special effort to attend.

#### The Association's Collection of Autographs.

In December last we announced that the British Medical Association had begun a collection of autographs which was founded on a number presented through Mr. Muirhead Little by Miss E. M. Bennett, daughter of the late Sir James Risdon Bennett, President of the Royal College of Physicians of London. Members will be gratified to hear that Miss Bennett has again through Mr. Muirhead Little presented a very interesting series of autographs, including a page of the manuscript of *The Origin of Species* by Charles Darwin. The Council would welcome the gift of autographs of (a) persons who have held high official positions in the Association, (b) celebrated medical men and women, and (c) lay persons in some way connected with the medical profession or medical affairs. Any member interested may inspect the collection on application to the librarian.

#### The Half-yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPILOGUE have been printed; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

## Meetings of Branches and Divisions.

### METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.

On January 19th Professor FREDERICK HOBDAI, C.M.G., F.R.C.V.S., Principal of the Royal Veterinary College, London, read a paper before the Westminster and Holborn Division of the British Medical Association on "The value to the public and ourselves of an efficient liaison between the medical and veterinary branches of medicine." The paper was illustrated by photographs and specimens.

Commenting on the similarities between the two professions, or rather, the two branches of the same profession, Mr. Hobday pointed out that veterinary surgery had to be conducted under the same antiseptic precautions as human surgery, but that generally—except in animals kept as pets—it was necessary for the veterinary surgeon to consider his patient from the economic point of view as well as from the humane. If, for example, the fractured limb of a horse would take three months to set, and then would leave the animal lame, it was probably better to destroy the horse at once. Anaesthetics were in use for animals in the same way, and with the same precautions, as for man. Chloroform and A.C.E. mixture were the favourite general, and procaine and novocain the chief local, anaesthetics. Cocaine was excellent, but dangerous to use unless the doses were accurately gauged.

Dental and oral operations gave more trouble than most other operations because of the difficulty of working with an inhaler in position. It was interesting to note that the horse breathed through the nostrils alone under natural conditions, not through the mouth. Dental treatment was an important branch of equine surgery, especially in early adult life, as the colt suffered greatly, just as did children, from teething troubles. In dogs, too, teething fits and convulsions were often seen, while pyorrhoea was as common in old pet animals as in man. The latter disease was seldom seen in horses and cattle; yet few pet dogs reached 6 years' without signs of it. He believed that this was almost entirely a question of improper dietary—sloppy food and no hard bones or bisulphites to clean the gums and use the teeth. The disease was a rare one in working sporting dogs kept under harder and more natural conditions. Once the teeth had gone they could be replaced by artificial teeth—a rare, but not impossible, feat. X rays were of use for diagnosis, not only in dogs, but also for larger animals, particularly horses. Ultra-violet rays, too, had proved valuable for ulcerating wounds and for certain forms of eczema in animals, as in man.

Among the medical diseases there was much in common between human and veterinary medicine. It was in the prophylaxis of disease, however, that the two branches came closer together. In the horse group the two most important diseases were glanders and mange—the first of which had now been eradicated from Britain and the second would be, in a few years. Yet twenty-five years ago nearly 2,000 horses were being destroyed annually because of glanders, and during the South African war tens of thousands were affected. The Royal Army Veterinary Corps, by the use of mallein, had eradicated the disease from the British Army within the first two years of the great war, and had kept it out ever since. Among cattle the most important diseases were tuberculosis and anthrax. Tuberculosis was too big a subject to discuss, but its eradication was being gradually undertaken on lines similar to the glanders campaign. Anthrax was exclusively a disease of animals and their products. Other diseases briefly mentioned by Professor Hobday were ringworm in calves, cats, and rodents, Malta fever in goats, and rabies and mange in dogs. He was thankful to say that rabies was now non-existent in Britain, but canine mange was still present, and not infrequently transmitted to man. He suggested that this, too, like mange in the horse, ought to be scheduled as a notifiable disease.

### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

An ordinary meeting of the Nuneaton and Tamworth Division was held at Nuneaton General Hospital on February 8th.

After preliminary business Mr. C. A. RAISSON read a paper, which was illustrated by diagrams, specimens, and radiographs, on surgical conditions of the biliary tract. Following some introductory remarks and a short sketch of the anatomy of the biliary tract and the function of the gall-bladder, Mr. Raison entered very fully into the pathology of cholecystitis and cholelithiasis. In discussing the probable route of infection he referred at some length to the recent work of Wilkie at Edinburgh, which appeared to prove that the blood stream was by far the most usual route and a streptococcus much the most frequent causal organism. Dealing with symptomatology, Mr. Raison emphasized the usually very long prodromal stage of dyspepsia, and suggested that if patients could be seen early in this stage medicinal remedies would sooner or later be discovered which would often obviate the necessity for a cholecystectomy. Speaking of cholecystography, he discussed the striking advance in radiodiagnostic investigation by the introduction of the tetraiodophenolphthalein method, but stated his conviction that this method was far from being free from risk. He looked



forward to the time when some less toxic chemical would be discovered to supplant this salt as, in pyelography, sodium bromide had supplanted the irritating silver salts.

Mr. Raisou compared the operations cholecystotomy and cholecystectomy, and referred especially to some of the difficulties and dangers of the latter operation—for example, haemorrhage from the cystic artery, damage to the common bile duct, leakage of bile into the lesser sac or into the general peritoneal cavity, haematemesis, and melaena. He referred to the slow convalescence often noted after cholecystectomy, and to the occasionally disappointing results, and suggested the probable causes.

In concluding his paper Mr. Raisou emphasized the following points: (1) Cholelithiasis is probably but the end-result of a long-standing cholecystitis. (2) Cholecystitis is probably secondary to some other infective focus elsewhere in the body. (3) Cholecystitis probably starts in most cases in the walls of the gall-bladder, and not from within. (4) In most cases, when gall-stones have been formed, the walls of the gall-bladder cease to be of any functional value, but rather are encumbrances to the cholesterol metabolism. (5) In cholecystography we have a valuable adjunct to early diagnosis, but a certain risk is attached to it, and it must be used with caution. (6) While, at the moment, cholecystectomy probably offers the best prospects in the treatment of cholecystitis, it is to be hoped that the future will open up means of curing the disease and yet at the same time preserving a useful gall-bladder.

A discussion followed, and a hearty vote of thanks was accorded to Mr. Raisou for his interesting and suggestive paper.

After some general discussion it was agreed to hold the annual dinner at the Newdegate Arms Hotel, Nuncaton, on May 9th or 16th, and a small committee was appointed to make arrangements.

#### EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.

THE East York Division held a well-attended dinner on January 27th, to which Professor D. P. D. Wilkie of Edinburgh came as chief guest. The chairman, Dr. MATTHEW MACKAY, replying to the toast of "The British Medical Association," alluded to the serpent represented in the badge of the Association, and offered a suggestion with regard to its symbolism. He showed how the two Greek terms for the serpent referred to its unwinning eyes, which seemed to qualify it to act as a guardian, whether of fruit, of a fountain, or of a fleece, as in different stories. Dr. Mackay remarked that similar functions were performed by the British Medical Association and by medical practitioners in guarding the profession and the public generally from dangers. He proceeded to suggest that the reason for the adoption of the serpent as the emblem of medicine was its connexion with the celebrated "Python," which was destroyed by the infant Apollo with his first arrow; he thought that the staff round which the serpent was twined might represent this arrow.

#### ESSEX BRANCH: SOUTH ESSEX DIVISION.

A LARGE meeting of the South Essex Division took place at the Queen's Hotel, Westcliff-on-Sea, on January 10th, when Mr. E. C. HUGHES of Guy's Hospital gave a most interesting address entitled "Our surgical mistakes." Various members took part in the subsequent discussion, notably Dr. SELLS. On the motion of Dr. CLEVELAND SMITH, seconded by Dr. FLOYD OF GRAYS, a hearty vote of thanks was accorded to Mr. Hughes for his address.

On February 14th Dr. A. S. WOODWARD, physician to the Westminster and Royal Waterloo Hospitals, addressed a very full gathering of members on the modern treatment of diabetes. The address was listened to with great interest by all present. Dr. HOEKING, clinical pathologist to the Westminster Hospital, gave a practical demonstration in the modern methods of performing the blood sugar tests, which was very much appreciated. The warm thanks of the meeting were accorded to Dr. Woodward and to Dr. HOEKING on the motion of Dr. GOSVENOR HIRKS, seconded by Dr. VICTOR HOSKIN.

#### METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

A MEETING of the City Division was held on February 6th at the Metropolitan Hospital, when Dr. PHILIP HAMILL was in the chair and thirty-eight members were present.

Dr. H. C. G. SEMON read a paper entitled "Diagnostic pitfalls in dermatology," in which he emphasized the supreme importance of correct diagnosis in two diseases with entaneous manifestations—namely, variola and erythema. Both these were dangerous for the individual and might have serious consequences in the patient's family.

The other mistakes in diagnosis of dermatological conditions affected only the individual patient and the doctor's reputation. As illustrations, Dr. Semon cited the case of a young mineralogist, who, having been put to bed and dieted for eczema for six weeks, eventually succeeded in demonstrating the acarus of scabies from a digital burrow on a slide under his own microscope. One lady who was treated with x rays for two years for alternating pruritus of the anus and vulva was eventually proved to be suffering from tinea cruris. Almost any dermatosis could occur on a syphilitic basis, and the Wassermann test was only of really positive value when it supported the clinical findings, or in a case of suspected secondary syphilis, when it was negative. Self-inflicted eruptions often gave rise to errors of diagnosis. Dr. Semon suggested that an artefact should be suspected when the eruption was of no recognized pathological type, and when some of its elements presented straight line borders or angular contours. The civil cases were usually young girls, with pronounced hysterical stigmata, such as hemianesthesia, contractures, or paraplegia. In two cases quoted the self-mutilations had ultimately involved amputation through the shoulder-joint. When intractable ulceration occurred in such subjects, without any demon-

strable pathological cause, the possibility of artefact should always receive consideration. An inquiry should always be made into the patient's employment and hobbies, and the question of drugs and local applications ought never to be omitted. A patient with pustular acne which refused to yield to x-ray treatment was later found to be taking bromide prescribed by a colleague for some functional form of dyspepsia. On this being omitted the acne immediately cleared up without further application of x rays. In writing certificates for cases of ringworm of the scalp the wording should not be too dogmatic, and the word "cure" might well be replaced by some such periphrasis as that, after repeated examination, no evidence of tinea capitis could be found. When the diagnosis was in doubt the best plan was to send the patient away for a week or ten days, with strict injunctions to be isolated and to apply nothing to the scalp. The signs of tinea would be very definite by the end of that time. Ringworm infections in other situations were discussed in some detail, and it was asserted that this type of cutaneous infection probably gave rise to more errors in diagnosis than any other at the present time.

The paper was highly appreciated by those present, and a very hearty vote of thanks was accorded to the lecturer.

#### METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.

A CLINICAL meeting of the Lambeth and Southwark Division was held on February 8th at the Belgrave Hospital for Children, Clapham Road, S.W.9. Dr. N. H. HILL showed many interesting medical cases, the chief being: (1) a boy, aged 6, who had been

diabetic for the past three years, and was (2) a boy, aged 7, who presented three cases of congenital heart disease of varying severity; (4) a microcephalic idiot; (5) a girl with cerebral palsy; (6) a girl with tuberculous glands of the neck.

#### METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.

A CLINICAL meeting of the Tower Hamlets Division was held on January 25th at St. Andrew's Hospital, Bow, E.3, when about thirty members were present.

Mr. R. J. M. LOVE showed cases of (1) caries of the spine associated with phthisis; (2) osteomyelitis of the os calcis; (3) ureteric calculus; (4) lupus of the nose and pharynx; (5) acromegaly. Dr. J. W. LINNELL showed cases of (1) aortic aneurysm; (2) aortic regurgitation; (3) perniciosis. Dr. LINNELL moved a vote of thanks to the members who participated.

#### MIDLAND BRANCH: NOTTINGHAM DIVISION.

At a combined meeting of the Nottingham Medico-Chirurgical Society and the Nottingham Division of the British Medical Association on January 18th Dr. W. H. WYNN, professor of medicine in the University of Birmingham, gave an address on the treatment of pneumonia.

Professor Wynn remarked that while during the last hundred years there had been a very marked reduction in most infectious fevers, pneumonia had actually increased, and was the most widespread and fatal of all acute diseases in civilized lands. This was because it had not been regarded as a contagious disease, and no precautions had been taken to prevent infection. The proof of contagiousness had been established, and the time had come when it should be classed with the other contagious fevers, and patients be isolated as strictly as cases of diphtheria, typhoid fever, or cerebro-spinal fever. In the treatment of pneumonia it was necessary to think in terms of immunity, and the hope of a necessary reduction of the case mortality lay in specific therapy; this must be started as early as possible, since its object was to control the infection before it was out of hand, and to prevent the development of grave symptoms. Early diagnosis was therefore necessary; too often this was not made until consolidation was present, whereas the striking early symptoms should lead to recognition of the disease within a few hours of its onset. Pneumonia was an acute medical emergency in which delay might be fatal. From the first absolute rest in a well-ventilated room must be secured. The skill of the nurse was tried as in no other condition. Immunity depended upon several factors, of which the most important were the so-called protective bodies. Animals could be protected against an otherwise fatal dose of pneumococci by the simultaneous injection of an antiserum. Protective bodies were produced by injection of a vaccine and were found in patients at the time of the crisis, but in fatal cases of pneumonia there was scarcity or absence of protective bodies in the blood of the patients, and this lack of resisting power was associated with a septicaemia. In specific treatment there was the choice between serums and vaccines. The various forms of serums and their limitations were discussed. The advantage of a vaccine was that it could be used without delay. Vaccines stimulated the production of protective substances, but only after a few days' delay. They also had an immediate non-specific action, which was exploited in the early treatment of pneumonia. Negatives which was exploited in the early treatment of pneumonia. Negatives two phases after injection of a vaccine only occurred in sensitized persons who possessed specific antibodies. In the early stages of pneumonia specific antibodies were absent, and therefore a vaccine could be safely used in the first three days. A large number of temperature charts were shown to illustrate the action of vaccines in various stages of pneumonia. The successful results obtained by the early injection of a vaccine were not limited to pneumonia, but could be obtained in other acute infections in which a diagnosis could be made early and before the patient was sensitized. Charts

were shown also of patients suffering from simple influenza, influenzal broncho-pneumonia, Friedländer's pneumonia, cerebro-spinal fever, typhoid fever, *B. coli* infections, erysipelas, cellulitis, streptococcal septicaemia, puerperal fever, and streptococcal meningitis.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held at Gray's Hospital, Elgin, on February 16th. In the absence of the president, the chair was taken by Dr. E. K. MACKENZIE, vice-president; there was an attendance of twenty-three members, and Mr. J. Kyle Mackintosh, L.D.S., was present as a guest. Dr. SMACK (Elgin) read a paper on oral sepsis, and illustrated his remarks by a series of specially prepared water-colour paintings, showing the different conditions referred to. In the subsequent discussion on the paper a number of members took part. After an enjoyable tea, provided by the matron of the hospital, interesting cases and specimens were demonstrated by Drs. D. G. CAMPBELL, JOHN TAYLOR, J. T. McQUAT, ALEX. ROBERTSON, and Dr. G. THOM.

#### NORTH OF ENGLAND BRANCH: HARTLEPOOLS DIVISION.

At a meeting of the Hartlepoons Division, held on January 26th, Dr. W. WARREN COOK, chairman, presiding, Mr. H. HARVEY EVERS (Newcastle-on-Tyne) delivered an address on modern views on some forms of uterine haemorrhage. He emphasized at the outset that he would confine his remarks as far as possible to those forms of haemorrhage which gave trouble in general practice. He first discussed troublesome haemorrhages at puberty and in young unmarried women, and pointed out that some of these difficult cases with no physical signs had been shown to be due to excessive thyroid activity, while some were associated with excessive ovarian function and others with septic foci in other parts of the body. A brief outline of the lines of treatment for these cases was given. Haemorrhages in the region of the menopause were then discussed, special attention being directed to the value of radium in cases of so-called fibrosis uteri. Some of the pitfalls in the early diagnosis of carcinoma of the cervix were mentioned, and pre- and post-operative uses of radium in these conditions were indicated. The great improvement in remote results obtained by Wertheim's operation was emphasized. The difficulties in the diagnosis of malignant disease of the body of the uterus were briefly alluded to, and the great value of diagnostic curetting was stressed. Brief reference was then made to some modern views on the management of cases of ante-partum haemorrhage, particular attention being drawn to the value and limitations of Caesarean section in cases of placenta praevia. Recent ideas with regard to the relation between general toxæmia and accidental haemorrhage were outlined. An interesting discussion followed.

#### SURREY BRANCH: GUILDFORD DIVISION.

A MEETING of the Guildford Division was held at the Royal Surrey County Hospital on January 5th. In view of the fact that Sir John Collie was to give an address on the meeting-place of law and medicine, an invitation had been issued to solicitors practising in the area to take part in any discussion; a considerable number accepted. Mr. FERNAND SNALLPEICE, the oldest practising solicitor in the area, was elected to the chair.

Sir JOHN COLLIE said that it was not a mistake which condemned a practitioner, but the way he subsequently behaved. It was always best to own up if a mistake was made, because the truth would certainly emerge in the end. The consulting room was the right place for examination and not the lawyer's office, where the mental effect on the patient was enormous. Practitioners who hurried an examination would be sure to repent afterwards. When a patient was injured, however slightly, in the region of the back he was generally directed to go to bed; pain in the back in the vast majority of cases was not physical, and depended not so much on the actual injury as on the degree of shock and the nature of the mental outlook. With regard to medical reports, it was well to remember that insurance companies and employers of labour were not interested in technical terms, so that any report should be couched in plain English. Such reports should not be long, and the practitioner must not be biased by sympathy.

Many joined in the following discussion, and the speaker replied. On the motion of Dr. BUTLER, seconded by Dr. LANKESTER, a hearty vote of thanks was accorded to Sir John Collie.

#### YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

A MEETING of the Wakefield, Pontefract, and Castleford Division was held at the Stratford Arms Hotel, Wakefield, on February 9th, when Dr. T. GIBSON was in the chair.

Dr. A. GOUCH gave an interesting account of the disorders of menstruation, with suggestions for their treatment. He emphasized the importance of the examination of the chest for early signs of phthisis in cases of amenorrhoea with no discoverable local signs. He considered that good advice with regard to normal menstruation, such as was now given in the best girls' schools—in not regarding the menstrual period as a time of ill health as was done in the past—would lead to the disappearance of the bulk of cases of dysmenorrhoea. Ovarian products he often found to be disappointing in the disorders of the menopause, and small doses of thyroid to be much more useful.

An interesting discussion followed, in which Drs. BUTLER, GIBSON, LISTER, RADCLIFFE, and WALKER took part.

## Association Notices.

### A BUXTON DIVISION.

NOTICE is hereby given to all concerned of the formation by the Council of the Association of a Buxton Division of the Midland Branch, of area as follows:

The municipal borough of Buxton; the urban districts of Now Mills and Bakewell; and the rural districts of Chapel-en-le-Frith, Bakewell, and Hayfield.

The new Division to come into existence as from the date of publication of this Notice, and the area of the Derby and Chesterfield Divisions being modified accordingly.

### CONSULTING PATHOLOGISTS GROUP.

A MEETING of the recently formed Consulting Pathologists Group of the Association will be held at the B.M.A. House, Tavistock Square, London, W.C.1, on Friday, March 2nd, at 2.30 p.m.

The Group comprises all those members of the Association (not being members of the Public Health Service) who are working in an institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes.

The agenda of the meeting is as follows:

- (1) Elect a chairman.
- (2) Elect Group committee of six.
- (3) Consider arrangements to be made for provision of pathological service in connexion with National Health Insurance.
- (4) Any other relevant business.

ALFRED COX, *Medical Secretary.*

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, March 6th, at 8.30 p.m. Discussion on dental sepsis and internal medicine to be opened by Mr. Harold Round (Birmingham) and Dr. Annand.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, March 8th, when a paper will be read by Dr. F. B. Gillespie.

**CAMBRIDGE AND HUNTINGDON BRANCH.**—A meeting of the Cambridge and Huntingdon Branch with the Cambridge Medical Society will be held on Friday, March 2nd, at 2.45 p.m., in the Pathological Theatre, Medical Schools, Downing Street, Cambridge, by permission of Professor H. R. Dean, when a British Medical Association Lecture will be delivered by Mr. Alexander Fleming, St. Mary's Hospital Medical School, on vaccine therapy. Tea will be kindly provided by the president of the Cambridge Medical Society, Dr. H. B. Roderick.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual dinner of the Bournemouth Division will be held on Tuesday, March 6th, at 7.30 for 7.45 p.m., at the Royal Bath Hotel. After the dinner there will be dancing in the King's Hall until midnight. It is hoped that as many members as possible will come and bring guests, including ladies. Tickets 8s. 6d. each (exclusive of wine). Application, with remittance, must be made by Saturday, March 3rd, to Dr. O. C. Carter, Hursley, Poole Road, Bournemouth.

**EDINBURGH BRANCH.**—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Wednesday, February 29th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. W. A. Cochrane, 24, Walker Street. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30 p.m. At 7.15 p.m. dinner will be taken in the North British Station Hotel; morning dress. Dinner ticket, 10s. Ladies will be welcomed. Members are asked to notify the honorary secretaries by February 25th whether they intend to be present, and whether they will be accompanied by ladies or other guests.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Enoch's Station Hotel on Wednesday, March 14th, at 3.30 p.m. A paper on teeth in relation to health (with lantern illustrations) will be read by Dr. Charles Read.

**KENT BRANCH: DARTFORD DIVISION.**—A general meeting will be held at the Erith and District Hospital, Park Crescent, on Tuesday, February 28th, at 3 p.m. Business: Date of meeting of committee to arrange preliminaries for the annual Kent Branch meeting to be held at Dartford in June; Mr. Cecil Rowntree, consulting surgeon to the Erith Hospital, will open a discussion on the acute abdomen.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A meeting of the Hyde Division will be held in the Stalybridge Town Hall on Thursday, March 15th, at 8.30 p.m. Dr. T. B. Williams will deliver his presidential address.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held on Friday, March 30th, when Dr. E. P. Cumberbatch will deliver a British Medical

Association Lecture on the use of ultra-violet rays in general as well as in skin disease. It is hoped that there will be a large attendance of members.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next meeting arranged by the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, March 6th, at 9.30 p.m. Mr. Norman Patterson will read a paper on ear trouble in general practice.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, March 6th, at 8.45 p.m. Dr. J. W. McNee will discuss the clinical features of thrombosis of branches of coronary arteries.

**METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.**—A meeting of the Hampstead Division will be held at the Hampstead General Hospital on Thursday, March 8th, at 8.30 p.m. Dr. G. A. Sutherland will discuss the heart in acute infections.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, March 20th, at 8.45 p.m., when Mr. Wansey Bayly will deliver an address on the general practitioner and the prevention of venereal disease.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRA'S DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 13th, at 9 p.m. Mr. Sidney Boyd will give an address on the diagnosis of surgical emergencies occurring in general practice.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Whipp's Cross Hospital, Leytonstone, on Tuesday, March 6th, at 3.30 p.m. Dr. J. C. Muir, medical superintendent, will give a clinical demonstration.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, March 9th, at 8.15 p.m. Mr. Graham S. Simpson will discuss the value of operations.

**SOUTHERN BRANCH: JERSEY DIVISION.**—The next meeting of the Jersey Division will be held at the General Hospital on Thursday, March 15th, at 8.30 p.m. Mr. C. A. Halliwell will read a paper on the treatment of peritonitis.

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division at the Croydon General Hospital on Wednesday, March 14th, Dr. J. W. Wayte will give a lantern demonstration on haematuria. It will be preceded by ten at 4 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 1st, at 4 o'clock. Sir Thomas Lewis will give an address on the rheumatic heart in children. Tea will be served at 5.45 p.m.

**YORKSHIRE BRANCH: DONCASTER DIVISION.**—A meeting of the Doncaster Division will be held at Parkinson's Café, High Street, Doncaster, on Thursday, March 22nd, when Professor G. Lovell Gulland, Edinburgh University, will give a British Medical Association Lecture on the significance of heart murmurs. Dinner, at 8 p.m., will precede the lecture.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Strafford Arms Hotel, Wakefield, on Thursday, March 8th. Dr. R. A. Veale, physician in charge of the skin department, General Infirmary, Leeds, will give a lecture on common skin diseases. Supper (3s.), at 7.45 p.m., will precede the lecture.

## BILL FOR THE CONTROL OF VENEREAL DISEASE IN EDINBURGH.

THIS bill, which has already been laid before Parliament, asks for the conferment of "further powers upon the Corporation of the City and Royal Burgh of Edinburgh in relation to venereal diseases and for other purposes." It consists of four sections, three of which are taken up with the preamble, short title, and expenses of the Act. Section 3, which is the operative section so far as venereal disease is concerned, is printed below.

After the bill as presented to Parliament had been put into type we received a pamphlet entitled "Statement for the Corporation," in which considerable alterations are proposed. These alterations are included in our reproduction of the bill: omissions from the original bill are placed within square brackets; additions are printed in italics. It will be noted that the original Subsection (3) has been deleted; that Subsection (4), with alterations, becomes (3), and that new subsections have been added.

**3. Venereal Disease.**—(1) When the Medical Officer of Health has reason to believe that any person is suffering from venereal disease and liable to infect other persons and such person

neglects or refuses to undergo treatment by a medical practitioner or at a treatment centre for venereal disease established by the Corporation (hereinafter referred to as "a treatment centre") or to continue such treatment until he is cured or until it has been certified as aftermentioned that he is unlikely to cause infection the Medical Officer of Health [shall be entitled to] *may* give notice in writing to such person requiring him within a reasonable time to be specified in the notice to consult a medical practitioner or to attend a treatment centre and (unless [he produces] within a time to be specified in the notice *he produces to the Medical Officer of Health* a certificate from [such] a medical practitioner that he is not suffering from venereal disease) to undergo treatment by a medical practitioner or at a treatment centre until certified by the medical practitioner or the Medical Officer of Health to be cured or unlikely to cause infection.

(2) Where the person believed to be suffering from venereal disease is under the age of sixteen the notice referred to in the immediately preceding subsection shall be given to one of the parents or the guardian of such person and such parent or guardian shall be responsible for carrying out any requisition of such notice.

(3) Where it is certified by the Medical Officer of Health that a person is suffering from venereal disease and liable to infect other persons and that it would be expedient for the purpose of preventing the spread of infection that such person should be removed to and detained in a hospital or other place provided by the Corporation for the treatment of venereal disease (hereinafter referred to as "a hospital") it shall be lawful for any magistrate or judge of police on the application of the prosecutor in the police court and on production of such certificate or on being satisfied by medical evidence of the necessity or desirability in the public interest of the removal and detention to grant warrant to remove such person to a hospital and to detain him therein until he is certified by the Medical Officer of Health or a medical practitioner to be cured or unlikely to infect other persons. Provided that the Corporation shall in every case cause the removal and detention to be effected without charge to the person removed. Provided further that proceedings in the police court under this section shall be conducted in private and no person except the person to whom the proceedings relate the Medical Officer of Health and other medical witnesses and the legal representatives of the Corporation and of such person shall be present without the leave of the court.]

(4) (3) Where any child under the age of sixteen is suffering from congenital syphilis ophthalmia neonatorum conjunctivitis or vulvo-vaginitis and the Medical Officer of Health is satisfied that the disease from which such child is suffering is of syphilitic or of gonorrhoeal origin the Medical Officer of Health [shall be entitled to] *may* give [notice in writing] to the parents of such child a notice in writing in the terms referred to in Subsection (2) of this section [or either of them requiring them within a reasonable time to be specified in such notice to undergo examination by a medical practitioner or at a treatment centre and if after such examination any such parent is found to be suffering from venereal disease the Medical Officer of Health shall be entitled to give such parent a notice in writing in the terms referred to in Subsection (1) of this section.]

(4) It shall be in the option of any person to whom a notice is given under this section to elect whether he will in terms of this section consult a medical practitioner or attend a treatment centre and in the cases provided for by Subsection (2) of this section the option shall be exercisable by the parent or guardian as the case may be.

(5) The Medical Officer of Health shall not take action under the provisions of this section on information conveyed to him by any person other than a medical practitioner unless and until he has taken such steps as he considers reasonable for the purpose of obtaining corroboration of such information.

(5) (6) If any person fails to carry out any requisition of any notice given under the terms of this section or falsely or without probable cause gives information to the Medical Officer of Health that a person is suffering from venereal disease and liable to infect other persons he shall be guilty of an offence and shall be liable to a penalty not exceeding ten pounds.

(7) Proceedings in regard to an offence under this section and proceedings under Section 54 of the Public Health (Scotland) Act 1897 where such proceedings relate to a case of venereal disease shall be conducted in private.

(8) The provisions of this section shall cease to be in force at the expiration of five years from the passing of this Act unless the same shall have been continued by Order made by the Secretary of State for Scotland which Order he is hereby empowered to make.

(6) (9) For the purposes of this section the expression "venereal disease" has the same meaning as in the Venereal Disease Act 1917 and the expression "medical practitioner" means a registered medical practitioner.

## Correspondence.

## Organization of the Profession.

SIR,—I am asking my Division to consider the following motion, and would ask other Divisions to give the matter their earnest thought.

"That the organization of the profession on present lines is tending to the depreciation and degradation of the general practitioner."

Hospital provident societies and public clinics are rapidly destroying the confidence of the community in the knowledge and skill of the general practitioner, and diminishing his field of work.

Some alteration in his field of work may be necessary in the further efforts of the community to obtain the best medical service, but immediate consideration should be given to the future position of the general practitioner in the final scheme.—I am, etc.,

Southend-on-Sea, Feb. 20th.

FERDINAND REES, M.D.

## Drugs and Appliances for Insured Patients.

SIR,—May I ask space in the columns of the SUPPLEMENT to give publicity to an example of the way in which an insurance practitioner is hampered in treating his patients by officials with no practical knowledge of the issues?

I spent considerable time and trouble in teaching two of my panel patients suffering from diabetes to carry out their own tests for sugar. The advantages to the patient are obvious (vide *The Diabetic Life*, by R. D. Lawrence). I ordered them Fehling's solution for this purpose, which was duly supplied by the chemist. Some time afterwards I received a letter that Fehling's solution was not "on the list," and had been disallowed. And yet it is stated that "it is the duty of the insurance practitioner in attendance to see that all appropriate and necessary drugs and appliances are available for the needs of his patients."—I am, etc.,

Lymington, Hants, Feb. 15th.

NEVILLE M. GOODMAN.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander A. Davidson is placed on the retired list with the rank of Surgeon Captain.

Surgeon Commander F. J. Gowan to the *Prophet*.

Surgeon Lieutenants H. H. Fisher to the *Aphis*; E. V. Barnes to the *Britannia* for R.N. Sick Quarters, Dartmouth.

W. D. M. Sim has entered as Surgeon Lieutenant for short service and appointed to the *Victory* for Haslar Hospital for course of instruction.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel H. P. Shea, D.S.O., having attained the age fixed for compulsory retirement, retired on retired pay, and is granted the rank of Colonel, January 26th, 1928 (substituted for notification in the *London Gazette* of January 27th, 1928).

Captain W. W. S. Shorpe to be Major with precedence next below H. S. Moore.

Captain C. H. C. Byrne to be Major (prov.).

Lieutenants C. L. Day and J. C. Gilroy are seconded under the provisions of Article 205, Royal Warrant for Pay and Promotion, 1926.

A. F. Downie to be temporary Lieutenant.

To be Lieutenants on probation: C. L. Day, G. T. L. Archer, D. R. W. Buthury, P. J. L. Capon, P. Dwyer, K. McNeill, M. R. Burke, P. W. A. Agnew, J. C. Gilroy.

## ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants J. D. Leahy, M.C., to R.A.F. Station, North Weald. The following Flight Lieutenants are granted permanent commissions in the rank stated: E. Thompson and N. I. Smith.

Flying Officers J. P. Hederman to remain at School of Army Co-operation, Old Sarum, instead of to R.A.F. Depot, Uxbridge, as previously notified; W. Heron and J. T. McGovern to Medical Training Depot, Hatton.

## TERRITORIAL ARMY.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel F. T. Rees, M.C., from General List, R.A.M.C., T.A., Reserve of Officers, to be Lieutenant-Colonel and to command the 158th (Welsh) Field Ambulance, vice Lieut.-Colonel (Brevet Colonel) C. A. Isaac, T.P., vacated on completion of tenure.

Lieut.-Colonel A. R. Moolie to be Brevet Colonel.

Major S. R. Gibbs, M.C., T.D., resigns his commission and retains his rank, with permission to wear the prescribed uniform.

Major H. G. F. Dawson, T.D., having attained the age limit, is retired and retains his rank, with permission to wear the prescribed uniform.

Captain (Brevet Major) G. H. R. Gibson, D.S.O., to be Major.

Hygiene Companies.—F. W. Bury to be Lieutenant, January 20th, 1926 (substituted for notification in the *London Gazette*, January 18th, 1926).

## VACANCIES.

BIRKENHEAD AND WIRRAL CHILDREN'S HOSPITAL.—House-Surgeon (female). Honorarium at the rate of £100 per annum.

BRADFORD MUNICIPAL GENERAL HOSPITAL.—(1) House-Surgeons. (2) House-Physicians. Salary £200 per annum each.

BRISTOL CITY AND COUNTY.—(1) Chief Assistant Medical Officer of Health and Assistant Port Medical Officer (male). (2) Lady Assistant Medical Officer of Health. Salary for (1) £600, rising to £1,000, and for (2) £750.

EXETER: PRINCESS ALICE HOSPITAL.—Junior Resident House-Surgeon (male, unmarried). Salary at the rate of £100 per annum.

GREAT YARMOUTH: GENERAL HOSPITAL.—House-Surgeon (male, unmarried). Salary £150 per annum.

HERTFORD COUNTY HOSPITAL.—(1) Resident Surgical Officer. (2) House-Physician. Salary £250 and £150 per annum respectively. (3) Honorary Anaesthetist.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Resident Medical Officer. Salary £350 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) Assistant Pathologist and Research Fellow; salary £450 per annum. (2) Part-time Junior Casualty Officer for six months (non-resident). Salary £75.

KETERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer (male). Salary at the rate of £175 per annum.

LAMBETH BOARD OF GUARDIANS.—Male Junior Assistant Medical Officer for the Lambeth Parish Hospital. Salary £200 per annum.

LEAMINGTON SPA: WANNFORD GENERAL HOSPITAL.—Resident House-Surgeon. Salary £365 per annum.

LEICESTERSHIRE COUNTY COUNCIL.—Assistant Medical Officer for Maternity and Child Welfare and Assistant School Medical Officer (female). Salary £600 per annum.

LINCOLN CITY AND COUNTY BOROUGH.—Medical Officer of Health. Salary £1,600 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Resident Medical Officer. Salary at the rate of £175 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Honorary Physician to Children's Department. (2) Resident Medical Officer. (3) House-Physician. Salary for (2) £250 per annum, and for (3) £125 per annum.

NORTHAMPTON GENERAL HOSPITAL.—(1) House-Physician. (2) Two House-Surgeons. (3) Two Assistant House-Surgeons. Salary at the rate of £150 per annum each.

NORWICH: JENNY LIND HOSPITAL FOR CHILDREN.—Resident Medical Officer (male). Salary £150 per annum.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

PERTH: JAMES MURRAY'S ROYAL ASYLUM.—Assistant Physician (male, unmarried). Salary £300 per annum.

PLYMOUTH: HOMOEOPATHIC AND GENERAL HOSPITAL.—House-Surgeon (male). Salary £100 per annum.

ROCHFORD UNION.—Assistant Resident Medical Officer (Lady) at the Poor Law Hospital. Salary £200 per annum, rising to £250.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—(1) Resident Medical Officer. (2) Resident Surgical Officer. (3) Assistant Medical Officer (non-resident). Salary for (1) and (2) £125 per annum, and for (3) £150.

ROYAL WATERLOO HOSPITAL FOR CHILDREN, Waterloo Road, S.E.1.—Honorary Medical Registrar.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—House-Surgeon. Salary at the rate of £75 per annum.

SILFORD CITY.—Senior Orderly at the Corporation's Venereal Diseases Treatment Centre. Salary £4 per week.

SALISBURY: GENERAL INFIRMARY.—House-Surgeon (male, unmarried). Salary £150 per annum.

SHARVITZ FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SEAFORD HOSPITAL SOCIETY.—Assistant Medical Officer at the King George's Sanatorium for Sailors, Liphook. Salary £200 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Casualty Officer. Salary £120 per annum, rising to £130 on appointment as Junior House-Surgeon.

TORQUAY: TORBAY HOSPITAL.—Honorary Medical Officer in charge of Ear, Nose, and Throat Department.

WEST HAM UNION.—Assistant Medical Officer at the Whipps Cross Hospital. Salary £300 per annum, rising to £350.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar. (2) House-Physician. (3) Two House-Surgeons. (4) Honorary Anaesthetist. Honorarium for (1) £100 per annum, and salary at the rate of £100 per annum for (2) and (3).

WILMINGTON MUNICIPAL HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Sutton-in-Ashfield (Nottinghamshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFERENCE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the Orkney District (Sheriffdom of Caithness, Orkney, and Shetland). Applications to the Private Secretary, Scottish Office, Whitehall, London, S.W.1, by March 14th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

HENK, J. R. B., M.A., B.M., B.Ch.Oxon., M.R.C.P.Lond., Out-patient Physician to the City of London Hospital for Diseases of the Heart and Lungs.

MARSHALL, John, M.C., M.B., Ch.B.Glas., F.R.F.P.S., D.O.M.S., Visiting Surgeon, Glasgow Eye Infirmary.

ST. THOMAS'S HOSPITAL.—Casualty Officers and Resident Anaesthetists: G. C. Babington, M.B., B.S.Lond., M. D. Neworthy, M.R.C.S., L.R.C.P., R. G. Apthorpe, M.B., B.Ch., C. G. Windsor, M.B., B.Ch., F. J. Milward, M.B., B.Ch., A. H. Lankaster, M.B., B.Ch., J. A. Hartley, M.B., B.Ch., A. P. Farmer, M.R.C.S., L.R.C.P., Resident House-Physicians: R. Oddie, B.A., M.B., B.Ch., J. B. George, M.R.C.S., L.R.C.P., G. R. N. Henry, M.B., B.S., H. K. Goadby, M.B., B.Ch., Resident House-Physician (for Children): A. B. Connell, M.R.C.S., L.R.C.P., Resident House-Surgeons: C. I. Thickett, M.B., B.Ch., G. E. Parker, M.B., B.Ch., C. M. Fitzgibbon, M.R.C.S., L.R.C.P., R. W. Butler, M.B., B.Ch., Resident House-Surgeons: (Ear) J. C. D. Carothers, M.B., B.S.; (Throat) R. G. Thomas, M.R.C.S., L.R.C.P.; (Orthopaedic) R. W. L. May, M.B., B.Ch., Obstetric House-Physicians: (Senior) B. Blaxill, M.B., B.Ch.; (Junior) C. W. Walker, M.B., B.Ch., Gynaecologic House-Surgeons: (Senior) J. F. L. Barnes, M.R.C.S., L.R.C.P.; (Junior) T. Edmunds, M.R.C.S., L.R.C.P., Chief Assistants and Clinical Assistants: (Ophthalmic) R. G. Holder, M.R.C.S., L.R.C.P., M. R. Doyle, M.R.C.S., L.R.C.P.; (Ear) H. I. Marriner, F.R.C.S.Ed. (Chief Assistant), D. B. Mumby, M.R.C.S., L.R.C.P., R. N. Wilcox, M.R.C.S., L.R.C.P.; (Throat) D. F. A. Neilson, F.R.C.S. (Chief Assistant), J. F. Stent, M.B., B.Ch., F. L. H. Voller, M.R.C.S., L.R.C.P. (Skin) H. T. Barrow, M.D. (Chief Assistant), A. Bevan, M.D., H. G. Harvey, M.R.C.S., L.R.C.P., J. E. Saville, M.R.C.S., L.R.C.P.; (Dental) P. Lloyd Williams, M.R.C.S., L.R.C.P., L.D.S. (Chief Assistant).







# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 3RD, 1928.

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### PRIVATE MEDICAL PRACTICE.

BY

E. ROWLAND FOTHERGILL, M.B., B.S.

The Representative Body of the British Medical Association in July last year adopted the following resolution:

That the Representative Body, viewing with considerable concern the insidious inroads continually being made on private medical practice under the auspices of the State, voluntary bodies, and others, and being of opinion that this is not only detrimental to the interests of the individual members of the medical profession, but ultimately to all classes in the community, instructs the Council to watch all such developments and actively to interest itself in safeguarding private practice amongst all groups in the medical profession, and to develop through the Branches and Divisions closer co-operation with the local medical profession for that purpose.

This resolution very incompletely voices the grave anxiety which is now felt in all groups of the medical profession with regard to what obviously is taking place and which has been drawn attention to from time to time. It was unfortunate that time did not allow of a general discussion and elaboration of the issues involved, and that the meeting had to be satisfied for the time being with an enumeration of certain encroachments and a few comments thereon. It will be useful to name a few of those mentioned. They included:

- National health insurance.
- Additional insurance benefits.
- Clinics for venereal disease (190), tuberculosis (450), cancer, mental, and dental diseases, mental deficiency, and mild mental disorders, artificial light, rheumatism, orthopaedics, notifiable diseases.
- Clinics for treatment of school children (1,190).
- Rheumatism and heart disease in children.
- Maternity and child welfare centres for (a) industrial classes (2,200), and (b) middle classes.
- Consultations for puerperal pyrexia.
- Ante-natal work and maternity attendance by midwives.
- Pathological facilities.
- Whole-time State medical officers engaged in domiciliary clinical work.
- Contributory schemes conducted by or for voluntary hospitals.
- Facilities for the middle classes by insurance or payment of fees for in- and out-patient treatment at voluntary hospitals; including single persons with incomes up to £500 per annum.
- Sight-testing opticians.
- Anaesthetics by registered dentists.

A formidable list, and most of the items unknown before 1900. But it does not necessarily follow that because an encroachment has been made in one or another direction into what was private practice in the past that that in itself is bad. The purpose of this communication is not to suggest solutions to the various problems indicated

above and now confronting the profession, but rather to draw attention to the direction in which such solutions may be looked for.

Dr. C. E. S. Flemming, in an able article in the SUPPLEMENT of December 10th last (p. 221), advocates that the private practitioner should come forward and take part at clinics and centres where now medical treatment is being given. To do this may or may not be a good thing; but he does not state how doing this would fit in with any fundamental principle which should guide the private practitioner's actions, or even if there is any fundamental principle at all involved. One reads the essays of others who demand "a policy," and ask that "a lead should be given," and in particular "that the Association should wake up and do something or other." As the Association is, after all, formed of the individual members, that does not carry us far; and to "announce a policy" or to "give a lead" before being sure of our "fundamentals" will lead only to destruction. It would seem to be necessary, therefore, to re-examine old conclusions and to revise our preconceived notions.

Undoubtedly profound changes are taking place in the thoughts and habits of British people, and the medical profession cannot expect to be unaffected. Because we are all in the midst of it, and are ourselves subject to it, we hardly realize what is happening, and are consequently ill-fitted to cope with the situation. The medical profession has long since left its position of isolation, and, whether it likes it or not, has been brought during the past twenty-five years into the most intimate relationship with the movements of public and party thought and opinion. To look around over our broken-down fences will prove a profitable and illuminating employment.

The speculative restlessness of some medical practitioners desiring to know "whither away" cannot be lulled by statements that all is well. It is contradicted by their experience, and their common sense will not accept it. Others would seem to be keen to plunge at once into the conflicting currents and to endeavour to readjust this or that, or to guide hither or thither, all without any previous consideration having been given to what is not necessarily on the surface. And then we have the average medical practitioner, ever an eager, single-minded (often simple-minded) seeker after truth, fully concerning himself with the individual, and hardly to be expected to be capable of getting away from this attitude of mind and to assist in determining what is best to be done. He finds himself assailed by the ardent reformer and the astute administrator. He detests the bureaucrat, with his silent but ceaseless and plausible encroachments on his liberty and private practice, who in turn resents him as a personality which cannot be made to fit itself into a set of statements on a printed form. He recognizes that things are changing,

but he has the foggiest notion how it is coming about and of the fundamental principles on which he should act. He longs for them all to leave him alone and allow him to pursue his way, continuing in that liberty and independence which he was led to expect, and in which those who preceded him so usefully functioned.

We have those who openly state that the decay of homo life is now proceeding, and that the homo and all its taboos are being brushed aside. If this is so then the private practitioner goes also, for his place has always been in the homes of the people. Again, it is becoming all too apparent that the present-day management of democracy—and this consequently involves the medical profession—is by means of inner rings, party cliques, and legislation by reference; and that the centre of gravity of public health administration has shifted from the environment to the individual, who is being encouraged to look elsewhere than in his home for the medical attendance which he is being educated to think that he has need of.

The private doctor in his difficulties hopes to find assistance in formulating his opinion and in coming to a decision by inquiring what other nations may be doing, and how they may have dealt with similar problems, especially in relation to medicine. Such an inquiry would be interesting, but it must be appreciated that developments of other national forms of medicine cannot be made applicable to the "atmosphere" of the British peoples. National dispositions, personalities, and faculties must be recognized and allowed for; and to be too closely guided by the consequences in one nation for conclusions as to possible consequences here may lead us astray. So we come to wonder whether what is going on is all a development or whether it is a revolution, and where it will all end, and how we can best manage to deal with our own difficulties.

If the profound changes in the thoughts and habits of the people we hear so much of, especially in their relation to medicine, can be shown to preserve the idea or type of the past, with a continuity of principle—changes that allow of assimilation and are a logical sequence and free from lop-sidedness—then it is reasonable to conclude that these changes are developments. But even development may not mean progress; all things develop for better or for worse. What would seem to be necessary in the development is a power of adjustment with the utmost mobility. Is this so at the present time? Incidentally it may be remarked that this power has proved to be very pronounced in the organization of the British Medical Association. But is it so in the outside medical world? The medical profession does not ask for permanency of idea, but it does ask for adaptation, and not destruction; and as a scientific profession it welcomes criticism, is willing to admit error, is imbued with the spirit of adventure, and is attracted by truth, and is eagerly in search of it, whatever the public may think to the contrary.

Is it possible, therefore, to find one common factor, a necessity, which would appeal to the medical profession and to the public—toward which both could move, animated by a common object, and which should be preserved at every cost if the two are to continue to co-operate and the British nation is to progress—a fundamental principle to govern all conclusions, and on which the medical profession can come into line, formulate a policy, and look for the leaders asked for?

The home, with its influence on conduct and character, has made England what it is. The private medical practitioner has been the guide, philosopher, and friend in the past in those homes, influencing them in many ways hardly appreciated now, bringing to bear on them, and through them, those powers which he is peculiarly trained and suited to apply. If these statements are correct, then it would seem that the home and the family doctor must be continued and the closest co-operation be developed. The case could then be stated thus:

(a) In the home alone is formed, and can be discovered, the environments of circumstances and character so necessary for successful medical practice of prevention and cure.

(b) The family doctor, aided by medical and lay co-workers, should direct and be responsible for the personal health services required in the home, making himself fully acquainted with these environments.

(c) If for any reason it is found necessary or desirable that the people should be removed from their homes for medical treatment, that treatment should be given by the family doctor; or, if not possible, then in close collaboration with him, his knowledge of the environments being put at the disposal of his colleagues.

(d) In all matters of health affecting the people and their homes the family doctor should be consulted and be given the opportunity to co-operate with the State for the maintenance of the home and the happiness of those who form it.

To many this idealistic attitude may not appeal. Practical reforms always lag behind the vision of the idealist, and even when action is at last taken the result is commonly a compromise between what the idealist and his followers demand and what the average of medical and public opinion will accept. But that is not to say that the idealist has not proved to be the very salt of progress. Anyhow, one would suggest that the appreciation of these fundamental principles and their application to each aspect of the several problems as they come to confront the medical profession will be of some assistance in their elucidation.

Get medicine away from the "bottle of physick" and the herd treatment of individuals, with its flat denial of differing personalities; convince public opinion that sound medical treatment cannot be carried on effectively detached entirely from, and independent of, the knowledge of home conditions and of the various personalities therein; then the swarming throngs ever exhausting the facilities of hospitals, clinics, and centres will at last come to see the delusion, this decadence in treatment, and will demand an efficient medical service, based upon and carried out in homes made fit to live in, as the one essential for health and happiness.

The medical profession at this juncture clamours for a policy and demands leaders. If those who are fitted to lead can seize the ideal, and, whilst throwing into the common stock their several personalities, will develop for the family doctor that sympathy and support he rightly looks for and richly deserves, then medicine can again go forward with confidence and assurance to further triumphs, having helped to recover the homes of England and their influence for good.

## Meetings of Branches and Divisions.

### KENYA BRANCH.

A MEETING of the Kenya Branch was held on October 12th, 1927, at the Municipal Council Offices, Nairobi. Dr. C. J. WILSON read a paper on tuberculosis amongst African natives, which was followed by a discussion in which many members took part, and a vote of thanks was accorded to Dr. Wilson.

A further meeting of the Branch was held at the Municipal Offices, Nairobi, on November 9th, 1927, when the PRESIDENT took the chair. Dr. H. L. GORDON read a paper on mental instability in Kenya. At the conclusion of the paper there was a discussion thereon in which several members took part. A vote of thanks was passed to Dr. Gordon. Mr. Daubney, deputy chief veterinary research officer, was elected a complimentary member of the Kenya Branch in recognition of his distinguished scientific work and the assistance he has always given to medical men in the colony.

At a meeting of the Branch held at the Municipal Offices, Nairobi, on Wednesday, December 14th, 1927, Dr. J. B. CLARKE read a paper on civil mobilization for war service. A discussion, in which several members took part, ensued, and Dr. Clarke replied. A vote of thanks was accorded to the lecturer for his address. Arrangements were made for the annual meeting of the Branch to be held on January 20th and 21st.

### METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

AN ordinary meeting of the Camberwell Division was held at the Bermondsey and Rotherhithe Hospital on February 7th. Owing to the unavoidable absence of the president, Dr. Cox, the chair was taken by Dr. HEARD. Mr. ALFRED WEBB-JOHNSON, surgeon to the Middlesex Hospital, read a paper on haematuria. The various causes of the condition were enunciated and many useful hints in treatment given. The address was illustrated by several interesting x-ray films and by some excellent coloured sketches of pathological specimens. The lecture was much appreciated and was followed by a keen discussion. A hearty vote of thanks to Mr. Webb-Johnson for his address was carried unanimously.

### METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.

A MEETING of the Hampstead Division was held at the Hampstead General Hospital on February 9th, when Dr. J. S. MACKINTOSH was in the chair. Dr. S. MORCKTON COPEMAN, F.R.S., gave an address, illustrated by lantern slides, on inoperable cancer.

Dr. Copeman defined the term "inoperable cancer" as any form of the disease in which it was no longer possible to perform what

would be regarded by the surgeon as a "complete operation." He quoted the records of the Ministry of Health Departmental Committee, indicating that when a "complete" operation was possible results, especially in cases of cancer of the breast, were exceptionally favourable. Unfortunately, however, the patients coming to the surgeon sufficiently soon for a "complete" operation to be possible were disappointingly few, especially in view of the fact that the number of patients developing cancer continued to increase. Probably at least 50 per cent. of the total number were never seen by a surgeon, and the important question arose as to what became of them, since fewer were found even in the latest stages in the metropolitan infirmaries than prior to the great war. Presumably such patients remained at their own homes, often in unhygienic conditions, which was bad both for them and for their relatives. Information was needed in this respect, and also propaganda by health authorities, with the object of urging patients to undergo treatment at a period when it was likely to be successful. Dr. Copeman described a dietetic method originally suggested by him at the meeting of the British Medical Association at Cambridge in 1920. This dietary, inadequate physiologically, though deficient in the fat-soluble A vitamin of animal origin, had been found capable of affording increased expectation of life, together with freedom from pain, sometimes so complete as to obviate entirely a previous need for analgesics. In conclusion, Dr. Copeman referred to his recent attempts at treatment with fluoroscein activated by means of  $\gamma$  rays, ultra-violet light, or radium. He illustrated his remarks with a series of photographs showing the possibility of the method in suitable cases.

In the course of the discussion which followed the address Dr. W. G. BENDLE, medical superintendent of the Paddington Infirmary, emphasized the favourable results he had obtained, over a period of several years, by using Dr. Copeman's dietary in cancer, particularly in the alleviation of pain.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A MEETING of the Willesden Division was held at the Willesden General Hospital on February 9th, when Dr. McKINSTRY, pathologist to the Willesden General Hospital, gave a very interesting lecture on the examination of cerebro-spinal fluids and the findings in various pathological states of the central nervous system. Dr. McKinstry reviewed the anatomy of the ventricular and subarachnoid systems of the brain and cord, the secretion and absorption of the cerebro-spinal fluid, and the technique of lumbar puncture. The lecturer described in detail the normal composition of the fluid, and contrasted it with the findings in the several diseases in which an alteration in its constituents occurs. An outline of the tests employed was given. The colloidal gold flocculation test was described, and the actual findings in the cases of two specific cerebro-spinal fluids demonstrating the typical parietic and luetic curves were shown.

On the motion of Dr. W. WOOLLEY STOCKER, seconded by Dr. F. R. STURRIDGE, a vote of thanks to Dr. McKinstry for a most instructive lecture was passed unanimously.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.

A VERY successful meeting of the Swansea Division was held on February 23rd, when Dr. DANIEL E. EVANS, chairman of the Division, presided over a large gathering.

An address on "Birth control: its medical and social aspects" was given by Dr. J. A. RAWLINGS, J.P., who, in his eightieth year, is the senior member of the Division, and, having ceased to practise, has devoted himself to social work and magistracy duties, in which he has upheld the great traditions of the medical profession.

He was warmly welcomed by the CHAIRMAN, and in the discussion which followed his address several speakers, including colleagues—one of whom, Dr. A. LLOYD-JONES is still practising although 75 years of age—paid the lecturer high tribute. Dr. Rawlings spoke remarkably well, with great knowledge and conviction.

A very enjoyable evening was spent, and the lecturer was warmly thanked by Mr. W. F. BROOK, Dr. J. M. MORRIS, Dr. A. F. SLADDER, Dr. BESSIE GOODSON, Dr. W. H. O. WOODS, and Dr. HETTERMAN for his lucid address.

#### SUSSEX BRANCH: CHICHESTER AND WORTHING DIVISION.

A MEETING of the Chichester and Worthing Division was held in the Burlington Hotel, Worthing, on February 22nd, when Dr. FRANK HINDS was in the chair and thirty other members were present.

The SECRETARY submitted a communication from head office re the inquiry into the treatment of varicose ulceration. The names of the members willing to complete the forms were asked to be sent to the secretary.

The question of the organization of the medical charities in the Division was discussed. On the motion of Dr. F. HINDS, seconded by Dr. MILBANK-SMITH, it was resolved:

That the Division appoints a charity steward to collect funds for the medical charities for transmission through the British Medical Association.

It was emphasized that any member desiring to subscribe to any specific charity could earmark his subscription accordingly. Dr. Milbank-Smith was unanimously appointed charity steward for the Division.

Dr. R. BROOKE (Chichester) gave a most interesting paper on the modern operative treatment of hernias, which was illustrated by lantern slides prepared by himself and by five patients. The lecture proved to be one of the most interesting that had ever been given to the Division, and many expressions of thanks were voiced. In the subsequent discussion after dinner the following took part: Drs. HINDS, GIBSON, GERRATT, FITZMAURICE KELLY, MILBANK-SMITH, FIELDER, LE RICHE, and LIESCHING.

Members to the number of twenty-eight sat down to dinner.

## Association Notices.

### TABLE OF DATES.

- March 28, Wed. Nomination papers available (on application at Head Office) for election of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
- April 23, Sat. Annual Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
- May 12, Sat. Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
- May 15, Tues. Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
- May 19, Sat. Voting papers posted from Head Office, where there are contests in above elections.
- June 2, Sat. Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
- June 7, Thurs. Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
- June 13, Wed. Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
- June 21, Thurs. Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
- June 23, Mon. Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
- June 27, Fri. Names of Representatives and Deputy Representatives must be received at Head Office by this date.
- July 4, Wed. Council.
- July 13, Wed. Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
- July 20, Fri. Supplemental Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
- July 21, Sat. Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
- July 23, Mon. Annual Representative Meeting, Cardiff, 10 a.m.
- July 24, Tues. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
- July 25, Wed. Annual Representative Meeting, Cardiff.
- July 26, Thurs. Council, Cardiff.
- July 27, Fri. Annual Representative Meeting, Cardiff.
- July 28, Sat. Annual General Meeting, Cardiff, President's Address.
- July 29, Sun. Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
- July 30, Sun. Meetings of Sections, etc., Cardiff.
- August 1, Mon. Meetings of Sections, etc., Cardiff.
- August 2, Tues. Meetings of Sections, etc., Cardiff.

ALFRED CON, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A meeting of the Coventry Division will be held at the Coventry and Warwickshire Hospital on Tuesday, March 6th, at 8.30 p.m. Discussion on dental sepsis and internal medicine to be opened by Mr. Harold Round (Birmingham) and Dr. Annand.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, March 8th, when a paper will be read by Dr. F. B. Gilhespy.

**BORDER COUNTIES BRANCH.**—A general meeting of the Border Counties Branch will be held at Storms Farm Dairy, Keswick, on Friday, March 16th, at 3 p.m. Mr. J. A. Spedding will describe and demonstrate the production of certified milk. Other speakers will be Mr. R. Simpson, chief veterinary inspector for Cumberland, and Dr. F. H. Morrison, M.O.H. for Cumberland.

**CAMBRIDGE AND HUNTINGDON BRANCH.**—A meeting of the Cambridge and Huntingdon Branch with the Cambridge Medical Society will be held to-day (Friday, March 2nd) at 2.45 p.m., in the Pathological Theatre, Medical Schools, Downing Street, Cambridge, by permission of Professor H. R. Dean, when a British Medical Association Lecture will be delivered by Mr. Alexander Fleming, St. Mary's Hospital Medical School, on vaccine therapy. Tea will be kindly provided by the president of the Cambridge Medical Society, Dr. H. B. Roderick.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual dinner of the Bournemouth Division will be held on Tuesday, March 6th, at 7.30 for 7.45 p.m., at the Royal Bath Hotel. After the dinner there will be dancing in the King's Hall until midnight. It is hoped that as many members as possible will come and bring guests, including ladies. Tickets 8s. 6d. each (exclusive of wine). Application, with remittance, must be made by Saturday, March 3rd, to Dr. O. C. Carter, Hursley, Poole Road, Bournemouth.

**ESSEX BRANCH: MID-ESSEX DIVISION.**—The annual general meeting of the Mid-Essex Division will be held at the Bell Hotel, Chelmsford, to-day (Friday, March 2nd), at 3 p.m. Agenda: Report of year's work and accounts; election of officers for 1928; discussions: (1) re attendance of medical practitioners at road accidents; (2) chronic varicose ulceration.

**FIFE BRANCH.**—A clinical meeting of the Fife Branch will be held in the Maternity Home, Townsend Crescent, Kirkealdy, on Thursday, March 8th, at 3.30 p.m. Dr. W. D. D. Small (Edinburgh) will give an address on the medical treatment of gastric and duodenal ulcers.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Enoch's Station Hotel on Wednesday, March 14th, at 3.30 p.m. A paper on teeth in relation to health (with lantern illustrations) will be read by Dr. Charles Read.

**METROPOLITAN COUNTIES BRANCH.**—The Metropolitan Counties Branch has arranged a meeting to be held at the British Medical Association House, Tavistock Square, W.C.1, on Thursday, March 22nd. Dr. E. Graham Little, M.P., will deliver an address on "The future of medical practice: an address to senior students and young practitioners" at 5.30 p.m. Fourth and fifth year medical students and newly qualified practitioners are cordially invited; tea and coffee at 5 p.m.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next meeting arranged by the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, March 6th, at 9.30 p.m. Mr. Norman Patterson will read a paper on ear trouble in general practice.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, March 6th, at 8.45 p.m. Dr. J. W. McNevo will discuss the clinical features of thrombosis of branches of coronary arteries.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—A meeting of the Hampshire Division will be held at the Hampstead General Hospital on Thursday, March 8th, at 8.30 p.m. Dr. G. A. Sutherland will discuss the heart in acute infections.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The next clinical meeting of the Hendon Division will take place at Hendon Cottage Hospital to-day (Friday, March 2nd), at 8.30 p.m., when Dr. J. M. MacLeod, physician for diseases of the skin, Charing Cross Hospital, will deliver an address on some observations on ringworm and its treatment (illustrated by lantern slides).

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of the Marylebone Division will be held at 11, Chandos Street, Cavendish Square, on Thursday, March 15th, at 8.15 p.m. Agenda: (1) nomination of candidates for election to Central Council; (2) election of seven representatives and deputy representatives to Representative Meeting; (3) a lecture, with lantern illustrations, by Dr. Percy Flemming: The Thames from London Bridge to Lambeth, with a note of London's early water supply. Members are cordially invited to bring ladies and friends.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 13th, at 9 p.m. Mr. Sidney Boyd will give an address on the diagnosis of surgical emergencies occurring in general practice.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Whipp's Cross Hospital, Leytonstone, on Tuesday, March 6th, at 3.30 p.m. Dr. J. C. Muir, medical superintendent, will give a clinical demonstration.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—A meeting of the Westminster and Holborn Division will be held on Thursday, March 22nd, at 8.30 p.m., at Romano's Restaurant, Strand, preceded by a dinner at 7.30. Mr. P. B. Tustin will read a paper on modern methods in the production and treatment of milk.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, March 21st, at 9 p.m. It will be a joint meeting with members of the dental profession, and Mr. H. L. Messenger, L.D.S., will read a paper on focal infection; discussion on matters of mutual interest to follow. The following further meetings have been arranged: April 18th, Dr. J. Bright Bannister: Ante-natal work; May 16th, annual meeting; June 20th, Dr. Margaret Emslie: Care of the infant.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, March 9th, at 8.15 p.m. Mr. Graham S. Simpson will discuss the value of operations.

**SOUTHERN BRANCH: JERSEY DIVISION.**—The next meeting of the Jersey Division will be held at the General Hospital on Thursday, March 15th, at 8.30 p.m. Mr. C. A. Halliwell will read a paper on the treatment of peritonitis.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The next meeting of the Portsmouth Division will be a dental night; it will therefore be an opportunity for members to invite their friends of the dental profession as private guests. No official invitations will be issued. The meeting will be held at the Queen's Hotel, Southsea, on Thursday, March 8th, at 9.30 p.m., preceded by supper at 9 o'clock (cost 3s. 6d., including gratuities). Dr. A. Livingston, M.D.S. (Liverpool), director of dental studies at King's College Hospital, has kindly consented to give the address.

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division to be held on Wednesday, March 14th, at 4 p.m., at the Croydon General Hospital, Mr. A. H. Todd will give a

lecture demonstration on various hip cases, in the place of Dr. J. W. Wayto.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The next meeting of the Hastings Division will take place at the Queen's Hotel on Tuesday, March 6th, at 8.15 p.m. Dr. A. E. Larking will give an address on hospitals, general practitioners, and others. The annual dinner of the Division will be held on Friday, April 20th, at the Royal Victoria Hotel; tickets 10s. 6d.

**WILTSHIRE BRANCH: TROWBRIDGE DIVISION.**—A supper arranged by the Trowbridge Division will be held on Wednesday, March 7th, at 7.45 p.m., at the Roundstone House Hotel, Trowbridge. An address on hoarseness will be given by Mr. E. Miles Atkinson before the supper. The representative of the Division in the Representative Body will also be appointed.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Strafford Arms Hotel, Wakefield, on Thursday, March 8th. Dr. R. A. Veale, physician in charge of the skin department, General Infirmary, Leeds, will give a lecture on common skin diseases. Supper (5s.), at 7.45 p.m., will precede the lecture.

## BOOKS ADDED TO THE LIBRARY.

The following books were received in the Library of the Association during the months of December, 1927, and January, 1928.

- Annals of Medical History. Vol. 9, Part 3. 1927.  
Annals of the Pickett Thomson Research Laboratory. Vol. 3. 1927.  
Arzt, L., and Fuhs, H.: Röntgen Rays in Dermatology. 1927.  
Astier: Formulaire. 1928.  
Bailey, H.: Physical Signs in Clinical Surgery. 1927.  
Baly, E. C. O.: Spectroscopy. Vol. 2. 1927.  
Bouchacrt, J. P.: La pathogénie et le Traitement du Diabète. 1927.  
Bradley, D. C.: Topographical Anatomy of the Dog. 1927.  
Buxton, P. A.: Researches in Polynesia and Melanesia. Parts 1-4. Medical Entomology. 1927.  
Cabanès: Le Mal Métabolique. 1927.  
Cooke, W. R., and E. Ponder: The Polynuclear Count. 1927.  
Crossen, H. S.: The Diseases of Women. Sixth edition. 1927.  
Crown, E. A.: The Ear, Nose, and Throat in General Practice. 1927.  
Cushing, H.: The Meningiomas. 1927.  
Davis, E. P.: What shall the Public Schools do for the Feeble-minded? 1927.  
Du Bois, E. F.: Basal Metabolism in Health and Disease. Second edition. 1927.  
Egbert, S.: Manual of Hygiene and Sanitation. Eighth edition. 1926.  
Feldman, W. M.: Ante-Natal and Post-Natal Child Hygiene. 1927.  
Gilchrist, T. C.: Outlines of Skin Diseases. 1927.  
Gordon, R. H.: The Neurotic Personality. 1927.  
Hale-White, Sir W.: Bacon-Gilbert-Harvey. The Harveyan Oration. 1927.  
Harvey Lectures. 1925-26. 1927.  
Hutch, Sir Patrick: Malaria in India. 1927.  
Hill, A. V.: Muscular Movements in Man. 1927.  
Hoar, S. R.: India by Air. 1927.  
Hurst, A. P.: The Constitutional Factor in Disease. 1927.  
Hut, C. W.: International Hygiene. 1927.  
Jeans, T. T.: Reminiscences of a Naval Surgeon. 1927.  
Keller, R. A.: Manual of Veterinary Bacteriology. 1927.  
Kennedy, J. W.: Practical Surgery of the Joseph Price Hospital. 1926.  
Kyllin, E.: Der Gehalt des Blutes an Calcium und Kalium. 1927.  
Lawrence, R. D.: The Diabetic Life. Third edition. 1927.  
Le Riche, J.: Les Glandes Endocrines et les Cancers. 1927.  
Ley, D.: Chronic Pulmonary Catarrh. 1927.  
Llewellyn, L. J.: Aspects of Rheumatism and Gout. 1927.  
MacLean, H.: Modern Methods in the Diagnosis and Treatment of Renal Disease. Third edition. 1927.  
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Möller, E.: Clinical Investigation into Basal Metabolism in Diseases of the Thyroid Gland. 1927.  
Morse, J. L.: Clinical Pediatrics. 1926.  
Morse (late N. C.) and A. W. Concord: A Manual of Emergencies. Second edition. 1927.  
Muthu, D. G.: Pulmonary Tuberculosis: Its Etiology and Treatment. Second edition. 1927.  
Neuscholze, Sir A.: The Evolution of Preventive Medicine. 1927.  
von Noorden and S. Isaac: Die Zuckerkrankheit und ihre Behandlung. 8 Aufl. 1927.  
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Oshorne, W. A.: Elements of Pharmacology. 1927.  
Parsons, F. G.: The Earlier Inhabitants of London. 1927.  
Parsons, P. A.: Crime and the Criminal. 1926.  
Pezotti, L.: Commenti o Critiche al Concetto dei Circoli Viziosi in Patologia. 1926.  
Roback, A. A.: The Psychology of Character. 1927.  
Rolleston, Sir H. D.: Idiosyncrasies. 1927.  
Romanis and Mitchener: Science and Practice of Surgery. Vols. 1 and 2. 1927.  
Rosenau, M. J.: Preventive Medicine and Hygiene. Fifth edition. 1927.  
Ruddiman, E. A.: Why—in Pharmacy. 1927.  
Schalek, A.: Fundamentals in Dermatology. 1926.  
Schilling, V.: Das Blutbild und seine klinische Verwertung. 5 Aufl. 1926.  
Scholes, F. V. C.: Diphtheria, Measles, Scarlatina. Second edition. 1927.  
Smith, H. E.: Applied Refraction. 1927.  
Solomon, J.: Précis de ..... 1927.  
Spencer, H. B.: History ..... 650-1800. 1927.  
Steiner, E. R.: Etica ..... World. 1927.  
Stevens, E. B.: Textbook of Therapeutics. Seventh edition. 1927.  
Thomson, J. A.: Towards Health. 1927.  
United States War Department. The Medical Department in the World War. Vol. XI. Surgery. 1927.  
University College, London: Centenary Addresses. 1927.  
Webb, C.: The Woman with a Basket. The Story of the Women's Co-operative Guild. 1927.  
Webb and Ryder: Overcoming Tuberculosis. 1927.  
Whitman: Orthopaedic Surgery. Eighth edition. 1927.  
Williams, J. F.: Hygiene and Sanitation. 1927.  
Wilson, P. P.: Plague in Shakespeare's London. 1927.  
Woollard, H.: Recent Advances in Anatomy. 1927.

# British Medical Association.

## NINETY-SIXTH ANNUAL MEETING, CARDIFF, JULY, 1928.

Patron: HIS MAJESTY THE KING.

President: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

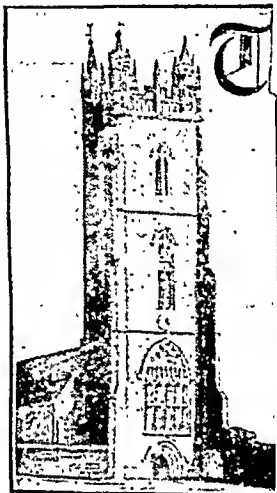
President-Elect: SIR EWEN J. MACLEAN, M.D., F.R.C.P., Professor of Obstetrics, Welsh National School of Medicine.

Chairman of Representative Body: C. O. HAWTHORNE, M.D., F.R.C.P.

Chairman of Council: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



TOWER OF ST. JOHN'S CHURCH,  
CARDIFF.

THE incoming President, Sir EWEN MACLEAN, will deliver his address to the Association on Tuesday, July 24th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 20th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place on Friday evening, July 20th, at 7.30.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 24th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on Thursday, July 26th.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 25th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held at St. John's Church, Cardiff, on Tuesday, July 24th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 23rd, from 2 till 6 p.m.; the formal opening by the President will take place on July 24th at 9.30 a.m. The exhibition will remain open on July 25th, 26th, and 27th from 9 a.m. till 6 p.m.

Saturday, July 28th, will be given up to excursions to places of interest in the neighbourhood.

### THE SECTIONS.

The Scientific Section will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 25th, 26th, and 27th.

The following Sections will meet on Three Days.

#### MEDICINE.

President: Sir THOMAS LEWIS, C.B.E., M.D., F.R.C.P., F.R.S. (London).

Vice-Presidents: IVOR J. DAVIES, M.D., F.R.C.P. (Cardiff); A. E. GOW, M.D., F.R.C.P. (London); A. FERGUS HEWAT, M.D., F.R.C.P.Ed. (Edinburgh); CYRIL LEWIS, M.D., C.M. (Cardiff); Professor T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. (Dublin); H. LETHBY TIDY, M.D., F.R.C.P. (London).

Honorary Secretaries: ABEL EVANS, M.B., M.R.C.P., 36, Newport Road, Cardiff; ANTHONY FEILING, M.D., F.R.C.P., 52, Montagu Square, London, W.1.

#### SURGERY.

President: Professor A. W. SHEEN, C.B.E., M.S., F.R.C.S. (Cardiff).

Vice-Presidents: H. G. COOK, C.B.E., M.D., F.R.C.S. (Cardiff); C. H. FAGGE, M.S., F.R.C.S. (London); Professor ANDREW FULLERTON, C.B., C.M.G., M.Ch., F.R.C.S.I. (Belfast); J. W. GEARY GRANT, F.R.C.S. (Cardiff); WILLIAM MARTIN, M.B., C.M. (Cardiff); ALBERT J. WALTON, M.S., F.R.C.S. (London).

Honorary Secretaries: D. J. HARRIES, D.Sc., F.R.C.S., 106, Newport Road, Cardiff; R. ST. LEGER BRACKENBURY, M.B., M.Ch., F.R.C.S., 79, Upper Hanover Street, Sheffield.

#### OBSTETRICS AND GYNAECOLOGY.

President: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London).

Vice-Presidents: MARGARET M. BASDEN, M.D., F.R.C.S. (London); ARTHUR E. GILES, M.D., F.R.C.S.Ed. (London); Professor W. FLETCHER SHAW, M.D., Ch.B. (Manchester); Professor H. BECKWITH WHITEHOUSE, M.S., F.R.C.S. (Birmingham).

Honorary Secretaries: B. K. TENISON COLLINS, M.D., F.R.C.S.Ed., 12, Windsor Place, Cardiff; EVERARD WILLIAMS, M.D., 5, Wimpole Street, London, W.1.

#### MENTAL DISEASES AND NEUROLOGY.

President: EDWIN GOODALL, C.B.E., M.D., F.R.C.P. (Cardiff).

Vice-Presidents: E. D. ADRIAN, M.D., F.R.C.P., F.R.S. (Cambridge); G. H. R. GINSON, D.S.O., M.D., F.R.C.P.Ed. (Edinburgh); BERNARD HART, M.D., F.R.C.P. (London); W. F. NELIS, M.D. (Caerleon, Mon.); N. R. PHILLIPS, M.D. (Abergavenny).

Honorary Secretaries: EDWARD LEWIS, F.R.F.P.S., Drymma Hall, Skewen, nr. Neath, Glam.; W. R. RETNELL, M.D., M.R.C.P., 87, Harley Street, London, W.1.

The following Sections will meet on Two Days.

#### PATHOLOGY AND BACTERIOLOGY.

President: Professor E. H. KETTLE, M.D., M.R.C.P. (London).

Vice-Presidents: Professor JOHN CRUICKSHANK, M.D. (Aberdeen); Sir THOMAS HOUSTON, O.B.E., M.D. (Belfast); W. PARRY MORGAN, M.D. (Cardiff); A. F. S. SLADDEN, M.D. (Swansea).

Honorary Secretaries: J. B. DUGUID, M.D., Department of Pathology, Welsh National School of Medicine, The Parade, Cardiff; LAWRENCE P. GARROD, M.B., M.R.C.P., 68, Gloucester Terrace, Hyde Park, London, W.2.

#### ORTHOPAEDICS.

President: Sir JOHN LYNN-THOMAS, K.B.E., C.B., C.M.G. F.R.C.S. (Lechryd).

Vice-Presidents: A. ROEYN JONES, M.B., F.R.C.S. (London); J. J. MCINTOSH SHAW, M.C., M.D., F.R.C.S.Ed. (Edinburgh); S. ALWYN SMITH, D.S.O., O.B.E., M.D., F.R.C.S.Ed. (Cardiff); P. JENNER VERRALL, M.B., F.R.C.S. (London).

Honorary Secretaries: J. BERRY HAYCRAFT, M.C., M.B., F.R.C.S. 31, Cathedral Road, Cardiff; ERIC IVAN LLOYD, M.B., F.R.C.S., 33, Wimpole Street, London, W.1.

#### DISEASES OF CHILDREN.

President: ALFRED HOWELL, M.D., M.R.C.P. (Cardiff).

Vice-Presidents: E. A. COCKAYNE, M.D., F.R.C.P. (London); HERBERT THOMAS EVANS, M.D., M.R.C.P. (Cardiff); CHARLES LEONARD ISAAC, M.B., F.R.C.S.Ed. (Swansea).

Honorary Secretaries: DANIEL THOMAS DAVIES, M.D., M.R.C.P., 24, Park Place, Cardiff; HILDA N. STOESSIGER, M.D., 11, Belmont House, Candover Street, London, W.1.

#### OPHTHALMOLOGY.

President: F. P. S. CRESSWELL, M.B., F.R.C.S. (Cardiff).

Vice-Presidents: HERBERT CAIGER, M.B., F.R.C.S. (Sheffield); L. V. CARGILL, F.R.C.S. (London); R. J. COULTER, M.B., F.R.C.S.I. (Newport, Mon.); F. GRIFFITH THOMAS, M.D., F.R.C.S. (Cardiff).

Honorary Secretaries: J. W. TUD, 1, Park Grove, Cardiff; F. A. JULER, Place, London, W.1.

#### LARYNGOLOGY AND OTOTOLOGY.

President: DONALD R. PATERSON, M.D., C.M., F.R.C.P. (Cardiff).

Vice-Presidents: ALBAN EVANS, M.R.C.S., L.R.C.P. (Swansea); E. D. D. DAVIS, F.R.C.S. (London); ARCHIBALD MASON JONES, M.D., F.R.C.S.Ed. (Cardiff).

Honorary Secretaries: A. A. PRICHARD, M.D., 14, Windsor Place, Cardiff; D. F. A. NEILSON, F.R.C.S., 40, Queen Anne Street, London, W.1.

#### TUBERCULOSIS.

President: HUGH MORRISTON DAVIES, M.D., M.Ch., F.R.C.S. (Ruthin).

Vice-Presidents: ALEXANDER BROWNLEE, M.D., F.R.C.S.Ed. (Fairwater, nr. Cardiff); DAN ARTHUR POWELL, M.D. (Cardiff); CECIL WALL, M.D., F.R.C.P. (London).

Honorary Secretaries: J. C. GILCHRIST, M.D., Tuberculosis Institution, Welsh National Memorial, Cardiff; J. C. HOYLE, M.B., B.S., 28, Malcolm Street, Cambridge.



**RADIOLOGY AND PHYSIO-THERAPEUTICS.**

*President:* OWEN LEWELLYN RHYS, M.D. (Cardiff).  
*Vice-Presidents:* T. GARFIELD EVANS, M.D., D.M.R.E. (Cardiff);  
 C. B. HEALD, C.B.E., M.D., M.R.C.P. (London); THOMAS MARLIN,  
 M.D., D.M.R.E. (London).  
*Honorary Secretaries:* T. I. CANDY, M.B., B.Ch., 202, Stow Hill,  
 Newport, Mon.; A. J. H. ILES, M.R.C.S., L.R.C.P., Shutterne  
 House, Taunton.

*The following Sections will meet on One Day.*

**PREVENTIVE MEDICINE.**

*President:* EDWARD COLSTON WILLIAMS, M.D., F.R.C.S.Ed. (Cardiff).  
*Vice-Presidents:* W. W. JAMESON, M.D., M.R.C.P. (London);  
 DAVID LLEWELYN WILLIAMS, M.C., F.R.C.S.Ed. (Cardiff); C. A.  
 BRIGSTOCKE, M.R.C.S. (Haverfordwest).  
*Honorary Secretaries:* H. W. CATTO, M.B., B.S., 198, Stow Hill,  
 Newport, Mon.; D. C. KIRKHOPE, M.D., Town Hall, South  
 Tottenham, London, N.15.

**PUBLIC HEALTH.**

*President:* R. M. F. PICKEN, M.B., Ch.B. (Cardiff).  
*Vice-Presidents:* D. T. ROGYN JONES, C.B.E., M.B., C.M. (Rumney,  
 nr. Cardiff); J. D. JENKINS, M.D. (Rhonda); S. G. MOORE, M.D. (Buddersfield).  
*Honorary Secretaries:* THOMAS EVANS, M.B., Public Health  
 Department, Swansea; R. P. GARROW, M.D., Health Office,  
 Saltergate, Chesterfield.

**MEDICAL SOCIOLOGY.**

*President:* WILLIAM EVANS THOMAS, M.D., C.M. (Ystrad,  
 Rhonda).  
*Vice-Presidents:* LETITIA DENNY FAIRFIELD, C.B.E., M.D. (London);  
 EVAN LEWIS LLOYD, M.R.C.S., L.R.C.P. (Towyn).  
*Honorary Secretary:* F. Y. PEARSON, M.R.C.S., L.R.C.P.,  
 18, Crwys Road, Cardiff.

**TROPICAL MEDICINE.**

*President:* PHILIP H. MANSON-BAHR, D.S.O., M.D., F.R.C.P. (London).  
*Vice-Presidents:* J. B. CHRISTOPHERSON, M.D., F.R.C.P., F.R.C.S. (London);  
 Lieut.-Colonel A. G. MCKENDRICK, M.B., Ch.B., F.R.C.S.Ed., I.M.S. (ret.) (Edinburgh).  
*Honorary Secretaries:* ERNEST HENRY PRICE, L.R.C.P.I., 153,  
 Cathedral Road, Cardiff; H. MCCORMICK HANSCHALL, D.S.C.,  
 M.R.C.S., L.R.C.P., 35, Weymouth Street, London, W.1.

**HISTORY OF MEDICINE.**

*President:* WALTER G. SPENCER, O.B.E., M.S., F.R.C.S. (London).  
*Vice-Presidents:* THOMAS WALLACE, M.D. (Cardiff); T. P. C.  
 KIRKPATRICK, M.D., F.R.C.P.I. (Dahlin); Professor J. A. NIXON,  
 C.M.G., M.D., F.R.C.P. (Clifton); CHARLES SINGER, M.A., M.D.,  
 F.R.C.P. (London).  
*Honorary Secretaries:* H. R. FREDERICK, M.B., Ch.B., 42, Victoria  
 Road, Aberavon, Port Talbot, Glam.; KENNETH R. HAY, O.B.E.,  
 M.B., 47, Hill Street, Berkeley Square, London, W.1.

**THERAPEUTICS AND PHARMACOLOGY.**

*President:* W. LANGDON BROWN, M.D., F.R.C.P. (London).  
*Vice-Presidents:* Professor W. J. DILLING, M.B., Ch.B. (Liver-  
 pool); PHILIP HAMILL, M.D., D.Sc., F.R.C.P. (London); W. H.  
 MAXWELL TELLING, M.D., F.R.C.P. (Leeds).  
*Honorary Secretaries:* J. P. H. DAVIES, M.B., "Cranmoor,"  
 The Green, Llandaff, Cardiff; J. H. BURN, M.D., Pharmaceutical  
 Society of Great Britain, Pharmacological Laboratory, 17, Blooms-  
 bury Square, London, W.C.1.

**DERMATOLOGY.**

*President:* Sir ROBERT BOLAM, M.D., LL.D., F.R.C.P. (Newcastle-  
 on-Tyne).  
*Vice-Presidents:* JAMES BEATTY, M.D., M.R.C.P. (Cardiff);  
 WILLIAM GRIFFITH, M.D., M.R.C.P. (London); HENRY SEMON,  
 M.D., M.R.C.P. (London).  
*Honorary Secretaries:* R. H. ENOCH, M.R.C.S., L.R.C.P., Royal  
 Infirmary, Cardiff; J. E. M. WIGLEY, M.B., M.R.C.P., 132, Harley  
 Street, London, W.1.

The Honorary Local General Secretary of the Annual Meeting is Dr. G. I. STRACHAN, 20, Windsor Place, Cardiff.

**PATHOLOGICAL MUSEUM.**

The committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Cardiff next July proposes to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Instruments concerned in clinical diagnosis and pathological investigation. (4) Individual specimens of special interest or a series illustrating some special subject. (5) Exhibits of general interest. The committee appeals for the co-operation of the profession in making the museum a success. It will be easy of access, being situated in the same building in which the Sections

will meet; it is hoped to make arrangements for exhibitors to demonstrate their specimens. Every care will be taken of the exhibits, and the contents of the museum will be insured. The honorary secretaries (Dr. J. B. Duguid and Dr. J. Mills, Department of Pathology and Bacteriology, Welsh National School of Medicine, The Parade, Cardiff) ask intending exhibitors to notify them as soon as possible.

**Correspondence.***Infant Hygiene Centres.*

SIR,—Dr. Bone states (SUPPLEMENT, February 25th, p. 59) that this work is entirely new work which has not been done in the past. If this is so, the general practitioner has allowed others to steal a march on him. The general impression conveyed by your report of "Proceedings of Council" is that the general practitioner, like Gallo, cares for none of these things.

Actually the average general practitioner does not possess the necessary knowledge to advise. Such points as the optimum frequency of feeding, the stimulation of failing lactation, the value of supplementary feeds, the modification of milk mixtures, the results of altering the ratios of sugar and fat, the indications for the different proprietary foods in varying conditions—all these and many more are hidden mysteries. Yet he will find that the "Truby King" nurse can give him sound advice on all these points. If he is losing the opportunity for this class of work it is because he has failed to answer the public demand for it. The public will get what it wants, and if the right kind of advice cannot be obtained from the doctor the public will consult the expert nurse, or write to the various lay journals or manufacturers' bureaux where such advice is available.

Surely, Sir, an anomalous state of affairs exists when the general practitioner lacks such fundamental knowledge as the dietetics of the young of his own species. It is not surprising if the man in the street, or rather the woman in the house, loses confidence in her family doctor when she discovers such a notable failure in the oracle. Adequate instruction is the proper remedy. Objections will be raised to further straws on the breaking back of an overloaded curriculum; but if the student could spare some of the hours spent in the theatre watching dramatic major operations which he will never be called upon to perform himself, and devote those hours to the more humdrum experiences of the infant welfare clinic, he could provide himself with a foundation of accurate knowledge which might go far to counteract the present tendency, so deplored by Dr. Rees (SUPPLEMENT, p. 67) "to the depreciation and degradation of the general practitioner."—I am, etc.

Clifton, Feb. 25th.

FRANK BODMAN, M.B.

*Certification under the Insurance Acts.*

SIR,—The report of the parliamentary discussion on National Health Insurance certification and excessive sickness benefit (February 25th, p. 330) moves me, as a panel doctor, to a few comments.

First, Dr. Vernon Davies hit the nail on the head when he said that the difficulty arises at the end of an illness, in deciding whether the patient has become fit for work or not. The patient may say he does not feel fit and would like another week off. The doctor thinks, "If I were in that condition I should work; but is it fair to apply such a criterion to this man?" If he is sent back and relapses the expense will be more than that of an extra week. So the man gets his certificate. The real, and only, remedy here is a second opinion, easily available. In theory this is to be had in the shape of the regional medical officer; in practice a special form has to be filled up, and this may not be at hand. Furthermore, the doctor has to inform the patient of his doubt, and to be present at the regional medical officer's examination. This last is the chief obstacle; it is usually unnecessary, and may in a busy season be impossible. Some simpler machinery is imperative. Why cannot the doctor—in a doubtful case—give the certificate and mark it in some way—for example, put a "D" in the corner? The society, on receipt of this marked certificate, could promptly refer the case to the regional medical officer for a decision. The regional medical officer would get the doubtful cases much more effectively than he does at present, and there would be no friction between doctor and patient.

Secondly, we are told we are lax in certification; but the figures produced are too general and do not touch the individual

doctor. Cannot each man's sickness rate be worked out periodically and a local list circulated privately? We should then know where we stood in relation to our colleagues. We are educated men, and threats and penalties strike us as rather childish. The spirit of competition is more in us, and, if stimulated, would be productive of better results. We might also be told once a quarter what our prescriptions have cost. The sum of our sick pay *plus* treatment cost per patient would be an interesting figure, which we would try to keep lower than our neighbour.—I am, etc.,

London, S.W., Feb. 26th.

X.

Sir,—Regarding the recent parliamentary debate in which the iniquities of the panel doctor came under the lash of the zealous guardians of the public purse (or rather, that of the approved societies), the following details may prove of interest. Of the last thirty cases of mine referred to the regional medical officer the subsequent developments were:

"Failed to attend" ... ..	3
"Declared fit for work" ... ..	3
"Declared unfit for work" ... ..	19
"Received declaring-off certificates" ... ..	5

Of the "failed to attend" one (a woman) was by no means fit for work, but was afraid that some dire consequences would result if she presented herself for examination before one whom she regarded as "the Government doctor," whom she considered had already unfavourably prejudged her case. Of the "declared off" contingent four of them had already been at work for periods of from five to ten days before receiving the notice to attend (not very good "team work" this on the societies' part). Of the three "declared fit" one was a man I had been endeavouring to "sign off" for several weeks; No. 2 went back to work, but subsequently broke down and returned to the *status quo*; No. 3 endeavoured to join the army, but was rejected on medical grounds! Surely there must be something wrong in the alleged high percentage of "lead-swingers."—I am, etc.,

Leicestershire, Feb. 27th.

M.B., B.Ch.

## Naval and Military Appointments.

### ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenant E. C. W. Maxwell to be Surgeon Sublieutenant.

T. C. Larkworthy has entered as probationary Surgeon Sublieutenant and attached to List 2, London Division.

A. H. Hunt has entered as probationary Surgeon Sublieutenant and attached to List 2 of the East Scottish Division.

### ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: C. A. Slaughter (prov.), H. A. Boyle, T. E. B. Beatty (prov.).

Temporary Captain J. R. P. Ailin, M.C., relinquishes his commission and is granted the rank of Major.

Lieutenant A. E. Campbell to be Captain.

Lieutenant (on probation) J. H. Anderson, from the second list, is restored to the establishment.

Temporary Lieutenant J. W. Kendall to be Lieutenant on probation and relinquishes the temporary rank of Lieutenant.

### ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader H. S. C. Starkey, O.B.E., to Headquarters, Coastal Area.

Flight Lieutenant C. S. de Segundo, O.B.E., V.D., to Superintendent of Reserve, Hendon; J. D. I. Rear to R.A.F. General Hospital, Iraq.

Flight Lieutenant H. Pennan is granted a permanent commission in this rank.

Flying Officers G. S. Strachan to R.A.F. Depot, Uxbridge; M. O'Regan to R.A.F. General Hospital, Iraq; J. Hill to Station Headquarters, Hinaidi.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel G. E. F. Stammers, O.B.E., and Captain (Brevet Major) S. T. Beggs, having attained the age limit of liability to recall, cease to belong to the Reserve of Officers.

R. W. Agnew to be Lieutenant.

SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS.  
A. Roberts to be Lieutenant.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel (Brevet Colonel) A. Spitteler, O.B.E., to be Colonel, vice Colonel George Browne, D.S.O., retired.

Captain E. Kean resigns his commission.

To be Captains: W. D. B. Read, J. F. Hinksman, and J. L. Donnelly.

To be Lieutenants: J. H. Clapp, W. J. A. Coldstream, and T. A. Malone.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Major C. Douglas, T.D., having attained the age limit, is retired and retains his rank, with permission to wear the prescribed uniform.

Captain D. C. Bowie, R.A.M.C., to be Divisional Adjutant, 54th (East Anglian) Division, vice Major E. Phillips, D.S.O., M.C., R.A.M.C.

## VACANCIES.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Second House-Surgeon (non-resident). Salary at the rate of £150 per annum.

BIRMINGHAM MATERNITY HOSPITAL.—Junior House-Surgeon. Salary at the rate of £75 per annum.

BIRMINGHAM UNION.—Resident Assistant Medical Officer (female) at Moulthill Colony. Salary £250-£350 per annum.

BRIGHTON COUNTY BOROUGH.—Resident Medical Officer at the Borough Infectious Disease Hospital and Sanatorium (male, unmarried). Salary at the rate of £350 per annum.

BRIGHTON: SUSSEX MATERNITY AND WOMEN'S HOSPITAL.—Resident House-Surgeon (male). Salary at the rate of £120 per annum.

CARLISLE: GUMBERLAND INFIRMARY.—(1) Resident Medical Officer, six months as House-Physician and six months as House-Surgeon; salary at the rate of £155 and £175 per annum respectively. (2) Resident Medical Officer as Junior House-Surgeon for six months; salary at the rate of £135 per annum. (Males.)

GHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—(1) Junior House-Surgeon. (2) Casualty House-Surgeon. Salary at the rate of £100 per annum each.

HEATFORD COUNTY HOSPITAL.—Honorary Anaesthetist.

HEATFORDSHIRE COUNTY COUNCIL.—Assistant Medical Officer of Health. Salary £700 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Part-time Junior Casualty Officer for six months (non-resident). Salary £75.

ISLE OF WIGHT: HERMITAGE SANATORIUM.—Resident Medical Officer (male). Salary £350.

KENSINGTON BOARD OF GUARDIANS.—Resident Medical Secretary and Registrar at St. Mary Abbott's Hospital. Salary £300 per annum.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer (male). Salary at the rate of £175 per annum.

KING'S COLLEGE HOSPITAL, S.E.5.—(1) Two Junior Surgeons. (2) Sambrooke Medical Registrar; salary £175 per annum.

LEAMINGTON SPA: WATERFORD GENERAL HOSPITAL.—Resident House-Surgeon. Salary £165 per annum.

LIVERPOOL: MINISTRY OF PENSIONS HOSPITAL, Mossley Hill.—Junior Medical Officer (unmarried). Salary £300 per annum.

LIVERPOOL OPEN-AIR HOSPITAL FOR CHILDREN, Leasowe.—Junior Medical Officer. Salary £200 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Clinical Assistant to the Ear, Nose, and Throat Department Out-patient Clinic. Fee 10s. 6d. per clinic.

MANCHESTER: ST. MARY'S HOSPITALS.—Two House-Surgeons each for the Whitworth Street West Hospital (Maternity), and for the Whitworth Park Hospital (Gynaecological). Salary at the rate of £50 per annum each.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Honorary Physician to the Children's Department. (2) Resident Medical Officer. (3) House-Physician. Salary for (2) £250 and for (3) £125 per annum.

NEWCASTLE-UPON-TYNE CITY AND COUNTY.—Assistant Medical Officer of Health. Salary £750 per annum, rising to £900.

NORTHAMPTON GENERAL HOSPITAL.—(1) House-Physician. (2) Two House-Surgeons. (3) Two Assistant House-Surgeons. Salary at the rate of £150 per annum each.

NOTTINGHAM GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £150 a year.

NOTTINGHAM AND MIDLAND EYE INFIRMARY.—House-Surgeon. Salary £200 per annum.

PLYMOUTH POOR LAW INSTITUTION.—Resident Locumtenent for three weeks.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.2.—House Anaesthetist. Honorarium £200 per annum.

ROYAL MANCHESTER CHILDREN'S HOSPITAL, Pendlebury.—(1) Resident Medical Officer. (2) Resident Surgical Officer. (3) Assistant Medical Officer (non-resident). Salary for (1) and (2) £125 per annum, and for (3) £150.

ROYAL WATERLOO HOSPITAL FOR CHILDREN, Waterloo Road, S.E.1.—Honorary Medical Registrar.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—House-Surgeon. Salary at the rate of £75 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon attached to Orthopaedic Department. (2) House-Surgeon. (3) Anaesthetist. Salary for (1) and (2) at the rate of £125 per annum, and for (3) £1 ls. per morning session.

SALISBURY: GENERAL INFIRMARY.—House-Surgeon (male, unmarried). Salary £150 per annum.

SEAMEY'S HOSPITAL SOCIETY.—Assistant Medical Officer at the King George's Sanatorium for Sailors, Liphook. Salary £200 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Casualty Officer. Salary £120 per annum, rising to £130 on appointment as Junior House-Surgeon.

STEPNEY PARISH.—Pathological and Bacteriological Attendant at the Mile End Hospital. Aggregate salary £4 4s. 6d. per week.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar. (2) House-Physician. (3) Two House-Surgeons. (4) Honorary Anaesthetist. Honorarium for (1) £100 per annum, and salary at the rate of £100 per annum for (2) and (3).

CERTIFYING FACTORY SURGEON.—The appointment at Saltoats (Ayrshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, London, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

OWEN, Robert Davies, M.R.C.S., L.R.C.P., F.R.C.S.Ed., Honorary Assistant Surgeon to the Ear, Nose, and Throat Department of the Cardiff Royal Infirmary.

WILLIAMS, R. Lester, M.B., B.Ch.Camb., F.R.C.S.Eng., Honorary Surgeon to the Passmore Edwards Hospital, Wood Green, London.

CERTIFYING FACTORY SURGEONS.—C. S. Carter, M.R.C.S., L.R.C.P., for the Kenninghall District (Norfolk); I. Thomas, M.B., Ch.B.Liverp., for the Ponthdygroes District (Cardigan); P. S. Headderson, M.B.Ed., for the Fyvie District (Aberdeen).

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

*Section of Orthopaedics.*—Tues., 8.30 p.m., Discussion: The Treatment of Acute Osteomyelitis. To be opened by Mr. Henry Platt, followed by Mr. Alexander Mitchell, Mr. Eric Lloyd, Mr. Whitechurch Howell, and Mr. W. H. Ogilvie.

*Section of Pathology.*—Tues., 8 for 8.30 p.m., Laboratory Meeting at the Lister Institute, Chelsea Gardens, S.W.1. G. H. Eagles and D. McClean: On the Growth of Vaccinia in Tissue Culture; R. W. Fairbrother: Cholera Antigens from the Prophylactic Point of View; J. H. Orr and W. A. Campbell: The Action of Welchii toxin on red cells in vitro; M. Robertson: The Behaviour of a Protozoan exposed to Acriflavine; J. C. G. Ledingham and D. McClean: Propagation of Vaccine Virus in Rabbit Dermis; H. Chick, M. H. Roscoe, and M. A. Boas: Pellagra-like Conditions in Rats (demonstration).

*Section of History of Medicine.*—Wed., 5 p.m., Dr. Robert Hutchison: A Biographical Note on Sir James Wyllie, Bt., M.D., a Medical Adventurer. Mr. F. Prescott: Louis Pasteur and Fermentation.

*Section of Surgery.*—Wed., 5.30 p.m., Discussion: Colectomy. To be opened by Dr. T. de Meert (Paris).

*Section of Bacteriology.*—Thurs., 5 p.m., Discussion: The Value of Marine Health Resorts, with a Special Reference to Children. To be opened by Dr. Fortescue Fox, followed by Dr. Percy Lewis (Folkestone), Dr. W. C. Willoughby (Eastbourne), Dr. Collis Hallowes (Torquay), Dr. G. R. Bruce (Hastings), Dr. W. S. Campbell (Sudmouth), Dr. W. G. Sutcliffe (Margate), Dr. Octavia Willerforce (Brighton).

*Section of Venereology.*—Thurs., 8.30 p.m., Discussion: Narcolepsy. To be opened by Dr. S. A. Kinnier Wilson.

*Clinical Section.*—Fri., 5 p.m., Cases.

*Section of Ophthalmology.*—Fri., Clinical Meeting at St. Thomas's Hospital at 5 p.m. (Tea at 4.30). Cases.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Thurs. and Thurs., 5 p.m., Milroy Lectures by Dr. F. A. E. Crew: Individual, Familial, and Racial Inborn Differences in respect of Immunity and Disease Resistance.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Wed., 9 p.m., Third Lettsomian Lecture by Dr. F. J. Fosnot: Rheumatic Heart Disease in Childhood.

WEST KENT MEDICO-SURGICAL SOCIETY, Miller General Hospital, Greenwich Road, S.E.10.—Fri., 8.45 p.m., Dr. Maud M. Chadburn: The Radium Treatment of Cancer of the Cervix Uteri.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Lecture at Medical Society of London, 11, Chandos Street, W.1: Mon., 5 p.m., The Chronic Abdomen. *British Institute of Radiology*, 32, Welbeck Street, W.1: Tues., 3 p.m., X-Rays as an Aid in the Diagnosis of Abdominal Disease (demonstration of radiographs). *Hospital for Diseases of the Throat*, Golden Square, W.1: Wed., 3 p.m., Clinical Demonstration. The above lecture and demonstrations are open to all members of the medical profession without fee. *Chelsea Hospital for Women*, Arthur Street, S.W.3: Special Course in Gynaecology, some mornings and some evenings; fee £5 ss. *Queen's Hospital for Children*, Hackney Road, E.2: Intensive Course in Diseases of Children; fee £3 ss. Luncheon and tea provided. *Royal Eye Hospital*, Southwark, S.E.1: Demonstrations and Treatment of Diseases of the Eye at 3 p.m., Mon. to Fri. inclusive; fee 41 s. Copies of syllabuses sent on application to the Fellowship of Medicine; 1, Wimpole Street, W.1. Specimen copies of the *Post-Graduate Medical Journal* will be forwarded on request.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.—Wed., Clinical Meeting. Tea at 4 p.m.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Diseases of the Maxillary Antrum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Thurs., 4 p.m., Errors of Refraction and Squint.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Abdominal Pain.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Leukaemia Cutis, Mycosis Fungoides. Thurs., 5 p.m., Pemphigus and Allied Eruptions.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Tues. and Fri., 9 a.m., Operations. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., The Epilepsies. Tues., 3.30 p.m., The Psychoneuroses. Thurs., 3.30 p.m., Methods of Testing the Eighth Nerve. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Some Forms of Encephalitis.

SOUTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 p.m., Demonstration of Skin Cases; 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Medical Cases (Children); 2.30 to 5 p.m., Surgical, Medical, and Children's Disease Clinics; Operations.

ROYAL CHEST HOSPITAL, City Road, E.C.—Tues., 3.15 p.m., Demonstration of Cases in the Wards.

ROYAL INSTITUTE OF PUBLIC HEALTH, 37, Russell Square, W.C.1.—Wed., 4.30 p.m., Some Problems in Medico-Legal Practice.

ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Thurs., 4.30 p.m., Stone in the Upper Urinary Tract and its Treatment.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Batham, S.W.12.—Wed., 4 p.m., The Medical Dyspepsias.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE

10 a.m. to 1 p.m., Genito-urinary Operations  
Wards: 2 p.m., Surgical Wards. Eve and  
Department: Special Lecture at 4.30 p.m., C  
10 a.m. to 1 p.m., Lecture at 4.30 p.m., C  
Electrical Department: 2 p.m., Venereal Diseases Demonstration,  
Department. Wed., 10 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear  
Demonstration; 2 p.m., Surgical Wards, Eve Department.  
10 a.m. to 1 p.m., Neurological Department, Massage Department. Thurs.,  
Eye Department, Genito-urinary Department, Gynaecological; 2 p.m.,  
Fri., 10 a.m. to 1 p.m., Skin Department, Medical Wards, Special  
Medical Treatment Clinic, Electrical Department, Clinical Demonstra-  
tion; 2 p.m., Throat, Nose, and Ear Department; Special Lecture,  
4.30 p.m., Diagnosis and Treatment of Middle-Ear Infections. Sat.,  
9.30 a.m. to 1 p.m., Bacterial Throat Department; Children's Medical  
Department, Throat, Nose, and Ear (except Sat.) at  
2 p.m., Medical and Surgical

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary:  
Wed., 4.15 p.m., Venereal Diseases (male).

MANCHESTER: ANCONTS HOSPITAL.—Thurs., 4.15 p.m., Exophthalmic Goitre. Tea served at 3.45 p.m.

MANCHESTER ROYAL INFIRMARY.—Thurs., 4.15 p.m., Lecture: Mucous Colitis. Fri., 4.15 p.m., Demonstration of Medical Cases. Tea at 3.45 p.m.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Infirmary: Fri., 3.30 p.m., Surgical Cases.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

## Departments.

SUBSCRIPTIONS: (Financial Secretary and Business Manager, Westcent, London).  
MEDICAL EDITOR: *British Medical Journal* (Telegrams: Aitology Westcent, London).  
Telephone numbers of *British Medical Association and British Medical Journal*, Museum 9851, 9862, 9863, and 9864 (internal exchange, four lines).  
SCOTTISH MEDICAL SECRETARY: 6, Drumshugh Gardens, Edinburgh. (Telegrams: As: 24361 Edinburgh.)  
IRISH MEDICAL SECRETARY: Frederick Street, Dublin. (Telegrams: Bac Dublin.)

## Diary of the Association.

- 2 Fri. London: Consulting Pathologists Group: B.M.A. House, Tavistock Square, W.C.1, 2.30 p.m.  
Cambridge and Huntingdon Branch: Medical Schools, Downing Street, Cambridge. B.M.A. Lecture by Mr. Alexander Fleming on Vaccine Therapy, 2.45 p.m.  
Hendon Division: Hendon Cottage Hospital. Dr. J. M. H. McLeod on Ringworm and its Treatment, 8.30 p.m.  
Mid-Essex Division: Annual Meeting, Bell Hotel, Chelmsford, 3 p.m.
- 5 Mon. London: St. Pancras Church, Memorial Service for Sir Dawson Williams, 1.45 p.m.  
London: Lunacy Drafting Subcommittee, 2.30 p.m.
- 6 Tues. Bournemouth Division: Annual Dinner, Royal Bath Hotel, 7.30 p.m.  
City Division: Metropolitan Hospital, E. Mr. Norman Paterson on Ear Trouble in General Practice, 9.30 p.m.  
Coventry Division: Coventry and Warwickshire Hospital. Discussion on Dental Scyphs and Internal Medicine, 8.30 p.m.  
Finchley Division: Finchley Memorial Hospital. Dr. J. W. McNeer on Coronary Thrombosis, 8.45 p.m.  
Haslings Division: Queen's Hotel. Dr. A. E. Larking on Hospitals, General Practitioners, and Others, 8.15 p.m.  
South-West Essex Division: Whipps Cross Hospital, Leytonstone. Clinical Demonstration by Dr. J. C. Muir, 3.30 p.m.
- 7 Wed. London: Propaganda Subcommittee, 2.15 p.m.  
Trowbridge Division: Roundstone House Hotel, Trowbridge. Mr. K. Miles Atkinson on Honeysuckle. Supper afterwards at 7.45 p.m.
- 8 Thurs. London: Charities Committee, 2.30 p.m.  
Fife Branch: Clinical Meeting, Maternity Home, Townsend Crescent, Kirkcaldy. Dr. W. D. D. Small on Medical Treatment of Gastric and Duodenal Ulcers, 3.30 p.m.  
Hampstead Division: Hampstead General Hospital. Dr. G. A. Sutherland on the Heart in Acute Infections, 8.30 p.m.  
Nuneaton and Tamworth Division: Tamworth General Hospital. Portsmouth Division: Queen's Hotel, Southsea. Dr. A. Livingstone will give an address, 9.30 p.m. Supper 9 p.m.  
Wakefield, Pontefract, and Castleford Division: Strafford Arms Hotel, Wakefield. Dr. R. A. Veale on Common Skin Diseases, 7.45 p.m.
- 9 Fri. London: Science Committee, 2.30 p.m.  
Chesterfield Division: Maternity Hospital, Chesterfield. Mr. G. S. Simpson on the Value of Operations, 8.15 p.m.
- 13 Tues. London: Committee on Causation of Puerperal Morbidity and Mortality, 2.30 p.m.  
London: Central Ethical Committee, 2 p.m.
- 14 Wed. London: Hospitals Committee, 2.15 p.m.  
Croydon Division: Croydon General Hospital. Mr. A. H. Todd on Various Hip Cases, 4 p.m.  
Lanarkshire Division: St. Enoch's Station Hotel. Dr. Charles Read on Teeth in Relation to Health, 3.30 p.m.
- 15 Thurs. London: Insurance Acts Committee, 12 noon.
- 16 Fri. London: Lunacy and Mental Disorder Committee, 2.30 p.m.  
Border Counties Branch: Storms Farm Dairy, Keswick. Mr. J. A. Spedding on the Production of Certified Milk, 3 p.m.
- 21 Wed. London: Medico-Political Committee, 2.15 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTHS.

COLLETT.—At Cheltenham, on February 11th, 1928, to Dorothy Collett, M.B., Ch.B.St.And. (née Millar), wife of Lieut.-Colonel G. F. Collett, D.S.O., a son.

GOMOX.—On February 28th, 1928, to Dr. and Mrs. T. R. Gordon (née Dorothy M. Harris, M.B., Ch.B.), of 39, Wellwood Road, Goodmayes, Essex, a daughter.

McCALLUM.—On February 21st, 1928, at the Clarendon Nursing Home, Glasgow, to the wife of Gavin McCallum, M.B., Ch.B., 16, Nottingham Avenue, Glasgow, W.2, a daughter.

TOPPING.—On January 15th, 1928, at 64, Binscarth Road, Toronto, Canada, to Agnes H. Topping, M.B., B.S., and Victor Topping, M.A., C.E., a second son.

## DEATH.

WILLIAMS.—On February 27th, 1928, suddenly, Sir Dawson Williams of Marlow Cottage, Bourne End, Bucks, late Editor of the *British Medical Journal*, aged 73. Funeral at Little Marlow Cemetery, Friday, March 2nd, at 3.30 p.m. No flowers.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 10TH, 1928.

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### THE FUTURE OF HOSPITAL SERVICES.\*

BY

SIR RICHARD H. LUCE, K.C.M.G., C.B.,  
F.R.C.S., M.P.,

FORMERLY SURGEON TO THE DERBY ROYAL INFIRMARY.

I do not think I need apologize for the subject of this address. The press has recently been full of it, and all of us who are interested in the treatment of the sick and in the effect that any changes which the future may bring forth will have on the health of the people and on the medical profession will have been thinking about it during the last few months. I confess that, as chairman of a subcommittee detailed by the Hospitals Committee of the British Medical Association to try and work out a policy on the subject from the professional point of view, it has seldom been absent from my mind, and that I have felt a heavy responsibility in a very difficult task.

There is no doubt that a change in the position of hospitals has been going on for some years. The development of institutional treatment as against home treatment has advanced by leaps and bounds, and the demand for accommodation in hospitals is increasing out of all proportion to the increase of population.

The reasons for this are not far to seek. The complexity and expense of modern methods of treatment, combined with the dependence which those methods have on skilled nursing, have made it almost impossible for them to be carried out in a private house. Even among the quite well-to-do the domestic problem has made the conversion of the modern household into a temporary hospital a very difficult business, and the nursing homes, at the best, are an unsatisfactory substitute for a well-equipped hospital, and are beyond the means of the ordinary householder. Moreover, improvements in the comfort and humanity of the hospitals, and the great success of the treatment they afford, have almost entirely removed that dread of institutions which was so widespread, even within the memory of many of us.

There is a school of medical thought that regrets the fact that so large a proportion of medical work should be drifting into institutions, and would like to make an effort to stem the tide. Even if there were something in this view, which I do not admit, most of us would agree that it is impossible. The tendency must be faced, and the medical profession must adapt itself to the changing circumstances.

Until recently the vast majority of the hospitals of this country, founded in the past as charitable institutions, have been maintained by voluntary contributions. The management has been in the hands of boards elected for the most part by the regular annual subscribers to the

funds, though for some years there has been increasing representation on the boards of those workmen who make weekly subscriptions. Since the war, owing to the vastly increased cost of maintenance, most of the hospitals have passed through a time of great financial stress, and for a year or two it looked as if the voluntary funds would not be sufficient to keep them going.

This fear has for the most part proved to be groundless owing to the wonderful way in which the working classes—those who benefit by the hospitals—have come to their rescue. This has been done in a number of ways which have varied considerably in different parts of the country. In some places it has been effected by a system of graduated payments for treatment received; in others by a great increase in the subscriptions of the working classes through their Saturday funds and the like; and within the last two or three years by the introduction of definite contributory schemes by which the contributor of a weekly sum is exempted from any charge for treatment and obtains a sort of right, though generally without any definite contract, to receive treatment, when he requires it, in the hospitals covered by his contributory scheme. This comes very near to being an insurance against those forms of sickness which require institutional treatment. But it is not quite an insurance, because no definite promise of accommodation is made, and the premium is hardly ever sufficient to cover the whole cost of maintenance and treatment of the patient. A considerable proportion of the cost has still to be borne out of the charitably subscribed funds and endowments of the hospital.

#### THE HOSPITAL SYSTEM AND THE STATE.

At the same time a great development of State medicine has been going on which brings it into direct relations with the hospital system.

The State has always recognized some responsibility for the medical care of the poor. It has provided a Poor Law medical service for those who are certified to be unable to provide medical treatment for themselves, and Poor Law hospitals, for sick and infirm paupers, in connexion with the workhouses. It has for many years also provided institutions for the insane and for those who are suffering from infectious diseases. But in recent years still further advances have been made. A succession of Acts has been passed in which State responsibility has been admitted for new classes of cases. The pregnant mother, the young baby, the school child, the tuberculous, those suffering from venereal disease, and the ex-soldier have all in turn been declared to be objects for State responsibility, and public bodies have been authorized to provide treatment for them, including hospital treatment when this is necessary. In some cases this has been done by arrangement with the existing voluntary hospitals on a contract basis, but in others the responsible bodies have provided their own institutions and services.

\*An address given to a joint meeting of the Lincoln Division of the British Medical Association and the Lincoln Medical Society.

Furthermore, among those with socialist tendencies there has been growing up a desire to provide hospital treatment at the expense of the State for the whole community.

In 1920 the Labour party formulated a hospital policy in which, to quote from their report, they visualized "a completely organized hospital service, with receiving stations, cottage hospitals, and national hospitals ramifying throughout the length and breadth of the country, all working together for the speedy cure of individual sufferers, and for raising the standard of health of the whole nation. Each hospital should become the health centre of the district which it serves, and all medical activities should be gathered within its walls. The hospital system would be but part of an organized public medical service, controlled and inspired by the Ministry of Health, but administered by enlarged and reorganized local health authorities. It considers that the public medical service, including the hospital service, should be financed by the local health authorities, assisted by substantial grants-in-aid from the Ministry of Health, and should be free and open to all."

This appears to be a very pretty and idealistic scheme on paper, but from our point of view it is completely bureaucratic and would sound the death knell of the voluntary system on which the vast majority of our hospitals have been built up, to which a large proportion of the community is deeply devoted, and to which the medical profession have almost unanimously declared themselves to be wedded.

#### THE VOLUNTARY HOSPITALS.

*Policy of the British Medical Association.*  
The British Medical Association hospital policy, fully discussed and passed almost unanimously at successive Representative Meetings, lays down (Sect. II, para 5):

The Association records its belief that the voluntary method of administration of the voluntary hospitals of the country is to the advantage of the public, medical science, and the medical profession, and that it should be maintained."

What are our reasons as a profession for this belief? Let us look at the comparative records of the two systems in the past. No one could be exactly proud of the way in which the State, under its Poor Law system, has so far dealt with the sick under its charge. Though there have been some recent improvements, the Poor Law hospitals of the country do not reflect much credit on us as a nation. The responsible authorities have provided accommodation and a modicum of medical treatment for their sick charges, and that is about all. There has been no progressive policy in medical matters, no incentive to medical advance, and no initiative. As Lord Knutsford once said at a conference:

"So long as any department was connected with the State, the bare duty might be done, but no grace would be added to that duty. There never could be a heart-beat in a Government department."

#### The Voluntary System versus State Control.

Compare this with the voluntary hospitals. They have formed the centres of all medical advance, they have undertaken the whole of medical education, they have drawn into their service the best of the medical profession, and they have become the objects of all the sympathetic altruism and self-sacrificing devotion of the nation, and have provided a service which is the admiration of the world. Can we sacrifice all this for an idealistic paper scheme?

We believe that the voluntary system is best for four reasons:

- (1) Because State bureaucratic control kills freedom and initiative, damps scientific ardour, and is fatal to medical advance.
- (2) Because State medicine is extravagant medicine. With the public purse behind it, it has no incentive to economy and creates an army of officials whose work generally hampers rather than helps.
- (3) Because State control would remove that healthy rivalry and competition between individual hospitals which does so much to maintain their standard of efficiency and progress.
- (4) Because it would deprive the nation of that object for sympathetic sentiment and altruistic service which the hospitals afford them to-day, and the patients of the advantages which that sympathy and service brings them.

Can we gauge the views of the great public, who use the hospitals, on the subject? They have, of course, never been definitely expressed, but I firmly believe that in as

far as they have thought the subject out, they think as we do. Some of the working men governors of my own hospital at Derby, themselves declared socialists in other matters, have expressed their firm belief in the maintenance of the voluntary system. The working classes have shown their devotion to the voluntary hospitals by the enthusiastic way in which they have worked for them and rallied to their support in time of need.

There is, therefore, in my view no organized body of opinion, except that of a few theoretical socialists, which desires State control in our hospitals, and the great majority would do much to prevent their falling into its clutches. At the same time, whatever our wishes may be, it cannot be denied that there is a drift that way, and that economic pressure may eventually be too strong to prevent it.

In what directions may that economic pressure make itself felt?

First, there is the doubt whether, under the voluntary system, the hospitals will be able to develop fast enough to meet the demands of the public for treatment. When the Labour party drew up their statement of policy they estimated that there was a shortage of 107,906 beds in the United Kingdom. They based their estimate on a need for 2½ beds per 1,000 of population. The absurdity of this estimate and the falseness of the data on which it was based were exposed by Mr. Bishop Harman on behalf of the British Medical Association at the conference held under the auspices of the Labour party in May, 1924; but that there was then, and still is, a shortage is proved by the long waiting lists which most voluntary hospitals have for admission.

#### The Shortage of Beds in Voluntary Hospitals.

The Voluntary Hospitals Commission in its interim report of 1924 (p. 14) said:

"It cannot be maintained that the total accommodation is adequate to meet the increasing demands. The provision of additional accommodation is essential if the success of the voluntary system in the future is to be secured."

In the meantime the number of beds provided by voluntary hospitals has been growing steadily, and the money to support them has somehow been obtained also. The reports of the Joint Council of the Order of St. John and the British Red Cross Society on voluntary hospitals (excluding London) show that the number of beds in these hospitals had grown from 42,652 in 1922 to 47,515 in 1926—an increase of 11 per cent. in four years, and in spite of the increase the financial position of the hospitals is certainly no worse than it was at the earlier date. The number of beds in voluntary hospitals in London was 13,270 in 1922. In 1926 it was 14,470—an increase of 9 per cent. In addition to this, owing to better organization, the number of patients passed through the hospitals per bed has increased.

This is no small achievement for voluntarism, and shows that it still has great vitality. It cannot be denied, however, that the waiting lists of many hospitals are still far too long. This means that unnecessary suffering has to be endured, and that the community is losing a good deal of man power which might be saved to it if treatment could be carried out more expeditiously. It must be remembered, too, that this delay continues in spite of the fact that part of the pressure has been relieved in some places by the extended use of State and municipal hospitals. We cannot be certain, moreover, that the hospital tendency has yet reached its zenith. On the whole, signs go to show that it has not, and that further big expansions will be needed. There must therefore be some doubt, in spite of the wonderful efforts it has made in the past few years, if the voluntary system can alone accomplish all that is needed. In view of the extraordinary efforts that are now made, sometimes by rather doubtful expedients, to extract so-called voluntary subscriptions, it is hard to imagine where greatly increased revenues could be obtained.

#### Use of Poor Law Hospitals as General Hospitals.

A second dynamic force bringing its pressure on the voluntary system is the slow but steady increase in the activities of State medicine already referred to. By the



invasion of new branches of medicine, and by the development of the Poor Law hospitals into general hospitals, they are coming into direct competition with the voluntary hospitals.

This is an insidious force and one which is difficult to harness and direct. The proposed reform of the Poor Law, now probably postponed for a time, but inevitable in the near future, with the abolition of the guardians and the municipalization of all their medical and hospital responsibilities, would at once raise the question in an acute form. Even at present a good deal of work is going on in the direction of improving old guardian hospitals and building new ones, which, with better equipment and increased staffs, are already undertaking a good deal of the medical and surgical work which was previously done almost exclusively by the voluntary hospitals. It is only natural that this should happen, and, if it goes undirected and uncontrolled, the movement may eventually have a serious effect on the voluntary hospitals. With the public purse behind them, and the not unnatural desire on the part of the local government managers to make good, they will prove very formidable competitors. There is the possibility also that when they see that the State authorities are providing a hospital service out of public money raised by taxation to which they are forced to contribute, the public will be less and less inclined to subscribe voluntarily to voluntary hospitals also, and that the sources of voluntary and charitable contributions will be dried up.

This is a very real danger, and unless something is done to direct the new development and demarcate the respective functions of voluntary and publicly supported hospitals, the rivalry is likely to go on and eventually cripple the voluntary system without any real wish on the part of the public that this should happen.

A contingency that would effectively seal the fate of the voluntary system is the possible advent of a Labour Government determined to carry out its avowed policy of establishing a complete medical service. Such an event is on the knees of the gods, or, in view of impending legislation, on the place where the laps of the goddesses used to be. At a non-political meeting there is no need to discuss this contingency further, and the method of preventing it is obvious.

#### *Should the Voluntary Hospitals come under State Control?*

The present Minister of Health, Mr. Neville Chamberlain, has, I think, realized the position of affairs as regards the hospitals, and is anxious to do something to remedy the present confused position lest, in view of the possible contingency to which I have referred, a worse thing should happen to them.

In his own repeated statements in Parliament and elsewhere he has made it clear that he fully appreciates the good points of the voluntary system, and wishes to incorporate what he can of it in any future developments that may have to be undertaken by the Government. In the House of Commons, on December 1st last, the following question was asked:

Whether, in his proposals for the reform of the Poor Law and reorganization of the health services of the country, the Minister of Health contemplates that the voluntary hospitals should or would come under the control of the State or the local authorities.

To this Mr. Chamberlain replied:

No, Sir. On the contrary, I regard the preservation of the voluntary hospital system as a matter of essential importance in the health interests of the country. What has been impressed on my mind is the absence as a general rule at present of any systematic arrangements for co-operation in the various areas of the country between the voluntary hospitals and the hospitals and institutions carried on by the local authorities. I have therefore suggested that it is advisable that there should be consultation in the various areas with a view to arriving at an agreed plan for institutional provision which would enable each kind of hospital to play its proper part in meeting the ever-increasing need of the people for hospital accommodation. I should anticipate that under such a plan the position of the voluntary hospitals would be strengthened and not weakened, but I have never contemplated putting any compulsion upon them to come into an arrangement, their participation in which would be a matter for their own determination.

The consultation took the form of a series of questions

issued by the Ministry to the British Hospital Association for consideration by voluntary hospitals in conjunction with local authorities. They deal with the following very important points, and are to be answered in accordance with local conditions.

(1) The practicability of allocating special categories of cases, according to the hospital accommodation in the area, to voluntary and public hospitals respectively. (It is to be understood that by public hospital he means guardian or municipal hospital.)

(2) The possibility of co-ordinating and demarcating the provinces of the two classes of hospital.

(3) How such co-ordination or demarcation would modify any schemes of enlargement in hand or in contemplation.

(4) In what respect, if any, is the shortage of beds most serious—for example, surgical, medical, gynaecological, maternity, or orthopaedic? Is there vacant accommodation in public hospitals suitable or capable of being adapted for the type of case for which accommodation is specially needed?

(5) The possibility of establishing by agreement between the voluntary hospitals and the local authorities some clearing house to assist in the co-ordination.

(6) To what extent and under what conditions could the medical staffs of the voluntary hospitals undertake responsibility for cases or a definite number of beds in public hospitals, so that the patients may be secured of the special type of experience required.

These questions raise the whole matter—namely, the possibility of detailing special functions to the newly developed local government hospitals, of co-ordinating the work of the individual hospitals in their respective functions, and of ensuring that the local government hospitals shall be able to obtain the services of the same class of consultants that the voluntary hospitals have at present.

It is the duty of the medical profession as one of the interested parties, and as being probably the body best able to give an opinion on the subject, to formulate their ideas and to be in a position to give their opinion to the Minister.

In trying to do this, it is well to consider what we believe to be the essential medical services for the needs of the country.

#### THE ESSENTIAL MEDICAL SERVICES.

These are well considered and laid down in the interim report of the Consultative Council on Medical and Allied Services published in 1922, known as Lord Dawson's Report, with its primary health centres, secondary centres, and supplementary services. The proposals of that report are perhaps elaborated in too great detail, and the carrying of them out would require very considerable new additions to present provisions and a too great dislocation of existing ones. The essential requisites, as it appears to me, are:

(1) That there should be for every locality an efficient public service of preventive medicine dealing with sanitation, epidemics, and other group diseases.

(2) That every individual should have access to a general medical practitioner, who will have personal charge of his health as an individual, and who will have at his disposal some form of institution in which he can treat that individual when he cannot be adequately treated in his own home.

(3) That there should be within reasonable distance a group of consultants in all the ordinary specialties whose services will be available to help the general practitioner when he needs help.

(4) That there should be, also within easy access, an institution to which the individual can be sent for special advice, investigation, and treatment when his case requires it.

The cottage hospitals, where they exist, and at present they exist only in country districts, furnish the institutions for the general practitioner, and the general hospitals of our big towns provide the more fully equipped institutions for special consultations, investigation, and treatment, and they have as their staffs the group of consultants needed to assist the general practitioners.

The public health part of the scheme is already well developed, and corresponds with the local government areas. The individual part, though already largely existing in most parts of the country, is incomplete, ill-defined, and practically not at all co-ordinated, nor does it correspond usually with existing local government areas. Moreover, from the haphazard way in which the voluntary hospitals have grown up, there are often subsidiary hospitals and special hospitals in addition to the main general hospital

in any given area, and now there is arising the added complication of municipal and guardian hospitals, which are beginning to undertake the same sort of work that was previously done in the voluntary general hospitals, and to come into competition with them.

Unless some sort of co-ordination and demarcation of function can be brought about, there will be increasing confusion and overlapping.

It seems, therefore, that the time has come to try to bring some order out of this chaos, and, without destroying those elements of voluntarism in management which we consider to be so essential, to introduce a scheme on which the whole of the hospital services may hang together. This can only be done by the establishment of some central body, which, while having the confidence of all the parties concerned, and having sufficient authority to make its influence felt in a co-ordinating capacity, will at the same time carefully refrain from interfering with the individual units and allow them to manage their own affairs and develop along their own lines with the greatest possible amount of freedom.

#### *A Central Hospital Council.*

The first step would be to form a Central Hospital Council, appointed by the Ministry of Health. Its functions would be to advise on the general policy of hospital development, and to act as a communicating body between the Ministry and the local hospital committees of areas. The Voluntary Hospitals Commission already existing, though no longer functioning, could form the basis of this Council if it were reorganized to represent the other interests that will have to be brought into the scheme, such as the local government hospitals.

#### *Local Area Committees.*

The second step would be to map out the country into areas and appoint Local Area Committees. The areas should be large enough for their committees to deal with all the local governing bodies and all the hospitals in the area. They would probably, though not necessarily, correspond with county areas, as this arrangement would greatly facilitate their organization. The existing voluntary hospital local committees, adapted to suit their new functions, might form the basis of the hospital area committees.

There would be some difficulties in the employment of the county as the basis of the area, as in many cases the existing voluntary hospitals go well outside their own counties for their patients and spheres of interest. The local areas, on whatever basis they were formed, would probably contain more than one big general hospital, and would have to be subdivided into groups of hospitals, each with its own administrative subcommittee.

The *raison d'être* for the formation of such a group would be:

- (a) The needs of the population as ascertained by experience.
- (b) The existence of a suitable central or primary general hospital.
- (c) The position and grouping of the secondary hospitals round it.

The qualifications for a hospital to become a central or primary one would be:

- (a) That it is of adequate size and of sufficient superiority as regards staffing and equipment.
- (b) That it acts as a consultative centre.
- (c) That it is able to deal with the investigation of the more difficult cases.
- (d) That it undertakes the more specialized methods of treatment.

A hospital with which a medical school is attached would naturally fulfil these requisites, and they would be fulfilled also by most of the general hospitals of our provincial towns. Under existing conditions the primary hospitals would generally be one of our bigger voluntary general hospitals. In some cases there may be existing municipal hospitals which with some development will be suitable to take their places as primary hospitals. In other cases, especially in newly developing centres of population, where experience shows that a group should be formed, but in which there is no existing hospital suitable to take its

place as a primary hospital, such a one will have to be developed.

The duties of the group hospital subcommittees would have to be carefully defined and limited so as not to interfere with the autonomy of the individual hospitals, and would not include interference with internal finance, management, or the election of governing bodies and staffs. Its functions, chiefly advisory, might include the following:

- (a) The co-ordination of the admission and transference of in-patients.
- (b) The establishment of a clearing house or bureau to carry this out.
- (c) To advise on and direct the development of new hospital accommodation for the area.
- (d) The co-ordination of the ambulance transport service.
- (e) The insurance of a uniform system of accounts and records.
- (f) The organization and distribution of massed voluntary contributions.
- (g) The distribution of any Government grants-in-aid that may become available.

#### *Co-ordination of Hospitals.*

In any attempt to co-ordinate the various hospitals in an area, and possibly to demarcate separate functions to individual hospitals, the most important point to remember is the educational function of the primary hospital. In those hospitals with which a recognized medical school is associated this function is obvious, but it is by no means confined to them, because every general hospital is a school inasmuch as it is the training ground of its staff. The residents are all in reality advanced students learning the practical work of their profession, and the honorary staff themselves obtain their experience and train themselves and one another in their particular specialties in them, and can only really reach the requisite standard to become the consultants of their area by the practice they obtain in the hospitals.

It is essential, therefore, that a primary hospital shall not be debarred from dealing with any class of cases that may be useful from an educational point of view. It is likely that the primary hospitals will be used more and more also as centres for post-graduate and refresher work for those practitioners of the area who care to take advantage of them.

One of the most difficult parts of the work of co-ordination will be the fitting of the secondary hospitals into their position in the general scheme.

The place of cottage hospitals is simple. They will be general practitioners' hospitals, and will be equipped for, and cater for, the work which can usefully be done by them.

Special voluntary hospitals have grown up in a somewhat haphazard way to fill the gaps and provide the additional beds required in the area for their specialties; and without in any way making them subservient to the primary hospitals, or interfering with their complete freedom as units, I think much can be done to prevent overlapping and to ensure that they too may serve a useful function by carrying on their special work and by making use of their material for educational purposes.

The question of the new and newly developing public hospitals is more difficult, but it is in order to do something to bring them into line with the scheme and to prevent their becoming competitive and overlapping that the co-ordinating machinery is really necessary. As already stated, a few of them, such as some of the big Poor Law and municipal hospitals of London and some of the biggest towns, are already almost fit to be primary hospitals, and others may be developed so as to become so, but the majority will only be needed to complete and fill in gaps of the work of the existing voluntary primary hospitals.

These institutions will still have to provide accommodation for those chronic cases which have never come within the scope of the voluntary hospitals, and in future, with better equipment and more complete staffs, they will also be able to deal with a great mass of surgical and medical work which cannot at present be carried out by the voluntary hospitals owing to lack of beds.

There is no doubt that to enable them to do this many of them will have to be remodelled or rebuilt, and they will have to be staffed on a much more ample scale. But I see no reason why this should not be done, nor why they

should not drop into a very useful and satisfactory position in the general scheme, when they will do much to relieve the existing congestion in the treatment of the waiting cases. To enable them to do their part satisfactorily it will be necessary that they shall be able to call on the services of the best consultants in the area, and there is no reason why this should not be done on a part-time basis, as at present in the voluntary hospitals. Naturally, as the work will be work for the State, and not for a charitable institution, the staffs will have to be remunerated. There will be many difficulties to overcome, one of the greatest of which will be to establish working agreements between the local governing bodies which control the Poor Law hospitals and the managers of the voluntary hospitals. This will be one of the main functions of the Group Committees. Without some such co-ordination I foresee nothing but a continuance of competition and strife, which may end badly for the voluntary system.

#### Conditions in London.

I have so far not referred to London, where there are special conditions. Most of the big voluntary hospitals are grouped in the centre, and a large mass of their work comes from the periphery and with much overlapping, but there is no reason why a system of groups should not grow up there like the segments of an orange, with the pips at the centre; and the fact that the primary hospitals would be chiefly grouped near the centre would be no great bar to a successful organization. Already in London, as was described by Dr. Graham Little in his letter to the *Times* in January, a considerable amount of co-ordination between some of the big teaching hospitals and the municipal hospitals in their neighbourhood is in existence. A few of the municipal hospitals of London are already performing almost the functions of a primary hospital; others may ultimately do the same; but as far as can be seen there is no reason why the system of groups should not be applied to London. The King Edward's Hospital Fund organization, adapted for its increased duties, might serve as the basis for its Area Committee.

#### The Position of the General Practitioner.

There is one point to which I wish to make further reference. In the advance of institutional treatment there is a great danger that the general practitioner may be left high and dry; that all the better and more interesting part of his work may be taken from him, and that he may become a mere machine for sorting the more serious from the minor cases, reserving to himself for treatment only the latter. This would have a disastrous effect on him and on the profession generally. In many cases this tendency has been counteracted by the establishment of cottage hospitals, where the general practitioner can treat his own cases, but this has been chiefly confined to county districts. It has been suggested, and is, in fact, part of the policy of the British Medical Association, that greater facilities should be given for general practitioners to take part in the work of the big voluntary hospitals, but I do not think that this is a practical scheme. The beds of these hospitals are wanted, and should be reserved, for cases requiring special investigation and treatment. What is really wanted is the establishment in the towns of general practitioner hospitals, corresponding to the cottage hospitals, where the general practitioner can undertake the care and treatment of his own cases as long as they come within his scope, sending on those which require specialist treatment to the more fully equipped primary hospitals. It is difficult to see how this can be done, and I am afraid that it will only come about if the general practitioners themselves take the initiative and show that they really wish to undertake the work, and persuade the public of the advantages of such a scheme.

#### CONCLUSION.

I have only had time to state the general problem of the future of our hospitals, and to sketch very briefly the lines on which it appears to me that development should take place. If some attempt is not made to co-ordinate the existing services into a homogeneous scheme which will preserve the existing voluntary hospitals as part of that scheme, I foresee no outcome but the gradual extinction of the voluntary system and the substitution of a complete

State organization, with all its dangers and hindrances. I am not sure that we are not fighting a losing battle, and that the ruthless advance of State control may not eventually be too strong for us, but it is one of the characteristics of our race to move slowly in these matters, to patch up and make use of existing machinery, rather than to sweep clean for the introduction of new and more logical systems, and by so doing we are often able to retain the good of the old and gain some advantage from the new. I hope it may be so in our hospital development.

## British Medical Association.

### CURRENT NOTES.

#### Conference of Consulting Pathologists.

At the first meeting of the newly formed group of consulting pathologists, held at the British Medical Association House on March 2nd, Dr. Powell White of Manchester was elected chairman. The conference passed a resolution of sympathy with the family of the late Sir Dawson Williams, late Editor of the *BRITISH MEDICAL JOURNAL*. After a general discussion of the means of providing for pathological services under the National Health Insurance Acts, the following resolutions were passed:

That this conference of consulting pathologists takes this opportunity of placing on record its surprise that, sixteen years after the adoption of the national health insurance scheme, no adequate facilities are yet available under the Acts for the pathological examinations essential to efficient diagnosis, and its hope that as the study of pathological conditions is an essential factor in the successful treatment of disease, such facilities will be supplied without delay.

That this conference is of opinion that the remuneration of pathological work for insured persons should be on the basis of payment for each service rendered, and not by way of a lump sum irrespective of the work done, and further, that the fees charged should be such as adequately to cover the cost of the work done.

The following members were elected by the conference to the Group Committee: Dr. S. C. Dyke (Wolverhampton), Dr. J. G. Greenfield (Golders Green), Professor I. Walker Hall (Pucklechurch, Glos), Dr. A. Renshaw (Manchester), Dr. A. F. S. Sladden (Swansea), and Dr. C. Powell White (Manchester). This committee was instructed to report to the July meeting of the conference on the desirability of adopting a scheme of election for the next committee, based on the principle of geographical representation. The committee was also instructed to consider the conditions of service of pathologists attached to hospitals, the relations between pathologists and general practitioners under the provisions of the Coroners Acts, and the general question of drawing up a scale of fees for services to be rendered by pathologists under the schemes for treatment projected by the Spa Practitioners Group. The committee met directly after the conference, elected Dr. Powell White chairman for the session, and decided to meet on March 23rd to consider the matters referred to it. All members of the British Medical Association who fall within the definition approved by the Council at its last meeting—namely, "members (not being members of the public health service) who are working in an institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes"—are now members of the Consulting Pathologists Group, but it is essential, if they are to enjoy effective membership, that their names should be enrolled in the Group without delay. They are therefore requested to communicate their names and addresses to the Medical Secretary as soon as possible.

#### Medical Officer to General Post Office.

The General Post Office is advertising in the lay press for a whole-time medical officer at a commencing salary of £250 per annum, rising by annual increments of £20 to £600, with a bonus in addition, which brings the commencing salary up to £485 per annum. There are also pension rights. The advertisement was tendered for insertion in the *BRITISH MEDICAL JOURNAL*, but was refused on the grounds of inadequacy of salary. Members of the profession would be well advised to refrain from applying for such a poorly paid post, in which their prospects of advancement are negligible.

## Association Notices.

## TABLE OF DATES.

March 28, Wed.	Nomination papers available (on application at Head Office) for election of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
April 28, Sat.	Annual Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> . Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 15, Tues.	Voting papers posted from Head Office, where there are contests in above elections.
May 19, Sat.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date. Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
June 2, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 21, Thurs.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
June 30, Sat.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 4, Wed.	Annual Representative Meeting, Cardiff, 10 a.m.
July 20, Fri.	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Annual Representative Meeting, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, *Medical Secretary*.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH.**—A general meeting of the Border Counties Branch will be held at Storms Farm Dairy, Keswick, on Friday, March 16th, at 3 p.m. Mr. J. A. Spedding will describe and demonstrate the production of certified milk. Other speakers will be Mr. R. Simpson, chief veterinary inspector for Cumberland, and Dr. F. H. Morison, M.O.H. for Cumberland.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Euoch's Station Hotel on Wednesday, March 14th, at 3.30 p.m. A paper on teeth in relation to health (with lantern illustrations) will be read by Dr. Charles Read.

**KENT BRANCH: ASHFORD DIVISION.**—At a meeting of the Ashford Division to be held at the North Street Club, Ashford, on Wednesday, March 21st, at 4 p.m., Mr. G. A. Ewart of St. George's Hospital will give a lecture on abdominal emergencies in general practice. Dr. J. W. McNee will give a lecture on new work in the diagnosis and treatment of hepatic and biliary diseases at a meeting of the Division to be held on April 18th at 4 p.m. A cordial invitation is extended to all members of the Kent Branch.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—A meeting of the Hyde Division will be held in the Stalybridge Town Hall on Thursday, March 15th, at 8.30 p.m. Dr. T. B. Williams will deliver his presidential address.

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A British Medical Association Lecture will be given at the meeting of the Mid-Cheshire Division to be held in the board room of the Altrincham General Hospital, Market Street, Altrincham, on Tuesday, March 20th, at 8.30 p.m., by Mr. W. Sampson Handley on radium in carcinoma. The lecture will be illustrated by lantern slides, and should prove of great interest to all medical men. Members are requested to bring as many non-members as possible.

**LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.**—A meeting of the Rochdale Division will be held in the Lyceum, Bailie Street (Rochdale Education Committee Offices), on Wednesday, March 14th,

at 8.30 p.m. Business: Election of two representatives on the Lancashire and Cheshire Branch Council; varicose ulcer inquiry; Mr. F. Holt Diggle, surgeon to Manchester Royal Ear Hospital and aural surgeon to Ancoats Hospital, will read a paper on some factors in the prevention of deafness; the subject will be treated from the general practitioner's standpoint.

**METROPOLITAN COUNTIES BRANCH.**—The Metropolitan Counties Branch has arranged a meeting to be held at the British Medical Association House, Tavistock Square, W.C.1, on Thursday, March 22nd. Dr. E. Grahame Little, M.P., will deliver an address on "The future of medical practice: an address to senior students and young practitioners" at 5.30 p.m. Fourth and fifth year medical students and newly qualified practitioners are cordially invited; tea and coffee at 5 p.m.

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—A clinical meeting of the Camberwell Division will be held at the Bermondsey and Rotherhithe Hospital on Tuesday, March 13th, at 3.30 p.m. Cases will be demonstrated by members of the hospital staff.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next clinical meeting of the City Division will be held at the Metropolitan Hospital to-day (Friday, March 9th), at 4.30 p.m., when Dr. J. W. Linnell will show cases.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held at the Town Hall, Hammersmith, on Friday, March 23rd, at 8.45 p.m. An address will be given by Mr. C. A. Pannett entitled "Debatable aspects of the surgery of gastro-duodenal ulceration." The subsequent discussion will be opened by Mr. Zachary Cope. Members intending to enter for the Treasurer's Cup golf competition should notify the honorary secretary at once, since the draw will take place early next week.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of the Marylebone Division will be held at 11, Chandos Street, Cavendish Square, on Thursday, March 15th, at 8.15 p.m. Agenda: (1) nomination of candidates for election to Central Council; (2) election of seven representatives and deputy representatives to Representative Meeting; (3) a lecture, with lantern illustrations, by Dr. Percy Flemming: The Thames from London Bridge to Lambeth, with a note of London's early water supply. Members are cordially invited to bring ladies and friends.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 13th, at 9 p.m. Mr. Sidney Boyd will give an address on the diagnosis of surgical emergencies occurring in general practice.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, March 21st, at 9 p.m. It will be a joint meeting with members of the dental profession, and Mr. H. L. Messenger, L.D.S., will read a paper on focal infection; discussion on matters of mutual interest to follow. The following further meetings have been arranged: April 18th, Dr. J. Bright Bannister: Ante-natal work; May 16th, annual meeting; June 20th, Dr. Margaret Ensie: Care of the infant.

**NORTH OF ENGLAND BRANCH: BLYTH DIVISION.**—The annual dinner of the Blyth Division will be held at the Slin and Garter Hotel, Blyth, on Wednesday, March 21st, at 8 for 8.30 p.m. Dr. Beaton, president of the North of England Branch, has been invited as a guest. Prior to the dinner there will be a meeting to elect officers, who will be formally installed during the function.

**NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.**—The postponed meeting of the North Northumberland Division will be held in the Infirmary, Alnwick, on Tuesday, March 13th, at 2.45 p.m. Agenda: Consideration of annual report; election of representative; fees for medical reports to coroners. At the close of the meeting an address will be given by Mr. H. Evers entitled "Uterine haemorrhage." Tea will be provided.

**SOUTHERN BRANCH: JERSEY DIVISION.**—The next meeting of the Jersey Division will be held at the General Hospital on Thursday, March 15th, at 8.30 p.m. Mr. C. A. Halliwell will read a paper on the treatment of peritonitis.

**SURREY BRANCH: CROYDON DIVISION.**—At the meeting of the Croydon Division to be held on Wednesday, March 14th, at 4 p.m., at the Croydon General Hospital, Mr. A. H. Todd will give a lecture demonstration on various hip cases, in the place of Dr. J. W. Wayte.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—The next clinical meeting of the Brighton Division will be held at the Children's Hospital, Brighton, on Thursday, March 15th, at 3.45 p.m. A Divisional meeting will be held at the Queen's Road Dispensary, Brighton, on Thursday, March 22nd, at 8 p.m. Agenda: Correspondence; nomination for president-elect of Branch; election of deputy representatives for Annual Meeting; proposal to alter Rule V of the officers of the Division shall be a chairman, vice-chairman, treasurer, secretary, and assistant secretary; to consider question of calling a meeting of the staffs of hospitals to discuss the Sussex Provident scheme; annual report of the Division for 1927; reports to coroners; report of Dr. Gemmell on interview with Chief Constable of Brighton regarding police fees; Dr. Fothergill will raise the subject of advertising.

**YORKSHIRE BRANCH: HARROGATE DIVISION.**—A meeting of the Harrogate Division will be held on Saturday, March 17th, at 4.30 p.m. Dr. S. Monckton Copeman will give a British Medical Association Lecture on immunization against diphtheria and scarlet fever, illustrated with lantern slides.

## National Insurance.

INCREASE OF CLAIMS FOR SICKNESS AND  
DISABILITY BENEFIT.

## ATTITUDE OF THE INSURANCE ACTS COMMITTEE.

The following letter has been addressed by the Medical Secretary of the British Medical Association to the Secretary of the Ministry of Health dealing with the remarks made by the Minister of Health about the responsibility of insurance medical practitioners for the increase in the number of claims for sickness and disability benefit, and the interpretation put on those remarks by certain newspapers.

Sir,—At its meeting on February 23rd the Insurance Acts Committee directed me to say that the Committee had been greatly disturbed by the interpretation placed by the lay press of the country upon some remarks made by the Minister of Health at the luncheon of the National Conference of Approved Societies held on the 20th ult. In his remarks the Minister apparently made special reference to the increase in the number of claims for sickness and disability, and is construed by the press as having emphasized as a specially prominent cause of this increase the failure of practitioners to be sufficiently particular about certification, and as having suggested that this was probably due to a fear that persons refused a certificate might go to a competitor.

You will have noted the way in which certain newspapers, some of a responsible character, have utilized these remarks in accusing panel doctors as a class of being (vide the *Times* of February 23rd) unsuited to arrive at judicial decisions about the working capacities of their patients—a charge which the Committee considers to be a very grave reflection on the honour and moral and intellectual stamina of the medical profession. This is only one example. There are others in which the words of the Minister are being used, perhaps with less responsibility but with more venom, in attacking insurance practitioners as a class.

At the present time, and at the request of the Ministry, representatives of the Insurance Acts Committee and of the Ministry are together exploring a position which even preliminary investigation has shown to be very obscure and complex. Such exploration must needs be made even more difficult if an impression is created, and allowed to persist, that the Minister (and possibly his advisers) has already decided where the burden of culpability lies.

The Committee would earnestly request the Minister to take immediate steps to combat the unfortunate construction placed upon his remarks, which is conveying the impression that he has already made up his mind that the increase of sickness claims is due in the main to the fault of the doctors in the service. If this were indeed his opinion it is unnecessary to point out to you how utterly futile it would be for the Insurance Acts Committee to continue with you the discussions, already begun at the time of the Minister's speech, which we believed were to constitute a serious scientific inquiry into a difficult and complex matter.—I am, Sir, your obedient Servant,

ALFRED COX,  
Medical Secretary.

March 1st, 1928.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander J. A. O'Flynn to the *Ganges*.  
Surgeon Lieutenant Commander S. R. Johnston to the *Dauntless*.  
Surgeon Lieutenant A. de B. Joyce to be Surgeon Lieutenant Commander.  
Surgeon Lieutenants J. P. Henderson to the *Beaufort*; G. Rorison to the *Pembroke* for R.N. Barracks, Gatham; J. W. Nesbitt to the *Fitzroy*; A. E. Kingston to the *Kellett*; J. A. K. Fitzgerald to the *Flinders*.

## ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenants E. G. Thomas to the *Courageous*; D. G. Evans to the *Champion*; J. D. J. Freeman to the *Renown*.

## ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. F. Whelan, D.S.O., O.B.E., having attained the age limit for compulsory retirement, retires on retired pay.  
Major E. G. Stoney retires with a gratuity.  
Major R. O'Kelly, half pay list, late R.A.M.C., retires on retired pay on account of ill health caused by wounds.  
Captain (prov.) Major C. H. G. Penny retires, receiving a gratuity, and relinquishes the rank of prov. Major.  
The following Captains to be Majors: D. Grellin, M.G. (prov.), and T. P. Buist.  
Temporary Lieutenant R. Reynolds relinquishes his commission.  
To be temporary Lieutenants: H. S. Littlepage and G. L. Grieve.  
The following Lieutenants on probation are confirmed in their rank: E. W. Hayward, M. F. N. Griffin, J. J. O'Dwyer, H. A. Ferguson, de L. Carey, M. G. de L'Isle, Sturm, and D. B. O'Sullivan-Beare.  
W. A. R. Ross and P. V. MacGarry to be Lieutenants on probation, and

are seconded under the provisions of Art. 205, Royal Warrant for Pay and Promotion, 1925.

The following have been granted commissions as Lieutenants on probation: G. L. Day, O. T. L. Archer, D. R. W. Burbury, P. J. L. Capon, P. Dwyer, K. McNeill, M. R. Burke, P. W. A. Agnew, J. C. Olfroy, J. W. Kendall, W. A. R. Ross, P. V. MacGarry, and J. G. Weston.

## ROYAL AIR FORCE MEDICAL SERVICE.

Flying Officer J. E. Foran to Palestine General Hospital.

## INDIAN MEDICAL SERVICE.

Colonel G. Browne, D.S.O., and Lieut.-Colonel W. W. Jeudwine, C.M.G., have retired from the service.

Lieut.-Colonel F. E. Wilson, Civil Surgeon, Quetta, is appointed to officiate as Residency Surgeon and Chief Medical Officer in Baluchistan, in addition to his own duties.

Lieut.-Colonel R. W. Anthony, Officiating Surgeon-General with the Government of Bombay, is confirmed in that appointment.

Lieut.-Colonel L. J. M. Deas to be Colonel, vice Colonel R. W. Knox, D.S.O.

Major O. H. Smith, O.B.E., an Agency Surgeon, on return from leave, is posted as Agency Surgeon in Bundelkhand.

To be Captain: A. J. C. Culhane (seniority September 10th, 1923). To be Lieutenants: E. G. Montgomery (seniority July 22nd, 1925), G. F. Taylor (seniority April 29th, 1926). (The notification in the *Gazette* of August 6th, 1927, in so far as it relates to these officers is cancelled.)

The provisional promotion of W. Lawie to the rank of Captain, as notified in Army Department Notification No. 1225, dated September 24th, 1926, is confirmed.

## VACANCIES.

ATH COUNTY HOSPITAL.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Males. Salary at the rate of £100 and £80 per annum respectively.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Second House-Surgeon (non-resident). Salary at the rate of £150 per annum.

BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.—(1) Honorary Anaesthetist. (2) Honorary Consulting Ophthalmic Surgeon.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—Honorary Medical Officers to the Out-patient Department for the treatment of Nervous Diseases.

BRIGHTON COUNTY BOROUGH.—Resident Medical Officer at the Borough Infectious Disease Hospital and Sanatorium (male, unmarried). Salary at the rate of £350 per annum.

CHANNY CROSS HOSPITAL, W.C.2.—(1) Assistant Surgeon. (2) Surgical Registrar; honorarium £150 per annum.

CONNAUGHT HOSPITAL FOR WILKINSON, WIMBORNE, AND LEXTON.—(1) Honorary Radiologist. (2) Senior Resident House-Surgeon. (3) Junior Resident House-Surgeon. Salary for (2) and (3) at the rate of £100 per annum.

COSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

CROYDON GENERAL HOSPITAL.—Casualty House-Surgeon. Salary £125 per annum.

HEREFORD COUNTY AND CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male, unmarried). Salary £350 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.1.—Resident Medical Officer. Salary at the rate of £100 per annum.

KING EDWARD VII HOSPITAL, Windsor.—Honorary Ophthalmic Surgeon.

KING'S COLLEGE HOSPITAL, S.E.5.—(1) Two Junior Surgeons. (2) Junior House-Physician for Diseases of Children.

LIVERPOOL OPEN-AIR HOSPITAL FOR CHILDREN, Leasowe.—Junior Medical Officer. Salary £200 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Clinical Assistant to the Ear, Nose, and Throat Department Out-patient Clinic. Fee 10s. 6d. per clinic.

MANCHESTER: ST. MARY'S HOSPITALS.—Two House-Surgeons each for the Whitworth Street West Hospital (Maternity), and for the Whitworth Park Hospital (Gynaecological). Salary at the rate of £50 per annum each.

MERTHYR GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

NEWCASTLE-UPON-TYNE CITY AND COUNTY.—Assistant Medical Officer of Health. Salary £750 per annum, rising to £900.

NEWCASTLE-UPON-TYNE: HOSPITAL FOR SICK CHILDREN.—(1) Junior House-Surgeon (non-resident). (2) Resident House-Physician. (3) Resident Senior House-Surgeon. Salary at the rate of £100 per annum for (1) and £95 per annum for (2) and (3).

NIGERIA: MEDICAL RESEARCH INSTITUTE.—Biochemist and Protozoologist. Emoluments £800 per annum, rising to £960, together with seniority allowance, also staff pay at the rate of £150 per annum if possessing a medical qualification.

PALACE SANATORIUM, Montana.—Assistant Physician. Salary £400 per annum.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary £200 per annum.

ROYAL GWENT HOSPITAL, Newport, Mon.—House-Surgeon. Salary at the rate of £125 per annum.

ROYAL NORTHERN HOSPITAL, Holloway, N.—(1) House-Physician. (2) Obstetric House-Surgeon. Salary at the rate of £70 per annum each.

RUGBY: HOSPITAL OF ST. GROSS.—Senior and Junior Resident Medical Officers (males). Salary at the rate of £150 and £100 per annum respectively.

ST. MARY'S HOSPITAL: INSTITUTE OF PATHOLOGY AND RESEARCH, Paddington, W.2.—Research Studentship. Honorarium at the rate of £200 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon attached to the Orthopaedic Department. (2) House-Surgeon. Salary at the rate of £125 per annum each.

SEAMEN'S HOSPITAL SOCIETY.—Assistant Medical Officer at the King George's Sanatorium for Sailors, Liphook. Salary £200 per annum.

SHEFFIELD: ROYAL INFIRMARY.—Ophthalmic House-Surgeon. Salary £80 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar. (2) House-Physician. (3) Two House-Surgeons. (4) Honorary Anaesthetist. Honorarium for (1) £100 per annum, and salary at the rate of £100 per annum for (2) and (3).

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.1.—Assistant Surgical Registrar. Honorarium at the rate of £50 per annum.



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# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

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### PAY BEDS AND THE FUTURE OF THE VOLUNTARY HOSPITALS.

BY

C. M. WILSON, M.C., M.D., F.R.C.P.

PHYSICIAN TO OUT-PATIENTS, ST. MARY'S HOSPITAL, AND DEAN OF THE MEDICAL SCHOOL; CONSULTING PHYSICIAN TO THE PADDINGTON INFIRMARY.

THE need for these beds is, I suppose, no longer in question. It is a general and everyday experience of physicians in practice that while the homes of the middle class are ill adapted for the treatment of grave maladies, this class can no longer afford nursing home fees. It is not so much that the average minimum weekly fee—nine or ten guineas in Central London and eight guineas in the suburbs—is prohibitive, as that the cost of accessory investigations, such as x rays and laboratory tests, makes the whole procedure impossible. Accordingly this class is seeking institutional treatment, and the question at issue is really whether this will be provided in paying wards of existing hospitals or in special paying hospitals built expressly for that purpose. I am not here concerned with details, which are the province of those who have had experience of such beds in practice. It is my present purpose only to argue that the teaching hospitals in London will be driven to espouse the first alternative, alike for the proper discharge of their educational mission and to safeguard their very existence.

#### *The Position if the Voluntary Hospitals Hold Aloof.*

Consider the position that must arise if the voluntary hospitals fail to make provision of this kind. The middle class will build its own paying hospitals, and will build them, as we are told by an official of King Edward's Hospital Fund for London, for two million persons. That figure is the estimated number of the middle class in London, but it is probable that in the future this tendency will not be confined to the middle class, and that all sections of the community will eventually seek institutional treatment in grave illness. This view is based on certain figures which, in the absence of a register of nursing homes, I had prepared for the Pay Beds Committee of King Edward's Fund. As a result of systematic inquiries, of the first half of the 410 nursing homes in the Buff Telephone Book it would appear that there are in the nursing homes of London between three and four thousand beds, that one-third of these beds have no operating theatre, that less than a quarter are served by a lift, and that almost without exception they have no x-ray apparatus, no laboratory, and no resident doctor. From my own experience of these homes I am impressed with their efficiency, but they would be the first to admit that, owing to these limitations, those who use nursing homes must eventually be faced with a choice between the same two alternatives that now confront the middle class. Either these homes will

become centralized into large pay hospitals, or pay beds in existing hospitals will expand and serve the class now using nursing homes. The change will no doubt come so gradually that individual hardship will scarcely arise. In brief, if the voluntary hospitals hold aloof they must be prepared to see springing up at their doors other institutions that will enjoy the support of all those who can afford more than the maintenance fee now charged by most hospitals to those who are able to pay it.

While this is happening the Poor Law infirmaries will become municipal hospitals, only differing from the voluntary hospitals in the financial attractions they can offer to the resident and visiting staff. This change may seem to many a leap into the future, but to those of us who are intimately associated with these institutions, and who are aware of the change in their character since the war, it is only a matter of time. Mr. Neville Chamberlain may fail for the moment to persuade the Cabinet to father a bill to place the infirmaries under the London County Council, but that measure cannot be long delayed. Further, it is perhaps not generally understood that the development of the infirmaries into municipal hospitals, speaking generally, will not bring up the stumbling-block of capital expenditure. In the main it will mean increasing the number of resident medical officers, enlarging the existing arrangements with consultants, and altering the rules of admission of patients. In the present temper of the democracy it is not conceivable that these municipal hospitals, charged with the care of the sick poor, and with the rates behind them, will be content to stop short of efficiency if that depend only on an increase in annual expenditure.

If this view of the future be correct, a voluntary hospital might find itself between a large municipal hospital with well-paid consultants and residents and a large pay hospital providing institutional treatment for all those who can afford more than maintenance. Those who are friendly to the voluntary system could not view such a contingency without misgiving. On the financial side they might reasonably fear that once the sick poor are efficiently provided for out of the rates, supporters of the voluntary hospital, harassed by increasing taxation, may feel relieved of further responsibility for their care, while by their failure to provide within their walls for those who can afford to pay for treatment they would have lost a golden opportunity of attaching subscribers to their fortunes by new and more personal bonds. There are, in short, sound financial grounds for the view that if the voluntary system with its precious spirit of service is to survive, it must no longer confine its ministrations to one section of the community.

But apart from financial considerations, if a situation of this kind should arise it would probably undermine the efficiency of the voluntary hospitals in other ways. The prestige which they now enjoy depends mainly on their power to attract picked men to their staffs. Whether that power will be impaired if these men can acquire experience in municipal and paying hospitals without the long hours

and years of unremunerative, or at any rate not directly remunerative, toil is at least open to question. An argument of that kind, which opens up the whole source of consultant practice, is beyond the scope of this discussion. This much may, however, be said. It is not wrong ethically that doctors should write on disease in the columns of the lay press, but it is inexpedient, because it is an attempt to enlarge their practice by appealing directly to an ignorant laity, and not, as in the past, to a critical body of general practitioners. If the custom became prevalent it would undermine the necessity for building up a sound reputation in the profession and would put a premium on those who possess only a flair for the frailties of a democracy. It is therefore of some importance to the future of medicine that consulting physicians and surgeons should continue to look to the teaching hospitals as the direct avenue to practice. Plainly the growth of large paying hospitals altogether independent of the teaching hospitals, with the opportunities they would offer of acquiring practice without the intervention of the general practitioner, together with the creation of municipal hospitals paying considerable salaries to their consultants, offer an alternative to the method by which consulting practice has hitherto been built up—an alternative that must be jealously scrutinized if the standards of practice are to be preserved.

#### *Practical Difficulties.*

The needs of the middle class have been widely ventilated of late, and in such discussions general principles have tended to become submerged in a confusion of detail. Speakers have been busy with measures to restrict the scheme to the middle class. They have been preoccupied as to who shall decide if the patient is financially eligible—whether the secretary of the hospital or a special committee—and whether the yearly income shall be declared and the fees charged reported to the committee. But in fact there are but two practical difficulties in opening pay wards in existing voluntary hospitals; the first is concerned with the source from which the initial capital outlay will come, and the second with the position of the general practitioner in any such scheme. Probably financial difficulties will be overcome by public appeals for the necessary funds, and I believe that when the report of the Pay Beds Committee of King Edward's Hospital Fund for London is published it will be found that these appeals will receive the blessing of this Fund. This endorsement is so vital that it is perhaps relevant to give reasons for this view. It would appear from the experience of hospitals which have paying wards already that a weekly charge of five guineas meets maintenance without profit or loss if rent, lighting, and the like are charged by that hospital against these beds. The present proposal provides that the middle class should get at cost price everything that the hospital can provide except medical attendance, and those who are responsible for the administration of the King's Fund have therefore to inquire what are the advantages to the community and to the hospital which justify a section of the community in receiving medical lodging at cost price. They may conclude that the increased support which may be reasonably expected from this large section of the community would react very favourably on the subscriptions to the voluntary hospitals, and indeed that their trust on behalf of the public health is not discharged while such a large proportion of the community is denied the benefit of institutional treatment. They will certainly decide that there is no real difference in principle between taking patients paying three pounds or thereabouts, as is not unusual in the wards of voluntary hospitals at present, and taking patients into those hospitals who should pay five guineas as now proposed, if the hospital makes no profit. The difference is one of degree, not of kind. It may be said that if the doctor is paid that in itself constitutes a departure in principle, but it must be remembered that medical opinion is sharply divided already whether medical men should be paid for treating those patients who now pay for their maintenance in part or in whole, or have this paid for them by the State or by municipal bodies. The question of principle is involved only if money collected for the sick poor is spent on

another class without this indirectly benefiting the sick poor by increasing subscriptions to the voluntary hospitals. But apart from the effect on subscriptions of the desire to provide institutional treatment for the middle class, the authorities of the King's Fund may find a more considerable argument for providing accommodation in existing institutions for members of this class, and it is this—that this step may have a decisive effect in safeguarding the future existence of the voluntary hospitals.

#### *Pay Beds and the General Practitioner.*

It is, however, the second practical difficulty which threatens, if it is not handled with insight, to wreck the whole scheme. A measure of this kind and scope must ultimately stand or fall by its success in winning the support of the general practitioner. Existing schemes have been on too small a scale to arouse his interest or opposition, but if pay wards are to become general the matter would take on a different complexion. Indeed, in spite of the consensus of opinion that these beds are urgently needed they might be difficult to keep filled if the general practitioner was opposed to them. It is not, however, on grounds of expediency, however weighty, that I base my view that practitioners must be in the future more closely associated with hospitals, but rather on broader educational grounds. The day is coming when these pay beds will be found in every institution, great or small, when every doctor in the land, and not a mere fraction of the profession as now, will have frequent opportunities of treating his cases under hospital conditions, where his diagnosis must often pass the test of half a dozen laboratories before it is established, where new knowledge is automatically put before him in the process of proof, and where the cold wind of criticism blows upon credulity. He will remain in contact with his hospital not for a few years before he has obtained a diploma, but throughout his professional life, with incalculable gain to himself and to the whole practice of his calling. I say deliberately that a change of that kind, coming quietly as a side issue to a new demand upon the hospitals, might, by raising the standards of professional efficiency, do more for the health and happiness of the people than many years of considered legislation. Holding this faith—that ultimately no competent practitioner will be excluded from hospital practice—I yet believe that it is only fair to examine the question from the angle of those who are naturally jealous for the fair name and established reputation of the voluntary hospitals. These institutions are responsible for what happens within their walls, and it is plain that even if my view found sympathetic consideration, measures must be taken to safeguard existing standards of treatment and diagnosis.

It is tempting to seek a compromise, to lay down, for example, that general practitioners should be barred from surgery, but should be allowed to look after medical cases, which they already do at the houses of patients. This would probably meet the general practitioners' view, for perhaps few of them unconnected with hospitals do much surgery in London. It would be accepted as reasonable, but it would evade the real difficulty, and it could not meet the higher interests of the profession in safeguarding the standards of hospital medical practice. I am not disposed to support that assertion by elaborating in detail the prevalent view that the treatment of medical cases is necessarily more simple than that of surgical cases. Those who subscribe to such a view are perhaps better aware of the standards that may reasonably be expected in surgery than in medicine. To be precise, the consequences of a technical error in abdominal surgery are more dramatic—shall we say more blatant?—than the production of coma in the treatment of diabetes through ignorance of the laws of metabolism. The medical miscreant is sometimes ignorant of his crimes. The argument goes deeper. Unless the existence of medical consultants on the staffs of hospitals is an anachronism, their existence implies that additional years of study are necessary to acquire the standards of hospital medical treatment. If, in an attempt to exclude the weaker type of practitioner so as to safeguard the reputation of the hospital, the privilege of attending the medical pay wards is extended

only to a certain number of general practitioners, they will come to occupy in the eyes of the public much the same position as that of the medical consultant. Presently, without the additional years of study and without the unproductive hours in the out-patient department, they will reap the same advantages as the consulting staff. This is a state of affairs which is inequitable, and if it came to pass it would not level up, but level down, the whole standards of medical treatment. It would mean that few would be prepared for those additional years of study. Between the natural anxiety of hospitals, especially teaching hospitals, to safeguard the high standards of their institutions on the one hand, and on the other the desire to ensure the success of the scheme and to bring in the better type of practitioner, a way will be found by trial and error. Meanwhile it is undesirable that any higher authority should attempt to enforce on any institution the admission of general practitioners. Some will do so, some will not; experience will decide. For the present, those who have this end at heart must contrive a way out of the dangers I have indicated. We have to disarm a friendly opposition by a practical demonstration that their fears are unfounded.

## British Medical Association.

### CURRENT NOTES.

#### B.M.A. Scholarships and Grants.

##### Scholarships.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum. These Scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State Medicine) relating to the causation, prevention, or treatment of disease. Each Scholarship is tenable for one year, commencing on October 1st, 1928. A Scholar may be reappointed for not more than two additional terms. A Scholar is not necessarily required to devote the whole of his or her time to the work of research, but may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his work as a Scholar.

##### Grants.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the causation, treatment, or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

#### Conditions of Award: Applications.

Applications for Scholarships and Grants must be made not later than Saturday, June 2nd, 1928, on the prescribed form, a copy of which will be supplied on application to the Medical Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated, to whom reference may be made.

#### Medical Charities.

The Charities Committee on March 8th had before it a point of considerable interest, on the application of a medical woman who is a member of the British Medical Association and wishes to secure her son's admission to Epsom College as an exhibitioner. It proved on investigation that, although under the Statute Law Interpretation Act, 1889, words importing "male" in legislation must in many cases be taken to include "female," this

is not necessarily the case in Acts establishing a charitable trust such as those which govern Epsom College, and it seems improbable that any means of admitting the son of a medical woman on similar terms to those laid down for the sons of medical men can be found, short of an amending Act. Such a situation obviously bears hardly upon any medical woman whose circumstances are comparable with those of the medical men in whose interests Epsom College was founded. The Committee is making certain recommendations to the Council which, if accepted, will do something to remedy this unintentional injustice pending the removal of the legal difficulty. The Committee is glad to be able to report an appreciable increase in the contributions at its disposal for distribution to the medical charities, but the sum received is still far from adequate, and an appeal is being made to the chairmen and secretaries of Divisions to increase their efforts to secure the generous support of members.

#### Science Committee.

Among the matters considered by the Science Committee at its meeting on March 9th were the report of the special Subcommittee on Ultra-violet Light, the report of the examiners for the Sir Charles Hastings Clinical Prize Competition for 1928, the subject for the Middlemore Prize Competition in 1929, and the resolutions of the conference with representatives of medical schools. The Committee fully endorsed the opinion of the Ultra-violet Light Subcommittee as to the dangers of the indiscriminate and uninstructed use of treatment by electricity and radiation, and has sent to the Council for submission to the Representative Body recommendations to ensure that when such treatment is dispensed to the public it shall be by persons qualified for the work by an approved course of training and under the personal supervision and direction of a registered medical practitioner. This policy will be submitted to the Council, together with a summary statement of the actual dangers of existing practice in the application of these forms of treatment. The Committee accepted the recommendation of the examiners, Sir Humphry Rolleston and Professor W. E. Dixon, for the award of the Sir Charles Hastings Prize for 1928, and expressed its warm appreciation of their services in reporting upon the papers submitted. It was decided to recommend to the Council the adoption of the following subject for competition for the Middlemore Prize in 1929: "The clinical study of the vitreous body, its swellings, contractions, opacities, and reactions to toxic invasion; with special reference to glaucoma and detached retina." The Committee also considered the minutes of the recent conference of representatives of medical schools on the question of the remuneration of non-professional medical teachers and laboratory and research workers (fully reported in the SUPPLEMENT for February 18th, p. 45), and made certain recommendations on the subject for submission to the next meeting of Council.

#### Sir Charles Hastings Lecture.

The second of the Popular Lectures instituted by the British Medical Association, and associated with the name of its founder, Sir Charles Hastings, will be given by Sir George Newman, K.C.B., Chief Medical Officer of the Ministry of Health and the Board of Education, on the evening of Wednesday, March 21st. Sir George Newman has chosen as the title of his lecture "The fundamentals of health." It will be delivered in the Great Hall of the British Medical Association's House in London, and the chair will be taken at 8 o'clock by Lord Cozens-Hardy. The first Hastings Lecture was given a year ago by Sir Berkeley Moynihan, President of the Royal College of Surgeons of England, on "Cancer and how to fight it," and it attracted widespread public interest. Admission is free by tickets obtainable from the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Seats not occupied by ticket holders by 7.50 p.m. will be available for other members of the public.

## Association Notices.

### SALISBURY AND TROWBRIDGE DIVISIONS.

NOTICE is hereby given of the following proposal made by the Trowbridge Division:

That the urban district of Warminster be transferred from the area of the Salisbury to that of the Trowbridge Division.

Written notice of the proposal has been given to the Wiltshire Branch and the Salisbury Division, and the matter will be determined in due course by the Council. Any member affected by the proposed change, and objecting thereto, is requested to write, giving reasons, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than April 17th, 1928.

Moreh 17th, 1928.

### TABLE OF DATES.

March 28, Wed.	Nomination papers available (on application at Head Office) for election of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Annual Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
April 28, Sat.	Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 15, Tues.	Voting papers posted from Head Office, where there are contests in above elections.
May 19, Sat.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
June 2, Sat.	Lost day for receipt of Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
June 7, Thurs.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 13, Wed.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 21, Thurs.	Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 30, Sat.	Nomes of Representatives and Deputy Representatives must be received at Head Office by this date.
July 4, Wed.	Council.
July 20, Fri.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
July 21, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 23, Mon.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 24, Tues.	Annual Representative Meeting, Cardiff, 10 a.m.
July 25, Wed.	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 26, Thurs.	Annual Representative Meeting, Cardiff.
July 27, Fri.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
	Council. Conference of Honorary Secretaries, Cardiff.
	Meetings of Sections, etc., Cardiff.
	Meetings of Sections, etc., Cardiff.
	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: BROMSGROVE DIVISION.**—A meeting of the Bromsgrove Division will be held at the Smallwood Hospital, Redditch, on Monday, March 19th, at 3 p.m. Agenda: To draft rules of organization; election of representative to Annual Representative Meeting; correspondence from headquarters relating to (a) hospital contributory schemes, (b) collective inquiry into varicose ulceration, (c) reports by medical practitioners at request of coroners.

**BOURNEMOUTH AND WEST HANTS BRANCH: WEST DORSET DIVISION.**—A meeting of the West Dorset Division will be held on Tuesday, March 20th, at 8 p.m., at the Weymouth and District Hospital. Agenda: Letter from the Council of the Association concerning reports by medical practitioners at the request of coroners, and action to be taken thereon. Cases will be shown and discussed. Dr. T. Colley will read a paper entitled "Some acute eye conditions met with in general practice."

**KENT BRANCH: ASHFORD DIVISION.**—At a meeting of the Ashford Division to be held at the North Street Club, Ashford, on Wednesday, March 21st, at 4 p.m., Mr. G. A. Ewart of St. George's Hospital will give a lecture on abdominal emergencies in general practice. Dr. J. W. McNeo of University College Hospital will give a lecture on new work in the diagnosis and treatment of hepatic and biliary diseases, at a meeting of the Division to be held on April 18th at 4 p.m. A cordial invitation is extended to all members of the Kent Branch.

**LANCASTHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A British Medical Association Lecture will be given at the meeting of the Mid-Cheshire Division to be held in the board room of the Altrincham General Hospital, Market Street, Altrincham, on Tuesday, March 20th, at 8.30 p.m., by Mr. W. Sampson Handley on radium in carcinoma. The lecture will be illustrated by lantern slides, and should prove of great interest to all medical men. Members are requested to bring as many non-members as possible.

**METROPOLITAN COUNTIES BRANCH.**—The Metropolitan Counties Branch has arranged a meeting to be held at the British Medical Association House, Tavistock Square, W.C.1, on Thursday, March 22nd. Dr. E. Graham Little, M.P., will deliver an address on "The future of medical practice: an address to senior students and young practitioners" at 5.30 p.m. Fourth and fifth year medical students and newly qualified practitioners are cordially invited; tea and coffee at 5 p.m.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A combined clinical meeting and dinner of the Hendon Division will be held at the Brent Bridge Hotel on Friday, March 30th, at 7.45 for 8 p.m. An address will be given by Dr. W. Langdon Brown, physician to St. Bartholomew's Hospital, on organotherapy in general practice, to be followed by a discussion. All medical practitioners are cordially invited. Dinner tickets 8s. 6d.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held at the Town Hall, Hammersmith, on Friday, March 23rd, at 8.45 p.m. An address will be given by Mr. C. A. Pannett entitled "Debatable aspects of the surgery of gastro-duodenal ulceration." The subsequent discussion will be opened by Mr. Zachary Copo.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, March 20th, at 8.45 p.m., when Dr. W. E. Hallinan will occupy the chair. Mr. H. Wansey Bayly will deliver an address on the general practitioner and the prevention of venereal disease.

**METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.**—A meeting of the Stratford Division will be held in the board room, Educational Offices, The Grove, Stratford, on Tuesday, March 20th, at 9.15 p.m. A lecture on the differential diagnosis of small-pox, with special reference to the difficulty of mild cases, will be given by Dr. William McConnell Wanklyn, consultant in small-pox, London, Middlesex, and Essex County Councils. It is hoped that all members will endeavour to be present.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—A meeting of the Westminster and Holborn Division will be held on Thursday, March 22nd, at 8.30 p.m., at Romano's Restaurant, Strand, preceded by a dinner at 7.30, the price, 5s., payable to the secretary at the table. Mr. P. B. Tustin, F.R.San.L., will read a paper on modern methods in the production and treatment of milk.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, March 21st, at 9 p.m. It will be a joint meeting with members of the dental profession, and Mr. H. L. Messenger, L.D.S., will read a paper on focal infection; discussion on matters of mutual interest to follow. The following further meetings have been arranged: April 18th, Dr. J. Bright Bannister: Ante-natal work; May 16th, annual meeting; June 20th, Dr. Margaret Emslie: Care of the infant.

**NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.**—The annual dinner of the Bishop Auckland Division will be held at the King's Hall Café, Bishop Auckland, on Tuesday, March 27th, at 7.45 for 8 p.m.

**NORTH OF ENGLAND BRANCH: BLYTH DIVISION.**—The annual dinner of the Blyth Division will be held at the Star and Garter Hotel, Blyth, on Wednesday, March 21st, at 8 for 8.30 p.m. Dr. Beaton, president of the North of England Branch, has been invited as a guest. Prior to the dinner there will be a meeting to elect officers, who will be formally installed during the function.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A scientific meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, March 21st, at 8.15 p.m., when Mr. H. Evers will give a lecture entitled "The place of the uterine curette." All members of the Division are invited to be present.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—A clinical meeting of the Portsmouth Division will be held at the Royal Portsmouth Hospital on Thursday, March 22nd, from 3 to 5 p.m.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 20th, at 8.30 p.m. Dr. H. C. Cameron will discuss acute abdominal pain in children.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—A meeting of the Brighton Division will be held at the Queen's Road Dispensary, Brighton, on Thursday, March 22nd, at 8 p.m. Agenda: Nominations for president-elect of Branch; election of deputy-representatives for Annual Meeting; proposal to alter Rule V of the Division.



officers of the Division shall be a chairman, vice-chairman, treasurer, secretary, and assistant secretary"; to consider question of calling a meeting of the staffs of hospitals to discuss the Sussex Provident Scheme; annual report of the Division for 1927; reports to coroners; report of Dr. Gemmell on interview with Chief Constable of Brighton regarding police fees; Dr. Fothergill will raise the subject of advertising.

**WEST SOMERSET BRANCH:**—A meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital on Tuesday, March 27th, at 3.30 p.m. Agenda: Health propaganda in the county; coroners' fees; and a paper by Dr. L. H. C. Birkbeck entitled "Twenty-five years of a country hospital." Tea will be served at the conclusion of the meeting.

**YORKSHIRE BRANCH: DONCASTER DIVISION:**—A meeting of the Doncaster Division will be held at Parkinson's Café, High Street, Doncaster, on Thursday, March 22nd, when Professor G. Lovell Gulland, Edinburgh University, will give a British Medical Association Lecture on the significance of heart murmurs. Dinner, at 8 p.m., will precede the lecture.

**YORKSHIRE BRANCH: HARRGATE DIVISION:**—A meeting of the Harrogate Division will be held on Saturday, March 17th, at 4.30 p.m. Dr. S. Monckton Copeman will give a British Medical Association Lecture on immunization against diphtheria and scarlet fever, illustrated by lantern slides.

## Meetings of Branches and Divisions.

### KENT BRANCH: AFTON DIVISION.

A MEETING of the Ashford Division was held in February, when Dr. DONALD PATERSON gave a very interesting and instructive address on some digestive diseases in children and infants.

### LANCASHIRE AND CHESHIRE BRANCH: SALFORD DIVISION.

At the annual general meeting of the Salford Division the following officers were elected for the present year:

*Chairman*, Dr. Bradley. *Vice-Chairman*, Dr. Elias. *Secretary*, Dr. Jenkins. *Representative in Representative Body*, Dr. Giles.

The meeting passed a resolution recording their sense of loss at the deaths of Dr. Cantley and Dr. Watkins.

### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on February 21st at the Town Hall, Catford, with Dr. W. E. HALLINAN in the chair.

Dr. J. STANLEY WHITE gave an address on some recent aspects of biological therapy, which was illustrated by lantern slides and a film in two parts, entitled "How biological products are made." In the course of his address Dr. White dealt with the preparation of antitoxin and its value, immunization against scarlet fever, and the treatment of tuberculosis and scabies.

On the motion of Dr. A. W. HARRIS, seconded by Dr. HALLINAN, a hearty vote of thanks was accorded to Dr. White for his very interesting and instructive address.

### NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

THE annual dinner of the Cleveland Division took place on February 18th at the Grand Hotel, Middlesbrough. Ninety members and guests were present, the latter including the Mayor and Mayoress of Middlesbrough, the Archdeacon of Cleveland, the chairman and secretary of the Stockton Division, and the stipendiary magistrate of Middlesbrough. This was the first occasion on which the Division allowed ladies to be present, and full advantage was taken of the innovation. The toast of "The Cleveland Division" was proposed by Dr. M'GONIGLE and responded to by the chairman, Dr. H. MINNIE LEVICK, who described the great improvement in professional conditions that had taken place since she commenced practice in Middlesbrough about the time of the formation of the Middlesbrough and District Medical Society, which on the reorganization of the Association became the Cleveland Division. The toast of "The Sister Professions" was proposed by Dr. A. S. ROBINSON and responded to by Archdeacon LINDSAY and Mr. M. P. GRIFFITH-JONES, K.C. That of "The Ladies" was proposed by Dr. T. M. BODY and replied to by Mrs. W. S. DICKIE. "The Town and Trade of Middlesbrough" was proposed by Dr. F. J. HENRY and responded to by the Mayor and Alderman B. O. DAVIES. Dr. R. E. HOWELL proposed the health of "The Chairman," who replied.

### SURREY BRANCH: GUILDFORD DIVISION.

A MEETING of the Guildford Division was held at the Royal Surrey County Hospital, Guildford, on February 2nd, when the chair was taken by Dr. FLEMING.

Mr. WALTER G. SPENCER deputized for Sir D'Arcy Power and gave an address entitled "The French expedition to Egypt with Larrey as chief surgeon"; it was illustrated by wall maps and old French history books, and dealt with events of great political, scientific, and medical interest. Mr. Spencer first referred to the threat of invasion of England 130 years ago and the French expedition to Egypt, which was a raid upon British overland trade. This expedition included a scientific commission, which constituted itself the *Institut d'Egypte* in August, 1798, and published memoirs; its chief discovery being the Rosetta stone. Mr. Spencer next gave an account of the adventurous life of Dr. Dominique Larrey, who accompanied the expedition, and

referred particularly to his surgical skill with regard to immediate amputation, operations being performed successfully by him which had never been previously attempted in the field, and seldom even in the best hospitals at the time; of 111 amputations of the shoulder, Larrey recorded 97 survivals. Mr. Spencer also gave numerous details of Larrey's medical work, including the treatment of plague, cholera, and other diseases. Larrey remained in Egypt for two years after Bonaparte left, and returned to France in 1801, thus missing the Italian campaign and the battle of Hohenlinden. He was subsequently head of the ambulances of the Imperial Guard, and was present during the retreats from Moscow and Waterloo, after which he was in charge of the Invalides, and practised in Paris. He died in 1842, after a journey, at the age of 76, in North Africa. Mr. Spencer was cordially thanked for the great amount of interesting detail he had given about the history and medical practice of those times.

## National Insurance.

### PROPOSED CHANGES IN ADMINISTRATION AND IN TREATMENT BENEFITS.

THE Minister of Health has presented to Parliament a bill to amend the existing national health insurance legislation, the new proposals being based mainly on the majority report of the Royal Commission on Health Insurance. Accompanying the bill is a financial memorandum explaining in detail the effect of the measures suggested on the liability of the Exchequer. There has also been published a memorandum (Cmd. 3051) explanatory of the bill, which is of particular service, because the bill is, as an amending measure, comprehensible only when read in conjunction with the Act of 1924 and other relevant statutes. The proposals embodied in the bill deal mainly with administration or organization, but in several important points affect the medical side of national health insurance. No changes are proposed in the rates of contribution; neither is it proposed to abolish Insurance Committees nor to deal with the pooling of surpluses of societies. It is stated in the explanatory memorandum that the substance of the measure has received the general concurrence of the Approved Societies Consultative Councils and the Scottish Board of Health.

One of the major clauses of the bill deals with the position of persons whose insurance status is affected by their being genuinely unemployed. The memorandum explains that, under the consolidating Act of 1924, insured persons who cease to be employed remain entitled to all benefits (subject to reduction or suspension by reason of arrears) for twelve months, after which they cease to be insured for national health insurance. Their title to medical benefit only is, however, continued for a further period, averaging nine months, and during this period they are treated as insured persons for the purposes of the Widows', Orphans', and Old Age Contributory Pensions Act, 1925. Temporary legislation has been employed since 1921 to extend year by year the continuance in insurance of persons who were in regular employment but have ceased to be employed, so long as they have not taken up a non-insurable occupation. The position has been found unsatisfactory, in so far as insured persons have not been entitled to sickness and disablement benefits during a period averaging nine months, though in that period they may be incapable of work and entitled to medical benefit. Further, it is stated, persons have been retained in insurance for protracted periods, and have continued to be entitled to certain benefits, although they have not been genuinely unemployed, but have ceased from work voluntarily and have paid no contributions.

#### Position of the Unemployed.

The aim of the new provisions is to secure, as far as possible, that no penalty will attach to "genuine unemployment." All persons ceasing to be employed will remain fully insured for all benefits for an average period of one year and nine months, during which time benefits will be free from any reduction for arrears so far as they are due to genuine unemployment. Under certain conditions to be defined, a further year's extension may be given, with sickness and disablement benefits at not less than half rates. Where sickness causes unemployment the reckoning of the one year and nine months' extended insurance will not begin until the termination of sickness. A genuinely unemployed person is therefore to be given a

continuous period, averaging two years and nine months, before his insurance can be terminated, and if he returns to employment before the end of this period he avoids any break in the continuity of his insurance, both for health insurance and for pension. Provision is also made to prevent genuine unemployment causing persons to lose their title to old age pension, and for placing voluntary contributors on an equally favourable footing with that to be enjoyed by others. Power is to be taken under the bill to make regulations under which no penalties will be attached to arrears of any member which are due to genuine unemployment, and provision is made to give financial assistance to societies to assist them to bear the resulting additional burdens. It is stated that the maximum additional cost to the Exchequer is approximately £40,000 a year.

Several clauses are designed to prevent the recurrence of known abuses of the existing Act. Where benefit is being withheld from an insured person by reason of his receiving maintenance in a hospital, it is provided that at least part of the benefit shall be paid to his dependants, if any. Such action is at present left to the discretion of the approved society. Money not required for the above or for other purposes accumulating during the stay of persons in institutions must not be paid, it is proposed, in lump sums (except in the case of maternity benefit), but by weekly instalments, and the total must not exceed £50, any balance going to the central fund, which is a fund available for liquidation of deficiencies of societies on valuation.

The 1924 Act provides for the recognition, under certain conditions, of medical institutions through which insured persons may elect to receive medical benefit instead of under the normal arrangements from insurance practitioners. The Act also allowed insured persons in certain circumstances to make their own arrangements for medical benefit, and in a few cases, it is alleged, advantage has been taken of the latter provision to permit of the existence of medical institutions which have not been recognized under the former provision, and which do not in some respects satisfy the requirements of the Ministry. To meet this, the bill provides that the original recognitions shall all be annulled, though institutions now recognized will be entitled, within a prescribed period, to apply for fresh recognition, and a clause has been put in the bill to render the abuse named above impossible in future. In hospitals and similar institutions where the nursing and domestic staff obtain their medical treatment from the medical staff, a saving clause will permit the continuance of the "collective own arrangements."

#### New Additional Benefits.

At present approved societies are allowed to make subscriptions or donations to hospitals or similar charitable institutions out of the general benefit fund, and Insurance Committees have a similar right. In addition to retaining as an additional benefit the right of societies to make payments towards the cost of the treatment of their members in hospitals, the bill provides a new additional benefit under which the societies may, out of any disposable surplus, make payments to approved charitable institutions in respect of any treatment of members that is provided by the institution for the prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit. Societies having no disposable surplus may also make occasional small subscriptions to hospitals or other charitable institutions out of the ordinary benefit fund, subject only to the consent of the Minister. The right of Insurance Committees to make similar payments is retained, subject to the consent of the Minister. Further, provision is made for societies to grant out of a disposable surplus occasional subscriptions or donations, up to a prescribed maximum, as charitable gifts to hospitals or similar charitable institutions, or for medical research. It is proposed to strengthen the power of the Minister to secure the maintenance of a proper standard in the administration of additional treatment benefits, which are now being given to the extent of about £4,000,000 a year.

The position of deposit contributors is dealt with in a clause which proposes the creation, for those who prove

that they are unable by reason of the state of their health to secure admission to an approved society, of a special group (the Deposit Contributors' Insurance Section), in which they will, for most purposes, be on the same footing as members of societies, receiving the ordinary benefits, but not the additional benefits, and will be freed from the disabilities they have hitherto suffered by reason of their inferior insurance status. As this section will be composed entirely of "bad lives," special arrangements are proposed to secure its solvency.

Other changes proposed include the addition of two new classes of workers within the scope of compulsory insurance, and a provision that insured women who cease work on marriage shall receive sickness benefit at the normal rate, and not at a reduced rate as at present, and that there shall be no reduction of maternity benefit for arrears.

An important "additional benefit" under the 1924 Act—namely, medical treatment and attendance of dependants of insured persons—is not retained in the bill.

The Act is intended to come into operation on July 2nd, 1928.

### INCREASE OF CLAIMS FOR SICKNESS AND DISABILITY BENEFIT.

#### POSITION OF THE MINISTER OF HEALTH.

The following letter has been received by the Medical Secretary of the British Medical Association from the Ministry of Health in reply to the letter by the Medical Secretary, reproduced in last week's SUPPLEMENT, requesting the Minister to take steps to combat the construction placed upon his recent statement regarding the increase of claims for sickness and disability benefit, and the responsibility of the medical practitioners concerned.

Sir,—I am directed by the Minister of Health to refer to your letter of March 1st, expressing the concern of the Insurance Acts Committee at the interpretation placed in some quarters upon certain remarks made by him at the luncheon of the National Conference of Approved Societies on February 20th, and to state that it will be observed from the report in the issue of the *National Insurance Gazette*, dated February 25th, that in that part of the speech to which, apparently, reference is made, he gives three possible reasons for the increase in sickness claims.

The Minister has not himself seen statements in the press which have particularly referred to his observations as the foundation of any general charge against general practitioners; he is aware that such charges have been made, but he thinks that they are based upon other statements than that to which attention is drawn in your letter.

The Minister believes the Insurance Acts Committee would agree that, as he said, some practitioners have not been as particular as they might be, but the best answer to any charge that such laxity is widespread would be the report of the joint investigations of the Insurance Acts Committee with officers of the Ministry which are now in progress, and which are in themselves the best proof that neither he nor his advisers have already made up their minds about the problem which is being investigated.—I am, Sir, your obedient servant,

March 7th, 1928.

W. A. ROBINSON.

### Correspondence.

#### Private Medical Practice.

Sir,—I have read Dr. Fothergill's article, with its concluding anthem of "Home, Sweet Home," and at the same time I had just finished reading an article on Thomas Paycocke of Coggeshall, clothier, by Miss Eileen Power. In it I read:

"It was characteristic of the period in which he lived (c. 1500) that something like a miniature factory system was establishing itself in the midst of the new outwork system. It was as though, long before it established itself in England, they had a preview of the factory system, and of the worker no longer owning either his raw material, his tool, his workshop, or the produce of his industry, but only his labour; the master weaver dwindled to a hired hand."

Industry was organized in the eighteenth and nineteenth centuries. I believe the medical profession is now undergoing a similar organization into clinics and hospitals. The community insists on having the best medical treatment. The clinics and the hospitals have been, and are now, driving it into its brain that they are the only people who can do this by their superb organization and equipment. Village and small town life has been changed by railways, motors, electricity, etc. Holmes

would have said: "Let me recommend for your serious consideration, my dear Fothergill, the increase in flats and the decrease in domestic servants."

The whole country is becoming one commune, and consequently the people's lives will be dominated by central organizations. Medical work, carried on as this generation has known it, is doomed. *Tempora mutantur, nos et mutamur in illis*, and it does not matter a scrap whether we like it or not. What we must try to avoid is the suffering and misery which the hand-loom weavers endured whilst being converted into factory hands. That is where the British Medical Association will come in.—I am, etc.,

Southend-on-Sea, March 5th.

FERDINAND REES, M.D.

#### Change of Doctor.

SIR,—The new regulation in reference to the change of doctor by panel patients seems to have been framed without due consideration of all eventualities. That it is necessary not to encourage patients to change when actually under treatment in the course of an illness no one will deny, although I believe that some provision under the Act should be made whereby they may be able to obtain a second opinion, or even a third, in the same way as private patients can. What would happen, for instance, if an insured person, who has never been ill, wishes to have another doctor than the one whose name happens to be on his medical card in case of sudden illness; or if he has, rightly or wrongly, been dissatisfied with his own doctor, in the course of a previous illness, and consequently desires a change at the beginning of a subsequent illness? What an awkward situation the enforcement of the new procedure would create, both for the patient who would thereby be deprived of the right enjoyed by everybody else, and for the new doctor of his choice, who could not start attending the patient at the commencement of his illness, but only after such time as prescribed by the new regulation.

To deprive people who are well, or who require attendance on the occasion of a fresh illness, of the right of change at any time is certainly not what is usually understood by freedom of choice, which insured persons are supposed to enjoy fully under the Act. I think the point I have raised deserves some consideration so that the anomaly, not to say injustice it involves, may be removed.—I am, etc.,

Greenhithe, March 4th.

D. W. STANDLEY.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander J. A. Clark-Hall to the *Pembroke* for R.N. Hospital, Great Yarmouth.  
The seniority of Surgeon Lieutenant H. H. Fisher has been antedated to November 5th, 1925.  
Surgeon Lieutenants E. R. Sorley to the *Irish* for R.N. Hospital, Plymouth; E. V. Barnes to the *Ambuscade*; C. B. Fox to the *Amazon*.

### ROYAL NAVAL VOLUNTEER RESERVE.

The following have entered as probationary Surgeon Sublieutenants: A. Elliott, attached to List 2 of the Bristol Division; D. M. Craig, attached to List 2 of the London Division; W. Greaves, attached to List 2 of the Tyne Division.

### ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: M. B. King, M.C., October 1st, 1927 (substituted for notification in the *London Gazette* of October 14th, 1927); D. G. Evans, September 7th, 1926 (substituted for notification in the *London Gazette*, September 10th, 1926); D. C. Scott, G.I.R., October 14th, 1926 (substituted for notification in the *London Gazette*, October 15th, 1926); W. E. K. Coles, December 25th, 1926 (substituted for notification in the *London Gazette*, December 31st, 1926); J. E. Brooks, June 21st, 1927 (substituted for notification in the *London Gazette*, June 21st, 1927); W. J. Robertson, July 1st, 1927 (substituted for notification in the *London Gazette*, July 12th, 1927); D. Fettes, July 19th, 1927 (substituted for notification in the *London Gazette*, July 26th, 1927); E. Underhill, July 26th, 1927 (substituted for notification in the *London Gazette*, August 2nd, 1927); W. G. D. McCall, M.C., August 2nd, 1927 (substituted for notification in the *London Gazette*, August 12th, 1927); R. F. Walker, M.C., September 1st, 1927 (substituted for notification in the *London Gazette*, September 9th, 1927); L. M. Rowlette, D.S.O., M.C., September 8th, 1927 (substituted for notification in the *London Gazette*, September 15th, 1927); H. S. Moore, October 9th, 1927 (substituted for notification in the *London Gazette*, October 14th, 1927); L. S. C. Roche, M.C., November 8th, 1927 (substituted for notification in the *London Gazette*, November 15th, 1927); B. L. Davis, O.B.E., January 4th, 1928 (substituted for notification in the *London Gazette*, January 17th, 1928).  
C. V. D. Rose, late Flight Lieutenant, R.A.F. Medical Service, to be Captain with seniority next below A. E. Campbell.

### ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders P. T. Rutherford, O.B.E., to Princess Mary's R.A.F. Hospital, Hulton; P. C. St. C. Morton to Pathological Laboratory, Hulton; F. J. Murphy to No. 2 Flying Training School, Digby; T. McClurkin to Far East Flight.

Flight Lieutenant T. V. O'Brien to Pathological Laboratory, Hulton.  
Flight Lieutenant C. V. D. Rose resigns his permanent commission on appointment to a commission in the R.A.M.C.

The following are granted permanent commissions in the ranks stated:—Flight Lieutenants: A. F. Cook, E. J. Jenkins, and J. Magner. Flying Officers: L. Freeman and G. S. Strachen.

Flying Officers J. P. Hederman and E. J. Mockler to be Flight

Cooley to R.A.F. Depot, Uxbridge; C. P. O'Toole to Bireham Newton.

### RESERVE OF AIR FORCE OFFICERS: MEDICAL BRANCH.

Flight Lieutenant J. C. T. Fiddes relinquishes his commission on completion of service.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Major G. Bnillie, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

#### SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS.

Lieutenant W. Boyd resigns his commission.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Honorary Colonel J. Griffiths, C.M.G., T.D., vacates the appointment of Honorary Colonel, R.A.M.C. Units, 54th (East Anglian) Division, T.A., on completion of tenure.

Colonel G. A. Troup, T.D., to be Honorary Colonel, R.A.M.C. Units, 54th (East Anglian) Division, T.A.

Major J. Allan, T.D., having attained the age limit, is retired, and retains his rank, with permission to wear the prescribed uniform.

Lieutenants N. W. Hammer and C. M. Bradley to be Captains.

S. J. Hartfall to be Lieutenant.

Superintendents for Service with the Officers' Training Corps.—Captain D. McNeill resigns his commission.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain F. J. Whitelaw from Active List to be Captain.  
General Hospitals.—Captain F. G. Armstrong, having attained the age limit, relinquishes his commission and retains his rank.

## VACANCIES.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—Third House-Surgeon (male).

Salary at the rate of £150 per annum.

AYLESFORD: BRITISH LEGION VILLAGE.—Junior Physician as Second Assistant. Salary £100 per annum.

BIRMBODYS LUNATIC ASYLUM.—Assistant Medical Superintendent. Salary £500 per annum, rising to £600.

CAMBRIDGE: ADDENBROOK'S HOSPITAL.—(1) House-Surgeon to the Special Departments. (2) House-Surgeon. Males. Salary at the rate of £120 per annum each.

CHANDLER CROSS HOSPITAL, W.C.2.—(1) Assistant Surgeon. (2) Surgical Registrar. Honorarium £150 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Physician to Out-patients.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary at the rate of £150 per annum.

DUMFRIES: CRICHTON ROYAL MENTAL HOSPITAL.—Clinical Pathologist (male, unmarried). Salary £400 per annum, increasing to £700.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Assistant Surgeon.

EAST LOTHIAN COUNTY COUNCIL.—Medical Officer of Health. Salary £800 per annum.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.1.—(1) Medical Radiographer; honorarium £120 per annum. (2) House-Surgeon, (male); salary at the rate of £120 per annum.

FORTHAMPTON PARISH COUNCIL.—Medical Officer and Public Vaccinator for the Farnham District. Annual income probably from £650 to £700.

GLASGOW ROYAL INFIRMARY.—Laboratory Assistant to the Biochemist. Salary £250 per annum.

HONG-KONG.—Two Assistant Medical Officers of Health. Salary £740 per annum, rising to £1,050.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (3) House-Surgeon for Ear, Nose, and Throat Department as well as General Surgery. Salary at the rate of £100 per annum each.

LIVERPOOL HEART HOSPITAL.—Honorary Assistant Physician.

MARCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Senior House-Surgeon (male). Salary £250 per annum.

MERTHYR GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £100 per annum.

MERZBURGH ASYLUMS BOARD.—Junior Assistant Medical Officer at The Towns Hospital for Children, Sutton. Salary £500 per annum.

MIDDLESBROUGH UNION.—Assistant Resident Medical Officer for the Holgate Hospital. Salary £250 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Honorary Surgeon in charge of Ear, Nose, and Throat Department.

NOTTINGHAM GENERAL DISPENSARY (BRANCH).—Resident Lady Surgeon. Salary £250 per annum, rising to £300.

PAISLEY DISTRICT ASYLUM.—Clinical Assistant (non-resident). Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) House-Surgeon (male). (2) House-Physician. Salary at the rate of £50 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special House-Surgeon. (3) House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary at the rate of £120 per annum for (1), (2), and (3), and £80 per annum for (4) and (5).

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Physician in charge of Skin Department.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary £200 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Resident Anaesthetist.

SHANGHAI MUNICIPAL COUNCIL.—Second Assistant Commissioner of Public Health. Salary Taels 600 per mensem.

SOUTHAMPTON: FREE EYE HOSPITAL.—Locumtenent Ophthalmic House-Surgeon. Salary £6 6s. per week.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—(1) House-Physician. (2) Three House-Surgeons. Females. Salary at the rate of £50 per annum each.

STOKE AND WOLSTANTON UNION.—Second Assistant Resident Medical Officer at the London Road Institution. Salary £200 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar. (2) House-Physician. (3) Two House-Surgeons. (4) Honorary Anaesthetist. Honorarium for (1) £100 per annum, and salary at the rate of £100 per annum for (2) and (3).

WESTON-SUPER-MARE HOSPITAL.—Resident Medical Officer (male, unmarried). Salary £130.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL.—Junior House-Surgeon. Salary at the rate of £100 per annum.

WILKESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—Resident House-Surgeon (male, unmarried). Salary at the rate of £100 per annum.

WILTS COUNTY COUNCIL.—Assistant County Medical Officer of Health and Assistant School Medical Inspector. Salary £600 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Westerham (Kent) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the Districts of the Axminster, Honiton, Tiverton (Circuit No. 57); Exeter, Newton Abbot and Torquay (Circuit No. 58) County Courts. Applications to the Private Secretary, Home Office, Whitehall, London, S.W.1, by April 4th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

FOX, I. S., M.B., Ch.B. Liverp., Certifying Factory Surgeon for the Chester District.

HUDSON, Eric H., M.R.C.S., L.R.C.P., House-Surgeon, Taubridge Wells and Counties General Hospital.

MILNE, Miss Isabella Agnes, M.B., Ch.B. Glas., Junior Resident Assistant Medical Officer at the Booth Hall Infirmary for Children, Manchester, E.

NICOL, W. W., M.B., Ch.B. Aberd., Certifying Factory Surgeon for the Inverurie District, Aberd.

STEVENS, W. E., M.B., B.S. Durh., Medical Superintendent of the Ministry of Pensions Hospital, Maghull.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Special General Meeting of Fellows.—Tues., 5.30 p.m.

Section of Pathology.—Tues., 8.30 p.m., Election of Officers and Council for 1928-29. Communications.—Cuthbert Dukes: Observations on Pyuria; S. P. Bedson and J. Bland: Cross Immunity between Vaccina and Herpes Virus; J. H. Orr and W. A. Campbell: The Action of Welch's Toxin on Red Cells in vitro. Demonstrations by R. W. Searl: Carcinoma of Oesophagus, Mycin Kidney.

Section of Urology.—Thurs., 8.30 p.m., Discussion: Treatment of Stricture by Excision. To be opened by Mr. Frank Kidd.

Section of Disease in Children.—Fri., 4.30 p.m., Cases.

Section of Epidemiology.—Fri., 8 p.m., Dr. C. O. Stallybrass: Season and Disease.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 5 p.m., Third Goulstonian Lecture by Dr. T. Izod Bennett: Some Problems of Nephritis. Thurs., 5 p.m., First Lumsdane Lecture by Dr. James S. Collier: Epilepsy.

CHILDREN'S CLINICAL SOCIETY, Hotel Rembrandt, Thurlow Place, S.W.—Tues., 8.30 p.m., Discussion: Modern Aspects of Dentistry; to be opened by Dr. H. Fielden Briggs and Dr. A. Livingstone. To be preceded by dinner at 7.30 p.m.

HUTCHINSON SOCIETY.—Mon., 7.30 p.m., Dinner Meeting at Simpson's Restaurant, Chancery, E.C.2. 8.30 p.m., Discussion: Hiccups. To be opened by Dr. Robert Hutchison and Sir Farquhar Buzzard.

MEDICO-LEGAL SOCIETY, H. Chancery Street, W.1.—Thurs., 8.30 p.m., Dr. Gerald Slot: Pain in its Medico-legal Aspects; to be followed by a discussion.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Lecture, Medical Society of London, 11, Chandos Street, W.1: Mon., 5 p.m., Dull and Backward Children. Hospital for Diseases of the Throat, Golden Square, W.1: Thurs., 6.30 p.m., Special Clinical Demonstration. Royal Free Hospital, Gray's Inn Road: Thurs., 5 p.m., Special Lecture Demonstration. Brompton Hospital, S.W.3: Intensive Course for one week; fee £3 3s. Homestead General Hospital, Haverstock Hill, N.W.3: Practitioners' Course in Medicine, in Surgery, and in the Specialties, Mon. to Fri., 4.30 to 6 p.m.; fee £1 1s. Royal National Orthopaedic Hospital, 234, Great Portland Street, W.: All-day Course—Clinics, Operations, Lectures; fee £2 2s. Copies of all syllabuses sent on application, also details of general course work and specimen copies of the Post-Graduate Medical Journal. Apply Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Indications for Radical Mastoid Operation.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Thurs., 4 p.m., Eruptions of the Napkin Area in Infants.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., X-Ray

LONDON W.C.2.—St. John's Hospital, Leicester Square,

Benign Growths of the Skin. Thurs., 5 p.m.,

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri.,

2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous

System; 3.30 p.m., The Narcolepsies. Tues., 3.30 p.m., Disorders of

Sensation. Thurs., 3.30 p.m., Treatment of Pain by Electrical Methods.

Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m.,

Surgery of the Spinal Cord. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General

Hospital, Tottenham, N.15.—Mon., 2.30 p.m.,

Cases; 2.30 to 5 p.m., Medical, Surgical, and

Operations. Tues., 2.30 p.m., Demonstration of

5 p.m., Medical, Surgical, Throat, Nose, and

Wed., 2.30 to 5 p.m., Medical, Skin, and

Thurs., 11.30 a.m., Dental Clinics; 2.30 p.m.,

for X-Ray; 2.30 to 5 p.m., Medical, Surgi

Throat Clinics; Operations. Fri., 10.30 a.m.

Clinics; 2.30 p.m., Demonstration of Medical Cases, 2.30 to 5 p.m.,

Surgical, Medical, and Children's Diseases Clinics; Operations.

St. Peter's Hospital, Endell Street, W.C.2.—Thurs., 4.30 p.m., Stone in the

Bladder, with Special Reference to Treatment by Lithotripsy.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital,

Queensway Road, Balham, S.W.12.—Wed., 4 p.m., The Post-mortem

Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department,

Message Department; 2 p.m., Eye Department, Genito-urinary Depart-

ment, Fri., 10 a.m. to 1 p.m., Skin Department,

Treatment Clinic, Electrical Department,

Throat, Nose, and Ear Department.

Sat., 9.30 a.m. to 1 p.m., Bacterial Therapy Department, Children's

Medical Department, Throat, Nose, and Ear Operations. Daily (except

Sat.) at 2 p.m., Medical and Surgical Out-patients; Operations.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed.,

4.15 p.m., Skin Cases.

MANCHESTER: ANCOITS HOSPITAL.—Thurs., 4.15 p.m., Visceroproctis. Tea at

3.45 p.m.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Lecture: Treatment of

Enlarged Prostate. Fri., 4.15 p.m., Demonstration of Medical Cases.

Tea at 3.45 p.m.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

SECRETARIES (Financial Secretary and Business

Articulate Westcent, London).

GRAMS: Medisecra Westcent, London).

EDITOR, British Medical Journal (Telegrams: Aitiology Westcent,

London).

Telephone numbers of British Medical Association and British Medical

Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange,

four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshugh Gardens, Edinburgh. (Tele-

grams: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 2, Rederick Street, Dublin. (Tele-

grams: 24361 Dublin.)

#### Diary of the Association.

##### MARCH.

- 16 Fri. London: Lunacy and Mental Disorder Committee, 2.30 p.m.
- 17 Sat. Harrogate Division: B.M.A. Lecture by Dr. S. Monckton Copeman on Immunization against Diphtheria and Scarlet Fever, 4.30 p.m.
- 19 Mon. Bromsgrove Division: Smallwood Hospital, Redditch, 3 p.m.
- 20 Tues. London: Organization Committee, 2 p.m.
- Croydon Division: Croydon General Hospital, Dr. Hector C. Cameron on Acute Abdominal Pain in Children, 8.30 p.m.
- Lewisham Division: Town Hall, Catford, Mr. Wansley Bayly on the General Practitioner and the Prevention of Venereal Disease.
- Mid-Cheshire Division: Altrincham General Hospital, Market Street, Altrincham. B.M.A. Lecture by Mr. W. Sampson Handley on Radium in Carcinoma, 8.30 p.m.
- Salford Division: Educational Office, The Grove, Stratford. Dr. W. McConnell Wanklyn on Differential Diagnosis of Small-pox, 9.15 p.m.
- West Dorset Division: Weymouth and District Hospital. Dr. T. Colley on Acute Eye Conditions in General Practice, 8 p.m.
- 21 Wed. London: Medico-Political Committee, 2.15 p.m.
- Ashford Division: North Street Club, Ashford, Mr. G. A. Ewart on Abdominal Emergencies in General Practice, 4 p.m.
- Blyth Division: Annual Dinner, Star and Garter Hotel, Blyth, 8.30 p.m.
- Sir Charles Hastings Lecture, 1923, by Sir George Newman, Great Hall, B.M.A. House, Tavistock Square, W.C., 8 p.m.
- Sunderland Division: Scientific Meeting, Royal Infirmary, Sunderland. Mr. H. Evers on the Place of the Uterine Curette, 8.15 p.m.
- 22 Thurs. Wilkesden Division: Wilkesden General Hospital, Harlesden Road. Mr. H. L. Messenger, L.D.S., on Focal Infection, 9 p.m.
- London: Puerperal Morbidity and Mortality Committee, 2 p.m.
- Brighton Division: Queen's Road Dispensary, Brighton, 8 p.m.
- Doncaster Division: Parkinson's Café, High Street, Doncaster. B.M.A. Lecture by Professor G. Lovell Gulland on the Significance of Heart Murmurs. Dinner, at 8 p.m., precedes the Lecture.
- Metropolitan Counties Branch: B.M.A. House, Tavistock Square, W.C.1. Address by Dr. E. Graham Little, M.P., to Senior Students and Young Practitioners, on the Future of Medical Practice, 6.30 p.m.
- Portsmouth Division: Clinical Meeting, Royal Portsmouth Hospital, 3 p.m.
- Westminster and Holborn Division: Romano's Restaurant, Strand, W.C. Mr. P. B. Tustin, F.R.San.I., on Modern Methods in the Production and Treatment of Milk, 8.30 p.m.; preceded by dinner at 7.30.
- 23 Fri. London: Consulting Pathologists' Group Committee, 2.30 p.m.
- Kensington Division: Town Hall, Hammersmith. Mr. O. A. Pannett on Gastro-duodenal Ulceration, 8.45 p.m.
- 24 Wed. London: Conference between Representatives of B.M.A. and Society of Medical Officers of Health, 11 a.m.

##### APRIL.

- 11 Wed. London: Council, 10 a.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### MARRIAGE.

ROBB-BUCHANAN.—At Broughton Place U. F. Church, Edinburgh, on Wednesday, March 7th, by Rev. G. M. Fairweather, M.C. M.A., assisted by the father of the bridegroom, John J. Robb, M.C., F.R.C.S., Lerwick, elder son of Rev. R. Robb, B.D., and the late Mrs. Robb, Blairdail, Aberdeenshire, to Mary Alexandra Buchanan, M.B., Ch.B., younger daughter of Mr. and Mrs. A. Buchanan, 12, Deanpark Crescent, Edinburgh.

#### DEATHS.

BROWNE.—On March 7th, 1928, at 195, Hagley Road, Edgbaston, Birmingham, Henry William Langley Browne, O.B.E., LL.D., M.D., F.R.C.S. Ed., J.P., aged 79 years.

ENNION.—At Harlech House, Burwell, Cambridgeshire, on March 11th, 1928, Octavius Roberts Ennion, M.R.C.S., L.R.C.P., aged 55 years.

MACDONALD.—At his residence, 8, Queen's Road, Southport, on Saturday, March 10th, David Macdonald, M.D. Glas.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 24TH, 1928.

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### The Hastings Popular Lecture ON THE FOUNDATIONS OF NATIONAL HEALTH.

DELIVERED IN THE GREAT HALL OF THE BRITISH MEDICAL  
ASSOCIATION ON MARCH 21ST

BY

SIR GEORGE NEWMAN, K.C.B., M.D., F.R.C.P.,  
CHIEF MEDICAL OFFICER TO THE BOARD OF EDUCATION AND TO THE  
MINISTRY OF HEALTH.

This lectureship commemorates Sir Charles Hastings, the founder of the British Medical Association. He was born in 1794 at Ludlow in Shropshire, the old walled town which was formerly the seat of government in the borderland of the Marches. When 16 years old he was apprenticed to a doctor at Stourport, and graduated in medicine at Edinburgh in 1818, in the illustrious time of Sir Walter Scott and Lord Jeffrey. He settled at Worcester, and in the Board Room of the old Infirmary there he started in 1832 a medical society which was to become the British Medical Association. Quite apart from this particular achievement Dr. Charles Hastings was one of the small but remarkable group of men who, almost unconsciously, became the pioneers of the national health in the great age of the Reform Bill.

#### THE CONDITION OF ENGLAND IN 1832 AND 1928.

The condition of England was then very different from that with which we are familiar a century later. Even the outward appearance of the country was different. In 1832 the population of Great Britain, then twenty millions, had for fifty years been steadily collecting in towns; the desertion of the fields was far advanced; the Stockton and Darlington railway train had been running for seven years; the ancient iron industry had been moving from the south to the north to be near the coal; Brindley and Bridgewater had made canals, and MacAdam and Telford roads; the towns had been built too rapidly, and the majority of Englishmen dwelt in mean streets, "divorced from nature but unreclaimed by art"; and for the mass of people life was drab and dreary, and "drink and religion strove for the souls of men." By 1832 the time of the Great Divide had arrived. Jeremy Bentham had handed on his philosophy and his work to Southwood Smith, Chadwick, and the Mills; the Poor Law Commission had been appointed; Parliament had commenced its famous series of inquiries into the condition of the English people; and the Reform Bill had been passed. From these four sources profound changes were to arise.

To-day we look upon a very different Britain. The population is 43 millions, of whom 21 millions are enfranchised. *Intercommunication* has increased almost beyond belief; there are 20,000 miles of railway and 180,000 miles of road; there has been enormous development of shipping, of postal service, and of newspapers; there is now also the telegraph and telephone, the aeroplane and wireless. These methods of intercommunication, being world-wide, have revolutionized industry and changed the face of our civilization. For improved intercommunication has made actual the enormous potential wealth and capacity of the country. It has enlarged the social life of the people and brought them into the sunlight and fresh air. It has carried them to and from their work. It has furnished their tables with nourishing food, and spread newspapers and books before them, filling their minds with new interests and enabling them to enter a wider citizenship. It has changed both war and peace, and "covered the world with a network of wonderful hours." It is the first great contribution to the saving of life and the postponement of death. Then a compulsory system of *Education* for all classes has been introduced over the length and breadth of the land; an ample and varied food supply comes to us daily from the ends of the earth; the conditions of labour, and the opportunities of leisure, have been immensely improved. Above all, there has been an *amazing transformation in the health of the people*, for whom life is wider, better, and longer, and death is more remote. Though the population has more than doubled, the general death rate for England and Wales has been halved since 1838; the child mortality under 5 for London is now about one-third of what it was; the number of deaths under 50 years of age is now 38 per cent., as compared with 71 per cent. in 1838; and the expectation of life at birth has been extended by as much as twelve years for boys and fourteen years for girls. In other words, the premature death of little children has been enormously reduced, the infectious sickness of adults has been more than halved, the great fatal pestilences of cholera and small-pox have vanished, and life has been prolonged.

	General Death Rate.		Infant Mortality Rate.		Deaths Under 5.		Deaths Under 50.	
	1838-9.	1926.	1832-9.	1926.	1838-9.	1926.	1838-9.	1926.
England and Wales	22.0	11.6	150	70	Per cent. 39.5	Per cent. 15.8	Per cent. 71	Per cent. 38.2
London	28.1	11.5	174	64	40.2	14.6	73.6	37.3

An age of inquiry into the condition of the people had arrived.

"The great source of the misery of mankind is not their numbers but their imperfections, and the want of control over



the conditions in which they live," said Dr. Farr of the General Register Office. "Without embarrassing ourselves with the difficulties which the vast theories of life present, there is a definite task before us—to determine from observation the *sources of health* and the direct *cause of death* in the two sexes at different ages and under different conditions. The exact determination of evils is the first step towards their remedies."<sup>1</sup>

Farr revealed to the nation that a vast increase of population was going on in a small island which could not itself expand; that a rural people were becoming urban, an agricultural people becoming industrial; that the ravages of pestilence were competing with the evils of social degeneration, and that both of them must be brought under control; that there is a definite relationship between the price of wheat and the death rate, between poverty and disease, between personal conduct and health.

More important and far-reaching than the actual doings of the time was the new spirit of the nation after the Reform Bill, which showed itself in a wonderful period of constructive statecraft. We have had a century of it. Observe what has happened. Predominant political power has been transferred from an hereditary aristocracy and the middle class to the nation as a whole. Government of the people, by the people, and for the people has brought to the front the vital and domestic issues of life. The centre of gravity has moved from the interests of dynasties to the well-being of the people. "Power has only one duty," said Disraeli, "to secure the social welfare of the people." There has been an enormous extension of the conception of the State and of its sphere of operation. We have witnessed the enthronement of the scientific spirit. We have seen the discoveries and inventions of science allied for the first time with industry and commerce, and insurance against risks of every kind has extended and ramified in a truly extraordinary way, becoming even a subtle international agency. Lastly, we have seen an intenser humanity towards children, animals, victims of disease, criminals, and all men and women in need of succour. During the century there has thus been an astonishing growth in human knowledge and contrivance, almost beyond the power of the mind to conceive; a growth and a spirit by which a small nation renewed its youth, spread its influence all over the world, builded an Empire by confederating both alien and kindred races, and at the same time learned for itself more and more of the supreme art of *how to live*. It is indeed one of the most moving stories in the history of mankind.

#### THE SOCIAL FACTOR.

Let us consider and look around. These great achievements depended on the survival, health, and capacity of the body and mind of man. "Inquiry what the event actually was," said Lord Morley, "its significance and interpretation, becomes secondary to inquiry *how it came about*." How did it come about? Why, in fact, was human life a longer and a healthier thing in the nineteenth century than in the fourteenth? I think the answer is twofold, Social and Scientific, and it is important we should fully understand it.

First, there was the social factor, the vast improvement in the ordinary domestic life of the people. More than two thousand years ago Hippocrates had taught the influence of the external world of air, water, soil, and climate on health and length of human life; but it is only in modern times that we have learned that the genius of agriculture, of engineering, of industry, of trading, and of commerce, all the world over, are intimately concerned with the maintenance or impairment of human health. For it is by these means we get our food, our coal, our clothing, our houses, our lighting, our water supply, and our wages. Nor are these alone. There has been the all-pervading and transmuted effect of social custom and estate; of tradition and religion; of occupation and employment; of eating and drinking; of fashions of dress and personal appearance; of recreations and amusements (golf, tennis, cricket, football, athletics, swimming and dancing, winter sports); the week-end habit; gardening; country rambles; mountain climbing; enjoyment of the seaside and sea-bathing; travel and change of air; the manifold uses of leisure—all these daily occupations, avocations, and amenities have played a large and primary part in the

creation and maintenance of personal and public health. We must give up the idea that health is comprised in sewerage, disinfection, the suppression of nuisances, the burial of the dead, notification and registration of disease, fever hospitals, and endless restrictive by-laws and regulations. Health springs from the domestic, social, and personal life of the people. It is, as the Greeks said, the fruit of the more abundant life.

#### THE SCIENTIFIC FACTOR.

The second great influence in the rise of the national health in the nineteenth century was the extraordinary advance in scientific discovery and the adoption of the scientific spirit. Put down on a piece of paper some of the great political and social events of the last hundred years—the Reform Bill, the abolition of slavery, the factory system, the repeal of the Corn Laws, penny postage, the newspapers, free education, the trades unions and the co-operative movement, the four extensions of the franchise, the reform of criminal law, old age pensions, and the immense cultivation and extension of literature; and then put down by their side some of the landmarks of science—the application of steam to ships and railways, the electric telegraph, the great exhibition of 1851, the Atlantic cable, spectrum analysis, the Suez Canal, the telephone, the internal combustion engine in 1835, Marconi's wireless, the discovery of the North Pole and the South Pole, the aeroplane, Darwin's *Origin of Species*, and the incomparable advance of medical science; add up the account and see where the balance lies. The story of the relation of these scientific advances to the health and happiness of man would read like a fairy tale, but it would have the advantage of being true. Let me remind you of two examples, and let us be sure that we understand them.

In the *Origin of Species* Mr. Darwin told us of the origin of the nature of the human body, and the laws which directly control it—the Law of reproduction and growth, the Law of heredity, the Law of variation (owing to "use or disuse"), the Law of natural selection. There is, he said, no escape from the operation of these four laws, for they are universal.<sup>2</sup> They are the principal contributors to the cosmic process as it concerns man, a process of which the human species forms part. It is these laws and this cosmic process which gives man the body in which he lives; and this body is set in the midst of nature, subject to many external influences. "In every case," said Darwin, "there are two factors—namely, the nature of the organism and the nature of the conditions" under which it lives; but, he added, "the former seems to be much the more important."<sup>3</sup> A generation later Huxley reminded us that "much may be done to change the nature of man himself" by the control or modification of his internal and external conditions.<sup>4</sup> Indeed, the character of these conditions, what has been called *nurture*, is the factor which is most under our direct control in improving the body of man.

Here, then, we have, according to Darwin, the two fundamental things, the nature of man and his nurture—the impress on his nature of all the factors and all the influences which affect him, his total environment. The growth of our knowledge of physiology in modern times has immensely expanded our understanding of man's nature, and the potential capacity of the functions of the human body and of its extraordinary powers of defence and repair. Nor must we overlook or set aside social and ethical factors which play a part, and, as civilization grows, an ever-increasing part, in the nurture of man. Human life at its best is, therefore, a balance between nature and nurture, a harmony of all the functions and faculties (whether physical, mental, or moral) moulded and directed by nurture. The body is not merely a machine, what the engineer would call an "assembly of its parts": it is something much more than the sum of its parts—a unified living adaptable organism, with a potential capacity, always susceptible of growth, development, or degeneration.

For in practice we know that there is often disharmony, which may be due to inborn defect, or accident, or neglected nurture, or disease. What is disease? We have not yet found the full answer to this question. But we

have learned that disease is not something arbitrary, capricious, or occult, but due always to definite causes; and we know it is not an external entity or agent—a sort of black dragon outside ourselves which we have to slay or exterminate. There is no external thing which we can call disease. It is something within the living organism. *It is the reaction of the human body to irregularities or agencies in its environment to which it has not become habituated, and which if prolonged may lead to an actual alteration or degeneration in the tissues of which the body is constructed. It is the disturbance of the harmony of the body which is disease.* It is, as Metchnikoff said, a “disarmament”; or again, it has been well described as “the dissociation of the functional unity” of the body. There may be (a) inborn flaws or defects in the structure of the body, irregularities in assembling the parts, even inherited taints and blemishes; or (b) in the ordinary stresses of life, parts of the machinery of the human body may be strained, impaired, or even broken; or (c) owing to faults of nurture, habit, or way of life, the functioning of the body and even its structure may have become misdirected or ill-formed; or, lastly, (d) the body may be invaded by the agents of infection—parasites. These are examples of the kind of injurious influences and conditions to which the body is liable, and in the presence of which the body itself reacts, producing the signs and symptoms which we call disease.

In short, when we think of the foundations of health, Darwin and his disciples have taught us that we have two main groups of facts to consider—namely, the body of man with its natural powers of reproduction and resistance; and the laws of Nature as the governing factors in its survival. Hygiene or preventive medicine depends, on the other hand, upon (i) the knowledge and practice of the nurture of the body, and (ii) the organized prevention or control of the external agencies injurious to it. Thus there is a Science of Life (biology) which includes our knowledge of the Nature of Man and the laws and conditions under which he can live and flourish as a part of the cosmic process; and there is a practice of Health (Hygiene or Preventive Medicine) which includes our knowledge of the positive nurture of man and the negative prevention of injurious influences acting upon him. We must not expect to apprehend either the science or the practice from hucksters' tips or from the “hits and bobs” of propaganda in an advertisement of a patent medicine. We must learn to look upon the whole business as a science, concerned with no less a subject than the Evolution of Man, governed by the immutable laws of the universe, and demanding from us patient learning, vigilant understanding, and strict obedience. For the penalty of the Court for disobedience of the laws of Nature is a degeneration of type or an earlier death sentence.

#### THE ADVANCE OF MEDICINE.

This leads me to the next step we must consider—namely, the outstanding advances of medical science. The eighteenth and nineteenth centuries were exceptionally rich in medical discovery, familiar to us all. John Hunter's living pathology, Jenner's vaccination, the work of Sir Humphry Davy and Sir James Simpson on the abolition of pain by anaesthesia, that of Louis Pasteur and Robert Koch on the causes of infective disease, Lord Lister's triumphant application of that knowledge by the introduction of antiseptic surgery, and the development of the methods of preventive medicine—these are six of the epoch-making advances which, with the Darwinian hypothesis, have given us a wholly new outlook upon, and new powers for, the control of disease, the relief of suffering, and the prolongation and betterment of life. They have made brilliant and constructive the period in which we live, beyond any other century. They mark the greatest historic advance of the science and art of medicine.

Whilst it is unnecessary to describe them, it is appropriate to draw attention to two facts in regard to them. First, each of these discoveries originated in previous work on the same subject, and each of them has opened up new fields of knowledge and life-saving applications. For instance, Jenner's work showed not only that vaccinia

could be transferred from the calf to man, and from man to man, but he proved the validity of the proposition that vaccinia in man diminished the liability to attack by small-pox. In so doing he introduced an artificial method of producing immunity, which has since been applied for the prevention or cure of many other diseases. He opened a door which is always opening wider; he proved a secret of Nature's ways to be true. Sir Almroth Wright's dictum, that “the physician of the future will be an immunizer” is a logical deduction from the ever-growing practical experience of medicine. Further, the study of immunity has shown that in many infective diseases substances appear in the blood which are antagonistic either to the invading micro-organism or its toxins, suggesting both that a process of immunization is going on in the body during the attack, and that it is due to antibodies developed by the reaction of the tissues to the invading infective agent. In other words, the study of natural immunity has revealed the fact that *the healthy body itself fosters defensive properties and resistant potentialities. These are four in number.*

(i) The resistant power arising from the physiological reserve of health, the power of hypertrophy, and of increased functioning and metabolism in emergency.

(ii) There is the control by the “vasomotor” nerve system, which regulates the blood supply of any given part of the body, flushing it on demand with the refreshing current of the blood stream.

(iii) There is a defence established by means of cells in the blood, lymph, and tissues, which have the remarkable power of first catching and then absorbing into their own substance any invading germ or foreign element with which they come into contact.

(iv) There are the newly discovered biochemical powers represented partly by the normal secretions of the ductless glands (hormones), and partly by the group of *antitoxins* which follow in the wake of toxins and are the direct reaction of the healthy body to their presence.

These four separate lines of defence are powerful, but it must be remembered that they never act in isolation. They are mutually interrelated, they co-operate together under a unified command, and they depend for their very existence upon a healthy and well-nourished state of the body. When, therefore, an infecting bacillus attacks man, it sets up, automatically, a chain of natural defences—(a) increased functional activity; (b) a fuller blood supply; (c) the stimulation of the catching and absorbing cells (*phagocytosis*) and the excretor secretions (*hormones*); and (d) a new formation of cells and substances antagonistic to, or assimilative of, the toxic products of the bacillus. When we ponder upon this array of defences called into operation by the act of infection we cannot be surprised that one attack of a disease is not followed by another, and that a natural immunity against certain diseases may be established. We begin to see the true philosophy of the action of antitoxins and vaccines; we understand a little better the survival of man's body in Nature; and we learn once and for all the necessity of bodily health as the strong and primary foundation of Preventive Medicine.

Secondly, each of these six momentous medical advances has not only won triumphs in its own sphere of the medical or surgical treatment of disease, but it has indirectly furnished new methods and confirmations in regard to the foundations of health itself. Their principles have been, in fact, applicable to the creation and maintenance of health as well as to the treatment of disease. Pasteur not only elucidated the cause of fermentation and particular infections, but his work changed the whole attitude of men's minds to the relation of cause and effect in all forms of infection and bodily condition. “What hopes seized upon me,” he said, “when I realized that there must be laws behind so many obscure phenomena.” Lord Lister not only taught the antiseptic principle and method of dealing with surgical wounds or compound fractures, but the supreme importance of similarly attacking all forms of septic poisoning—in fact, to the necessity of cleanliness and asepsis to a healthy body.

## THE NURTURE OF THE BODY.

The fundamental problem of health, then, is the wise and scientific nurture of the body. Now can we say in plain and categorical terms in what such nurture consists? Here is your body with its nature, its heredity, its variation, its inborn instincts, impulses, and organic functions, the instrument of emotion, intellect, and will—a living organism of long biological ancestry, the whole man—can we define the best nurture for it? I think we can, but only in general terms. Perhaps indeed one term, *nutrition*, is the answer. It is when we attempt to be prescriptive and dogmatic in detail that we go astray, for each human body is, as Galen pointed out, individual in its "preparation" for health or disease. Yet some general rules of nurture mankind has learned through thousands of years of experience. The trouble is that he will not practise them.

The elements of nutrition for the body are six in number: Food, Fresh air and sunlight, Exercise of the body, Warmth, Cleanliness, and Rest. If these necessities be provided we may have some "approximation," as Emerson called it, to full physical life; but if they are withheld or inadequate we shall assuredly have insufficiency, poor physique, disease, and even premature death. Though this knowledge is as old as the history of the human family, it is still only partially applied to the building of men or the rearing of a race. For though the general proposition is simple, its application is complex and variable. What is the ideal form of nutrition in any given climate or for any given age of life, and how can we follow it? How can we live in the open air if we also live in houses and in cities? By what means can we secure sufficient exercise, and of what nature should it be? And how can we escape the condemnation by Galen of the over-specialization of Greek physical culture? The answer to these questions comes only by *education and experience*. For, given a "living wage," and given a sufficient yield of the proper food necessary to man's health—and, speaking generally, these desiderata are available in this country—there can be but one answer: People do not live the healthy life *because they lack knowledge*. As the Duke of Devonshire said in 1904, "the people perish for lack of knowledge." It is ultimately a matter of the instinct, education, and experience of the individual.

## Food.

Let us consider for a moment the most important of these six—Food. The products of digestion enter the blood from the alimentary canal, and thus all parts of the body are nourished. It is of vital importance to eat the food which will build, repair, warm, and energize the body. Ignorance of a sensible dietary is the direct cause of much preventable disease, and more people suffer from eating too much than too little. It is common knowledge that man's diet should be mixed and varied; should be sound in quality and sufficient in quantity; consumed at regular intervals; and appetizing and digestible. It should contain some *proteins*, such as occur in meat, fish, milk, bread, cheese, eggs, peas, beans, lentils; some *fats*, as in cream, butter, suet, lard, dripping, olive oil, etc.; some *carbohydrate*, as in sugar, bread, potatoes, rice, and starchy foods. The body also needs *mineral salts* (calcium, iodine, magnesium, sodium, and potassium), contained in milk, cheese, eggs, green vegetables, and fruit, the last two furnishing a considerable bulk of fibrous material valuable in stimulating alimentary movement. Lastly, there are certain substances essential for growth and nutrition known as *vitamins*, present in extremely minute quantity in various foods.

Several principal kinds of vitamins are recognized, and are called vitamins A, B, C, D, etc. Vitamin A, found especially in milk, butter, cheese, yolk of eggs, and green vegetables, is necessary for growth and the maintenance of body resistance against infective disease. Vitamin B, found mainly in cereals, pulses, and yeast, is also necessary for growth and for the maintenance of nervous stability. Vitamin C, found in various fruits and leaves, but especially in lettuce, cabbage, and oranges, is effective in the prevention of scurvy. Vitamin D occurs richly in cod-liver oil, oily fishes (such as herrings), and egg-yolk; it is concerned in the proper development of bone and teeth, and its absence may lead to rickets.

Goitre may follow insufficiency of intake of iodine, as stunted growth may result from poorness of proteins or excessive or unbalanced cereals (which should always be

associated with milk, eggs, and green vegetables). It should be remembered that the vitamins exercise joint and interdependent action and may be destroyed by overcooking. A plentiful supply of sunlight to the skin will make up for certain deficiencies. In addition to these various requirements of living protoplasm we must add *water*. The transmission of all nutritive substances to parts of the body is done by "water transport." So, too, excretion of waste.

But merely to devise ideal dietaries is not enough. If a chemically ideal and model food be prepared in the laboratory with the proper amounts of each essential constituent, and then it be sterilized, dried, or otherwise "preserved," it will be deprived of some or all of its vital and natural principles. Hence, dried foodstuffs, preserved vegetables, proprietary foods, overcooked foods, and tinned meats, though possessing some practical advantages, are reduced in value as foods. Fixed foods become auxiliary only, for they are deprived in some measure of their vital elements of appetite, of taste and disposition, and of variety of composition. Moreover, nutrition does not consist only of pabulum, the food. There must be healthy activity of those physiological processes which have to do with mastication and preparation, with absorption and assimilation, metabolism and excretion. Healthy and complete nutrition is infinitely more comprehensive than mere feeding, mere filling of the stomach. It connotes a healthy body in all respects, a brain and nervous system in tone, a healthy muscular and digestive system, circulation of blood and lymph. Now, when we turn to the dietetic conditions of the great mass of the workers we find a tale of ham and beef, of beer and bread, of tea and pickles, of tinned meat and proprietary foods, or a weary round of bacon and herring and cheese—and of an unstable digestive system and an impaired physique. But variety, mixture, appetizing cookery, freshly prepared or natural food, the healthy conditions of sound digestion—these are the essential things so often ignored. This is partly due to our medical neglect of rational physiological feeding, which is worth more than all the drugs in the market; partly to the vicious custom of the sedentary worker to combine an excessive consumption of unsuitable food with an entire lack of daily exercise; partly to ignorance and bad habit.

Finally, there are some food rules which it is expedient to adopt. (a) Strict and persistent moderation in diet tends to longevity, and excess tends to early mortality. (b) Nature has provided that food should be masticated, should reach the stomach slowly, and not too frequently. (c) The number of meals taken daily is a matter of individual practice and custom, but for persons over forty years of age they are usually too frequent. (d) No food should be taken between such regular meals, as eating promiscuously gives the body no rest. (e) A small quantity of beverage with the meal is desirable, but there should be no excess of alcohol—alcohol is not in ordinary circumstances necessary to health; there should be, as a rule, no alcohol before meals or between meals, and none for children. (f) There should be no active exercise immediately after a meal.

## Fresh Air and Sunlight.

I have not time to discuss at the same length the other essentials of true nurture; but each of them is important. Fresh air is almost as valuable to health as food. It is, indeed, another element in nutrition, for the living processes carried on in every cell of the body require oxygen. This reaches the body through the nose, passes to the lungs, enters the blood stream, and is thus carried, like the products of digestion, to all parts. Breathing should always be through the nose, in order that the air may be properly filtered and warmed before reaching the lungs. The fresh incoming air conveys oxygen and expels the used-up air of the lungs. Its physical properties of coolness and movement are valuable as conducive to the increase of metabolism and stimulation of the skin and the appetite. There can be no more far-reaching or beneficial method of improving the health of the people as a whole than the wider practice of the open-air life. As Walt Whitman said in the *Song of the Open Road*:

"Now I see the secret of the making of the best persons.  
It is to grow in the open air."

Every school should be an open-air school and every home an open-air home. It is the stagnant overheated air, loaded with moisture and organic impurity, which is harmful in factories, offices, homes (especially bedrooms), or schools. The means of avoiding it is effective ventilation which shall give us fresh, clean, cool, moving air, without draught. Therefore ventilation should be "cross" or "through," which means that inlet and outlet must be opposite to each other. The temperature of the room should be about 60° F.

One of the principal advantages of the open-air life is that it affords more opportunity of gaining benefit from direct sunlight. All the rays of the sun are advantageous, but the invisible ray beyond the violet (ultra-violet) is believed to exert special health-giving benefit. Unfortunately the ultra-violet ray is filtered out by ordinary window glass, hence its health-giving property is only obtainable in the open air. It is now used widely in its natural form in the treatment of debility, rickets, tuberculosis of the skin, bones, and joints (*heliotherapy*), and artificially for some of these conditions by means of the arc lamp. Atmospheric smoke and the indoor life of English towns are without doubt depriving large portions of the population from enjoying the health obtainable by sunlight and fresh air.

#### *Exercise and Rest.*

The daily exercise of the body is another primary need. Various forms of exercise tend to strengthen all the muscles (including the heart), deepen and increase the rate of respiration, produce body heat, induce the skin to perspire, secure and maintain equilibrium, and develop the motor and sensory centres of the brain. They are essential if proper benefit is to be derived from food, if the digestive organs and the alimentary canal are to be kept in good working order, if proper secretion through the kidneys, skin, and lungs is to be ensured, and if the nervous regulation of the body is to develop. George Meredith, the novelist, used to say that every man "should get into a sweat at least once a day." It is not a bad rule. Motoring has advantages, but we must beware of becoming "all liver and no legs." To walk to the station is better than to take a bus. It should be remembered that ordinary active forms of free exercise are wisely supplemented by more regular and systematized forms of exercise, including games, swimming, and dancing, which play a part in the harmonious training of the body as a whole (such as the Swedish system), which lead to improvement in the general physique, the correction of faulty attitudes, and the acquirement of habits of self-discipline, control, and ready response. But we must not overdo physical exercise, or allow any system to become a thralldom or fetish—or be specially violent in exercise on Saturdays and negligent of it for the remainder of the week.

It is important that we should recognize that physical exercise is something vastly more than "drill and jerks." It is one of the means by which the Law of Variation fulfils itself, the means by which we "exercise" and use all the organic functions of the body—respiration, circulation, digestion, excretion, reproduction—the means by which we train the organs of special sense, and educate the nervous regulation of the body: "Use or disuse" lies at the basis of variation in our bodies.

Speaking generally, it may be said that most people stand in greater need of rest than of movement. "The first and second secrets of Nature," said Emerson, "are Motion and Rest." Our American cousins and ourselves are getting much too restless for good health, or even mental capacity and balance. There is an excess of noise, clatter, chattering, and meaningless activities which have no value or virtue in themselves, and for children are directly harmful. Indeed, children require time, peacefulness, and rest in order to grow and ripen, and there is wisdom in Madame Montessori's excellent injunction "Silentio" on the walls of her House of Children at Rome. Children under 15 need ten to twelve hours in bed every night. For them also it is particularly important to secure and maintain a nice balance between the production and loss of body heat. The newborn infant is unable to effect this accommodation, and its power of heat regulation is undeveloped. The very young and the old are particularly

susceptible to external conditions of atmosphere and temperature, and we have yet much to learn in the practice of warmth and its relation to hygiene.

#### *Cleanliness of Body.*

Lastly, there is cleanliness—within as well as without. In the Middle Ages people did not wash, they went dirty; and this disregard of cleanliness must be associated with their neglect of other items of our model six, which was perhaps one of the chief causes for their very unhealthy and shortened lives. The skin of the body cannot perform its most important functions unless it be clean; but the teeth, lungs, stomach, bowels, and blood must also be kept clean, if we are to be unconscious (as we ought to be) of their existence. A clogged machine does not work well.

#### *Some Conclusions and Dangers.*

Before leaving these maxims of body nurture there are three things I have to say about them which are not of less importance because they can be said shortly. The first is this: All these six principles of nutrition must be followed if we would obtain true nurture of the body. It is idle, and indeed harmful, to advocate any one or other of them at the expense of the remainder. The loss of any one of them will impair man's health and eventually imperil his life. The neglect of them is the occasion of disease. Yet, as Thucydides, the Greek historian, said, "So little pains will most men take in search for truth, so much more readily will they turn to what comes first." Secondly, each of these principles must be followed in moderation and not to the extreme. The Greeks were wise in their admonition: "Know thyself; and be moderate." In fact, the pathway to health of body and mind is lifelong education, that the mind may rule the body and the body be, as Cicero said, "fit to obey the prescriptions of the mind." Thirdly, the practice of each of them must accord with the total normal functioning of the body, the end and object of which is health. The body has many powers of protection, defence, and repair, but the laws of Nature are exacting and even severe on any assault upon, misuse, or abuse of, vital functions. In other words, the body will stand considerable strain along the line of its own powers, but no disharmony with impunity.

In these days of public education in health it is necessary to avoid two subtle dangers. On the one hand we must beware of "stunts" and "panaceas"; Nature is too varied and the world too wide for ultimate truth to lie along that road. On the other hand, perverse or ignorant unwillingness to accept the established findings of science is likely to deprive us of valuable aids in the struggle for life and the survival of the best. He is a wise man who finds out the faculties and powers of his own body and nurtures them rather than misdirecting or neglecting them. The spirit we need to cultivate should spring from an effective and reasonable co-operation between the dictates of humanity, the rights of the individual, and the established truths of science. It was Laertius the Stoic who said, long ago: "The end is to act in conformity with Nature, with the Nature that is within us and with the Nature of the universe."

#### *THE ORGANIZATION OF HEALTH BY THE COMMUNITY.*

Finally we must ask ourselves the question, How can these essential conditions of nurture be organized? The position is this. We have first to deal with the nature of man's body and its individual nurture in order to secure a resistant, effective, and reproductive body; then, in a civilized State, we have to provide the opportunity for all men to ensure for themselves and their families this nurture. Some can do much without communal aid, the majority cannot; in any event, no man can live unto himself. Whether we like it or not, we are members one of another. As in nature, so in society, solidarity and interdependence are inherent. Hence, in a civilized State it is the nature and nurture of the individual and the communal organization of opportunity which are the Foundations of National Health. The organization of health, which is the organization of life, is the primary, though not the supreme, business of Government, of statecraft, whether central or local.

Now the purpose of Preventive Medicine may be expressed in simple words. It is to improve the total environment of man's body, to develop and maintain his innate capacity, to avoid or reduce disharmony and disease in its early stages (in order to escape or postpone its later and mortal results in the body), to prolong and enlarge man's days, and to extend the frontiers of life.

The community will adopt diverse means for the fulfilment of such a policy: some methods will be voluntary or professional, others will be undertaken by official administration, central or local. "Power," said John Stuart Mill, "may be localized, but knowledge, to be most useful, must be centralized." What are the main lines of this policy?

(1) First, there must be created and maintained a *sanitary environment*, the external scaffolding of health: housing, water supply, drainage and refuse removal, sanitary workplaces, sound roads, clean streets, and well-ordered towns.

(2) Secondly, there must be *systematic nurture*, beginning before birth—the protection of motherhood, infant welfare, child hygiene, the care of the adolescent, a practical, comprehensive, and liberal education, and a wholesome food supply.

(3) Thirdly, there must be a *Preventive Organization*, by which the agencies of infection and disease are brought under control—the segregation of infectious persons, disinfection, quarantine, supervision of the channels and materials of infection, the reduction of mass infection, the production of immunity, the provision of antitoxins, the special and direct attack upon all forms of epidemic disease.

(4) Lastly, there must be public and private *medical services* (of which the medical man is, and always must be, the exponent and practitioner) in order that correct diagnosis and sound treatment may be available for the whole community—general medical practice, clinics, dispensaries, sanatoriums, hospitals, factory medical service, a health insurance system, and medical accommodation for the poorest. Western civilization relies upon insurance as the most effective means of placing the people in a position to obtain and use the resources of the science and art of medicine.

There you have the great Articles of the modern practice of Preventive Medicine. They all belong to each other, and no local authority can afford to neglect any one of the four. They constitute the elements of the modern programme of Preventive Medicine, a programme introduced by the medical practitioners of the eighteenth century. "Germs of disease" are important, but we must not go germ-mad. Sanitary and medical experts have their place; but health is Everyman's duty. It must be every man's Quest ere it can become a national Conquest. The essential thing is the healthy and resistant body of man, and the maintenance of his harmonious functioning, in relation to Nature and his environment, and in relation to human society. Progress depends more upon personal, social, and moral evolution than the advance of sanitary science—more upon wisdom than knowledge. The vastly improved health of the people in our generation has no doubt been partly due to the fuller application of medicine and sanitation, but still more to the forces of education, sociology, and biology.

If we reflect upon these considerations we shall discover that the preservation of human life, the enlargement of its capacity, and the increase of its productivity, is not a mere doctor's stunt, but springs from deep human instincts and is established upon broad social and economic conditions. It is, in fact, social and medical in structure, though economic and moral in inspiration. It is, I submit, the primary need, as it is the chief asset, of a nation.

## REFERENCES.

<sup>1</sup> *Vital Statistics*, 1885, p. 136. <sup>2</sup> *Origin of Species*, 1859, ch. xv. <sup>3</sup> *Ibid.*, ch. i. <sup>4</sup> *Evolution and Ethics*, 1893, p. 36. <sup>5</sup> *The Offices*, xlii. <sup>6</sup> See also *An Outline of the Practice of Preventive Medicine*, issued by the Ministry of Health (published by H.M. Stationery Office). <sup>7</sup> See also *Handbook of Suggestions on Health Education*, issued by the Board of Education (published by H.M. Stationery Office).

[The proceedings on the occasion of the delivery of the Hastings Lecture are reported in the body of the *Journal* at page 506.]

## British Medical Association.

## CURRENT NOTES.

## The Chairman of Council in South Africa.

THE Medical Secretary has received a letter from Dr. Brackenbury giving an account of the arrival of himself and Mrs. Brackenbury at Capetown and their reception by representatives of the Cape Western Branch. Dr. Brackenbury says: "The kindness and hospitality of everybody have been overwhelming, and we have done so much in four days that we have the impression of having been here quite a long time." He mentions Dr. Impey, the Secretary of the Branch; Dr. Leipoldt, Organizing Secretary of the Medical Association of South Africa (British Medical Association); and Drs. Murray, Marais, Kruger, Moffat, and Sandes (who will be remembered as attending the Edinburgh Meeting), as having been principally concerned in their journeyings, which they have thoroughly enjoyed. The Branch gave them a luncheon on February 29th, and they proposed to move on to Johannesburg soon after writing. Characteristically, Dr. Brackenbury was got into harness soon after his arrival, and in addition to useful talks with various influential members of the profession he had an hour and a half with a parliamentary committee which is discussing national health insurance, and was shown over Parliament House by Mr. Sampson, who is whip of the Labour party. Dr. Brackenbury adds: "I find that even a few days in the country, and personal contact with the men working in it, not only add great interest to the problems that have to be solved, but also put a somewhat different complexion on them, in spite of their similarity to our problems at home and one's theoretical familiarity with the situation here." It will reassure his many friends to hear that Dr. Brackenbury is in good health.

## Association Prizes for Essays by Students.

The Council of the Association gave notice in March last that it was prepared to award prizes of £10 each for essays by final-year medical students on "The signs and symptoms of heart failure." The essays have been examined by the following members of the Association: Dr. W. Gordon, F.R.C.P. (Exeter), Dr. Philip Hamill, F.R.C.P. (London), Dr. John Parkinson, F.R.C.P. (London), Dr. W. H. Wynn, F.R.C.P. (Birmingham). In accordance with the examiners' marks, prizes—a certificate signed by the President of the Association and a cheque for £10 in each case—have been awarded as follows:

## Group of Medical Schools.

## Prizewinner.

Queen's University of Belfast; University of Dublin (Trinity College); National University of Ireland (University College, Cork; University College, Dublin; University College, Galway); Royal College of Surgeons in Ireland (Schools of Surgery).	Mr. F. F. KANE, Queen's University, Belfast.
University of Birmingham; University of Bristol; University of Wales.	Miss PHOEBE C. VINE, University of Bristol.
University of Durham; University of Leeds; University of Sheffield.	Mr. J. H. KAHN, University of Leeds.
University of Edinburgh; School of Medicine of the Royal Colleges.	Mr. G. I. ROBERTS, Edinburgh University.
University of Glasgow; Anderson College of Medicine; Queen Margaret College School of Medicine for Women; St. Mungo's College.	Mr. W. J. L. FRANCIS, Glasgow University.
University of Liverpool; Victoria University of Manchester.	Mr. M. SILVERSTONE, University of Liverpool.
Charing Cross Hospital Medical School; King's College Hospital Medical School.	Mr. A. GILPIN, King's College Hospital Medical School.
Guy's Hospital Medical School; London Hospital Medical School.	Mr. J. B. ROBINSON, Guy's Hospital Medical School.
	Mr. G. E. LEWIS, London Hospital Medical School (£10 each).
London (Royal Free Hospital) School of Medicine for Women; University College Hospital Medical School.	Mr. R. M. SARGENT, University College Hospital Medical School.



*Group of Medical Schools.*

Middlesex Hospital Medical School; St. Mary's Hospital Medical School.

St. Bartholomew's Hospital Medical School; St. George's Hospital Medical School.

St. Thomas's Hospital Medical School; Westminster Hospital Medical School.

*Prizewinner.*

Mr. C. E. DOLMAN, St. Mary's Hospital Medical School.

Mr. F. W. LINTON-BOGILL, St. Bartholomew's Hospital Medical School.

Mr. R. G. L. WALLER, Westminster Hospital Medical School.

The prizes in respect of the London groups were presented to the winners at the meeting for senior students and recently qualified medical practitioners held in the Great Hall of the Association on March 22nd. The prizes in the other groups will, as far as possible, be presented at the meetings being held by the Divisions or Branches concerned to welcome the newly qualified members of the profession. Particulars of the result of the competition have been sent by post to the deans of the medical schools and to all the competitors.

**Association Notices.****TABLE OF DATES.**

March 28, Wed.	Nomination papers available (on application at Head Office) for election of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
April 23, Sat.	Annual Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> . Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of election of (i) 24 members Branches in British Isles; also members of Council, and also Public Health Service in Representative Body, where there are contests in above elections.
May 15, Tues.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
May 18, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body.
June 2, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 2, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 7, Thurs.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members. (On application at Head Office of members of Council by grouped Branches in British Isles, and Deputy Representatives must be received at Head Office by this date.

ALFRED COX, Medical Secretary.

**BRANCH AND DIVISION MEETINGS TO BE HELD.**

**BIRMINGHAM BRANCH: DUDLEY DIVISION.**—A meeting of the Dudley Division will be held at the Guest Hospital, Dudley, on Thursday, April 5th, at 8.30 p.m. Agenda: Election of representative at Annual Representative Meeting, and demonstration of clinical cases, etc.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—A meeting of the Bournemouth Division will be held on Thursday, March 29th, at 4 p.m. Dr. G. C. Anderson, Deputy Medical Secretary, will give an address on the British Medical Association's contribution to public health. Non-members are cordially invited.

**LANCASHIRE AND CRESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held at 52, Houghton Street, Southport, on Friday, March 30th, at 8 p.m., when Dr. E. P. Cumberbatch will deliver a British Medical Association Lecture on the use of ultra-violet rays in general as well as in skin diseases. It is hoped that there will be a large attendance of members.

**METROPOLITAN COUNTIES BRANCH: HENNON DIVISION.**—A combined clinical meeting and dinner of the Hennon Division will be held at the Brent Bridge Hotel on Friday, March 30th, at 7.45 for 8 p.m. An address will be given by Dr. W. Langdon Brown, physician to St. Bartholomew's Hospital, on organotherapy in general practice, to be followed by a discussion. All medical practitioners are cordially invited. Dinner tickets 8s. 6d.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.**—A general meeting of the Kensington Division will be held at the Town Hall, Hammersmith, to-day (Friday, March 23rd), at 8.45 p.m. An address

will be given by Mr. C. A. Pannett entitled "Debatable aspects of the surgery of gastro-duodenal ulceration." The subsequent discussion will be opened by Mr. Zachary Cope.

**METROPOLITAN COUNTIES BRANCH: NORTH MINBLESEX DIVISION.**—At the meeting of the North Middlesex Division to be held on Wednesday, March 28th, Dr. L. R. Yelland will read a paper on dyspnoea in nervous diseases.

**NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.**—The annual dinner of the Bishop Auckland Division will be held at the King's Hall Café, Bishop Auckland, on Tuesday, March 27th, at 7.45 for 8 p.m.

**NORTH OF ENGLAND BRANCH: NEWCASTLE-UPON-TYNE DIVISION.**—The Newcastle-upon-Tyne Division will hold a reception and dance in aid of medical charities at the College of Medicine on Thursday, March 29th, from 8 p.m. to 1 a.m. Mr. F. C. Pybus, chairman of the Division, and Miss Pybus will be the host and hostess. Tickets, 5s. for fourth- and fifth-year students and 7s. 6d. for members, can be obtained at the College of Medicine or from the honorary Secretary of the Division, Dr. S. W. Davidson, 7, Windsor Terrace, Newcastle-upon-Tyne.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, March 28th, at 2.30 p.m. Agenda:—Dr. Collier: An episode in the life of a country practitioner; Dr. Stohie: A case of thoracoplasty; Dr. J. Stanley White: Some recent aspects of biological therapy, illustrated by lantern and cinematograph.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.**—A meeting of the South-West Wales Division will be held at the Carmarthenshire Infirmary, Carmarthen, on Thursday, March 29th, at 3 p.m. Sir Ewen J. Maclean will open a discussion on maternal mortality and morbidity. Tea will be provided at the close of the meeting.

**SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.**—A meeting of the South Suffolk Division will be held in the board room of the East Suffolk and Ipswich Hospital to-day (Friday, March 23rd), at 3.30 p.m. Agenda: Business arising out of minutes; lecture by Dr. W. Brooks Keith (medical superintendent of St. Audrey's Hospital) on the diagnosis of early mental disease.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, March 28th. Dr. R. C. Lightwood will give a lantern demonstration on cyclic vomiting of childhood and its treatment. Preceded by tea at 4 p.m.

**WEST SOMERSET BRANCH.**—A meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital on Tuesday, March 27th, at 3.30 p.m. Agenda: Health propaganda in the county; coroners' fees; and a paper by Dr. L. H. C. Birkbeck entitled "Twenty-five years of a country hospital." Tea will be served at the conclusion of the meeting.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.**—A meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, March 26th, at 3.30 p.m. Agenda: Report of Executive Committee; election of representative to Annual Representative Meeting; notice of motion—Dr. Steed will move, "That all previous resolutions in connexion with mileage fees in emergency midwifery cases be reconsidered"; varicose ulceration; proposed lectures; monthly circular; correspondence..

**Meetings of Branches and Divisions.****BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**

A record attendance was attained by the Dumfries and Galloway Division at its meeting held in the Royal Infirmary, Dumfries, on February 21st, when Professor EDWIN BRAMWELL delivered a British Medical Association Lecture on some clinical aspects of pain. The lecturer handled his subject in his usual inimitable style, and the touches of dry humour enhanced the effect.

At the end of the lecture a series of questions was asked, to which Professor Bramwell replied, and a hearty vote of thanks was accorded to him. Tea was provided by the chairman.

**SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.**

The annual meeting of the South Suffolk Division was held at the Crown and Anchor Hotel, Ipswich, on January 6th.

The annual report and financial statement was presented and adopted.

The following officers were elected for 1928:

Chairman, Dr. H. Henry. Vice-Chairman, Dr. S. S. Heyland. Secretary, Dr. R. O. Eades. Deputy Secretary, Dr. Addey. Charities Secretary, Dr. Gutch.

Dr. A. M. N. PRINGLE, having explained the memorandum of the Association regarding public education in health, the following motion was unanimously adopted, and a subcommittee of four was appointed to deal with the subject:

That this meeting endorses the policy of the British Medical Association with respect to propaganda for the education of the public.

A letter was read from Dr. Walker, chairman of the Charities Committee of the Association, regretting his inability to be present, and expressing his willingness to attend a future meeting.

A vote of thanks was accorded to Dr. Henry for providing tea.

## VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY.—House-Surgeon. Salary at the rate of £150 per annum.

BIRMINGHAM LUNATIC ASYLUM.—Assistant Medical Superintendent. Salary £500 per annum, rising to £600.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeons at Poole Road and Boscombe Branches. Males, unmarried. Salary at the rate of £120 per annum each.

BRIGHTON: NEW SUSSEX HOSPITAL.—House-Surgeon (female). Honorarium at the rate of £50 per annum.

BRISTOL HOMOEOPATHIC HOSPITAL.—Resident Medical Officer. Salary £100 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Out-patient Physician.

BURY INFIRMARY.—Third House-Surgeon (male). Salary at the rate of £150 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Surgeon to the Special Departments. (2) House-Surgeon. Males. Salary at the rate of £130 per annum each.

CARDIFF ROYAL INFIRMARY.—(1) Gynaecological House-Surgeon. (2) Ophthalmic House-Surgeon. Salary at the rate of £50 and £75 per annum respectively.

CHURCH CROSS HOSPITAL, W.C.2.—(1) Assistant Surgeon. (2) Surgical Registrar; honorarium £150 per annum.

CORNWALL UNION.—District Medical Officer and Public Vaccinator. Salary £75 per annum and vaccination fees.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

CROYDON UNION.—Resident Assistant Medical Officer at the Mayday Road Hospital (male). Salary £300 per annum.

DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Resident Medical Officer (lady). Salary at the rate of £150 per annum.

DUBLIN: CITY OF DUBLIN SKIN AND CANCER HOSPITAL.—(1) Resident House-Surgeon. (2) Resident Deep X-ray Therapist.

DURLEY: GUEST HOSPITAL AND EYE INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.1.—House-Surgeon (male). Salary at the rate of £120 per annum.

FORTINGALL PARISH COUNCIL.—Medical Officer and Public Vaccinator for the Rainnloch District. Annual income probably from £650 to £700.

GLASGOW EYE INFIRMARY.—Three Clinical Assistants.

HONG-KONG.—Two Assistant Medical Officers of Health. Salary £740 per annum, rising to £1,040.

KNOCKANDO PARISH.—Parochial Medical Officer and Public Vaccinator. Salary £45 per annum.

LANARK COUNTY.—Assistant Medical Officer (male) under the Maternity and Child Welfare Scheme. Salary at the rate of £500 per annum.

LIVERPOOL HEART HOSPITAL.—Honorary Assistant Physician.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—Surgical Registrar. Honorarium 40 guineas.

LUTON UNIVERSITY.—Professor of Anatomy. Salary Rs.1,450 per mensem.

MELBOURNE: CHILDREN'S HOSPITAL.—Medical Superintendent of the Orthopaedic Section. Salary £1,000 per annum, plus board and residence, or £1,250 with no board or quarters.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—Honorary Physician to the special Department for Children. Honorarium 20 guineas per annum for travelling expenses.

MINISTRY OF HEALTH.—Deputy Regional Medical Officers. Remuneration £800 per annum, rising to £1,100.

NOTTINGHAM GENERAL DISPENSARY (BRANCH).—Resident Lady Surgeon. Salary £250 per annum, rising to £300.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2.—(1) House-Physician. (2) House-Surgeon. Males, unmarried. Salary at the rate of £150 per annum each.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special House-Surgeon. (3) House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary at the rate of £120 per annum for (1), (2), and (3), and £80 per annum for (4) and (5).

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Physician in charge of Skin Department.

ROCHDALE INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male). Salary £200 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Resident Anaesthetist. (2) Casualty Officer (male); salary at the rate of £150 per annum.

SUNDERLAND: CHILDREN'S HOSPITAL.—House-Physician (female). Salary at the rate of £100 per annum.

SUNDERLAND: ROYAL INFIRMARY.—Two House-Surgeons (males). Salary at the rate of £140 per annum.

WICKFIELD CITY.—Deputy Medical Officer of Health. Salary £625 per annum.

WIMBORNE AND DISTRICT GENERAL HOSPITAL, Waterloo, near Liverpool.—Resident House-Surgeon. Salary £50 per annum.

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

Section of *Odontology and Electro-Therapeutics*.—Mon., 8 p.m., Special Discussion: The Impassable Tooth. Speakers for Section of *Odontology*: Mr. Frank Coleman, Mr. Owen C. Morphy, Mr. A. T. Pitts, Dr. A. Livingston, Mr. St. J. Steadman, Mr. B. Mendelson, and Mr. A. F. MacCallan; for Section of *Electro-Therapeutics*: Dr. H. M. Worth, Dr. G. Murray Levick, Dr. Meyrick Jones, Dr. J. F. Brailsford, Mr. Norman Grellier, Dr. A. C. Jordan, and Dr. G. B. Batten.

Section of *Medicine*.—Tues., 5 p.m., Dr. F. Parkes Weber: A Note on Idiosyncrasies and Abnormalities in Human Beings; Professor D. W. Carmichael-Jones: New Zealand Views on Goitre.

Section of *Comparative Medicine*.—Wed., 5 p.m., T. Dalling, J. H. Mason, and W. S. Gordon: Intradermic Tuberculin Testing in Cattle; (2) Transference of Maternal Immunity in Sheep. J. W. Trevan: The Present State of Knowledge of Sex Hormones. H. J. Parish: B.C.G. Experiments in Guinea-pigs. C. C. Okell: Diphtheria Infections and Diphtheria Immunity in Horses.

Section of *Psychiatry*.—Thurs., 8.15 p.m., Discussion: The Etiology of Alcoholism. To be opened by Dr. Bernard Hart and Dr. Edward Mapother, and Dr. Edward Glover and Dr. Crichton Miller.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Lumsden Lectures by Dr. James S. Collier: Epilepsy.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: Advances in the Treatment of Cancer of the Cervix Uteri. To be opened by Dr. Herbert R. Spencer and Dr. Max Cheval (Brussels).

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Hampstead General Hospital, Hampstead Hill, N.W.3.—Practitioner's Course in Medicine, Surgery, and the Specialties. Mon. to Fri., 4.30

to 6 p.m.; Lecture and Demonstration. *Royal National Orthopaedic Hospital*, Great Portland Street, W.1: All-day course—Clinics, Operations, Lectures. Copies of all syllabuses sent on application, also details of general course work and specimen copy of the *Post-Graduate Medical Journal*. Apply Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., The Musculature of the Vocal Cords.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Thurs., 4 p.m., Diphtheria.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thursday, 4 p.m., Oral Hygiene.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Thurs., 5 p.m., Scleroderma, Neurofibromatosis. Thurs., 5 p.m., Diseases of the Nails.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.15 p.m., Demonstration of Medical Cases; 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 p.m., Demonstration of Surgical Cases; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Attiology Westcent, London).

Telephone numbers of *British Medical Association* and *British Medical Journal*, Museum 8851, 8852, 8853, and 8854 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshigh Gardens, Edinburgh. (Telegrams: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 24, Rederick Street, Dublin. (Telegrams: 24361 Dublin.)

## Diary of the Association.

- 23 Fri. London: Consulting Pathologists Group Committee, 2.30 p.m.
- 26 Mon. Hereford Division: 20, East Street, Hereford, 3.30 p.m.
- 27 Tues. Bishop Auckland Division: Annual Dinner, King's Hall Café, Bishop Auckland, 8 p.m.
- West Somerset Branch: Taunton and Somerset Hospital. Dr. L. H. G. Birkbeck on Twenty-five Years of a Country Hospital, 3.30 p.m.
- 28 Wed. London: Conference between Representatives of B.M.A. and Society of Medical Officers of Health, 11 a.m.
- London: Finance Committee, 2.30 p.m.
- Croydon Division: Croydon General Hospital. Dr. R. C. Lightwood on Cyclic Vomiting in Children, 4 p.m.
- North Middlesex Division: Dr. L. R. Yelland on Dyspnoea in Nervous Diseases.
- Oxford Division: Radcliffe Infirmary. Dr. J. Stanley White on Biological Therapy, 2.30 p.m.
- 29 Thurs. Bournemouth Division: Deputy Medical Secretary on the B.M.A.'s Contribution to Public Health, 4 p.m.
- Newcastle-upon-Tyne Division: Reception and Dance, College of Medicine, 8 p.m.
- South-West Wales Division: Carmarthenshire Infirmary, Carmarthen. Sir Ewen J. Maclean opens discussion on Maternal Mortality and Morbidity, 3 p.m.
- 30 Fri. Hendon Division: Clinical Meeting and Dinner, Brent Bridge Hotel. Dr. W. Langdon Brown on Organotherapy in General Practice, 8 p.m.
- Southport Division: B.M.A. Lecture by Dr. E. P. Cumberbatch on the Use of Ultra-Violet Rays.
- 11 Wed. London: Council, 10 a.m.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Eye and Gynaecological Out-patients' Departments. Tues. 10 a.m. to 1 p.m., Medical Wards, General Diseases Demonstration, Electrical Department; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Medical Wards, Pathological Demonstration; 2 p.m., Surgical Wards, Eye Department. Thurs. 10 a.m. to 1 p.m., Neurological Department, p.m., Eye Department; Genito-urinary Departments. Fri., 10 a.m. to 1 p.m., Skin Department, Medical Treatment Clinic, Electrical Department, 2 p.m., Throat, Nose, and Ear Department.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Victoria Infirmary: Wed., 4.15 p.m., Medical Cases.

MANCHESTER: ARCOOTS HOSPITAL.—Thurs., 4.15 p.m., Treatment of Thyroid Adenomata. Tea at 3.45 p.m.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Lecture: Intestinal Obstruction. Fri., 4.15 p.m., Demonstration of Surgical Cases. Tea at 3.45 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## BIRTHS.

DAVIDSON.—On March 10th, at the City Mental Hospital, Leicester, to Dr. and Mrs. T. Wishart Davidson, a daughter.

McKINNA.—On March 18th, at 219, New King's Road, London, S.W.6, to Dr. and Mrs. H. D. McKinna (Exa Young, M.B., B.S.), a son.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 31st, 1928.

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### British Medical Association.

#### METROPOLITAN COUNTIES BRANCH.

##### RECEPTION TO STUDENTS AND THE NEWLY QUALIFIED.

A MEETING to which fourth- and fifth-year students and recently qualified practitioners were invited was held by the Metropolitan Counties Branch on March 22nd in the Great Hall of the Association's House. A very large number were entertained to tea, and were afterwards addressed by Dr. Graham Little, M.P.

The chair was taken by Mr. E. B. TURNER, F.R.C.S., Branch President, who first of all presented to the prizewinners from the London schools the certificates and prizes awarded by the Council of the Association for competition essays by final-year students. The full details of the results of the competition were published in last week's *Supplement*. Those who received the prizes on this occasion were Mr. A. Gilpin (King's College), Mr. J. B. Robinson (Guy's), Mr. G. E. Lewis (The London), Mr. R. M. Sargent (University College), Mr. C. E. Dolman (St. Mary's), Mr. F. W. Linton-Bogic (St. Bartholomew's), and Mr. R. G. L. Waller (Westminster). All were heartily applauded as they stepped forward to the dais. Mr. Turner said that he had been informed that the standard of work shown in the competition was exceedingly high, and every one of the men who had gained a prize thoroughly deserved it. But he reminded them all that the great value of the competition was not the winning, but the striving.

##### THE FUTURE OF MEDICAL PRACTICE.

ADDRESS BY DR. E. GRAHAM LITTLE, M.P.

The text of his address, Dr. Little said, was furnished by the resolution carried at the last Annual Representative Meeting on the encroachments upon private practice. It had been obvious for a long time that the position of the general practitioner had been undergoing subtle and insidious changes, owing in part to altered relations with the public, and in part to the progress in complexity of medicine in this generation. The outstanding feature of medical education was the multiplication of subjects to be taken in the undergraduate stage. A large proportion of the audience he saw in front of him was groaning under a burden such as the older generation of practitioners never knew, and the average period of study at the present time demanded for a first qualification in medicine was stretching well into seven years. A list of more than thirty subjects was already prescribed by the General Medical Council, and public opinion was ever calling for more. In some ways it had been an advantage to have the catholic training which this curriculum indicated, but there was a certain misgiving, widely entertained, that the time allowed for individual subjects made it impossible to secure real mastery of any of them, and that some readjustment was called for. Some selection would have to be made of subjects which were regarded as of primary importance.

##### "A Glorified Casualty Medical Officer."

The object of the future might well be to equip the medical practitioner by his first qualification to undertake something of the duties which were now performed by the casualty medical officer of a great hospital. The general practitioner would, in fact, be a very glorified casualty medical officer. His function would be largely to sift out cases and to instruct the patients who passed through his hands to consult the person or department most able to diagnose and treat individual conditions. The lecturer saw no reason why the general practitioner of the future should object to such a role. The casualty medical officer was one of the most important cogs of the hospital wheel. Upon him rested the responsibility for detecting disease in its earliest stages. He sorted out the cases in which diagnosis was unusually difficult, and sent them to the appropriate department for further investigation and treatment. The waste of time, and quite often the loss of real opportunity for service, when patients went in the first instance to consultants without having had the advice of their general practitioner in the choice of consultant, was often to be deplored.

Dr. Graham Little wished particularly to avoid the suggestion that there was any conflict of interest between consultants and general practitioners. They were all members of one body, and the one could not exist without the other. While he thought it an extremely mischievous tendency of the public to go to consultants without first receiving the advice of their family practitioner, he thought also that the family practitioner was sometimes unnecessarily reluctant to seek the advice of the expert in cases where he himself was not personally qualified to make a diagnosis. That golden quality of reciprocity was clearly indicated here. The interest of the public was the final law. It was to the interest of the public that early diagnosis and treatment should be obtained from the general practitioner, and, if doubt existed as to diagnosis, early advice from the consultant was equally important. With this conception of the part to be played by the general practitioner of the future the curriculum would obviously undergo some change. Many subjects would be dropped so far as the undergraduate stage was concerned; the period of undergraduate study might even be profitably shortened, and those who wished to take up some special subject would be able to add to it by way of a post-graduate course. The broad basis of a good general education must be insisted upon as an entrance to the profession. He had always set his face against the too early teaching of the medical sciences. Again, competition in medicine had become so severe that it was more and more important that the student should, at the very outset of his career, recognize the importance of taking the examinations for a degree in one or other of the universities in preference to the qualifications of colleges, however eminent, which could not give degrees. In London the choice usually lay between reading for a University of London degree and for the diplomas of the Royal Colleges; many students took both as a sort of re-insurance against failure. The medical degrees of London University were perhaps the best in the country, and the examinations were not much more difficult to well-trained students than the examinations for the diplomas of the Royal Colleges. When applying for appointments the young medical practitioner usually found that candidates with degrees were

preferred to candidates with diplomas; such preference was often wholly undeserved, for there were many provincial universities which gave degrees representing a considerably lower standard than the diplomas, for example, of the Royal Colleges in London.

#### *Irregular Practice.*

The inordinate length of the curriculum had led indirectly to the growth of various forms of irregular practice, which were usually mere short cuts to qualification. These short cuts entailed varying durations of study. Osteopathy exacted, on paper, three to four years, but the teaching given in that time was not comparable with that afforded by the medical schools. Chiropractic might be acquired, apparently, in about six months. A determined effort was being made by the osteopaths to promote legislation which would place them on the same level as practitioners qualified by seven years of study, and a committee of the House of Commons having for its sole purpose the promotion of such legislation was still in existence.

Dr. Graham Little here quoted from the article by Dr. E. R. Fothergill in the *Supplement* of March 3rd the melancholy list of departments which had been withdrawn from the purview of the general practitioner. He could not help saying that in some of these instances if the general practitioner had lost ground it was his own fault. Midwifery was handed over to midwives largely because general practitioners refused to take on this work; the apathy of the doctors surrendered the position to the enthusiasm of the nurses. Sight-testing had nearly gone the same way. Dr. Graham Little recounted the recent history of the attempt on the part of the sight-testing opticians to introduce legislation to establish a register for themselves. But, incredible as it might appear, there were actually consulting ophthalmic surgeons who declared that sight-testing by the general practitioner was impossible, and that it was far better done by the irregular practitioners, who had, as a rule, more up-to-date appliances for testing sight. The only hope of defeating this dangerous move was for the British Medical Association to come forward, as he was glad to see it was doing, and convince the public that there were sufficient numbers of qualified persons in the medical profession to carry out sight-testing upon the large scale which the Insurance Act would ultimately demand. Other departments in the list of which he had spoken were, he feared, inevitable encroachments upon the general practitioner's field of practice, and had come to stay. The treatment of venereal diseases had become so complicated, and was hedged about by such peculiar social difficulties, that this class of case was probably permanently lost to the general practitioner. Diseases which required institutional treatment were at least partially withdrawn. The impoverishment of the middle-classes under the burden of taxation had made almost unavoidable the provision of institutional treatment for them. Some method would have to be devised by which the general practitioner would have a share in the treatment of his patients in institutions.

#### *The Voluntary Hospital System.*

The Minister of Health had announced a very ambitious scheme of transferring the Poor Law hospitals from the control of boards of guardians to that of municipalities, and anxiety was felt lest this should mean an attack upon the whole voluntary system, which would thus be brought under State control. Here, again, the apathy of the medical profession had been one of the most remarkable and disquieting features of the position. The editor of a great London daily newspaper had roundly said to him that the medical profession seemed to have no desire to defend the voluntary system in medical practice. Dr. Graham Little's own opinions had been pungently voiced at the Representative Meeting last year by the chairman on the present occasion, Mr. Turner, the report of whose speech he read to the meeting. A State medical service would comprise the whole profession, consultants as well as general practitioners, and its ultimate effect upon the progress of medicine would be disastrous.

This generation had seen the most phenomenal advances in medicine—had seen "the sun rise on a darkened world," in the words of the late Professor Starling—and he thought perhaps they had become a little intoxicated with their success, for that was the only explanation he could offer for a very remarkable contemporary development of thought in the profession. There was a desire, evident on many sides, to introduce the entirely new system of compulsory treatment of disease. Perhaps the community might even be approaching the position depicted in a very familiar advertisement which showed a man arraigned before a court of law for the crime of being unhealthily! He went on to refer to the Edinburgh Corporation Bill, now awaiting a second reading, which would make the treatment of venereal disease compulsory within a certain area, the compulsion to be enforced by detention. This principle, once adopted, would be sure to spread; the laryngologists would press for the compulsory enucleation of tonsils,

and the dental surgeons for the compulsory removal of teeth. There would be no finality in the claims thus made.

#### *The Neglect of Clinical Study.*

A partial explanation of this curious trend of thought lay in the immense expansion of what might be called laboratory as opposed to clinical methods. There was an unfortunate tendency among senior students to forsake the wards for the laboratory, and the examinations revealed a somewhat disquieting neglect of clinical study. A sympathetic knowledge of sick men and women would be more important to the young practitioner than any other knowledge he could acquire. It was with human beings, not with corpses or test tubes, they would have to live their future lives. There was no more valuable preparation for medical practice than the earnest clinical study, which had been the distinguishing note of English medicine. The old physicians spent many hours in the wards and acquired an amazing instinct for diagnosis. Laboratory medicine seemed so certain, its exponents developed the cocksure temperament, which was inevitably chastened by the experience of clinical medicine. Unhappily the certainty of laboratory results was by no means commensurate with the confidence with which those methods were urged upon the profession. A laboratory diagnosis unchecked by clinical knowledge was the most fallacious of all judgements.

The speaker believed the principle of compulsory treatment to be wholly and entirely wrong. Those who sought to enforce it, in his opinion, were bad psychologists, and therefore insufferably bad doctors. The history of this old and proud nation should surely have taught any observer who was teachable that the average inhabitant of these islands was easy to lead, but "gey ill to drive." He hoped with all his heart that the medical profession would refuse this invidious and impossible role which was prescribed for them, and that the bill introducing the principle of compulsory treatment would be laughed out of court when it came before Parliament, as it was expected to do within the next few days. Until complete certainty of diagnosis and treatment was reached compulsory treatment could not be a practical proposition. Closely linked with this question was the question of the propriety of revealing professional confidences. There had been an unhappy recurrence of cases in which doctors had been compelled by a court of law to make known facts imparted to them by the patient. He had had the honour to introduce into Parliament a short bill which might remove this compulsion; it was a great satisfaction to him that its terms had received the approval of so great a legal authority as Lord Atkin, and he thought there was some ground for hoping that it might become law.

#### *Women in Medicine.*

Finally, the speaker touched on the question of women in medicine, hotly debated at the moment. Comparison with men students would probably show that no disproportionate number of women failed to make a living by medicine, exception being made of the special condition of marriage, which commonly resulted in a woman relinquishing her profession. Medical women made admirable wives, and were naturally enough sought by the discerning man. Their medical education made them ideal companions; husband and wife could scale the peaks of knowledge hand in hand, and her medical training made the woman specially fit to undertake the bearing and rearing of the child, which the most typical of mid-Victorian poets said was "woman's wisdom." But when medical women elected to remain unmarried—and it was for the most part an election—they had little difficulty in finding work to do. Their emoluments compared favourably with the rewards they might look for in any other walk in life. Vast new fields of practice remained to be tilled by them. Medicine was the most promising of professional careers for daughters of professional men. Whether men liked it or not, the women had come to stay, and he personally gave them the heartiest of welcomes. By introducing medical women into departments of practice now largely occupied by unqualified women the profession of medicine as a whole would benefit, and the public would obviously be far better served by trained medical women than by very much less well trained and unqualified persons.

In closing, Dr. Graham Little urged upon his hearers the importance of enrolling themselves immediately upon qualification with the great professional bodies whose purpose it was to give such help as the solitary man could never command for himself. The greatest of all these bodies was the British Medical Association. They would also be wise to join one of the organizations which undertook individual legal defence for their members.

Two of the students made admirable little speeches in proposing and seconding a vote of thanks to Dr. Graham Little.

Mr. R. M. SARGENT (University College) said that as one who was about to enter the profession of medicine he was

rather perturbed by the lecturer's vision of the future practitioner as a kind of superlative casualty officer, and he felt that Dr. Graham Little did not mean entirely that the sole function of the general practitioner should be to refer cases to specialists or departments. He also begged the representatives of the profession to take action in combating the exploitation of medical subjects in the newspapers, but he did not suggest any means by which this might be done.

Miss IRENE ROGERS (King's College) said that she thought the students ought to be grateful for such advice as Dr. Graham Little had given them. The trouble about good advice was that it often came too late, but here was advice proffered while there was still time to act upon it. Like the proposer, she had her view of the tasks which the British Medical Association as representative of the profession might undertake. She hoped that it would speak with a clear voice with regard to the position of women medical students, about whose future there was some anxiety owing to the action taken or contemplated by some of the medical schools.

## British Medical Association.

### CURRENT NOTES.

#### The Chairman of Council in South Africa.

THE Medical Secretary has received a letter from the Chairman of Council from Johannesburg, dated March 6th. He had read of the death of Sir Dawson Williams in the *Cape Times*, and expressed his deep sorrow that it would not now be his privilege to move the proposal of the Council at the Annual Representative Meeting that Sir Dawson Williams should be made a vice-president of the Association. Dr. Brackenbury has been kept very busy since his arrival in Johannesburg, which seems to have lived well up to its reputation in that respect. Dr. A. J. Orenstein, the president of the South African Federal Council, and Sir Spencer Lister met Dr. and Mrs. Brackenbury on their arrival, and everybody has been most kind and attentive. In addition to seeing over the principal medical institutions, Dr. Brackenbury has met a good many of the prominent men and talked over the medical problems of South Africa. On the day he wrote there had been a Branch dinner and a useful discussion afterwards, and on the next day Dr. Brackenbury was to address a general meeting of the Branch on the subject of national health insurance, about which, he says, the profession in South Africa is beginning to get excited. Dr. and Mrs. Brackenbury were due to leave for Bloemfontein on March 11th, and, after a week spent at the Congress, would leave for Durban on the 17th and thence to Capetown on the 21st. All being well, Dr. Brackenbury would leave Capetown on March 23rd, and is expected home on April 9th.

#### Insurance Acts Committee.

##### Spa Treatment for Insured Persons.

On March 15th the Insurance Acts Committee had before it, in accordance with the rules of the British Medical Association governing the new procedure, reports from the Spa Practitioners Group, the first of such groups to be formed within the Association. The findings of the Group Committee on a scheme for the provision of spa treatment for insured persons formulated by the Federation of British Spas were considered by the Insurance Acts Committee, which will submit them, with its own comments, to the Council of the Association at its next meeting.

#### London Clinic for Treatment of Rheumatism.

In the *British Medical Journal* for January 28th some account was given of a proposed clinic for the treatment of rheumatic diseases in London, and the appeal made by the British Red Cross Society for funds for this purpose. This proposal has received considerable publicity in the lay press. An appeal has been made for support from the insurance committees and approved societies, some of which have already sent subscriptions, and on March 20th the *Times* published a general appeal for funds signed by the Prime Minister, Mr. Ramsay MacDonald, Mr. Lloyd George, and others, including prominent medical men, together with a sympathetic leading article on the project. The clinic appears to be intended primarily, though not

exclusively, for the use of insured persons. The Insurance Acts Committee had before it a report that a request had been received for the support of the British Medical Association in the general appeal for funds, but that in the absence of any guarantee as to the relations of the clinic to the private practitioner the Medical Secretary, after consultation with the Acting Chairman of Council, had replied that it would not be possible to commit the Association to a formal approval of the clinic. Inquiries upon this point had, however, been addressed to the British Red Cross Society as soon as the scheme was made public, and the Committee had before it a report of a resolution passed by the medical subcommittee of the proposed clinic on March 8th, to the effect that no patients should be treated at the proposed clinic except on the recommendation of a duly qualified medical practitioner. In view of the assurance conveyed in this resolution the whole question will be considered further by the Committee at its next meeting, and will be the subject of a report to the Council.

#### Medical Benefit Regulations.

The Committee gave instructions as to final adjustments in the proposed amendments of the Medical Benefit Regulations. It is expected that the new regulations will come into operation at an early date.

#### National Health Insurance Bill.

The Insurance Acts Committee has under consideration the clauses affecting the medical profession in the National Health Insurance Bill, introduced on March 5th. Some account of the provisions of this bill was given in the *Supplement* of March 17th (p. 89).

#### Hospitals Committee.

On March 14th the Hospitals Committee approved, for submission to the Council at its next meeting, the scheme for the co-ordination of hospital provision drawn up by the special subcommittee. The Committee has now arranged to call a conference of representatives of medical staffs of voluntary hospitals to discuss the policy of the Association as to contributory schemes, and the conference will take place on June 6th. In the *Times* of February 7th last a letter signed by Lord Donoughmore stated that the Royal Automobile Club and the British Hospitals Association were considering the question of the cost of hospital treatment in connexion with motor casualties, and that a conference would probably be called to discuss the matter. It is understood that the King Edward's Hospital Fund for London is taking the initiative in this matter, and the Fund has been requested to arrange for the participation of representatives of the British Medical Association in the proposed conference. The Committee appointed its chairman, Sir Richard Luce, and the Medical Secretary and Deputy Medical Secretary to represent it in this connexion, should the need arise.

#### Cardiff Annual Meeting: Reduced Railway Fares.

We are glad to be able to state, on the authority of the Railway Clearing House, that reduced fares will again be granted to persons travelling to attend the Annual Meeting at Cardiff next July. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue return tickets to passengers travelling to Cardiff in this connexion at the ordinary single fare and one-third, fractions of 3d. to be reckoned as 3d., and the minimum adult fare to be 1s. A voucher of the usual type must be surrendered when the ticket is bought; these vouchers, signed by the Financial Secretary of the Association, will be obtainable from him in due course on application.

#### The Hempson Prize.

Mr. W. E. Hempson has placed at the disposal of the Council, upon his retirement from the post held by him for thirty years of Solicitor to the Association, and as a mark of esteem for the Association and appreciation of his happy relations therewith, a sum of twenty-five guineas, to be awarded as a prize for the best essay or treatise on some phase or branch of public health. The subject approved by the Council for the prize is "A study



of personal experiences in the inspection and treatment of school children under the auspices of an elementary education authority." The following conditions govern the award of the prize:

1. Only members of the Association are eligible to compete.
2. Studies must be sent to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than December 31st, 1928, and the prize will be awarded at the Annual General Meeting of the Association at Manchester in 1929.
3. No study that has been published in the medical press or elsewhere will be considered eligible.
4. If any question arises as to the eligibility of the candidate or the admissibility of his study, the decision of the Council on any such point shall be final.
5. Each study must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.
6. Inquiries relative to the prize should be addressed to the Medical Secretary.

### B.M.A. CHARITIES FUND.

The following is a list of subscriptions and donations to the British Medical Association Charities Fund from June 1st, 1927, to February 29th, 1928, forwarded for use at the discretion of the trustees of the Fund (the members of the Council of the Association for the time being in office):

- £50.—Medical Insurance Agency.  
£60 6s. 9d.—Collection at St. Giles's Cathedral, Edinburgh, July, 1927.  
£50.—Dorset Local Medical and Panel Committee.  
£19 6s. 6d.—South Essex Division.  
£29 6s. 6d.—South-West Essex Division.  
£21 14s.—Members of the Fife Branch.  
£21 10s.—East Norfolk Division.  
£21 10s.—Tyneside Division.  
£20 6s. 8d.—Hastings Division.  
£12 2s.—North Northumberland Division.  
£15 8s.—Dumfries and Calloway Division.  
£15.—Lanarkshire Division.  
£12 17s.—Coventry Division.  
£10 10s.—North Staffordshire Division, William Gilchrist.  
£10.—R. P. White, W. G. Pridmore.  
£8 8s.—Major E. C. Kennedy.  
£5 5s.—Dumfriesshire Panel Committee; Hyde Division; Medical Staff, Andover Mental Hospital; W. D. Frew, J. McDonald, R. G. McCowan, Sir Ewen J. Maclean, W. H. Hey, F. O'Kinealy.  
£5.—J. R. Humphrey Owen, H. Fairbairn, F. Husband Clutton, J. C. Matthews, Hon. Mrs. L. Hamilton, W. G. Moore.  
£4 15s.—Plymouth Panel Committee.  
£4 12s.—R. D. Clarkson.  
£4 8s.—P. E. Tressider.  
£4 6s.—R. Reid Duncan.  
£4 4s.—J. L. Lunham, O. O. Hawthorne, R. Langdon-Down.  
£3 15s. 6d.—John G. Currid.  
£3 5s.—South Suffolk Division, E. Colston Williams, H. Calger, "Host" (in lieu of wines at a medical dinner), J. B. Macalpine, R. M. Courtauld, A. D. Hamilton, P. Macdonald, T. D. Davies.  
£3 2s.—Bedfordshire Division.  
£2 2s.—Colonel J. L. Lunham, Colin Mearns, E. B. Hastings, W. S. Wallace, A. J. Milbank-Smith, Longsight District Medical Society (per J. D. Ewart), C. C. Anderson, T. J. McGlade, J. Morley, Major W. C. Poole, A. H. Hopkins, C. C. Easterbrook, H. N. Fletcher, H. Calger, A. W. Nuthall, J. R. Scott, M. R. B. Bishopp, H. Miller, R. F. V. Hodge, R. A. R. Wallace, Hon. W. W. Macleay, H. B. Brackenbury, F. H. Robbins, C. G. O. Scudamore, K. B. Williams, J. B. Munro, E. H. Hastings, W. Mitchell-Innes, A. Cox, M. C. Robertson, G. G. Macdonald, R. B. Skrimshire, T. N. Wood, N. A. Boswell, P. O. Coles, F. L. Thom, J. A. Naismith, E. H. Ablett, W. H. Carse, C. Andrews, C. Carruthers, Kingsley W. Lewis, F. J. Baildon, Adam Moss, O. W. G. Bain, J. H. Clover, W. Duncan, J. H. Simpkins, H. Cuy Dain, F. J. McGlade, H. Brostoff, H. Souttar, Watson Noble.  
£2.—M. J. Moir, E. Knight, Isaac V. Yoffa.  
£1 10s. 6d.—Kensington Division.  
£1 17s. 6d.—Sunderland Division, C. S. Pantin, M. M. Artlur, W. A. Tweedle.  
£1 8s. 6d.—T. C. MacIntyre, Janet McI., Stewart.  
£1 16s.—E. P. Stibbe, H. McC. Hansell, W. A. M. Swan, H. D. Watson, E. T. Power, J. W. Wood, N. T. Whitehead, A. B. Wade, C. J. Henderson, G. A. Johnston, C. E. Smith, C. B. Baislie, C. F. Clinn, John Hugh, H. Carpenter, W. C. Rendle, E. F. Paige, W. H. Helm, H. M. Masina, F. W. McKenna, J. Stratford Hall, J. John Cilmore, J. M. McQueen, J. Walker Brash, Duncan Mackintosh, W. Wilson, Harry Platt, L. E. Lewis, D. H. Pennant, J. Robinson, J. M. Stirling, E. Vipont Brown, P. B. Spurgin, H. S. Beadles, H. B. Boueher, W. F. Attwater, David Anderson, S. H. Clarke, M. O. Raven, J. A. Delmege, R. Jaques, Helen D. Watson, H. Staddon, A. Turner, M. A. Archdale, J. J. Peterson, C. A. K. Ledger, A. Linnell, A. Campbell Holmes, Robert P. and Helen Garrow, T. Fawcitt, P. V. Anderson, H. Leader, W. Howat, B. R. Johnston, R. Sunderland, Henry Tempest, R. S. Lawson, J. D. Jenkins, W. D. Chapman, J. A. Macdonald, M. C. Tod, H. S. Burniston, R. S. Hubberty, H. S. Anderson, E. Muirhead Little, A. S. Wilson, B. V. Watkins, H. Young Maasfield, J. M. Dewar, A. M. Humphrey, J. D. B. Snell, E. M. Rooke, F. R. Sutton, Frank Heber, C. W. Healey, H. Christal, W. E. Hayes, D. J. Rose, A. T. Jones, S. Murdoch, R. J. Gregory, J. A. Ball, L. E. W. Stephens, Major E. Underhill, J. R. Drever, A. S. Herbert, J. W. E. Cole, David McKislie, J. M. Petrie, E. F. H. Vickery, L. Kilroe, J. C. Russell, G. P. B. Page, W. H. T. Jones, Mabel Muncey, L. Crossley, K. Frazer, R. Hilliard, T. C. Blackwell, A. H. Morris, H. P. Catkiness, H. W. Moss, S. Vere Pearson, C. G. Pugh, H. C. H. Braeay, C. W. Pilcher, E. N. Butler, G. R. Paterson, A. E. Struthers, F. Saunders, J. K. A. Robertson, E. S. Fry, C. J. Tabor, J. N. Marshall, H. C. Rollin, Major L. G. Bourdillon, W. A. Alexander, E. K. Mackenzie, W. H. Wisbart, J. P. McG. Sloan, J. B. Alderson, W. Turner, W. H. Paine, David Watson, R. Todd, C. W. Marshall, C. Elliott, C. Sanders, J. C. Campbell, S. Crown, A. V. Dill, J. J. McMillan, R. R. Traill, J. E. Haneock, C. S. Staddon, H. P. Wincer, J. P. Brown, P. G. R. Crahan, A. M. Mitchell, H. M. M. Mackay, L. F. Wilson, C. W. M. Mackay, L. M. Hawkesley, W. I. Parker, Mark R.

Taylor, G. C. Williams, H. Scholefield, H. G. Donald, J. B. Barnett, W. J. Smyth, John Stevens, P. H. C. Eardley, F. Rawlings, S. H. Bown, G. F. Porter, C. G. Smith, P. J. Gomez, H. Gray, C. D. Hattrick, C. M. Kennedy, J. N. Cruickshank, C. W. Fitzhenry, H. B. Dodwell, A. R. Berrie, W. E. Thomas, D. O. Evans, H. R. Frederick, O. K. Stevenson, E. Goffon, O. Marriott, H. M. Rohson, J. A. Tomb, J. Pender, R. A. Stark, C. M. Binney, E. I. Lloyd, C. B. Lawson, J. B. Simpson, E. J. Targett, May J. N. Bowie, F. Mannington, W. H. Fisher, J. Patrick, W. Thistlewaite, N. S. Turnbull, V. S. Tryon, H. H. Kendrick, J. M. Thomson, A. C. McCillivray, F. W. Farrod, G. Vernon Bull, R. V. Goodlife, G. H. Batterbury, F. R. Bray, A. M. Masters, A. B. Stick, William Paterson, G. B. Hillman, R. Macleod, A. H. D. Smith, F. L. Angier, J. M. Heron, J. H. Tennent, R. A. W. Procter, J. H. Bletscoe, H. W. L. Nicholas, B. A. Symons, H. S. Robinson, S. Noy Scott, William Steven, T. Baker, C. J. S. Dismorr, T. M. Angior, R. J. Adamson, R. S. Morhead, Lieut.-Colonel W. Alpin, J. White Thomson, J. L. Timmins, J. B. Stevens, F. Hawthorn, C. D. Bishop, John Matheson, G. A. Dickson, C. McK. Craig, Kathleen F. Kitchen, E. N. Jupp, R. D. Aylward, A. Fulton, J. A. Pridham, R. Kenyon, S. Phillips Bedson, R. G. Cordon, Lieut.-Colonel A. Whitmore, John Hume, E. C. Frend, Major W. D. Keyworth, N. S. Twist, E. S. Edwards, C. Master, Lieut.-Colonel W. M. Houston, K. S. Brown, C. E. Mathias, A. C. Hinks, E. O. Bond, C. B. T. Musgrave, R. Kennon, John Aitken, J. P. McKevy, M. C. Cooper, F. E. Jardine, R. McAdoo, Major A. C. Jebb, Colonel H. S. Roch, Major W. J. Webster, Colonel A. E. Hamerton, H. J. Clutterbuck, W. M. Dinwoodie, J. M. Mitchell, Lieut.-Colonel A. N. Thomas, J. B. Cyle, E. M. McGarrison, L. D. Roberts, H. Downes, F. R. Todd, R. F. Jones, E. J. Power, R. Wallace Henry, G. F. Oldershaw, E. Johnstone, A. M. Smith, E. K. Lo Fleming, W. F. Dearden, J. Robinson, J. Dewart, J. Howe, J. Wilson Wood, John T. Dier, A. J. Will, A. M. Webber, May W. G. Paton, E. John Staddon, A. E. Brindley, E. J. Brevin, H. C. McCullagh, R. A. Milne, W. Anderson, E. F. White, E. F. D. Dawson, C. C. Lunn-Barker, A. E. Walter, T. S. Cochrane, P. Ross, E. W. C. Bradfield.  
18s. 6d.—Flight Lieutenant T. W. Wilson.  
17s.—R. G. McIntyre, C. A. Macdonald.  
16s.—W. S. D. Bird.  
15s. 6d.—Angus Lamont.  
10s. 6d.—K. A. C. Gillie, O. B. Jennings, A. R. Waddell, J. H. Conyers, D. Phillips, Ferguson Watson, Dorothy Wood, C. Vipont Brown, D. J. Bowen, A. M. V. Bonhote, E. F. Neve, W. E. Haigh, J. M. Morris, A. H. Keynaston, T. L. Pires, J. S. Arkle, T. E. Roberts, W. A. Bruce Young, W. C. Lowry, A. Bryce, Morris Cutner, J. F. Coughoun, H. C. Jennings, Helen Boyle, Moses Cohen, D. S. Pracy, F. C. Lawson, Helen E. Moore, M. L. M. Thomson, G. W. Rogers, G. J. Lewis, L. E. Wigram, D. J. McLeish, Lieut.-Colonel J. V. Salvage, G. Clark, L. P. Garden, S. T. Gevers, R. N. Aston, O. E. R. Stephenson, J. C. K. Chilcott, H. J. Du Boulay, J. D. Wilson, A. G. J. Elwin, D. E. Walpole, C. Stanley Jones.  
10s.—H. Graf, J. B. Primmer, Annie Greenep, H. T. P. Young, Lieut.-Colonel F. P. Connor, E. Lewis, J. S. Roberts, T. E. Cordon, G. G. Morrice, Stanley Child, C. P. O'Brien, E. H. Snell, E. B. Fenell, E. D. Granger, E. Whidborne, K. M. Bowman-Manfield, Lieut.-Colonel H. G. L. Wortabet, Agnes Moncrieff, M. B. Carr, G. S. Lund, F. M. G. Butler, E. F. Dott, T. H. Massey, Duncan McCullum, J. H. Aikman, Janet M. MacMillan, John C. Heal, Colonel C. W. Johnson, P. Heffernan, W. A. Stokes.  
And further small sums amounting to £11 14s. 6d. have been subscribed.

### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

#### Scholarships.

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum. These Scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State Medicine) relating to the causation, prevention, or treatment of disease. Each Scholarship is tenable for one year, commencing on October 1st, 1928. A Scholar may be reappointed for not more than two additional terms. A Scholar is not necessarily required to devote the whole of his or her time to the work of research, but may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his work as a Scholar.

#### Grants.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the causation, treatment, or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

#### Conditions of Award: Applications.

Applications for Scholarships and Grants must be made not later than Saturday, June 2nd, 1928, on the prescribed form, a copy of which will be supplied on application to the Medical Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated, to whom reference may be made.

## Association Notices.

## TABLE OF DATES.

April 23, Sat.	Annual Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> . Last day for receipt at Head Office of nominations: (i) by a Division or not less than 5 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of election of (i) 24 members Branches in British Isles; also members of Council, and Public Health Service in Representative Body. Voting papers posted from Head Office, where there are contests in above elections.
May 15, Tues.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
May 19, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 2, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Annual Representative Meeting, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: COVENTRY DIVISION.**—A clinical meeting will be held by the Coventry Division at the Coventry and Warwickshire Hospital on Tuesday, April 3rd, at 8.30 p.m.

**BIRMINGHAM BRANCH: DUDLEY DIVISION.**—A meeting of the Dudley Division will be held at the Guest Hospital, Dudley, on Thursday, April 5th, at 8.30 p.m. Agenda: Election of representative at Annual Representative Meeting, and demonstration of clinical cases, etc.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—At the meeting of the Nuneaton and Tamworth Division to be held at the Nuneaton General Hospital on Wednesday, April 18th, Dr. C. F. Rudd will read a paper on an ophthalmic subject.

**BORDER COUNTIES BRANCH: ENGLISH DIVISION.**—A meeting of the English Division will be held to-day (Friday, March 30th), at 3.30 p.m., at the Whitehaven and West Cumberland Hospital, Whitehaven. Programme: Paper on the Whitehaven and West Cumberland Hospital by Dr. G. B. Muriel; demonstration of cases by Drs. G. B. Muriel, V. W. Maxwell, and E. H. Ablett; conducted tour round the hospital, including demonstrations in the special departments by the honorary medical staff; 5 p.m., tea, by invitation of the maitron.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Enoch Station Hotel on Wednesday, April 11th, at 3.30 p.m. Dr. John Mortimer will read a paper on the commoner eye affections as occurring in general practice.

**KENT BRANCH: ASHFORD DIVISION.**—At a meeting of the Ashford Division to be held at the North Street Club, Ashford, on Wednesday, April 18th, at 4 p.m., Dr. J. W. McNeo of University College Hospital will give a lecture on new work in the diagnosis and treatment of hepatic and biliary diseases. A cordial invitation is extended to all members of the Kent Branch.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, April 3rd, at 9.30 p.m. Drs. Longborough and T. H. G. Shore will discuss the treatment of fibrositis.

**METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.**—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, April 3rd, at 8.45 p.m. Mr. W. S. Herman, L.D.S., will read a paper on the dental treatment of fractured jaws.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A combined clinical meeting and dinner of the Hendon Division will be held at the Brent Bridge Hotel to-day (Friday, March 30th), at 7.45 for 8 p.m. An address will be given by Dr. W. Langdon Brown, physician to St. Bartholomew's Hospital, on organotherapy in general practice, to be followed by a discussion. All medical practitioners are cordially invited. Dinner tickets 8s. 6d.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—At the meeting of the Lewisham Division to be held at the Town Hall, Catford, S.E.6, on Tuesday, April 17th, at 8.45 p.m., Dr. W. V. Goldsmith will read a paper on pigmentation of the skin.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, April 10th, at 9 p.m. Dr. Donald Paterson will give a lecture on the prevention of summer diarrhoea.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—At the meeting of the Willesden Division to be held at the Willesden General Hospital, Harlesden Road, on Wednesday, April 18th, Dr. J. Bright Bannister will give an address on ante-natal work.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Royal Hospital, Chesterfield, on Wednesday, April 18th, at 3 p.m., when there will be a series of clinical demonstrations.

**MIDLAND BRANCH: HOLLAND DIVISION.**—A meeting of the Holland Division will be held in the White Hart Hotel, Boston, on April 12th, at 3 p.m., when an address will be given by Dr. J. Wilkie Scott (Nottingham) on some aspects of vomiting. Members of neighbouring Divisions will be welcomed.

**NORFOLK BRANCH.**—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, April 11th, at 3.30 p.m. Sir Hamilton Ballance, K.B.E., president of the Branch, will be in the chair, and a paper will be read by Dr. Ian D. Dickson on neurasthenia in general practice.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting will be held at the Royal Infirmary, April 18th, at 8.15 p.m. Dr. A. F. paper on the present status of the

jaundice problem.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, April 19th, at 8.30 p.m. Lieut.-Colonel P. J. Marett will read a paper on some lung affections.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The final address of the winter session of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, April 12th, at 9.30 p.m., preceded by a supper at 9 p.m. Dr. J. Stanley White will give an address on some recent aspects of biological therapy, illustrated by a cinematograph demonstration of research work carried on in Messrs. Parke, Davis and Co.'s research laboratories. This will be the last address, preceded by a supper. The business meeting will be held on May 10th, at 9 p.m., and the annual dinner on May 16th.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—The West Suffolk Division has arranged, with the assistance of the committee of the West Suffolk General Hospital, the following post-graduate course of lectures and clinics at the West Suffolk Hospital:

March 31st.	Mr. Aleck W. Bourne. Lecture: The Action of Pituitrin and of Ergot.
April 14th.	Mr. C. W. G. Bryan. Lecture: The Acute Abdomen in Childhood.
" 15th.	Clinic: Surgical Cases.
" 21st.	Dr. R. D. Lawrence. Lecture: Simplicity in the Treatment of Diabetes.
" 22nd.	Clinic: Cases of Diabetes.
May 5th.	Mr. T. H. Just. Lecture: Diagnosis and Treatment of Acute Inflammatory Conditions of the Ear.
" 6th.	Clinical Demonstration.
" 19th.	Sir Thomas Horder. Lecture: Etiological Factors in Fibrosis and their Bearing on Treatment.
" 20th.	Clinic: Medical Cases.

The lectures on Saturdays will be given at 8.45 p.m., and coffee will be served at 8.30; the Sunday clinics will begin at 11 a.m. The course is open to medical practitioners in West Suffolk and any guests they may care to bring. There is no fee, but donations will be invited towards the cost of organization. Members are invited to bring any cases of interest to the appropriate clinic.

**SURREY BRANCH: CROYDON DIVISION.**—A meeting of the Croydon Division will be held at the Croydon General Hospital on April 4th, at 4 p.m. Dr. G. E. E. Brayne-Nicholls will give a lantern demonstration on tuberculosis of the bowels. It will be preceded by tea at 4 o'clock. The annual dinner of the Division will take place at the Greyhound Hotel on Wednesday, April 11th, at 8 p.m.

**SURREY BRANCH: GUILDFORD DIVISION.**—A clinical meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, April 5th, at 4 p.m.; tea served at 3.45.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, April 3rd, at 8.15 p.m. Dr. E. I. Spriggs, director, Ruthin Castle, will give an address on diverticulosis. The annual dinner will take place at the Royal Victoria Hotel on Friday, April 20th, at 7.15 for 7.30 p.m. Tickets 10s. 6d. Members are requested to notify the honorary secretary as soon as possible how many tickets they will require for themselves and their friends.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Stratford Arms Hotel, Wakefield, on Thursday, April 19th. Dr. J. le F. Burrow, assistant physician, Leeds General Infirmary, will give a lecture on the diagnosis of acute cerebro-spinal diseases. The lecture will be preceded by a supper at 7.45 p.m., price 3s. The annual meeting of the Division will take place on Thursday, May 10th.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

An ordinary meeting of the Nuneaton and Tamworth Division was held at Tamworth General Hospital on March 8th. Mr. F. B. GILLESPIE read a paper on the tonsils.

After some remarks on anatomy and methods of examination Mr. Gillespie referred to the difficulty sometimes experienced in determining when the tonsils were septic. He thought the presence of pus or muco-pus, which could be expressed from under the anterior pillar, was a good criterion. He referred to the large number of diseases in the development of which tonsillar infection was now believed to be a determining factor, mentioning tuberculosis, rheumatism, and diseases of the respiratory, gastro-intestinal, and urinary tracts. He thought that chest conditions such as bronchiectasis and abscess after tonsil operations were perhaps more frequent than was suspected. He warned against promising too good results from tonsillectomy, and in this connexion referred to the weedy child with enlarged tonsils, glands in the neck, and persistent slight rises of temperature. The results of tonsillectomy were often disappointing in these cases. In children with nasal discharge and enlarged tonsils he thought that, where possible, the maxillary antra should be examined by transillumination before operation.

Mr. Gillespie mentioned the various diseases affecting the tonsil and their diagnosis, and compared the guillotine operation with the operation by dissection. He believed that the pendulum had swung too far in favour of dissection, and held that the guillotine was more suitable in many cases. He thought that in young children, when it was necessary to remove adenoids, it was often advisable to leave the tonsils unless there was some very definite indication for their removal.

The paper was followed by a discussion in which many members took part. Mr. GILLESPIE replied, and a hearty vote of thanks was accorded him for his address.

Circular D 15, regarding reports by medical practitioners at the request of coroners, was considered, and after some discussion the secretaries were instructed to take action on the lines suggested.

### EDINBURGH BRANCH.

The clinical meeting of the Edinburgh Branch was held in the Edinburgh Royal Infirmary on February 29th. Demonstrations in the various special departments were given by members of the Infirmary staff from 9 a.m. At a clinical demonstration at 3.15 p.m. in the surgical theatre there was a large attendance of members, guests from other branches, and senior students, the theatre being well filled. Interesting cases were shown by members of the staffs of the Royal Infirmary and Royal Hospital for Sick Children. It was generally felt that the meeting was one of the most successful arranged by the Branch.

A dinner was held at the North British Station Hotel at 7.15 p.m., when there was a gathering of sixty members and guests under the chairmanship of Dr. JOHN STEVENS, president of the Branch. The toast of "The City of Edinburgh," proposed by Sir ROBERT PHILLIP, President of the British Medical Association, was acknowledged by Bailie NASMYTH. The toast of "The British Medical Association," proposed by Councillor PETER GIVEN, was acknowledged by Dr. ALFRED COX, Medical Secretary, who, on rising to reply, received a cordial tribute. Dr. W. R. MARTINE proposed the toast of "The President of the Branch," to which Dr. STEVENS responded. The toast "Floreat Res Medica," proposed by the CHAIRMAN, having been duly honoured, those present joined in singing "Auld Lang Syne," after which "God Save the King" was sung with great enthusiasm.

### LANCASHIRE AND CHESHIRE BRANCH.

A SCIENCE meeting was held at the Salford Royal Hospital on February 23rd. The chair was taken by Dr. J. H. MONKS, president of the Branch, and there was an attendance of about 190 members. The programme took the form of a series of short papers, followed by an exhibition of cases, a display of exhibits from the pathological laboratory, and a demonstration by Dr. R. GIBSON on the treatment of varicose veins by injection.

Mr. GARNETT WRIGHT, in a paper on volvulus of the sigmoid, referred to the comparative rarity of the condition in this country compared with Russia and Eastern Europe, adding that a large number of the cases in Great Britain occurred in mental institutions. The anatomical predisposing factors were a long meso-sigmoid and a narrow attachment of the meso-sigmoid to the abdominal wall. Mr. Wright regarded constipation as a result rather than a cause of the condition. In most cases careful inquiry showed that acute obstruction had been preceded by symptoms of a chronic and recurrent nature; hence the presence of visible peristalsis in most instances. Mr. Wright recommended excision of the sigmoid in two stages; less radical measures were very liable to be followed by recurrence.

Mr. R. OLLERENSHAW showed a series of cases to illustrate various types of fracture in the region of the elbow. A fracture of the olecranon was first shown, and Mr. Ollerenshaw expressed himself as being in favour of non-operative treatment in most fractures of this nature. The details of treatment by full extension for six weeks, followed by flexion, with careful control of the fragments, under an anaesthetic at the end of that period was demonstrated. Cases showing fracture of the head of the radius followed, illustrating the results of conservative methods and of excision of the head of the bone for severe smashes. The more common injuries of the lower end of the humerus were then shown, and a case in which the fracture had occurred a week previously, where gross displacement had been present and reduction had been effected under the x-ray screen, was demonstrated. Five other cases showing the frequent association of peripheral nerve injuries with elbow fractures were exhibited. In two of these the musculo-spinal nerve had been completely divided and subsequently sutured; in one the ulnar nerve had been transposed forwards to remove it from bony pressure; in another the median had been torn by a fracture dislocation. In the fifth case a crushing of the posterior interosseous nerve had necessitated a tendon transplantation, which provided excellent function.

Dr. G. J. LANGLEY contributed a paper on some problems of glycosuria. After referring to the general conditions of the insulin treatment in diabetes, he expressed the opinion that the best results were obtained with a minimum diet combined with small but adequate doses of insulin. He admitted that the patient usually desired a larger diet, but was not willing to undergo the more frequent injections of insulin which a larger diet required; a compromise had often to be made. Dr. Langley then emphasized the importance of recognizing that the recurrence of pyrexia—for example, influenza—in diabetes required immediate increase of carbohydrate and insulin. Operations could now be undertaken in diabetes without hesitation; either was the best anaesthetic, and should be preceded by glucose and insulin. Dr. Langley then referred to renal glycosuria, and expressed the opinion that this was fairly common. He also called attention to the occurrence of glycosuria under other conditions—after mental strain, after cerebral

Mr. E. . . . . ssed the treatment of urethral stricture and the after-care of patients operated . . . . . sults of 160 men treated by him personally in the genito-urinary department of the Salford Royal Hospital. He considered that the best results were obtained if instrumentation was always carried out by the same surgeon, who carefully regulated the attendance of each individual; forcible dilatation was condemned. Three points were emphasized in treatment: first, urinary infection must be guarded against; secondly, over-dilatation must be avoided; thirdly, the intervals between attendance must be so regulated that contraction was not permitted to progress. He concluded that the present operations for stricture should be regarded as palliative, not curative, and must be followed by dilatation at longer or shorter intervals. Careful and well-regulated dilatation could maintain health and prevent the development of sequels.

### LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held in the Lyceum, Rochdale, on March 14th, when Dr. E. H. COX, D.S.O., was in the chair.

Mr. F. HOLT DIGGLE (honorary surgeon, Manchester Royal Ear Hospital, and honorary aural surgeon, Ancoats Hospital) read a paper on some factors in the prevention of deafness. He gave a lucid and instructive account of the measures necessary in cases of catarrhal otitis media and suppurative otitis media, in which groups most of the cases of preventable deafness may be said to occur.

On the motion of Dr. JEFFERSON, seconded by Dr. RAMSBOTTOM, a vote of thanks was unanimously accorded to Mr. Diggle for his address.

### METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

A MEETING of the Camberwell Division was held at the Bermondsey and Rotherhithe Hospital on March 13th, when Dr. COX was in the chair.

Dr. HARKNESS demonstrated and discussed the diagnosis of an unusual case of abdominal neoplasm. Members showed a keen interest and expressed their opinions as to its origin. Dr. FORMAN showed the following cases: (1) pernicious anaemia, with signs of subacute combined degeneration; (2) two cases of aortic aneurysm; (3) syringomyelia; (4) abscess of lung. The cases were illustrated by a series of excellent x-ray films, those dealing with the case of abscess being of especial interest. The focus had been clearly identified, enabling a successful operation for drainage of the cavity to be carried out. Dr. EVANS showed a girl with Schlatter's disease, in which signs followed two months after a slight injury to the knee, and an elderly woman with myxoedema.

During the discussion which followed members were entertained to tea by the matron of the hospital. A vote of thanks to the staff was carried with acclamation.

### METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.

A MEETING of the Lambeth and Southwark Division was held at the Lambeth Carlton Club, Coldharbour Lane, S.W.9, on February 22nd, when Dr. V. S. PARTRIDGE was in the chair.

Mr. F. McG. LOUGHNANE read a detailed paper on the differential diagnosis of haematuria. Mr. Loughnane enumerated the causes of haematuria under the headings of renal, urteric, vesical,

prostatic, and urethral; he pointed out that haematuria due to some affection of the kidney was the most likely to occur. In the case of renal calculi haemorrhage might follow some jolting movement, and would be preceded by colic; whereas if a malignant growth was present the bleeding would come before the colic. Pyuria was slight, unless pyonephrosis was present. Diagnosis was made by radiography and pyelography; cystoscopy gave little assistance in a case of renal calculus, since the ureteric orifices changed only when a stone was impacted in the vesical intramural portion of the ureter. Tuberculosis of the kidney caused slight bleeding, but considerable pyuria; and cystoscopy might reveal tubercles or ulcers in the bladder, and a "golf-hole" ureter. A pyelogram would show "worm-eaten" calyces. A renal neoplasm gave rise to serious haemorrhage only rarely; it was usually moderate, intermittent, capricious, and uninfluenced by movement, pyelography usually enabling a diagnosis to be made. In adults hypernephroma and papilloma were the commonest tumours, and in infants embryoma, a palpable tumour being always found in the loin in the last case. "Essential" haematuria should only be a tentative diagnosis after the elimination of all known causes. Aneurysm of the renal artery was rare.

The source of vesical haemorrhage was readily detected by cystoscopy, and was usually a papilloma, except in elderly men, when a malignant growth or an enlarged prostate might be concerned. A clear medium for cystoscopy could be obtained by using liquid paraffin or a 1 in 400 dilution of hydrochloric acid. Urethral haematuria in children was generally due to impacted calculus or to a foreign body; in adults to infection, papilloma, or enlarged prostate. The speaker emphasized the importance of employing modern methods in the differential diagnosis so as to ensure the detection of early disease; no patient with constant or recurrent haematuria should be kept very long on medical treatment only.

On the motion of Dr. E. COYNE, seconded by Dr. J. MELLOTT, a vote of thanks was accorded to Mr. Loughnane for his address, and to Mr. E. CANNY RYALL for the excellent illustrations he provided.

A clinical meeting of the Lambeth and Southwark Division was held at the Belgrave Hospital for Children, Clapham Road, on March 7th, when Mr. R. A. RAMSAY showed the following cases: (i) an obscure swelling of the upper end of the femur in a child aged 1 year 5 months; (ii) a case of dermoid cyst on the temporal region; (iii) a case of congenital atresia of the external auditory meatus; (iv) a case of congenital hypertrophic pyloric stenosis, successfully operated on, and treated afterwards with intramuscular injections of whole blood; (v) a case of empyema; (vi) a case of cervical adenitis.

#### METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

A MEETING of the Marylebone Division was held at 11, Chandos Street, W.1, on March 15th, when Dr. W. JOSEPH HORNE, chairman of the Division, presided.

The following were appointed representatives in the Representative Body for the ensuing year: Drs. Hawthorne, Roxburgh, Temple Grey, Eleanor Lowry, E. Graham Little, M.P., George Weston, and W. Griffith; and Dr. Joseph Horne, Mr. McAdam Eccles, Mr. Bishop Harman, and Mr. Souttar were elected deputy representatives.

Dr. PERCY FLEMING gave a lecture with lantern illustrations on the Thames from London Bridge to Lambeth in old days, with a note on London's early water supply. The address was extremely interesting and was much appreciated.

#### METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at Whipps Cross Hospital on March 6th, when a communication from the Medical Secretary was read concerning the collective investigation into the treatment of varicose ulceration. A number of members agreed to take part in the investigation.

Dr. MUIR, superintendent of the hospital, showed a number of interesting cases, including two of Banti's disease; one of Parkinsonism following encephalitis lethargica, which simulated cervical caries very closely; lupus of the thighs, associated with a positive Wassermann reaction; a popliteal aneurysm organizing after ligation of the femoral artery; an amputation at the hip-joint for angiosarcoma of the femur in a man of 76; a coxa vara; a tumour in the region of the third ventricle in a child, with hydrocephalus and slow spontaneous decompression.

At the close of the meeting a hearty vote of thanks was accorded Dr. and Mrs. Muir.

#### NORTH OF ENGLAND BRANCH: MORPETH DIVISION.

The annual dinner of the Morpeth Division was held on March 9th in the Queen's Head Hotel, Morpeth, when Dr. HUGH DICKIE was in the chair. The guest of the evening was Mr. Harvey Evers (Newcastle-upon-Tyne). The toast of "The British Medical Association" was proposed by Mr. CATCHSIDE and replied to by Dr. FRANK BEATON, honorary secretary of the Division and this year's president of the North of England Branch of the Association. There was a good attendance, several members being present from other Divisions. With song, story, and sentiment a very enjoyable evening was spent, the function being declared one of the best yet held.

#### NORTH WALES BRANCH: DENBIGH AND FLINT DIVISION.

The first meeting of the Denbigh and Flint Division since the reorganization of the Division was held at the Queen's Hotel, Chester, on March 3rd. In the unavoidable absence (through

influenza) of Dr. Katharine Drinkwater the chair was taken by Dr. J. C. DAVIES.

With regard to reports by medical practitioners furnished at the request of coroners, it was decided to follow the suggestion from the head office to write first to the coroners and subsequently to approach the county councils by letter.

It was proposed to circularize the members of the Division to ascertain if they would have their names submitted for the inquiry into the treatment of varicose ulceration.

The proceedings ended with tea provided by the chairman of the Division, Dr. Katharine Drinkwater, and much regret was expressed at her absence.

#### SIERRA LEONE BRANCH.

The annual meeting of the Sierra Leone Branch was held on December 30th in the Medical Offices, Water Street. In the absence of the president and vice-president Dr. WOOP, the senior member of the Council, took the chair. After the minutes of the last meeting had been adopted the president-elect, Dr. PEACOCK, took the chair, and expressed his high appreciation of the honour of being elected president for the second time; he proposed a vote of thanks to the outgoing officers, which was adopted. He said that in the absence of the representative, Dr. INNESS, he had had the pleasure of representing the Branch at the Annual Meeting of the Association at Edinburgh last year, and expressed the hope that it would be possible to find a representative for the 1928 meeting at Cardiff.

Dr. Peacock referred to the severe loss sustained by the Branch and by the colony in the death of Dr. M. JACKSON, who had possessed in a remarkable degree the confidence and affection of the community; both European and African. On the motion of Dr. Peacock an expression of condolence was directed to be sent to Dr. JACKSON's relatives.

The following officers were elected:

President-Elect, Dr. McDouall. Vice-President, Mr. Quintin Stewart, Honorary Secretary and Treasurer, Dr. Wright.

The SECRETARY reported that the Branch had thirty-two members. During the year three scientific clinical meetings had been held, and the financial statement showed a satisfactory credit balance.

A circular with regard to the election of a representative on the Council of the Association was considered, and it was decided that the Sierra Leone Branch should not register a vote on account of its small size compared with the Branches with which it was grouped.

#### SOUTH-EASTERN OF IRELAND BRANCH.

An ordinary meeting of the South-Eastern of Ireland Branch was held in Kilkenny on March 10th, when the president, Dr. MYLES, was in the chair. The annual report of the Branch was unanimously adopted.

On the motion of Dr. D. WALSH, seconded by Dr. MYLES, it was unanimously resolved:

That having learned of the serious illness of Dr. R. O'Brien (Clonmel), the honorary secretary be directed to convey to him the wishes of the Branch for his speedy recovery.

Dr. O'Brien has been a very old and esteemed member of the South-Eastern Branch.

Dr. R. ROWLETTE (Dublin) delivered a British Medical Association Lecture on the medical treatment of gastric and duodenal ulcers, illustrated by a lantern demonstration. The lecture was very much appreciated, and the following members took part in the discussion: Drs. DENIS WALSH, MYLES, D'ABREU, and DRENNAN.

Cordial votes of thanks were accorded to Dr. Rowlette for his most instructive lecture, and to Dr. Grace for arranging it.

#### SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held at the Queen's Hotel, Southsea, on March 8th, when Dr. LYTLE was in the chair. Mr. ORD, in the absence through illness of Dr. Livingstone, gave an address on the dental problems of medicine to a mixed audience of dental surgeons and doctors.

The speaker thought that it was difficult to believe that pyorrhoea was of much importance in the causation of disease, but Mr. R. W. HENRY of Leicester, speaking for ophthalmic surgeons, referred later to certain diseases of the eye in which pyorrhoea was an important factor, and Mr. STANLEY HILLMAN thought that if, in pyorrhoea, the teeth were removed in the early stage of joint and other manifestations, further trouble would be avoided. Apical root trouble was considered to be of importance, but it was thought to be unwise to extract many teeth at a time, since a temporary exacerbation of joint symptoms might follow. It was emphasized that where organic change had taken place no obvious improvement would result from extraction. The advisability of using local anaesthesia in these cases was doubted.

The use of the tooth brush was questioned, but most of the dental surgeons thought that there was nothing to take its place. Mr. CROFT, however, advocated vigorous lavage of the mouth with water, and Surgeon Commander GIVEN supported him from his experience of the Chinese, among whom there was said to be very little pyorrhoea. Their method of cleansing was by lavage and finger friction. It was suggested also that consideration of vitamins might be neglected, since most people obtained enough in their food, but Dr. GRIFFITHS believed that an appreciable percentage of the population suffered from mild forms of scurvy. Dr. LYTLE called attention to the condition of the mouth in Vincent's angina.

Mr. WARREN, president of the Portsmouth Dental Association, proposed a vote of thanks to Mr. ORD, and Dr. McASKEW, seconding, expressed the hope that a dental evening would be an annual event.



## SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.

A MEETING of the Swansea Division was held at the General Hospital, Swansea, on March 15th, when Dr. DANIEL E. EVANS, chairman of the Division, presided.

Mr. T. E. HAMMOND of Cardiff gave an admirable address entitled "Infections of the urinary tract: their diagnosis and treatment." A vote of thanks was accorded to the lecturer for his lucid and helpful address.

## SUFFOLK BRANCH.

THE spring meeting of the Suffolk Branch was held at the Angel Hotel, Bury St. Edmunds, on March 6th. Dr. MALCOLM DONALDSON of London read a paper on the uses of radium in gynaecology. He dealt in a most able and clear manner with the work at St. Bartholomew's Hospital in both innocent and malignant conditions. He pointed out that without some knowledge of the physical properties of radium no treatment could be really efficient, and that many of the poor results obtained in the past were due to the fact that people had not realized this fact, and had used it indiscriminately. Having described some of these physical properties, he then passed on to the radium treatment of non-malignant conditions found in gynaecology. He dealt with the treatment of haemorrhage during abnormal menopause, and emphasized the necessity of an early correct diagnosis in such cases, so as to exclude malignant disease; and the advisability of keeping the radium in position forty-eight to seventy-two hours, rather than the twenty-four hours which was the common practice. He then discussed the treatment of fibroids by means of radium, and the type of case in which it was indicated. Turning to the treatment of malignant disease of the female genital tract, he dwelt at some length on the treatment of carcinoma of the cervix. He pointed out that the statistics from English sources of patients who had survived five years were not yet sufficient to make a comparison between radiotherapy and Wertheim's operation, but that if the figures from Continental sources were taken it was obvious that there was very little difference in the results. In the case of radiotherapy, however, an additional 12 to 16 per cent. of the inoperable cases could be saved for at least five years. Furthermore, he pointed out that, owing to the very simple technique required, the mortality by this method of treatment was less than 1 per cent., whereas that of Wertheim's hysterectomy was in the neighbourhood of 10 per cent. in the case of most operators.

## TANGANYIKA BRANCH.

A SCIENTIFIC meeting of the Tanganyika Branch was held on January 9th at the European Hospital, Dar-es-Salaam; the Director of Medical and Sanitary Services, Dr. J. O. Shireore, was present as a guest of the Branch.

Mr. McILHURNEY, Government paper on the distribution and interesting

Drs. J. WILLIAMSON and four clinical cases—an old African woman with a fungating mass in the right breast and pathological fractures of the right humerus and femur; an African boy with a hard, ill-defined swelling in the quadriceps of the right leg; an Indian woman with hepatic and splenic enlargement, associated with continuous fever, which had not yielded to quinine; and a young African male with obscure meningitic symptoms. Much discussion followed, and Dr. SHIREORE suggested that the first case, while superficially suggesting carcinoma, was in reality a combination of tertiary yaws with osteoporosis.

Dr. W. K. CONNELL described a method which he had devised for obtaining a complete and satisfactory cutaneous investment for the penis after the radical operation for elephantiasis of the male external genitalia. His method consisted of embedding the penis temporarily in a subcutaneous tunnel on the inner aspect of the thigh, and subsequently liberating it by means of a simple flap operation. He demonstrated a case which had been treated by this method.

## YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

A MEETING of the Wakefield, Pontefract, and Castleford Division was held at the Strathford Arms Hotel, Wakefield, on March 8th, when Dr. T. GIBSON was in the chair. A message of sympathy was sent to Dr. Neale, who was unable to lecture owing to indisposition.

Dr. J. T. INGRAM, dermatological physician to Leeds Infirmary, gave an interesting discourse on skin diseases, based on personal study and experience, stating that in his belief the skin was more often offended against than offending, and that rest, rather than attack, was the proper line of treatment in the majority of cases. He emphasized the necessity for the general examination of the patient, and exposure of the whole of the body in dealing with skin diseases, and advised early epilation for syphilis. He considered vaccines to be of definite value in the case of boils and acne vulgaris, and thought that boils were a definite indication of ill health, and that a holiday or, failing that, artificial sunlight, influenced treatment very much. He dealt with general skin diseases commonly experienced, and with industrial dermatological conditions, pointing out that many skin diseases had a psychological basis.

His address was very much appreciated by the members, and in the discussion Drs. GIBSON, BUTLER, LISTER, STEVEN, and THOMAS took part.

## GENERAL MEDICAL COUNCIL.

## EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council was held on February 27th, under the chairmanship of the President, Sir DONALD MACALISTER, Bt.

## General Medical Council Finance.

The sums received for registration fees during 1927 were £5,813 by the English Branch Council, £2,675 by the Scottish Council, and £1,467 by the Irish Council, together with £1,135 received by the General Council in respect to colonial and foreign medical qualifications. Fees and expenses for attendance at meetings of the General Council and its committees amounted to £2,723.

## An Italian Degree.

At its session in May, 1927, the Council decided that the entry of the name of a practitioner in the Foreign List of the *Medical Register* in virtue of the M.D. Pavia was incorrect, and must be erased. Since then communications have been received from the Ministry of Foreign Affairs at Rome announcing the annulment of the decision of the Royal University of Pavia that the degrees granted to certain American practitioners by that university should be considered as equivalent in every respect to degrees in medicine and surgery granted in Italy. Two other applications for registration in virtue of the Pavia degrees were before the Council, and the Registrar was instructed to refuse them.

## Reciprocity with Ontario.

Reciprocity with Ontario ceased at the end of 1927, but some correspondence was brought before the Committee on the subject. In a previous communication the Registrar of the College of Physicians and Surgeons of Ontario had instanced the registration of a certain practitioner resident in Ontario as one of the causes which led to reciprocity being brought to an end, and referred to the "humiliation" of having to grant this practitioner his registration following upon his registration in the United Kingdom. On this communication being brought to the notice of the University of Western Ontario, Dr. Howitt, of the staff of the medical school, wrote an account of the circumstances, which was stated by the dean to be more accurate than that given by the Registrar of the College. Dr. Howitt's letter, which is printed in full in the Committee's minutes, alleges grave unfairness in the treatment of this practitioner by the Ontario Medical Council, especially after he had willingly incurred great financial loss in meeting a condition which the Council had imposed.

## British Doctors in Madeira.

From some telegraphic correspondence between the British Consul at Funchal, Madeira, and the British Ambassador at Lisbon, it appeared that a notice to discontinue practice was given by the chief of police to foreign doctors in Madeira on February 16th. The Consul protested to the acting civil governor, who had been proceeding on suggestions—not having quite the force of instructions—from the Portuguese Minister of the Interior. The governor, however, was induced grudgingly to promise that no action should be taken pending an appeal to Lisbon, where the matter is now being taken up by the Ambassador. It is stated that British doctors have attended British residents in and visitors to Madeira since 1866. Madeira has become practically a hospital for convalescents and persons needing sun and sea bathing. Thousands of British subjects visit Madeira annually, many of whom would not do so but for the fact that British qualified doctors are in attendance at the hotels. [This matter is referred to by Dr. Michael Grabham in a letter published in this week's *Journal* at page 571.]

## Colonial Legislation.

An amendment of the law relating to dentists in the State of Victoria has been made. It was reported to the Committee that one effect of the new legislation is that persons registered under the Dentists Act, 1921, are no longer registrable in Victoria, which was one of the few dominions where, owing to the wording of the previous law, they had hitherto been able to register. This conforms to the custom in the United Kingdom of declining to register as dentists persons registered in the dominions solely on account of previous practice or apprenticeship and without a qualification obtained after a recognized course of study and curriculum.

## University of Calcutta.

The University of Calcutta sent a communication stating that transitory provisions had been made by the senate whereby the new medical regulations would become immediately applic-



able to existing students as desired by the General Medical Council. This followed upon a resolution of the Executive Committee of the Council at its previous meeting relating to the recognition of the medical degrees of Calcutta. Colonel Needham reported on the provisions that they complied with the Council's requirements, although certain anomalies inevitable to a change-over period remained. Thus, while the Final Examination under the new regulations would be held for the first time in April, 1928, the old Final Examination would be continued until November, 1929, so that senior students would have the option of taking either the old or the new Final. The Committee agreed that on the receipt of a satisfactory report from an approved inspector as to the conduct of the new Final Examination to be held in April next, the Council would be prepared to consider an application for the recognition of the degrees of the university granted under the new regulations.

#### Applications for Incorporation.

Following upon a communication considered at the last meeting of the Committee with regard to an application to the Board of Trade for the Society of Actinology and Actinotherapy to be registered without the use of the word "Limited," a letter was read from Sir Henry Gauvain, president of the society, stating that the application was unauthorized. A journal interested in the subject with which the society dealt—that is, the physics and physiology of light—had offered to bear the expenses of formal incorporation, but this assistance had been declined.

The Committee also considered an application which had been made to the Board of Trade on behalf of the British College of Obstetricians and Gynaecologists to be registered without the use of the word "Limited." The Committee saw no objection, provided that the memorandum and articles of association included a provision that every certificate or diploma issued by the body should bear an intimation that it did not confer or purport to confer any legal qualifications to practise gynaecology or midwifery.

#### Administration of Drugs by Midwives.

The Ministry of Health had forwarded to the Committee a leaflet issued by the Central Midwives Board concerning the drugs which might properly be carried and administered by midwives. The Committee resolved to inform the Ministry that it did not think it expedient in the public interest to distribute to midwives for use in their practice such a schedule of drugs as was set out in this memorandum, and was of opinion that the rule of the Board requiring the midwife to note in her register each occasion on which she applied a drug, with other details, should incorporate the wording of the corresponding rule as framed by the Central Midwives Board for Scotland.<sup>1</sup> The revised rules of the Scottish Board were also considered by the Committee, and no objection was taken.

#### Removal of Name at Practitioner's Own Request.

The Committee considered an application from Harold Dearden, registered as M.R.C.S.Eng.1911, L.R.C.P.Lond.1911, for the removal of his name from the Registrar on the ground that he had ceased to practise. The Royal Colleges had no objection, and the Committee agreed to recommend the Council to accede.

### DENTAL BOARD.

#### RETENTION FEE FOR DENTAL REGISTRATION.

THE case of Tattersall v. Sladen, which was decided by Mr. Justice Astbury on January 20th, was a test case on the liability of a registered dentist to pay a retention fee to the Dental Board.

The Dentists Act, 1921, provides that a fee may be charged for the retention of a name on the Register, and the Dental Board thereupon made a regulation that if a registered dentist failed to pay his retention fee before the end of the year preceding that for which it should be paid his name might be removed, whereupon, if he continued practising dentistry, he would lay himself open to prosecution as an unregistered practitioner. In England such prosecutions have been undertaken in a number of cases. In Scotland prosecutions cannot be instituted by the Board, but only by the procurator-fiscal, and following upon some prosecutions the Lord Advocate issued instructions to procurators-fiscal that they were not to prosecute in cases where a name had been removed merely for non-payment of a retention fee. The Lord Advocate, on being interviewed on the subject, adhered to his view, but said that he would reconsider his decision if a case were decided in the opposite sense by a judge of the High Court. A friendly action was commenced between two dentists who were in partnership under a deed which provided that if either did anything which laid him open to prosecution by the Board the

partnership would be dissolved. One of these dentists failed to pay his retention fee, whereupon the other gave notice of dissolution of partnership, and on the first refusing to accept such notice, brought an action for a declaration that the partnership was dissolved.

Mr. Justice Astbury, in giving judgement, held that the use of the term "retention fee" implied that unless a man paid this fee his name was not to be retained on the Register, and, further, that the regulations made by the Board for erasure from the Register were valid and binding. It followed, in his lordship's opinion, that if the name of the defaulter was erased from the Register and he continued to practise he would be liable to prosecution.

It was reported to the Dental Board, at a recent meeting "in committee of the whole Board," that the Lord Advocate had accepted this decision, and had given fresh directions to the procurators-fiscal.

### National Insurance.

#### COST OF PRESCRIBING.

##### ABOLITION OF THE "PHARMACOPOEIA CESTRIENSIS."

THE following letter has been addressed to the Clerk to the Insurance Committee of the County Palatine of Chester by Dr. Lionel J. Picton, on behalf of the Local Medical and Panel Committee. While his primary subject is the abolition of the *Pharmacopoeia Cestriensis*, the letter is of interest as embodying the views of the Cheshire Panel Committee on the current discussion on increasing costs of prescribing. Dr. Picton's letter reads:

The Panel Committee accepts, with misgiving and regret, the suggestion of the Insurance Committee that the *Pharmacopoeia Cestriensis* be done away.

The Drug Fund is fixed at a figure inadequate to meet the chemists' tariff charges; the chemists, though receiving the whole fund, are losing the difference. That is a state of affairs which can only be brought to an end by less or cheaper prescribing. It is because it recognizes these facts that the Panel Committee acquiesces. Its misgiving and regret proceed from the knowledge that the step is backward. The *Pharmacopoeia Cestriensis* was based on the well-known pharmacopoeia of a great hospital. It was pruned, altered, and enriched in the light of the experience of a group of general practitioners; it set a high standard; it was adapted to supply broadly the whole range of general practice. On its issue the *British Medical Journal* spoke of it more highly than of any comparable publication. It met the need; now that it is to be scrapped the need will not be met.

The report of the Insurance Committee's subcommittee on the "revision"—which is to result in the destruction—of the *Pharmacopoeia Cestriensis* speaks of the medical members agreeing that the substitution of a list of a few mixtures, etc., printed on a card "will not in any way be detrimental to the interests of the insured persons." They have been misreported. What they said was that the alterations proposed in the particular mixtures selected from the *Pharmacopoeia* for retention in the list would not be detrimental to the efficacy of those particular medicines. The Panel Committee would have no objection to, indeed would welcome, similar alterations in any other items in the *Pharmacopoeia*, were it possible to retain it. The nature of the alterations is the omission of spirit. This is on account of the present high duties on it. Concentrated infusions were requested by the authorities when the *Pharmacopoeia* was drawn up, as being cheaper; but as they are made with spirit they are now dearer. The Panel Committee never wanted them and welcomes this revision, but their satisfaction ends there; if the whole *Pharmacopoeia*, so revised, could be retained it would be a matter of congratulation.

The financial impasse will not permit of this. By an Act of Government a rigid limit is set, and cheaper treatment alone can keep within it. It is on that account the Panel Committee has misgivings. Cheaper treatment will inevitably mean dearer illness—not always, but often enough, and commonly enough, to tell against the patients and against the funds which the societies administer. The arbitrary imposition of a cost limit to prescribing tells against the freedom of medical treatment. That is the gravamen of the charge. If a doctor knows he will likely be surecharged if he orders so-and-so, he won't order it—a quixotic or rich doctor might. But no doctor can be the first long unless he is the second, and few are that. In a recent Cheshire case a doctor was accused of using cod-liver oil and malt too often. "It is hard to give convincing reasons why you should give it to one and not to another," he told the referees. "They find it does them good, and come and ask for it. I find it does good to a large class of patients. Now I am telling them that exception has been taken to its prescription, and I don't prescribe it." That is an example of the effect of sudden and restrictive economy.

Before the present new phase of Governmental activity the Panel Committee was engaged in working out a system of criticizing and curbing extravagance, which was applied domestically, within its own walls, so to speak, and would, the Committee believes, have issued in enhanced adherence to the principles which should guide doctors in spending the Drug Fund moneys to the best advantage. Real economy was in sight. Further, the Panel Committee has always, from the early days

<sup>1</sup> It may be noted that the Executive Committee's resolution makes no distinction as between the various drugs set out in the schedule, which includes simple aperients, antiseptics such as lysol, stimulants such as brandy, as well as opium.

when it issued its own special drug list with stipulations as to quality, had its eyes fixed on the freshness, standard, and purity of the drugs used.

Now all these endeavours go by the board. There seems no room for local effort in the system. I am to write frankly to the Insurance Committee, as above, in order that it, as representing the insured people, may be made aware of the light in which the Panel Committee views the recent developments in connexion with the Drug Fund. They may be inevitable, but they are not satisfactory.

#### LONDON PANEL COMMITTEE.

A MEETING of the London Panel Committee took place on February 21st, with Dr. H. J. CARDALE in the chair.

##### *Proprietary Preparations and the Drug Fund.*

A long discussion took place on the question whether various proprietary preparations formed a legitimate charge upon the Drug Fund. The committee agreed to inform the Insurance Committee than in its opinion fenamint and formamint tablets should not be allowed at the cost of the fund, but a similar recommendation with regard to sphagnol ointment was referred back, Dr. H. ROBERTS protesting that if the committee sought the exclusion of any preparation it should at least suggest an allowable equivalent.

It was reported that a letter had been received from British Drug Houses, Limited, protesting against a recent decision of the committee that radio-malt should not be allowed at the cost of the Drug Fund. The committee, however, after further discussion, decided to adhere to its previous decision, pointing out that this was a new preparation and that its therapeutic value could only be ascertained by experience. Dr. V. S. PARRINCE said that the sole question that the committee had to consider was whether radio-malt was a food or a drug. It was true that cod-liver oil and malt were allowable, but those preparations had occupied a special position in national insurance dispensing, dating back from the days of sanatorium benefit. He added that the committee was in no way concerned with the cost of a preparation, and that the fact that a preparation was more costly was no reason for its exclusion.

The next case considered was that of the proprietary preparation known as bynogen. The committee had previously decided that bynogen should be classified similarly to extract of malt, but it was now reported that in the view of the Minister of Health bynogen should rank with sautoegen, with regard to which both the Panel and Insurance Committees had agreed that it was of the nature of a food and not allowable at the cost of the Drug Fund. It appeared to the Minister to be clear that the malt and wheat in both these preparations were included for their food value, and that it would be difficult to contend that the small amount of special soluble malt extract which bynogen contained could have been added for any medicinal value it might possess. The committee therefore decided, in view of the information supplied by the Ministry, to regard bynogen as a food and as a preparation not allowable at the cost of the Drug Fund.

A letter from the Insurance Committee was read asking that the Panel Committee should enter upon a joint discussion with itself and the Pharmaceutical Committee on the whole question of proprietary preparations, but the Panel Committee reaffirmed a previous decision that there was no reason to interfere with the discretion of practitioners generally in ordering proprietary preparations for their patients, as adequate machinery existed under the regulations whereby practitioners could be called upon to explain what might appear to be excessive prescribing. The CHAIRMAN said that every case of this kind had to be decided on its merits. All practitioners received notice of certain preparations which were not considered allowable at the cost of the Drug Fund, but he thought that if a practitioner from his own experience in practice was able to justify the use of a proprietary preparation as against some more orthodox remedy no penalty would be imposed.

##### *Prescribing by Insurance Practitioners.*

The committee had before it the "Memorandum on prescribing for the guidance of insurance practitioners" issued by the Insurance Acts Committee, but after a brisk little discussion, during which Dr. CHASE complained of the Panel Committee's use of language which was unnecessarily provocative, the committee agreed by a majority to a resolution acknowledging the receipt of the memorandum and informing the Insurance Acts Committee that for some years it had issued a booklet on this subject which it considered of greater value to its constituents than the one now presented.

#### BIRMINGHAM PANEL COMMITTEE.

A MEETING was held on February 21st at the office of the committee, when Dr. DAIN presided over a good muster of members. Dr. Burges was congratulated on his election as vice-chairman of the Birmingham Insurance Committee. The CHAIRMAN drew attention to the great amount of useful work in connexion with health insurance which had been done by Dr. Williams-Freeman on behalf of the panel doctor, especially rural practitioners, and it was decided to contribute twenty guineas to the Williams-Freeman Testimonial Fund. An appeal was made for subscriptions to the B.M.A. Charities Fund, and it was decided to appoint a secretary to carry out a collection.

The letter from the British Medical Association with regard to the new method of changing doctor will be circulated to all panel doctors in the area, and their attention specially drawn to the contents. A letter from the Pharmaceutical Committee containing

suggestions making for economy in prescribing will be brought to the notice of all panel practitioners in the area through the medium of the *Birmingham Medical Review*. Comparison of the area figures for November and December last showed a more favourable position of affairs. An invitation to the committee to appoint a representative to the Birmingham Hospitals Council was received, but as it was considered that one representative was not sufficient the appointment was deferred pending correspondence on the subject. Claims for emergency, anaesthetic, and special service fees were considered. An appeal was again made to panel doctors to send to headquarters statistics of practice receipts and expenditure; forms for this purpose may be obtained from the Secretary of the Panel Committee, 154, Great Charles Street, Birmingham. The committee expressed an earnest hope that a good proportion of the doctors would respond, so that the ease of the Insurance Acts Committee (acting on behalf of the doctors) might be strengthened in possible future discussions with the Ministry of Health.

#### WARWICKSHIRE PANEL AND LOCAL MEDICAL COMMITTEE.

A MEETING of the Warwickshire Panel and Local Medical Committee was held at Leamington on February 23rd, when Dr. HERBERT MALINS presided over a good attendance. A considerable amount of routine business was transacted. In the course of a discussion on the working of the new "change of doctor" arrangements divided opinions were expressed as to whether the procedure was satisfactory and equitable, and it was agreed that the matter should receive continued review so that the committee's suggestions thereon could be prepared in good time for the autumn Panel Conference. The Pharmaceutical Committee put forward a list of proposed alterations in the *Formulary* adopted by the West Midlands Conjoint Group of Panel Committees; these suggestions mainly tended to the cheapening of certain mixtures.

## Correspondence.

### *The Workman's Value?*

SIR,—It seems worth while calling attention to the following interesting details connected with the payment by Government of the only unbiased examiner into an accident taking place in a factory.

Having taken over the appointment of surgeon under the Factory Acts in this district, I was requested to proceed to a factory about one mile distant, examine into the cause of an accident, examine the machine responsible for the accident, interview the persons concerned, and altogether spend the best part of half to three-quarters of an hour at the factory. I was then asked to furnish a full report of the case after examining the injured man.

For these services a cheque for 3s. was forwarded from the Home Office. I wrote and asked what the 3s. was for: was it for car hire one way, or what? When requested to render my account I put down a guinea as the charge for the report as the usual fee in similar cases not "under Government."

The whole appointment is not worth 30s. a year, and is no credit to anyone concerned. But my point is this: the only unbiased opinion in a case of a working man losing his life is given by an educated professional man, who is paid 3s. for a journey of about one mile and back, half an hour at the factory, and furnishing a full medical report. The cheque for 3s. is pinned up on the wall, but what it is for I do not know. —I am, etc.,

IAN JEFFERISS,  
Medical Officer of Health, Totnes.

March 19th.

### *Future of Hospital Services.*

SIR,—I have not seen any comments on Sir Richard Luce's address on the future of hospital services, published in the *Supplement* of March 10th (p. 77), and I suggest that some points arising out of it deserve attention.

There will be general sympathy with his appeal for the maintenance of the voluntary system. At the same time, anyone who knows anything of the pioneer work done under Poor Law, and the sacrifices made, will feel the injustice of his remarks about that service.

It seems clear, however, that he drew a contrast between one system that is known and another that is little known. He fears that the voluntary system will be swallowed up. This is evident from his quotation of the Socialist programme, and anxiety as to the permanence of financial support given in recent years. Stress was laid upon the funds now being raised by workmen. Is it realized that increasing numbers are going into Poor Law hospitals from choice, not necessity, and that the amount paid into Poor Law funds rivals the amount contributed by patients to voluntary hospitals?

Would it not be well that all the facts obtainable should be sought? Authoritative statements are made, for example, that so many thousand sick beds in the Poor Law service are

permanently empty. For practical purposes these figures are visionary. What they illustrate is the difficulty of getting at the truth about Poor Law. Yet this much-abused and condemned system holds the key position among problems of this nature.

Is it too much to hope that an effort may be made to bring together men who at present seem out of touch with each other—doctors with working knowledge of the different sections of Poor Law medicine, who are the only ones who have direct acquaintance with a somewhat incoherent system?

If the information that each of them could bring were put with what is already known a clear and safe policy might be arrived at. These are matters which concern all of us. We have a growing body of clinics, organized directly or indirectly by the State. We have also the workmen's funds that have successfully supported voluntary hospitals. These together have begun to throttle private practice.

If the private practitioner is to be destroyed, as he will be when the arrangements on foot develop fully, what use is there in considering future developments? He is the foundation of any kind of medical system likely to survive. If he goes under the two contending parties of State and voluntary effort will be left with their schemes in ruins.—I am, etc.,

Southend-on-Sea, March 25th. R. A. S. SUNDERLAND.

#### Pay Beds and the Future of Voluntary Hospitals.

Sir,—Upon some of the matters in the valuable article by the Dean of St. Mary's Hospital Medical School discussing the introduction of pay beds and the future of the voluntary hospitals (*Supplement*, March 17th, p. 85) it would be unbecoming for me to offer any observations; but there is one point in his article to which I should like to draw attention. Dr. Wilson says that "the Committee of King Edward's Hospital Fund] will certainly decide that there is no real difference in principle between taking patients paying three pounds or thereabouts, as is not unusual in the wards of voluntary hospitals at present, and taking patients into those hospitals who should pay five guineas as now proposed, if the hospital makes no profit. The difference is one of degree, not of kind." I submit that this is a one-sided statement, because it leaves out of account the position of the patient. There is all the difference in the world to a self-respecting individual between occupying a bed in which he is not the recipient of charity and one where he has to call upon the charitable funds. Moreover, in the large majority of cases he has a desire to pay for the professional attendance to the best of his ability.

The supporter of the hospital, too, appreciates the difference. More and more he requires that the hospital authorities should take care that the patients admitted into the general wards of the hospital are incapable of contributing the full cost. If they can do so, then the need to make other provision for them is clear. Apart from charters and Acts of Parliament, it must be remembered that the charitable public of the past gave their support for those who could not provide for themselves, and the charitable public of the present is equally alive to the primary objects of the foundation of the great London hospitals. The discussions on this subject too often fail to give full effect to the keen desire of the great majority of the middle class to maintain their independence, and at the same time their self-respect, by supporting themselves, even in a serious illness, to the utmost of their ability. It would be a real misfortune if, in providing for their bodily health, any damage were done to their strength of character.—I am, etc.,

C. E. A. BEDWELL,  
House Governor, King's College Hospital,  
London, S.E.5.

March 19th.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders J. Fullerton and G. E. H. Hamillon are placed on the retired list with the rank of Surgeon Captain.  
Surgeon Commander A. C. V. Green to the *Danae* on recommissioning.  
Surgeon Lieutenant Commanders G. E. Heath to the *Flora* for R.N. Hospital, Cape of Good Hope; E. R. P. Williams to the *Douglas* on completing.

Surgeon Lieutenants A. D. Sinclair to the *Wallflower*; W. Flynn to the *Tiger*.  
P. B. Jackson and D. R. Campbell have entered as Surgeon Lieutenants and appointed to the *Victory* for R.N. Hospital, Haslar.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenants G. F. Abercrombie and S. W. Davidson to be Surgeon Lieutenant Commanders.

### ROYAL ARMY MEDICAL CORPS.

Captain A. J. Beveridge, M.C., to be Major, July 19th, 1927 (substituted for notification in the *London Gazette*, July 26th, 1927).  
Captain E. S. Cuthbert to be Major, April 2nd, 1927 (substituted for notification in the *London Gazette*, June 7th, 1927).  
Lieutenant G. C. Phipps to be Captain (prov.).  
Temporary Lieutenant R. J. Monahan relinquishes his commission.  
To be temporary Lieutenants: E. A. Stroud and R. A. Kennedy.

### ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders R. J. Aberne, M.C., to Headquarters, Middle East; P. H. Young to Headquarters, Iraq.  
Flight Lieutenants J. A. Perdrau to No. 3 Flying Training School (Cadre), Spittlegate; R. Boog-Watson to R.A.F. Station, Upavon.  
Flight Lieutenant D. B. Smith is transferred to the Reserve, Class D.II.  
The following Flight Lieutenants are granted permanent commissions in this rank: J. D'I. Rear, J. McE. Wilder, and J. I. Hyder.  
Flying Officer G. S. Strachan is promoted to the rank of Flight Lieutenant.  
Flying Officers J. Twohill to R.A.F. Training Base, Leuchars; G. T. O'Brien to R.A.F. Practice Camp, Sutton Bridge; M. Clancy to R.A.F. Practice Camp, Weston Zoyland; G. W. J. Williams to R.A.F. Practice Camp, North Coates Fitties; L. Freeman, G. W. McAleer, E. P. Carroll, J. P. McGovern, and W. Heron to Headquarters, Iraq.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel R. W. Anthony to be Major-General, vice Major-General A. Hooton, C.I.E., K.H.P.  
Lieut.-Colonel J. Husband is posted as Legation Surgeon, Nepal, and ex-officio Assistant to the British Envoy at the Court of Nepal.  
Lieut.-Colonel T. H. Gloster is permitted to retire from the service.  
Lieut.-Colonels J. A. Shorien and H. M. Inman retire from the service.  
Majors to be Lieutenant-Colonels: W. E. Brierley, J. B. Lapsley, M.C., C. H. Fielding, W. L. Watson, O.B.E., J. W. Barnett, M. L. Puri, R. B. Lloyd, A. C. Munro, R. N. Chopra, A. G. Tresidder, C.I.E., G. G. Jolly, C.I.E., H. Stott, O.B.E., A. A. C. McNeill, G. F. Graham, M. D. Wadia, T. D. Murison, S. S. Vazifdar, J. J. H. Nelson, O.B.E., M.C., E. S. Phipson, D.S.O., P. F. S. Smith, and T. C. Boyd.  
Major R. H. Malone has resumed charge of his appointment as Officiating Assistant Director, Central Research Institute, Kasauli.  
Captains to be Majors: R. C. Mathotra, O.B.E., H. C. Tait, M.B.E., and J. C. Chukerbuti.  
Captain A. M. Ghosh to be Major.  
Lieutenant T. D. Donegan is permitted to resign the service.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Colonel A. Ducau, D.S.O., T.D., having attained the age limit, is retired and retains his rank, with permission to wear the prescribed uniform.  
Captains to be Majors: H. A. B. Whitelecke, with precedence as from May 5th, 1927; A. C. Haddow.  
Captain (prov.) R. S. Creed is confirmed in his rank.  
Lieutenant O. F. W. Robinson to be Captain.  
Lieutenant E. T. Birkinshaw resigns his commission.  
General Hospitals.—Lieutenant W. H. A. Dodd, from General List, to be Lieutenant, with precedence as from July 6th, 1923.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Major E. Alderson, D.S.O., T.D., from the active list, to be Major.

### COLONIAL MEDICAL SERVICES.

Dr. J. B. Kirk to be Director of the Medical and Health Department, Mauritius.  
Dr. R. P. Cormack to be Senior Bacteriologist, Kenya.  
Dr. N. P. Jeauch, M.C., to be Resident Surgical Officer, Nairobi Hospital, Kenya.  
Dr. W. L. Webb to be Deputy Director of the Medical Service, Uganda.  
Dr. H. B. Owen, D.S.O., to be Medical Superintendent and Principal of the Medical School, Mulago Hospital, Uganda.  
Dr. G. C. Edwards to be Medical Officer, West African Medical Staff.  
Dr. G. W. Pope to be Medical Officer of Health, Hong-Kong.  
Dr. F. W. Vint to be Assistant Bacteriologist, Medical Department, Kenya.  
Dr. D. T. Birt, W.A.M.S., to be Senior Medical Officer, Sierra Leone.  
Dr. E. I. Bieber to be Medical Officer, Nigeria.  
Drs. A. MacPherson, M. Jackson, and A. Walker to be Medical Officers, Gold Coast.  
Dr. J. H. Reford has retired from his appointment as Director of Medical and Sanitary Services, Uganda.

### VACANCIES.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.—(1) House-Surgeon. (2) Assistant House-Physician. Salary at the rate of £100 per annum each.  
BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Honorary Radiologist.  
BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—(1) House-Surgeon at Poole Road Branch. (2) House-Surgeons and Casualty Officer at Boscombe Branch. Salary at the rate of £120 per annum each.  
BRISTOL HOMOEOPATHIC HOSPITAL.—Resident Medical Officer. Salary £100 per annum.  
BURTON-ON-TRENT INFIRMARY.—Junior Resident House-Surgeon (male). Salary £150.  
CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Resident Anaesthetist (male). Salary at the rate of £180 per annum.  
CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £250 per annum.  
CANNONVOSHIRE AND ANGLESEY INFIRMARY, Bangor.—House-Surgeon (male). Salary £200 per annum.  
COUNTY MENTAL HOSPITAL, Whittingham, Preston.—Sixth Assistant Medical Officer (unmarried). Salary £350 per annum, rising to £450.  
DARLINGTON COUNTY BOROUGH.—Health Visitor. Salary £172 16s.  
DERBYSHIRE ROYAL INFIRMARY.—(1) House-Surgeon. (2) Assistant House-Surgeon and Casualty Officer. Males. Salary at the rate of £150 per annum each.  
DORCHESTER: ROYAL INFIRMARY.—Third House-Surgeon (male). Salary at the rate of £150 per annum.  
DUBLIN: CITY OF DUBLIN SKIN AND CANCER HOSPITAL.—(1) Resident House-Surgeon. (2) Resident Deep X-ray Therapist.  
EXETER: ROYAL DEVON AND EXETER HOSPITAL.—House-Physician (male). Salary at the rate of £130 per annum.  
FORTINGALL PARISH COUNCIL.—Medical Officer and Public Vaccinator for the Rannoch District. Annual income probably from £650 to £700.  
GLASGOW: UNIVERSITY COLLEGE.—(1) Professorship of Midwifery and Gynaecology. (2) Professorship of Therapeutics, Pharmacology, and Maternal Medicine. Salary £300 to £320 a year each.  
HOLBORN UNION.—Second Assistant Medical Officer at the Holborn and Finchbury Hospital, Archway Road, N.19. Salary £300 per annum.

**HÔPITAL FRANÇAIS**, 172, Shaftesbury Avenue, W.C.2.—(1) Physician in In-patients. (2) Physician to Out-patients. (3) Junior Resident Medical Officer (male, unmarried). Salary for (3) £100 per annum.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST**, Brompton, S.W.3.—House-Physicians. Honorarium £50 for six months.

**HOSPITAL FOR EPILEPSY AND PARALYSIS**, Maida Vale, W.9.—(1) Resident Medical Officer. (2) House-Physician. Salary £150 and £100 per annum respectively.

**HOSPITAL FOR SICK CHILDREN**, Great Ormond Street, W.C.1.—House-Surgeon, House-Physician, and Assistant Casualty Officer for six months. Salary £50.

**HOSPITAL FOR WOMEN**, Soho Square, W.1.—Assistant Anaesthetist.

**KNOCKANDO PARISH**.—Parochial Medical Officer and Public Vaccinator. Salary £46 per annum.

**LEIGH INFIRMARY**, Lancashire.—Resident House-Surgeon (male, unmarried). Salary at the rate of £150 per annum.

**LIVERPOOL EYE AND EAR INFIRMARY**.—Third Honorary Anaesthetist.

**LONDON FEVER HOSPITAL**, Islington, N.1.—Honorary Surgeon.

**LUTON UNIVERSITY**.—Professor of Anatomy. Salary Rs.1,450 per mensem.

**MANOR HOUSE HOSPITAL**, Golders Green, N.W.11.—House-Surgeon (male, unmarried). Salary at the rate of £200 per annum.

**MILNAY MISSION HOSPITAL**, Austin Street, E.2.—(1) Senior Resident Medical Officer (male). (2) Assistant Casualty Officer (non-resident). Salary at the rate of £140 and £100 per annum respectively.

**MILLER GENERAL HOSPITAL**, Greenwich Road, S.E.10.—Casualty Officer (male, unmarried). Salary £150 per annum.

**MINISTRY OF HEALTH**.—Deputy Regional Medical Officers. Remuneration £800 per annum, rising to £1,100.

**PADDINGTON GREEN CHILDREN'S HOSPITAL**, W.2.—(1) House-Physician. (2) House-Surgeon. Males, unmarried. Salary at the rate of £150 per annum each.

**PRINCE OF WALES'S GENERAL HOSPITAL**, Tottenham, N.15.—(1) House-Surgeon. (2) Special House-Surgeon. (3) House-Physician. (4) Junior House-Surgeon. (5) Junior House-Physician. Salary at the rate of £120 per annum for (1), (2), and (3), and £90 per annum for (4) and (5).

**PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN**.—(1) House-Physician. (2) House-Surgeon. One will be appointed Resident Medical Officer and be regarded as senior with salary at the rate of £100 per annum, the other will receive £75 per annum.

**QUEEN'S HOSPITAL FOR CHILDREN**, Hackney Road, E.2.—Physician in charge of Skid Department.

**RHOONDA URBAN DISTRICT COUNCIL**.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

**ROYAL NATIONAL ORTHOPAEDIC HOSPITAL**, 234, Great Portland Street, W.1.—Medical Registrar. Honorarium at the rate of £150 per annum.

**ST. VINCENT'S ORTHOPAEDIC HOSPITAL**, Eastcote.—Resident Medical Officer (male). Salary at the rate of £150 per annum.

**WAKEFIELD: COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE**.—Third Assistant Medical Officer (resident) at the Middleton-in-Wharfedale Sanatorium. Salary £250 per annum.

**WALSALL COUNTY BOROUGH**.—Clinical Tuberculosis Officer, Assistant Medical Officer of Health, and Assistant School Medical Officer (male). Salary £750 per annum.

**WALSALL GENERAL HOSPITAL**.—House-Surgeon. Salary £125 per annum.

**WALSALL UNION**.—Resident Medical Officer at the Poor Law Institution. Salary £600 per annum, plus vaccination and certification fees.

**WESTON-SUPER-MARE HOSPITAL**.—Resident Medical Officer (male, unmarried). Salary £130 per annum.

**WEST HARTLEPOOL: CAMERON HOSPITAL**.—House-Surgeon (male). Salary £150 per annum.

**MEDICAL REFERENCE OR REFERENCES UNDER THE WORKMEN'S COMPENSATION ACT** (1) for the districts of the Northampton and Towcester, Newport Pagnell, and Leighton Buzzard County Courts (Circuit No. 23); (2) Ophthalmic Specialist for all County Courts in Circuits 1 and 2 (Northumberland and Durham). Applications to the Private Secretary, Home Office, Whitehall, S.W.1, by April 7th and 11th respectively.

**CERTIFYING FACTORY SURGEONS**.—The following vacant appointments are announced: Aberchirder (Banffshire), Rhynie (Aberdeenshire), Tyldesley (Lancashire), Fakenham (Norfolk), Kingston (Surrey), City of London. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

## APPOINTMENTS.

**PIERCE, W. J., M.B., Ch.B.** Liverpool, Junior Medical Officer, Liverpool Open-air Hospital for Children, Leasowe.

**QUEEN CHARLOTTE'S MATERNITY HOSPITAL**, Marylebone Road, N.W.1.—Senior Resident Medical Officer: George A. Ross, M.B., Ch.B. Assistant Resident Medical Officer: Henry C. Lowry, M.B., Ch.B., B.A.O., F.R.C.S. Ed. District Resident Medical Officer: Miss G. M. B. Morgan, M.B., Ch.B.

**ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN**, Leicester Square, W.O.2.—Senior Honorary Medical Registrar: Henry Corsi, M.B., F.R.C.S. Junior Honorary Medical Registrar: Lazare Harlston, M.B., B.S. Lond.

**CERTIFYING FACTORY SURGEONS**.—T. Clapperton, M.B., Ch.B. Aberd., for the Oakham District, Rutland; L. E. Hughes, M.R.C.S., L.R.C.P. Lond., for the Cirencester District (Gloucestershire); T. E. Jones, M.R.C.S., L.R.C.P. Lond., for the Aberystwyth District (Cardigan); R. Lawson, M.D. Ed., for the Hippenholme District, West Riding; J. W. McIntosh, M.B., Ch.B. Ed., F.R.C.S. Ed., for the King's Lynn district (Norfolk); J. J. O'Reilly, M.B., N.U. Irel., for the Chepstow District (Monmouth).

## DIARY OF SOCIETIES AND LECTURES.

### ROYAL SOCIETY OF MEDICINE.

**Section of Orthopaedics**.—Tues., 8.30 p.m., Dr. Charles Scudder (Boston, Mass.): The Treatment of Recent Fractures by Operation. To be followed by Sir Robert Jones, Mr. E. W. Hey Groves, Mr. H. A. T. Fairbank, and Mr. W. A. Cochrane.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager, Telegrams: Ardicale Westcent, London).  
**MEDICAL SECRETARY** (Telegrams: Mediscra Westcent, London).  
**EDITOR**, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of *British Medical Association* and *British Medical Journal*, Museum 8851, 8852, 8853, and 8864 (internal exchange, four lines).

**SCOTTISH MEDICAL SECRETARY**: 6 Drumbooth Gardens, Edinburgh. (Telegrams: 24361 Edinburgh.)  
**IRISH MEDICAL SECRETARY**: 100 Redcliff Street, Dublin. (Telegrams: 24361 Dublin.)

### Diary of the Association.

- MARCH.**
- 30 Fri. English Division (Border Counties Branch): Whitehaven and West Cumberland Hospital, Whitehaven, 3.30 p.m.  
Mendon Division: Clinical Meeting and Dinner, Breat Bridge Hotel, Dr. W. Langdon Brown on Organotherapy in General Practice, 8 p.m.  
Southport Division: B.M.A. Lecture by Dr. E. P. Gumberbatch on the Use of Ultra-Violet Rays.
- APRIL.**
- 3 Tues. London: Standing Ethical Subcommittee, 2 p.m.  
City Division: Metropolitan Hospital, Kingsland Road, E. Discussion on Treatment of Fibrosis, 9.30 p.m.  
Coventry Division: Clinical Meeting, Coventry and Warwickshire Hospital, 8.30 p.m.  
Finchley Division: Finchley Memorial Hospital, Mr. W. S. Herman, L.D.S., on the Dental Treatment of Fractured Jaws, 8.45 p.m.  
Hastings Division: Queen's Hotel, Hastings. Dr. E. I. Spriggs on Diverticulosis, 8.15 p.m.
- 4 Wed. London: Psycho-Analysis Committee, 2 to 4 p.m.  
Groydon Division: Groydon General Hospital, Dr. G. E. E. Brayne-Nicholls on Tuberculosis of the Bowels, 4 p.m.
- 5 Thurs. Dudley Division: Guest Hospital, Dudley, 8.30 p.m.  
Guildford Division: Clinical Meeting, Royal Surrey County Hospital, 4 p.m.
- 10 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.O.1. Dr. Donald Paterson on the Prevention of Summer Diarrhoea, 8 p.m.
- 11 Wed. London: Council, 10 a.m.  
Groydon Division: Annual Dinner, Greyhound Hotel, 8 p.m.  
Hastings Division: St. Enoch Station Hotel, Dr. John C. Affections, 3.30 p.m.  
Norwich Division: Dr. Ian D. in General Practice, 3.30 p.m.  
Hartford Division: Dr. J. Wilkie Vomiting, 3 p.m.  
Hull Division: Clinical Meeting, District Asylum, Inverness.
- 17 Tues. Portsmouth Division: Queen's Hotel, Southsea. Dr. J. Stanley White on Biological Therapy, 9.30 p.m. Supper, 9 p.m.
- 18 Wed. Lewisham Division: Town Hall, Catford, S.E.6. Dr. W. V. Goldsmith on Pigmentation of the Skin, 8.45 p.m.
- 18 Wed. Ashford Division: Dr. J. W. McNece on Hepatic and Biliary Diseases, 4 p.m.  
Chesterfield Division: Royal Hospital, Chesterfield, 3 p.m.  
Nuneaton and Tamworth Division: Nuneaton General Hospital. Dr. O. F. Rudd on an Ophthalmic Subject.

## POST-GRADUATE COURSES AND LECTURES.

- HOSPITAL FOR SICK CHILDREN**, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Soma Complications of Acute Specific Fevers in Children.
- NORTH-EAST LONDON POST-GRADUATE COLLEGE**, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 p.m., Demonstration of Medical Cases: 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Ear Clinics; Operations. Wed., 2.30 p.m., Cases: 2.30 to 5 p.m., Medical, Skin, and Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Ear, Nose, and Throat Clinics; Operative Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical Diseases Clinics; Operations.
- WEST LONDON HOSPITAL POST-GRADUATE COLLEGE**, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations. Tues., 10 a.m. to 1 p.m., Surgical Wards, Eye and Departments. Tues., 10 a.m. to 1 p.m., Diseases Demonstration, Electrical Department. Thurs., 10 a.m. to 1 p.m., Medical Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Medical Throat, Nose, and Ear Department. Thurs., 10 a.m. to 1 p.m., Surgical Wards, Eye and Departments. Thurs., 10 a.m. to 1 p.m., Neurological Department, Massage Department; 2 p.m., Eye Department, Genito-urinary Department, Gynaecological Wards. Daily (except Sat.) at 2 p.m., Medical and Surgical Out-patients; Operations.
- GLASGOW POST-GRADUATE MEDICAL ASSOCIATION**.—At Ophthalmic Institution: Wed., 4.15 p.m., Eye Cases.
- MANCHESTER: ANCOATS HOSPITAL**.—Thurs., 4.15 p.m., Treatment of Hernia. Tea at 3.45 p.m.
- MANCHESTER ROYAL INFIRMARY**.—Tues., 4.15 p.m., Lecture: Pseudo-coxalgia and Allied Conditions. Tea at 3.45 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

### DEATH.

**MUIR SMITH**.—On March 26th, suddenly, at Riversdale, 8, Upperton Road, Eastbourne, William Muir Smith, M.B., C.M., J.P., aged 67.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 7TH, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### Medico-Political Committee.

Among other matters of interest the Medico-Political Committee, on March 21st, had before it the draft regulations drawn up by the Ministry of Health under the Nursing Homes Registration Act, 1927. This Act comes into force on July 1st next, and the precise wording of the regulations is important to members of the medical profession, for the Act affects the medical as well as the lay owners of nursing homes. The Committee has suggested for the consideration of the Ministry of Health certain amendments in the draft submitted to it. The Committee had also under consideration at this meeting certain difficulties reported as arising in connexion with the new form of death certificate. It seems that delay has been found to occur in cases in which doctors are not familiar with the names and addresses of the registrars of subdistricts covered by their practices. This matter has been referred to the Registrar-General, who has replied that the regulations require that any registrar receiving from a practitioner a medical certificate which has reference to a death required to be registered in some other subdistrict shall forthwith transmit it to the registrar to whose subdistrict it relates; further, it has long been the duty of superintendent registrars to print from time to time a list of the registrars of births and deaths within the district, stating their names, offices, etc., and approved days and hours of attendance, and to supply a copy of such list to every registered medical practitioner practising within the district. Steps have been taken to ensure that on the reissue of any lists since the commencement of the 1926 Act such lists should include additional assistance to enable a practitioner to comply with the new obligation. The Committee hopes that these arrangements will for all practical purposes meet the difficulty which has arisen.

##### Consulting Pathologists Group Committee.

The committee of the recently constituted group of consulting pathologists met on March 23rd to consider the matters referred to it by the meeting of the group conference on March 2nd (*Supplement*, March 10th, p. 81). It was chiefly occupied in a preliminary review of the details of such local schemes as are already in operation for the provision of pathological services under the National Health Insurance Acts.

##### Election of Central Council.

The attention of Division and Branch secretaries and members generally is drawn to the announcement in the Table of Dates under "Association Notices" (*Supplement*, p. 114) that nomination papers for election of the twenty-four members of Council by the grouped Branches in the British Isles are now available on application to the Medical Secretary.

#### NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

##### Membership and Acceptance of Post which is Subject of "Important Notice."

**BY NORTH MIDDLESEX:** That no medical practitioner shall be eligible for membership of the Association who has obtained and holds a position to which he was appointed whilst it was the subject of an "Important Notice" in the *British Medical Journal*.

##### Medical and Dental Examinations of Insured Persons.

**BY WINDSOR:** That in the opinion of this meeting the establishment of periodical medical and dental examinations of all persons insured under National Insurance laws is urgently called for as an economic proposition, having regard to the return so to be obtained in health and productive efficiency; every such insured person, when accepted as a patient on a doctor's panel, shall be by that doctor medically examined, and the result of that examination placed on record. Preliminary examination should apply also to dental examination, when that additional benefit is included and available under the National Insurance laws.

#### SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

##### Scholarships.

The Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum. These Scholarships are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State Medicine) relating to the causation, prevention, or treatment of disease. Each Scholarship is tenable for one year, commencing on October 1st, 1928. A Scholar may be reappointed for not more than two additional terms. A Scholar is not necessarily required to devote the whole of his or her time to



the work of research, but may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his work as a Scholar.

#### Grants.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the causation, treatment, or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

#### Conditions of Award: Applications.

Applications for Scholarships and Grants must be made not later than Saturday, June 2nd, 1928, on the prescribed form, a copy of which will be supplied on application to the Medical Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated, to whom reference may be made.

## Association Notices.

### A CALCUTTA BRANCH.

NOTICE is hereby given to all concerned of the formation by the Council of the Association of a Calcutta Branch, the area of the Branch to comprise that portion of Bengal which lies to the south and west of the Ganges, the Branch coming into existence as from the date of publication of this Notice.

### TABLE OF DATES.

April 28, Sat.	Annual Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
	Last day for receipt at Head Office of nominations: (i) by n Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Voting papers posted from Head Office, where there are contests in above elections.
May 15, Tues.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
May 19, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 2, Sat.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
	Annual Representative Meeting, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
	Meetings of Sections, etc., Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—At the meeting of the Nuneaton and Tamworth Division to be held at the Nuneaton General Hospital on Wednesday, April 18th, Dr. C. F. Rudd will read a paper on an ophthalmic subject.

**CAMBRIDGE AND HUNTINGDON BRANCH.**—A meeting of the Cambridge and Huntingdon Branch with the Cambridge Medical Society will be held at Addenbrooke's Hospital on Friday, April 13th, at 2.30 p.m. Mr. Arthur Cooke: The results of treatment of gastric and duodenal ulcer; Mr. W. H. Bowen and Dr. Ff. Roberts: The operative treatment of oblique fracture of the femur; Dr. Ff. Roberts: Localization of a golf-ball in a dog by the barium meal.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at St. Enoch Station Hotel on Wednesday, April 11th, at 3.30 p.m. Dr. John Mortimer will read a paper on the commoner eye affections as occurring in general practice.

**KENT BRANCH: ASHFORD DIVISION.**—At a meeting of the Ashford Division to be held at the North Street Club, Ashford, on Wednesday, April 18th, at 4 p.m., Dr. J. W. McNee of University College Hospital will give a lecture on new work in the diagnosis and treatment of hepatic and biliary diseases. A cordial invitation is extended to all members of the Kent Branch.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next clinical meeting of the City Division will be held on Friday, April 13th, at the Metropolitan Hospital, when Mr. P. M. Heath will show surgical cases. Tea at 4.15 p.m., meeting at 4.30.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—At the meeting of the Lewisham Division to be held at the Town Hall, Catford, S.E.6, on Tuesday, April 17th, at 8.45 p.m., Dr. W. V. Goldsmith will read a paper on pigmentation of the skin.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, April 10th, at 9 p.m. Dr. Donald Paterson will give a lecture on the prevention of summer diarrhoea.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—At the meeting of the Willesden Division to be held at the Willesden General Hospital, Harlesden Road, on Wednesday, April 18th, Dr. J. Bright Bannister will give an address on ante-natal work.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Royal Hospital, Chesterfield, on Wednesday, April 18th, at 3 p.m., when there will be a series of clinical demonstrations.

**MIDLAND BRANCH: HOLLAND DIVISION.**—A meeting of the Holland Division will be held in the White Hart Hotel, Boston, on April 12th, at 3 p.m., when an address will be given by Dr. J. Wilkie Scott (Nottingham) on some aspects of vomiting. Members of neighbouring Divisions will be welcomed.

**NORFOLK BRANCH.**—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, April 11th, at 3.30 p.m. Sir Hamilton Ballance, K.B.E., president of the Branch, will be in the chair, and a paper will be read by Dr. Ian D. Dickson on neurasthenia in general practice.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, April 18th, at 8.15 p.m. Dr. A. F. Bernard Shaw will read a paper on the present status of the jaundice problem.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, April 19th, at 8.30 p.m. Lieut.-Colonel P. J. Maret will read a paper on some lung affections.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The final address of the winter session of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, April 12th, at 9.30 p.m., preceded by a supper at 9 p.m. Dr. J. Stanley White will give an address on some recent aspects of biological therapy, illustrated by a cinematograph demonstration of research work carried on in Messrs. Parke, Davis and Co.'s research laboratories. This will be the last address, preceded by a supper. The business meeting will be held on May 10th, at 9 p.m., and the annual dinner on May 16th.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—A meeting of the West Suffolk Division will be held on Saturday, April 14th, at 8.45 p.m., when Mr. C. W. G. Bryan will give a lecture on the acute abdomen in childhood. Coffee will be served at 8.30.

### B.M.A. CHARITIES FUND.

In the list of subscriptions and donations to the B.M.A. Charities Fund published on page 104 in the *Supplement* of March 31st, the sum of £1 15s. 6d. was entered as from the Kensington Division. This sum should have been credited as subscriptions from Surgeon Rear-Admiral W. G. Axford, C.B., Dr. Mary A. Silcock, and Captain Armitage L. Forbes.

In addition to the amount of £1 15s. 6d., subscriptions had been received from the following members of the Division, and these have been entered in the individual names: Miss Dorothy Wood; Dr. Katherina A. C. Gillie, Dr. E. A. Barton, Dr. G. Denton Winston, Dr. W. G. Beadle, Dr. E. R. Sweeney, Colonel W. G. Pridmore, C.M.G., Dr. A. S. Herbert, and Dr. Ford Caiger.

A subscription was shown as having been received from the Andover Mental Hospital. This should have read "Andover War Memorial Hospital."

## Meetings of Branches and Divisions.

### ABERDEEN BRANCH: ABERDEEN DIVISION.

THE Executive Committee of the Aberdeen Division on March 27th entertained to tea the medical graduates of Aberdeen University. Out of a total of twenty-seven there were present twenty-one. Copies of the *Handbook for Recently Qualified Medical Practitioners*, issued by the British Medical Association, were distributed to the new graduates, and the chairman and vice-chairman of the Division, Dr. SKINNER and Dr. THOMAS FRASER, addressed the guests, and explained the advantage of joining the Association. The meeting was informal and was generally voted a success.

### BIRMINGHAM BRANCH: BROMSGROVE DIVISION.

A GENERAL meeting of the Bromsgrove Division was held at the Smallwood Hospital on March 19th, when Dr. E. A. SMITH was in the chair.

The rules of organization of the Division, as suggested by the Central Council, were discussed and adopted, with a few minor modifications.

A circular from headquarters regarding hospital contributory schemes was discussed. As the Birmingham hospital-contributory scheme has now conceded the three main items in the British Medical Association policy, further discussion was considered useless. It was decided to ask the Dudley Division to select a representative to the Annual Representative Meeting this year.

With reference to the inquiry into the treatment of varicose ulcers, the secretary was instructed to submit the names of Drs. Protheroe Smith, Mitchell, and Lewis of Redditch, and Dr. Bodger of Studley.

A discussion took place on a memorandum from headquarters regarding reports of practitioners at the request of coroners. The secretary was instructed to write to the Birmingham Branch suggesting that the county councils concerned should be approached by the Branch, as having more weight than the Divisions.

### BORDER COUNTIES BRANCH.

A GENERAL meeting of the Border Counties Branch was held at Storms Farm, Keswick, on March 16th, at the invitation of Mr. J. A. Spedding. More than fifty members and friends were present, the latter including leading members of the Border Counties Branch of the Association of Veterinary Surgeons. The whole process of the production of certified milk was demonstrated, and after tea Mr. Spedding gave an address on pure milk production and grading.

Mr. R. SIMPSON, chief veterinary officer to the Cumberland County Council, read an instructive and interesting paper on the subject of milk production and bovine tuberculosis in relation to public health. After referring to the food value of milk, he remarked that bacterial contamination was to a large extent preventable if suitable methods were employed, though the position in regard to tuberculous infection was still far from satisfactory. Recent legislation would be productive of good, provided that there was strict and uniform administration throughout the country. The education of the public with regard to the value of milk should be intensified in order that recognition of the danger of dirty milk might induce people to pay the higher cost of graded milk. Mr. Simpson insisted that the elimination of tuberculosis in man must to a very large extent be dependent on its eradication from cattle, where it was still very prevalent; in this country it was by far the most important animal disease. He then referred to the satisfactory improvement in Newcastle as regards the fall in the number of samples collected of tuberculous milk. He also alluded to the difficulties in tracing infected cattle, and summarized the steps taken to prevent human infection, with special reference to legislation and the various orders, indicating the lines on which further development should proceed.

Dr. F. H. MORRISON, medical officer of health for Cumberland, considered the subject of graded milk from the public health point of view.

After a short discussion hearty votes of thanks were passed to Mr. and Mrs. Spedding for their hospitality, and to the speakers. A resolution of condolence was sent to the widow and family of Dr. William Scott of Ruthwell, a recent president of the Branch.

### DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held on March 20th at the Weymouth and District Hospital. The letter from the Council concerning reports by practitioners to coroners was discussed, and it was decided to approach all coroners in the Divisional area and to ascertain their views.

Dr. GRAY showed a "Mongol" boy, aged 9. In addition to the usual symptoms of Mongolism he had webbing of the middle and fourth fingers, both hands, and a similar condition of the toes.

Dr. HORTON showed a lad, aged 17, who, four years ago, had suffered from tuberculous tip disease on the left side, which was now cured. Subsequently the left forearm became swollen and a sinus opened, which also had quite healed. An x-ray photograph showed tuberculous disease of the left ulna. Early in 1928 he had suffered from severe pain in the left arm, and high fever. The left humerus appeared to be enlarged, and an x-ray photograph showed periostitis. The periosteum was incised; there was no pus, but a *Streptococcus longus* and a coliform bacillus were recovered. A section of the periosteum showed fibrous osteitis and no evidence of tuberculous or malignant disease. Dr. HORTON also showed a boy who suffered from fragilitas ossium affecting

the leg bones. He had had many fractures. The right tibia and fibula had become bent at a right angle. Dr. HORTON had performed a wedge-shaped osteotomy of the tibia and plated it in good position. The wound had now healed. Dr. HORTON exhibited a section of an encapsulated lunion removed from the pectoralis major of a male patient; the section showed myeloid sarcoma.

Dr. PRIDHAM showed a lad, aged 19, presenting the Parkinsonian syndrome following encephalitis lethargica.

After refreshments had been served Dr. T. COLLEY read an interesting and practical paper entitled "Some acute eye conditions met with in general practice." He discussed the differential diagnosis and treatment of acute glaucoma, acute iritis, and acute conjunctivitis.

### ESSEX BRANCH: MID-ESSEX DIVISION.

A MEETING of the Mid-Essex Division was held on March 2nd. The following officers were elected for 1928:

*Chairman*, Dr. J. P. Wells. *Secretary and Treasurer*, Dr. R. H. Veicoe. *Representative in Representative Body*, Dr. H. G. L. Haynes. *Deputy Representative in Representative Body*, Dr. R. H. Veicoe.

THE SECRETARY reported on the year's work and accounts of the Division. After a discussion on attendance of medical practitioners at road accidents, it was decided that the only hope of being paid for attendance at such accidents would be for legislation to be enacted so that motorists to be insured to cover accidents to the cost of medical treatment, ambulance, and hospitalization.

Some discussion took place on the treatment of chronic varicose ulceration in general practice. Various methods of treatment were discussed, including ultra-violet light and injections into the veins of sodium salicylate. Several members offered to complete case sheets if sent to them.

A letter from the Medical Secretary on reports furnished by medical practitioners at the request of coroners was read; it was decided to write to the Branch Secretary asking him to notify the county council that 10s. 6d. was considered a proper fee for such reports.

Dr. LYSTER asked if there were a ruling as to a fee for dental gas given by a medical practitioner. He was informed that the accepted fee was 10s. 6d., although the Dental Benefit Joint Committee under the National Insurance Act had approved a fee of 7s. 6d. in certain cases.

### LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.

A MEETING of the Mid-Cheshire Division was held at the Altrincham General Hospital on March 20th, when Mr. SAMPSON HAXLEY gave a lecture on radium in carcinoma. The lecture was illustrated by lantern slides, and was much appreciated by thirty-five members of the Division, and by nine non-members, who had also been invited to be present.

At the close of the lecture an engraved silver inkstand and a blotter were presented by members of the Division to Dr. T. W. H. GARSTANG as a token of esteem and in appreciation of his services to this Division and to the British Medical Association. The CHAIRMAN (Dr. Chisholm) appropriately described these services. Dr. GARSTANG, in thanking the members, said that he was always ready to advise them in case of any difficulty, and that he would next autumn give them a lecture on his personal experiences in organizing British Medical Association work.

### METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

A MEETING of the City Division was held on March 6th, with Dr. PHILIP HAMILL in the chair, when Mr. NORMAN PATTERSON, dermatologist to the Royal Northern Hospital, read a paper on difficulties in diagnosis in connexion with throat and ear trouble.

Mr. Norman Patterson began by pointing out some difficulties in connexion with diagnosis of certain conditions in the mouth. One of these was sublingual cellulitis. Patients suffering from this complaint, owing to restricted opening of the mouth and the apparently large size of the tongue, were difficult to examine, and the correct treatment, which generally consisted in making a free incision from the outside, was not always adopted. He mentioned submaxillary calculus, and described the best method of palpating for a small stone; a second calculus was sometimes present, as indicated by a facet of the first calculus removed. He discussed the diagnosis between acute tonsillitis and diphtheria, and pointed out the importance of examining for the Klebs-Löffler bacillus in patients showing paralysis of the palate or suffering from other signs of post-diphtheritic paralysis. As secondary syphilis of the throat was frequently mistaken for an inflammatory condition, stress was laid on the special features of the former disease. A case of paralysis of the vocal cord resulting from secondary syphilis was mentioned, and the diagnosis between Vincent's angina, diphtheria, and syphilis discussed. The likelihood of mistaking a gumma of the soft palate for an acute inflammation was mentioned. The necessity in some cases of examining infants for retro-pharyngeal abscess was stressed, as symptoms might sometimes be misleading. Many deaths had occurred from this disease without any suspicion having arisen in the mind of the practitioner that such a condition was present. The diagnosis between keratosis pharyngis and follicular tonsillitis was discussed. Some remarks were made on the search for a primary growth in a case of malignant glands of the neck, and three cases were referred to in which an insignificant primary tumour had given rise to massive secondary tumours. In one case the primary growth was represented by a slight area of roughness on the tonsil, and in another there was a tiny localized area of induration in the same region. The importance of examining the nasopharynx for a primary growth, and the difficulty of locating such a growth should it be situated in the pyriform fossa, at the back of the tongue, or in

the hypopharynx, was remarked on. Any obstructing mass in the nasopharynx occurring in a child need not necessarily be adenoids; other conditions, such as a polypus, tumour, or congenital occlusion, might be present. Emphasis was laid on the extreme importance of diagnosing epithelioma of the vocal cord in its early stage, as the operative results in early cases were better than those obtained in any other part of the body. The speaker insisted on the importance of investigating most thoroughly any case of hoarseness occurring in patients over 40 and lasting for more than a few weeks. Misleading symptoms in association with carcinoma of the oesophagus were mentioned, and the diagnosis of carcinoma from other conditions affecting the gullet was considered. The importance of a correct reading of the laryngeal picture was discussed in connexion with such diseases as aortic aneurysm and locomotor ataxy. Consideration was given to the mistakes likely to occur in cases of foreign bodies in the pharynx, larynx, etc., and special mention was made of pitfalls in connexion with foreign bodies located below the level of the vocal cords.

Continuing, Mr. Norman Patterson stated that in swellings in the neighbourhood of the orbit a thorough examination of the nose was necessary. Very many of these cases were in some way connected with the nose or nasal sinuses. A coloured drawing of a case of primary sore of the nasal vestibulo was shown, and the differential diagnosis discussed. Tertiary syphilis of the nose was often misinterpreted. The chief clinical signs were alluded to, and suggestions were made with regard to avoiding errors in diagnosis. The characteristic appearances of simple nasal polypi were described, and the importance of occluding the nose in order to bring into view polypi which otherwise might be invisible, and of examining the nasopharynx, was emphasized. Distinctions between nasal polypi and malignant disease were mentioned, and it was pointed out that polypi might conceal a malignant growth. The characteristics of malignant disease when affecting the nasal sinuses were passed under review. The speaker remarked on the symptom of referred pain in nasal sinus disease; he also considered the differential diagnosis between antral suppuration, dental cyst, and polypus in the antrum. False conclusions might be drawn from transillumination. The necessity for a careful examination of the nose and a bacteriological report in cases of rhinitis occurring in children was emphasized.

Turning to the question of the ear, Mr. Patterson dealt with the distinguishing features between acute conditions of the external auditory meatus and those affecting the middle ear and mastoid. Cases were mentioned in which serious intracranial complications had developed in the presence of what appeared to be a practically normal ear. The diagnosis of various conditions of the external auditory meatus, tympanic membrane, and middle ear was discussed. Two cases were mentioned in which herpes had been mistaken for mastoiditis. The importance of always examining both ears was insisted on, and the speaker concluded by referring to the differential diagnosis of lateral sinus disease and certain other conditions.

A lively discussion followed the reading of the paper, and the meeting terminated with a very hearty vote of thanks to the lecturer for a most instructive evening.

#### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at the Town Hall, Catford, S.E.6, on March 20th, when Dr. W. E. HALLINAN was in the chair, and Mr. H. WANSEY BAYLY gave an address on the general practitioner and the prevention of venereal disease.

Mr. Bayly said that the public health department and the specialists had failed as regards prevention, which consequently devolved upon the general practitioner. The law decreed that only a qualified medical practitioner could give advice on prevention, so it was now impossible for chemists to sell preventive packets with instructions such as were used in the army during the war. Prophylaxis was very successful in the army and navy, and would produce 90 per cent. decrease in venereal diseases. Syphilis was a cause of more deaths than was shown by the registrars' returns. The method advised was to swab with a 1 in 1,000 solution of potassium permanganate, a salt which was cheap, non-poisonous, and could be obtained anywhere in any country. Calomel ointment might also be used.

Drs. GILCHRIST, HALLINAN, G. JONES, H. EVANS, BEATTIE, BAIN, and BUCHAN joined in the discussion, and a vote of thanks was passed to the lecturer.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A CLINICAL meeting of the Division was held on March 22nd at the Willesden General Hospital. This was a joint meeting with the dentists of the north-western district. Mr. H. L. MESSENGER, M.C., L.D.S., read an interesting paper on focal infection, which was followed by an instructive general discussion. Mr. Messenger dealt particularly with dental sepsis and its sequelae. He outlined the pathology of dental sepsis, which he divided into two types—the closed, as typified by a root abscess in a dead tooth, and the open type, as seen in pyorrhoea alveolaris. Emphasis was laid on the greater danger from the closed type. Such conditions as arthritis, endocarditis, and iritis undoubtedly arose from septic conditions of the teeth, and cases were quoted illustrating their occurrence; but Mr. Messenger pointed out the difficulty in many cases of excluding other probable foci in tonsils and intestinal tract which were the real source of infection, though associated with a dental infection. Many cases in which the teeth were the alleged source of infection had failed to show improvement after extraction, and Mr. Messenger deprecated the casual manner in which extensive extractions were often done in various chronic infections when other possible foci were insufficiently investigated.

In the discussion which followed Dr. DAUGHERTY outlined the radiographic appearances in dental sepsis, and indicated some

of the pitfalls in the interpretation of the plates. Other speakers discussed the importance of preventive measures in the treatment of dental infections, the education of the public in the care and hygiene of the mouth, and in dietetic matters, particularly in the case of children. It was observed that medical men occasionally ordered extraction of teeth without reference to the dental surgeon, and sometimes in opposition to the opinion of the dental surgeon; such practice was considered to be ill advised.

A vote of thanks to Mr. Messenger for a very enlightening paper was moved by Dr. G. W. R. SKENE, seconded by Dr. C. DE BOUDEVY THOMSON, and carried unanimously.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held at the Northern Infirmary, Inverness, on March 15th. Dr. T. MACDONALD, president, was in the chair, and there was an attendance of thirty-two members.

The first part of the programme was a paper by Dr. E. K. MACKENZIE on some views upon midwifery practice. Dr. Mackenzie's views were based on his experience at 865 confinements which he had attended during the last twelve years. Careful notes had been kept by him of all his cases, and the result was a very interesting and informative paper. After the paper there was a free discussion, in which Drs. D. G. CAMPBELL, J. W. MACKENZIE, KELLY DICKIE, W. D. MACKINNON, and the President took part.

Mr. A. J. C. HAMILTON gave a demonstration of surgical cases, which also proved very interesting. The cases shown were as follows:

- (1) Case of Perthes's disease of right hip: A girl, 9 years of age; limp and occasional pain in hip since December, 1925; x rays.
- (2) Case of Köhler's disease (arsen phenoiditis): Child 6 to 7 years of age; pain and some swelling in foot for a fortnight; x rays.
- (3) Case of epithelioma of lip: A male, 24 years of age; Wassermann test negative; piece removed for examination; radical operation—three stages, September to October, 1927—(a) excision of glands right side of neck, (b) resection of whole lower lip and plastic repair, (c) excision of glands left side of neck, fourteen days between each stage.
- (4) Case of carcinoma of pelvic colon: A woman, aged 53; progressive constipation of several months' duration; sigmoidoscopic examination negative; barium enema; September 3rd, 1927, laparotomy and three-stage operation of Mikulicz initiated.
- (5) Case of empyema treated by Sorel's cannula: Patient, aged 64, had left-sided empyema and mixed infection of streptococci and pneumococci; operation February 18th, 1928; x rays.
- (6) Calculus from pelvis of left half of a horseshoe kidney; specimen only.
- (7) Case of hydronephrosis; x rays only.

After the meeting tea was provided by the matron of the hospital.

#### NORTH OF ENGLAND BRANCH: BLYTH DIVISION.

THE annual dinner of the Blyth Division was held on March 21st. The toasts of "The King," "The British Medical Association," and "The Guests" were duly honoured. Dr. BEATON, president of the North of England Branch, replied for the British Medical Association. Dr. C. F. FAIRLIE and Mr. CLARKO gave a selection of original and delightful songs, while Mr. MAUGHAN, Dr. BROWN, and Dr. HUDSON provided musical items.

Prior to the dinner the following officers were elected for the ensuing year:

Chairman, Dr. CRAIG (Dudley). Vice-Chairman, Dr. BROWN (Bedlington). Honorary Secretary, Dr. W. C. LOWRY.

The officers were installed with due ceremony by the outgoing chairman during the course of the dinner.

Dr. Lowry presented to the Division a money-box made in the shape of a camel, and intended to be placed in front of the chairman at each meeting, for him to pass round, those present being invited to put something into the box for medical charities. The honorary secretary will take charge of the box and render an account of the money received, and forward the contributions to the proper quarter.

Dr. HUDSON having raised the question of miners' levy for the doctors, the honorary secretary was instructed to deal with the matter.

#### SOUTH INDIAN BRANCH.

THE report of the South Indian Branch for 1927 records that during the year five meetings were held, with good attendances. There was a diminution of thirteen in the membership of the Branch at the close of the year, due mainly to members leaving the area. At the annual meeting in March, 1927, rules were framed to regulate grants for research under the auspices of the Branch, and at the October meeting Dr. M. Kesava Pavi was appointed representative of the Branch in the Representative Body of the Madras Branch, British Social Hygiene Council. A paper on medical education, read by Lieut.-Colonel E. W. G. BRADFIELD, I.M.S., at the November meeting to a distinguished audience of medical men and others interested in the subject raised considerable interest. The Branch purchased for Rs.2,333 propaganda films from the British Social Hygiene Council, and a grant of Rs.961 was made to Major Newcomb to pay the salary of a research assistant for work on iodine metabolism and kindred subjects. The financial statement showed a credit balance of Rs.3,521 at the end of the year.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH.

A CLINICAL meeting of the South Wales and Monmouthshire Branch was held at the Aberdare Hospital on March 22nd, with the president, Dr. J. MORGAN REES, in the chair. It is some years since the Branch met at Aberdare, and the meeting was a success in every way.

Mr. WILLIAM EVERETT demonstrated cases and specimens of resection for malignant disease of the gastro-intestinal tract.

(1) A specimen from a woman, aged 61, showed a large columnar carcinoma filling the pyloric antrum, with herniation of the growth into the duodenum, but with arrest at the pyloro-duodenal junction. Billroth's No. 2 operation had been performed more than two years previously; the patient was now fit and well and had gained over a stone in weight. (2) A man, aged 46, had undergone an ileo-hepatic resection for columnar carcinoma of the caecum five years previously, the carcinomatous ulcer having a diameter of three and a half inches. There had been no signs of recurrence. It was explained that the prognosis was much more favourable in resection for cancer of the caecum than for a similar growth in any other part of the colon. (3) An interesting specimen was exhibited of a fungating columnar carcinoma of the transverse colon which had become adherent to the descending colon with the formation of an intercolonic fistula. Hepato-pelvic resection had been performed with subsequent relief for eleven months. (4) A woman, aged 60, had been operated on three and a half years previously for carcinoma, abdomino-pelvic resection being performed. There had been no recurrence, and the patient had gained and maintained an increase in weight of over a stone. A feature of this case was the control of the bowel, the patient having an evacuation regularly each morning; the artificial anus was then dressed with absorbent paper and covered with a flat celluloid disc kept in place by an ordinary corset. She led an active public life, and was able to attend to all her duties without inconvenience or discomfort from the colostomy.

Dr. H. BANKS demonstrated (1) a trephine he had devised for use with Albee's motor for opening the medullary cavity in acute osteomyelitis. Dr. Banks thought that the use of chisel and mallet was not free from possible danger in an acute infection of this kind. The trephine perforated the bone with a minimum of effort; a series of trephine openings were rapidly made, the discs of bone being easily levered out. (2) He then showed a case of bilateral pneumothorax in a man working underground who had been run over, both clavicles and several ribs being fractured. He was admitted in a state of extreme collapse, with extensive surgical emphysema of neck and chest extending from the level of the zygoma to below the pectoral muscles, and across the shoulders. Respiration had almost stopped. A trocar and cannula was introduced into the chest, and was followed by an escape of air with an immediate improvement in the respirations. A similar operation was performed on the other side, the lividity disappeared, and further improvement in the breathing was noted. The patient made an excellent recovery and resumed his work. Skiagrams showed that four ribs were fractured at their angle on one side and five ribs on the other. (3) Dr. Banks showed next a case of pernicious anaemia treated with liver. A man, aged 53, had been admitted to hospital in September, 1927, with marked anaemia and enlarged heart; the blood count showed variation in size and shape of the red cells, with occasional polychromatophilia, and 2,100,000 red cells per c.mm. were present. One pound of liver was given each day, half a pound being raw, and half a pound lightly cooked with orange juice. A fortnight later the patient was out of bed and feeling much better; the red cells had increased to 3,900,000 per c.mm. The man had returned to work, appeared well, and was still taking half a pound of liver a day.

Dr. DANIEL EVANS (Swansea) described some cases of anaemia under his care; blood transfusion had been found unsatisfactory. He had found that bullock's liver gave the best results; it should be given raw or very lightly grilled, and orange juice could be added. The acid of the fruit juice might be the beneficial factor, since achlorhydria was often present. Dr. Evans warned against undue optimism in treating these cases, which varied considerably; treatment had to be continued for several months. How the liver acted in pernicious anaemia was not understood, but some element was present which allowed the red corpuscles to mature. There were several liver essences on the market, but the disadvantage was the cost of the preparations. Dr. H. G. COOK (Cardiff) also spoke, and compared the empirical treatment of diabetes with insulin and general paralysis with malaria injections.

Dr. B. THOMAS showed a case of carcinoma of the breast operated upon five and a half years ago. The condition had been discovered when the patient reported with an abscess of the breast following confinement. There had been no recurrence. He also showed a ruptured hydatid cyst in a boy aged 9. A swelling had been noticed under the ribs on the right side, which caused no discomfort, but following a fall the boy was brought to hospital with symptoms of "acute abdomen"; the swelling had disappeared. The abdomen was opened and the cyst evacuated and drained. Recovery had been uninterrupted. Dr. Thomas gave the history of a case of stricture of the urethra to show the difficulties of treatment and complications. The operative treatment was discussed.

Dr. T. R. DAVIES (Llanelli) demonstrated a modification of the binaural stethoscope which he had devised. This consisted of a plug-in end-piece to which various types of chest-piece could be attached.

After the meeting the members were entertained to tea at the hospital, and inspected the new children's pavilion and light department.

compared very favourably with those of the United States of America, Canada, and New Zealand, there was a very serious problem to be faced. He urged those present to take an active part in any investigations which might be made in the near future.

Many took part in the discussion, among them the CHAIRMAN, Dr. D. H. PENNANT, Dr. C. A. BRISTOCKE, Dr. OSCAR WILLIAMS, Dr. T. J. JENKINS, Dr. E. JONES, J.P., Dr. WILLIAMS, Dr. NEILSON, Dr. JEAN MACKINTOSH, and Dr. A. H. D. SMITH. There seemed to be unanimity on the lack of careful ante-natal supervision and on the necessity of providing facilities for dealing with cases which ante-natal examination had shown to need special care. A strong plea was made for midwives with full hospital training, though some of the rural practitioners who worked in areas where no midwives practised said they would be satisfied with the ordinary trained midwife. Dr. MACKINTOSH produced statistics from the Llanelly borough health department, covering the last seven years, and said that in this area the general practitioners had for many years shown great zeal in ante-natal work; the average mortality figures for the last seven years was stated to be 2.6, while the average mortality rate from puerperal sepsis was 0.13. Unnecessary use of the forceps was considered by all to be a cause of increased mortality and morbidity, but opinion was divided as to whether forceps application was now as frequent as in the past. The opinion of all speakers was that the profession as a whole should make an early and earnest effort to deal with this very important subject.

On the motion of the CHAIRMAN, seconded by Dr. BRISTOCKE, a very hearty vote of thanks was accorded to Sir EWEN MACLEAN, who suitably responded. After the discussion members were entertained to tea at the infirmary.

#### SUSSEX BRANCH: HASTINGS DIVISION.

A WELL-ATTENDED meeting of the Hastings Division was held at the Queen's Hotel, Hastings, on March 16th. Dr. A. E. LARKING read a paper entitled "Hospitals, general practitioners, and others."

Dr. Larking dealt first with the relations of medical practitioners to the public and to each other, and later with the hospital question. The profession, he said, had allowed certain encroachments into private practice to be established; school clinics and the so-called hospital benevolent funds were instances. These were both helped by practitioners acting on their own behalf and without any consultation with the general body. They must endeavour in future to have every project dealing with medical matters fully discussed in a general meeting before any individual member supported it. They were being exploited in a most flagrant manner. In twenty years the general practitioner would be a very poor creature, treating only the most trivial complaints; all other cases would go to hospitals. It was quite time they recognized this and did something to prevent it. They must educate the public to realize that a general practitioner was just as competent to treat cases as those at the hospital, unless skilled nursing and major operations were required.

The greatest difficulty was in dealing with the men on town councils and other public authorities, which were often under the thumb of a clique who took no notice of opposition or protest. If the medical men of a large town were to determine to take action in any public matter they could wield a tremendous influence. But it was essential for them all to meet together and discuss matters beforehand; the pity was that there were men in the profession who apparently took no interest in medical matters. There were many members of the British Medical Association who never attended a meeting and did nothing whatever to promote the general interests of the profession. It was a great misfortune for any town if the men on the staffs of the local hospitals did not take an active part in helping to promote professional union. With the health insurance scheme they were all becoming more or less civil servants, and with the extension of the Act providing specialists, consultants, and pathologists, it was most important for all of them to unite.

The work done at the voluntary hospitals was not at all fully appreciated by the general public. Few of them realized that all the work at the hospital was done by the doctors quite free of charge. There was nothing comparable in any other profession or industry to this voluntary work. Many men devoted much more time to hospital work than they could afford, and the time would come, sooner or later, when they would have to be paid. Hospitals were being boomed so much that there was arising a view among the general public that no treatment was of any good except hospital treatment, yet hospitals that were short of funds, instead of economizing and limiting the work, tried to get money to open new departments. The wholesale treatment of anybody at hospitals was a public scandal. Many serious cases were kept on the waiting list for long periods in consequence. All motor accident cases ought to be charged full maintenance fees.

Hospital committees were composed mainly of people who knew very little about hospital management. Many took up the work as a hobby; the general practitioners of the town were not represented on the committee as a whole. The few who were on it were members of the staff and were prejudiced. If the general practitioners were represented as a whole, by selected medical men there would be much more chance of stopping hospital abuse. The so-called hospital benevolent funds were all very well in their place, and if kept to the right people, but there were many who thought that by joining the fund they were entitled to be treated free and could claim admission. They also had no idea that the medical men did not get a penny of their money.

Hospitals and general practitioners should not be antagonistic, but should work together for their common benefit and that of their patients. The present method of electing certain general practitioners to the staff of the local hospital, except in very large towns, was all wrong. It was not fair to select one man and not

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A MEETING of the South-West Wales Division was held on March 29th at the Carmarthenshire Infirmary, Carmarthen, when Sir EWEN J. MACLEAN, President-Elect of the British Medical Association, and professor of midwifery, the Welsh National School of Medicine, opened a discussion on maternal mortality and morbidity.

Sir Ewen Maclean commented on the present unsatisfactory state of affairs, and showed how high the maternal mortality and morbidity still stood in this country. Even though our statistics



another. All general practitioners should be allowed to attend their patients at the hospital if they wished. If all were on the staff it would increase the general efficiency of the profession tremendously. The greatest drawback to general practice was often its deadly dullness; the treatment of trivial ailments pulled. Without special work or hospital work many became apathetic, degenerate, and lost interest in their profession. Hospitals should either be staffed by pure consultants or every practitioner should be allowed to be on the staff if he wished. When there was a specially selected staff, not only should they be the best qualified men, but they should be the men most likely to work amicably with the general practitioners of the locality.

Many patients were kept in hospital far too long, and the long waiting lists were a very serious blot on the present methods: large numbers could be sent to the Poor Law infirmary when convalescent if they had no home suitable for them. There was a growing desire on the part of the public to cover every risk by insurance, and the profession should be able to meet the need. A public medical service adapted to all classes would do much in this respect; it would demand some effort and trouble to start, but would result in great benefit and avoid many bad debts. It would diminish the number of the out-patients at the hospitals considerably.

Dr. Larking said, in conclusion, that in the past the British Medical Association had done an immense amount of useful work for the profession; the sooner it took up the question of hospital abuse the better. It was urgent and brooked no delay. Private practice must be preserved, and the rush for hospital treatment checked. The medical profession demanded good health and a strong constitution. At times the anxiety and responsibility were too much, and when financial troubles were added it became unbearable. If they could do anything to ensure that private practice could give a man a good income and freedom from financial worry, they would have done a good work.

A very keen discussion followed the reading of the paper.

#### WEST SOMERSET BRANCH.

A MEETING of the West Somerset Branch was held at the Taunton and Somerset Hospital on March 27th, when Dr. E. N. Jupp, the president, was in the chair.

It was decided to send a letter to the Somerset County Council asking that authority be given for the payment of a fee of 10s. 6d. to practitioners who supply to coroners written reports in connexion with a death.

There was some discussion of the question of recommending a definite fee to be paid by boards of guardians to their medical officers for the inspection of casuals at workhouses in pursuance of the Ministry of Health Circular 859—small-pox among casuals. It was decided to take no action in view of the facts that the average number of casuals inspected in the various workhouses in the area varied largely in numbers, that the guardians would not be agreeable to payment on a case basis, and that some medical officers had already come to a satisfactory arrangement with their board of guardians. It was left to each individual doctor to make his own arrangements with his board of guardians.

The suggested scheme of the Somerset Insurance Committee of health lectures by practitioners to their patients was considered; it was decided to take no action in the matter for the present.

Dr. L. H. BURKBECK, honorary surgeon to the Taunton and Somerset Hospital, read a very interesting paper on his experience during the last twenty-five years as a surgeon to the hospital. In a discussion that followed many suggestions were made by those present for the improvement of hospital service from the point of view of the neighbouring practitioners.

## National Insurance.

### LONDON INSURANCE COMMITTEE.

#### Chairmanship of Medical Service Subcommittee.

At the meeting of the London Insurance Committee on March 22nd many tributes were paid to the work of the late Mr. Henry Mills, J.P., who at the time of his sudden death was vice-chairman of the committee (of which he had been a member for fifteen years) and chairman of the Medical Service Subcommittee. Mr. W. EDWARDS, chairman of the committee, proposed that in appointing a successor to Mr. Mills as chairman of the Medical Service Subcommittee a departure from precedent should be made by selecting someone who was not a member of the committee. He submitted the name of Mr. R. W. HARRIS, secretary of the London School of Hygiene and Tropical Medicine, and formerly on the staff of the Ministry of Health, where he gained a close acquaintance with the administration of national health insurance. The nomination was supported by Sir THOMAS NEILL, and, on behalf of the medical members, by Dr. H. J. CARDALE, and was agreed to unanimously. The regulations provide that an outside chairman may be appointed, provided he is not an insured person, an officer (other than a trustee) of an approved society, a practitioner, or a registered pharmacist, and he may attend the meetings of the full committee and speak, but may not vote.

#### Drugs and Appliances.

A return was submitted to the committee comparing the total number and cost of prescriptions dispensed by chemists for insured persons in the county of London during the five years 1923-27. This showed that the number of prescriptions had risen steadily from 6,132,356 in the first of these years to 8,743,249 in the last, that the total cost had risen from £205,619 to £297,605, that the average cost per prescription had gone up slightly from 8.05 pence to 8.17 pence, and that the average

cost per person had gone up more markedly from 30.93 pence to 40.16 pence. In the fifteen years since the commencement of national insurance administration the prescriptions issued and dispensed for insured persons in the committee's area have numbered 86,611,690, and the total cost has been £2,803,050. Dr. CARDALE pointed out that the increase in the number of insured persons from 1923 onwards had an important bearing on the totals given. It was also reported that during 1927 the chemists on the committee's list dispensed 10,533 prescriptions for insulin at a cost of £5,824, and 2,219 prescriptions for serums and vaccines at a cost of £555.

### LONDON PANEL COMMITTEE.

A MEETING of the London Panel Committee was held on March 20th, Dr. H. J. CARDALE presiding. A sympathetic tribute was paid to the work of the late Mr. Henry Mills, chairman of the Medical Service Subcommittee, who, Dr. Cardale said, had occupied that position, which he took on at a time of great difficulty, in such a way as to gain the entire confidence of the members, whether representatives of approved societies or of practitioners.

#### Lectures to Medical Students.

A suggestion was considered that the Panel Committee should undertake a series of lectures to students at medical schools upon national health insurance practice and contract practice generally. It was felt, however, that the committee must confine itself to insurance practice only, and it was agreed to convey to the deans of the London medical schools the opinion that a lecture dealing with the problems of insurance practice could usefully be delivered annually to senior students.

#### Payment for Emergency Treatment.

A subcommittee recommended that a fee for a second attendance for emergency treatment should be disallowed. Dr. PALMER said that he had a good deal of sympathy with the practitioner concerned because he had taken much trouble in connexion with the case, which was one of acute abdominal pain. He thought it unwise to discourage a practitioner from seeing a patient a second time in such circumstances. Dr. PARTIDGE, however, hoped the committee would not be led away into any misinterpretation of the word "emergency." The first attendance was properly an emergency, but the practitioner arranged to re-examine the patient, and by no stretch of imagination could the second attendance be regarded as an emergency. Dr. STREASING said that the subcommittee had taken the view that the case was one of emergency throughout, but under the regulations not more than one fee could be paid. This was one of those cases in which a practitioner did a great deal for a small reward.

The recommendation disallowing the second fee was carried.

#### Refusal of Urgent Cases at Hospitals.

One of the subcommittees has had its attention drawn to the action of hospitals in refusing to admit serious cases requiring immediate attention. The chairman of the subcommittee reported that he had obtained evidence of some fifty cases in which patients were refused admittance. The subcommittee was of opinion that this action on the part of the hospitals was one which was likely to bring them into disrepute, and therefore had directed the secretary to draw the attention of the hospitals concerned to the cases submitted by the chairman, and to request information as to why they were not admitted. The committee approved this action taken by the subcommittee.

#### Certificates and Pay-days.

A letter from a medical practitioner was read submitting a communication from the clerk of the Insurance Committee with regard to the issue of certificates on a particular day of the week. The practitioner had originally advised one of his patients, who had received a letter from his society pointing out that the dates had received the certificates did not correspond with its pay-days, to send the letter to the Insurance Committee in order that the attention of the approved society concerned might be drawn to the fact that this action was a contravention of the regulations. A reply from the clerk of the Insurance Committee was received informing him that while it was not necessary that certificates should be given on any particular day to the usual pay-days of approved societies, it was agreed to draw the attention of the Insurance Committee to this action of the clerk, which was thought to be contrary to a correct interpretation of the regulations regarding certification.

### BIRMINGHAM PANEL COMMITTEE.

A MEETING of the Birmingham Panel Committee was held on Tuesday, March 20th, when Dr. H. G. DAIN presided over a good attendance.

It was decided that the form detailing arrangements approved by the Board of Inland Revenue, under which payments made by members of trade protection and similar associations to those associations may be allowed as trade expenses in computing members' profits for assessment to income tax, be signed. It was agreed that further representatives of the profession should be elected to the Birmingham Hospitals Council. An alteration in the election of the standard dressings in the drug tariff was suggested, emergency and anaesthetic fees were passed, and a figures for January, 1928, and January, 1927, were compared, a slight reduction in cost being reported. A discussion on the issue also on the number of patients referred to the regional medical officer who are certified by him as fit for work, took place, and the secretary was instructed to take certain steps in these matters. It was decided to ask the Insurance Committee to supply annually, to each practitioner, the figures showing individual averages of cost of prescribing, together with the averages for the area.



## Correspondence.

## Ophthalmic Benefit.

SIR,—I have just received a long printed letter from the British Medical Association on the subject of ophthalmic benefit for persons insured under the National Insurance Acts. In this letter the Association states that the present scheme for ophthalmic benefit has been a partial failure owing to its non-support by the leading approved societies.

The original scheme was that insured persons desiring to have their eyes examined should apply to their panel doctor for a certificate, this certificate stating whether the doctor thought the services of an ophthalmic surgeon or optician were necessary. The approved society then made an appointment with the surgeon or optician as the case might be. A special panel called the Ophthalmic Panel was formed, including practically all the ophthalmic surgeons in Great Britain—about eight hundred in number. These agreed to see panel patients in their private consulting rooms for a fee of one guinea. As might have been expected, large numbers of persons desired to see an ophthalmic surgeon, there being about fourteen million insured persons in the country. The funds of the approved societies available for ophthalmic benefit were speedily exhausted. The larger societies began sending all their cases to opticians in the first instance, only referring to ophthalmic surgeons those cases to which the opticians could not manage to give satisfaction. The approved societies report that the scheme has worked well, and there have been few complaints.

In the past, when the ordinary man was troubled with some defect of vision he went either to an optician or to a hospital. A small percentage of the community visited an ophthalmic surgeon first. We must remember that Great Britain contains forty-five million inhabitants. The insured class numbers about one-third of this total. The remaining two-thirds still act as they did in the past, visiting opticians and hospitals. At an outside figure there may be about one thousand doctors practising ophthalmic surgery, and perhaps half this number may be in the staffs of various hospitals. Presumably there are no more, as the country does not supply a livelihood to a greater number. It is usually computed that a town of 50,000 inhabitants can support one ophthalmic surgeon only.

We are all agreed that it is the ideal that every man having eye trouble should be examined by an ophthalmic surgeon in the first instance; but this is a counsel of perfection. It is as reasonable as the demand that every woman in her confinement should be attended by a gynaecologist. The ideal may be attained in the future, but not in our day.

I believe that there are about 14,000 dentists in England, and these suffice for the dental needs of the country, both insured and uninsured. Perhaps a man may not have to see someone about his eyes as often as about his teeth, but a comparison of the number of ophthalmic surgeons as compared with dentists shows that the number of ophthalmic surgeons would have to be multiplied many times before they could give an ideal service to the community; and who is going to pay for their remuneration?

Now, what is the British Medical Association's remedy for this State of affairs? It proposes, first, that ophthalmic surgeons shall reduce their fees for seeing insured persons to half a guinea. I do not think that this will be agreed to. It must be remembered that specialists are being employed. It is the first time that this has been done for insured patients. The specialist can usually command a fee of two or three guineas. The beginner at a specialty may possibly accept less at first. The question is, Is he worth it?

The Association's other proposal is that a committee shall be formed consisting of representatives of the approved societies, of ophthalmic surgeons, and of the Association of Dispensing Opticians (it is to be noted that the vast majority of ordinary or prescribing opticians are thus left out), and shall found a series of clinics throughout the country at which groups of patients shall be collected for examination. The disadvantages of these clinics are, to me, obvious. They will be nothing more than superior hospital out-patient departments, with all their disabilities, such as prolonged waiting before being seen, hurry and lack of individual attention, and without the right of admission to wards that obtains in an ordinary hospital for cases needing it. In fact, if a person requires in-patient treatment a visit to a clinic will be simply a waste of time, as the investigation will have to be carried out again at the hospital. It must be remembered that these proposed clinics may have to deal with a much more difficult type of case than an ordinary school clinic, which only deals with refractions in the young. These school clinics can be dealt with quite satisfactorily by junior men with a knowledge of refraction work, but without much general ophthalmic knowledge.

I say, let the present system remain. Insured patients much appreciate the right to a private consultation at an ophthalmic

surgeon's rooms by appointment without the delays of hospital; they feel that a personal interest is being taken in their case. But I do say that, if an approved society refers a case to an optician, before any spectacles are ordered a certificate should be sent to the society stating the strength of the lenses to be supplied, and that normal vision was obtained in each eye with these lenses, and that no obvious ocular disease was present. It would be worth while for the larger societies to employ medical assessors to review opticians' prescriptions with a view of referring doubtful cases to ophthalmic surgeons. It should be remembered that many of the societies pay a small sight-testing fee to the opticians.

Lastly, let us as a profession cease our opposition to the registration of opticians. Chemists are registered, and we do not object to it in spite of the fact that we know that a large amount of prescribing and doctoring goes on across their counters. We never hear of architects or engineers objecting to the registration of plumbers. If opticians are registered their knowledge will tend to improve, as some of them are very ignorant now. Proper safeguards can be introduced in the Act of Parliament limiting them to sight-testing and the manufacture of spectacles, prohibiting them from dealing with eye diseases or the use of mydriatic drugs, with penalties for infringement. Prohibiting them from prescribing for elementary school children would not be unreasonable. I have recently come across a case of an optician who had been prescribing glasses for a small child with squint for many months.—I am, etc.,

London, W.1, March 25th.

ADRIAN CADDY.

## Exploitation.

SIR,—The letter under the heading "The workman's value" in the *Supplement* of March 31st (p. 110) reveals the shocking extent to which the medical profession is being exploited by certain Government departments. Almost on a par with the experience recorded by Dr. Jefferiss may be mentioned that of any practitioner who is called upon by the head teacher of the local elementary school to examine one of his or her pupils. He must find out what the child is suffering from and certify as to the probable period of enforced absence from school, for which service he is offered the handsome fee of 1s. by the county education committee.

Is it quite out of the question to approach the departments concerned, so that what is obviously a gross undervaluation of our services, and the slight to the profession resulting therefrom, may be swept away? We pride ourselves on doing a great deal of gratuitous work; but are we, on that account, to let officialdom use our disinterestedness as a bait for any indignity it may wish to offer us?—I am, etc.,

Greenhithe, Kent, March 31st.

D. W. STANDLEY.

## Naval and Military Appointments.

## ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander E. L. Markham, O.B.E., to the *President* for course at H.M. Experimental Station, Pocton.

## ROYAL ARMY MEDICAL CORPS.

Captain J. A. Crawford to be Major.  
Lieutenant J. M. Johnston resigns his commission.

## ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders H. L. Burton to Central Medical Establishment; C. P. Barbe to R.A.F. Base, Gosport; R. W. Ryan to No. 3. Flying Training School, Grantham; F. E. Johnson to School of Army Co-operation, Old Sarum.

Flight Lieutenants R. L. C. Fisher to R.A.F. Hospital, Cranwell; W. D. McKewen to No. 45 Squadron, Middle East; J. P. Hederman to R.A.F. Depot, Uxbridge.

Flight Lieutenant G. E. Church is granted a permanent commission in this rank.

Flying Officers R. J. I. Bell to No. 111 Squadron, Sutton's Farm; R. G. Freeman to R.A.F. Officers' Hospital, Uxbridge; J. O. Priestley to Princess Mary's R.A.F. Hospital, Halton; F. E. Lipscomb to R.A.F. Station, Kenley; J. Hinchieson to R.A.F. Training Depot, Leuchars; J. Kemp to Princess Mary's R.A.F. Hospital, Halton; B. B. Kennedy to R.A.F. Depot, Uxbridge; J. J. MacAndrews to Aeroplane and Armament Experimental Establishment, Martlesham Heath; R. F. MacLachy to the Marine Aircraft Experimental Establishment, Felixstowe; J. B. Murphy to No. 1 Flying Training School, Netheravon; J. C. Kelly to R.A.F. Station, Upper Heyford; F. A. O'Connor and Leo O'Connor to R.A.F. Station, Uxbridge.

## INDIAN MEDICAL SERVICE.

Lieut.-Colonel F. E. Wilson appointed Residency Surgeon and Chief Medical Officer in Baluchistan, and to officiate as Civil Surgeon, Quetta, in addition to his own duties, with effect from January 1st, 1928.

Lieut.-Colonel C. A. Sprawson, C.I.E., has been appointed Honorary Surgeon to the Viceroy and Governor-General, vice Lieut.-Colonel F. F. Elwes, C.I.E., retired.

Lieutenant S. P. Joshi to be Captain.

The promotion to his present rank of Major S. R. Prall is antedated to February 12th, 1927.

## VACANCIES.

**ASTFORD HOSPITAL, Kent.**—House-Surgeon. Salary £160 per annum.

**BRISTOL ROYAL INFIRMARY.**—Two House-Surgeons (unmarried). Salary £150 per annum.

**CAMBRIDGE:** ADDENBROOKE'S HOSPITAL.—Resident Anaesthetist (male). Salary at the rate of £180 per annum.

**CARLISLE NON-PROVIDENT DISPENSARY.**—Resident Medical Officer. Salary £250 per annum.

**CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.**—House-Surgeon (male). Salary £200 per annum.

**COUNTY MENTAL HOSPITAL, Whittingham, Preston.**—Sixth Assistant Medical Officer (unmarried). Salary £350 per annum, rising to £450.

**DARLINGTON COUNTY BOROUGH.**—Health Visitor. Salary £172 16s.

**DERBYSHIRE ROYAL INFIRMARY.**—(1) House-Surgeon. (2) Assistant House-Surgeon and Casualty Officer. Males. Salary at the rate of £150 per annum each.

**GLASGOW EYE INFIRMARY.**—Clinical Assistant. Honorarium at the rate of £30 per annum.

**GRAVESEND AND NORTH KENT HOSPITAL.**—(1) Resident Medical Officer. (2) House-Surgeon. Salary at the rate of £250 and £150 per annum respectively.

**CULDFORD: ROYAL SURREY COUNTY HOSPITAL.**—House-Surgeon. Salary £150 per annum.

**HALIFAX: ROYAL HALIFAX INFIRMARY.**—Third House-Surgeon (male). Salary £100 per annum.

**HAMPSHIRE GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.**—(1) House-Physician. (2) Two House-Surgeons. (3) Casualty Medical Officer. Salary at the rate of £100 per annum respectively.

**HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.**—House-Physicians. Honorarium £50 for six months.

**Huddersfield Infirmary.**—Honorary Anaesthetist.

**JOHANNESBURG: UNIVERSITY OF WITWATERSRAND.**—Senior Lecturer in Physiology. Salary £516 per annum, rising to £726.

**LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, 6, Harley Street, W.1.**—Assistant Pathologist (male). Salary £500 per annum, rising to £650.

**LIVERPOOL EYE AND EAR INFIRMARY.**—Third Honorary Anaesthetist.

**LONDON HOSPITAL, E.1.**—First Assistant and Registrar to one of the five Surgical Firms. Salary £300 per annum.

**LONDON JEWISH HOSPITAL, Stepney Green, E.1.**—Assistant Surgeon.

**LUTON UNIVERSITY.**—Professor of Anatomy. Salary Rs.1,450 per mensem.

**METROPOLITAN HOSPITAL, Kingsland Road, E.8.**—(1) Senior and Junior House-Physicians. (2) Senior and Junior House-Surgeons. (3) Two Casualty Officers. (Males.) Salary £100 per annum each.

**MINISTRY OF HEALTH.**—Deputy Regional Medical Officers. Remuneration £600 per annum, rising to £1,100.

**NORFOLK AND NORWICH HOSPITAL, Norwich.**—Casualty Officer and House-Surgeon (male). Salary £120.

**ROCHDALE UNION.**—Assistant Resident Medical Officer at the Birch Hill Hospital and Institution. Salary £250 per annum.

**St. Mary's Hospital for Women and Children, Plaistow, E.15.**—Assistant Resident Medical Officer. Salary at the rate of £130 per annum.

**St. Vincent's ORTHOPAEDIC HOSPITAL, Eastcote.**—Resident Medical Officer (male). Salary at the rate of £150 per annum.

**SEYMEN'S HOSPITAL SOCIETY: DREIDNIGHT HOSPITAL, Greenwich.**—(1) Anaesthetist. Honorarium 50 guineas per annum. (2) Surgeon with charge of out-patients.

**SHEFFIELD ROYAL INFIRMARY.**—Honorary Radiologist.

**STRONACH PARISH.**—Medical Officer and Parochial Vaccinator. Salary £130.

**TORBAY HOSPITAL, Torquay.**—Resident Medical Officer. Salary £200 per annum.

**WAKEFIELD: COUNTY COUNCIL OF THE WEST RIDING OF YORKSHIRE.**—Third Assistant Medical Officer (resident) at the Middleton-in-Wharfedale Sanatorium. Salary £250 per annum.

**WALSLEY COUNTY BOROUGH.**—Clinical Tuberculosis Officer, Assistant Medical Officer of Health, and Assistant School Medical Officer (male). Salary £750 per annum.

**WALSLEY GENERAL HOSPITAL.**—House-Surgeon. Salary £125 per annum.

**MEDICAL REFEREE OR REFEREES UNDER THE WORKMEN'S COMPENSATION ACT** (1) for the districts of the Northampton and Towcester, Newport Pagnell, and Leighton Buzzard County Courts (Circuit No. 23); (2) Ophthalmic Specialist for all County Courts in Circuits 1 and 2 (Northumberland and Durham). Applications to the Private Secretary, Home Office, Whitehall, S.W.1, by April 7th and 11th respectively.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

## APPOINTMENTS.

**MACKIE, E. G., M.B., B.Ch., F.R.F.P.S.,** Specialist Medical Referee for ophthalmic cases in the following county courts:—Circuit No. 16: Beverley, Bridlington, Goole, Great Driffield, New Malton, Scarborough, Whitby, Thorne; Circuit No. 17: Barton-on-Humber, Brigg and Scunthorpe, Great Grimsby, Louth, Boston, Holbeach, Skefford, Spalding, Spilsby, Calnsborough, Grantham, Lincoln and Horncastle, Market Rasen and Caistor.

**KING'S COLLEGE HOSPITAL AND MEDICAL SCHOOL.**—Junior Physician: James L. Livingston, M.D., M.R.C.P. Junior Physician for Diseases of Children: Wilfred P. H. Sheldon, M.D., M.R.C.P. Junior Surgeon: John B. Hunter, M.C., M.Chir., F.R.C.S. Harold C. Edwards, M.B., B.S., F.R.C.S. Junior Anaesthetist: A. L. Moorby, M.R.C.S., L.R.C.P. Senior Medical Registrar: Charles E. Newman, M.D., M.R.C.P. Sombrooke Medical Registrar: Ronald Cove-Smith, M.B., B.Chir., M.R.C.P. Registrar to the Ear, Nose, and Throat Departments: W. I. Daggett, M.B., B.Chir., F.R.C.S. Second Casualty Officer: J. L. Newman, M.R.C.S., L.R.C.P. House-Physician: A. P. Casswell, M.R.C.S., L.R.C.P. Resident Assistant-Physician to Dermatological Department: L.R.C.P. Radiologist: Miss G. Batten, B.M. (Firm A) Miss E. Whidborne, M.R.C.S., L.R.C.P. (Firm B) J. I. Sapwell, M.R.C.S., L.R.C.P. (Firm D) J. C. R. Chilcott, B.M., B.Ch. (Firm E) J. V. B. H. W. M.R.C.S., L.R.C.P. (Firm F) MacMyn, M.R.C.S., L.R.C.P. (Firm G) Sheppard, M.R.C.S., L.R.C.P. (Firm H) W. H. Scriven, M.R.

ment: (Senior) Mrs. I. R. Humphreys-Owen, M.R.C.S., L.R.C.P.; (Junior) G. J. Gross, M.R.C.S., L.R.C.P. Aural and Throat Departments: C. S. Erraby, M.R.C.S., L.R.C.P. House-Surgeon, Ophthalmic Department: Miss E. G. Lammex, M.R.C.S., L.R.C.P. Junior House-Anaesthetist: T. de L. Walker, J.S.A. Junior House-Surgeon to Aural and Throat Departments: K. S. May, M.R.C.S., L.R.C.P. Assistant Casualty Officers: Miss C. P. Giles, M.R.C.S., L.R.C.P. Miss O. H. Lister, B.M., B.Ch., Miss M. P. Shackle, M.R.C.S., L.R.C.P.

**CERTIFYING FACTORY SURGEONS.**—L. G. Llewellyn, M.R.C.S., L.R.C.P. for the Clynderwen District, co. Pembroke; S. Stewart, M.B., B.Ch., B.A.O.Bell, D.P.H., for the Montgomery District, co. Montgomery.

## DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
War Section.—Fri., 4 p.m., Annual General Meeting: Election of Officers and Council for 1928-29.  
Sections of War and Otolaryngology.—Fri., 4.30 p.m., Special Discussion: Effects of Middle-Ear Disease on Efficiency in Civil and Military Life. Openers: Wing Commander D. Ranken, R.A.F., Mr. Sydney Scott, Lieut.-Colonel T. B. Layton, Mr. T. Ritchie Rodger, Major Hare, R.A.M.C., and Surgeon Commander Maxwell, R.N.

## POST-GRADUATE COURSES AND LECTURES.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.**—Mon., 10 a.m. to 12 p.m., Surgical Patients' Wards; 2 p.m., Veneral Diseases; 10 a.m. to 1 p.m., Medical Wards, Pathological Demonstration; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Massage Department; 2 p.m., Eye Department, Genito-urinary Department. Fri., 10 a.m. to 1 p.m., Skin Department, Medical Wards, Dental Department, Electrical Department, Clinical Demonstration; 2 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Throat, Nose, and Ear Department. (Thurs. and Sat. at 2 p.m., Medical and Surgical.)

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.**—At Hawkhead Mental Hospital: Wed., 4.15 p.m., Mental Cases.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

## Departments.

**SUBSCRIPTION MANAGER.** Secretary and Business Manager. (London).  
**MEDICAL SECRETARY.** (London).  
**EDITOR.** (London).  
Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9852, 9853, and 9854 (internal exchange, four lines).  
**SCOTTISH MEDICAL SECRETARY:** 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24351 Edinburgh.)  
**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

- APRIL**
- 10 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. Donald Paterson on the Prevention of Summer Diarrhoea, 9 p.m.
- 11 Wed. London: Council, 10 a.m.  
Croydon Division: Annual Dinner, Greyhound Hotel, 8 p.m.  
Lanarkshire Division: St. Enoch Station Hotel. Dr. John Mortimer on Common Eye Affections, 3.30 p.m.  
Norfolk Branch: Norfolk and Norwich Hospital. Dr. Ian D. Dickson on Neurasthenia in General Practice, 3.30 p.m.
- 12 Thurs. Holland Division: White Hart Hotel, Boston. Dr. J. Wilkie Scott on Some Aspects of Vomiting, 3 p.m.  
Northern Counties of Scotland Branch: Clinical Meeting, District Asylum, Inverness.  
Portsmouth Division: Queen's Hotel, Southsea. Dr. J. Stanley White on Biological Therapy, 9.30 p.m. Supper, 9 p.m.
- 13 Fri. Cambridge and Huntingdon Branch: Addenbrooke's Hospital, 2.30 p.m.  
City Division: Clinical Meeting, Metropolitan Hospital, 4.30 p.m.
- 17 Tues. Lewisham Division: Town Hall, Catford, S.E.6. Dr. W. V. Goldsmith on Pigmentation of the Skin, 8.45 p.m.
- 18 Wed. London: Grants Subcommittee, 2.30 p.m.  
Ashford Division: Dr. J. W. McNece on Hepatic and Biliary Diseases, 4 p.m.  
Willesden Division: Willesden General Hospital, Harlesden Road. Dr. J. Bright Bannister on Ante-Natal Work.
- 19 Thurs. London: Insurance Acts Committee, 2.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

## MARRIAGE.

**McCALLUM-LACAILLE.**—At St. Columba's Church of Scotland, Pont Street, S.W., on March 31st, 1928, by the Rev. Dr. Fleming, assisted by the Rev. G. Leithead, Alexander Grigor McCallum, M.B., Ch.B., of Woodbourne, Streatham, S.W.16, to Marion Bowie Lacaille of Uillhead, Glasgow.

## DEATHS.

**Dow.**—On March 26th, at his home, The Corner, Cowley Hill, St. Helens, S.W., John Hardman Dow, M.R.C.S., L.R.C.P., aged 59 years.

**FORREST.**—On March 28th, at his residence, Holly Bank, 46, Alexandra Road, Southport, William Forrest, physician, the beloved husband of Helen Forrest, in his 77th year. Interred at Southport Cemetery on Saturday last.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 14TH, 1928.

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### Meetings of Branches and Divisions.

#### DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

MEETING OF THE BOURNEMOUTH DIVISION was held on March 29th at St. Peter's Hall, Bournemouth.

Dr. ASTEN, who was in the chair, expressed the sorrow of the Division at the loss by death since the last meeting of four members—Drs. Davidson, Marriner, Prentice, and Saberton—all of whom had taken an active part in the work of the Division.

Dr. G. C. ANDERSON, Deputy Medical Secretary, gave a very interesting and lucid account of the activities of the Association. He grouped his remarks under the headings of (1) maintenance of professional standards of pre- and post-graduate education; (2) promotion of scientific research; (3) influence of the Association on the development of the national health policy; (4) advocacy of reforms in Lunacy and Mental Deficiency Acts; (5) public education in health matters; (6) hospital policy of the Association; (7) medical charities.

After the address several members took part in a discussion. In proposing a vote of thanks to Dr. Anderson for coming to the Division, Dr. WEATHERLY said that he had been a member of the British Medical Association for more than fifty years, and never before had he heard such a very clear and interesting account of the work of the Association. Mr. VERNON, seconding the vote, said that he had listened to all Dr. Anderson had said with very great interest; he regretted that there had not been a much larger attendance of members.

#### KENYA BRANCH.

THE annual meeting of the Kenya Branch was held at the Native Hospital, Nairobi, on January 20th, and the annual dinner at the Nairobi Club on January 21st. This is the third occasion of an annual celebration by the Branch; it may be taken as certain that so successful a function will not be allowed to lapse in future years.

At the business meeting the following were elected as officers for 1928:

*President*, Dr. A. J. Jex-Blake. *President-Elect*, Dr. G. V. W. Anderson. *Vice-President*, Dr. J. H. Sequeira. *Honorary Secretary*, Dr. F. J. C. Olmstone. *Honorary Treasurer and Assistant Secretary*, Dr. J. A. Arman.

After an interval for tea the meeting reassembled for the reading of two papers—one by Dr. J. H. SEQUEIRA on some diseases caused by filterable viruses, the other by Dr. J. L. GILKS giving a medical view of Kenya during 1927.

At the annual dinner there were present thirty-seven members, together with the guests of the Association, including the Governor, Sir Edward Grigg; the Chief Justice, Sir Jacob Barth; the Colonial Secretary, Sir Edward Denham; the Chief Native Commissioner, the Hon. G. V. Maxwell; the Mayor of Nairobi, Mr. A. A. Wood; the president of the Associated Chambers of Commerce, Mr. A. C. Tannahill; the president of the Law Society of Kenya, Mr. E. K. Figgis; and the president of the Veterinary Association, Major H. H. Brassey-Edwards. In the absence of the president of the Branch the chair was taken by the vice-president, Dr. J. H. SEQUEIRA. After the toast of "The King," the Vice-President proposed "The British Medical Association," recounting the activities of the Association throughout the world, and in Kenya in particular. This was followed by "The Health of Kenya," proposed by the Director of Medical and Sanitary Services, Dr. J. L. GILKS. In the course of his speech Dr. Gilks reviewed the medical history of the past year, mainly on the lines of his paper read to the Association the previous day. Dealing with the economic value to the colony of the work done by the medical department in the native reserves, he quoted the following passage from a letter written by the representative of a large estate in Kenya: "I should like to tell you how much the future of the estate will depend on the continuance of the work now being done in the reserve. This is having the effect of helping to get

labour locally—and healthy labour at that." In conclusion, he referred to the scheme now under consideration for regulating subsidies to medical missions and to the valuable work of the Lady Grigg Welfare League. The toast was replied to by the Governor, who expressed his appreciation of the work done by the medical profession in Kenya, and his cordial interest in their activities. The health of the guests was proposed by Dr. C. J. Wilson, and replied to by Mr. E. K. Figgis.

The annual golf competition for the Gilks Challenge Cup was held on January 21st at the Nairobi Golf Club, which had extended hospitality to the Association. Considering the state of the course, the winner, Dr. M. Mackinnon, put up a very fine performance in finishing square with bogey. The runner-up was Dr. J. B. Clarke.

#### NORTH OF ENGLAND BRANCH: CONSETT DIVISION.

THE members of the Consett Division held their second combined ordinary and social meeting of the winter session in the Imperial Hotel, Stanley, on March 28th. After the items on the agenda had been dealt with, there was an animated discussion on matters of local interest relating to colliery practice.

After the meeting the members entertained Mr. Norman Hodgson, honorary assistant surgeon, Newcastle Royal Victoria Infirmary, to a complimentary supper, the president, Dr. W. M. Monson of Catechgate, taking the chair.

Mr. Hodgson subsequently addressed the meeting on injuries and infections of the hand, describing first the essential features of its anatomy, with a brief reference to the recent investigations of the late Dr. Fifield and others. He discussed the treatment of wounds and infections of the hand in general, animadverting on indiscriminate poulticing and the prolonged application of boric fomentations, for which, he said, spirit or dry dressings should be substituted as early as possible. Various injuries and infections were then considered, and the most effectual incisions for dealing with them were described and illustrated by photographs and diagrams. A vote of thanks to the lecturer for a most excellent and practical address brought to a close a very enjoyable evening.

#### NORTH OF ENGLAND BRANCH: HARTLEPOOLS DIVISION.

At a meeting of the Hartlepool Division on February 22nd Dr. W. WARNER COOK being in the chair, Mr. NORMAN HODGSON (Newcastle) gave an address on infections of the hand.

Mr. Hodgson reviewed the recent anatomical work of Knarvel and Fifield, and indicated its bearing on the spread of infection in the hand. He referred to the part played by the fibrous bands which, running from the skin to the periosteum, formed compartments in the terminal phalanx, and showed how, by a crescentic incision, free drainage could be obtained, and necrosis of the terminal phalanx be prevented in most cases. The value of a general anaesthetic in facilitating adequate incisions and the proper inspection of the affected area was emphasized. The after-treatment and the importance of fixation in order to anticipate any resulting stiffness in the fingers were discussed. The address was illustrated by recent dissections, diagrams, and pathological specimens.

#### NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.

THE annual meeting of the Tyneside Division was held on March 23rd at the Tynemouth Victoria Jubilee Infirmary, with Dr. H. ADAMS in the chair, and Dr. Harvey Evers as the guest of the evening.

The following officers were elected:

*Chairman*, Dr. H. Adams. *Vice-Chairman*, Dr. E. Goffon. *Honorary Secretary*, Dr. N. R. Rawson. *Representative in the Representative Body*, Dr. Williamson.

Dr. STONIER reported that the Golf Committee had fixed the meeting to decide the representative in the Treasurer's Cup competition for May 13th at Hexham. It was decided to hold, as in the previous year, a dance in October, a dinner in January, and two clinical evenings; meetings would be on Tuesdays and Fridays alternately.

It was resolved to raise a voluntary levy of 5s. per member toward the out-of-pocket expenses of the representative in the Representative Body, and other incidentals.

After refreshments, provided by the matron, Dr. HARVEY EVERS gave a carefully reasoned and very instructive address on the indications for curettage of the uterine cavity. An interesting discussion followed, and the evening closed with a hearty vote of thanks to Dr. Evers.

#### STAFFORDSHIRE BRANCH.

A MEETING of the Staffordshire Branch was held under the chairmanship of Dr. J. A. M. CLARK, the president of the Branch, at the General Hospital, Walsall, on March 29th; forty-five members were present.

Dr. S. C. DYKE read a paper on the liver treatment of pernicious anaemia, and exhibited a large number of charts. He expressed the view that pernicious anaemia was a disease in which the bone marrow gave rise to red corpuscles, which, on account of their immaturity and concomitant faulty formation, were immediately destroyed by the organs of the reticulo-endothelial system, notably the spleen, the function of this system being to destroy red blood corpuscles after they had become effete. In pernicious anaemia, however, the red blood corpuscles produced by the bone marrow were so immature that they were readily destroyed by the reticulo-endothelial system; their sojourn in the circulation was so short that a marked and rapidly increasing anaemia was produced. Dr. Dyke stated that the success which he had had from the use of liver was very great, and that in some cases the results obtained were actually dramatic. The observations which he had made included red blood counts, estimation of the haemoglobin and bilirubin percentages, and calculation of the proportion of reticulocytes. He had come to the conclusion that liver therapy was only effective for pernicious anaemia. He believed that liver substance had a specific effect upon the cells of the red marrow, enabling them to produce mature and properly formed red blood cells instead of the immature forms characteristic of pernicious anaemia. The reticulo-endothelial system was not able to destroy these mature cells until they had become effete; they thus had time to function, the patient had a normal supply of red blood corpuscles, and his anaemia was relieved. Dr. Dyke exhibited various proprietary preparations of liver; he stated that equally good results were obtained with fresh liver and with any of the proprietary preparations he had tried.

Dr. JOLLY opened a discussion on the small-pox of to-day, and recounted the clinical features of a number of cases of mild small-pox he had seen, emphasizing the fact that for all practical purposes, except severity, the so-called mild small-pox of to-day was the same as the disease generally known as variola. He raised the question whether the same precautions were necessary in the prevention of the disease in its present type as were considered requisite for combating the old-fashioned and more lethal variola, alluding to the disturbance of business and general life which resulted from anything in the nature of a small-pox scare. The subsequent discussion centred round the efficacy of vaccination in preventing both types of the disease, the supervision of small-pox contacts, and the spread of the disease by vagrants.

Mr. FREDERICK EDGE, in a paper on some points in gynaecological surgery, reported many unusual cases which had occurred in his practice. He showed how a thorough routine examination prevented a second condition from being missed, when a more superficial examination suggested that only one abnormality was present. He instanced, in this connexion, a most interesting case of incomplete abortion combined with a ruptured tubal gestation. Mr. Edge described the geography of the "blind spot" of the pelvis, and indicated how the existence of this led to difficulty in diagnosis. He emphasized the necessity for care in making up normal saline solutions for rectal infusion, recounting his experience with some solutions which were hypertonic. He deprecated the use of milk as a food immediately after abdominal operations, but expressed his belief in the good results which were obtained by allowing the patient, as soon as she had recovered from the anaesthetic, to have water, glucose solution, and the cup of tea which had such a beneficial effect upon the feminine mind.

#### SURREY BRANCH: GUILDFORD DIVISION.

An ordinary meeting of the Guildford Division was held at the Royal Surrey County Hospital on March 1st, with Mr. H. B. BUTLER in the chair. In the unavoidable absence of Sir Thomas Lewis, Dr. R. T. GRANT, research worker in the cardiac department of University College Hospital Medical School, gave a most interesting lecture on the diagnosis of subacute infective endocarditis.

Dr. Grant said that this malady occurred more frequently than was commonly thought; it was often overlooked, and yet in most cases it was easily recognizable. The infection tended to develop in those who already suffered from chronic valvular disease of the heart, and was one of the factors which rendered prognosis of this malady uncertain. When its onset was recognized in a case of valvular disease a fatal ending within a few months could be foretold almost with certainty. Dr. Grant then summarized the main pathological features of the disease: (1) the infecting organism was usually *Streptococcus viridans*; (2) large vegetations were found in the valve cusps; (3) the valves showed also, as a rule, either old disease of the rheumatic type or congenital malformation; (4) the vegetations tended to spread over the cusp and on to the neighbouring parts of the heart wall; (5) streptococci were present in the vegetations; (6) the heart muscle, as a rule, was not involved. Associated findings were enlargement of the spleen, glomerular nephritis, and embolism of various organs

without suppuration. The lecturer then dealt in some detail with the clinical findings on which diagnosis was based, and emphasized particularly the age of the patient, usually between 20 and 40; the existence of valvular disease; the insidious onset; the presence of pallor, petechiae, and Osler's nodes; the clubbing of the fingers; the enlargement of the spleen; the occurrence of embolism; the fever, which was usually low and irregular; the presence of red blood cells in the urine and of streptococci in blood cultures; in addition to other signs. Negative blood cultures, when the other signs were clear, did not hinder a diagnosis from being made. The course of the disease was not always steadily downhill, and there might be periods of remission. The average duration was five or six months, but it might be only a few weeks, or two or three years. Diagnosis and treatment were hopeless. Dr. Grant concluded by giving the histories of five representative cases.

## Association Notices.

### TABLE OF DATES.

April 28, Sat.	Annual Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> . Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 12, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office, where there are contests in above elections.
May 15, Tues.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
May 19, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body. Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 2, Sat.	Publication in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available on application at Head Office for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 4, Wed.	Amendments must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff. Nomination papers available on application at Head Office for election of 12 members of Council by grouped Representatives (British Isles).
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Annual Representative Meeting, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.**—An ordinary meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, April 18th, at 3.30 p.m. Dr. C. F. Rudd will read a paper on oedema of the eyelids. Agenda: Minutes; rules of organization; reports by medical practitioners at request of coroners; Treasurer's Cup golf competition; election of representative and deputy representative; letter from secretary of London Public Medical Service.

**CAMBRIDGE AND HUNTINGDON BRANCH.**—A meeting of the Cambridge and Huntingdon Branch with the Cambridge Medical Society will be held at Addenbrooke's Hospital to-day (Friday, April 13th), at 2.30 p.m. Mr. Arthur Cooke: The results of treatment of gastric and duodenal ulcer; Mr. W. H. Bowen and Dr. F. Roberts: The operative treatment of oblique fracture of the femur; Dr. F. Roberts: Localization of a golf-ball in a dog by the barium meal.

**GLASGOW AND WEST OF SCOTLAND BRANCH: Ayrshire Division.**—The annual meeting of the Ayrshire Division will be held in the Infirmary, Kilmarnock, on Monday, April 23rd, at 3.30 p.m. Agenda: (1) Election of office-bearers; (2) appointment of repre-

sentatives to (a) Branch Council. (b) the Representative Body. (c) County Maternity and Child Welfare Committee; (3) annual report; (4) Messrs. Kodak, Ltd., will show five medical cinematograph films at 4 p.m.

**KENT BRANCH: ASHFORD DIVISION.**—At a meeting of the Ashford Division to be held at the North Street Club, Ashford, on Wednesday, April 18th, at 4 p.m., Dr. J. W. McNee of University College Hospital will give a lecture on new work in the diagnosis and treatment of hepatic and biliary diseases. A cordial invitation is extended to all members of the Kent Branch.

**KENT BRANCH: ROCHESTER, CHATHAM, AND GILLINGHAM DIVISION.**—The annual meeting and dinner of the Rochester, Chatham, and Gillingham Division will take place at the Bull Hotel, Rochester, on Wednesday, April 18th, at 7.30 p.m. Agenda: Election of officers for the current year; post-graduate lecture by residents of St. Bartholomew's Hospital. Mr. E. Cecil Harris, coroner for the Sittingbourne Division of Kent, has accepted an invitation to dine, and will speak. Those intending to be present are asked to notify the honorary secretary as soon as possible, and not later than Monday morning, April 16th.

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—A meeting of the Camberwell Division will be held at St. Giles's Hospital, Camberwell, on Tuesday, April 24th, at 9 p.m. Dr. Guy Bonsfield (St. Giles's Hospital) will read a paper on modern methods of combating diphtheria.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The next clinical meeting of the City Division will be held to-day (Friday, April 13th), at the Metropolitan Hospital, when Mr. P. M. Heath will show surgical cases. Tea at 4.15 p.m., meeting at 4.30.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held on Tuesday, April 17th, at 8.45 p.m., at the Town Hall, Catford, S.E.6, when Dr. W. V. Goldsmith will speak on the diagnosis and treatment of pruritic skin conditions.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRA'S DIVISION.**—The next meeting of the St. Pancras Division (postponed from April 10th) will be held on Tuesday, April 17th, at 9 p.m., at the Association's House, Tavistock Square, W.C.1. Dr. Donald Paterson (physician to the Hospital for Children, Great Ormond Street) will deliver an address entitled "The prevention of summer diarrhoea."

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—At the meeting of the Willesden Division to be held at the Willesden General Hospital, Harlesden Road, on Wednesday, April 18th, Dr. J. Bright Bannister will give an address on ante-natal work.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Royal Hospital, Chesterfield, on Wednesday, April 18th, at 3 p.m., when there will be a series of clinical demonstrations.

**NORTH WALES BRANCH.**—The spring meeting of the North Wales Branch will be held at Llandudno on Tuesday, May 1st. The Branch secretary, Dr. E. Lewys-Lloyd, Rhiafa, Towyn, Merioneth, will be glad to receive names of members willing to read papers or show cases not later than April 20th.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The third clinical meeting of the Northern Counties of Scotland Branch will be held at the District Asylum, Inverness, on Thursday, April 19th, at 3.30 p.m., when a paper will be read by Dr. T. C. Mackenzie entitled "Some notes of the epochal insanities." This will be followed by a demonstration of cases by members of the Branch. Members willing to show cases are asked to communicate with the honorary secretary of the Branch by April 16th at the latest, so that arrangements can be made. Tea will be served at the end of the meeting. A fourth clinical meeting is being arranged to be held at Golspie on May 19th.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, April 19th, at 8.30 p.m. Lieut.-Colonel P. J. Maret will read a paper on some lung affections.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—A meeting of the West Suffolk Division will be held on Saturday, April 14th, at 8.45 p.m., when Mr. C. W. G. Bryan will give a lecture on the acute abdomen in childhood. Coffee will be served at 8.30.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—A conjoint meeting of the Brighton Division with the Sussex Law Society will be held at the Queen's Road Dispensary on Thursday, April 26th, at 8.15 p.m., when the honorary secretary of the Brighton Division, Dr. L. A. Parry, will read a paper on criminal abortion, with special reference to the case of Dr. Collins. It is hoped that the subsequent discussion will elicit the views of both professions. The next clinical meeting of the Division will be held at the Lady Chichester Hospital, Hove, on Wednesday, April 18th, at 3.45 p.m.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The annual dinner of the Hastings Division will take place at the Royal Victoria Hotel on Friday, April 20th, at 7.15 for 7.30 p.m. Tickets 10s. 6d. Members are requested to notify the honorary secretary as soon as possible how many tickets they will require for themselves and their friends.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Trafford Arms Hotel, Wakefield, on Thursday, April 19th. Dr. J. le F. Burrow, assistant physician, Leeds General Infirmary, will give a lecture on the diagnosis of acute cerebro-spinal diseases. The lecture will be preceded by a supper at 7.45 p.m., price 3s. The annual meeting of the Division will take place on Thursday, May 10th.

## Correspondence.

### Colliery Surgeons and Unemployment.

SIR,—I have seen no reference to the grievous losses colliery surgeons sustain because they are expected to, and do, attend the dependents of unemployed miners without any remuneration whatsoever. I do not know the arrangements made in England and Wales, but in Scotland the employed miner is at present paying the arrears covered by the strike period, and will be fully paid up in October. The fact, however, is not generally known that with a large increase in unemployment the colliery surgeons, even with the temporarily increased oftakes, are actually receiving less than they did before the coal stoppage, so that the remuneration for attendance upon miners' dependents during the strike period must simply be written off as a bad debt. Matters will be aggravated when the arrears are fully paid. With a further immediate extensive closing down of the pits—and every closure means a further deduction in the colliery surgeon's income, though his work remains the same—there will be a very marked reduction in his emoluments. In Scotland after October the diminished sum will be reduced by one-third. I find that by that time my colliery fees will have fallen to about 50 per cent. less than before the stoppage.

I suggest that the colliery surgeons in each area should meet together for joint action. We cannot be expected to pay assistants and procure new cars if this present situation continues. Only an appeal to the men is needed to secure discussion of ways and means for putting the matter on a proper basis. Three solutions, more or less practicable, have been suggested to me: (1) Continuation of present increased payment by the men employed until the coal trade revives, the employed paying for the dependents of the unfortunate unemployed; (2) the formation of a joint club run by colliery surgeons, the unemployed to make a small contribution weekly, less than that paid by the employed; (3) the Government to grant facilities for a small deduction from the unemployment benefit. As regards the second proposal, when members of other trades are unemployed they continue to pay into our clubs, but not so the miner.

I feel certain that the British Medical Association will give us support in our efforts to improve the condition of colliery surgeons in stricken areas, where the young men at least suffer in silence.—I am, etc.,

Fife, March 31st.

COLLIERY SURGEON.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander P. M. Rivaz to the *Victory* for R.N. Barracks, and for duty with Medical Officer-in-charge, Haslar Hospital, and as Naval Health Officer.

Surgeon Lieutenant E. O'Reilly to the *Constance*.  
Surgeon Lieutenant Commander E. B. Kelley to rank of Surgeon Commander.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant J. B. Hutchison to the *Valiant* for training.  
Probationary Surgeon Lieutenant C. A. Mason to the *Rodney* for training.

### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. E. B. Wood, Regular Army Reserve of Officers, to be Major whilst re-employed, and relinquishes the rank of Lieutenant-Colonel.

Major E. C. Stoney is re-employed.  
Captain R. le G. Worsley to be temporary Captain, and temporarily relinquishes the rank of Captain.

Lieutenant E. H. Hall is seconded for duty with the Sudan Defence Force.  
J. E. Swyer to be Lieutenant on probation.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant H. W. Corner to R.A.F. Hospital, Cranwell.

### RESERVE OF AIR FORCE OFFICERS: MEDICAL BRANCH.

Hon. Flight Lieutenant W. G. Weston is promoted to the rank of Hon. Squadron Leader.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel A. W. C. Young retires.  
The services of Major N. Briggs, I.M.S., are placed permanently at the disposal of the Punjab Government for employment in the Jails Department, with effect from March 24th, 1925.  
Captain W. E. R. Dimond to be Major.

### TERRITORIAL ARMY.

Colonel M. B. Ray, T.D., having attained the age limit, is retired on completion of his tenure of appointment as A.D.M.S., 47th (2nd London) Division, and retains his rank, with permission to wear the prescribed uniform.

Lieut.-Colonel (Brevet Colonel) L. D. Bailey, M.C., T.D., from General List, R.A.M.C., T.D., to be Colonel, with precedence as from December 6th, 1926, and to be A.D.M.S., 47th (2nd London) Division.



## ROYAL ARMY MEDICAL CORPS.

Major A. E. Evans to be Lieut.-Colonel and to command the 140th (County of London) Field Ambulance.  
Captains (prov.) W. Simpson and G. F. Kealinge are confirmed in their rank.  
Lieutenants to be Captains: P. J. Stokes, A. Swindale, C. A. Cowie, W. R. A. Lewis, F. R. Sandford, M.C.  
H. B. Trumper to be Lieutenant.

## VACANCIES.

ADDENBROOKE'S HOSPITAL, Cambridge.—House-Surgeon (male, unmarried). Salary at the rate of £130 per annum.  
ASHFORD HOSPITAL, Kent.—House-Surgeon. Salary £160 per annum.  
BIRROW-IN-FUENESS: NORTH LONSDALE HOSPITAL.—House-Surgeon (male). Salary £130 per annum.  
BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH.—Junior Fellowships up to the annual value of £400.  
BIRMINGHAM UNION.—House-Surgeon (male) at the Dudley Road Hospital. Salary at the rate of £200 per annum.  
BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—Out-patients' Officer for the Ophthalmic Department. Salary £65 per annum.  
EADFORD ROYAL INFIRMARY.—House-Physician and two House-Surgeons (male). Salary £150 per annum.  
BURY AND DISTRICT JOINT HOSPITAL BOARD.—Resident Assistant to the Medical Superintendent. Salary £400 per annum, rising to £450.  
DEVON MILITARY HOSPITAL, Exminster.—Junior Assistant Medical Officer (male, unmarried). Salary £300 per annum, rising to £350.  
EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.1.—(1) Resident House-Surgeon. (2) Whole-time Casualty Officer. Salaries at the rate of £125 per annum.  
FARINGDON GENERAL DISPENSARY, Holborn Circus, E.C.4.—Honorary Physician for Electrotherapeutic Clinic.  
CLOUCHESTER ROYAL INFIRMARY AND EYE INSTITUTION, Gloucester.—Assistant House-Surgeon (male). Salary £120 per annum.  
GLASGOW ROYAL INFIRMARY.—Deputy Superintendent and Senior Medical Resident. Salary £200 per annum.  
GUILDFORD UNION.—Resident Medical Officer. Salary £500 per annum.  
HOSPITAL FOR EPILEPSY AND PARALYSIS, Maid Vale, W.9.—(1) Resident Medical Officer. (2) House-Physician. Salaries at the rate of £150 and £100 per annum respectively.  
LEEDS: ST. JAMES HOSPITAL.—House-Physician and Surgeon (male). Salary £200 per annum.  
LEICESTER ISOLATION HOSPITAL AND SANATORIUM, Groby Road.—Resident Medical Officer. Salary £350 per annum.  
LIVERPOOL EYE AND EAR INFIRMARY.—Third Honorary Anaesthetist.  
LORD MAYOR TRELOR CRIPPLES' HOSPITAL AND COLLEGE, Alton, Hants.—Second Assistant Resident Medical Officer (male, unmarried). Salary £300 per annum, rising to £400.  
LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House-Surgeon (female, unmarried). Salary £125.  
MANCHESTER ROYAL INFIRMARY, Central Branch, Roby Street.—Junior House-Surgeon (male). Salary, eight months' at £100 per annum, and four months at £200 per annum.  
MINISTRY OF PENSIONS: BIRMINGHAM PENSIONS HOSPITALS COMMITTEE.—Resident Junior Medical Officer at the Highbury and Uffellme Hospitals. Salary £300 per annum.  
NOTTINGHAM GENERAL DISPENSARY, Broad Street, Nottingham.—Resident Surgeon (male, unmarried). Salary £250 per annum, rising to £300.  
PORTSMOUTH PARISH.—First Assistant Resident Medical Officer. Salary £350 per annum.  
ROTHERHAM HOSPITAL.—House-Physician (male). Salary £180 per annum.  
ROYAL CHEST HOSPITAL, City Road, E.C.1.—(1) Resident Medical Officer. (2) House-Physician. Salaries at the rate of £150 and £100 per annum respectively.  
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiners for the Fellowship and under the Conjoint Board.  
ROYAL WATERLOO HOSPITAL FOR WOMEN AND CHILDREN, Waterloo Road, S.E.1.—House-Surgeon (male). Salary at the rate of £100 per annum.  
SARAJEVO PACE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—Registrar. Salary £100 per annum.  
SEAMEN'S HOSPITAL SOCIETY: DAREDOUGHT HOSPITAL, Greenwich.—(1) Anaesthetist. Honorarium 50 guineas per annum. (2) Surgeon with charge of out-patients.  
SHEFFIELD ROYAL HOSPITAL.—Resident Anaesthetist (male). Salary £80 per annum.  
WEST CORNWALL MINERS' AND WOMEN'S HOSPITAL, Redruth, Cornwall.—Radiographer.  
WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck Street, W.1.—Registrar (male). Salary £200 per annum.  
WYNDSON: KING EDWARD VII HOSPITAL.—Junior House-Surgeon (female). Salary at the rate of £100 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Finedon (Northamptonshire), Wivenhoe (Essex), Accrington (Lancashire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the Districts of the Aylsham, Downham Market, East Dereham, Fakenham, Holt, King's Lynn, North Walsham, Norwich, Swaffham, Thetford, and Wymondham County Courts (Cireuil No. 32). Applications to the Private Secretary, Home Office, London, S.W.1, by April 25th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## APPOINTMENTS.

COOK, Miss Eva D. M.B., B.S.Lond., House-Surgeon to the New Sussex Hospital for Women and Children, Brighton.  
HUNT, Elizabeth, M.D., Ch.B.Liverp., Honorary Senior Medical Officer, Liverpool Hospital for Cancer and Skin Diseases.

STINGLIER, Mrs. Isabella Morison, M.B., Ch.B.Ed., Temporary Assistant Medical Officer for Schools under the Government of Hong-Kong.

WESTMINSTER HOSPITAL.—Resident House-Physicians: J. H. Wainwright, L.R.C.P., M.R.C.S., A. M. McQuibb, L.R.C.P., M.R.C.S., Resident House-Surgeon: T. W. Morgan, L.R.C.P., M.R.C.S., Resident Obstetric Assistant: C. R. Greene, L.R.C.P., M.R.C.S.

CERTIFYING FACTORY SURGEONS.—W. L. Tullis, M.D.St. And., D.P.H., for the Newburgh District, co. Fife; T. W. Howie, M.B., Ch.B.Glas., for the Rothsay District, co. Inverclyde; A. G. Walter, M.R.C.S., L.R.C.P., for the Wallingford District, co. Berks.

## DIARY OF SOCIETIES AND LECTURES.

## ROYAL SOCIETY OF MEDICINE.

General Meeting of Fellows.—Tues., 5.30 p.m., Ballot for Election to the Fellowship.

Section of Neurology.—Thurs., 8 p.m., Clinical Meeting at West End Hospital for Diseases of the Nervous System, Out-patients' Department, Welbeck Street, W.1.

Section of Obstetrics.—Fri., 8 p.m., Specimens:—Mr. C. D. Read: (1) Teratomatous Ovarian Tumour with Torsion of Pedicle; (2) Columnar Carcinoma of Fundus Uteri with Metaplastic Change to Epithelioma. Papers:—Mr. H. H. Parameer: Eclampsia and its Treatment: an Experience with Spinal Anaesthesia; Professor W. Blair Bell: The Malignant Functions of the Chorionic Epithelium.

## POST-GRADUATE COURSES AND LECTURES.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Dr. W. Fletcher Shaw: Failed Forceps. Fri., 4.15 p.m., Dr. T. H. Oliver: Demonstration of Medical Cases.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

## Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, British Medical Journal (Telegrams: Attitology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9852, 9853, and 9854 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Baellius, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

## APRIL.

- 13 Fri. Cambridge and Huntingdon Branch: Addenbrooke's Hospital, 2.30 p.m.  
City Division: Clinical Meeting, Metropolitan Hospital, 4.30 p.m.  
17 Tues. Lewisham Division: Town Hall, Catford, S.E.6. Dr. W. V. Goldsmith on Pruritic Skin Conditions, 8.45 p.m.  
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. Donald Paterson on the Prevention of Summer Diarrhoea, 9 p.m.  
18 Wed. London: Grants Subcommittee, 2.30 p.m.  
Ashford Division: Dr. J. W. McNee on Hepatic and Biliary Diseases, 4 p.m.  
Brighton Division: Clinical Meeting, Lady Chichester Hospital, Hove, 3.45 p.m.  
Chesterfield Division: Royal Hospital, Chesterfield, 3 p.m.  
Nuneaton and Tamworth Division: Nuneaton General Hospital. Dr. C. F. Rudd on Oedema of the Eyelids, 3.30 p.m.  
Rochester, Chatham, and Gillingham Division: Annual Meeting, Bull Hotel, Rochester, 7.30 p.m.  
Willesden Division: Willesden General Hospital, Harlesden Road. Dr. J. Bright Bannister on Ante-Natal Work.  
19 Thurs. London: Insurance Act Committee, 2.30 p.m.  
Jersey Division: General Hospital. Lieut.-Colonel P. J. Marett on Some Lung Affections, 8 p.m.  
Northern Counties of Scotland Branch: District Asylum, Inverness. Dr. J. J. Macdonald on Infantile Insanities, 3.30 p.m.  
Wakefield Division: Strafford Arms Hotel, Wakefield. Dr. J. J. Macdonald on Acute Cerebro-spinal Diseases. Meeting preceded by Supper at 7.45 p.m.  
20 Fri. Hastings Division: Annual Dinner, Royal Victoria Hotel, 7.30 p.m.  
23 Mon. Ayrshire Division: Annual Meeting, Infirmary, Kilmarnock, 3.30 p.m.  
24 Tues. Camberwell Division: St. Giles's Hospital, Camberwell. Dr. Guy Bonsheld on Combating Diphtheria, 9 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## MARRIAGES.

GORDON-NORWELL.—At Chananar, Chili, on April 3rd, 1928, Robert Russell Gordon, third son of the late Mr. and Mrs. R. R. Gordon, Balgait, to Dorothea May Norwell, M.B., Ch.B., D.P.H., eldest daughter of Mr. and Mrs. J. K. Norwell, Ardenale, Perth. (By cable.)

KAY-WOOD.—At Union Street Wesleyan Church, Bury, on April 4th, by Rev. David Rycroft, assisted by Rev. J. Whitaker, Bond and Rev. G. Evans Watson, L. Ward Kay, M.B., Ch.B., 2, Newlyn Road, Sheffield, to Annie, only daughter of Mr. and Mrs. Walter Wood of Bury.

## DEATH.

STARK.—On March 18th, at 57, Wanstead Park Avenue, E.12, Arthur Campbell Stark, M.B., B.S.Lond., Ph.C., L.S.A.Eng., aged 63.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 21st, 1928.

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## British Medical Association.

### PROCEEDINGS OF COUNCIL.

Wednesday, April 11th, 1928.

A MEETING of the Council of the British Medical Association was held at the Association's House, Tavistock Square, on April 11th. Dr. H. B. BRACKENBURY, who was warmly welcomed on his return from his visit to South Africa, was in the chair, and the following were present:

Dr. C. O. Hawthorne (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Mr. R. G. Hogarth (Past President), Sir Ewen Maclean (President-Elect), Dr. A. Lyndon (Deputy Chairman of Representative Body), Sir Robt. Past Chairman of Council), Dr. J. Barer ...  
 Armstrong, Dr. F. J. Baidon, Sir Alfred ...  
 Bone, Dr. H. C. Bristowe, Dr. G. F. Buchan, Dr. H. G. Daiu, Dr. C. E. Douglas, Mr. W. McAdam Eccles, Dr. D. E. Finlay, Dr. T. Fraser, Dr. F. J. Gomez, Dr. F. W. Goodbody, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. E. K. Le Fleming, Dr. R. W. Leslie, Dr. E. Lewys-Lloyd, Dr. J. Livingstone Loudon, Sir Richard Luce, M.P., Dr. S. Morton Mackenzie, Dr. A. Manknell, Dr. O. Marriott, Dr. J. C. Matthews, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel F. O'Kinealy, Dr. W. Paterson, Mr. J. Patrick, Dr. R. C. Peacocke, Dr. J. R. Prytherch, Dr. F. Radcliffe, Dr. E. H. Snell, Dr. E. A. Starling, Dr. John Stevens, Lieut.-Colonel Ashton Street, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker, and Mr. A. M. Webber.

Apologies for absence were received from Sir Robert Philip (President), Mr. T. P. Dunhill, Dr. J. A. Macdonald, Dr. J. G. McCutcheon, Dr. G. W. Miller, Group-Captain N. J. Roche, Mr. H. S. Souttar, Dr. Lockhart Stephens, Dr. D. Walshe, Sir William Wheeler, and Dr. W. E. A. Worley.

The illness of Dr. J. A. Macdonald was reported, and the Council sent a sympathetic message.

The Chairman said that since the last meeting of Council the death of Sir Dawson Williams, Editor of the *British Medical Journal*, had taken place. He could only draw attention to the large number of personal tributes to the late Editor which had been printed, several of them by members of the Council, and he knew that the Council generally would endorse all that had been said with regard to the personality and work of a great journalist, a great medical man, and a sagacious counsellor. ("Hear, hear.")

The Council had also to deplore the deaths of Dr. H. W. Langley Brown of West Bromwich, Dr. James Davison of Bournemouth, and Dr. Henry L. McKisack of Belfast, former members of Council, and Dr. James Wheatley, president of the Society of Medical Officers of Health.

The Council, by standing in silence, signified its desire that letters of condolence be sent.

Sir G. Lenthal Cheatle, K.C.B., was appointed delegate of the Association at the forthcoming annual meetings of the Canadian Medical Association and the American Medical Association; Professor W. E. Dixon, F.R.S., was appointed to represent the Association on the Council of the Lister Institute in place of the late Sir Dawson Williams; and Mr. Bishop Harman was asked to continue for a further period of three years as representative upon the Professional Classes' Aid Council.

#### *The Finance of the Association.*

The Treasurer presented the financial statement of the Association for 1927. The year, he said, had been one of very successful working; the expense of maintaining the full activities of the Association had been well met by the subscriptions, the receipts from advertisements in the *British Medical Journal*, and other revenue, and there was a surplus on the year, which surplus had eased the task of the Finance Committee in dealing with the anticipated liabilities and responsibilities of the Association. On the expenditure side there was an increase in the cost of the Annual Representative Meeting, due to the distance from headquarters (Edinburgh) at which it was held last year. The year 1927 was the first normal year of housekeeping in the new premises, and the cost was shown to be about £2,500 a year more than at 429, Strand. But the family was larger and required more accommodation, the Association's earning powers were greater, and its vitality was enhanced. He read the auditors' report, and then moved that the financial statement be approved, which, after a few questions had been asked and answered, was agreed to.

Mr. Bishop Harman then went on to report on a matter referred to the Finance Committee by the Council—namely, the question of the payment to members attending Council and committee meetings of out-of-pocket expenses in addition to railway fares. This was the subject of a resolution at the last Annual Representative Meeting, which instructed the Council to consider the proposal. Mr. Harman said that to pay a subsistence allowance in these cases would involve an expenditure of £1,000 a year. The Finance Committee took exception on financial grounds to such a proposal. Dr. Wallace Henry thought that there might be reasons other than financial for which the Council could not approve the proposal. Dr. Buchan asked, in view of the excellent financial condition of the Association, what were the financial grounds on which the committee had turned it down. Sir Robert Bolam thought it

best that it should simply be stated that the Council, having referred the matter to the appropriate committees (the Organization Committee had also considered the matter, but submitted no recommendation), deemed it inadvisable that this expense should be undertaken. The Chairman pointed out that "financial considerations" involved something more than financial ability or otherwise to draw a cheque for the amount. The subject then dropped.

#### *The Association Professionnelle Internationale des Médecins.*

The question whether the British Medical Association should join the Association Professionnelle Internationale des Médecins came forward again on a report by the Finance Committee, embodying a note by the Medical Secretary concerning the financial commitments of such a proposal. The expenditure involved would be £250 a year, and it was reported that the voting in the Finance Committee on a motion "taking exception to this expenditure" was equal, whereupon the chairman of the committee gave his casting vote as taking exception.

Dr. Lyndon now moved a resolution affirming the opinion that the estimated expense of joining this international body was in no way excessive, and further, that only by so joining could the British Medical Association make its influence felt with the International Labour Office, the League of Nations, and other organizations concerned with social insurance abroad, and afford much-needed help to the medical profession in other countries to obtain just and equitable conditions in relation to insurance law. He felt that the position taken up by some members of the Finance Committee was rather parochial. A great body like the British Medical Association was big enough to help members of the profession on the Continent who were in a less fortunate position than their British colleagues. The profession in some countries of Europe was most anxious to have such help in fighting for those rights which had, happily, been secured here. Moreover, it was only in this way that the Association could get into official contact with the League of Nations, which was increasing in importance every year, and the International Labour Office, a very important factor where social legislation was pending.

Dr. C. E. Douglas seconded the motion. He said that this was not a matter to be decided on financial considerations alone. It should be looked at from a larger point of view. By joining this body the Association would be able to carry in a sort of missionary fashion its great ideal beyond the bounds of its own nation. There had been an attempt on the part of the German representatives in this movement to get the British Medical Association to "come over and help us." Internationally that was a gesture of great importance, the more so because, if the British Medical Association stayed outside, the German element would be predominant in Europe in medical matters. In the matter of State sickness insurance the Association could make a contribution of great importance from the experience of this country. He also mentioned that the approved society movement was now taking an international orbit, and he thought it would be rather a sorry position if the British Medical Association were left outside.

Dr. Bone moved:

That the Council is not willing in present conditions to become a constituent member of the A.P.I.M.; but wishes to put on record its willingness at all times to furnish other medical associations, whether national or international, with any information which may be at its disposal by reason of its experience of social legislation in relation to medicine.

He said that this international organization was not connected at all with the League of Nations. Its object was the collection of information by the issue of questionnaires to the constituent bodies. The annual meeting was held only to decide what questionnaires should be issued.

Dr. Dain, in seconding this amendment, disclaimed any parochial spirit, but asked what practical use this organization was likely to be. He thought the British Medical Association could best help other countries, while remaining apart, by improving and maintaining its own standards as an example of what might be done and an encouragement to others.

The Medical Secretary gave some details of the organization, and said that the annual conference in Paris, which he had attended, was concerned with much more than the discussion of questionnaires to be sent out. By far the greater part of the time was spent over answers to questionnaires and in general

discussion. As to the connexion with the League of Nations, at the last meeting in Paris a representative of the Institute of Intellectual Co-operation, which was a League organization, attended, and it was probable that representatives from the international medical body would be invited to Geneva next June to give certain information.

Mr. Bishop Harman reminded the Council of the origin of the international association. It was said that the Association if it joined could withdraw at any time, but, of course, in common decency it could not do so. This international body in its present infant state would cost the Association £250 a year, which represented a capital sum of £5,000, and if it grew to lusty youth it would cost very much more, perhaps £1,000 a year. Such movements had a tendency to grow upon themselves.

Dr. Hawthorne said that Dr. Bone rejected this proposition because the international body was so small, and Mr. Harman because it was likely to be so expensive and expensive. No one would deny that it was in harmony with the tendency of the times and the spirit of the age to organize international co-operation for purposes of mutual benefit. It might be said that under this arrangement the Association would give more than it received, but in so doing it would earn the promised blessedness. In addition, it was now certain that this organization would have a voice in the League of Nations. The speaker was much influenced in this matter by Dr. Cox's judgement.

The Chairman pointed out, in reply to observations by Dr. Barcroft Anderson, that the decision of the Dominion organizations was to postpone consideration pending the decision of the British Medical Association.

Mr. E. B. Turner spoke against the proposal, though not on financial grounds. He was afraid, after long experience of international organizations, that there was a fundamental difference as to ideas of procedure between Continental nations and ourselves. He thought the Association should watch this movement, but not join it, at all events at present.

Dr. Bone's amendment was carried by 30 votes to 11, so that the proposal to join the international body was negatived.

#### *Provision of Spa Treatment for Insured Persons.*

This matter arose on the report of the Insurance Acts Committee, which incorporated a scheme of the British Spa Federation for spa treatment of insured persons which had been before the Spa Practitioners Group Committee. Dr. F. G. Thomson of Bath was present at the meeting of the Council during this discussion in his capacity as chairman of the Group Committee. The Group Committee asked that the proposed scheme might be recommended to the Representative Body for approval, subject to the incorporation of certain conditions which were set out. The full details of the scheme will be embodied in the Annual Report of Council to be published next week.

Dr. Dain, chairman of the Insurance Acts Committee, said that this was the first occasion on which the chairman of a standing committee had presented the report of a group. His committee had not itself expressed any opinion on some of the matters in the report.

The Chairman of Council drew attention to reference in the proposed scheme to "clinics"—"That provision should be made under the scheme for each locality keeping medical records at the clinic," etc.—and asked what was meant by this. Dr. Thomson said that the idea was that some place must be provided at the spa for the treatment of these people, who were of the out-patient class. It was felt that some special consulting room should be provided.

The Chairman said that the Representative Body had been very emphatic that in any extension of insurance benefits an endeavour should be made to maintain the private practitioner character of any specialized treatment. He thought it would be better to emphasize the ordinary methods of consultation, either at the house of the specialist, the general practitioner, or the patient, rather than any special clinic. That was the general system the Association had laid down, and he wanted to know how far the Spa Practitioners Group had taken it into consideration.

Dr. Thomson said that it had not been considered at all, because it was felt that the great organization connected with this work of spa treatment provision could only be done at

some central consulting room, otherwise separate records would have to be kept by every practitioner. It had been suggested that the clinics might be run as a sort of out-patients' department to the mineral water hospitals, but the hospitals did not see their way to undertake the responsibility, and so it was suggested that a clinic should be instituted by the governing committee composed of the physicians and the spa authorities.

Sir Robert Bolam said that this point was of importance because it seemed rather to prejudice the kind of consulting and specialist service that would be set up under the national health insurance scheme when the authorities saw fit to put such a scheme into operation. This would inevitably be used as an illustration of the way to conduct a particular specialist service, and the clinic idea would be given a general application. He thought there should be a clause put into the scheme rendering it possible for the advice of the spa physician to be obtained apart from the clinic. He did not see any provision in the scheme at present for the bedridden patient.

Dr. Dain pointed out that in the extension of insurance benefits which were of a treatment character—dental, for example—it had been agreed that clinics were a suitable method of administering the benefit; there was nothing new in the clinic idea. Sir Robert Bolam said that he was not objecting to clinics, which in certain cases were an economical method, but he was concerned that any group should say they were the only method. There were spas where it might be better to deal with these patients privately.

Sir Ewen Maclean said that in the evidence given by the Association to the Royal Commission on National Health Insurance the clinic was suggested as a method when other methods failed.

Eventually it was agreed, on the motion of Dr. Wallace Henry, Dr. Thomson concurring, that a paragraph should be inserted declaring that rheumatic cases which were considered suitable under this scheme should be treated either at private consulting rooms in the locality or at clinics established for the purpose, and that wherever the clinic was mentioned in the scheme the phrase should be "consulting room or clinic."

Dr. Dain then moved the following definition of spa treatment for submission to the Representative Body:

"Spa treatment may be defined as treatment at a place possessing a supply of natural mineral waters of known therapeutic value with facilities for their application. This implies the existence of suitable buildings, apparatus, and trained personnel for work in bath-houses and other physio-therapeutic departments."

He said that some such definition was necessary inasmuch as while the proposed scheme of the Spa Federation contemplated treatment at the spas the clinic recently established in London under the aegis of the British Red Cross Society evidently had no connexion with treatment at spas. On the suggestion of Dr. Hawthorne the word "reputed" was substituted for "known" in the definition.

#### *The Association Prizes.*

Dr. Morton Mackenzie, for the Organization Committee, brought forward a scheme for the regrouping of the medical schools for the purpose of the prize essay competition by final-year medical students. The number of students competing—only 26 in 1927-28—had been rather disappointing, and this was due, in his committee's opinion, to the inadequacy of the prize (£10). It was therefore proposed to divide the prize money into six prizes of £25 each in place of fifteen prizes of £10 each. The six groups of schools were two for London, one for the provinces and Wales, one for Scotland, one for Ireland, and one for overseas schools. The grouping was not entirely satisfactory, especially as regards Scotland, where approximately 600 students qualified annually, as compared with between 300 and 400 in each of the other home groups, but the scheme was experimental for one year only.

Mr. Bishop Harman thought the proposed scheme was an improvement on the existing one, but he still believed the prize was wrong in its incidence. It was an inducement to men who ought to be striving for qualification to turn aside and browse for a while on some special subject in the hope of winning an Association prize. He moved as a rider to instruct the Organization Committee to consider the advantage of altering the status of candidates eligible for this prize to

post-graduates instead of undergraduates. Dr. Douglas seconded this rider, which was agreed to.

#### *The Constitution of the Association.*

Dr. Morlon Mackenzie, in bringing forward a recommendation regarding the grouping of Home Branches for representation in the Representative Body, involving the creation of three new independent constituencies, said that his committee recognized that the whole question of the size of the Representative Body was getting ripe for discussion. In recent years the membership of the Association had increased by 40 or 50 per cent. It was proposed to ask the Organization Committee next year to explore the situation.

He next proceeded to move a series of recommendations for the adjustment of the articles and by-laws. The only really new matter comprehended was a provision for the possible formation of groups within the Association, but advantage was taken of the opportunity to substitute in about forty places the term "Great Britain and Ireland" for the now obsolete term "United Kingdom." The only discussion arose with regard to Article 9, relating to termination of membership, where it was proposed to extend the present wording to read "upon erasure on the ground of professional misconduct from any *Medical Register* for the time being established for the Irish Free State or for India or any British Dominion, Colony, or Dependency, or any Province or State forming part thereof respectively, or for any British Protectorate or Mandated Territory." As at present it read "any British Colony or Dependency."

The Chairman mentioned a case which came before the General Medical Council in 1925 (*Supplement*, December 12th, 1925, p. 204), in which a practitioner at Lagos had been removed from the Nigerian Register, but appealed to the General Medical Council, who decided that there had been a miscarriage of justice, and refused to erase his name. The Chairman thought that if Article 9 was altered at all the matter ought to be considered in its widest aspects. It was a matter for the Association Council to determine whether, if a member was not erased on the instruction of the General Medical Council, but was removed only from some local Register, his membership of the Association was affected.

It was agreed to refer the whole question of this article to the Ethical Committee.

On a by-law dealing with the reduced subscription of members engaged whole-time in medical instruction, Dr. Hawthorne sought to have the word "private" inserted before "medical practice" in the following proposed clause:

"Any member who is not engaged in medical practice, whether as consultant or otherwise, and is a whole-time member of the teaching staff of a university or medical school, and has signed and transmitted to the Treasurer a declaration to the foregoing effect in relation to the year for which the subscription is due . . . 2 guineas."

Dr. Hawthorne said that he was thinking of the young medical man who received a fixed salary, his duty being to take part in teaching and research work, but who would be excluded from the benefit of this scheme as it stood because he attended in the out-patient department, for which, of course, he received no pay.

Mr. Bishop Harman opposed the amendment, and indicated certain classes of practitioners who might, if the door were opened in this way, come in at a reduced subscription when such was not the intention of the scheme.

The amendment to insert the word "private" before "medical practice" was lost, 9 voting in favour and 11 against.

In concluding the report of the Organization Committee, Dr. Mackenzie mentioned that more new members for the Association were being obtained in proportion to registrations this year than last.

#### *The Chairman's Visit to South Africa.*

Dr. Brackenbury said a few words at this point about his recent visit to South Africa. He was only twenty-six days actually in the country, but when everybody conspired to make one see as much as possible quite a large amount of ground could be covered in that space of time. He was able at one or other of the places visited to get in touch with all classes of practitioners—Government officials, medical officers of health,

specialists, men engaged in research work, and general practitioners, including among the last several in the most rural districts. In each of the four large towns visited a special meeting of practitioners was called, which he addressed. Fortunately for him, the subject in which they were interested was national health insurance. [An article on this appears in the body of the *Journal* at page 673, and a report of the Congress at page 684.] National health insurance and hospital policy were the two big things they were concerned about; with regard to the latter they were passing through at present the stage reached by the Association at home some three or four years ago. In addition, he saw quite a number of influential members of Parliament, and one or two important civil servants, and gave evidence before a Parliamentary Commission appointed to consider schemes of pensions and sickness and unemployment insurance. The Congress in Bloemfontein was not numerously attended as compared with our own meetings, but was very successful. There were only thirty-five practitioners all told in the capital of the Orange Free State and its neighbourhood, and the numbers attending the Congress were perhaps 200. The Congress was to some extent upon the lines of an Annual Meeting of the Association at home, with a number of quite interesting—some of them very valuable—papers. The accompanying entertainments were excellently organized. Dr. Brackenbury thought the object for which the Council had asked him to go out had in fact been accomplished. The unity of the profession in South Africa, already achieved, had been placed, as a result of this Congress, on firm foundations, and to this end the action of the Association at home in sending representatives had contributed. (Applause.)

#### *Lunacy and Mental Disorder.*

Dr. Langdon-Down, Chairman of the Lunacy and Mental Disorder Committee, brought forward a memorandum on the report of the Royal Commission. [This will appear as an appendix to the Annual Report of Council in the next *Supplement*.] He said that the memorandum was long, not because it covered many topics, but because it dealt very fully with the topics that it did cover. This was done in order that members of Council and members in the Divisions and the Representatives might thoroughly understand the issue. The Council had already had recommendations from the committee with regard to one important question—namely, the protection of the certifying doctor. The reason for dealing with the report of the Commission piecemeal was that they were given to understand that the Government had in view the introduction of a short measure to give effect to two parts of the Royal Commission's report which were believed to be non-controversial—namely, the extension of the provisions for voluntary boarders in mental hospitals so as to enable a public institution to deal with them, and the question of protecting the medical man; but, in fact, he had seen no reference in the programme of the Government to any such measure this session. His committee regarded the report of the Royal Commission with mixed feelings. It was very appreciative of the report, but was strongly opposed to certain parts of it because they failed to achieve the great objects in view. The committee did not and could not agree with the proposals for bringing patients under treatment by what was called the Provisional Treatment Order. In so far as the Commission extended the facilities for voluntary boarders it carried out the plan, which the Association's committee supported, of treatment without certification; but what the committee had greatly hoped and desired was that these facilities for treatment without certification should be greatly increased. In fact, the proposals with regard to the Provisional Treatment Order were in no degree less rigid or formal than in the case of the ordinary full certification order of a justice. Why was it that the machinery for carrying out the principle of treatment without certification had not been provided? The committee believed that the Commission had taken a wrong basis for classification of cases. The Commission persisted in classifying patients into two main groups—voluntary and involuntary, and took as the basis for the classification of the latter the probable duration of the illness—a most vague and impracticable criterion. What the committee said was that the basis of classification which should determine the intervention of legal machinery was, in the nature of things, the mental attitude of the patient towards treatment; but in regard to those people who were incapable of expressing an

opinion, there was no need to bring in the justice. The committee was of opinion that for all patients brought under treatment there should be a preliminary month of trial, the authorization for treatment being supported by two medical recommendations. In that way the hesitation of people to place themselves under treatment would be overcome, and it might be hoped that patients in the early acute or early mild stage would be ready, all proper safeguards having been taken, to come under treatment. In addition, such an arrangement would provide some intermediate ground between full freedom of treatment of ordinary mental ailments and formal certification by a justice. He was glad to say that the memorandum had carried with it substantial agreement in his committee; there was substantial agreement also with the Royal Medical-Psychological Association; and he claimed for the report and its recommendations that they carried out to a practical issue the general principles which the Royal Commission had laid down more nearly than did the recommendations of the Commission itself. He believed that in this memorandum there was embodied a policy which was worth putting before the country as promising a real reform in the treatment of mental cases in the future.

Dr. Hawthorne agreed that the report of the committee now brought forward rested upon well-defined principles. The thesis which it announced was, he took it, that in the issue as between sane and insane in the individual person reliance had to be placed upon the judgement and opinion of the medical profession, and that the intervention of a legal official was unnecessary, and might in certain cases be harmful. To put the doctrine in other words—for a decision whether as a method of treatment the patient's liberty ought or ought not to be restricted the medical profession must be trusted, not the judgement of the lawyer. He would go further than that: he recognized that this doctrine was consistently and thoroughly applied in the report, which thus became a document capable of legal defence. Once again, the report did recognize that there were limited circumstances in which for practical reasons the thesis for which it stood could not be applied, and it defined those exceptions by means of argument. Therefore, if this report were the only voice with which the committee had spoken to the Council, he would have been ready to maintain that no one was in a position to contradict its argument, unless, indeed, he was prepared to challenge the whole principle on which it was based. The report, however, was not the first report which had come to the Council from the committee. To go back to the beginning, what was the basis of the committee's evidence given on behalf of the Association to the Royal Commission? It was that no patient should have his liberty taken away except upon the approval and warrant of a legal representative. It was agreed that this might not hold good in occasional circumstances of emergency and for a temporary period, but that was the broad position for which the Association stood. In its evidence the Association endeavoured to make this principle still more effective by proposing certain changes in the law. It was argued that the magistrate should be compelled in every case to examine the patient, and that the emergency certificate should be shortened from seven days under the present law to three days, once again indicating that in the Association's judgement it was law and not medicine which was responsible for restricting the patient's liberty. It was upon this claim for prompt and universal legal intervention that the committee had proceeded to argue that the position of the doctor in these proceedings was that of a witness, and that the instrument which restricted the patient's liberty was the magistrate's order, not the opinion of the doctor, who, being a witness, should enjoy the immunities of a witness. All these doctrines had now been thrown overboard, and, swinging to the opposite extreme, the committee now proceeded to say that, except in those cases where the patient deliberately or by resistance or violence opposed the doctor's intervention, the great majority of patients should be admitted to an asylum—and might be kept there by means of renewed certificates for two years or longer—upon the recorded wish of the relatives supported by certificates from two medical practitioners, and without any legal knowledge or intervention in the whole proceeding. The present report preached the full-blooded medical doctrine that insanity was a form of illness which, like other forms of illness, required medical opinion. That was not an unattractive doctrine—far from it; but in adopting this report the Association did give itself an awkward corner to turn



found. It must go forward with a little less confident tone. The chairman of the committee (Dr. Langdon-Down) had criticized the Royal Commission for the terms and conditions of the Provisional Treatment Order; he had objected to the presence of the magistrate, to the signature of one doctor, and to the temporary duration of the certificate or order. It was an excellent piece of destructive criticism of what the Royal Commission had proposed, but what the Royal Commission had proposed was exactly what the Association had suggested to it that it should propose in the evidence given at the outset. It would become the Association to adopt a somewhat contrite tone, even if not the full penitential dress. At the last Representative Meeting the proposal which was made for the protection of the certifying practitioner included three possibilities: a change of onus in cases where an application for a stay of action was being heard; a medical assessor sitting with the judge who heard such application; and the counter-signing of the original certificate by the magistrate at the outset as a proof that the doctor was acting in good faith. But a smaller measure of protection would now be proposed to the Representative Body than on the last occasion. He (Dr. Hawthorne) was concerned only to point out in advance the difficulties which must arise when this report was presented. He was, however, going to vote in favour of the report because it did meet to some extent the views he had pressed upon the Council and the Representative Body. He was prepared to hold that there were certain avenues for discussion and modification and change in this report. He did not think it absolutely shut the door upon the possibility of gaining full protection for the practitioner. He himself would have liked to bring in the magistrate in these transactions in an administrative, not a judicial, capacity.

Dr. Langdon-Down agreed that the attitude on this question taken up by the committee had changed, though not to the extent Dr. Hawthorne had suggested. When those concerned first took up this question they had to educate themselves and one another in many aspects of lunacy law and procedure. He did not think they were bound for all time by what they had recommended when the Royal Commission was sitting. Had not the Royal Commission itself swept away many doubts and difficulties? The circumstances were entirely different in the light of the Royal Commission's report and in view of the discussions at the Annual Meeting at Edinburgh and elsewhere. Approval was given to the report unanimously.

#### *Puerperal Morbidity and Mortality.*

Sir Ewen Maclean, chairman of the Committee on the Causation of Puerperal Morbidity and Mortality, brought forward a report on that subject which will be printed as an appendix to the Annual Report of Council in next week's *Supplement*. He suggested a revised wording for the last paragraph in the report, before the recommendations, as follows:

"A proposal that there should be a medical investigation into all maternal deaths has found some support. Such medical investigation, however, should be carefully controlled by the conditions indicated in the letter of the Council to the Ministry of April 28th, 1926, to the effect that the investigation should be conducted by a competent and experienced medical officer, and for the purposes exclusively of scientific inquiry and the advancement of public health."

He said that there must be no censorious form of inquest with consequent possible imputation of blame to individuals.

Dr. Manknell thought that, in view of the popular prejudice with regard to *post-mortem* examinations, the fact of such an examination might be regarded as a *prima facie* case against the doctor in attendance.

The Chairman pointed out that what was intended was a purely medical and scientific examination, not a compulsory *post-mortem* examination.

Dr. Manknell thought that the doctor might not be in a strong position to object to a necropsy if such were suggested.

It was agreed that the paragraph he altered in the way Sir Ewen Maclean had suggested, and certain of the recommendations printed at the end of the report were agreed to without discussion. These laid down the objectives of further experimental research, the need for increased facilities for training medical students, for the further provision of beds for maternity cases in institutions, for the keeping of regular records by the practitioner in midwifery cases, and the desirability that a condition of the payment of maternity benefit should be that

the mother had had at least one ante-natal examination by a medical practitioner. On a further recommendation that a standing committee of the Association should be set up to watch the course of events, Sir Ewen Maclean said he thought it necessary that some body should be charged with seeing that the Association and its great machinery were used in the right direction. The proposed committee should include the Officers of the Association, representatives of the bodies which took part in the conference at the House of the Association in January last, and general practitioners.

Dr. Dain said that this was an extremely interesting and hope-raising report, but it was also disappointing because it did not offer under the authority and with the approval of the British Medical Association those advantages which were now being enjoyed by the patients of the external departments of the midwifery schools who were confined in their own homes. It was not necessary to await the results of research or the practicability of the extensive provision of beds. It had been shown that by adopting certain simple measures the mortality rate could be reduced considerably. The Council would stultify itself by letting such a report as this go forward without some effective recommendations. By organized midwifery, involving co-operation between qualified midwives, doctors, and local authorities, it was possible to reduce markedly the mortality rate; and why should the Association wait until this fact was grasped by the Ministry of Health? He had had the opportunity of talking over the matter with the professor of midwifery at Birmingham University (Professor Beekwith Whitehouse), who was satisfied that if provision were made for one ante-natal medical examination, and for the fulfilment of certain other simple conditions, including the provision of sterilized towels and gloves, the question was within measurable distance of being settled. In this system, following the ante-natal examination, the doctor would place every patient in one of three categories: (1) the healthy and normal, including the great number of multiparae and a certain number of primiparae; (2) those with certain complications who were not to be safely confined without a doctor present; (3) those of whom it could be said at once that they were cases for institutional treatment. The women in the first of these classes were handed over to the midwife, with the instruction, of course, that she would call in the doctor if any unforeseen event occurred; the women in the second class were seen by the doctor again, and as often as necessary; and for the women in the third class arrangements were made for their admission to institutions. This meant that doctors would get into touch with a number of cases which were on the borderline, and would know beforehand whether there were definite risks or not. With regard to cost, in many areas the patient was invited to pay 5s., and it did not seem as though it would require any very large increase on that sum to provide for the necessary ante-natal treatment. It was mainly a question of the organization of a sound working scheme. If such a scheme were forthcoming he thought that objection by the patient to ante-natal examination would be very slight. He hoped that before this report went forward to the Representative Body it would carry with it some such recommendations as these.

Sir Ewen Maclean said that what Dr. Dain had put forward was practically gathered up in the report itself, but on the question of making detailed recommendations as to the method of conducting a confinement there had been serious consideration by the committee, which had decided not to make such recommendations.

Dr. Dain desired that a committee of the Association might be set up to formulate a scheme which would make available for all parturient women the advantages now obtained in the external departments of the midwifery schools, and he hoped that the publication of this report would be delayed until such scheme had been submitted to the Council.

Dr. Bone pointed out that there were different schemes in different midwifery schools, and asked also what Dr. Dain proposed for the cases remote from the area which any such organization could cover.

Dr. Dain said he quite appreciated that there were areas out of reach of such organized effort, but in those areas the number of confinements also was small. The first thing was to provide for the needs of the big urban populations. He added that if he had reserved until the Representative Meeting the speech he had just made, he might have been regarded as

throwing some discredit on the committee. He hoped that some such suggestions as he had made might be incorporated in the report before it was given to the profession and the public. Above all things, this question could not be left in the air. The report should be taken back and brought up again at the June meeting of Council, when it might be made to embody some such scheme as he had outlined.

In reply to Mr. Bishop Harman, who asked whether the adoption of such a scheme would mean the promulgation of an orthodox ritual of childbirth treatment, Dr. Dain said that he was not himself an expert in this matter. What he had said had been gathered mainly from conversations with the professor of midwifery at Birmingham University. His whole idea was that something practical should be offered to the profession and the public. The crux of the whole matter was organized midwifery and effective ante-natal examination.

Dr. Bone said that Professor Beckwith Whitehouse was not the only man in this country who had a scheme. He thought it would be a difficult problem to formulate a scheme which would command general approval and be applicable everywhere.

Dr. Christine Murrell agreed with Dr. Bone. There were other schemes than that put forward by Professor Beckwith Whitehouse, and other points of view, and it would be unwise at the present moment to lay down the matter as definitely as Dr. Dain proposed.

Sir Jenner Verrall said that in his view the committee had not left this matter in the air. Its recommendations were, briefly, that there should be research, that there should be vigilance in view of the possibility of new discoveries and opportunities, and that the subject presented so many varied conditions that the opinion of the profession at large should be elicited, and experience and results from different parts of the country compared. He thought this was not the stage at which the views of the Council should be crystallized with regard to a detailed scheme.

Sir Robert Bolam said that one of the great points in Dr. Dain's argument was that there should be initiated amongst all women a system of ante-natal examination and classification. Would it not be advisable to introduce into the recommendations something which would suggest a campaign to educate the public in the need for ante-natal examination?

Dr. Dain's amendment for the referring back of the report to the committee, with a view to incorporating in it and presenting to the next meeting of Council a scheme which would make available for as many parturient women as possible the advantages now obtained in the external departments of the midwifery schools, was not carried. In place of the recommendation that a standing committee of the Association be set up to watch the course of events and to keep in touch with research work, and of a further recommendation that the Divisions and Branches should arrange a series of meetings to be addressed by consultants and specialists, it was agreed to send the report first to the Representative Body, and that, if approved, a further resolution should be put to the Representative Body that a committee be set up to formulate measures designed to bring about a reduction of maternal morbidity and mortality, to keep in touch with research, and to assist Divisions and Branches in arranging for education and propaganda as to the value of ante-natal services, methods of dealing with confinements, and the care of the mother and infant.

It was also agreed that the allocation of additional grants of money by the Association to promote research in this subject should be considered, and the report was approved for recommendation to the Representative Body.

Dr. Bone brought forward, on the Medico-Political Committee's report, the question of the forthcoming issue by the Minister of Health of a circular to local authorities in connexion with the investigation into maternal deaths. It was understood that the Minister proposed to insert a clause to the following effect: "The British Medical Association has already been consulted and has expressed general approval of the objects of the proposed investigation, understanding that it is intended to use the results exclusively for scientific and public health purposes." This was almost precisely the wording of the letter sent to the Ministry from the Council in April, 1926.

The Chairman said that the Council could not object to—indeed, could only welcome—the insertion of such a statement.

#### *Contract Rate for Juvenile Oddfellows.*

Dr. Bone again brought forward, on behalf of the Medico-Political Committee, a recommendation for approval by the Representative Body of a standard rate of 8s. 8d. per head per year, including drugs, for the remuneration of medical practitioners for medical attendance and medicine for juvenile members of the Manchester Unity of the Independent Order of Oddfellows. The recommendation added that the Council be authorized to approve a slightly lower rate than 8s. 8d. per head per year, for a time to be definitely stated, for application in any area in which it is satisfied that, owing to economic conditions, the standard rate is not feasible; and that it be an essential part of this arrangement that there must be free choice of doctor by patient and of patient by doctor. This recommendation had been before the Insurance Acts Committee, which had approved it.

Dr. Johnson, who entered a strong protest when this matter was previously before the Council, repeated his objections. Practitioners in Lancashire to whom he had spoken were unanimously against the proposal. They had accepted insurance practice because they felt that it included a class of case which hitherto perhaps had not had proper care and treatment; it was not altogether a financial arrangement. But this was purely a financial matter, and the element of sympathy did not come in. These people were of the better-off artisan class, and a fee of 6s. 6d. (after deducting the proportion for medicine) was wholly inadequate.

Dr. Walker thought it would be a fatal error to pass this recommendation. He was surprised to hear that two committees of the Association approved it. There was no demand whatever from the medical profession. The request came from the Manchester Unity, which was naturally anxious to conclude a good bargain. If this were passed it would spread like wildfire to other societies. When the question of dependants under the Insurance Act came up, or when the Insurance capitation fee was to be readjusted, how would the profession stand after accepting a capitation fee of 6s. 6d. in this instance, for attendance on persons, including young children, who required more attention than the average insurance patient?

Dr. Douglas supported the protest, and considered the figure ridiculous in comparison with that paid by the Post Office (8s. 6d.), remembering that this latter was for attendance on a favoured population who had passed an entrance medical examination. Dr. Manknell said that the Association had put the clock back for fifty years. Other societies would soon be demanding the same privilege. Dr. Wallace Henry said that in the vast majority of lodges the proposed fee of 8s. 8d. would mean an increase—in many a considerable increase—on the fee hitherto obtaining. It had always been made clear that the profession was seeing these dependants at a lower rate because they were not receiving State aid. The vast majority of the members of the profession who were doing this work would be advantaged by what was now proposed. Dr. Stevens joined in opposition to the proposal. It was an extension of contract practice against which the Association should set its face.

Dr. Dain said that the Insurance Acts Committee decided in favour of this with only four dissentients. It had to be borne in mind that a great deal of minor ailment work among children was now covered by the school clinics. Among this class of persons there was not—as there was in insurance practice—an increasing number of disabled persons drawing certificates for years. There were no certification rules, and there was no disciplinary procedure. His committee had felt that it would not be difficult to combat any suggestion that this fee was in any respect a standard for the fee to be paid in national health insurance.

Dr. Bone said that this fee was in the interests of the doctors primarily affected. It had been argued that acceptance might prejudice negotiations with the Ministry of Health in respect to the insurance capitation fee, but he felt that he would have no difficulty in arguing that the fee compared favourably with the 9s. fee, having regard to the fact that the Oddfellows fee was for a restricted service, there were no certificates, no questions of discipline, no records, and that these juveniles between the age of 6 and 16 did not require an attendance equal to the average required by the population at all ages.

Among this class of persons the incidence of sickness was less, not greater. The recommendation was approved.

#### *Radiation and Electrical Treatment by Untrained and Unqualified Persons.*

The Science Committee brought forward a communication from Dr. C. B. Heald urging the need for consideration by the medical profession of treatment by radiant energy and electricity.

Dr. Hawthorne, who acted in the absence of Mr. Souttar, chairman of the committee, said that the report on this subject bore both on the need for giving medical students instruction in these methods and on the risks involved to the public when such methods were employed by untrained and unqualified persons.

On the first of the committee's recommendations, that a communication be addressed to the General Medical Council pointing out the need for giving medical students some such instruction, Sir Robert Bolam thought this an unnecessary recommendation, as the General Medical Council had been insisting for two years on the necessity of this particular thing in this particular way. Mr. McAdam Eccles said that in most of the London schools lectures were given on these methods. Dr. Hawthorne, in view of what had been said, withdrew the recommendation.

Another recommendation, after some slight revision, was carried, asking the Representative Body to express the opinion that in view of the risks to the public involved in the use of electricity and radiation as methods of treatment by untrained and unqualified persons it was desirable that suitable courses of training should be organized under medical direction for persons who wished to administer this form of treatment, that persons who had satisfactorily followed such a course should be entitled to have their names entered on an approved roll, that one of the conditions attached to admission to and maintenance on the roll should be abstention from the treatment of any patient except on the responsibility and under the general supervision of a registered medical practitioner, that the treatment in every case should be under such supervision, and that patients requiring such treatment should be referred only to persons whose names are on the approved roll.

#### *Remuneration in Certain Academic Posts.*

The Council considered a report of the recent conference with representatives of medical schools on the question of the remuneration of non-professorial medical teachers and laboratory and research workers (*Supplement*, February 18th, p. 45). Dr. Hawthorne said that the Science Committee saw the force of the argument presented at the conference that the universities were not in a position to pay salaries on the lines suggested in the British Medical Association's scale, and that there were other considerations than that of remuneration, which did not apply to similar posts under public health authorities. It was also recognized that the academic bodies were paying juniors more than formerly.

It was proposed by the Science Committee:

That it be recommended to the Representative Body that the scale of salaries relative to non-professorial medical teachers, laboratory, and research workers should not apply to academic appointments in universities and medical schools where these appointments are of a temporary character and where the duties attached to the posts are in direct connexion with the advancement of the practitioner's knowledge and experience in the particular branch of work in which he proposes to cultivate.

Sir Robert Bolam hoped for an assurance that there would be a liberal interpretation of the word "temporarily" in the policy of the Association relating to what were known as Grade III workers, "comprising those who are junior workers temporarily employed on probation." He also discussed other points, which, however, Dr. Hawthorne said, were not raised at the conference. What the conference had to answer, said Dr. Hawthorne, was simply: What are the conditions which must be fulfilled before the Association will accept advertisements for academic posts? The committee had endeavored to answer that question, but he hoped that Sir Robert Bolam would furnish a memorandum relating to the other matters which he had advanced. The recommendation was agreed to.

#### *The Co-ordination of Hospital Provision.*

Mr. McAdam Eccles, chairman of the Hospitals Committee, presented to the Council a memorandum [to be printed in the Annual Report of Council in the next *Supplement*] setting forth a scheme for the co-ordination of hospital provision. He said that the scheme was for the co-operation of voluntary hospitals with municipal hospitals, and he desired that the Council should acknowledge the great amount of work that Sir Richard Luce had put into this report. The Hospitals Committee had set out certain definite resolutions which it hoped might be for the guidance of the Government, but at that late hour in the Council's proceedings he would not do more than ask the members to study the report for themselves. There was one small point—a matter of nomenclature—about which he was not quite happy—namely, the term "central or base hospital" to describe the institution around which other hospitals were grouped. The Council had in a previous discussion expressed a preference for this term rather than "parent or primary," but the word "central" was considered still not very suitable, while "base" had a suggestion of the great war.

It was agreed by the Council that the scheme be adopted and submitted to the Minister of Health, together with the resolutions of the Council at its previous meeting (*Supplement*, February 25th, p. 61) in connexion with any legislation that the Minister might propose to introduce on the matter.

#### *The Charities Trust Fund.*

Dr. J. F. Walker, for the Charities Committee, brought forward a recommendation, among others, that the sum of £300 be forwarded to the Council of Epsom College with a request that £200 be utilized for the purpose of contributing towards the education of the son of a medical woman, understanding that this would secure the admission of the son of a medical man as an exhibition scholar. The circumstances of the case have already been set out (*Supplement*, March 17th, p. 87). A medical woman, whose husband (a layman) had had to retire from business on account of ill health, was unable to obtain admission for her son as an exhibitor at Epsom because the Act of Parliament governing the constitution of the college does not provide for the admission as an exhibitor of the son of a medical woman by a lay husband. There was the greatest goodwill on the part of Epsom College, which, Dr. Walker had every reason to believe, would agree with the conditions on which this sum was voted, but in awarding its ordinary exhibition scholarships it was bound by the terms of the statute.

Dr. Lyndon said that Epsom College could only alter the position by a new Act of Parliament, which would be a very serious matter. There were complications which arose out of this question—for example, whether the widow of a medical woman could put in a claim for a grant or pension.

The recommendation was agreed to, and further amounts were allocated to other charities. Dr. Walker remarked that the relations between the British Medical Association and the governing bodies of the various medical charities were now most friendly, and any feeling that the Association was encroaching on their preserves was passing away.

#### *Other Business.*

Reports were made by the Ethical, Naval and Military, and Office Staff Superannuation Committees which gave rise to no discussion. An important report of the conference with the Society of Medical Officers of Health, which involved the question of the modification of the scale of salaries, was postponed until the next meeting of the Council, because the two members of Council elected by the public health service members were not then in their places. The chairman of the Science Committee (Mr. Souttar) and Dr. Wallace Henry were appointed, at the invitation of the Standing Committee (General Merchandise) of the Board of Trade, to confer with that body on the question as to whether imported surgical instruments and dental supplies ought to hear an indication of origin under the Merchandise Marks Act.

It was left to the Chairman of Council and the Medical Secretary to adjust the draft Annual Report of Council in accordance with the decisions of the day's meeting, and the Council rose at 7.30 p.m., after a sitting which, with two short intervals, had lasted from 10 a.m.

## British Medical Association.

## CURRENT NOTES.

## Sir Dawson Williams.

SYMPATHETIC reference to the death of our late Editor appears in the *Journal of the American Medical Association* for March 31st. After briefly recalling Sir Dawson Williams's long connexion with the editorial work of the *British Medical Journal*, our contemporary says:

"Sir Dawson had done much to develop the periodical to the high place that it held in medical journalism. In medicine he was recognized as omniscient, and his ability to develop the writings of others was the subject of universal comment. In a recent number of the *British Medical Journal* leading medical men from all over the world pay him the tribute that was his due for his contribution to the promotion of medical knowledge. To these tributes the *Journal of the American Medical Association* wishes to add its recognition of his notable work. His constant willingness to be of assistance in campaigns against fraud and folly and in promoting the friendly relationships which should and do exist among intelligent scientists on both sides of the Atlantic was an inspiration."

## Conference of Medical Staffs of Voluntary Hospitals.

The recent rapid growth in the number of contributory schemes for hospital benefit all over the country is giving much concern to the Council of the Association. Hardly a day passes but some new scheme is reported or some new and unexpected development is complained of. It is clear that the direct and indirect effects of these schemes on the hospitals, on the public, and on the whole medical profession are far from being appreciated as they should be. The Council has therefore deemed it advisable to call a conference of the medical staffs of voluntary hospitals in order that various principles, dangers, and difficulties involved may be discussed by those of the profession who are most intimately concerned. Voluntary hospitals (including cottage hospitals) are being asked to send representatives to the conference in the following proportion: Up to 100 beds, 1 representative; 100 to 200 beds, 2 representatives; 200 to 300 beds, 3 representatives; 300 beds and over, 4 representatives. The conference will be held in the Association's House, Tavistock Square, London, W.C.1, on Wednesday, June 6th, at 2 p.m.

## Middlemore Prize, 1929.

The Middlemore Prize consists of a cheque for £50 and an illuminated certificate, and was founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider an award of the prize in the year 1929 to the author of the best essay on the following subject: "The clinical study of the vitreous body, its swellings, contractions, opacities, and reactions to toxic invasion; with special reference to glaucoma and detached retina." Essays submitted in competition must reach the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, by December 31st, 1928. Each essay must be signed with a motto and accompanied by a sealed envelope, marked on the outside with the motto, and containing the name and address of the author. In the event of no essay being of sufficient merit, the prize will not be awarded in 1929.

## Election of Central Council.

The attention of Division and Branch secretaries and members generally is drawn to the announcement in the Table of Dates under "Association Notices" (*Supplement*, p. 133) that nomination papers for election of the twenty-four members of Council by the grouped Branches in the British Isles are now available on application to the Medical Secretary.

## Thank-offering to B.M.A. Charities Fund.

A member of the British Medical Association who desires to be anonymous has sent a cheque for £50 to the Sir Charles Hastings Fund, as a thank-offering for twenty-five years of health, happiness, and reasonable success in practice.

## Association Notices.

## ELECTION OF REPRESENTATIVE BODY.

THE Council has formed the Divisions into the constituencies for election of the Representative Body, 1928-29, shown below.

It is a matter for the Executive Committee of the Division (or, where the Constituency comprises more than one Division, for a joint meeting of the Executives of the Divisions) to decide whether the Representative(s) and Deputy-Representative(s) shall be elected by a *General Meeting* of the Constituency or by *Postal Vote*. The meeting must be called (or, where the election is by voting papers, these must be issued) by the Secretary of the Division (or, in the case of Constituencies comprising more Divisions than one, by the Secretary of the Division containing the largest number of members).

The Representatives and Deputy-Representatives must be elected not later than Saturday, May 19th, and their names forwarded to the Head Office not later than Thursday June 7th.

## CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1928-29.

## (I) CONSTITUENCIES IN THE BRITISH ISLES.

(Divisions bracketed together form one Constituency.)

<b>ABERDEEN—</b> { Aberdeen Orkney Shetland  <b>BATH AND BRISTOL—</b> { Bath Bristol  <b>BIRMINGHAM—</b> { Bromsgrove Dudley Central Coventry Nuneaton and Tamworth Rugby Warwick and Leamington West Bromwich  <b>BORDER COUNTIES—</b> Dumfries and Galloway English  <b>CAMBRIDGE AND HUNTINGDON—</b> { Cambridge and Huntingdon Isle of Ely East Hertfordshire  <b>CONNAUGHT—</b> { Mid-Connaught North Connaught South Connaught  <b>DORSET AND WEST HANTS—</b> Bournemouth West Dorset  <b>DUNDEE</b>  <b>EAST YORK AND NORTH LINCOLN—</b> East York North Lincoln  <b>ENINCHGROH—</b> Edinburgh and Leith Lothians South-Eastern Counties  <b>ESSEX—</b> Mid-Essex North-East Essex South Essex  <b>FIFE</b>  <b>GLASGOW AND WEST OF SCOT-  LAND—</b> Argyllshire Ayrshire Dumbartonshire Glasgow Central Glasgow Eastern Glasgow North-Western Glasgow Southern Leamington Renfrowshire and Buteshire	<b>GLoucestershire</b>  <b>KENT—</b> { Ashford Dover Folkestone Bromley Dartford Isle of Thanet Maidstone Rochester, Chatham, and Gillingham Tunbridge Wells  <b>LANCASHIRE AND CHESHIRE—</b> { Ashton-under-Lyne Glossop Birkenhead Blackburn Blackpool Isle of Man Bolton Burnley Bury Chester Crewe Hyd Stockport, Macclesfield, and East Cheshire Leigh Wigan Liverpool Manchester Mid-Cheshire Oldham Preston Rochdale St. Helens Salford Southport Warrington  <b>LEINSTER—</b> Dublin East Leinster Mid-Leinster North Leinster North-West Leinster South-East Leinster  <b>METROPOLITAN COUNTIES—</b> Camdenwell Chelsea City Finchley Greenwich and Deptford Hampstead Harrow Hendon Kensington Lambeth and Southwark Leisham Marylebone North Middlesex St. Pancras South Middlesex
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Council by grouped Branches in British Isles; and  
(ii) 2 Public Health Service Members of Council, and  
4 Representatives of Public Health Service in Representative Body.

PUBLICATION IN BRITISH MEDICAL JOURNAL SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.

June 2, Sat. Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.

Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).

June 7, Thurs. Names of Representatives and Deputy Representatives must be received at Head Office by this date.

June 13, Wed. Council.

June 21, Thurs. Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.

June 30, Sat. Supplementary Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.

July 4, Wed. Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.

July 20, Fri. Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.

July 21, Sat. Annual Representative Meeting, Cardiff.

July 23, Mon. Council, Cardiff.

Annual Representative Meeting, Cardiff.

July 24, Tues. Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.

July 25, Wed. Council, Cardiff. Conference of Honorary Secretaries, Cardiff.

Meetings of Sections, etc., Cardiff.

July 26, Thurs. Meetings of Sections, etc., Cardiff.

July 27, Fri. Meetings of Sections, etc., Cardiff.

ALFRED COX, *Medical Secretary.*

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A social meeting of the West Dorset Division will be held on Thursday, April 26th, at Corfe Castle, at 3 p.m., when Dr. G. Dru Drury will briefly describe the history and architecture of the castle. Visits will be paid also to the parish church of St. Edward the Martyr and to Church Knowle and Bnrnstone Manor House.

GLASGOW AND WEST OF SCOTLAND BRANCH: Ayrshire Division.—The annual meeting of the Ayrshire Division will be held in the Infirmary, Kilmarlock, on Monday, April 23rd, at 3.30 p.m. Agenda: (1) Election of office-bearers; (2) appointment of representatives to (a) Branch Council, (b) the Representative Body, (c) County Maternity and Child Welfare Committee; (3) annual report; (4) Messrs. Kodak, Ltd., will show five medical cinematograph films nt 4 p.m.

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—A meeting of the Camberwell Division will be held at St. Giles's Hospital, Camberwell, on Tuesday, April 24th, at 9 p.m. Dr. Guy Boussfield (St. Giles's Hospital) will read a paper on modern methods of combating diphtheria.

**METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.**—A meeting of the Chelsea Division will be held on Wednesday, April 25th, at 4.15 p.m., in the Fulham Town Hall, when Dr. Carey Coombs, physician to the Bristol General Hospital, will give an address on heart attacks. Ten at 4 o'clock.

**METROPOLITAN COUNTIES BRANCH:** HENDON DIVISION.—The annual meeting of the Hendon Division takes place on Friday, April 27th, at 8.30 p.m., at Hendon Cottage Hospital.

**METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A**  
clinical meeting will be held by the Kensington Division on  
at 8.15 p.m., at St. Mary Abbott's  
firmly), Marloes Road, W 8, (three  
High Street Station). Agenda: (1)

Minutes; (2) election of representatives in Representative Body and on Branch Council, and nomination for Central Council; (3) cases will be shown and demonstrated by the visiting staff, Dr. Remington Hobbs, and the assistant staff.

**NORTH WALES BRANCH.**—The spring meeting of the North Wales Branch will be held at Llandudno on Tuesday, May 1st.

**OXFORD AND READING BRANCH: WINDSOR DIVISION.**—A public address entitled "Some facts, fads, and faneicns concerning food: what should we eat?" will be given by Dr. S. H. Daukes at the Guildhall, Maidenhead, to-day (Friday, April 20th), at 8 p.m.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary on Thursday, May 21th. Will members kindly inform the honorary secretary as soon as possible of any cases, notes, papers, specimens, or notices of motion they may wish to bring forward in order that they may be placed on the agenda paper? It is advisable that papers should be as short as possible.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—A conjoint meeting of the Brighton Division with the Sussex Law Society will be held at the Queen's Road Dispensary on Thursday, April 26th, at 8.15 p.m., when the honorary secretary of the Brighton Division, Dr. L. A. Parry, will read a paper on criminal abortion, with special reference to the case of Dr. Collins. It is hoped that the subsequent discussion will elicit the views of both professions.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The annual dinner of the Hastings Division will take place at the Royal Victoria Hotel to-day (Friday, April 20th), at 7.15 for 7.30 p.m. Tickets 10s. 6d.

The Council has made each Division and Division-Branch outside the British Isles an independent Constituency, entitled to elect one Representative and one or more Deputy-Representatives.

**TABLE OF DATES.**

**April 28, Sat.** Annual Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.  
Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.

**May 12, Sat.** Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.  
Voting papers posted from Head Office, where there are contests in division elections.

**May 15, Tues.** Motions by Divisions and Branches for A.R.M. agenda matters of which two months' notice must be given must be received at Head Office by this date.

**May 19, Sat.** Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of



## Meetings of Branches and Divisions.

## GLOUCESTERSHIRE BRANCH.

A MEETING of the Gloucestershire Branch was held at the General Hospital, Cheltenham, on March 8th, when the president, Mr. C. L. Coone, occupied the chair.

Dr. ALLMAN POWELL showed the following cases. (1) An unusual case of glycosuria in a man who had undergone a cataract operation, who had been reduced to 600 calories per day, and was receiving 180 units of insulin in twenty-four hours. On the fourth day he became unconscious, but quickly came round on glucose and adrenaline. He was apparently the pituitary type of case, and could now take 2,000 calories per day with 80 units insulin, and remain sugar-free. (2) A girl, aged 23, with combination of psoriasis and arthritis. The nail beds were much affected with psoriasis, pushing the nails off. When the psoriasis was cured the arthropathy disappeared. The Wassermann reaction was negative. The main treatment had been chrysarobin and ultra-violet light. (3) A woman, aged 31, with profound secondary anaemia. An opaque meal showed nothing, but gastric analysis revealed complete achlorhydria. The Wassermann reaction was negative.

Mr. J. S. ROBINSON showed the following cases. (1) A girl after open operation for fracture of the trochlear process of the lower end of the humerus. The fragment had been attached simply by a tag of periosteum. The result had been very good. (2) A case of one variety of "tennis elbow," where the orbicular ligament had been nipped and adhesions formed. This case was speedily cured by manipulation. (3) Two cases of Pott's caries. The first patient, thirteen months after a spine-grafting operation, was able to walk four miles without support. The second showed the type of support required four months after a spine-grafting operation. (4) A man after intrapelvic rupture of urethra, caused nine weeks previously by being crushed against a wall by a motor car. An operation was performed within five hours, and no trouble was now experienced by the patient in passing urine. (5) A man after open operation for bad fracture of patella, which had been stitched with catgut. The great increase in size of the patella after operation was very noticeable. (6) A man after operation for recurrent dislocation of the shoulder-joint. The dislocation was so easily and frequently produced as to be a serious disability. Clarendon's operation had been performed with complete success.

In the discussion which followed the PRESIDENT mentioned a recent case he had seen of dislocation of the sacro-iliac joint and symphysis pubis after accident, one half of the pelvis being three-quarters of an inch above the other. No treatment had been attempted.

Mr. J. S. ROBINSON then read a paper on three acute abdominal conditions of childhood—namely, acute intussusception, pneumo-coecal peritonitis, and acute appendicitis. Many points in differential diagnosis were brought out, and the treatment and prognosis were discussed.

## HYDERABAD BRANCH.

At the annual general meeting of the Hyderabad Branch on March 9th, at the Residency Hospital, Hyderabad, the annual report and the accounts for 1927 were adopted, on the proposition of Dr. COOLAWALA, seconded by Dr. WAGHARAY.

The following members were elected as officers for 1928:

President, Professor M. G. Naidu. Honorary Secretary and Treasurer, Lieut.-Colonel W. M. Anderson, C.I.E., I.M.S.

An interim report on the proposal to construct a tuberculosis sanatorium was read, and as it was shown that the Addigamet site would not be available, the Council was asked to search for another suitable site.

On the proposition of Dr. LATEEF SAYEED, seconded by Dr. TAYLOR, Dr. E. H. Hunt was appointed as a representative of the Branch to attend the Annual General Meeting of the Association at Cardiff in 1928.

## LANCASHIRE AND CHESHIRE BRANCH: BLACKBURN DIVISION.

At a meeting of the Blackburn Division Dr. REMINGTON HOBBS gave a lecture on puerperal sepsis and its treatment. There was a good attendance, and the lecture was appreciated by all present. The vote of thanks was proposed by Dr. JEFFREY RAMSAY and seconded by Dr. AITKEN.

## METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

At a meeting of the South-West Essex Division on April 3rd a letter was read from the secretary of the London Public Medical Service concerning an offer made through the Medico-Political Committee of the British Medical Association by the directors of the Independent Order of Oddfellows of 8s. 8d. per head per annum for medical attention and medicine supplied to juvenile members of the Order. In the view of the London Medical Service this was inadequate.

Dr. PANTING explained the reason which induced the British Medical Association committees to agree to the scale, and it was decided to take no action in the matter.

A letter was read from Dr. Ambrose, H.M. coroner, regarding the payment for reports by medical practitioners at the request of coroners. As such reports are very seldom called for in the area, it was decided not to approach the Essex County Council on the matter at present.

Dr. R. M. BRONTE then gave a most interesting and humorous address. He discussed cut throat, and emphasized the impossibility of distinguishing whether the wound was homicidal or suicidal. Some remarkable photographs of cases were shown. In one the wound—proved beyond doubt from collateral evidence to be self-

inflicted—was circular, penetrating between the skull and atlas, and causing a haemorrhage between the cerebellum (which was partly exposed) and the spinal cord. No wound in the throat was too severe to be suicidal or too trivial to be homicidal. He discussed criminal abortion, pointing out that it was quite possible for a woman herself to introduce an instrument into her uterus. He told of a case where, on examining a woman very shortly after her death in a bath, he had opened the abdomen and found the end of a gum-elastic catheter projecting through the uterine wall. The importance of always opening the stomach when making a *post-mortem* examination was emphasized.

After a general discussion a warm vote of thanks was accorded Dr. BRONTE.

## OXFORD AND READING BRANCH: OXFORD DIVISION.

The second meeting of the year of the Oxford Division was held in the Radcliffe Infirmary on March 28th. Dr. MONTGOMERY was in the chair, and forty-two members were present.

Dr. COLLIER, sen., related an incident in the life of the late Dr. C. H. Bloxsome of Fairford, as far back as 1887, concerning the diagnosis of anthrax on the forearm of a journeyman butcher, and the controversy that raged in the neighbourhood over the diagnosis, which was subsequently confirmed by independent examinations (see *British Medical Journal*, March 17th, p. 476).

Dr. STOBIE showed a woman, aged 26 years, on whom, following three and a half years of illness, two of which had been spent in bed, thoracoplasty in two stages had been performed by Mr. J. E. H. Roberts at the Brompton Hospital five months previously with, to date, satisfactory results. The sputum was much diminished in amount since the operation, and no longer yielded tubercle bacilli on examination. The patient was able to be up five to six hours daily and to walk about half a mile at a time.

## Recent Aspects of Biological Therapy.

Dr. STANLEY WHITE gave an address on some recent respects of biological therapy. Following the exhibition of a cinematograph film depicting in a graphic way the manufacture of diphtheria and other antitoxins, the preparation of vaccines, and the manufacture of calf lymph, he elaborated certain points in connexion with recent advances in biological therapy. He explained the method utilized in the concentration of antitoxin, and proceeded to discuss at some length the Schick and Dick tests. He pointed out that the work of the Dicks in showing for the first time that the streptococcus can be made to give up its toxin was perhaps the greatest advance since the principles of blood serum therapy were first put forward by Behring in 1891. Dr. White discussed the recently introduced scarlet fever antitoxin, and having explained that these streptococcal toxins were very difficult to differentiate, stated that it had been possible to prepare not only a specific crysipelas antitoxin, but also a specific puerperal streptococcal antitoxin. Having briefly referred to measles and to the recent work of Ferry, he went on to speak of vaccine therapy, particularly in regard to the treatment of rheumatic conditions, and also of respiratory affections. He referred to the work being done in several large public schools in regard to active immunization against influenza and its sequelae, and also touched upon the question of non-specific therapy. In this connexion he was of the opinion that T.A.B. vaccine offered perhaps the best means of introducing a definite amount of foreign protein into the blood stream, because the dose and the reaction could be carefully controlled.

The lecturer then referred to the work of Horder and Ferry in their attempt to prepare an ideal antigen. These products, which had been designated immunogens, differed from vaccines in that they contained practically no protein or toxin, and were free from bacterial cells. Their antigenic value, however, was very high, as demonstrated by the complement fixation and agglutination tests. Clinically, also, the product had been shown to be very useful, notably in acute conditions. This was no doubt due to the fact that they were rapidly absorbed, and, if necessary, a second dose could be given in twelve hours.

Dr. White next made a reference to tuberculosis, notably with regard to the diagnosis of the disease, and at the same time briefly referred to sanocrysin as an interesting example of chemotherapy; at least, this was what Moellgaard had in mind when he originally introduced this gold salt. Recent experience, however, suggested that sanocrysin was probably not a direct bactericide, and may produce its results by a tuberculin reaction. He referred to the work of Dr. Stobie at the Osler Pavilion, and agreed with him that in certain forms of pulmonary tuberculosis, notably the exudative type, sanocrysin did appear to be of considerable service. Dr. White devoted the remainder of his lecture to a brief description of the so-called "toxic idiopathies." He discussed various forms of allergic diseases, and explained how it was possible to immunize against such conditions as horse asthma, hay fever, etc. The lecture was profusely illustrated by lantern slides, which added considerably to the interest of the occasion.

In the discussion which followed Dr. White's paper, Dr. COLLIER, Dr. ISABELLA LITTLE, and Professor GUNN took part, and on the motion of Professor GUNN, seconded by Mr. COUNSELL, a unanimous vote of thanks was accorded to the lecturer.

## SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held at the Queen's Hotel, Southsea, on April 12th, when the final address of the winter session was given by Dr. J. STANLEY WHITE on recent aspects of biological therapy; it was illustrated by lantern and cinematograph. The discussion turned largely on difficulties arising out of some of the new methods of treatment. On the proposition of Colonel Brook, seconded by Mr. MARNY, a vote of

thanks was accorded to the speaker. The meeting was very interesting, and the discussion had eventually to be closed owing to the late hour. Forty-seven members attended, of whom twenty-seven sat down to supper.

#### ULSTER BRANCH: BELFAST DIVISION.

At the close of the graduation ceremony at Queen's University, Belfast, on April 3rd, the medical graduates assembled in the large hall of the College, on the invitation of the chairman of the Division, Mr. T. S. Lewis, in order that he might welcome them on entering the profession. He took the opportunity to invite them to join the British Medical Association, his plea being supplemented by a cogent and practical speech by Dr. Leslie. Each of the twenty medical graduates was presented with a copy of the *Handbook for Recently Qualified Medical Practitioners*.

The Division was honoured by the presence of the Vice-Chancellor of the University and the Dean of the Medical Faculty, Professor Symmers.

#### BOOKS ADDED TO THE LIBRARY.

The following books were received by the Library of the Association during February and March, 1928:

- Altrock, K.: *Kleine Sport-Kunde*. 1928.  
Aveling, E.: *Directing Mental Surgery*. 1927.  
Behrood, M.: *Surgical Diseases of the Gall-bladder, Liver, and Pancreas*. 1927.  
Beuchers, E.: *Allgemeine u. Spezielle Chirurgie des Kopfes*. 1926.  
Bousfield, P. and W. R.: *The Mind and its Mechanisms*. 1927.  
Brown, A. R. L.: *Medical Electricity for Students*. Second edition. 1927.  
Burn, J. H.: *Methods of Biological Assay*. 1928.  
Burt, C.: *The Measurement of Mental Capacities*. 1927.  
Cabot, R. C.: *Physical Diagnosis*. Ninth edition. 1927.  
Chesney, A. M.: *Immunity in Syphilis*. 1927.  
Chiray-Lebon: *Les Insuffisances pancréatiques*. 1926.  
Chiray-Pareil: *La Vésicule Biliaire*. 1927.  
Cokinis, A. J.: *Mesenteric Vascular Occlusion*. 1926.  
Cope, Z.: *Clinical Researches in Acute Abdominal Diseases*. Second edition. 1927.  
Idem: *Early Diagnosis of the Acute Abdomen*. Fourth edition. 1927.  
Idem: *Treatment of the Acute Abdomen*. 1927.  
Owre, H. W.: *Rheumatology and Surgery of Chronic Arthritis and Rheumatism*. 1927.  
Crawther, J. A.: *Molecular Physics*. Fourth edition. 1927.  
Cumberbatch, E. P.: *Diatheisy*. Second edition. 1927.  
Deutscher, F. and Raul, E.: *Peat and Athletics*. 1927.  
Drouin, H.: *Solubles on Insolubles—le Benzol Bismuth*. 1926.  
Daval, R.-Roux-Bélère: *Radiologie Clinique du Tube Digestif*. I and II. 1927.  
Education of Boys in the Subject of Sex. 1927.  
Einhorn, M.: *The Duodenal Tube*. Second edition. 1926.  
Idem: *La Tube Duodénal (traduit G. Monod)*. 1927.  
Elder, W.: *Studies in Psychology*. 1927.  
Fisher, R.: *Treatment by Manipulation*. Second edition. 1928.  
Ford-Crothers-Pulnam: *Birth Injuries of the Central Nervous System*. 1927.  
French-Nuttall: *Medical Laboratory Tests*. 1926.  
Funkhouser: *Respiratory System*. 1927.  
Ghosh, B. N.: *Hygiene and Public Health*. Sixth edition. 1927.  
Goobey, Sir K.: *Diseases of the Gums and Oral Mucous Membrane*. Third edition. 1928.  
Goldschmidt, R.: *Physiologische Theorie des Verzehung*. 1927.  
Goodall and Washbourn: *A Textbook of Infectious Diseases*. Third edition. 1928.  
Green, G. H.: *The Terror Dream*. 1927.  
Guy's Hospital Reports. Vol. 78, I. January, 1928.  
Haire, N.: *Hymen: or the Future of Marriage*. 1927.  
Hall, Sir John: *Trial of Adelaide Bartlett*. 1927.  
Hartman, N. Bishop: *Aids to Ophthalmology*. Seventh edition. 1928.  
Hershelmer, J. and Haggard, H. W.: *Noxious Gases*. 1927.  
Hogben, L. T.: *Comparative Physiology of Internal Secretion*. 1927.  
Hopewell-Ash: *On Middle Age and Keeping Young*. 1928.  
Horsley, J. S.: *Surgery of the Stomach and Small Intestine*. 1926.  
Isserlin, M.: *Psychotherapie*. 1926.  
Jellinek, S.: *Der Elektrische Unfall*. 2. Aufl. 1927.  
Jesse, F. T.: *Trial of Madame Smith*. 1927.  
Idem: *Clinical Interpretation of the Wassermann Reaction*. 1926.  
Idem: *Clinical Interpretation of Blood Chemistry*. 1927.  
Kolle-Wassermann: *Handbuch der pathogenen Mikroorganismen*. Lief. 1-14. 1927.  
Kyllin, E.: *Die Hyperioniekrankheiten*. 1926.  
Lane, R. and Peters, E. A.: *Handbook of Diseases of the Ear*. Fifth edition. 1927.  
Latter, O. H.: *Readable School Biologv*. 1927.  
Laurent, M.: *Über die Erziehung*. 1927.  
Love, R. J. M.: *der Erziehung*. 1927.  
Lucas, W. P.: *Modern Practice of Pediatrics*. 1927.  
McCaw, J.: *Aids to the Diagnosis and Treatment of Diseases of Children*. Sixth edition. 1927.  
McComb, C. E.: *City Health Administration*. 1927.  
McKenzie, Dan: *Diseases of the Throat, Nose, and Ear*. Second edition. 1927.  
Medical Aspects of Contraception. 1927.  
Medico-Legal Society: *Transactions*. Vol. 20. 1925-26.  
Minchin, W. C.: *A Study in Tubercle Virus*. 1927.  
Murphy, R. J.: *The Catholic Nurse*. 1927.  
Murray, J. W.: *The Examination of the Patient and Symptomatic Diagnosis*. 1926.  
Murray, P.: *The Strange Adventures of Baron Trenck*. 1927.  
Nesme, H. and Williamson-Noble: *Handbook of Ophthalmology*. 1927.  
Neff, C.: *Diseases of the Digestive System in Childhood*. 1927.  
Ophthalmological Society of United Kingdom. *Transactions*. Vol. 47. 1927.  
Outlines of Dental Science by Various Authors. Vols. 1-8. 1926-27.  
Paton, W. M.: *A Solution of the Septic Problem*. 1927.  
Pekin Union Medical College. *Selected Contributions*. Vol. 6. 1926.  
Phillips, A. M.: *The Prison-Breakers*. 1927.

- Papenoe, P.: *The Conservation of the Family*. 1926.  
Parker, C.: *Elements of Hygiene and Public Health*. Second edition. 1926.  
Rachet, J.: *La Gastrosomie*. 1926.  
Rankin, F. W.: *Surgery of the Colon*. 1925.  
Roberts, L. J.: *Nutrition Work with Children*. 1927.  
Rogers, Sir L.: *Clinical and Disease Incidence in India*. 1927.  
Romanoff, A. J.: *...* th edition. 1927.  
Royster, L. T.: *...* 1927.  
Sachs, H.: *The No St. Bartholomew's*. 1927.  
Schrampt-Pierron: *Tobacco and Physical Efficiency*. 1927.  
Scudder, C. L.: *Treatment of Fractures*. Tenth edition. 1926.  
Shattuck, G. C.: *Principles of Medical Treatment*. 1925.  
Sollmann: *Manual of Pharmacology*. Third edition. 1927.  
Spokes, S.: *Gideon Algernon Mantell*. 1927.  
Syme, W. S.: *Diseases of the Throat, Nose, and Ear*. Second edition. 1927.  
Villiger, E.: *Brain and Spinal Cord*. Third edition. 1926.  
Walker, M. D.: *Practical Physics for Medical Students*. 1927.  
Wheeler, Sir William: *Injuries and Diseases of the Bone*. 1928.  
Wilson, T. S.: *Tonic Hardening of the Colon*. 1927.  
Wolbarst, A. L.: *Gonococcal Infection in the Male*. 1927.  
Woodward: *Manual of Medicine*. Third edition. 1927.

#### Naval and Military Appointments.

##### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captain C. T. Baxler to the *President* for special duty outside Admiralty, temporarily.

Surgeon Commanders A. G. McKee to the *Constance*; H. H. Omsby to the *Kennock*; A. G. V. French to the *President* for three months' post-graduate course; J. R. A. Clark-Hall to the *Victor* for Devonport Dockyard; A. B. Cox to the *Corryvreckan*.

Surgeon Lieutenant Commander A. B. Grant to the *St. Fiocent*. Surgeon Lieutenants T. J. Prendergast to the *Penbrooke* for R.M. Infirmary, Chatham; S. L. Lord to the *Furione*; J. Hamilton to the *Keut* on commissioning for trials; E. O'Reilly to the *Victory* for R.M. Infirmary, Portsmouth; E. S. Bolton to the *Constance*.

Dr. G. H. Egan has entered as Surgeon Lieutenant for short service and appointed to the *Victory* additional for Haslar Hospital for course of instruction.

##### ROYAL AUSTRALIAN NAVY.

Surgeon Commander A. S. MacKenzie to H.M.A.S. *Australia* for continuation of trial.

Surgeon Lieutenant C. A. Downward to the *Victory* for R.N. Hospital, Haslar.

##### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Sublieutenant T. T. Dolman to the *Champion* for fourteen days' training.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. E. B. Wood, R.A.M.C., Regular Army Reserve of Officers, to be Major whilst re-employed under Article 507 (b) Royal Warrant for Pay and Promotion, 1926, and relinquishes the rank of Lieutenant-Colonel.

Major E. C. Stoney is re-employed under Article 507 (b) Royal Warrant for Pay and Promotion, 1926.

Temporary Lieutenant F. R. How relinquishes his commission.

##### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants H. B. Trapp to Aeroplane and Armament Experimental Establishment, Martlesham Heath; R. W. White to R.A.F. Officers' Hospital, Exbridge.

The following Flying Officers to be Flight Lieutenants: R. J. I. Bell and R. G. Freeman.

Flying Officer P. B. L. Potter to Special Duty List on appointment to a short-service commission.

Flying Officer P. H. Perkins is granted a permanent commission in this rank.

##### INDIAN MEDICAL SERVICE.

Major R. M. Kharegal, an officiating Agency Surgeon, is posted as Medical Officer and ex-officio Vice-Consul, Sistan.

Consequent on the grant of leave to Colonel J. D. Graham, C.I.E., Lieut.-Colonel F. P. Mackie, O.B.E., Director, Haffkine Institute, Bombay, is appointed to officiate as Public Health Commissioner with the Government of India.

The undermentioned officers are permitted to retire from the service, subject to His Majesty's approval: Colonel C. R. Bakht, K.H.P., and Colonel K. V. Kulkar, C.I.E.

##### TERRITORIAL FORCE.

##### ROYAL ARMY MEDICAL CORPS.

Captain J. P. Clarke to be Major, with precedence as from November 20th, 1927.

Lieutenants to be Captains: W. B. A. Lewis; D. L. Kerr; J. C. Adam, with precedence as from November 17th, 1927; W. A. Ramsay, with precedence as from December 20th, 1927.

##### COLONIAL MEDICAL SERVICES.

Dr. T. Clunie to be Assistant Medical Superintendent, Colonial War Memorial Hospital, Fiji. Dr. H. U. Leembruggen, Provincial Surgeon, Ceylon, appointed Medical Superintendent of the General Hospital, Colombo. Dr. G. B. Walker promoted Senior Sanitation Officer, Nigeria. Dr. A. G. H. Smart appointed Senior Health Officer, Penang, Straits Settlements. Dr. P. R. Sayers, Senior Health Officer, Penang, Straits Settlements. Dr. J. W. Murdoch appointed Second Assistant Medical Superintendent, Central Mental Hospital, Federated Malay States. Dr. R. A. Palfister, Health Officer, Malayan Medical Service, appointed Medical Officer, Malayan Medical Service.

The following appointments have been made by the Secretary of State for the Colonies during the month of March, 1928: Dr. T. F. Anderson, Medical Officer, Kenya; Dr. R. V. Bowles, Medical Officer, Uganda; Dr. V. V. H. Hookai, Assistant Government Medical Officer, British Guiana; Dr. C. J. Austen, Medical Officer, Fiji; Dr. H. M. Boston, Medical Officer, West African Medical Staff, Gold Coast (Achimota College); Captain G. Winter, Medical Officer, West African Medical Staff.

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# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 28TH, 1928.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs. The Financial Statement will appear next week.

### MATTERS REFERRED TO DIVISIONS.

## British Medical Association.

### ANNUAL REPORT OF COUNCIL, 1927-28.

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#### Preliminary.

##### ANNUAL MEETING, CARDIFF, 1928.

1. The Annual Meeting, 1928, commences at Cardiff, Friday, July 20th, under the Presidency of Sir Ewen Maclean, M.D., F.R.C.P., F.R.S.E. This will be the first occasion on which the Presidency of the Association has been held by one who has previously been Chairman of the Representative Body.

##### ANNUAL MEETING, EDINBURGH, 1927.

2. The Council has expressed to the President, Sir Robert Philip, the Hon. Local Secretary, Dr. Fergus Hewat, the Hon. Local Treasurer, Mr. Alexander Miles, their medical colleagues and the many lay persons and authorities who co-operated with them, the thanks of the Association for their efforts in making the 1927 Annual Meeting of the Association a success.

##### THE KING AND QUEEN AND THE EDINBURGH MEETING.

3. The following acknowledgment was received from the Rt. Hon. Lord Stamfordham, Private Secretary to His Majesty The King, to the letter forwarding the resolution passed by the Representative Body meeting in Edinburgh at the time His Majesty The King was in residence in Edinburgh, presenting its humble and loyal duty to the Patron of the Association, and to Her Majesty The Queen:—

"I have submitted to the King and Queen the resolution passed at the Annual Meeting of the British Medical

Association, in Edinburgh, for which I am commanded to express Their Majesties' thanks."

##### NOMINATION OF SIR ROBERT BOLAM AND MR. R. G. HOGARTH, AS VICE-PRESIDENTS OF THE ASSOCIATION.

##### 4. The Council recommends:—

**Recommendation:** That Sir Robert Bolam, F.R.C.P., LL.D., be elected a Vice-President of the Association under Article 40 and By-law 73 in recognition of his services as Chairman of Council of the Association, 1920-27.

##### The Council recommends:—

**Recommendation:** That Mr. R. G. Hogarth, C.B.E., LL.D., F.R.C.S., be elected a Vice-President of the Association under Article 40 and By-law 73 as a recognition of his services as President of the Association for the year 1926-27.

##### ANNUAL MEETING, 1929.

5. In connection with the Annual Meeting at Manchester, 1929, the Manchester Division has nominated Mr. A. H. Burgess as President for 1929-30.

##### The Council recommends:—

**Recommendation:** That Mr. A. H. Burgess, F.R.C.S., M.Sc., Professor of Clinical Surgery, Victoria University, Manchester, Honorary Surgeon, Manchester Royal Infirmary, be elected President of the Association, 1929-30.

## ANNUAL MEETING, 1931.

6. At its July, 1927, meeting the Council considered an invitation from the Eastbourne Division for the Annual Meeting, 1931, to be held at Eastbourne and was also informed by Sir William de Courcy Wheeler that he had been authorised by the Leinster Branch to state that it had in contemplation the issuing of an invitation to the Association to hold its Annual Meeting at Dublin in 1931. The Eastbourne Division and the Leinster Branch were thanked for their invitations and informed of the Council's custom not to tie the hands of its successors too far ahead as regards Annual Meetings, but that both invitations if they still held good would be considered by the new Council in July, 1928.

## HONOURS.

7. The Council has pleasure in announcing that during the present Session honours have been conferred upon the following members, to whom the congratulations of the Association have been sent:—

## Knighthood.

Percy Sargent, C.M.G., D.S.O., F.R.C.S., London.  
Frederic G. Hallett, O.B.E. (Honorary Member).

## RESIGNATION AND DEATH OF SIR DAWSON WILLIAMS.

8. The Council has to record with sorrow the death of Sir Dawson Williams, C.B.E., M.D., which took place suddenly on February 27th, 1928, less than six weeks after his retirement from the Editorship of the *British Medical Journal*, on completing 30 years in that position and a total period of 47 years' connection with the Editorial Department. At its meeting on February 8th the Council expressed profound appreciation of the great services rendered to the Association and the profession by Sir Dawson Williams during his long and distinguished Editorship of the *Journal*, and unanimously resolved to recommend to the Representative Body that in recognition of this work he be elected a Vice-President of the Association. The Representative Body and every member of the Association will join in the regret the Council feels that it is not now possible to demonstrate in this way the affection and gratitude which the Association had for one who served it so long and so well.

## OBITUARY.

9. The Association has to deplore the loss of the following members:—

Name.	Offices held in the Association.
Dr. Julio Valentine Abrines	A Secretary of the Gibraltar Branch.
Dr. Arthur Percy Allan ...	Vice-President of the Surrey Branch.
Dr. Wordsworth Leach	Member of the Yorkshire Branch Council.
Dr. Daniel Elie Anderson ...	Vice-President of Section of Tropical Medicine, 1914.
Dr. Alexander Hugh Freeland Barbour.	Secretary of Section of Obstetric Medicine, 1895; Vice-President of Section of Obstetrics and Diseases of Women, 1898, and President of Section of Obstetrics and Gynaecology, 1906.
Surg.-Rear-Admiral Sir Percy Wm. Bassett-Smith, K.C.B., C.M.G., R.N. (ret.).	Member of Council and of the Naval and Military Committee; Vice-President, 1903 and 1912 of Section of Tropical Diseases, and Vice-President of Navy, Army, and Ambulance Section, 1910.
Dr. Francis Dillon Bennett	A Secretary of the Westminster and Holborn Division.
Dr. Alexander Blackhall-Morrison.	A Chairman and Representative of the Marylebone Division, and a Member of the Non-Panel Committee.
Dr. James Booth-Clarkson ...	A Representative of the Natal Branch.
Dr. Ernest Augustus Boxer, C.M.G.	A Chairman of the Hawkes Bay Division.
Dr. Charles Samuel Brewer, O.B.E.	A Representative of the Birkenhead Division.
Dr. Henry Wm. Langley Browne, O.B.E.	Member of Council, 1899 to 1907, Chairman, 1905-1907; a President of the Birmingham Branch. President of Section of Industrial Hygiene and Diseases of Occupation, 1905.

Dr. Wm. John Franklin Churehouse	A Chairman of the Northamptonshire Division.
Dr. Henry Maercedy. Chute	A Chairman of the King Williamstown Division.
Dr. Robert Corfo ... ..	A Member of the Executive Committee of the Greenwich and Deptford Division.
Dr. Joseph George Garibaldi Corkhill.	A Chairman of the Southport Division.
Dr. Frederic John Wm. Cox	A Chairman of the Altrincham Division; Vice-President of Section of Otolaryngology, 1902.
Dr. John Singleton Darling	Member of Council, 1914-1927, and of the Irish Committee; a Member of the Insurance Acts Committee; Honorary Secretary of the Portadown and West Down Division and a President of the North of Ireland Branch. Vice-President of Section of Obstetrics and Gynaecology, 1909.
Dr. James Davison ... ..	Member of Council, 1909-1910. A President and Secretary of the Dorset and West Hants Branch. Vice-President of Section of Diseases of Children, 1892.
Dr. James Walker Dawson ...	Vice-President of Section of Pathology and Bacteriology, 1927.
Dr. John Hardman Dow ...	A Chairman of the St. Helens Division.
Dr. Albert Davies Edwards	A Chairman of the Bournemouth Division.
Dr. Octavius Robert Ennion	A President of the Cambridge and Huntingdon Branch.
Dr. Septimus Farmer ...	A Representative and Chairman of Bishop Auckland Division.
Sir David Ferrier, F.R.S. ...	A Member of the Metropolitan Counties Branch Council. President of Section of Physiology, 1895.
Dr. Charles Arthur Fraucis	A Member of the South African Committee.
Dr. Herbert Jennings Gibbs	A Secretary of the Malaya Branch.
Dr. Charles Ernest Gooding	Member of the Barbados Branch Council.
Dr. James Edward Gordon	Member of Wiltshire Branch Council, and Deputy Representative of the Salisbury Division; a President of the Branch.
Dr. Thomas Porter Greenwood.	A President of the Midland Branch, and a Chairman of the Kesteven Division.
Mr. Wm. Jones Greer ...	Deputy-Chairman of the R.B., 1919. Member of Council, 1914-1915; a Member of Parliamentary Elections Committee and Contract Practice Sub-Committee; for long Secretary of the Monmouthshire Division. Secretary of Electrical Section, 1908, and Secretary, 1910, and Vice-President, 1921, of Section of Surgery. Chairman, Special Committee on Operative Treatment of Fractures.
Dr. Thomas Clement Guthrie	A Chairman of the Tunbridge Wells Division.
Dr. George Robert Harlaud	A Representative of the South Shields Division.
Dr. Alexander Hodgkinson	President of Section of Laryngology, 1902.
Dr. Arthur Edward Jerman	Member of the Executive Committee of the Dartford Division.
Dr. John Carlyle Johnstone	A Member of the Edinburgh Branch Council.
Dr. John Wm. Keighley, J.P.	A Chairman and Representative of the Blackburn Division.
Dr. Henry Goff Kilner ...	A Member of the Suffolk Branch Council, and a Representative of the West Suffolk Division.
Dr. Henry Ernest Knight ...	A Chairman of the Rotherham Division.



- Dr. Henry Lawrence McKisack. Member of Council, 1908-1909. Honorary Local Secretary, Annual Meeting, Belfast, 1909. A Chairman of the Belfast Division. Vice-President of Section of Medicine, 1910.
- Dr. Digby Mackenzie Macphail, O.B.E. President of the St. Lucia Branch.
- Major-Gen. Sir Wm. Grant Macpherson, K.C.M.G., C.B., LL.D. Member of Council, 1920-1926; Member of Naval and Military Committee, and Chairman of Special Committee on Tests for Drunkenness.
- Dr. Wm. Herbert Lister Marriner. A Vice-President of the Dorset and West Hants Branch, and a Chairman of the Bournemouth Division.
- Dr. Thomas Melbourne Martin. A Chairman of the South Shields Division.
- Dr. James Melvin ... For many years Secretary and Representative of the Rochdale Division; a Vice-President of the Lancashire and Cheshire Branch.
- Dr. Alexander Cameron Miller. A Member of the Scottish Committee.
- Dr. Robert Arthur Milligan. A President and Treasurer of the South Midland Branch.
- Dr. Richard Wilson Mullock. A Chairman of the North Suffolk Division.
- Dr. Albert Edward Norburn. A President of the Bath and Bristol Branch.
- Dr. Alexander Wellesley Finch Noyes. Honorary Librarian of the Victorian Branch, 1909-1915.
- Dr. Edward Albert Officer. A President of the Western Australian Branch.
- Dr. Walter Charles Oram ... Secretary of Section of Electro-Therapeutics, 1912.
- Dr. Laudel Rose Oswald ... President of Section of Neurology and Psychological Medicine, 1912.
- Dr. Francis Barclay Wilmer Phillips. A Member of the South Midland Branch Council.
- Dr. Wm. Smith Porter ... Vice-President of Section of Medicine, 1908.
- Dr. Reginald Wickham Prentice. Member of Dorset and West Hants Branch Council.
- Dr. John Prior Purvis ... A Chairman of the Greenwich and Deptford Division.
- Dr. Frederick Augustus Routh. Member of the Executive Committee of the Tynbridge Wells Division.
- Dr. Wm. Scott, J.P. ... Member of the Border Counties Branch Council; a Chairman of the Dumfries and Gallovay Division.
- Dr. Edward Colby Sharpin. A Member of the South Midland Branch Council.
- Dr. Gerald Theodore Sylvester Sichel. A Representative of the Guildford Division.
- Dr. James Silver ... Member of the Executive Committee of the Portsmouth Division.
- Dr. Charles Lawson Smith. A Chairman of the East Hertfordshire Division.
- Dr. David Turnbull Smith ... A Member of the Lancashire and Cheshire Branch Council.
- Mr. Sidney Maynard Smith, C.B. A Member of the Metropolitan Counties Branch Council. General Secretary of Special Clinical Meeting, London, 1919. Secretary of Section of Diseases of Children, 1908.
- Dr. William Muir Smith, J.P. For 21 years Secretary of Eastbourne Division, and Representative for many years of the Division. A Vice-President of the Sussex Branch.
- Dr. Andrew Stewart ... A Representative of the Queensland Branch.
- Lt.-Col. John Raglan Thomas. Vice-President of Naval and Military Section, 1907.
- Dr. Richard Francis Thomas. A Chairman of the North Glamorgan and Brecknock Division.
- Prof. Wm. Thelwall Thomas. Local Secretary, Liverpool Meeting, 1912; Secretary, 1909, and President, 1913, of Section of Surgery.
- Dr. Wm. Tibbles ... A Member of the Midland Branch Council.
- Dr. Alfred Gladstone Tribe. A Member of the Executive Committee of the North Glamorgan and Brecknock Division.
- Dr. Wm. Joseph Tyson ... Member of Council, 1897-1908 and 1912-1913. Secretary of Section of Public Medicine, 1898, and Vice-President of Section of Medicine, 1907.
- Prof. Francis Wm. Underhill. Member of Oxford and Reading Branch Council.
- Dr. James Wheatley ... A Member of the Public Health Committee and a President of the Shropshire and Mid-Wales Branch.
- Mr. Richard Henry Anglia Whitelocke. A President of the Oxford and Reading Branch; Vice-President of Section of Surgery, 1901, and Vice-President of Section of Diseases of Children, 1922.
- Dr. Samuel Williams ... A Member of the South Wales and Monmouthshire Branch Council and a Chairman of the South-West Wales Division.
- Lt.-Col. Thomas Samuel Beauchamp Williams, I.M.S. (ret.). A Member of the Metropolitan Counties Branch Council and of the Executive Committee of the Westminster and Holborn Division.
- Dr. Wm. David Adams, Dr. Joseph Bartlett Addison, Dr. John Aitken, Dr. Charles McArthur Allan, Dr. John Allan, Dr. Wm. Armstrong, Dr. Hugh Lowrie Askham, Dr. Thomas Edward Atkins, Dr. John Barclay, Dr. James Samuel Frederick Barnett, Dr. Francis Barton, Dr. James Clement Baxter, Dr. George Albert Berkeley-Cole, Dr. Thomas Hill Bishop, Dr. Wm. Hodgson Boazman, Dr. Robert Bowe, Dr. James Cairn Carson Hoyle, Dr. Andrew John Brady, Dr. Edgar Brandon, Dr. Hewlett Breton, Major Charles Hildred Brodribb, I.M.S., Ret., Dr. Henry Gray Brown, Dr. Robert Andrew Brown, Lt.-Col. Robert Tilbury Brown, R.A.M.C., Ret., Dr. Thomas Tomblason Brunyale, Dr. Lewis Thomas Fraser Bryett, Dr. Edmund Patrick Burke, Dr. Thomas Burrow, Dr. David John Stewart Burt, Dr. John Miller Hopkins Caldwell, Surg. Lt.-Col. Lewis Cameron, I.M.S., Ret., Dr. Peter Campbell, Dr. Oliver St. Ledger Campion, Dr. Samuel Burns Carlisle, Sen., Dr. John Wm. Stirling Christie, Dr. Thomas Wm. Clay, Dr. Denis Joseph Coleman, Dr. John Cotton, Dr. Henry Lovett Cumming, Dr. Wm. James Davies, Dr. Doris Louise Delittle, Dr. Joseph Dewar, Dr. Joseph Henry Dickson, Dr. John Donald, Mr. Albert Doran, Dr. Robert Oliver Douglas, Dr. Norman Dowling, Dr. Patrick Joseph Duffy, Dr. Wm. John Robertson Dunn, Dr. Arthur Stayt Dutton, Dr. Frederick Dymoke, Dr. Leslie Meredith Earle, Dr. Lionel Knipe Edmeades, Dr. Charles Guy Etches, Dr. Henry Wm. Evans, M.C., Dr. Wm. Thomas Evans, Dr. Eustace Wm. Ferguson, Capt. Wm. Haig Ferguson, R.A.M.C., Dr. Francis Edwin Field, Mr. Lionel Richard Fifield, Lt. Anthony Keppel Jackson Finch, R.A.M.C., Dr. Gerald Fitzgerald, Dr. Cavendish Fletcher, Dr. Wm. Forrest, Lt.-Col. Robert Basil Boothby Foster, I.M.S., Dr. Andrew Fowler, Dr. Eric George Alexander Wemyes Fulton, Dr. Naham Gallant, Dr. Cuthbert Chapman Gibbes, Dr. Thomas Caspar Gilchrist, Dr. Arthur Carman Gordon, Dr. Henry Bushell Gore, Dr. John Lewis Maitland Govan, Dr. James MacLaren Gray, Dr. Alfred John Gregory, O.B.E., Dr. Charles Cormack Greig, Dr. Montague Shirley Wyatt Gunning, Insp.-Gen. Henry Hadlow, R.N., Ret., Dr. Wm. Hall, Dr. John Hamilton, Lt.-Col. Edward Temple Harris, I.M.S., Mr. John Percy Ingham Harty, Dr. Wm. Alfred Hatton, Dr. Francis Brunel Hawes, Dr. Abraham Haynes, Dr. Wm. Henry, Dr. John Henry Clemens Hicks, Dr. Charles Gaskell Higginson, Dr. Charles Herbert Hill, Dr. Albert Hodge, Dr. Gustav Hoxter, Major Victor Cyril Honeybourne, R.A.M.C., Ret., Dr. George Hownc, Dr. Wm. Horsby, Dr. John Patrick Howe, Dr. Trevor Howell, M.C., Dr. George James Imrie, Dr. Robert Edward Inman, Dr. Wm. Robert Jack, Dr. Marshall Jackson, Dr. Wm. M. James, Dr. Joseph Arthur Jenkinson, Dr. Charles Wynham Jones, Dr. Wm. David Jones, Dr. Yarry Meyrick Jones-Humphreys, Dr. Hugh Percival Joseph, Dr. Walter Russell Judd, Dr. George Kennedy, Dr. Thomas Dick Kirk, Dr. Robert Patrick Archibald Kirkland, Dr. Frederick John Kirkness, Dr. Miles Gordon Kite, Dr. Thomas Knowles, Dr. Allan Ramsay Lacey, Surg. Capt. Michael Joseph Laffan, R.N.,

Ret., Dr. James Laing, Mr. Basil Lang, Dr. Ralph Albert Rogers Lankester, Dr. Henry Dillon Lawson, Dr. John Leach, Dr. Walter Lawrence Liston, Dr. Wm. Cameron Macaulay, Dr. Robert Ernest McConnell, Dr. Colin McDonald, Dr. Edward Patrick McDonnell, Dr. Joseph McGrath, Dr. Douglas Bower McIntosh, Dr. Ewen MacKenzie, Mr. George Welland Mackenzie, Dr. John Morham McLachlan, Col. Fitzroy Beresford Maclean, Dr. Shon Walker Maclean, Dr. John MacMillan, Dr. George McIntyre Maggs, Dr. Vincent John Magrane, Dr. Michael Joseph Mahony, Dr. Angus McPhee Marshall, Dr. George Balfour Marshall, Dr. Thomas Milbourne Martin, Dr. Samuel James Mathewson, Dr. Max Mehliß, Dr. Kenneth Wm. Miller, Dr. Henry Wm. Mills, Dr. James Mitchell, Dr. Robert Duke Monson, Dr. Cyrus Murray Moody, Dr. Wm. Moore, Dr. James Morrison, Dr. George Jackson Muller, Dr. Henry Chester Nance, Dr. Wm. Henry Nash, Dr. Arthur Richard Neckles, Dr. Edith Neild, Dr. Albert Henry Lowman Newstead, Dr. Cyril James Stanley Nicholas, Dr. Malcolm Nicolson Nicholson, Dr. Horace Chnlow Nixon, Sir John O'Connor, K.B.E., Dr. Aelan Anderson O'Hara, Dr. Leo Norton Knight O'Neill, Dr. David Whiteford Orr, Dr. Henry Edmunds Owen, Dr. Alfred Charles Augustus Packman, Dr. Alfred James Meyrick Paget, Surg. Lt. Wm. Edward John Paradise, R.A.N., Dr. Madeline Phyllis Parker, Dr. Robert Henrik Pettersson, Dr. Wm. James Pickup, Dr. Alfred George Clarke Pocock, Dr. Hugh Pugh Jones Price, Dr. Richard Erie Hay Pulipaka, Dr. Charles Wm. Reid, Dr. Brownlow Riddell, Dr. Wm. Henry Roache, Dr. James Robinson, C.B.E., Dr. Thalia Ellsley Roche, Dr. Christopher Rogers, Dr. Thomas Andrew Rothwell, Dr. Amand Jules McConnell Routh, Dr. Beth Russell, Dr. Walter Henry Ryan, Dr. Claude Wm. Scott Saberton, Dr. David Wolesey Scott, Dr. Edward Sharpe, Dr. Noel Francis Shaw, Dr. Wm. Shortt, Dr. David Turnbull Smith, Dr. Colvin Burslem Milson Smith, Col. John Smyth, I.M.S., Ret., Dr. John Somerville, Dr. James Russell Stanley, Dr. Arthur Campbell Stark, Dr. Alexander Stuart, Dr. Percy Carter Boddington Swanseger, Dr. James Taylor, Hon. Wm. Frederick Taylor, Dr. Gertrude Mary Terrell, Dr. John Allan Thom, Dr. Frederick George Thompson, Dr. John Tarratt Titterton, Dr. Percy Langford Townly, Dr. Antonio Joseph James Triado, Dr. Horace Ebbago Utting, Dr. Emile Edouard Charles Vollet, Dr. Fred Newton Walsh, Dr. Thomas Walsh, Dr. Devis Byrne Walshe, Dr. Wm. Henry Warwick, Dr. Hubert Oscar Washbourn, Dr. Eleanor Isobel Wheeler, Dr. Maurice Andrew White, Dr. Robert Nicol White, Dr. George Chisholm Waldemar Williams, Dr. John Pryce Williams, Dr. Alexander David Wilson, Dr. Murray Richard Osmond Wilson, Dr. Sidney Rawson Wilson, Dr. Alfred Thomas Tucker Wise, Col. Frederick Wm. Wright, D.S.O., I.M.S., Ret., Dr. Henry Trouneer Wright, Dr. Alexander Young, Lt.-Col. Andrew Watson Cook Young, I.M.S., Dr. James Murray Young.

## ATTENDANCES.

10. The Council submits a list of attendances at meetings of the Council from the A.R.M., 1927, to April, 1928. (See Appendix I.)

## CHAIRMAN OF COUNCIL.

11. The Council at its first meeting in July, 1927, elected Dr. H. B. Brackenbury Chairman of Council for the three years 1927-30. The thanks of the Council were conveyed to the late Chairman, Sir Robert Bolam, for his brilliant and highly appreciated work as Chairman during his seven years of office, a period which included the acquisition and Royal opening of the present House of the Association.

## EDITOR OF THE "BRITISH MEDICAL JOURNAL."

12. The Council has appointed Norman Gerald Horner, M.A., M.D.Camb., as Editor of the *British Medical Journal*. Dr. Horner has been Assistant Editor since 1916.

## HISTORY OF THE ASSOCIATION.

13. At various times suggestions have been considered to the effect that a History of the Association should be prepared in readiness for its Centenary in 1932. The Council is of opinion that this is very desirable and it hoped to have had the guidance of the late Sir Dawson Williams, than whom no one would have been more competent to edit such a book. The subject is again under consideration and the Council hopes shortly to be able to report that the preparation of the History has been taken in hand.

## B.M.A. HOUSE ARRANGEMENTS.

14. Certain changes in the arrangements for the accommodation of members at the B.M.A. House have been made. The Members' Lounge is now called the Members' Common Room, as being more in accordance with its real usage; steps have been taken to prevent its use by unauthorised persons; and some additional periodicals have been provided. The facilities

for reading, luncheon and tea are being taken advantage of by a steadily increasing number of members.

The Association has established a collection of portraits which has been catalogued by Mr. Muirhead Little, F.R.C.S., and has now been labelled; it also has a collection of autographs, due very largely to the personal efforts of Mr. Muirhead Little, and it is hoped to add to it from time to time autographs of those persons, both medical and lay, who have been associated in some prominent way either with the Association or with the medical profession.

## SOUTH AFRICAN MEDICAL CONGRESS, 1928.

15. In response to the cordial invitation of the Executive Council of the South African Medical Congress, 1928, the first to be held in South Africa under the aegis of the Medical Association of South Africa (British Medical Association), that the Council should appoint delegates to attend the Congress, the Chairman of Council (Dr. H. B. Brackenbury) was appointed official delegate to the Congress along with Sir Frank Colyer (London), Dr. H. B. Densham (Stockton-on-Tees) and Dr. C. D. Hatriek (New Barnet).

## 1928 ANNUAL CONFERENCE OF THE NEW ZEALAND BRANCH.

16. In response to the invitation of the New Zealand Branch the Council had much pleasure in appointing Mr. Victor Bonney its official representative to the Annual Conference of the New Zealand Branch held at Hamilton, North Island, February, 1928.

## CENTENARY OF GRANTING OF CHARTER OF UNIVERSITY OF TORONTO.

17. The Council appointed Sir John Bland-Sutton, Bt., to act as the official delegate of the Association to the Centenary Celebrations of the Granting of the Charter of the University of Toronto, held in that city in October, 1927, when Sir John Bland-Sutton presented an Address from the Association to the University of Toronto.

## ARTIST'S ORIGINAL MODEL OF THE HASTINGS PRIZE.

18. The Rev. Bishop Williams, son of Mr. Watkin Williams (who in addition to having been General Secretary of the Association (1863-72) was a close personal friend of Sir Charles Hastings the founder of the Association), kindly offered to the Association the artist's original model of the "Hastings Prize" of the Association which was presented by the artist to Mr. Watkin Williams. The Council accepted the offer and expressed the thanks of the Association to Bishop Williams. The Hastings Prize referred to was, apparently, founded in 1860, the intention being to give annually one or two gold medals as prizes for essays or papers, the first such prize being given in 1864. Further awards of the medal were made in '65, '66, '70 and '73 when the award of the Prize apparently fell into abeyance.

## MEDICAL REPRESENTATIVES ON GENERAL NURSING COUNCIL.

19. In response to an enquiry from the Minister of Health as to whether the Association desired to recommend any persons for the Minister's consideration in connection with the appointment by the Minister of Health of five members to the "General Nursing Council for England and Wales," the following names were submitted: Lady Barrett, Dr. A. H. G. Burton, Sir Ewen Maclean, Dr. Christine Murrell and Mr. A. M. Webber. Lady Barrett has been appointed by the Minister.

## HARVEY TERCENTENARY, LONDON, 1928.

20. In response to an invitation from the Royal College of Physicians of London asking the Association to nominate some person to represent it at the Tercentenary of the publication of Harvey's epoch making book, "De Motu Cordis" to be celebrated in London in May, 1928, the President, Sir Robert Philip, was appointed to represent the Association.

## INTERNATIONAL UNION OF MEDICAL ORGANISATIONS.

21. In the Supplementary Report of 1926 and in the Annual Report of 1927 the Council reported the formation of the Association Professionnelle Internationale des Médecins, the object of which is to establish an international union and bureau for the interchange of information and ideas concerning the social and political aspects of medical practice. After consideration the Council decided not to adhere formally to this body, but to send the Medical Secretary as an observer to the first Annual Conference, which took place in Paris in September last. The Council has given very careful attention to the detailed report which the Medical Secretary placed before it with regard both to the work of the A.P.I.M. during the past year and to the proceedings at the Annual Conference, and has decided not to join the organisation, it being of the opinion that there is no sufficient gain to the Association

from membership of this international body which could be set off against the expenses of annual membership (£125), combined with the demands made on the time of the Medical Secretary and other members of the staff. The Council has informed the Secretary of the A.P.M. that it is willing at all times to furnish other medical associations, either national or international, with any information which may be at its disposal by reason of its experience in social legislation in relation to medicine.

#### ANNUAL MEETING OF CANADIAN MEDICAL ASSOCIATION, 1928.

#### ANNUAL SESSION OF AMERICAN MEDICAL ASSOCIATION, 1928.

22. The Council has been invited to send a representative or representatives to the Annual Conferences of the Canadian Medical Association and the American Medical Association which are to be held in June next in Charlottetown, Prince Edward Island, and Minneapolis respectively, and is glad to be able to report that Sir Lenthal Cheate, F.R.C.S., has consented to attend both conferences as the delegate of the Association and to present to both bodies the good wishes of the Association.

#### CENTENARY CELEBRATIONS OF FACULTY OF MEDICINE, CAIRO.

23. In response to an invitation from the Egyptian Government, through the Minister of Education, for the Association to send a delegate to take part in the Centenary Celebrations of the Faculty of Medicine, Cairo, and the International Congress of Tropical Medicine and Hygiene, extending from 15th-28th December, 1928, and under the patronage of His Majesty King Fouad I, the President, Sir Robert Philip, was appointed official delegate of the Association.

#### APPOINTMENT DURING YEAR OF REPRESENTATIVES OF ASSOCIATION ON OUTSIDE BODIES.

24. The following appointments have been made by the Council during the year:—Board of Governors, University College, Hull, Dr. Matheson Mackay; Central Council for the Care of Cripples, Mr. W. McAdam Eccles and Mr. P. Jenner Verrall; Child Guidance Council, Dr. R. Langdon-Down; Council of Faculty of Insurance, Dr. H. B. Brackenbury; Council of the Smoke Abatement League, Mr. N. Bishop Harman; Council of Society of Medical Officers of Health, Dr. H. B. Brackenbury and Dr. W. Paterson; Howard League for Penal Reform; Conference on Young Offenders Report, Drs. G. F. Buchan, R. G. Gordon, R. Langdon-Down and W. A. Potts; Joint Tuberculosis Council, Drs. A. Lyndon and C. O. Hawthorne; Council of Lister Institute, Professor W. E. Dixon; Professional Classes Aid Council, Mr. N. Bishop Harman; Royal Sanitary Institute Congress, 1928, Drs. G. F. Buchan and I. W. Johnson; Seventh International Congress of Photography, London, 1928, Dr. Gilbert Smith.

#### SOLICITOR OF ASSOCIATION.

25. Following the retirement of Mr. W. E. Hampson which was foreshadowed in the last Annual Report of the Council, the firm of Hampsons, London, has been appointed Solicitors to the Association.

The Council has expressed to Mr. W. E. Hampson its gratitude for the many services rendered by him to the Association during his years of office and has wished him in the name of the whole Association many years of happy retirement from the cares of office.

### Finance.

26. As will be seen from the Financial Statement for the year ended 31st December, 1927, which is set out in detail in Appendix II (see B.M.J. Supplement, May 5th, 1928), the year 1927 has proved more favourable to the Association, financially, than was hoped. Although many of the items in the forecast presented last year were exceeded, the result is not one calling for regret. The Advertisement revenue for the *Journal* exceeded all records, and not only paid for the additional cost of the *Journal*, including a heavy increase in postage, but added no less a sum than £1,960 to the estimated surplus. The subscription account also showed a greater increase than was estimated.

27. Generally, a survey of the year's accounts gives cause for satisfaction, and the financial strength displayed augurs well for the future, and particularly for those years in the immediate future when the extension of the Association's House will involve the British Medical Association in considerable capital expenditure.

28. During the year 1926 it was decided to commence a sinking fund for the redemption of the leasehold property of the Association, and for this purpose a sum of £1,000 was set aside. This has now been utilized to take out a Sinking Fund Policy, which will realize £100,000 at the end of forty years.

The amount required for this purpose during 1927 was £1,094 19s. 2d. net, future premiums being £1,141 13s. 4d. per annum.

29. Under the terms of the Lease of the Tavistock Square property it is necessary to carry out periodical redecoration, and the sum of £1,500 has been set aside to meet this liability.

30. The Reserve Fund for the extension of the work and premises of the Association has been increased by £5,000, and now stands in the books at £31,612 10s.

31. The balance of Income over Expenditure carried to Surplus Account for the year 1927 amounts to £1,935 18s. 10d., the total at which this account now stands being £190,110 5s. 10d.

32. The membership increased during the year by 1,275, the total at 31st December, 1927, being 33,425.

33. The Income for the past three years has been as follows:

	£	s.	d.
1925	131,787	4	5
1926	136,357	14	4
1927	143,293	18	7

The Expenditure for the same three years was:

	£	s.	d.
1925	131,003	18	1
1926	134,484	13	2
1927	141,357	19	9

#### BALANCE SHEET.

##### Liabilities.

34. The Sundry Creditors show an increase of nearly £2,000, mainly in connexion with paper and postage for the *Journal*, and advertisements paid for in advance.

The Reserve Account has been increased as set out above. The market value of the stocks taken in the Balance Sheet at £23,612 10s. was, on the 31st December, £25,494.

The temporary overdraft of £29,146 from the Westminster Bank was repaid in the early part of the year, but towards the end of 1927 it was found advisable again to have recourse to a temporary overdraft of £19,522. This had been completely repaid by the end of February, 1928, when a sum of £3,000 was placed upon deposit with the Bank.

##### Assets.

35. Leasehold Premises.—The depreciation rate was maintained at £2,000 for the year.

Scottish House.—The adjoining house, No. 7, Drumshugh Gardens, held also upon ten charter, has been purchased by the Association, and is now being converted for the use of members. Depreciation has been increased from £200 to £416 7s. for the year 1927.

Investments.—The investments of the Association remain at the figure in the Balance Sheet at 31st December, 1926, and have not been written up.

Paper Stock.—The stock of paper for the *British Medical Journal* had been increased at the end of 1927.

Subscriptions in Arrear.—The subscriptions carried forward as in arrear have increased slightly in value, the number being 1,652 at 31st December, 1927, as against 1,564 at the end of 1926.

The item of £2,595 is represented largely by subscriptions of overseas members which may have been paid to the Branch Secretaries abroad, but had not reached the Head Office before the end of the year. (See also note re subscriptions in Income and Expenditure Account.)

Sundry Debtors for Advertisements.—The Reserve for Bad Debts and Discounts is considered ample.

#### INCOME AND EXPENDITURE ACCOUNT.

36. Subscriptions.—The subscriptions due for the current year show an increase of £3,060 1s. 11d., due to the increase in membership during 1927 and to variations in the classes to which members belong.

The subscriptions due for previous years and recovered in the year under review have again been shown separately, in order to demonstrate that the amounts shown in the Income and Expenditure Account as "Subscriptions written off" are by no means lost. Of the sum of £2,262 7s. 3d. carried forward in the Balance Sheet of 31st December, 1925, as "Subscriptions in arrear," no less a sum than £1,976 7s. 6d. was recovered during 1926. The balance of £285 19s. 9d. was included in the amount of £3,122 8s. 4d. written off in the Income and Expenditure Account at 31st December, 1926. A further sum of £157 10s. was received during 1927, which, together with the £1,710 7s. 7d. collected by the Head Office in respect of 1926 subscriptions written off, and £218 0s. 5d. recovered in respect of previous years' subscriptions, makes a total recovery of 783 subscriptions, representing £2,085 18s.

Rents.—The rents of 429, Strand, are now the property of the New Zealand Government, which, however, pays interest on the balance of the purchase price outstanding.

## ABSTRACT A.

37. *Representative Meeting.*—The attendances at the Edinburgh Meeting were considerably larger than usual, and the distances travelled were also greater. The attendances at the Annual Meeting for which fares were paid were:

1925, Bath ... ..	191
1926, Nottingham ... ..	165
1927, Edinburgh ... ..	207

*Annual Meeting.*—There was a considerable increase in the number of Sections—from 13 at Nottingham to 21 at Edinburgh. Many Sections held preliminary meetings of officers in London, and thus the railway fares charged against the Association exceeded expectations.

The Handbook of the Meeting increased in cost from £106 10s. to £193 15s., mainly owing to the larger number of copies required and to the extra 14 pages in each copy.

*Council.*—The attendances at Council meetings:

In 1925 incurred 194 railway fares
In 1926 incurred 203 railway fares
In 1927 incurred 205 railway fares

but it must be remembered that the amount spent in railway fares depends upon the distances travelled.

*Secretaries' Conference.*—The railway fares, paid to Secretaries who were not members of Council or Representatives numbered:

In 1925, Bath ... ..	33
In 1926, Nottingham ... ..	48
In 1927, Edinburgh ... ..	54

*Committees.*—The various increases and decreases are shown in detail in the Abstract.

*Insurance Acts Committee.*—The National Insurance Defence Trust repaid to the Association during 1927 the following sums:

	£	s.	d.
Railway Fares ... ..	179	10	3
Printings ... ..	119	18	0
Sundries ... ..	24	9	1
	£323	17	4

## ABSTRACT B.

38. *Charges on Bank Loan.*—The interest on the Bank overdraft is this year charged against the interest paid to the Association by the New Zealand Government, the retention by them of part of the purchase price of 429, Strand, causing the overdraft to be necessary.

*Legal Charges.*—The figure for 1927 includes the law costs of the libel action against the *Star* and actions to prevent the exploitation of the name of the British Medical Association and its copyright book *Secret Remedies*.

*Grant to Federal Council of M.A.S.A.*—Special grants for the years 1927 and 1928 were made by the Council in order to consolidate the position in South Africa.

## ABSTRACT C.

39. The figures for 1927 show variations in the cost of lighting and heating, and also in the general running repairs of the building.

## ABSTRACT D.

40. The increase in the Travelling and Subsistence Expenses is mainly due to the distance from London to Edinburgh and the number of the staff attending the larger meeting.

## ABSTRACT E.

41. The increase in postage is due partly to the larger number of books borrowed through the post, and partly to the new method of borrowing.

## ABSTRACT G.

42. The following are the comparative figures for the *British Medical Journal* in 1927:

	1926.	1927.
Literary pages and Epitome ...	2,574	2,646
Supplement ... ..	516	532
Advertisements ... ..	2,786	2,822
	5,876	6,060

The amount required from the Subscription Account for 1927 to cover the cost of production and issue of the *Journal* was £15,718, or 8s. 2d. per member. The amount required for 1925 and for 1926 was in each year 8s. 4d. per member.

The increasing cost of the preparation and dispatch of much larger numbers of the *Journal* is being met almost entirely by

the advertisement revenue. Reprints, being considered good propaganda for the *Journal*, are supplied as nearly as possible at cost.

*Composing, Machining, etc.*—The number of pages increased from 5,876 in 1926 to 6,060 in 1927, and the number of *Journals* printed increased from 1,805,862 in 1926 to 1,907,805 in 1927.

*Paper, Postage.*—The additional cost has been occasioned by the larger number of *Journals* issued.

## ABSTRACTS H AND I.

43. Full details of the Income and Expenditure of the special journals published by the Association are here set out.

## TRUST FUNDS.

44. *Office Staff Superannuation Fund.*—The market value of the stocks owned by this Fund on 31st December, 1927, was £21,401 16s. 3d.

## APPORTIONMENT OF MEMBERS' SUBSCRIPTIONS.

45. The membership of the Association at the end of 1927 was 33,625. It must be remembered, however, that all members do not pay the same rate of subscription; therefore the average amount of revenue per member is less than the standard subscription of £3 3s.

The total revenue from subscriptions (excluding arrears) was £79,592 14s. for the year 1927, or roughly £2 7s. 4d. per member.

The following table has been calculated on this basis to show how the subscription of a member was apportionable towards defraying the expenses of the Association for the year ending 31st December, 1927.

	£	1927. £ s. d.	1926. £ s. d.
Central Meeting Expenses ...	8,443	5 0	4 5
General Association Expenses ...	5,760	3 5	3 2
Central Staff Expenses ...	18,192	10 10	11 1
Central Premises Expenses ...	10,223	6 1	6 2
Central Printing, Stationery, and Postage ...	2,637	1 7	1 9
Library Account ...	914	7	7
Journal Account ...	13,718	8 2	8 4
Irish Committee Account ...	1,114	8	8
Scottish Committee Account ...	2,142	1 3	1 3
Capitation Grants to Branches ...	6,899	4 1	3 9
Subscriptions written off for			
Deaths and Arrears ...	3,703	2 2	2 1
Depreciation ...	4,186	2 6	2 6
Sundry Publications ...	138	1	1
Part Transfer to Reserve ...	1,523	11	1 6
	£79,592	£2 7 4	£2 7 4

## ESTIMATE OF RECEIPTS AND EXPENDITURE IN 1928.

	Receipts. 1927. £	1928. £
	Actual.	Estimated.
Subscriptions ... ..	81,679	1,321 Increase ... 83,000
Advertisements ... ..	47,586	86 Decrease ... 47,500
Sale of <i>Journals</i> , etc. ...	8,103	58 Decrease ... 8,050
Investments and Rents ...	5,856	856 Decrease ... 5,000
Sundries ... ..	64	64 Decrease ... —
	£143,293	£143,550
	Expenditure. 1927. £	1928. Estimated. £
	Actual.	
Central Meeting Expenses ...	8,443	443 Decrease ... 8,000
General Association Expenses ...	5,760	1,240 Increase ... 7,000
Central Staff Expenses ...	18,192	308 Increase ... 18,500
Central Premises Expenses ...	10,223	27 Increase ... 10,250
Printing, etc. ... ..	2,637	163 Increase ... 2,800
Library Account ... ..	914	86 Increase ... 1,000
Journal Account ... ..	69,412	2,088 Increase ... 71,500
Irish Account ... ..	1,114	16 Increase ... 1,130
Scottish Account ... ..	2,142	208 Increase ... 2,350
Capitation Grants ... ..	6,899	301 Increase ... 7,200
Subscriptions written off ...	3,703	197 Increase ... 3,900
Depreciation ... ..	4,186	186 Decrease ... 4,000
Sundry Publications ... ..	133	38 Decrease ... 100
Sinking Fund ... ..	1,095	47 Increase ... 1,142
Reserve Fund ... ..	5,000	2,500 Decrease ... 2,500
	£139,858	141,372
Estimated Surplus ... ..		2,178
		£143,550

## OUT-OF-POCKET EXPENSES OF MEMBERS ATTENDING MEETINGS.

46. The Council having referred the following Minute 33 of the A.R.M. 1927, to the Organisation and Finance Committees:—

Minute 33.—Resolved: That the Council be instructed to consider the taking of such steps as are necessary to secure that members attending meetings of Council and Central Committees be paid reasonable out-of-pocket expenses in addition to railway fares.

and having received the reports of these Committees thereon, does not consider it desirable that the expense likely to be incurred in carrying out the suggestion in the Minute should be undertaken by the Association.

## Organisation.

## MEMBERSHIP FIGURES.

47. In 1927 there was a net increase in the membership of the Association of over 1,200, and during the five years, 1923-7, the net increase has been over 9,000. The Council welcomes this recognition by the profession of the value of the work of the Association. The most fruitful sources of recruitment in the year were:—central activities, 1,538; by overseas Branches, 630; by Home Divisions and Branches, 395.

The following is a summary of the changes in the membership during 1927 (the figures for 1926 are shown for comparison):—

(1926.	1927.
New members ... 2,472	New members ... 2,578
Paid arrears ... 814	Paid arrears ... 1,067
Resignations withdrawn ... 30	Resignations withdrawn ... 33
Resignations ... 3,725	Resignations ... 3,678
Deaths ... 467	Deaths ... 506
Arrears ... 296	Arrears ... 351
Erased under Article 9 (c) (1) ... 1,134	Expelled ... 1,485
— 2	— 1
— 1,890	— 2,403
Increase ... 1,826	Increase ... 1,275

Membership, December 31st, 1926 ... 32,350

Membership, December 31st, 1927 ... 33,625

The numbers of new registrations (British Isles) in 1926 and 1927 were 1,942 and 1,700 respectively.

## WORK DONE BY THE DIVISIONS, BRANCHES, AND FEDERAL COMMITTEES.

48. The great majority of the Divisions and Branches in the British Isles have sent in their reports for 1927, and these reports, and the reports of proceedings published in the B.M.J. Supplement, show gratifying activity on the part of most of the local units of the Association.

On behalf of the Association, the Council desires to thank the Chairmen, Presidents, Secretaries, Treasurers and Executives of the Divisions, Branches and Federal Committees for the highly creditable work being done.

## FINAL-YEAR STUDENTS AND NEWLY QUALIFIED PRACTITIONERS.

49. Practically all those Divisions and Branches whose areas contain medical schools have taken very successful action in connection with the scheme inaugurated by the Council for interesting final-year medical students and newly qualified practitioners in the work of the Association. One result of these gratifying activities is seen in the increased membership of the Association among the newly qualified.

For the purposes of the Prize Essay Competition by final-year students the Council has re-grouped the medical schools in larger groups and made the prizes of greater value. Thus, there will now be 2 groups for London, and 1 each for the Provinces and Wales, Scotland, Ireland, and Overseas. A prize of £25 will be open for award in each group. The subject for the essays for 1928-9 is "The Symptoms and Sequelæ of Encephalitis Lethargica, with their appropriate Treatment," and the essays require to be received by January 12th, 1929.

## HANDBOOK FOR RECENTLY QUALIFIED MEDICAL PRACTITIONERS.

50. The Association's "Handbook for Recently Qualified Medical Practitioners" continues to meet a real need. There

has been a steadily increasing demand for the book on the part of the newly qualified, and its section as to post-graduation study and special diplomas has been found of great help by post-graduates visiting this country.

## ELECTION OF REPRESENTATIVE BODY, 1928-9.

## Divisions in British Isles.

51. The Council has, subject to one or two adjustments, repeated the 1927-8 grouping of the Divisions in the British Isles for election of the Representative Body, 1928-9. The complete list of Constituencies will be found in the B.M.J. Supplement of April 21st, 1928.

## Divisions outside British Isles.

Each Division and Division-Branch outside the British Isles has been made an independent constituency.

## ELECTION OF COUNCIL, 1928-9.

## Bodies in British Isles.

52. Pursuant to the standing authority conferred on it by the Representative Body, the Council has grouped the Branches and constituencies in the British Isles for election of the "21" and "12" members of the Council for 1928-9 in the same way as for 1927-8 (see Annual Handbook, 1927-8, page 48).

## Bodies outside British Isles.

The Branches outside the British Isles have been grouped for election of the "7" members of Council, 1928-9, in the same way as for 1927-8 (see Annual Handbook, 1927-8, page 49).

## REVISION OF ARTICLES AND BY-LAWS.

53. Various questions of adjustment of the Articles and By-laws of the Association have lately arisen. The existing Articles and By-laws proposed by the Council to be revised will be found in Appendix III to this Report (see B.M.J. Supplement of May 5th, 1928). References in the Recommendations to lineage of Articles and By-laws, are to that of the printed booklet of the Memorandum, Articles and By-laws.

## Title of Dominions Committee.

54. As much of the work of the Dominions Committee is concerned with matters affecting the medical services, etc., in the Colonies, the Dependencies, and in India, the Council is of opinion that the title of the Committee should be brought into line with this position by naming it the "Dominions, India, Colonies and Dependencies Committee."

Recommendation: That By-law 78 be amended by inserting, in the 2nd line, after the word "Dominions," the words "India, Colonies, and Dependencies"; and that the Schedule to the By-laws as to the Dominions Committee be amended by inserting, in the 1st column, after "Dominions":—"India, Colonies and Dependencies."

## Constitution of Insurance Acts Committee.

55. The Council submits the formal proposal for amendment of the Schedule to the By-laws as to the composition of the Insurance Acts Committee, which is dealt with in greater detail in para. 122 under National Health Insurance.

Recommendation: That the Schedule to the By-laws relating to the Insurance Acts Committee be amended by substituting, in line 14 of column 5, "29" for "27"; and, in line 17 of the same column, "25" for "23."

## Constitution of Charities Committee.

56. The A.R.M., 1926, expressed the opinion that the personnel of the Charities Committee should be enlarged and should secure territorial representation. The Council accordingly suggested in its Supplementary Report, June, 1927, that 4 members should be appointed by the Representative Body, viz., 2 by the English Representatives, 1 by the Scottish Representatives, and 1 by the Irish Representatives. The Association's representative at the College and on the Committee of Management of the Royal Medical Benevolent Fund should be members of the Committee ex-officio. This proposal was approved by the A.R.M., 1927, and the Council now submits the necessary amendment of the By-laws.



**Recommendation :** That the 2nd, 3rd, 4th, and 5th columns of the Schedule to the By-laws, as to the Charities Committee, be amended to read as follows:—

Additional Members <i>ex-officio</i> .	Appointed Members.		
	By R.B.	By Council	Otherwise appointed.
The representative or representatives of the Association on each of the following bodies, viz.:— The Council of Epsom College and the Committee of Management of the Royal Medical Benevolent Fund.	—	2	2 appointed by the Representatives of Constituencies in England (excluding Monmouthshire); 1 appointed by the Representatives of Constituencies in Scotland; 1 appointed by the Representatives of Constituencies in Wales (including Monmouthshire).

**Term "United Kingdom" in Articles and By-laws.**

57. The Council has considered the question whether the Articles and By-laws of the Association should be adjusted as regards Ireland, in connection with the term "United Kingdom." So far as the Articles and By-laws of the Association are concerned, that term includes the Irish Free State. The Royal and Parliamentary Titles Act, 1927, provides that the title of His Majesty the King be:—

"George V. by the Grace of God, of Great Britain, Ireland, and the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India."

(instead of—

"George V. by the Grace of God, of the United Kingdom of Great Britain and Ireland, and of the British Dominions beyond the Seas, King, Defender of the Faith, Emperor of India.")

As matters stand, the Articles and By-laws are in this respect in conflict with the B.M.A. Handbooks, the forms of application for membership, the requests for subscriptions, etc. The Council considers that the Articles and By-laws should be adjusted so as to bring them into line with the actual new position in respect of the Irish Free State. It should be understood that the merely verbal alteration will in no way affect the position of or the subscription payable by members resident in Ireland.

The Council submits adjustments of Articles and By-laws accordingly.

**Recommendation :** That the Articles and By-laws be amended so as to bring them into line with the position created by the formation of the Irish Free State, and, as so amended, be approved and adopted, and that the Council be instructed to submit the Articles to Extraordinary General Meetings of the Association, as follows:—

**Article 3 (Eligibility):** In 1st, 2nd, and 8th lines, for "the United Kingdom," read:—"Great Britain or Ireland."

**Article 10 (Expulsion):** In 14th and 15th lines of para. (a), for "the United Kingdom," read:—"Great Britain and Ireland."

In 2nd and 3rd lines of para. (b), for "the United Kingdom," read:—"Great Britain and Ireland."

In 1st and 2nd lines of para. (c), for "the United Kingdom," read:—"Great Britain or Ireland."

**Article 12 (1) (Incorporation):** In title, and in 2nd and 3rd lines, for "the United Kingdom," read:—"Great Britain or Ireland."

**Article 13 (Formation, etc., of Divisions):** In 2nd line, for "the United Kingdom," read:—"Great Britain or Ireland."

**Article 16 (Federal Councils):** In 2nd line, for "the United Kingdom," read:—"Great Britain and Ireland."

**Article 23 (Annual Scientific Meetings):** In 8th, 9th, and 10th lines, for the words "the United Kingdom or abroad. When held in the United Kingdom . . . ." read:—"Great Britain or in Ireland or elsewhere. When held in Great Britain or Ireland . . . ."

**Article 37 (Affiliation):** In 3rd line, for "the United Kingdom," read:—"Great Britain and Ireland."

**Article 42 (1) (Expenses):** In 2nd and 11th lines, for "the United Kingdom," read:—"Great Britain and Ireland."

**By-law 1 (3) (Interpretation):** In last line, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 5 (Election by Branches):** In 1st line of para. (1) and 1st line of para. (2), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 11 (1) (Amount of Subscriptions):** In 2nd line of Section B, for "the United Kingdom," read:—"Great Britain or Ireland."

In 1st and 2nd lines of Section C, for "the United Kingdom," read:—"Great Britain and Ireland."

**By-law 14 (Special Subscriptions to Divisions and Branches):** In 8th line, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 15 (1) (Subscriptions to Branches not in United Kingdom):** In title and 4th line, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 16 (Incorporation of Branches not in the United Kingdom):** In title, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 18 (1) (Local Management: Branches):** In para. (a), 1st line, for "the United Kingdom," read:—"Great Britain or Ireland."

In para. (c), 1st line, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 22 (1) (Branches not in United Kingdom: Special Powers):** In title and 1st line, for "the United Kingdom," read:—"Great Britain or Ireland."

22 (2): In 1st line, for "the United Kingdom," read:—"Great Britain or Ireland."

In 1st and 2nd lines of para. (v), and in 3rd line of para. (vii), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 23 (1) (Federal Councils):** In 1st and 2nd lines, for "the United Kingdom," read:—"Great Britain and Ireland."

**By-law 27 (Divisions not in the United Kingdom: Special Powers):** In title, in 1st line, and in last line but one, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 40 (Number of Representatives):** In 1st line of para. (2), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 53 (Composition of Council):** In 5th and 6th lines of para. (a), 2nd line of para. (b), and 5th and 6th lines of para. (c), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 55 (Mode of Election by Groups in United Kingdom):** In title, and 3rd line of para. (1), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 56 (Mode of Election by Groups not in United Kingdom):** In title, and in 2nd line, for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 59 (Qualification for Election as Member of Council):** In 3rd line, for "the United Kingdom," read "Great Britain or Ireland."

**By-law 60 (Terms of Office of Members of Council):** In 2nd and 3rd lines of para. (1), and 2nd line of para. (2), for "the United Kingdom," read:—"Great Britain or Ireland."

**By-law 85 (Expenses):** In 4th line, for "the United Kingdom," read:—"Great Britain and Ireland."

**Schedule to By-laws (Duties, Powers, etc., of Central Ethical Committee):** In 2nd para., 8th and 9th lines, for "the United Kingdom," read:—"Great Britain or Ireland and."

**Schedule (Dominions Committee):** Under "Additional Members *ex-officio*," and "Duties, Powers, etc.," for "the United Kingdom," read:—"Great Britain or Ireland."

**Subscription of Members Engaged Whole-time in Medical Instruction or Medical Research.**

58. By-law 11 (1) n (iii) provides for a reduced subscription of two guineas in the case of—

"(iii) Any member who is engaged on a whole-time basis in the work of medical instruction or medical research and is not engaged in the practice of the medical profession either as consultant or otherwise."

This clause, introduced into By-law 11 in 1922, has been giving rise to considerable difficulty, many members having paid, or applied to pay at the reduced rate in respect of whom it was doubtful whether they came within the clause.

The clause as it stands was the outcome of a proposal that some concession as regards subscription should be made in the case of members of the profession "engaged in teaching

or research but not in practice." On consideration of that proposal in 1922, the Council came to the conclusion that there should be a reduction of subscription in the case of those members of the profession who were engaged at the universities or medical schools in teaching or scientific research, but who were not engaged in consulting practice, basing its decision on the facts (a) that the interest of such persons in the general work of the Association differed from that of other members of the profession; (b) that their remuneration was often inadequate, and (c) that it was desirable that the Association should include within its ranks as many of them as possible. Counsel, instructed accordingly, drafted Clause (iii) in question, quoted above, which was adopted by the A.R.M., 1922.

The clause deals with members engaged in whole-time medical instruction, and with members engaged in whole-time medical research. Difficulties have arisen in respect of both categories. As regards the former, there have been doubt and difficulty in applying the clause because of the vagueness of the term "medical instruction." Much more serious difficulty has arisen in respect of "whole-time medical research." The term is wide and vague, and it became apparent that in some cases there were B.M.A. members in one and the same department of one and the same institution or service, some of whom paid the ordinary 3-guinea and some the 2-guinea rate. As a result of the difficulties and anomalies which have thus arisen, there have naturally been complaints of unfair discrimination as between one member and another as regards the amount of subscription payable.

The Council regards the position as difficult, if not impossible, to straighten out if clause (iii) is left as it at present stands, and therefore proposes that By-law 11 be made more explicit as regards the definitions of "whole-time medical instruction" and "whole-time medical research." The Council considered the question of abolishing the reduced rate of subscription in respect of such work, a course for which there is a good deal to be said, but came to the conclusion that the arguments in this connection which weighed with the Council and R.B. in 1922 still hold good.

**Recommendation:** That By-law 11 (1) a (iii), as to the subscription of members engaged whole-time in medical instruction or medical research, be deleted, and the following substituted therefor:—

"(iii) Any member who is not engaged in medical practice whether as consultant or otherwise and is a whole-time member of the teaching staff of a university or medical school and has signed and transmitted to the Treasurer a declaration to the foregoing effect in relation to the year for which the subscription is due ... 2 guineas.

(iv) Any member who is not engaged in medical practice whether as consultant or otherwise and whose whole time is occupied in the investigation of scientific problems as distinguished from routine laboratory work and has signed and transmitted to the Treasurer a declaration to the foregoing effect in relation to the year for which the subscription is due ... 2 guineas."

existing paras. (iv) and (v) of the By-law being re-numbered, consequentially, "(v)" and "(vi)."

**Powers of Branches not in the British Isles.**

59. In 1920, By-law 15 was amended to provide that local Branch rules, imposing upon the members of Branches not in the British Isles an additional, i.e., local subscription, do not, to become effective, need the approval of the Council. At the time when that By-law was so adjusted, it escaped notice that By-law 22 (Special Powers of Branches not in Great Britain or Ireland) required consequential adjustment. This omission should be rectified.

**Recommendation:** That By-law 22 (2) be amended as follows:—

Insert, in 4th line, after "Council":— "(but subject in the case of a Rule made under By-law 15 to such approval as therein mentioned)"; and insert a new para. (ii) as follows:—

"(ii) The payment by members of the Branch of any additional subscription under By-law 15," subsequent paras. being re-numbered consequentially.

**Resolutions of R.B., Formulating "Policy of Association."**

60. Article 33 (1) provides:—

"33. (1) Subject as provided by the Regulations, a resolution of the Representative Body (not being a resolution inconsistent with the provision of any Statute or of the Memorandum of Association), which affects the funds of the Association, or relates to the Regulations

or By-laws, or to the policy of the Association in matters affecting the honour or interests of the medical profession and is carried by a majority of not less than two-thirds of the votes given thereon in the manner prescribed by the By-laws, or which relates to any other business within the powers of the Representative Body, and is carried by a simple majority, shall be deemed to be a decision of the Association."

By-law 47 provides:—

"47. The business of the Annual Representative Meeting shall be . . . to make new By-laws, and alter and repeal By-laws, and to consider any resolution relating to the promotion of the medical or allied sciences, or the maintenance of the honour or interests of the medical profession or of the Association which shall have been adopted by any Division or Branch; provided that any such resolution proposing material alteration of the constitution or policy of the Association shall have been published in the Journal for the consideration of all the Divisions not less than two months previously."

Any proposal for enunciation of policy upon which the Representative Body has not previously expressed an opinion must be considered to come under the category of "material alteration of the policy of the Association," and as such, to require 2 months' notice (By-law 47) before it can be adopted by an Annual Representative Meeting as valid policy of the Association. The question having been raised, the Council considers that Article 33 (1) and By-law 47 should be amended so as to make this position clear and plain.

**Recommendation:** (i) That Article 33 (1) be amended by inserting, in 1st line, after "Regulations," the words:—"or the By-laws"; and that By-law 47 be amended by inserting the words "or addition to," shown in italics below:—

" . . . to make new By-laws, and alter and repeal By-laws, and to consider any resolution relating to the promotion of the medical or allied sciences or the maintenance of the honour or interests of the medical profession or of the Association which shall have been adopted by any Division or Branch; provided that any such resolution proposing material alteration of or addition to the constitution or policy of the Association shall have been published in the Journal for the consideration of all the Divisions not less than two months previously."

and (ii) that the Council be instructed to submit the foregoing amendment of Article 33 (1) for completion by Extraordinary General Meetings of the Association.

**Possible Formation of Groups within the Association.**

61. The Council has considered the following Min. 30 of the A.R.M., 1927:—

"Minute 30.—Resolved: That, as amended by Mins. 27 and 28, the Representative Body approves the scheme for formation of Groups in the Association (*B.M.J. Supplement*, April 23rd, 1927, page 158), and instructs the Council to prepare the necessary amendments to the Articles and By-laws for submission to the A.R.M., 1928, it being agreed that the Council, should the need arise, may give immediate provisional effect to the scheme."

Pursuant to the authority thus given, the Council has formed 2 Groups, namely, a Spa Practitioners Group, the members of which are those members of the Association who regularly prescribe the mineral waters or baths of the spas in which they reside or who are on the staff of a hospital or clinic where the use of the local mineral waters is part of the routine treatment; and a Consulting Pathologists Group, composed of members of the Association (not being members of the public health service) who are working in an institutional or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes. Both Groups are now in active being.

In the opinion of the Council, shared by Counsel, (a) the amendment of the Articles and By-laws should simply take the form of giving general power to the Council to form such special Groups under such rules as the Council may from time to time determine; and (b) the Council should adopt rules, and/or standing orders accordingly, to come into force *ipso facto* with the new provisions on the subject in the Articles and By-laws. The Council proposes accordingly (a) a new Article "19x"; (b) that Articles 34, 42, and 45 be adjusted; and (c) a new By-law "32a" (see recommendation below).

The "Rules" which the Council has already provisionally adopted on the subject are practically identical with the draft scheme approved by the A.R.M., 1927, but, in

## Report of Council:

conformity with Min. 27 of the A.R.M., they embody a provision to the effect that the Council shall define the class or classes of members who shall be included in a proposed Group, and that questions of the eligibility of individual persons for membership of the Group shall be determined by the Council after consultation with the Committee of the Group. The Rules thus provisionally adopted by the Council include also explicit provision to the effect that every member of the Association coming within the Council's definition of the class or classes of members who shall constitute the Group shall be *ipso facto* a member of the Group.

**Recommendation:** That the following new Article 19x, adjustment of Articles 34 (Referendum), 42 (Expenses) and 45 (By-laws), and new By-law 32A, namely:—

(New Article 19x:—)

### III.A.—SPECIAL GROUPS OF MEMBERS.

Article 19x.—Special Groups of members having distinctive professional interests may from time to time be formed and dissolved in such circumstances and manner and shall have such status and privileges as may be prescribed or determined by or in accordance with the By-laws.

Article 34 (Referendum): In the 8th line, after "Regulations," insert "or the By-laws."

Article 42 (1) (Expenses): Last sentence to be numbered "(2)," and to read:—

"(2) The expenses, defined as aforesaid, within Great Britain and Ireland of all members attending Meetings of Council or of Committees (including the Committees of Special Groups of members) and of all members authorised by the Representative Body or by the Council to attend, and attending any Conference shall be defrayed in like manner."

existing para. (2) to be re-numbered "(3)" consequentially.

Article 45 (By-laws): Read, in 4th line:—

"and separate body or Special Group of members thereof . . ."

and read, in 8th and 9th lines:—

"prescribed or determined by . . ."

(New By-law 32A:—)

### IV.A.—SPECIAL GROUPS OF MEMBERS.

32A. (1) Special Groups may be formed of members having distinctive professional interests and being by reason either of their paucity of numbers or of their local distribution unable to obtain adequate representation of those interests through the Divisions and Branches.

(2) The formation of such Special Groups shall rest with the Council, subject to an appeal to the Representative Body, whose decision shall be final and shall not be required to be approved under the 34th Article of Association.

(3) The mode of application for the formation of any such Special Group and the means of ascertaining the views of the members thereof on matters affecting their said interests shall be such as the Council may from time to time determine, and the Council may provide for meetings of any such Special Group and for Committees thereof at meetings the attendance of representatives thereof at meetings of the Council or of the Representative Body for the purpose of explaining such views.

(4) The Council may at any time dissolve any Special Group which may appear to the Council to be no longer required;

being provision in respect of possible formation of Special Groups of members within the Association, be approved and adopted; that the Council be instructed to submit those Articles to Extraordinary General Meetings of the Association; and that the subsequent existing Articles and By-laws be re-numbered consequentially.

### Extraordinary General Meetings.

62. In his revision of the Articles and By-laws, Counsel has suggested that Articles 22 and 23 require adjustment. The Council concurs.

**Recommendation:** That Articles 22 and 23 be amended as follows:—

Article 22: Substitute, in 6th line, for "appointed," "required."

Article 23: Read:—"23. Any such requisition shall state the object of the Meeting proposed to be called, and shall be left at the registered office of the Association"; and that the Council be instructed to submit them for completion accordingly by Extraordinary General Meetings of the Association.

### "British Medical Journal."

Sir DAWSON WILLIAMS, EDITOR, 1898-1928.

63. The loss sustained by the Association through the death of Sir Dawson Williams, soon after relinquishing the Editorship of the *British Medical Journal*, is referred to in earlier section of this Report. Sir Dawson Williams began his long connection with the Journal in 1881. He appointed hospital reporter in 1884, principal Sub-Editor in 1886, and Assistant Editor in 1895. On the death of Mr. Ernest Hart in January, 1898, he was appointed Editor, having previously on many occasions undertaken the duties of Acting Editor during Mr. Hart's absences abroad. Early in 1921, on the occasion of his knighthood, Sir Dawson Williams was entertained at a complimentary luncheon by the Council, and later in the same year received the Association's Gold Medal of Merit. At the meeting of Council on December 14th, 1927, he tendered his resignation, to take effect on January 19th, 1928, on his completing 39 years' service as Editor. Sir Dawson Williams' retirement was made the occasion of a leading article in the Journal of January 21st, acknowledging his inestimable work for the Association and for the science and practice of medicine during the 47 years of his connection with the Editorial Department. On February 8th, the Council recorded its grateful appreciation of his devoted services in raising the Journal to its present high position. The Council at the same meeting resolved to recommend to the Representative Body that he be elected a Vice-President of the Association, and that the title of Emeritus Editor be offered to him; but these proposals were cut short by the sad news of his death on February 27th. A largely attended Memorial Service, arranged by the Officers of the Association, was held in St. Pancras Church, near the Headquarters in Tavistock Square, and a full obituary notice, with many signed tributes from leading members of the Association and of the profession generally, was published in the Journal of March 10th.

### CIRCULATION AND ADVERTISEMENT REVENUE.

64. In the year under review the circulation and revenue of the *British Medical Journal* again surpassed all previous records. The increase of circulation is shown by the following figures, which give the average number of copies printed weekly during the nine years since the armistice: 24,520 in 1919; 26,195 in 1920; 27,247 in 1921; 27,600 in 1922; 29,026 in 1923; 31,339 in 1924; 33,520 in 1925; 35,923 in 1926; and 36,634 in 1927. This uninterrupted growth in circulation is reflected in the revenue from advertisements, which testifies to the increasing value set upon the *British Medical Journal* as an advertising medium. The income from advertisements last year was £47,746, as compared with £46,309 in 1926; £43,450 in 1925; £39,437 in 1924; and £35,318 in 1923. The revenue-producing value of the Journal to-day may be judged from the fact that the receipts from advertisements last year were more than twice those for 1914.

### SIZE OF JOURNAL.

65. The weekly average number of pages of the *British Medical Journal* in 1927 was 116.5 distributed as follows:—Medical, Epitome, and Supplement, 61.1; advertisements, 55.4. This figure, 116.5, is higher than that for 1926, and considerably higher than the average for any year since the beginning of the war. In 1927 the total pages of text and of advertisements was 6,060, as compared with 5,876 in 1926; these figures do not include the half-yearly indexes nor special plates printed on art paper. The growth in size of the Journal during the past eleven years, due to increasing calls on its space, many of them arising from new activities of the Association, is shown by the following figures: in 1917 the total number of pages of text, including Supplement, but excluding advertisements, was 2,100; in 1927 the total was 3,175, an increase of 50 per cent.

### PUBLICATION OF REPORTS.

66. Publication of the proceedings at the Annual Meeting in Edinburgh, including full reports of the twenty-one scientific Sections, occupied 292 pages; the reports of the

Presidential Address, proceedings in the Annual Representative Meeting, the statutory Annual General Meeting, and the various conferences held at Edinburgh, occupied 91 pages; this making in all 383 pages. Notwithstanding the very large number of Sections in 1927, publication of the full reports of the scientific proceedings was once again completed by the last issue of December. Apart from the two Annual Meeting issues of the Supplement, those which contained the Annual and Supplementary Reports on Council, the Annual Report of the Insurance Acts Committee, and the report of the Annual Panel Conference, were exceptionally large. A considerable amount of space in the body of the Journal was again devoted to British Medical Association lectures and papers of scientific and practical interest read to the Divisions and Branches of the Association. On several occasions the *Epitome of Current Medical Literature* was enlarged to six pages, when other demands upon space made this practicable. In accordance with custom no *Epitome* or Supplement appeared in the Educational Number published on September 3rd.

#### ILLUSTRATIONS.

67. During the year twenty-five special plates were devoted to the reproduction of illustrations which would not have given good results if printed in the text on the ordinary paper by rotary machines. One of these art-paper plates (a portrait of Lord Lister, published in connection with the Lister Centenary celebrations), was in colours. The cost of a special two-page plate on art paper, apart from the cost of engraving blocks, is for an issue of 37,000 copies about £60 (paper £20, machining, binding, etc., £40). A large number of figures, executed in line or half-tone, were printed in the text, and efforts to improve the general standard of reproduction of these blocks have been maintained. Altogether, 439 illustrative blocks were engraved in 1927. A Current Note, pointing out the difficulties in the way of reproducing photographs, and giving hints to contributors on the preparation of pictures for engraving, appeared in the Supplement of October 15th, 1927.

#### MSS. AND BOOKS.

68. As the number of original contributions received in the Editorial Department is very large and the space available limited, the question to be considered in each case is not so much whether the paper contains material which would justify its publication, but whether its merits and its general interest are so great that it should be chosen in preference to others. In many cases some delay in reaching a decision is consequently inevitable. During the twelve months under review more than 800 original articles and addresses, Annual Meeting papers, and medical, surgical and obstetrical memoranda were submitted to the Editor for publication in the *Journal*. Of these MSS. space was found for the insertion of 560—260 original articles, 108 Annual Meeting papers, and 192 clinical memoranda. The number of books received from publishers for review was 995, and notices of 477 books appeared.

#### COST OF PRODUCTION AND DISTRIBUTION.

69. The *Journal Account* published in the Annual Financial Statement shows that the gross cost of production and distribution of the *British Medical Journal*, including all editorial and a proportion of the managerial expenses, was £69,412 in 1927. Receipts from advertisements, sales to non-members, etc., amounted to £55,694, so that the net cost of the *Journal* to members of the Association was £13,718, or 8s. 2d. a head for the whole year, including postage. Thus, while the gross cost of producing a single copy of the *Journal* and supplying it to a member was practically 8½ pence, the net cost to him was approximately 1½ pence; to a non-member in Great Britain or Ireland the price of a single copy, including postage was 1s. 4½d. Sales of *Journals* yielded £6,419. This must be considered highly satisfactory in view of the steadily increasing membership of the Association, which necessarily restricts the field for circulation of the *Journal* among non-members. The charge for postage of the *Journal* forms a very heavy item of the total expenditure on the *Journal*. It amounted to £13,547 in 1927 as compared with £12,049 in 1926; £11,836 in 1925; £10,635 in 1924; £9,724 in 1923; £8,904 in 1922; and £7,261 in 1921. The increase in postage costs is due mainly to the continued growth in membership, and partly to some increase in the size and weight of the *Journals* posted.

#### CENSORSHIP OF ADVERTISEMENTS.

70. The censorship referred to in previous reports has been maintained over every advertisement tendered for publication, and it was found necessary to refuse or hold up many which did not conform to the policy and requirements of the Association. This strict supervision entails a considerable loss of revenue to the *Journal*. The immediate loss is known, but

the consequential loss, due to withdrawal of further advertising matter from the same quarters, cannot be calculated. Nevertheless, this policy of excluding undesirable advertisements from its official organ is a duty the Association owes to its members and through them to the public, and the better class of advertisers welcome it, recognising its advantages to themselves. While the acceptance of an advertisement for publication in the *Journal* is not to be understood as recommending or guaranteeing the article advertised, yet the appearance of an advertisement indicates that no objection of principle has been taken to it. All new advertisements submitted for publication are scrutinised in the Finance and Medical Departments of the Association, and those considered *prima facie* to be misleading or otherwise objectionable are referred for further inquiry and consultation. The Council has from time to time laid down general rules governing the acceptance and refusal of advertisements but the application of these rules in particular cases tends to become more difficult. Details of advertisements suspended or refused, and of the grounds for the action taken, are periodically laid before the *Journal* Committee, when the circumstances of each case are reviewed. The Committee reappointed the Foods and Drugs (Advertisements) Sub-Committee to advise its Chairman in regard to doubtful advertisements of pharmaceutical and dietetic preparations. The claims made for particular substances have been reported on by pharmacological and analytical experts.

#### "ARCHIVES OF DISEASE IN CHILDHOOD."

71. In 1926 the Council decided, in response to representations made by many members interested in diseases of children, to issue a periodical which would worthily represent the British school by recording the investigations and conclusions, clinical and pathological, of all its workers. For the carrying out of this purpose the Council appointed a General Committee, representative of all parts of Great Britain, with Dr. Hugh Thursfield and Dr. Reginald Miller as Editors. They are assisted by a small Editorial Committee of practitioners particularly interested in the subject and resident in London, Edinburgh, Glasgow and Liverpool. The first number of the *Archives of Disease in Childhood* was issued in February, 1926, and the second volume was completed with the twelfth number, dated December, 1927. In the papers published the Editors have maintained a very high standard and many excellent illustrations have accompanied them. The appeal of the *Archives* is world-wide, for it is addressed to all those at home and abroad, in every sphere of work, who realise the importance of this rapidly growing department of medical science and practice. The *Archives* appear six times a year, and the subscription (post free) is 25s., payable to the Financial Secretary, British Medical Association, Tavistock Square, W.C. 1. The subscription for Canada and the United States is six dollars (post free). The price of a single number is 4s. 6d.

#### "JOURNAL OF NEUROLOGY AND PSYCHOPATHOLOGY."

72. As stated in the last Report of Council an application was received early in 1926 by the British Medical Association to take over the publication of the *Journal of Neurology and Psychopathology*, then in its sixth volume. From the first number of the seventh volume (July, 1926) it has been issued by the British Medical Association. The aim of this periodical is to supply up-to-date information on the subjects named in its title. This is fulfilled by publishing short original communications and editorial articles, together with abstracts and critical reviews; and the scope and arrangement of the *Journal of Neurology* are such that it fills a place which no other periodical published in English exactly occupies. It is edited by Dr. S. A. Kinnier Wilson, with the assistance of an Editorial Committee, all of whom are members of the British Medical Association. It is published quarterly, and the subscription is 30s. a year, payable to the Financial Secretary. The price of a single number is 8s. 6d. (post free).

#### Science.

##### SCIENTIFIC WORK OF ANNUAL MEETING, 1928.

73. The Council has arranged the following Sections for the forthcoming Annual Meeting at Cardiff. *Three-day Sections:* Medicine, Surgery, Obstetrics and Gynaecology, Mental Diseases and Neurology. *Two-day Sections:* Pathology and Bacteriology, Orthopaedics, Diseases of Children, Ophthalmology, Laryngology and Otology, Tuberculosis, Radiology and Physio-Therapeutics. *Single-day Sections:* Preventive Medicine, Public Health, History of Medicine, Therapeutics and Pharmacology, Dermatology, Tropical Medicine, Medical Sociology.

## THE ASSOCIATION'S SCHOLARS AND GRANTEES.

74. The sum granted by the Council for the direct encouragement of original investigation and research exceeded £1,103 during the past year. The following awards were made:—

*Ernest Hart Memorial Scholarship.*

Claude H. Whittle The Pathology and Epidemiology of  
(Cambridge) Pneumonia and Pneumococcal In-  
(2nd year) fections.

*Ordinary Research Scholarships.*

Gordon R. Cameron Research into the morbid anatomy,  
(Melbourne) histology and etiology of Pan-  
creatic Disease.

William C. Wilson Injury and Disease of the Thoracic  
(Edinburgh) organs, in order to elucidate the  
(2nd year) mechanical and pathological fac-  
tors involved, and to assess the  
value of treatment by surgical  
measures.

Dugald Baird Investigation of the bacteriology of  
(Glasgow) infections of the urinary tract in  
pregnancy, with possible applica-  
tion to treatment.

*Research Grants.*

W. A. Burnett (Glasgow), £40; W. S. C. Copeman  
(Carshalton), £25; G. P. Crowden (London), £35; W. S. Duke-  
Elder (London), £70; H. H. Gleave (Sheffield), £20; E. G.  
Holmes (Cambridge), £50; J. C. Hoyle (Cambridge), £15;  
R. L. Mackay (Wolverhampton), £20; R. C. Shaw (Man-  
chester), £70; Isabel G. Wilson (London), £5.

The Council also made a grant of £100 to aid the  
prosecution of a scheme of investigation into rheumatism in  
children which is being carried out at the Paddington Green  
Children's Hospital Rheumatism Supervisory Centre.

*Work of the Scholars and Grantees.*

Satisfactory work was done by the scholars and  
grantees for 1926-27, the results in several cases being com-  
municated to various scientific societies.

## SIR CHARLES HASTINGS CLINICAL PRIZE.

75. The Sir Charles Hastings Clinical Prize consisting of  
an Illuminated Certificate and a cheque for 50 guineas, which  
was established by the Council for the promotion of systematic  
observation, research and record in general practice, has been  
awarded in respect of the year 1928 to Dr. Ambrose Wilfred  
Owen, Aberdare, for his clinical study entitled "Some renal  
conditions met with in general practice."

The eight clinical studies submitted for the Prize  
showed much careful work and observation. They were  
examined by Prof. W. E. Dixon and Sir Humphry Rolleston  
to whom the Council is much indebted for this service.

The Council proposes to offer the Prize for competition  
in 1929 under the existing Regulations.

## THE KATHERINE BISHOP HARMAN PRIZE.

76. The Council has decided to award the Katherine Bishop  
Harman Prize to Dr. Ronald Hare, Inoculation Department,  
St. Mary's Hospital, London, for his essay on "Researches  
on Septicæmia with special reference to Puerperal  
Septicæmia," and the presentation will be made at the forth-  
coming meeting of the Association at Cardiff.

This Prize was established in April, 1926, as the result  
of the generosity of Mrs. Katherine Bishop Harman, M.B.,  
B.S. (wife of the Treasurer of the Association) to encourage  
study and research directed to the diminution and avoidance  
of the risks to life and health that are apt to arise in  
pregnancy and child-bearing.

The essays were examined by Lady Barrett and Mr.  
Comyns Berkeley who, in their report, indicate that three  
essays could really be regarded as original contributions to  
the subject, and after finally awarding the prize, as stated  
above, the examiners made special mention of the essay by  
Dr. Peter L. McKinley as an exceptionally able statistical  
examination of Deaths in Childbearing of Women in England  
and Wales.

The Council has expressed its thanks to the examiners  
Lady Barrett and Mr. Comyns Berkeley for their services,  
and also to the President-Elect, Sir Ewen Maclean, who  
assisted the examiners in their final choice.

## THE HEMPSON PRIZE.

77. Mr. W. E. Hempson placed at the disposal of the  
Council upon the occasion of his retirement from the position  
of Solicitor to the Association, held by him for a period of

thirty years, and as a mark of his esteem for the Association  
and appreciation of his happy relations therewith, the sum of  
25 guineas as a prize to be awarded for the best essay or  
treatise on some phase or branch of public health work. The  
Council has decided upon the following subject for the prize  
"A Study of personal experiences in the inspection and treat-  
ment of School Children under the auspices of any Elementary  
Education Authority." The prize will be awarded at the  
Annual Meeting of the Association in Manchester, 1929.

## MIDDLEMORE PRIZE.

78. The Middlemore Prize which was established for the  
encouragement of research in ophthalmic medicine or surgery  
and includes a money award of the value of £50 and an  
Illuminated Certificate, will next be awarded at the Annual  
Meeting of the Association at Manchester in 1929. The fol-  
lowing subject has been selected for the Prize—"The Clinical  
Study of the Vitreous body, its swellings, contractions,  
opacities, and reactions to Toxic invasion; with special refer-  
ence to Glaucoma and Detached Retina." Essays must be  
submitted to reach the Medical Secretary of the Association  
not later than December 31st, 1928.

## B.M.A. LECTURES.

79. The system of B.M.A. Lectures to Divisions and  
Branches continues to be appreciated, and the Council has  
set apart £500 to meet the demand for these Lectures in 1928.

The following have given Lectures during the past  
year:—Dr. G. A. Allan, Dr. L. W. Batten, Prof. E. Bramwell,  
Dr. H. C. Cameron, Dr. R. G. Canti, Dr. S. Monckton Cop-  
man, Dr. E. P. Cumberbatch, Prof. W. E. Dixon (2), Mr.  
A. Fleming, Prof. John Fraser, Dr. Herbert French, Prof.  
G. Lovell Gulland, Mr. W. Sampson Handley, Sir Thomas  
Horder, Prof. D. Murray Lyon, Prof. A. Louise McIlroy (2),  
Prof. Hugh Maclean (2), Dr. H. Crichton Miller, Dr.  
John Parkinson, Dr. F. W. Price, Dr. Eric Pritchard,  
Sir Humphry Rolleston, Dr. R. J. Rowlette, Mr. H. S.  
Souttar, Dr. E. I. Spriggs, Mr. P. Jenner Verrall, Mr.  
H. Beckwith Whitehouse, Prof. D. P. D. Wilkie, Dr. S. A.  
Kinnier Wilson.

REMUNERATION OF NON-PROFESSORIAL MEDICAL TEACHERS,  
LABORATORY AND RESEARCH WORKERS.

80. The question of the remuneration of non-professional  
medical teachers, laboratory and research workers has been  
a subject of consideration at various intervals since 1919.  
A policy was adopted by the A.R.M. in 1920, and was extended  
and amended in 1922. A further discussion took place in 1926  
when the Representative Body, taking into consideration the  
new scale of minimum commencing salaries for whole-time  
public health medical officers, was of opinion that an attempt  
should be made to bring the remuneration of pathologists,  
research and laboratory workers into line with that scale. As  
a result, the following scale was adopted:—

(a) That whole-time (1) non-professional medical  
teachers, and (2) medically qualified laboratory or  
research workers should be grouped into three grades as  
defined below, and with the salaries as stated:—

Grade III.—Comprising those who are junior  
workers temporarily employed on probation; no person  
shall remain in Grade III for more than three years.

That the minimum salaries for Grade III shall be as  
follows:—

1st year ... ..	£300
2nd year ... ..	£350
3rd year ... ..	£500

Grade II.—Comprising laboratory or research  
workers or teachers who have had three years' experi-  
ence in Grade III or in work of a similar character,  
and who are permanently and exclusively employed as  
such.

That the minimum commencing salary for Grade II  
shall be £600 per annum.

Grade I.—Comprising those of Grade II whose  
qualifications or duties justify a position of seniority  
in status and a higher remuneration.

That the minimum salary for Grade I shall be £750  
per annum.

That after the probationary period (i.e., Grade III)  
has been completed, dismissal should be possible only  
on grounds of neglect of duty, improper conduct, or  
incapacity.

(b) That non-professional medical teachers and medi-  
cally qualified laboratory or research workers holding  
part-time appointments should receive remuneration for  
the time engaged, at the rate of not less than £600 per  
annum.



The operation of this scale has given rise to very considerable difficulty and it became clear to the Council that some modification was called for. In order to obtain the views of the medical schools on the subject, a conference of representatives of the schools with the Science Committee was convened by the Council in February last. Almost all the medical schools in Great Britain and Ireland were represented at the conference, in the majority of cases by their deans. The conference was strongly of opinion (i) that the universities were not in a position to pay salaries on the lines suggested in the above scale, and that the enforcing of the scale (assuming that the Association was in a position to enforce it) would mean the diminution of the number of posts, or the transfer of many of them to persons other than qualified medical practitioners; (ii) that the appointments were almost invariably not of a permanent character; (iii) that there were many considerations other than remuneration in the academic line of work which did not apply to appointments under public health authorities, and that a junior appointment in the academic field when it did not lead to a senior or professorial post was often a stepping stone to remunerative employment in other walks of life.

The Council has given careful consideration to these views and recommends:—

**Recommendation:** That the scale of salaries relative to non-professional medical teachers, laboratory and research workers, should not apply to academic appointments in universities and medical schools where these appointments are of a temporary character and where the duties attached to the posts are in direct connection with the advancement of the practitioner's knowledge and experience in the particular branch of work which he proposes to cultivate.

#### TREATMENT BY RADIATION AND ELECTRICITY.

81. The attention of the Council has been drawn to the risks to the public involved in the use of ultra-violet light apparatus by untrained persons and the matter was considered by the Science Committee after report from a special Sub-Committee.

The Council endorses the following findings of the Science Committee:—

(a) Treatment by electro-therapeutic and radiation methods has much increased in recent years and it is probable that some members of the profession have not kept themselves abreast of the more modern procedure and forms of apparatus. Hence treatment of this kind is sometimes prescribed in general terms rather than with specific directions.

(b) On the other hand these methods of treatment are being cultivated largely by persons who have had no medical education and no adequate practical training, and there is thus risk to the public.

(c) The law puts no restriction on the use by any person of such powerful agencies as electricity, radium, X-rays, diathermy and ultra-violet light.

(d) With all of these there is the risk of serious mischief and here in particular must be noted that the recent development of ultra-violet light apparatus and its sale for amateur and domestic use is not without its dangers. While allowing that these dangers have been overstated in some quarters, they undoubtedly exist, and it is admitted that the apparatus in individual cases has made active a quiescent phthisis pulmonalis and has caused serious damage to the eyesight. Other risks apart, here is good reason why this form of treatment should be confined to properly trained persons.

(e) Similarly diathermy from faulty application may produce burns which are very slow to heal, and applied in the region of the brain may cause giddiness and inco-ordination.

(f) Electricity therefore in its various forms and the several methods of radiation are, in unskilful hands, agencies which may adversely affect existing diseased conditions, may make active quiescent disease and may inflict positive damage on various organs; even cases of death have been traced to these methods.

(g) Immediate steps should be taken to confine the use of these therapeutic activities to persons who have been adequately trained under medical direction.

(h) Opportunities for technical instruction already exist at least in part, but it is necessary to establish a public

opinion, both professional and lay, against the use of powerful remedial agencies by ignorant and untrained persons.

(i) The medical schools are not unaware of the therapeutic values here considered and are arranging corresponding courses of instruction for medical students.

The Council recommends:—

**Recommendation:** That the Representative Body express the following opinion, namely, that in view of the risks to the public involved in the use of electricity and radiation as methods of treatment by untrained and unqualified persons it is to be desired (1) that suitable courses of training should be organised under medical direction for persons who wish to administer this form of treatment; (2) that persons who have satisfactorily followed such a course should be entitled to have their names entered on an approved Roll; (3) that one of the conditions attached to admission to, and maintenance on, the approved Roll should be abstention from the treatment of any patient except on the responsibility and under the general supervision of a registered medical practitioner; and (4) that patients who require electrical or radiation treatment should be referred only to those persons whose names are on the approved Roll.

#### THE LIBRARY.

82. Increasing use continues to be made by members of the facilities provided by the Association's Library. The number of books borrowed during the years 1923-27 has been respectively as follows:—

1923	...	4,800
1924	...	7,200
1925	...	7,300 (Library closed for several weeks.)
1926	...	9,810
1927	...	11,617

In order to meet these increasing demands, the Council has made further provision for the expansion of the lending library facilities.

The Council desires again to acknowledge the valued services of the Honorary Librarian, Mr. W. G. Spencer.

#### INQUIRIES INTO THE AFTER-HISTORY OF GASTRO-ENTEROSTOMY AND TREATMENT OF VARICOSE ULCERATION.

83. The A.R.M., 1927, approved of collective investigations being conducted by the Council into the After-History of Gastro-Enterostomy and the Treatment of Varicose Ulceration. The interest taken by the Ministry of Health in the suggested method of research is indicated in the following letter which was addressed to the President of the Association:—

"Ministry of Health,  
Whitehall, S.W. 1.  
November 7th, 1927.

Dear Sir Robert Philip,

I learn with much interest that the British Medical Association, after consultation with officers of my Department, is about to institute a collective investigation into certain highly important problems of disease. The intention, as I understand it, is to secure the co-operation of a large number of medical practitioners up and down the country in a scheme of team-work on an extensive scale, and so bring together the results of many varying kinds of experience. I need hardly say that this endeavour, which promises to throw light on some problems of disease that press urgently for solution, has my warmest sympathy, and I hope it will be brought to a successful issue.

Yours sincerely,

(Sgd.) N. Chamberlain."

Many surgeons have cordially welcomed the Gastro-Enterostomy inquiry and have expressed willingness to take part in the investigations. As regards the inquiry into the treatment of Varicose Ulceration, the names of a considerable number of members have been received from Divisions throughout the country. The Council attaches great importance to this inquiry and it hopes that those Divisions which have not yet indicated their willingness to participate in the scheme of investigation, will do so at an early date.

Dr. A. P. Luff has kindly consented to undertake the work of co-ordinating the replies to these enquiries.

## Medical Ethics.

### INSTRUCTION OF NEWLY QUALIFIED PRACTITIONERS IN MEDICAL ETHICS.

84. The Council has considered the following Minute 46 of the A.R.M., 1927:—

Resolved: That the Council be instructed to consider any further steps which may be thought necessary for the instruction of senior students or newly qualified practitioners in medical ethics.

As the question at issue is clearly one which concerns the General Medical Council, the Council has asked the direct representatives of the profession on the G.M.C. to raise the question in that body. In point of fact, some years ago a report was presented to the G.M.C. by its Education Committee as to the instruction which was being given to medical students on the duties which devolve upon practitioners in their relationship to the State and on the generally recognised rules of medical ethics. The report showed that while satisfactory action appeared to be taken by a considerable number of the medical schools, the situation as regards other schools was either doubtful or unsatisfactory.

The Council has suggested that a further enquiry on this subject should be addressed by the G.M.C. to the medical schools and that the lectures on medical ethics should be given by practitioners who have had experience of private practice.

### THE ETHICAL WORK OF THE ASSOCIATION.

85. A great amount of the work of the Central Ethical Committee and of the Standing Sub-Committee concerns matters which cannot very well be made the subject of report. Advice is frequently sought on matters of ethics and disputes between members of the profession. The Central Ethical Committee, acting for the Council, has adjudicated in several disputes between members where a satisfactory settlement has not been possible without bringing the parties together at a hearing. It is evident from increasing correspondence that the advice on ethical matters which the Association is able to give through its central office and by the Ethical Committees, both local and central, is much appreciated by members.

### ETHICAL RULES.

86. In pursuance of the standing instruction of the Representative Body the Council reports that the following bodies in Great Britain have not yet adopted the Ethical Rules:—*Divisions*: Argyllshire, Chester, Dumbartonshire, Durham, Edinburgh and Leith, Halifax, Salford. *Branch*: Edinburgh.

## Medico-Political.

### CONSULTATIONS UNDER PUERPERAL PYREXIA REGULATIONS.

87. Arising out of paragraphs 113 and 149 of the Annual Report of Council, 1926-27, the A.R.M. 1927 passed the following resolution:—

Minute 148.—Resolved: That it is desirable, owing to the fact that puerperal pyrexia may be due to causes other than obstetric, that a panel of consultants which may be instituted under the Regulations should include competent physicians, surgeons, and pathologists, in addition to consulting obstetricians; further, that some standard of competence should be adopted, such as membership of the staff of a local general or obstetric hospital, or the possession of special qualifications or experience by private practitioners.

This resolution was brought to the notice of the Ministry of Health which stated that some local authorities had already made arrangements for the establishment of a panel of consultants, and the Minister would have regard to the view expressed by the Representative Body in the event of further proposals for the constitution of such panels being submitted for his approval. The Council regards the position as satisfactory.

### MEDICAL OFFICERS OF PUBLIC SCHOOLS.

88. Minutes 106 to 140 of the A.R.M. 1927, dealing with the remuneration and conditions of service of medical officers of public schools, have been discussed with representatives of the Incorporated Association of Headmasters and the Association of Headmistresses, but as a result of a communication from the Medical Officers of Schools Association (on whose representations this matter was first taken up by the Association), further action in this matter is delayed.

### REPORTS BY MEDICAL PRACTITIONERS AT REQUEST OF CORONERS.

89. The A.R.M. 1927, in the following resolution, restated what was already the policy of the Association:—

Minute 153.—Resolved: That there should be a fee where a report has been requested by a coroner from a practitioner who has not performed a post-mortem examination and who is not called to give evidence.

In connection with the Coroners (Amendment) Act, 1926, when the Association attempted to obtain legislation to provide for such a fee, a deputation from the Association was informed by a representative of the Home Office that it was legal for local authorities to pass resolutions authorising the payment of a fee to medical practitioners who, at the request of coroners, provide reports but are not subsequently asked to perform the post-mortem examination or to give evidence at the inquest. The Council has urged the Divisions and Branches to endeavour to obtain the support of their local coroners to this proposal, and then to urge County and County Borough Councils to adopt the necessary resolutions.

### DEATH CERTIFICATION.

90. Representations were made to the Registrar-General pointing out that the delay necessitated by medical practitioners forwarding, in accordance with the Act, certificates of the cause of death by post to Registrars, some of whom only attend their offices on certain days, causes considerable inconvenience to the relatives.

The reply of the Registrar-General is contained in the B.M.J. Supplement of 21st January, 1928 (p. 22), and is, briefly, to the effect that in certain cases a practitioner may hand the certificate to a messenger for personal delivery to the Registrar, although in so doing the practitioner does not divest himself of responsibility for the loss of the certificate.

### ALLEGED ENCRoACHMENTS ON THE DOMAIN OF PRIVATE PRACTICE.

91. The Council, arising out of Minutes 101, 163, 166 and 220 of the Annual Representative Meeting, 1927, has set up a special Committee to consider the question of the alleged encroachments on the domain of private practice resulting from medical services rendered by the State, local health and education authorities, voluntary bodies and hospital contributory schemes.

With a view to obtaining exact information on the subject the Council, with the co-operation of the Society of Medical Officers of Health, has issued a questionnaire to all whole-time Medical Officers of Health in England, Scotland, Wales and Northern Ireland, enquiring as to the number of whole-time and part-time medical officers employed in those services and how far hospital services are made use of. The Medical Secretary is also making detailed personal investigations into the health services in certain areas which have been specially selected on account of the different methods of administration prevailing. A considerable amount of attention has been devoted to the question of the inroads into private practice occasioned by contributory schemes for hospital benefit. The Council does not propose to report on this very important subject until its enquiries are completed and an adequate report can be presented to the Representative Body.

### INTERNATIONAL MEDICAL SEA CODE.

92. The Council, being of opinion that there exists a *prima facie* case for the establishment of an International Medical Sea Code, has had before it reports on this matter. A considerable amount of work has already been done by other countries and organisations in the direction of improving the facilities for inter-communication between ships at sea and between ships and land stations, for medical purposes, inasmuch as the League of Red Cross Societies has the matter in hand and the Belgian Government has carried out a series of experiments to test the Medical Intelligence Service organized for seamen in Denmark, Norway and Sweden. The expressed opinion of many of those who have made comparative tests on the merits of transmission of messages by code or in the ordinary manner is that the latter is the more advantageous.

The object of the Council is, if possible, to help to bring about a state of affairs which will facilitate matters from the surgeon's point of view when he is asked by the master of a ship other than his own for advice as to the treatment of a patient, and the Council is of opinion that any system which is to be of international value must be based on a code. It has, therefore, been decided to make an effort to draw up a simple questionnaire on the signs and symptoms of disease for the use of Master Mariners when seeking medical advice by wireless from a surgeon on another ship or on shore, and it is proposed at a later date to approach the Board of Trade with a view to the questionnaire being translated into code for incorporation in the International Code of Signals.

## ASSISTANT MEDICAL OFFICERS TO MENTAL HOSPITALS.

93. The policy of the Association as regards the salaries and emoluments of Assistant Medical Officers to Mental Hospitals was adopted in 1915 and therefore has no relation to the present cost of living. In co-operation with the Assistant Asylum Medical Officers Association the Council has considered the present position and proposes that the 1915 policy should be superseded. The Council recommends:—

**Recommendation A:** That the following Minute 108 of the A.R.M. 1915, be rescinded:—

Minute 108.—Resolved: That the following recommendations contained in the Report of the Conditions of Employment and Remuneration of Assistant Asylum Medical Officers be approved.

(a) That the minimum commencing salary of Assistant Asylum Medical Officers be £220, rising after one year of probation to £250, and then by £25 per annum to £300 per annum irrespective of promotion, and that the salaries of officers who are not promoted should then rise automatically by £10 per annum for ten years.

(b) That in addition to the operation of the above scale, an officer on being promoted to second assistant should receive an additional £50 per annum, and on being promoted to senior assistant an additional £50 per annum.

(c) That Assistant Asylum Medical Officers who have received promotion should also participate in the automatic increase of £10 per annum for ten years, which commences after five years' service.

(d) That emoluments should be valued at least at £100 per annum, and made commutable for full value at the end of five years.

(e) That every asylum should contain a separate house suitable for a married assistant officer, and that where an asylum contains four or more assistants, two such houses for assistant officers should be provided.

**Recommendation B:** That the minimum commencing salary of an Assistant Medical Officer to a Mental Hospital be £350 per annum rising by annual increments of £25 to £450 per annum with emoluments valued at £150 per annum which should include board, lodging, laundry and attendance.

**Recommendation C:** That these Assistant Medical Officers to Mental Hospitals who possess a Diploma in Psychological Medicine should receive an additional £50 per annum.

**Recommendation D:** That temporary medical officers should not be employed on the staffs of mental hospitals for more than three months, except as relief during holiday periods or when a member of the permanent medical staff is incapacitated through illness or has been seconded for any purpose.

**Recommendation E:** That every asylum should contain a separate house suitable for a married assistant officer and that where a mental hospital contains four or more assistants two such houses for assistant officers should be provided.

The Council has asked the County Council's Association and the Association of Municipal Corporations and other appropriate bodies for their comments on the foregoing recommendations in order that the Council may be in a position to advise the Representative Body as to the attitude of these bodies towards the proposals made. Copies have also been sent to the English and Scottish Boards of Control for their information. Any replies received in time will be dealt with in the Supplementary Report of Council.

Subsequent to adoption by the Representative Body of these recommendations, after consideration of any representations received from the bodies referred to, the Council proposes to circulate the decisions of the Representative Body on this matter to all County and County Borough Councils and other appropriate bodies in England, Scotland, Wales and Northern Ireland, accompanied by an explanatory memorandum which will include the following opinions of the Council:—

(i) That all Assistant Medical Officers to Mental Hospitals should be able to look forward to a salary which with emoluments would amount to at least £300 per annum after some five years' service;

(ii) that Assistant Medical Officers to Mental Hospitals should be encouraged to take a Diploma in Psychological Medicine;

(iii) that (having in mind the view expressed by the Royal Commission on Lunacy that in a large number of institutions the medical staff should be enlarged) a whole-time medical officer of a mental hospital should not take charge of more than (a) 50 acute cases together with 50 convalescent patients, or (b) 400 chronic cases, as understaffing of hospitals means that the patients therein receive insufficient treatment and this entails a corresponding low recovery rate;

(iv) that practitioners who are netting as clinical assistants in mental hospitals should not be required to undertake the duties of junior assistant medical officers;

(v) that practitioners engaged in the trying work of continuous attendance on mental patients in mental hospitals should have at least four weeks' leave each year and that they should not be obliged to take more than two weeks of this consecutively.

**Recommendation F:** That the foregoing four recommendations be circulated to all County and County Borough Councils and other appropriate bodies in England, Scotland, Wales and Northern Ireland, along with the recommendations regarding remuneration.

## TREATMENT OF PERSONNEL OF ORDNANCE SURVEY DEPARTMENT.

94. The Representative Body in 1927 passed the following resolution:—

Minute 174.—Resolved: That the Council be instructed to approach the authorities concerned with a view to obtaining an increase in the fees paid to doctors for casual cases among the Post Office Telegraphic Survey Department.

It was subsequently ascertained that the persons referred to in that resolution were employed by the Ordnance Survey Department and not by the Post Office. Had this fact been known at the Representative Meeting the Chairman of the Medico-Political Committee would have been able to give a reply which might have satisfied the proposer of the resolution and have resulted in the withdrawal of it. The position is that the fees paid to medical practitioners for treatment of the personnel of the Ordnance Survey Department were under consideration during last session. The Council then decided to take no action to obtain an increase in these fees as they compare favourably with those paid by several other Government Departments for similar services, and as these are generally accepted by the profession it would be inconsistent to take special action with regard to this comparatively small section.

## PAYING CENTRES FOR INFANT HYGIENE.

95. In 1917 the Council, with reference to a proposal by the Mothers' Union to establish infant consultation centres for better class families, stated that while fully appreciating the value of the work proposed to be done at such centres in giving lectures on infant management, it did not approve of these centres providing consultations and advice in respect of mothers and young children belonging to classes of the community which were quite able to consult their own family doctor.

Recently, further representations on this subject were made by the Association of Infant Welfare and Maternity Centres and the Babies' Club at Chelsea. A deputation from these bodies stated that there was a strong feeling that the mothers of the middle class public should be able to get that guidance and instruction which is provided by the municipal maternity and child welfare clinics for poorer mothers, and which is so useful in enabling them to keep their babies well. The promoters of these new schemes realise that the municipal centres are open to all classes but they are netting for mothers of the middle classes who are not only anxious to have this instruction but are willing to pay for it. The deputation stated that many private practitioners were unable or unwilling to give the kind of instruction required, and that there were considerable advantages to be gained by having the instruction given at a centre by a doctor who had given special attention to this branch of medical work, assisted by a fully trained nurse. The promoters of the centres stated emphatically that it was not proposed, in any circumstances, to give medical treatment at these centres.

The Council has come to the conclusion that, although in its opinion the ideal is that mothers should be able to look with confidence to their family doctor for the guidance required, there is some truth in the assertion that many doctors do not cater for the service required. One object which the Council hopes might be gained by the establishment of such clinics is the stimulation of the private practitioner to provide the services required himself, just as the setting

up of the maternity and child welfare clinics has undoubtedly aroused a much greater interest in pre-natal and child welfare work.

The Council recommends:—

**Recommendation A:** (i) That the education of all mothers in preventive medicine, as applied to the care of the infant and the conditions of the home, is desirable; (ii) that it is considered that there already exist means by which both of these objects may be partially attained; (iii) that any further establishment of special paying centres should be for the purpose of education and health propaganda and not for the purpose of treatment; and (iv) that should mothers prefer to avail themselves of paying centres it is desirable that attendance at such centres should be with the knowledge of the family medical attendant.

**Recommendation B:** That with reference to paragraph (ii) of the foregoing recommendation, in view of the recognised importance of preventive medicine at the present time, it is felt that the private practitioner with his knowledge of the family and home conditions is the best person to give such advice and should be strongly urged to undertake this important duty.

**Recommendation C:** That any body of persons considering the formation of a Paying Centre for Infant Hygiene should communicate with the local profession, preferably through the local Division of the British Medical Association, with a view to obtaining their co-operation.

**Recommendation D:** That the local medical profession should be represented on the Committee of Management of all Paying Centres for Infant Hygiene.

**Recommendation E:** That it is for the Committee of a Paying Centre for Infant Hygiene, on the recommendation of the local medical profession, to decide whether the medical staff of a Paying Centre shall be selected from among specialists or general practitioners, whether from those practising in the area in which the Paying Centre is located or from those who are practising outside that area.

**Recommendation F:** That the remuneration of the medical staff of Paying Centres for Infant Hygiene must be a matter of arrangement between the Committee of Management of the Centre and the local medical profession, preferably through the local Division of the British Medical Association.

**Recommendation G:** That the following be suggested as Model Rules for Paying Centres for Infant Hygiene:—

(i) That the object of the Paying Centre for Infant Hygiene is to give education and advice to subscribers on the general welfare of children up to 5 years of age;

(ii) that it is desirable that any mother wishing to attend a Paying Centre for Infant Hygiene should inform her family medical attendant of her intention and obtain his co-operation;

(iii) that should any case of illness be discovered at a Paying Centre for Infant Hygiene, the subscriber shall be referred to the family medical attendant;

(iv) that the medical officer of a Paying Centre for Infant Hygiene shall not be at liberty to attend the children of subscribers in case of illness, except in consultation with the private medical attendant of the family;

(v) that in no case shall medical advice be given by correspondence, or on the telephone, either by the medical officer or the nurse-superintendent; and

(vi) that subscribers must not bring to the Centre children who have been in contact with infectious disease or children who are actually ill.

#### PROTECTION OF UNBORN CHILDREN.

96. The Council reports that the Public Health Section of the Annual Meeting, 1926, passed the following resolution:—

Resolved: That the Council be requested to approach the Government with a view to securing legislation to protect the unborn child against intentional violence until all parts of it are completely born, i.e., during its passage from the mother's body.

In the discussion in the Section, it was stated (i) that there was no statutory definition of live birth in English law, only a formula accepted by what is known as "common law," and (ii) that the rulings laid down by Judges, and now generally accepted, were to the effect that in order to be born

alive a child must show some signs of independent existence after every portion of its body was free from the mother's parts, and that therefore the killing of a child during the process of birth, and before it was fully born, was not an offence under the present law, as, in order that murder could be perpetrated, the victim must have had a separate existence.

In view of the fact that the Births and Deaths Registration Act, 1926, which came into operation on 1st July, 1927, perpetuates this legal position the Council is of opinion that no useful purpose would be served by an attempt, at any rate at the present time, to take action on the lines suggested in the above-quoted resolution of the Public Health Section, 1926, and which would require fresh legislation.

#### WORKMEN'S COMPENSATION.

97. The Council has considered the following motion by Chesterfield which the Annual Representative Meeting 1927 (Minute 150) referred to it:—

That the Association is strongly opposed to the practice of some inspectors, not being medical men, acting on behalf of Employers' Liability Insurance Companies, of requesting or suggesting the removal of properly applied dressings, when visiting injured workpeople, in order that they may see the injury, and instructs the Council to enter a vigorous protest with representatives of the Compensation Insurance Companies.

The Division, in submitting this motion to the Representative Body, had in mind the fact that one of its members had found that the dressings he had applied to a patient had been tampered with by a lay inspector of a Compensation Society. Enquiries were made of the society and it was ascertained that it was the practice of their inspectors to ask to see the injuries in order to satisfy themselves that there was a cause for incapacity, but that the inspectors did not interfere with dressings applied by doctors or nurses or insist on seeing the injury if the workman objected.

As there is no body of evidence that Compensation Insurance Companies' Agents remove dressings which have been applied by doctors, only one such instance having been reported, the Council is of opinion that there is no case for action on the lines suggested in Minute 150 of the A.R.M. 1927.

#### REGISTRATION OF NURSING HOMES.

98. Under the Nursing Homes Registration Act, 1927, which will come into operation on 1st July, 1928 (and which does not apply to Scotland or Ireland), the main points which affect the medical profession are (i) that nursing and maternity homes are required to be registered, the only exceptions being (a) any hospital or institution not carried on for profit; and (b) any nursing home carried on in accordance with the practice and principles of the body known as the Church of Christ Scientist—a condition for the exemption of the latter being that such home shall adopt and use the name of Christinn Science House; (ii) that the local supervising authorities shall be (a) for the County of London, the London County Council; and for the City of London, the Common Council, the London County Council being empowered to delegate any of its powers under the Act to metropolitan boroughs; and (b) for the remainder of the country, the County and County Borough Councils, the former being empowered to delegate any of their powers or duties under the act to District Councils; (iii) that the certificate of registration shall be kept affixed in a conspicuous place in the nursing home; (iv) that the local supervising authority may make By-laws:—

(a) prescribing the records to be kept of the patients received into a nursing home, and in the case of a maternity home, of any miscarriages occurring in the home, and of the children born therein and of the children so born who are removed from the home otherwise than to the custody or care of any parent, guardian, or relative;

(b) requiring notification to be given of any death occurring in a nursing home;

(v) that the M.O.H., a qualified nurse or other officer authorised by the authority may at all reasonable times enter and inspect any premises used, or believed to be used, as a nursing home and to inspect records, other than medical, required to be kept; and (vi) that the Act contains the following definitions:—

"Nursing Home" means any premises used or intended to be used for the reception of and the providing of nursing for persons suffering from any sickness, injury or infirmity, and includes a maternity home, but does not include—

(a) any hospital or other premises maintained or controlled by a Government department or local

authority or by any other body of persons constituted by special Act of Parliament or incorporated by Royal Charter;

(b) any institution for lunatics within the meaning of the Lunacy Act, 1890;

(c) any certified institution, certified house or approved home within the meaning of the Mental Deficiency Act, 1913.

"Maternity Home" means any premises used or intended to be used for the reception of pregnant women or of women immediately after childbirth.

"Qualified nurse" means a person registered in the general part of the register of nurses required to be kept under the Nurses Registration Act, 1919, or a person who had before the commencement of this Act completed a three years' course of training in a hospital which was during the period of her training, or subsequently became, a training school approved by the General Nursing Council for England and Wales, or the General Nursing Council for Scotland, or the General Nursing Council for Northern Ireland, for the purpose of admission to the general part of the said register.

The Council has considered the draft model by-laws which the Ministry of Health proposes to issue to local supervising authorities under the Act and has suggested certain amendments.

#### POSITION OF DOCTORS' HOUSES UNDER NURSING HOMES REGISTRATION ACT, 1927.

99. As questions will undoubtedly arise in the near future as to the position of doctors who take one or two patients into their private houses, the Council has made enquiries as to what their position will be under the Act. It is difficult to dogmatise but it appears that, generally speaking, the position will be governed by what the doctor undertakes to do for such persons as he receives into his house.

If he habitually takes in patients and provides nursing it seems likely that he will have to register, but the question is one which must be settled by the local authority, and any doctor who is in any doubt as to his position would be well advised to discuss the matter with the local Medical Officer of Health. It must not be forgotten that the Act lays down in its definition of a nursing home "any premises used or intended to be used for the reception of, and the providing of nursing for, persons suffering from any sickness, injury, or infirmity," and from this it would appear that the habitual provision of nursing is the guiding factor.

#### ANTE-NATAL RECORD FORM FOR USE BY MIDWIVES.

100. Under the 1927 Rules of the Central Midwives Board it is laid down that "a midwife must keep notes of her antenatal visits in the form approved by the Central Midwives Board." This form involves the use of the stethoscope and pelvimeter both of which instruments the Council considers midwives are not competent to use. The Council has pointed out its objection to the Ministry of Health and the Central Midwives Board.

#### EXAMINATION OF EMIGRANTS TO CANADA.

101. In 1922 the Oversea Settlement Office (now the Oversea Settlement Department of the Dominions Office) prepared a roster of medical practitioners for the medical examination of candidates for emigration to the Overseas Dominions, the fees to be paid by the candidates for such examinations having been agreed between the Association and the Migration Departments of the various Overseas Governments.

The Canadian Government has now appointed 25 Canadian doctors to examine all emigrants to Canada before they leave this country. These practitioners will be occupied on this work whole-time, will be civil servants and will be debarred from entering into private practice. The reason for these appointments is stated by the Canadian Government to be (i) that, whilst the examination of the would-be emigrants by the doctors on the roster had diminished the number of emigrants rejected on reaching their destination, such cases still occur; and (ii) that there are cases in which there is genuine difference of professional opinion, particularly in regard to what constitutes mental defectiveness, and there is a tendency sometimes to give the emigrant the benefit of the doubt, which exposes him to the risk of rejection on arrival.

For these reasons the Canadian Government has taken such steps as will in its opinion reduce the risk of rejection to a minimum and place the responsibility on the shoulders of doctors in the direct employment of the Canadian Government.

The Council is of opinion that the Association cannot raise any objection to the new arrangement.

#### EXAMINATION OF EMIGRANTS TO AUSTRALIA.

102. It has been ascertained that the Government of Australia has followed, so far as London is concerned, the example set by the Canadian Government and has appointed, for a trial period of 12 months, 3 whole-time Australian medical practitioners to work in and around London in examining emigrants for Australia. This means that London practitioners whose names are on the roster drawn up by the Dominion Governments for the examination of emigrants are losing the work. Meantime, practitioners on the roster are being asked to give a good deal more detailed information in their reports than they were asked for when the Association agreed to the fees for the examination, and the matter is being taken up with the Chief Medical Officer at Australian House.

#### TRADE DISPUTES AND TRADE UNIONS ACT, 1927.

103. The Ministry of Health has informed the Association that in the view of the Treasury there is nothing in the Civil Service (Approved Associations) Regulations, 1927—made by the Treasury in pursuance of the Trade Disputes and Trade Unions Act, 1927—to prevent an established civil servant belonging to the Association.

#### CONTRACT RATE FOR JUVENILE ODDFELLOWS.

104. The Manchester Unity of the Independent Order of Oddfellows suggested that the Association should consider the adoption of a standard fee for medical attendance on and the provision of medicine for juvenile members of the Society throughout the whole country, and the question has been discussed between representatives of the two bodies.

The policy of the Association as regards medical attendance on uninsured persons is as follows and was adopted by the Annual Representative Meeting, 1920:—

Minute 105.—That the Representative Body adopt the following principles as essential to the formation of any schemes for the provision of medical attendance and treatment of uninsured persons:—

(1) That, in general, in considering the necessity for obtaining the approval of the Council for schemes for the treatment of uninsured persons upon contract terms, the following principles and conditions must be adhered to:—

(a) Free choice of doctor by patient and of patient by doctor;

(b) Remuneration to be not less than that which is deemed by the Council to be equivalent to that paid in respect of insured persons;

(c) Persons with a total income from all sources of £250 per annum or upwards, or the dependants of any such person, not to be treated under contract terms at all.

(2) That the Representative Body realises that the conditions in certain areas will not allow of the above terms being obtained, and that in these circumstances the approval of the Council may be given provisionally to a scheme involving a less payment when the local profession can show that the economic conditions in the area demand it.

(3) That one of the conditions necessary for the approval of schemes containing lower rates of payment shall be the inclusion amongst the rules, in a prominent position, of a statement that approval by the Association has been given to the rates only because of special economic conditions.

As will be seen this policy makes no differentiation between juveniles and adults, but as a matter of actual practice it has been found that the fees obtained in respect of juveniles are almost universally lower than those obtained in respect of adults. The proposal which was eventually made at the conference referred to above was that a standard rate of 8s. 8d. per head per annum including the provision of drugs should be adopted as the remuneration of medical practitioners for medical attendance on and the supply of medicine for juvenile members of the Society. The age limits of the juveniles concerned vary, but in many branches of the Society the age is from birth to 16 years. The Directors of the Order are prepared (subject to confirmation at the Annual Conference of the Order to be held 28th May—2nd June, 1928) to advocate general acceptance by juvenile branches of the society of this rate, with a lower rate for exceptional areas, and is in favour of the principle of free choice of doctor.

The Council, whilst recognising that the offer of 8s. 8d. is considerably lower than the National Health



Insurance capitation rate, is of opinion that there are comparatively few areas in which contract attendance with medicine on juveniles is paid for at a higher rate. Moreover, the position of the juvenile differs very materially from that of the insured person inasmuch as the latter is subsidised as regards his medical attendance both by his employer and by the State, whereas the whole cost of medical attendance on the juvenile falls on the parent who is often in poor or comparatively poor circumstances. Again, the service provided for juveniles under the proposed new arrangement would differ materially from that given to insured persons—it would be subject to no regulations and the bugbear of certification would be almost eliminated. For these reasons amongst others the Council favours the adoption of the proposal of the Society, and recommends:—

**Recommendation:** That the Representative Body approve a standard rate of 8s. 8d. per head per year including drugs for the remuneration of medical practitioners for medical attendance and medicine for juvenile members of the Manchester Unity of the Independent Order of Oddfellows; that the Council be authorised to approve a slightly lower rate than 8s. 8d. per head per year, for a time to be definitely stated, for application in any area in which it is satisfied that owing to economic conditions the standard rate of payment is not feasible; and that it be an essential part of this arrangement that there must be free choice of doctor by patient and of patient by doctor.

#### CONTRIBUTORY SCHEMES FOR HOSPITAL BENEFIT IN RELATION TO EDUCATION AUTHORITIES.

105. It has been ascertained that some education authorities which have hitherto paid fees for medical attendance on school children are taking advantage of the existence of contributory schemes for hospital benefit by advising parents of children who need medical attention and who are contributors to one of these schemes to send their children to the hospital either direct, or after consultation with the family medical practitioner, thereby obviating the necessity of fees being paid for them either by the education authority or by the parent. In the opinion of the Council it was never contemplated that contributory schemes for hospital benefit should cover the provision of treatment for children found defective on school medical inspection, these services being already provided for by the education authorities in most areas. In any existing contributory schemes for hospital benefit where treatment for children referred by school medical inspectors is not excluded, the Council advises the Division to endeavour to get the scheme amended in this respect, and in those areas where contributory schemes for hospital benefit are contemplated, the Council advises the corresponding Division to urge that the scheme shall not include these children.

Further:—

(i) that medical practitioners should be warned that in their own interests they must take the necessary steps when hospital contributory schemes are being set up to see that the three fundamental principles enumerated in the Hospital Policy of the Association are enforced, namely:—

(a) that membership of a contributory scheme should be governed by an income limit;

(b) that except in emergency a contributor to a scheme should only be admitted to hospital on the recommendation of the attending practitioner;

(c) that financial recognition should be made of the services of the medical staff of the hospital attending members of a contributory scheme;

and that, with reference to the last paragraph, the Council wishes to make it clear that in regard to operations on school children (where such fail to be excluded from the scheme) the words "financial recognition" should be understood to mean either a percentage of all contributions made by the contributory scheme, or the fees which have been laid down by the Association for medical practitioners employed part-time in school medical work, which should be secured from the hospital authorities; and

(ii) that the medical staffs of the hospital should refuse to perform operations, without a fee, on any children for whom the education authority makes itself responsible.

#### BLIND PERSONS ACT.

106. Consideration has been given by the Council to the question of fees for the various certificates called for under the above Act. It appears that in connection with arrangements for the welfare of the blind in England and Wales medical certificates of blindness may be required for the following purposes:—

(a) to support a claim for a pension under the Blind Persons Act, 1920;

(b) to support an application in respect of a blind person by a local authority or voluntary agency for grant out of public funds under the Regulations made under the Act, for grant for the welfare of the blind, or under the Education Act;

(c) to obtain evidence of blindness before the registration of a blind person; and

(d) to support an application for assistance to a voluntary agency by a blind person in respect of whom no grant out of public funds is available.

If the Minister of Health in considering an appeal arising in class (a), either by the applicant or the Pensions Officer, deems the evidence of blindness submitted to be sufficient to establish a claim, a claim is allowed. If not, the case is referred by the Minister to the local Regional Medical Officer for examination. If the case appears to be one of special difficulty it may be referred, with or without previous reference to the Regional Medical Officer, to an ophthalmic surgeon for examination and report, and a fee of £3. 3s. 0d. is paid by the Exchequer for this service.

So far as cases coming under above category (d) are concerned the Council does not see fit to make any suggestions as to the charging of a fee.

So far as fees for the other cases are concerned the Council recommends:—

**Recommendation:** That except in cases of special difficulty which are referred by the Ministry to an ophthalmic surgeon and for which a fee of three guineas is paid, the Council is of opinion that the fee for medical certificates of blindness for any of the following purposes should be one guinea:—

(a) to support a claim for a pension under the Blind Persons Act, 1920; or

(b) to support an application in respect of a blind person by a local authority or voluntary agency for grant out of public funds under the regulations, for grant for the welfare of the blind, or under the Education Committee; or

(c) to obtain evidence of blindness before the registration of a blind person.

#### MEDICAL DEFENCE: X-RAY EXAMINATIONS.

107. Arising out of correspondence with the York Division, the Council has considered whether or not it is possible to define a group of injuries to bones or joints, the diagnosis and treatment of which can be said in advance not to require examination by X-rays.

The Council recommends that the R.B. should make the following pronouncement:—

**Recommendation:** That it is not possible to define a group of injuries to bones or joints the diagnosis and treatment of which can be said in advance not to require examination by X-rays, and that whether such an examination is or is not necessary in an individual case can be judged only by the practitioner concerned.

#### CLINIC FOR STATE TREATMENT OF RHEUMATISM IN LONDON.

108. The British Committee on Rheumatism of the International Society of Medical Hydrology, in conjunction with the British Red Cross Society, decided to build and equip in London a clinic for the physical treatment of rheumatic diseases, for which object a public appeal was issued in March, 1927, for the necessary funds and supported, amongst others, by Lord Dawson of Penn, Sir Thomas Horder, and Sir Humphry Rolleston. Although the Association was invited to support the appeal, time did not permit of the matter being submitted to the Council at its April meeting, with the result that the Association took no part in the appeal.

It would appear that the proposed clinic is the outcome of a visit to Germany, on the invitation of the German Minister of Health, of representatives of approved societies, industrial managers, and physicians, to inspect the various industrial clinics for the treatment of rheumatism in that country at which both in- and out-patients are treated. Some of these clinics are run by private companies, some by the State, and a large number by State insurance sick funds which, in Germany, are administered on a territorial basis. It has been ascertained that no patients will be treated at the proposed London clinic except on the recommendation of a duly qualified medical practitioner, and that both insured and non-insured persons, able and willing to pay a reasonable fee for treatment will be dealt with while at the same time continuing in their normal occupation. Eventually it is

hoped to make the clinic self-supporting. Certain information has been obtained unofficially as to the principles upon which the clinic will be run, and these seem satisfactory. In these circumstances the Council has thought it well, as a first step, to approach the Committee of the clinic with a request that the Association be represented on the Governing Body of the clinic.

#### CENTRAL EMERGENCY FUND.

109. This Fund was created in 1905 with the object of assisting members of the Association to maintain the interests of the profession against organised bodies, by grants which cannot be made out of the funds of the Association. The Fund is administered by the members of the Medico-Political Committee who act as trustees, and is entirely supported by voluntary contributions.

Grants are usually given if a doctor has suffered financial loss as a result of supporting the policy of the Association. Though recently no demands have been made on the Fund past experience shows that the Fund is a most useful weapon to have in reserve. The Council therefore recommends it to the support of members.

#### Causation of Puerperal Morbidity and Mortality.

110. The special Committee set up by the Council to report on the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken in connection with the matter has continued its investigations, and the Council herewith presents (see Appendix IV) its report on this matter.

The B.M.J. Supplement of 4th February, 1928, pages 33-36, contains the report of a conference held on 11th January, 1928, between the Association's Puerperal Morbidity and Mortality Committee and representatives of the Ministry of Health, the Scottish Board of Health, the Medical Research Council, the Royal College of Physicians of London, the Royal College of Surgeons of England, the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, the Central Midwives Board and the Society of Medical Officers of Health. At this conference the following papers were read:—

"Co-operation of midwife with general practitioner with a view to lessening puerperal morbidity," by Dr. J. S. Fairbairn.

"Some points in connection with prophylaxis and treatment of puerperal fever," by Dr. Leonard Colebrook.

"Midwifery and the general practitioner," by Dr. C. E. Douglas.

"The Role of the Medical Officer of Health in the elimination of maternal death," by Dr. Dunstan Brewer.

and the Council has included, in the appended report, several useful suggestions arising out of the conference.

Recommendation: That the Report on the Causation of Puerperal Morbidity and Mortality be adopted (see Appendix IV).

#### Lunacy and Mental Disorder.

111. A special Committee was appointed by the Council to consider the Report of the Royal Commission on Lunacy and Mental Disorder (as regards England and Wales).

This Committee has also considered the following resolutions of the Representative Body, 1927, which were referred to it:—

Minute 186.—Resolved: That the Representatives thank the Lunacy Law and Mental Disorder Committee for the Memorandum on the Report of the Royal Commission on Lunacy Law and Mental Disorder, refer it to the Council, and request the Council to re-appoint the Committee with instructions to take whatever steps are possible to secure what the Report of the Royal Commission declares to be "fair," namely, that the medical profession should not be asked "to perform their essential part under the menace of litigation which even if unsuccessful may spell financial or professional ruin."

Minute 187.—Resolved: (i) That it be referred to Council to consider the desirability of urging upon the Legislature that the judicial authority under the Lunacy Act of 1890 must assume full responsibility for the commitment of a person alleged to be of unsound mind; and (ii) that such judicial authority be either a County Court Judge or a Magistrate with special qualifications such as a medical barrister.

Minute 190.—Resolved: That it be referred to the Council to consider the need for the provision of "Observation Wards" to which patients can be compulsorily sent where conditions, whilst doubtfully justifying certification, are such as make them a nuisance or danger to themselves or others.

112. With reference to Minute 186 of the Annual Representative Meeting, 1927, the Memorandum of Evidence which was submitted by the Council on behalf of the Association to the Royal Commission on Lunacy and Mental Disorder on 14th January, 1928, claimed for practitioners who signed medical certificates under the Lunacy Acts the immunities granted to medical witnesses in courts of law, the paragraph of the evidence dealing with the matter reading as follows:—

58. While it is desired to guard against the elevation of the medical certificate to a position of authority which it does not possess, there is no wish to underestimate the great importance of the certificate as evidence.

Indeed, it is desired to insist upon its being given very definitely the status of evidence; and, therefore, that, the protection which witnesses in courts of law are entitled to receive shall be extended to the practitioner who signs a certificate under the Lunacy Acts.

The Royal Commission in paragraph 90 of its report stated:—

"The British Medical Association submitted proposals designed to secure that the doctor's certificate should be treated simply as evidence upon which the judicial authority makes the operative order, and that the doctor should enjoy in respect of the contents of that certificate the same immunity as a witness testifying in a court of law. This, of course, would provide the highest possible privilege, involving complete immunity even for a medical practitioner who gave a certificate negligently or in bad faith. The medical witnesses, however, have made it clear that they have no desire to protect a practitioner from the consequences of such conduct. In our view, the provision of absolute privilege could not be defended, but we consider that the certifying doctor should not be exposed to an action in respect of anything done under the Act, unless the plaintiff can first satisfy a Judge in Chambers that there is *prima facie* ground for an allegation of want of good faith or reasonable care."

and recommended that the law be amended so as to provide that medical practitioners and others in the *bona fide* discharge of their duties under the 1890 Act should not be liable to civil or criminal proceedings unless it could be shown that they had acted in bad faith or without reasonable care, the terms of the recommendation of the Royal Commission being as follows:—

"We recommend that for the more effective protection of medical men and others in the *bona fide* discharge of their duties under the Act (i.e., Lunacy Act, 1890), Section 330 should be so amended as to provide that any such person shall not be liable to civil or criminal proceedings unless he has acted in bad faith or without reasonable care; and that any proceedings taken against such a person shall be stayed upon a summary application to the High Court or a Judge in Chambers unless the Court or Judge is satisfied that there is substantial ground for alleging that such act was done in bad faith or without reasonable care."

113. A deputation from the Association, at the invitation of the Board of Control, discussed the subject-matter of the foregoing recommendation of the Royal Commission with representatives of the Board and was informed that the Government, being convinced of the need for the further protection of practitioners who signed certificates under the Lunacy Act, was considering the drafting of a short Parliamentary Bill dealing with voluntary boarders and incorporating this recommendation of the Royal Commission, other matters dealt with in the Report of the Royal Commission being left over until a later date. The Chairman of the Board said that if any Bill dealing with the protection of the practitioner were to have a chance of becoming law it must be non-contentious and stated that if the Association pressed for a provision that the Judge in Chambers or the High Court hearing a summary application or Court of Appeal should take the evidence of an independent expert medical practitioner appointed for the purpose by the Government, the Bill would become contentious and stand but little chance of being passed into law. He said that the Board could not include such a provision in its Bill but suggested that the Association might put down an amendment designed to secure what it wanted when the Bill came before the House.

The Council thereupon adopted the following resolution:—

That the following recommendation of the Royal Commission on Lunacy and Mental Disorder, namely:—

"We recommend that for the more effective protection of medical men and others in the *bonâ fide* discharge of their duties under the Act (i.e., Lunacy Act, 1899), Section 330 should be so amended as to provide that any such person shall not be liable to civil or criminal proceedings unless he has acted in bad faith or without reasonable care;

and that any proceedings taken against such a person shall be stayed upon a summary application to the High Court or a Judge in Chambers unless the Court or Judge is satisfied that there is a substantial ground for alleging that such act was done in bad faith or without reasonable care,"

affords adequate and reasonable protection to the certifying medical practitioner, provided that the Judge in Chambers, or the High Court hearing a summary application, or the Court of Appeal, shall have the assistance of an independent expert medical practitioner who shall be selected from a panel of practitioners appointed for the purpose by the Government, and that steps be taken to secure, by consent, that effect be given to the views expressed above in any legislation on the matter that may be introduced into Parliament.

114. With reference to Minute 188 of the A.R.M., 1927, the Council reports that it is not able to endorse the suggestions contained therein because, with regard to part (i) it has, as stated above, adopted the policy set out in relation to Minute 186 of the A.R.M., 1927, for securing the protection of medical practitioners and has based that action partly on the widely held opinion that for the more effective treatment of those suffering from mental disorders, it is desirable, if possible, to avoid the necessity of bringing in a judicial authority; and with regard to part (ii) of Minute 188 of the A.R.M., 1927, it is of opinion that it would be impossible in many areas to obtain in emergency the services of the persons specified in that resolution.

115. Minute 190 of the A.R.M., 1927, is dealt with, as are the other relevant resolutions of the A.R.M., 1927, in the appended Memorandum dealing with the Report of the Royal Commission (see Appendix V).

**Recommendation:** That the Memorandum (Appendix V) on the Report of the Royal Commission on Lunacy and Mental Disorder (as regards England and Wales) be adopted.

## Public Health and Poor Law.

### STATUS OF DISTRICT TUBERCULOSIS OFFICERS.

115A. The scale of minimum commencing salaries for whole-time public health appointments does not contain any definition of "District Tuberculosis Officers" and as there are several areas which now appoint officers with that designation the Council has considered what definition should be adopted by the Association in order to determine the application of the scale to such appointments. As the general application of the scale has the approval of the Ministry of Health the Ministry was consulted on this matter and has approved the substance of the recommendation set out below:—

**Recommendation:** That in order more closely to define the status of district tuberculosis officers under the scale of salaries, it be laid down that all tuberculosis officers whose clinical work in areas is not subject to detailed supervision by the chief tuberculosis officer be considered, for the purposes of the scale of minimum commencing salaries, to be officers in charge of departments, and thus entitled to the minimum commencing salary of £750 per annum.

### PUBLIC EDUCATION IN HEALTH.

116. The A.R.M., 1927 (Minute 198), approved a memorandum on the action which could be taken by Divisions and Branches in assisting in the education of the public in health matters and instructed the Council to take all necessary steps to put the proposals into operation. Copies of the memorandum were distributed to all Divisions and Branches of the Association in England, Scotland, Wales and Northern Ireland on 14th October, 1927, together with a covering letter urging that the units of the Association should lose no time or opportunity in getting their local authorities to take up the matter of the education of the public in health matters in

accordance with their powers so to do as contained in the following section 67 of the Public Health Act, 1925:—

67.—(1) Any local authority or county council may arrange for the publication within their area of information on questions relating to health or disease, and for the delivery of lectures and the display of pictures in which such questions are dealt with, and may defray the whole or a portion of expenses incurred for any of the purposes of this section.

(2) The Minister of Health may, for the purposes of this section, make rules prescribing restrictions or conditions subject to which the powers conferred by this section may be exercised.

Reports received show that many Divisions have taken action and are co-operating with their local authorities. The Council trusts that this important sphere of activity will be regarded as one of the regular activities of each Division.

The Council in its Supplementary Report for 1926-27 in dealing with this question stated its intention of assisting in this work by promoting lectures to the lay public on the lines of the Hastings Lecture, 1927. The Council, therefore, arranged for such a lecture (to be known as the Sir Charles Hastings Lecture) to be delivered in the Spring of 1928.

The Lecture entitled "The Foundations of National Health" was given on 21st March, 1928, by Sir George Newman, K.C.B., M.D., Hon. D.C.L., F.R.C.P., Chief Medical Officer of the Ministry of Health and the Board of Education, with the Rt. Hon. Lord Cozens-Hardy, D.L., in the Chair. The Lecture was published in the B.M.J. Supplement of 24th March, 1928. The Council has conveyed the thanks of the Association to Sir George Newman.

### PATHOLOGICAL REPORTS.

117. Consideration has been given to the following Minutes of the A.R.M., 1927:—

Minute 54.—Proposed by the Chairman of the Science Committee: That the following Recommendation of Council (Suppt., 23rd April, 1927, p. 145, para. 96, third recommendation) be adopted:—

That in the opinion of the Representative Body, public health authorities should neither provide for pathological examinations nor furnish pathological reports on individual cases, except (i) in cases which directly involve questions of public health, or (ii) where provision is made for such reports by statutory right, or (iii) when the patient is stated by the practitioner to be, in his opinion, unable to pay a fee.

Minute 55.—Whereupon an amendment by Brighton (L. A. Parry):—

That the third recommendation in paragraph 96 of the Annual Report of Council be amended by the deletion of paragraph (iii). The amendment was lost.

Minute 56.—Whereupon an amendment by H. S. Souttar (Council), seconded by W. McAdam Eccles (Council):—

That the words "wherever other pathological facilities are available" be inserted after the words "That in the opinion of the Representative Body." The amendment was carried.

Minute 57.—On being put as the substantive motion an amendment by R. A. Lyster, seconded by C. E. Douglas:—

That the matter be referred back to the Council.

The amendment was carried; also as the substantive motion.

The Council recommends:—

**Recommendation:** That the work of laboratories established by public health authorities should, in the opinion of the Representative Body, neither provide for pathological examinations nor furnish reports on individual cases, except (1) in cases which directly involve questions of public health, or (2) where provision is made for such reports by statutory right, or (3) when the patient is stated by the practitioner to be unable to pay a fee; provided that in parts of the country where facilities for pathological examinations and reports are not afforded either by private practitioners (pathologists) or by the service of the local hospital, the local public health laboratory may properly make examinations and furnish reports as these are required by practitioners for patients who are in a position to pay the usual professional fees.

## VACCINATION PROPAGANDA.

118. The Representative Body in July, 1927, on the motion of Southport, passed the following resolution:—

Minute 200.—Resolved: That the Council be asked to arrange with the Society of Medical Officers of Health that, in areas where cases of small-pox are known to exist, special propaganda work for vaccination should be organised.

It was also suggested to the Council that the Association's pamphlet "Facts about Small-pox and Vaccination" should be on sale at all bookstalls and stationers in districts affected, but the Council is of opinion that in order to ensure the efficient distribution of vaccination literature amongst the population it would be necessary for it to be issued free of charge, and this would entail the expenditure of a considerable sum of money. Local authorities might reasonably be expected to bear any expense incurred in their localities in this propaganda, but as a number of local authorities are not in favour of vaccination the necessary propaganda will probably not be carried out in the areas where it would be most needed. As vaccination is a protection which should always be in operation and not only when an epidemic of small-pox is raging, the Council is of opinion that a great responsibility rests on the family practitioner whose duty it is to advise his patients that efficient and systematic vaccination and revaccination is the best prophylactic for small-pox. As regards general propaganda the Council recommends:—

**Recommendation:** That in areas where cases of small-pox are known to exist, propaganda work in favour of vaccination should be carried out by the local authority; that where this is not done the local Division should endeavour to stimulate the authority to do the necessary propaganda work or itself do what it can to supply the deficiency.

## COMBINED APPOINTMENTS OF WHOLE-TIME MEDICAL OFFICER OF HEALTH, POOR LAW MEDICAL OFFICER AND PUBLIC VACCINATOR.

119. In November, 1927, an advertisement was issued: the Association for a combined whole-time appointment of Medical Officer of Health to a Rural District Council, Medical Officer to the Isolation Hospital and Institution, and Medical Officer to the Poor Law Union and Public Vaccinator. The Association had no policy with regard to the combination of such appointments, so the particular case in question had to be dealt with *de novo*. In considering the formulation of a general policy the Council had before it the following resolution of the A.R.M., 1911:—

Minute 143.—Resolved: That in the general interests of public health and of the medical profession, it is desirable (i) that Medical Officers of Health should, as a rule (and without prejudice to those at present holding part-time appointments), be required to devote their whole time to official duties; (ii) that all Medical Officers of Health should be adequately paid, districts being grouped where necessary to make this practicable; (iii) that all Medical Officers of Health should be admitted to participation in a Government Superannuation Scheme; and (iv) that all Medical Officers of Health should be protected, in the proper discharge of their duties, against capricious dismissal or reduction of salaries;

and the following extract from a memorandum, dated December, 1910, issued by the Local Government Board in support of the combination of appointments with a view to securing whole-time Medical Officers of Health:—

The Home Secretary appoints to the office of Certifying Factory Surgeon, and both he and the Board favour its combination with the office of Medical Officer of Health.

Other public offices which the Medical Officer of Health may be allowed to hold are those of Police Surgeon, Public Vaccinator, District Medical Officer, and Medical Officer of the Workhouse.

He may also be allowed, where qualified, to make analyses and bacteriological examination of water, and bacteriological examinations for the diagnosis of disease.

The Council is of opinion that in the interests of the public as well as of the medical profession it is undesirable that work of a domiciliary character should be thrown in to make up a salary for an appointment which is predominantly of a public health and administrative nature. It is unlikely that a practitioner will be secured who will be equally capable in the two lines of work, whereas in most areas it will be quite easy to get the domiciliary work done by a local practitioner, and at the same time by combination of areas or other suitable plan, to secure a salary, which will attract as Medical Officer of Health a practitioner whose interests and experience are of a public health nature.

The Council recommends:—

**Recommendation A:** (i) That domiciliary attendance should, in the best interests of the patients, be provided by private practitioners in the area concerned and not by a whole-time medical officer; (ii) that the adoption of the above resolution leaves unprejudiced the position of any medical officers at present holding whole-time appointments in which domiciliary attendance is one of the duties; (iii) that if there are in the area no practitioners willing to undertake the domiciliary work on suitable terms, the resolution (paragraph (i)) shall not apply.

120. Sub-paragraph (iii) of the foregoing Recommendation was inserted as the Council considered that circumstances might arise with regard to appointments in which the action of the Association could not be governed by a literal interpretation of sub-paragraph (i), as, for example, where no local practitioner was available, or where an obviously unsuitable practitioner was the only practitioner available, or where the only local practitioner available was taking advantage of that position to demand a salary obviously disproportionate to the duties of the post. In such circumstances the action of the Association would have to be guided by the opinion of the local Division.

**Recommendation B:** That there is no objection in principle to the combination in one and the same whole-time appointment of the duties of a Medical Officer of Health and of those of a Poor Law Institutional Medical Officer, but the application of this principle in any individual instance must be governed by local circumstances and by the opinion of the Division or Divisions concerned.

**Recommendation C:** That there is no objection in principle to the combination in one and the same whole-time appointment of the duties of a Medical Officer of Health or of a Poor Law Institutional Medical Officer and those of a Public Vaccinator, but the application of this principle in any individual instance must be governed by local circumstances and by the opinion of the Division or Divisions concerned.

## CO-OPERATION WITH SOCIETY OF MEDICAL OFFICERS OF HEALTH.

121. The Council of the Society of Medical Officers of Health has invited its Branches to keep the Association fully informed regarding practitioners who apply for or accept undesirable posts and has also asked its Branches to advise Medical Officers of Health to consult the Association in any case in which they are doubtful about the record of a candidate.

## National Health Insurance.

## CONSTITUTION OF INSURANCE ACTS COMMITTEE.

122. Members of the Representative Body are aware that a majority of the members of the Committee is composed of nominees selected by the members of Local Medical and Panel Committees. For this purpose the country has been divided into groups, each group selecting from one to three representatives, Scotland being a group by itself, while hitherto Wales has been combined with Cheshire. As a result of continued agitation against this position by both Wales and Cheshire, and particularly by the latter, which in practice is disfranchised by being grouped with Wales, the recent Panel Conference directed the Insurance Acts Committee to find some way out of the difficulty. It is felt that the time has come when Wales, like Scotland, should be a group by itself for this purpose. This will entail a re-arrangement of the remaining groups necessitating an additional representative for England and Wales. In comparison with the rest of the country, Scotland is under-represented. Taking these two considerations together, the Council is of opinion that the direct representatives on the Committee should be increased from the present 23 to 25. The Council therefore recommends the requisite alteration in the Schedule to the By-laws (see under Organization Section, para. 55).

## DISCIPLINARY MACHINERY AND REGULATIONS.

123. At the date of the A.R.M. 1927 the Insurance Acts Committee was completing negotiations with the Ministry of Health for the revision of the disciplinary machinery under the N.H.I. Acts. The suggested new provisions were presented to the Conference of Representatives of Local Medical and Panel Committees in October, 1927, and accepted almost without modification. The resolutions were published in the B.M.J. of October 29th, 1927, in the report of the Conference. Subsequently, the business of expressing these resolutions in the wording of regulation has been proceeding and is now

completed. It is expected that the new regulations will shortly come into operation, and the Committee is satisfied that under them the medical service for insured persons will run more smoothly and efficiently.

#### ALTERATION IN PROCEDURE FOR CHANGE OF DOCTOR.

124. One outcome of the discussions which took place in the early part of 1927 between the Ministry of Health and the Association as to the greatly increased sickness benefit claims experienced by approved societies during 1926 was the bringing into operation on October 1st, 1927, of a new regulation affecting the change of doctor by an insured person. Prior to that date an insured person was able to change his doctor at any time. Under the new arrangement an insured person is able to change immediately at any time where both practitioners concerned agree, or at any time after a fortnight by giving written notice to the Insurance Committee of his desire to change. By this means it is hoped that time will be given for a reconsideration of the position by those insured persons who, finding themselves in disagreement with the practitioner of their choice in the matter of their capacity for work, decide to transfer to another practitioner's list.

#### PRESCRIBING.

125. The continuous rise in the cost of providing medicines, etc., for insured persons has been receiving the attention of the Insurance Acts Committee, and in an effort to impress upon insurance practitioners the need for care and economy in prescribing, a memorandum has been issued to each of the 14,000 insurance practitioners which it is hoped will be found of assistance in understanding the Drug Tariff and in preventing waste.

#### SICKNESS BENEFIT CLAIMS.

126. Considerable anxiety has been felt by the Ministry of Health and approved societies with regard to the greatly increased sickness benefit claims experienced during 1926 and 1927. The Insurance Acts Committee, realising the responsibility placed upon insurance practitioners in the certification of incapacity, has accepted an invitation from the Ministry to consider with its representatives the causes of this increase. The results of these deliberations will be published later.

#### NATIONAL HEALTH INSURANCE BILL, 1928.

127. A Bill to amend the 1924 N.H.I. Act was introduced by the Government into the House of Commons on 5th March, 1928. The greater part of the provisions do not affect medical benefit but there are new provisions to introduce into insurance certain types of workers now excluded, and to modify considerably the administration relating to those kinds of additional benefits which may be described as treatment benefits. These proposals are being carefully scrutinised.

#### SCHEME OF THE SPA FEDERATION FOR SPA TREATMENT OF INSURED PERSONS.

128. The first Group Committee, namely, the Spa Practitioners' Group Committee, was inaugurated under the new group scheme of the Association in December, 1927. The first piece of work which the Committee found awaiting consideration was a request from the British Spa Federation for the views of the Association upon the medical aspects of its scheme for the provision of spa treatment for insured persons.

In order to assist in the consideration of this question, it may be well to refer to previous history. A conference was held at the B.M.A. House on March 4th, 1927, at which were present representatives of the various bodies interested in the provision of spa treatment for insured persons, including British spas, approved societies and the Association. From that discussion there appeared to be very little likelihood of definite action being taken in the matter in the immediate future, although a small Committee was elected to draft and submit to a further conference in the summer of 1927 a scheme under which steps should be taken to provide as soon as possible increased facilities for diagnosis and treatment of insured persons suffering from rheumatism. No further action, however, was taken in view of a statement by one of the approved societies' representatives present at the conference to the effect that the Joint Committee of Approved Societies intended to discuss the question with representatives of other associations of approved societies and of the British Spa Federation. Notwithstanding the intimation sent to the Association that in view of various circumstances societies were not likely to be able to embark upon general schemes for the treatment of rheumatic persons at the spas, the Joint Committee also appointed a small Sub-Committee to explore the possibilities of individual action by societies and report to a later meeting. Arising, apparently, out of the latter discussion, the British Spa Federation drafted a complete

and definite scheme whereby spa treatment for rheumatic diseases might be brought within the reach of the insured members of the societies taking part therein or of any other societies with available funds; and being anxious that its scheme should commend itself to the whole of the medical profession at the respective spas asked that the draft scheme should be considered by the Association and for any observations the Group Committee might desire to make thereon.

The Group Committee, after considering the proposed scheme and having arrived at various decisions as to its medical aspects, discussed the matter with representatives of the Federation who attended the meeting of the Committee. Various suggestions by the Committee for the amendment of the draft scheme were favourably received by the Federation representatives who undertook to give them careful consideration with a view to incorporation in their scheme. It was explained that the decisions of the Group Committee were only provisional pending adoption by the Association.

The proposed scheme does not take into account the question of the position of the spa hospitals as there appear to be difficulties in the way of those hospitals combining directly in the scheme, but it contemplates the treatment of cases either at private consulting rooms or at clinics established for the purpose. The question of the degree of association between the scheme and any spa hospital is left for local determination.

It is not thought desirable to refer to those details of the scheme which do not affect the medical profession. Briefly, the proposal is a skeleton scheme under which an approved society taking advantage of it may pay an agreed sum per week in respect of any of its members sent to the spa for treatment, such sum covering the cost of board, lodging, treatment and administration expenses, and to be reviewed if necessary after twelve months' working. The National Health Insurance Acts provide that an insurance practitioner shall advise any special treatment which he considers his patient requires. Any insured person advised that his condition requires treatment at a spa will presumably apply to his society for this special form of benefit, when the society, if it approves the application, will communicate with the authorities of the spa to which it is desired to send the insured person.

#### The Council recommends:—

**Recommendation:** That the Representative Body be recommended to approve the proposed scheme of the British Spa Federation for the provision of spa treatment for insured persons at the various British spas, subject to the incorporation therein of the following:—

#### Selection of Cases.

(a) That it be made clear that rheumatic cases which are considered suitable by the spa physician shall be treated either at private consulting rooms or at clinics established for the purpose.

(b) That prior to the insured person being accepted at the spa for treatment the spa physician be furnished by the patient's private practitioner with a brief résumé, as follows, of the medical history of any patient recommended by the approved society for spa treatment—

#### Form for a Practitioner to Report the Case of an Applicant for Spa Treatment of Chronic Rheumatism in Insured Patients.

NAME.	AGE. OCCUPATION.	MARRIED OR SINGLE. RESIDENCE.
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1. Disease.
2. Duration of Disease.
3. Present condition.
4. Is the patient crippled, if so, to what extent? Can the patient get up and down stairs unaided and can he wash and dress and feed himself?
5. Does the patient suffer from advanced cardiac, pulmonary, or renal disease? (Please answer as fully as possible because such cases of advanced disease may be unsuitable for treatment.)
6. Does the patient suffer from epilepsy, hysteria or any mental disorder?
7. Does the patient suffer from ulcers, suppuration, diseased bone, or contagious skin disease?
8. What is the condition of the teeth and throat?



9. Has the patient during the last six weeks been exposed to the influence of infectious or contagious disease?
10. Are there any other circumstances which should be stated?

Signature of Medical Practitioner,  
Address.

**N.B.**—It is essential that any obvious source of infection, such as septic teeth, or diseased tonsils, should receive attention before the patient is sent for treatment.

(c) That the spa authorities be urged to recognise the necessity that the proposed service for insured persons should not interfere with the facilities for the treatment of private patients.

#### Medical Records.

(d) That provision should be made under the scheme for each locality keeping medical records at the private consulting rooms and/or clinic.

(e) That the spa physician should furnish to the patient's private practitioner a report upon the case at the end of the course of treatment at the spa.

#### Control of Insured Persons.

(f) That the scheme should provide for some authority responsible for seeing that the spa physician's orders are carried out by the patient, due regard being paid to the fact that the spa physician would probably be the last person to hear of any disobedience to his orders on the part of a patient.

#### Local Control of Scheme.

(g) That the local control of the scheme be vested in a joint controlling body, the actual administrative details being of necessity carried out by the local authority owning the bathing establishment.

#### Finance.

(h) That the remuneration of the spa physician under the proposed scheme shall be a minimum of one guinea in respect of every patient for a period of three weeks, with a pro rata increase thereof for every subsequent week, such minimum fee being exclusive of any special services such as bacteriology, pathology, radiology or dentistry.

(i) That the payment for pathologists' services shall be independent of any other payments in respect of medical services and shall be based upon work done.

(j) That the expert opinion of a radiologist is required in connection with all X-ray photographs necessary under the scheme, payment therefor to be upon the basis of work done and independent of any other payment in respect of medical services.

#### Bed Cases: General Practitioner Treatment.

(k) That the spa physician be responsible only for specialist treatment at the private consulting rooms and/or clinic, a private medical practitioner being responsible for any necessary general practitioner treatment.

(l) That the proposed scheme shall provide for arrangements being made with local general and special hospitals, and the medical staff thereof, for the treatment of patients coming within the scope of the scheme who may be affected with some intercurrent malady or acute exacerbation of the rheumatic condition for which hospital treatment is necessary.

**NOTE.**—For any necessary general practitioner medical treatment during his stay at the spa an insured person will be able to take advantage of the existing temporary resident arrangements of the N.H.I. Acts.

#### N.H.I. Certificates.

(m) That the doctor in his private consulting rooms and/or the clinic be responsible for furnishing to insured persons during their treatment at the Spa Clinic, for production to their approved societies, any certificates as to incapacity for work necessary under the N.H.I. Acts.

#### Medicines.

(n) That inasmuch as the spa physician must be responsible for the prescribing, at the private consulting rooms and/or clinic, of any necessary medicines and/or appliances in connection with any specialist service so given the cost thereof not being chargeable to the Drug Fund of the N.H.I. Acts, must be defrayed by the scheme.

#### DEFINITION OF SPA TREATMENT.

129. It appears desirable that the Representative Body should adopt a definition as to what is meant by spa treatment and accordingly:—

The Council recommends:—

**Recommendation:** That the following definition of spa treatment be adopted by the Representative Body:—

"Spa treatment may be defined as treatment at a place possessing a supply of natural mineral waters of reputed therapeutic value with facilities for their application. This implies the existence of suitable buildings, apparatus and trained personnel for work in bathhouses and other physio-therapeutic departments."

#### Ophthalmic Benefit.

130. The Council in its Supplementary 1927 Annual Report (paras. 250-255) reported that the scheme (which had been in operation since 1924) for supplying the services of ophthalmic surgeons to insured persons at a reduced rate had failed to attract the great bulk of approved societies who were still employing sight-testing opticians. The Council went on to describe certain proposals which had been made to it for the setting up of clinics which would allow for the examination of a number of cases at a time at a fee which would be likely to induce societies to make greater use of ophthalmic surgeons. As a result the following resolution was passed by the A.R.M., 1927:—

**Minute 206.**—Resolved: That the Representative Body approves the suggestion of providing ophthalmic benefit through clinics in large centres in certain circumstances as an arrangement auxiliary to the existing scheme of attendance by ophthalmic surgeons privately, subject to the arrangements under which such clinics are established being approved by the Council.

The Association's policy still is that ophthalmic benefit, along with any other specialist benefits under the National Health Insurance Acts, should not be available except on the recommendation of a medical practitioner and should be administered along with medical benefit, not by approved societies but by and through Insurance Committees or any bodies which may later take their place, which view was adopted by the 1926 Royal Commission. But as there seems no possibility for the present of the adoption of this logical plan the Council felt that no opportunity should be lost to secure whatever improvement in the existing unsatisfactory state of affairs is possible.

To this end, therefore, and in view of the above decision of the Representative Body, discussion took place with the National Insurance Beneficent Society which was desirous of arriving at an arrangement with the Association. This Society for some time past has had clinics (first established in London, but now operating in several large towns) at which all patients are seen by ophthalmologists, the dispensing being done by opticians at the clinics who are paid at a contract rate. The doctors are paid so much per session.

Discussion also took place with the Association of Dispensing Opticians, the members of which do not test sight. This body was prepared to set up and finance throughout the country centres at which the sight-testing would be done by ophthalmic surgeons, and all the administrative, clerical and dispensing work by members of their Association. The clinics might either be at special rooms (in large centres) or they might be at the houses of the ophthalmologists, the payment of the doctor being 10s. 6d. per case; the scheme also provided for practitioners on the list seeing patients at their own private consulting rooms at fixed hours, at the same remuneration, half a guinea a head, the prescriptions to be forwarded to the optician at the local clinic. Further, the scheme provided for the continuance of the existing arrangement whereby a practitioner upon the list need see patients only at his own private consulting rooms at a fee of one guinea, paid possibly by the approved society, or alternatively, partly by the society and partly by the patient, prescriptions being forwarded for dispensing to the local clinic.

The Council being anxious to do nothing likely to compromise the principles of the Association with regard to the setting up of special medical services in connection with National Health Insurance, or to run counter to any scheme which the Ministry of Health might have in view, sought an interview with representatives of the Ministry of Health. It was ascertained (i) that there was no probability of an early extension of medical benefit to include the provision of ophthalmic service, and (ii) that the Ministry would be inclined to favour an arrangement such as that of the Dispensing Opticians' Association, above described. Subse-

quently the Dispensing Opticians saw representatives of the Ministry with regard to their proposed scheme, after which a conference was held of representatives of the Association, the Dispensing Opticians, and certain important approved societies, when it was found that the approved societies' representatives were favourably impressed with the scheme, but asked the Dispensing Opticians to clear up certain points. Discussions proceeded between these two parties, when the Association of Dispensing Opticians found that before they could go further it was necessary that they should be in a position to inform the approved societies not only that their scheme had the approval of the B.M.A., but that the B.M.A. had secured the co-operation of a number of ophthalmologists sufficient to make the scheme work.

A set of conditions was accordingly drawn up by the Council subject to which the Association, on behalf of the medical profession, declared its willingness in conjunction with the Association of Dispensing Opticians, to supply ophthalmic examination and advice for insured persons on lines already described.

A very important factor which moved the Council in approving this scheme was the attitude of the Departmental Committee on the Sight-testing Opticians (Registration) Bill. When the witnesses of the Association appeared before the Committee they were strongly pressed as to the possibility of provision being made of the services of ophthalmic surgeons at a rate which would fit the economic circumstances of insured persons and others in like economic condition, and the Association's witnesses practically pledged the Association to co-operate with any suitable body in an effort to make this provision. The Majority Report of the Departmental Committee is against State registration of opticians, but goes on significantly to say that unless within a reasonable time suitable provision is made by an adequate number of qualified ophthalmologists throughout the country a re-consideration of this question of some form of State registration of sight-testing opticians will be justified. That is to say if the Government adopts the findings of the Majority Report the medical profession, as represented by the Association, is to be given a reasonable time in which to show that an adequate service can be provided over the country at reasonable terms for insured persons and others of similar economic position. The value of the opportunity thus given can scarcely be over-estimated. If it can be utilised not only will the pretensions of the opticians to occupy a field the medical profession deems to be mainly medical be defeated, but a large amount of work hitherto done by opticians, or gratuitously at the hospitals, will accrue to ophthalmic surgeons, with great benefit it is believed to the public.

In furtherance of the above action the members of the profession on this Association's old "Ophthalmic List" were circularised as to the new proposals and practically all have expressed their willingness to fall in with them.

## Hospitals.

### VOLUNTARY HOSPITALS AND RECOVERY OF MONEY.

131. The A.R.M., 1926, passed the following resolution which was incorporated in the Hospital Policy of the Association:—

*Minute 59.*—Resolved: That in all cases of accident where medical attendance is given at a voluntary hospital, and such medical attendance is covered either directly or indirectly by insurance, the hospital authorities should recover from the insurance company the full cost of maintenance and treatment of such patient. That where patients who would ordinarily be considered as private patients are admitted to hospital solely on account of accident or emergency, they should be considered as "private patients."

and the Council reported to the Representative Body, 1927, that in view of the doubt which existed as to the legal position of a voluntary hospital recovering from patients the cost of maintenance and treatment in the circumstances detailed in the 1926 resolution, it was obtaining Counsel's opinion on the position. Counsel's opinion is appended hereto (Appendix VI.)

In view of the following paragraph which appears in Counsel's opinion:—

"In my opinion where an accident has been caused by negligence, and the victim receives emergency treatment in a hospital, the victim alone can bring an action against the person responsible for the negligence and he cannot include in his claim any sum in respect of the expenses of the hospital unless he is himself legally liable in contract to the hospital for the amount of the expenses, which—in such a case—can rarely be the fact. If the victim is legally liable to the hospital he can claim the amount for

which he is so liable as part of his damages but this gives no right to the hospital, whose only right of action is against the victim, its own debtor. If and when the hospital has obtained a judgment against its own debtor, and its own debtor has been awarded damages against the person responsible for the accident, the hospital may be in a position, as a judgment creditor, to make the award of damage available to satisfy its own judgment debt, but it will only be in the same position for this purpose as any other judgment creditor of the victim,

the Council considers that Minute 59 of the A.R.M., 1926, should be amended by the deletion of the words "from the insurance company."

The Council recommends:—

**Recommendation:** That above Minute 59 of the A.R.M., 1926, be amended by the deletion of the words "from the insurance company."

### "PAY BEDS COMMITTEE" OF KING EDWARD'S HOSPITAL FUND FOR LONDON.

132. His Royal Highness the Prince of Wales, as President of the King Edward's Hospital Fund for London, appointed a special Committee, the personnel of which was Viscount Hambleden (Chairman), Sir John Rose Bradford, Sir Bernard Mallet, Mr. V. Warren Low and Professor Winifred Cullis, (Mr. Leonard L. Cohen and Major Harold Weruher, Hon. Secretaries; and Mr. H. R. Maynard, Secretary), "to inquire and report upon the question of hospital accommodation in London for persons prepared to pay more than ordinary voluntary hospital patients; and to report the conclusions at which they may arrive."

The Association gave evidence, based on the policy of the Association, before that Committee on 5th October, 1927, and the evidence was supported verbally by the Chairman and Deputy-Chairman of the Hospitals Committee, the Treasurer and the Deputy Medical Secretary.

The Report of this Committee will, it is expected, be made public before the meeting of the Representative Body.

### HERTFORD BRITISH HOSPITAL, PARIS.

133. In paragraph 170 of its Annual Report for 1926-27 the Council stated that it had enquired into the circumstances connected with the dismissal in September, 1924, of the Resident Medical Officer of the Hertford British Hospital, Paris (who is a member of the Association), and the consequent resignation of the other British members of the medical and surgical staffs of that hospital, and that the Board of Management of the hospital and the Association (acting on behalf of the late medical and surgical staffs) had agreed to accept the decision of Mr. Vaughan Williams, K.C., who had been appointed by the Government to consider the whole of the evidence and decide whether or not the Committee of the Hertford British Hospital had been unjust in dismissing the late Resident Medical Officer.

In the conclusions arrived at by Mr. Vaughan Williams he stated (i) that the Committee of the hospital was entitled to terminate the contract of the Resident Medical Officer; (ii) that, notwithstanding the excellent services rendered by the Resident Medical Officer, it was not in the interests of the hospital to retain his services; (iii) that in net examining the person whose rejection as a patient culminated in the dismissal of the Resident Medical Officer that officer made an error of judgment, although the condition of the patient justified refusal of admission; (iv) that the resignation of the medical staff constituted no breach of contract, but was not justified by the action of the Committee or by the interests of the hospital and patients, and the dismissal of the Resident Medical Officer was not adequate grounds for resignation of the staff, neither was the dispute as to the administration of the hospital a justification for such resignation.

The late medical staff considered that Mr. Vaughan Williams' report exonerated the late Resident Medical Officer. The Council forwarded a copy of that report to the late Resident Medical Officer and nothing further has been heard of the matter.

The Committee of the hospital has agreed to submit suggestions for revision of the rules of the hospital and has in fact already submitted part of the rules, upon which several suggestions for variation have been made by the Association.

### MIDDLE CLASS HOSPITAL POLICY.

134. The Council is considering the formulation of a Middle Class Hospital Policy, pursuant to the following resolution of the Annual Representative Meeting, 1927:—

*Minute 219.*—That the Representative Body instructs the Council to consider the formulation of a Middle Class Hospital Policy.

## CO-ORDINATION OF HOSPITAL PROVISION.

135. The Minister of Health has suggested that voluntary hospitals should examine in conjunction with local authorities, including Boards of Guardians, the following questions:—

1. Having regard to the nature of the hospital accommodation available in the area, both in voluntary and public hospitals, are there any categories of cases which should, so far as practicable, be allocated to one type of hospital or the other?

2. Is it possible, after taking stock of local needs, to agree on any lines of demarcation between the province of the voluntary and public hospitals in the area?

3. Assuming that some understanding is reached as to the line of demarcation between the voluntary and public hospitals in a given area, to what extent would this modify schemes of enlargement in hand or in contemplation?

4. If there is a shortage of voluntary hospital beds, in what respect is the shortage most serious, e.g., is it a shortage of general surgical or medical beds, gynaecological or maternity beds, or orthopaedic? Is there vacant accommodation in public hospitals suitable, or capable of being adapted, for the type of case for which accommodation is specially needed?

5. Could not some "Clearing House" arrangement be established by agreement between the voluntary hospitals and the local authorities (including the Guardians), which would ensure a better distribution of patients and the more rapid admission of cases requiring institutional treatment?

6. To what extent and under what conditions could the medical staffs of the voluntary hospitals undertake responsibility for cases, or for a definite number of beds in public hospitals, so that the patient may be secured of the special type of experience required, whether medical or surgical, without regard to whether the bed he occupies is under voluntary or public management?

The Council, considering that the Association should take an active part in attempting to guide any legislation that may be the outcome of any principles adopted as a result of the consideration of the answers to these questions, has drawn up the following scheme which it submits herewith to the Representative Body for adoption.

**Recommendation:** That the appended scheme of co-operation of voluntary hospitals with municipal hospitals for the co-ordination of hospital provision be adopted and submitted to the Minister of Health (see Appendix VII).

## CRITERIA FOR PRACTITIONERS TREATING PRIVATE PATIENTS IN PRIVATE WARDS OR NURSING HOMES ATTACHED TO HOSPITALS.

136. The following paragraph 22 of the Hospital Policy of the Association:—

22. Where it is desirable that special accommodation in the nature of a nursing home should be provided in connection with voluntary hospitals for the reception of private patients, there should be provided as follows:—

(a) Private patients should be admitted to such special accommodation only on the recommendation of a private practitioner, except in cases of emergency. In the latter circumstances the patient's own medical attendant should be informed.

(b) It should be open to a private patient to select any registered medical practitioner as his attendant.

(c) The scale of charges for the private patient for maintenance should be such as fully to cover every cost to the hospital.

(d) No fixed rate of payment for professional services rendered to such patients should be established; the fees so payable to remain, as at present, a matter of arrangement between patient, family physician and consultant.

provides that a private patient in a private ward or nursing home attached to a hospital should be entitled to select any registered medical practitioner as his attendant whilst in such ward or home, but the Council considers that before any practitioner should be allowed to treat a patient in such ward or home it would be a reasonable requirement on behalf of the institution concerned to expect the practitioner to show that he possessed the necessary qualifications and experience for carrying out such treatment, and that the Hospital Policy of the Association should accordingly be amended in this respect. In considering the matter the Council has had before it the criteria laid down in the National Health Insurance Medical Benefit Regulations, 1924, relating to

services requiring special skill and experience. These criteria were arrived at with the help of the Association and they have been found to stand the test of time. The Council is therefore recommending that these criteria, with certain verbal modifications, should be adopted by the Association in this respect also.

The Council recommends:—

**Recommendation:** That paragraph 22 of the Voluntary Hospital Policy (United Kingdom) be amended by the insertion of the following, as sub-paragraph (e), present sub-paragraphs (c) and (d) being renumbered (d) and (e) respectively:—

(c) If the treatment of the patient involves the application of special skill or experience of a degree or kind which general practitioners as a class cannot reasonably be expected to possess then the attending practitioner before undertaking the treatment should satisfy one or more of the following conditions:—

(i) that he holds or has held hospital or other appointments affording special opportunities for acquiring special skill and experience of the kind required for the performance of the service to be rendered, and has had actual recent practice in performing the service to be rendered or services of a similar character, or

(ii) that he has had special academic or post-graduate study of a subject which comprises the service to be rendered, and has had actual recent practice as aforesaid, or

(iii) that he is generally recognised by other practitioners in the area as having special proficiency and experience in a subject which comprises the service to be rendered.

## CONFERENCE re CONTRIBUTORY SCHEMES FOR HOSPITAL BENEFIT.

137. The Council has, from time to time, brought to the notice of hospital staffs the following three fundamental principles which underlie the Association's policy as regards contributory schemes for hospital benefit:—

(a) That only persons below a definite income limit should be entitled to join a contributory scheme for hospital benefit.

(b) That (except in emergency) a contributor to a scheme should only be admitted to a hospital upon the recommendation of the attending practitioner.

(c) That recognition should be made of the services of the medical staff.

A large number of these schemes are being adopted, but in very few have all these principles been given effect, and the position is viewed with very considerable concern by the Council in view of the importance of safeguarding the position both of the medical staffs of hospitals and of private practitioners.

The Council is therefore convening on 6th June, 1928, a conference of representatives of medical staffs of voluntary hospitals (to be held at the Headquarters of the Association) in order that the policy of the Association in regard to these schemes may be explained and discussed.

## Naval and Military.

## REPRESENTATIVE OF ROYAL NAVAL MEDICAL SERVICE ON THE COUNCIL.

138. The regretted death of Surgeon Rear-Admiral Sir Percy Bassett-Smith, the representative of the Royal Naval Medical Service on the Council, has deprived the Association of an adviser whose help was of great assistance in respect of all matters concerning that Service. Sir Percy Bassett-Smith's term of office would have expired at the termination of the A.R.M. 1928. The Council recommends:—

**Recommendation:** That Surgeon Rear-Admiral J. Falconer Hall, C.M.G., R.N. (ret.), be elected as the representative on the Council of the Royal Naval Medical Service for the period 1928-31.

## APPOINTMENTS TO THE INDIAN MEDICAL SERVICE AND CONDITIONS OF SERVICE.

139. The whole question of the reorganisation of the Indian Medical Service is now under active consideration by the Government of India, and the Council hopes shortly to be in possession of the new proposals. There has already been issued by the Secretary of State for India a memorandum on

Medical Service which embodies certain of the decisions which have been reached following upon the recommendations of the Lee Commission. The memorandum was published in full in the Supplement of February 18th, 1928.

The Council hopes to report further on the whole question in its Supplementary Report.

#### INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY.

140. The Council has expressed the willingness of the Association to co-operate with the Army Medical Department in the management and organisation of the 5th International Congress of Military Medicine and Pharmacy, and has appointed Sir Alfred Blenkinsop as the Association's representative on the organising committee of the Congress. The Congress will be held in London in May, 1929.

#### CONDITIONS OF SERVICE OF THE ROYAL NAVAL MEDICAL SERVICE.

141. The Portsmouth Division has represented to the Council that some of the terms of service of the Royal Naval Medical Service are unsatisfactory, and more especially that the clause relating to retirement at 50 should be amended, and that pensions should under no circumstances be reduced below the pre-war figure. The Council has been in communication with the Admiralty on the matter, but so far no reply has been received. It is hoped to deal further with the question in the Supplementary Report.

#### Medical Benevolence.

142. During the twelve months ending December 31st, 1927, the amounts collected by the Association on behalf of existing medical charities were as follows, the figures for the previous year being also given for the purpose of comparison:—

	1927.	1926.
	£ s. d.	£ s. d.
Royal Medical Benevolent Fund	1,271 14 7	1,141 0 6
Epsom College	909 17 3	841 2 3
Royal Medical Benevolent Fund		
Society of Ireland	31 19 0	35 13 0
Sir Charles Hastings Fund	167 8 0	17 8 11
	£2,380 18 10	£2,035 4 8

In addition, the sum of £1,746 13s. 6d. was received for distribution among existing medical charities at the discretion of the Trustees of the B.M.A. Charities Trust Fund. This amount was distributed as follows, the amount distributed in 1926 being also given:—

	1927.	1926.
	£ s. d.	£ s. d.
Royal Medical Benevolent Fund	800 0 0	500 0 0
Epsom College	500 0 0	400 0 0
Royal Medical Benevolent Fund		
Society of Ireland	60 0 0	50 0 0
Sir Charles Hastings Fund	116 13 6	124 12 11
Royal Medical Benevolent Fund		
Guild	270 0 0	150 0 0
	£1,746 13 6	£1,224 12 11

\* Includes £457 2s. 8d. received during 1925.

The above figures show that there was contributed to medical charities through the Association in 1927 about £1,325 more than in 1926. Although it is believed that this is made up largely of subscriptions and donations from new subscribers, it is impossible to say to what extent this is so. However, it is satisfactory to note that there has been an increase, although it can only be regarded as a small one. The Council aims at raising £20,000 annually, which is approximately five times as much as was received last year.

It is understood that, although the money at the disposal of medical charities for immediate relief work is on the increase, the applications for assistance are also on the increase. The situation is both distressing and urgent and the Council appeals to Divisions to use their best endeavours to meet it adequately. It should be made a very important part of a Division's activities to see that every practitioner in the area is a subscriber to medical charity through one channel or another.

Many Divisions have adopted the suggestion that a social function of some kind should be organised during the year with the object of benefiting medical charities, and

from the financial result, these functions have apparently been the means of stimulating cordial relations between the practitioners in the areas concerned.

A circular letter (D. 17) has recently been issued to Divisions, in which they have been asked to furnish a report of their activities in connection with medical charities during 1927. Divisions have also been informed that a similar report will be asked for early in 1929 in respect of 1928, and that it is proposed to submit a report to the Representative Body in 1929 showing what each Division has done in this matter.

#### CONSTITUTION OF THE CHARITIES COMMITTEE.

143. In accordance with Minute 223 of the R.B. of 1927, the constitution of the Committee is being altered. For reasons of convenience, as alterations of the Schedule to the By-laws are concerned, the exact form of the proposed alterations will be found in paragraph 56 of this report, under the heading "Organisation."

#### Oversea Branches.

##### WINDWARD ISLANDS MEDICAL SERVICE.

144. In 1923 the Representative Body approved the insertion of an "Important Notice," which is still appearing, in respect of the Windward Islands Medical Service. At that date this Service was one of the worst paid Services over which the Crown had control. From time to time various improvements on the lines of the recommendations of the Association have been effected, but there are still a number of points which have not been met.

On 5th March, 1926, a deputation from the Association invited the personal attention of the Secretary of State to this Service and suggested that the most essential reforms were:—

- (1) The progressive provision of adequate salaries with a view to the ultimate concession of the £600 net commencing salary recommended by the Committee appointed to enquire into the Colonial Medical Services in 1920.
- (2) Adequate provision for leave and study leave for members of the Service.
- (3) Modifications in the Ordinances regulating the conditions of medical service in the Windward Islands as follows:—

(a) Repeal of Sub-Section 15 of Section 6 of Chapter 27 of the Medical Officers Ordinance which leaves the remuneration of the medical officer in the hands of the Executive subject to the power of the Legislature to refuse a vote, but allows additional duties, with or without remuneration, to be imposed upon him by the Governor at any time in an arbitrary manner.

(b) Repeal of the special amending Ordinance of 1919 under which the medical officer is placed under the obligation of affording medical aid at a progressive tariff to every person requiring his services within his district.

(c) Repeal of the Ordinance of 1923 under which persons not entitled to registration in the United Kingdom are admissible to the Medical Register of the Colony.

The Secretary of State has recently approved legislation which will give effect to the suggestions contained in No. (3) above, but the Council does not consider that it can approve the withdrawal of the "Important Notice" in respect of this Service until the Association's suggestions with regard to salary, leave and study leave have been adopted, or at any rate, until considerable improvements have been made, and has so informed the Colonial Office.

#### DELETERIOUS DRUGS ORDINANCE OF STRAITS SETTLEMENTS.

145. In March, 1927, the Secretary of the Malaya Branch drew attention to a Bill "to consolidate and amend the law with regard to Deleterious Drugs," wherein it was provided, among other things, that a medical practitioner in order to become authorised to possess and dispense deleterious drugs (i.e., the drugs known as "Dangerous Drugs" in this country) would have to pay an annual licence of 20 dollars, which the Branch considered was unjustifiable. This licence law has been in force in the Federated Malay States for some time. As a result of action taken by the Council the Secretary of State has been in communication with the Governor of the Straits Settlements with a view to this legislation being brought into line with the Dangerous Drugs Regulations of

## INDIGENOUS SYSTEMS OF MEDICINE IN CEYLON.

116. A Committee appointed by the Government of Ceylon to consider:—

(a) whether it is practicable for the Government to assist financially or otherwise—

(i) in the training of those seeking to qualify themselves as practitioners of the indigenous systems of medicine;

(ii) and in the investigation of the medicinal value of drugs used by those practising such systems; and

(b) if practicable, to prepare a detailed scheme of such training and investigation for the consideration of the Government;

reported, in its Majority Report, in favour of the recognition, under certain conditions, of the indigenous systems of medicine. Whereupon the Council informed the Colonial Office and the General Medical Council that it considered that such official recognition would be a retrograde step. The Registrar of the General Medical Council stated that the Council was advised that "having regard to matters in India at the present time it is not advisable that the Council should intervene at this stage in a matter of this kind," and the Colonial Office replied that the Secretary of State had not yet received the report of the Committee appointed by the Government of Ceylon through official channels but when this was received the views of the Ceylon Government and the opinion of the Council of the Association would be borne in mind. The Ceylon Branch has passed the following resolutions:—

That a Sub-Committee of members of this Association be appointed to take such steps as are necessary to bring to the notice of the parent Association the detrimental effects that the adoption of the recommendations of the Majority Report would have on the progress of scientific medicine, both curative and preventive, in the Colony, and that copies of the Sub-Committee's findings be submitted to the Ceylon Government for its own information, and for transmission to the Secretary of State for the Colonies;

That the Ceylon Branch of the B.M.A. strongly support the Minority Report of the Indigenous Systems Committee;

and has forwarded detailed criticisms of the Majority Report of the Government Committee. The Council has again urged the Colonial Office not to approve action on the lines of the Majority Report.

## Scotland.

## EXTENSION OF THE SCOTTISH HOUSE OF THE ASSOCIATION.

147. When the Scottish House was acquired in 1925, it seemed likely to be adequate for all purposes for some time to come but experience has shown the need for a larger and better ventilated hall than could be provided in the existing building. When the adjoining property at No. 7, Drumsheugh Gardens came into the market, the Scottish Committee therefore recommended to the Council that it be purchased, a proposal which the Council, after report by the Building Committee, agreed to. The property was acquired in December, 1927, and the work of reconstruction was at once begun and is now nearing completion. By combining the first floors of the two properties and removing the staircase and partition walls, it has been found possible to provide a good, well-ventilated and well-lit hall capable of seating 250 persons and, in addition, a committee room and a common room. The office will be transferred from No. 6 to the ground floor of No. 7, and the Association will thus occupy a commodious unit. Access to the remainder of the building is from No. 6, and the whole of this is let at good rents.

On behalf of the membership in Scotland, the Scottish Committee has tendered its thanks to the Council and recorded its belief that the action taken will bear fruit in increased usefulness and activity.

## CONDITIONS OF SERVICE OF PAROCHIAL MEDICAL OFFICERS.

148. Various complaints having been received by the office as to unsatisfactory terms of appointment of parochial medical officers, it was decided to institute an inquiry. A circular asking for particulars was addressed to all such officers in Scotland, numbering over 800: to this only 160 replies were received, of which 61 expressed definite dissatisfaction with the terms of appointment. As a result the Council is of opinion that there is no evidence from the replies of any general discontent throughout the country with

the conditions of service, but that there is in some districts a local problem which calls for special examination by the Branches and Divisions concerned.

## FEES TO PRACTITIONERS CALLED IN BY MIDWIVES.

149. In 1925 the Scottish Committee reported that the legal advisers to the Board of Health had ruled that in terms of the Midwives (Scotland) Act every fee paid covers one subsequent visit, and the Committee asked that the scale should be revised, or, alternatively, that the Act should be amended. The Board adopted the latter course and inserted an amending clause in the Midwives and Maternity Homes (Scotland) Act. Negotiations were entered into with the Board, and an amended scale has been agreed to which is on the lines of the corresponding English scale. The fee for attendance at parturition has been raised from £1. 17s. 6d. to £2s. 2s. 6d. and now includes necessary visits during the first 10 days. The fee for visits under the old scale was 3s. 6d. for a day visit and 7s. 6d. for a night visit, and the Committee pressed for these fees to be raised to 5s. and 10s. There was considerable opposition to this on the part of the Board and local authorities, and in the end a compromise was agreed upon whereby the fee has been fixed at 5s. (day) and 10s. (night) for a first visit, and for subsequent visits in the same illness 3s. 6d. (day) and 7s. 6d. (night). The other fees payable under the scale are unaltered and are the same as in the English scale.

## HOSPITALS POLICY.

150. The Council has given careful consideration to the situation which has arisen in Scotland through the action of the Scottish Regional Committee of the British Hospitals Association in setting up Regional Committees in five regions of Scotland, with the object of exploring the needs of their areas and considering the possibility of co-operation between statutory authorities and the voluntary hospitals. These Committees are composed of representatives of the management of voluntary hospitals and contain no direct representatives of the medical profession. The Secretary of State for Scotland has commended the appointment of these Committees and, in addition, has appointed a small Liaison Committee to keep them in touch with representatives of his department. Without committing himself to details of a hospital policy, he has indicated that he looks to co-operation between the voluntary hospitals and the public authorities for the future development of the hospital services; that the co-operative arrangement should centre round voluntary hospitals, and that it must be part of a hospital policy to develop the poor law hospitals up to the standard of the voluntary hospitals. In view of the establishment of these Regional Committees, the Council is of opinion that corresponding Medical Committees should be set up in each of the five regions, on the lines of paragraph 36 of the Association's policy affecting hospitals, and is accordingly arranging, in conjunction with the Branches concerned, for meetings of the Branch Councils with the medical staffs of voluntary hospitals in each of the regions, the business of the meetings being to consider the appointment of Regional Medical Committees.

## Ireland.

## GENERAL ORGANISATION.

151. The outstanding event of the year was the visit of Dr. Cox, Medical Secretary, to Ireland. He arrived in Kingstown on April 28th and remained for ten days. During his visit he had a strenuous time travelling and attending meetings of the Branches accompanied in each case by the Irish Medical Secretary. He held his first meeting in Belfast on April 29th, where he received a very warm welcome and the meeting was a very decided success. On May the 3rd, he visited Cork, and was present on the same evening at a well attended meeting of the Munster Branch. A large number of the medical students from University College, Cork, attended the meeting and they much appreciated the advice given them by Dr. Cox. Successful meetings of the Leinster and South-Eastern Branches were also attended by the Medical Secretary, and on February 6th he was present at an exceptionally well attended meeting of the Irish Committee. He made the most of his many opportunities to explain the many and different ways the Association could be made helpful to its Irish members. The Irish Committee and the Irish Branches were very pleased with the warm reception extended to Dr. Cox everywhere he visited. Members who had not attended a meeting for years made long journeys to meet him and thus showed him their appreciation of his services at all times for the profession in Ireland.



On the other hand, Dr. Cox was unmistakably impressed with the popularity and the keen appreciation of the Association and its work in all parts of Ireland.

Arising out of a suggestion from Dr. Cox arrangements are being made for holding B.M.A. lectures in the different Branch areas. Dr. Robert J. Rowlette, F.R.C.P.I., Professor of Materia Medica, Medical School, Dublin University, delivered at Kilkenny to the members of the South-Eastern Branch a lecture on Gastro-duodenal Ulceration, which was very much appreciated by the members. This new departure of providing for lectures by leading men in the profession will undoubtedly be a source of attraction and benefit to members. Since the Medical Secretary's visit the Irish Branches have certainly become more active. For many years the Leinster Branch has not had so many well attended meetings, with the result that the seating accommodation of the Irish Office had to be considerably increased. The Organisation Committee invited Dr. J. P. Shanley, Honorary Secretary of the Leinster Branch, and the Irish Medical Secretary, to its meeting in London on February 28th, when the question of recruitment of newly qualified medical practitioners in the Free State was discussed and it was decided that the Irish Medical Secretary should arrange for meetings of newly qualified medical practitioners in Dublin and in Cork. In this connection the Irish Medical Secretary has been in correspondence with officials of the different medical schools and has been promised their assistance.

#### MEDICAL AFFAIRS IN NORTHERN IRELAND AND THE FREE STATE.

152. In the course of the year three important Reports dealing with medical questions of unusual interest to the medical profession in Ireland were published, namely, (1) Report of Departmental Commission on Local Government Administration in Northern Ireland, (2) Report of Committee of Inquiry into Health Insurance and Medical Services in the Free State, and (3) Report of the Commission on the Relief of the Sick and Destitute Poor including the Insane Poor. These enquiries meant a good deal of work for the various medical associations with regard to the preparation and presentation of the medical features involved in the enquiries.

153. The Departmental Commission for Northern Ireland was appointed in February, 1925, and finished its report in September, 1927. Professor R. J. Johnstone, F.R.C.S. (Eng.), M.P., acted as chairman of the Commission. Of the thirty-nine members of the Commission, eight were members of the medical profession. This report, with regard to public health administration recommends that the present local public health authorities—urban and district councils—be retained as the primary authorities but that the county council, acting through a county health committee, be the supervisory authority in each county area. The report recommends that the county health committee (in Northern Ireland) be composed of: one member appointed by each urban and district council in the county; members by the county council equal to the total number of urban and rural representatives; six co-opted members, of whom at least one should be a medical practitioner and at least two should be ladies. The functions of the county health committee recommended by the Commission are as follows:—

- (1) Administration of Public Health and allied Acts at present administered by the county council including the Tuberculosis Acts and School Medical Inspection.
- (2) Administration of Medical Relief and Hospital Services.
- (3) Supervision of all local public health authorities in the area of the county.
- (4) Appointment of health officers for the discharge of the functions allocated to the county health committee.
- (5) Administration of Vaccination Acts.

The report states that the demand for medical benefits applied with greater force to urban and industrial than to rural areas, and that a considerable section of medical practitioners in Northern Ireland were opposed to the system. From figures produced it was shown that about 60 to 70 per cent of insured persons either do not, or are not eligible to, receive treatment under the Medical Charities Act, and that these persons have to provide privately for their own medical attendance. The Commission came to the conclusion that a scheme of medical benefits should not be established for Northern Ireland. In a Reservation, nine of the thirty-nine members gave reasons in detail why medical benefits should be introduced forthwith. The Commission having decided not to recommend the inclusion of medical benefits make several suggestions for the re-organisation and improvement of the dispensary medical service. The report recommends the provision of post-graduate courses for dispensary doctors in order to enable them to keep abreast of modern development in medical science. The report deals more or less exhaustively with several aspects of medical treatment including the treatment of tuberculosis, administration of hospitals, maternity and child welfare schemes, etc.

154. The final Report of the Committee on Health Insurance and Medical Services in the Free State was completed in February, 1927. Of the nine members who constituted the Committee of Enquiry seven signed in favour of the extension of medical benefit to insured persons throughout the Free State with an increase of 2d. in the existing weekly contribution rates to be borne equally by the employer and employee. One of the representatives of the Department of Local Government and Public Health, with the representative of the Department of Finance, signed a minority report stating their reasons for not agreeing to the inclusion of medical benefits under the Insurance Act. This minority report goes to the extent of formulating a scheme by which the voluntary hospitals would provide medical treatment for insured persons amongst others. In support of this recommendation the two signatories, who are civil servants, refer to the grants made by the State to certain Dublin hospitals. To give this scheme effect it would be necessary that the medical staffs in the voluntary hospitals would be agreeable to undertake such work—which is very improbable. Dr. Robert J. Rowlette, whilst signing the majority report in favour of medical benefits for the insured, in a separate note goes further and recommends that a comprehensive scheme of medical services should be established—the scheme to apply to insured persons and to those who have a claim to treatment under existing legislation. Dr. E. F. Stephenson, Chief Medical Officer of the Department of Local Government and Public Health, explains in a Reservation his attitude towards medical benefit whilst signing the majority report. In the report is published a letter from the Irish Medical Secretary in which it is stated "that the Committee (the Irish Medical Committee) does not think that the medical profession of the Free State would be willing to provide treatment at a lower figure than that paid in Great Britain. Nor does the Committee think that it is desirable on the grounds of public policy to offer lower remuneration than is given for similar work in Great Britain. A service that thinks itself underpaid does not attract the best doctors and it is not likely to give efficient service."

#### MEDICAL LEGISLATION.

155. In the way of legislation the most important statutes were (1) the Medical Practitioners Act, 1927, which provided for the establishment of an Irish Medical Council and registration of newly qualified practitioners in the Free State, and (2) the Dentists Act, similar in its provisions to the Medical Practitioners Act. Both these Acts were the result of agreements between the British and Northern Governments on the one hand, and the Government of the Free State on the other.

H. B. BRACKENBURY,  
Chairman.



of the puerperal sepsis factor in doctors' and midwives' cases as set forth in the table on page 110 of that Report, where the percentage of infection is higher in midwives' than in doctors' cases. The authoritative status given to any such report by issue from the Ministry renders its statements and implications far-reaching, as the correspondence published in the *British Medical Journal* and elsewhere goes to show.

5. One of the most frequently quoted statements of that Report occurs in its opening paragraph, and is to the effect that whilst the general death rate has been reduced by one-third and the infant mortality rate halved since the beginning of the century, the maternal mortality rate is little lower than it was twenty years ago.

6. Whilst there is a desire to urge all branches of the profession concerned to aim at improvement in maternity practice this observation is calculated to disparage the substantial efforts which have already been made and to convey an erroneous impression. The table which appears on page 3 of the Report on "Maternal Mortality" (1924) shows that as between the first and last years taken (1900-22) the reduction in the maternal (sepsis) mortality rate is 33 per cent.; in "other causes" maternal mortality rate 19 per cent.; in total maternal mortality rate 25.5 per cent.; and that these reductions are at least comparable with the 29.6 per cent. reduction in the general death rate. It is true that the two years compared are high and low in figure value as well as in their tabular position, but taken by the stricter criterion of quinquennial periods a very appreciable improvement is also shown.

7. The view is taken that this extraordinarily responsible and difficult branch of practice is conducted by the profession as a whole conscientiously, carefully, and skilfully up to the limit of the knowledge and facilities available, and that to discredit the whole by reason of the shortcomings of the few must inevitably create resentment amongst the predominant part of the medical profession in whose hands the application of the standard of midwifery practice—whatever in the light of new facts and with administrative aids that may be—must, in large part, remain.

8. In "The Protection of Motherhood" (1927) Dame Janet Campbell quotes figures showing total mortality rates since 1891 and says:—

"From these figures it is evident that there has not been much variation in puerperal mortality since the early years of the present century, though the death rate has never again reached the figure of 4.27 which was the average rate for 1901-05 (the Midwives Act came into operation in 1903), but the average rate for the next 5 years was 3.74, a lower rate than we find in the next two quinquennial periods, and only slightly above that for 1921-25. In 1904, when the first effect of the Midwives Act was probably operative, the maternal death rate was 3.88; in 1926 it was 3.87. Since 1922, indeed the rate has been slightly but steadily rising. The relation between the death rate from sepsis and from "other causes" has remained fairly constant, and such reduction as has been effected since 1890 has been due chiefly to a reduction in puerperal sepsis."

9. The further reduction of the rates of puerperal mortality and morbidity involves the operation of factors other than those directly concerning the practitioner, and which the Government reports quote as essential for and complementary to the application of professional competence. It involves, too, the elucidation of that not inconsiderable group of cases to which the facts set out in the Report indicate that more prominence should have been given, but which is represented in every series of puerperal infection tables, where labour has been spontaneous and normal with no traceable interference by doctor, midwife, or other attendant (25 per cent. in a series of 356 cases in the Report on "Maternal Mortality" (1924)).

10. These points serve but to illustrate the complexity of the problem and the need for further research in regard to its various aspects.

The Council is confident that all branches of the profession concerned with the advance of obstetrics will gladly co-operate with the administrative authorities in devising and applying any agreed scheme to minimise the incidence of the diseases and accidents of childbirth.

#### PUERPERAL SEPSIS.

11. Investigation of this dominant factor of the problem brings to light common experiences which are worth noting as evidence of the fact that in certain directions there is still a great deal to be learned. That there is some factor at present not fully known is fully evident, for whereas on the one hand cases of women delivered under the worst possible hygienic conditions often show nothing abnormal, other

women delivered in hospital under the most stringent aseptic conditions sometimes develop puerperal sepsis.

12. Sepsis occurs not infrequently in cases in which the child has been born before the arrival of the doctor or midwife and in others in which no vaginal examination has been made.

The as yet unanswered question is "Why is this so?" The solution may well lie in the determination of the kind and degree of immunity of the pregnant women for there are factors in her defensive mechanism which obviously require further investigation.

The essential nature of puerperal infection is a problem in bacteriology, and requires the co-operation of specialists in that branch.

13. The principal facts may be briefly outlined.

Bacteriological examinations, in many clinics, have revealed the fact that in most cases puerperal sepsis is due to streptococcal infection. Streptococci are widely distributed both in the body and outside it. In the body they are frequently found in the mucous membrane of the pharynx, tonsils and nose, and even of the vagina and cervix uteri.

14. The possible sources of infection during childbirth are:—

(a) *Exogenous*, such as, any infective conditions of the patient or the attendant, the fingers, gloves, instruments, etc.;

(b) *Endogenous*, such as, the cervix uteri, or embolus from a primary focus elsewhere in the body, the organisms resting in devitalised tissues (e.g., osteomyelitis).

#### PROPHYLAXIS OF PUERPERAL SEPSIS.

15. Information on this subject may be derived from the Report on Puerperal Sepsis compiled by a Committee of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and is based on an analysis of 249 reported cases. It is noteworthy that no prophylactic measures are mentioned even in the record of cases of long and difficult labour. Evidence furnished in the above-mentioned Report and in the equally valuable Report of the North of England Obstetrical and Gynaecological Society shows that in most cases the hæmolytic variety of streptococcus pyogenes is the infecting agent.

16. The prophylactic measures which are necessary to combat infection may be summarised as follows:

(1) Strict antiseptic or aseptic measures, in order to diminish the risk of conveyance of infection.

(2) A minimum of obstetric interference, which is especially dangerous after rupture of the membranes.

(3) The intelligent anticipation of complications likely to occur during labour by efficient ante-natal supervision.

(4) The efficient treatment of any complication of labour should it arise.

17. Efforts have been made to determine the degree to which sepsis may be attributed to perineal tears. It has not been found possible to obtain from individual doctors a sufficient volume of reliable data on which to base a definite conclusion, but the following example of institutional investigation is worth noting.

18. In a series of 888 confinements dealt with by the Birmingham General Hospital External Department there were 95 cases of perineal tear. In 72 of these 95 cases the trauma was due to natural forces, and in the remaining 23 the trauma was mainly attributed to forceps delivery. Eight cases only exhibited pyrexia and the most severe case was associated with a simple first degree tear due to natural expulsion. Immediate repair by suture is indicated, however small the tear.

19. The elimination of sepsis is an ideal to be aimed at; its reduction is a matter of practical politics though it is undoubtedly the most difficult part of the problem. There are many elements of difficulty, some due to incomplete scientific knowledge and others due to factors which at present are not under the control of the medical practitioner or the midwife, for example, the occurrence of sepsis where no definite reason can be assigned.

20. Administrative action has been taken which should go a long way to enable doctors and midwives to cope with cases of sepsis in the early stage, namely, the compulsory notification of puerperal pyrexia, the provision of a consultant's opinion, and the increased provision of beds for serious cases.

21. It is for the medical profession to take full and early advantage of these facilities. Every case of a rise of temperature, unless it is clearly explained by some morbid condition unconnected with the pregnancy, should be regarded as serious and dealt with promptly from the start: it is dangerous to wait until the condition is so marked as to be unmistakable. The necessity for this cannot be too strongly insisted upon.

Should the home surroundings be suitable and efficient nursing available, it is probably better that the case should be dealt with in the home, but in the absence of such facilities, removal to an institution is essential.

#### ANTE-NATAL WORK.

22. In any effort to reduce puerperal mortality and morbidity ante-natal supervision must take a prominent place. An examination of the causes of death in statistics connected with maternity work shows that many of these deaths might have been avoided and that it is through ante-natal supervision that this can be accomplished.

23. Deaths directly due to childbirth may be divided into three main classes, namely:—

(1) Toxæmias; albuminuria of pregnancy and its terminal complication, eclampsia; hyperemesis gravidarum; acute yellow atrophy of the liver.

(2) Accidents of pregnancy; hæmorrhages; rupture of the uterus; pulmonary embolism.

(3) Septic infections.

There are other conditions which may lead to a fatal termination at or about the time of confinement, such as tuberculosis, valvular disease of the heart, Bright's disease and diabetes. In such cases the public may regard the death as due to the childbirth rather than to the particular disease and the doctor or midwife, or both, are unjustly blamed.

Ante-natal examination, supervision, and treatment can do much to reduce the number of deaths from such associated conditions.

In class (1) there is a great field for ante-natal work.

24. The cause or causes of the toxæmias of pregnancy remain largely unknown in spite of world-wide research. It has been estimated that in Great Britain the incidence of eclampsia amounts to 3,000 cases annually, and that it is responsible for 600 deaths, most of which occur among young mothers. That eclampsia is a preventable disease the work of every ante-natal clinic bears testimony. With the routine examination of the urine during pregnancy, the systematic recording of the blood pressure when albuminuria is discovered, and the appropriate prophylactic treatment when the warning signs are present, eclampsia would practically disappear. The investigations of the Eclampsia Committee of the Royal Society of Medicine have shown that the number of cases in which eclampsia comes "as a bolt from the blue" without any warning signs is very small indeed.

The value of a routine and repeated examination of the urine is so universally recognised that it is unnecessary to stress the point.

25. As examples of the value of ante-natal work in this connection the following figures supplied to the Committee are worth recording:—

In the Dudley Road Infirmary Maternity Home, Birmingham, in 1925 there were 1,217 confinements in the Institution. Among those patients who had ante-natal observation there were no cases of eclampsia while among those who had no such observation there were 9 cases with one death.

In 1926 there were 1,084 confinements. Among those who had received ante-natal attention there were no cases of eclampsia while among those not so dealt with there were 6 cases but no deaths.

26. In Class (2) ante-natal supervision can do much to reduce mortality and morbidity by the early treatment of hæmorrhages, by the detection and rectification of mal-presentations, and the recognition of any conditions likely to lead to delayed labour. Systematic ante-natal work will reduce the accidents of parturition to a small figure but can never eradicate the factor of hæmorrhage entirely, nor in the present state of our knowledge does it seem possible to eliminate such sudden and unexpected disasters as deaths due to syncope and embolism.

27. In class (3) much can be done to lessen the risk of puerperal infection by the discovery of septic conditions already existing in the prospective mother and by dealing with them before labour supervenes. Among such conditions may be mentioned septic infections of the nose, mouth and ears, septic ulcerations of various parts of the body, and septic vaginal discharges. It has been shown that sepsis is responsible for about one-half of the total maternal deaths. Ante-natal supervision can and should bear an important part in the attack on this aspect of the problem.

28. A practically unexplored field is the condition of the pregnant woman as contrasted with that of the unimpregnated woman. There are grounds for believing that changes occur in her bio-chemical and her endocrine conditions and the

results as regards increased or decreased immunity and susceptibility to sepsis seem to afford an important field for research.

29. So far as private practitioners are concerned the replies to the questionnaire sent out to Divisions and Branches of the Association show that while women are seeking ante-natal advice in increasing numbers there are still very many who do not. The movement is still in its infancy and no substantial progress will be made until every woman, whether rich or poor, is examined at least once in her pregnancy by a qualified medical practitioner, and further that the urine be examined at regular intervals during pregnancy. The tendency of patients to postpone consulting a doctor or midwife until late on in pregnancy should be discouraged. A general adoption of the principle which will result in ante-natal examination becoming the rule rather than the exception can only be attained by a persistent campaign of education and it is for the profession and the midwives, whose opportunities for propaganda work are unrivalled, to educate their patients.

30. It is noteworthy as evidence of the need for further propaganda work in the value of ante-natal supervision that in answer to the question, "Do many women seek ante-natal advice and treatment?" of 104 of the Association's Divisions sending in replies, half replied in the affirmative and half in the negative.

This would not be so were women aware of the importance of ante-natal supervision, and it rests largely with the medical profession to educate public opinion on this point.

It is only when financial difficulty is experienced in meeting the cost of necessary examinations that there should be need for the local authority to set up clinics under the Maternity and Child Welfare Act.

31. Figures showing unmistakably the value of ante-natal work are available and if only they can be put before the public in an attractive form they cannot fail to convince. The following examples speak for themselves:—

2,000 confinements of women who, with one exception, had been ante-natally examined took place in the Louise Margaret Hospital for Women at Aldershot in the four years 1920-1923. There were only two deaths: one from mitral disease in the woman who had no ante-natal examination and one from pulmonary embolism. A mortality rate of 1 per 1,000 against the normal rate of 3.81.

888 cases were dealt with in the Extern Midwifery Clinic of the Birmingham General Hospital. The cases were delivered in their own homes in some of the worst slums of the City. There was only one death and this in the case of a woman who only registered on the day of her confinement. The case was one of hydrocephalus and the uterus ruptured.

Experience at the Dudley Road Infirmary, Birmingham, shows that the percentage of abnormalities during labour and the puerperium in the case of those who have not attended the ante-natal clinic is more than double the percentage of those who have attended.

The records of the Glasgow Royal Maternity and Women's Hospital for 1926 show that the percentage of deaths was less than half in those cases which had had ante-natal supervision as compared with those which had not.

32. From what has already been said it is clear that ante-natal supervision is a powerful weapon with which to attack the problem. Apart from the education of the public by the doctor and the midwife, in regard to its possibilities further means may be devised for increasing the prevalence of ante-natal supervision.

In Australia there is a Maternity Allowance Act. This provides for a payment of £5 to a mother on the birth of a child, and in 1926 the Royal Commission on Health of that country recommended the amendment of the Act to provide that application for the allowance should be made at least five months before childbirth: "no payment to be made unless a medical certificate be produced showing that the mother has had ante-natal supervision."

Under the National Health Insurance Acts an insured woman gets a maternity benefit of £2 on production of evidence of the birth of a child; if her husband is also insured she can claim an additional £2.

The Royal Commission on National Health Insurance recommended that the National Health Insurance Regulations be amended so as to make it a condition of payment that the recipient has had at least one thorough examination by a qualified medical practitioner during her pregnancy. For this service no special payment need be provided in the case of

women insured under the National Health Insurance Acts, as ante-natal examination is regarded as part of the duty of the insurance practitioner. Of those remaining it may be assumed that many could afford to pay, or, if they could not, could avail themselves of the ante-natal clinic. In view of the admitted inadequacy of midwifery fees generally the extra work involved in the extension of ante-natal care would appear to raise the question of appropriate remuneration.

#### THE NEED OF BEDS FOR MATERNITY CASES.

33. An important element in the armament for an attack on maternal mortality is an adequate supply of beds for midwifery cases. It is difficult, if not impossible, to obtain a comprehensive analysis of the beds definitely set aside for maternity cases in all parts of the country, but replies by the Association's Divisions to the question, "How many maternity beds are there in the area?" confirm what is common knowledge, namely, that there are not sufficient beds for midwifery cases evenly distributed throughout the country. Twenty replies out of 118 indicated that there were no beds specially allocated to midwifery in their areas.

In London the available beds for maternity cases in registered lying-in homes, municipal, maternity homes, special hospitals, general hospitals and poor law infirmaries would permit of 43 per cent. of the total births within the area taking place in institutions.

There are no data available to show the total number of confinements which take place in institutions in this country, but the percentage cannot be very high.

While it is not considered necessary that all maternity cases should be institutionally treated it is regarded as essential that there should be an adequate supply of beds for certain classes of cases, viz., those with obstetric or other complications, and those whose home circumstances are unsuitable.

The provision of beds in many areas would probably be more feasible if provided by a combination of local authorities, rather than by individual authorities.

#### COMMENTS.

34. It has already been shown that ante-natal work can do a great deal towards the reduction of morbidity and mortality by the detection and rectification of abnormalities. Its utility might be carried still further by classification of cases into those which are normal and those which are abnormal allocating the former to the midwife, whose function it is to attend normal cases, and the latter for the supervision of the medical practitioner.

No such ideal can be accomplished without full and cordial co-operation between doctor and midwife. There is here a field for team work comprising ante-natal examination by the doctor in the patient's home or at the clinic, the confinement being carried out by the doctor or midwife or both with the specialist and bacteriologist available in cases of special difficulty, and, in certain cases, institutional treatment.

35. An organised attack should be made in towns and rural areas in which it is common knowledge that the general maternal mortality rate is persistently much higher than the general rate for the whole country. There would seem to be here a great opportunity for the Divisions of the Association to inaugurate a campaign. It has not yet been explained why in certain industrial towns a death rate as high as 6 or even 8 per 1,000 is met with. There must be some special cause to account for this high rate, possibly bad housing, a poor standard of living, or faulty methods of attendance. The results obtained by an organisation working in the East End of London which deals with a large number of confinements annually and which for four years has kept its mortality rate down to 0.67 per 1,000 give good grounds for optimism.

36. With regard to the apportionment of blame for the admittedly unsatisfactory morbidity and mortality rates it seems that no useful purpose is to be served by an attempt to lay it at the door of either doctor or midwife. Both are doing their best under very difficult circumstances. There is ample evidence that in the present state of scientific knowledge and with the lack of proper facilities for dealing with cases of grave difficulty a quite appreciable proportion of the trouble is outside the control of either. To create a feeling of despondency or lack of confidence in themselves would not be helpful. Far better is it to promote a spirit of co-operation between them to let them feel that they have the confidence and support of the public and to stimulate them to renewed efforts to improve midwifery practice.

37. There is need for a great educational campaign throughout the country, in which the Association should take an important part in consolidating medical opinion and directing the lines upon which progress may best be made.

As a special means to this end it is suggested that a committee should be set up to watch the course of events. Such a committee would have under review the various measures which are proposed or adopted for general improvement of position, would keep in touch with research work and initiate activities designed to bring about a more satisfactory state of affairs. The committee should be a committee of the Association consisting of the ex-officio officers, other members of the Association and representatives of other bodies concerned.

38. A matter of considerable importance is the shortage of material available for instructional purposes and it is of utmost importance that such material as exists should be turned to the best account. Cases are not only required for instruction of medical students but also of midwives. It is a well-known fact that large numbers of nurses take the C.I. as an additional qualification without any intention of practising midwifery, the result being that a large amount of the available material is wasted. It is possible that the longer and more strenuous course of training for the C.I. certificate might deter those who have no intention of practising midwifery from taking the certificate and the problem is certainly deserving of the close attention of those responsible for the training of both doctors and midwives.

39. The Ministry of Health is pressing upon the local authorities the necessity of an investigation in every area by a competent and experienced medical officer of all rates of deaths and all cases of puerperal fever, with a view to ascertaining more exactly the actual causes which lead to maternal mortality, in order to provide further means of prevention. The Council, on being asked for its support, agreed that such an investigation would be useful if carefully controlled by a competent and experienced medical officer. If the results were used exclusively for scientific and public health purposes, and urged that it was most important where necessary such an investigation should be followed by the offer of expert advice and assistance, institutional otherwise. The Council would press on the Divisions, on members of the profession generally, the necessity of giving all the assistance they can towards making observations secured by such investigation as accurate and complete as possible under the conditions named.

#### Recommendations.

40. (1) That steps should be taken to determine by further experimental research:—

(a) The factors which constitute and the conditions which vary resistance to disease, particularly as regards pregnancy and the puerperium.

(b) The best specific prophylactic measure to employ for the prevention of infection by streptococcus pyogenes.

(c) The length of time required to acquire immunity and the degree and duration of immunity.

(d) The therapeutic value of specific as opposed to antiseptic measures in the treatment of septicæmia caused by streptococcus pyogenes.

(2) That increased facilities should be provided for training medical students with special reference to ante-natal work.

(3) That a condition of the payment of maternity benefits under the National Health Insurance Acts should be that the mother has had at least one ante-natal examination by a qualified medical practitioner during her pregnancy.

(4) That members of the medical profession should be encouraged to keep regular and careful records of their midwifery cases.

(5) That there is need for further provision of beds specially set aside for maternity cases in institutions. That every maternity home should provide for the complete isolation of septic cases.

(6) That the Association should consider the allocation of additional grants to promote research into the problems raised in this report, including especially the questions raised in the first recommendation of this report.

(7) That a Committee be set up to formulate measures designed to bring about reduction in puerperal morbidity and mortality rates, to keep in touch with research work



and to assist Divisions and Branches of the Association in arranging for education and propaganda with regard to the value of ante-natal service, the method of dealing with confinements and the post-partum care of the mother and care of the infant.

#### RECOMMENDATIONS THAT HAVE ALREADY BECOME EFFECTIVE.

##### 41. Compulsory notification of puerperal pyrexia.

Provision of compensation to midwives who are unable to carry on their work owing to having been in contact with a septic case.

### APPENDIX V.

#### MEMORANDUM ON REPORT OF ROYAL COMMISSION ON LUNACY AND MENTAL DISORDER (AS REGARDS ENGLAND AND WALES.)

Note.—References marked "R" are to pages in the Report of the Royal Commission; those marked "M" to paragraphs in the present Memorandum.

#### INTRODUCTORY.

1. In many important respects the Report of the Royal Commission on Lunacy and Mental Disorder (as regards England and Wales), published July, 1926, is in harmony with the principles advocated by the Association in the evidence which it tendered to the Commission.

2. In particular, the Commissioners report unanimously:—

(a) "that the treatment of mental disorder should approximate as nearly to the treatment of physical ailments as is consistent with the special safeguards which are indispensable when the liberty of the subject is infringed" (R 157); that "the keynote of the past has been detention; the keynote of the future should be prevention and treatment." (R 17)

(b) "that certification should be the last resort and not a necessary preliminary to treatment; and that the procedure for certification should be simplified, made uniform for private and rate-aided cases alike and dissociated from the Poor Law." (R 157)

(c) that "the present facilities for treatment without certification are on a very limited scale, and need extensive development" (R 157); and "that the evidence . . . points to the need for some provision whereby certain classes of case may be placed under care and treatment without the necessity for full certification." (R 157)

(d) that "voluntary boarders might be received in any public mental hospital, registered hospital, licensed house, general hospital, nursing home, or in single care." (R 157)

(e) that "it is not fair to ask them [medical practitioners] to perform their essential part [in connection with the Lunacy Act] under the menace of litigation which, even if unsuccessful, may spell financial or professional ruin"; . . . and "that further protection should be given to medical men in the discharge of their professional duties in relation to insanity." (R 24)

(f) "that the evidence . . . does not support the suggestion that the present safeguards against wrongful certification if properly observed are inadequate" (R 157); "that in none of the cases which were investigated by us were we satisfied on the evidence that improper detention had been suffered, while the general evidence which we received on this subject was reassuring" (R 87); and "that in practice instances of sane persons being wrongfully certified or improperly detained must be of the rarest occurrence." (R 87)

(g) that "a considerable extension of after-care work is urgently needed, . . . and that the establishment of closer touch between the medical staff of mental institutions and the general practitioners attending patients after discharge would prove an important factor in improving the after-care system." (R 164)

3. The Council welcomes the propositions above stated as substantially in agreement with the evidence given by the Association before the Royal Commission, and gratefully acknowledges the courtesy and care with which this evidence has been received. There are, however, in the Commissioners' Report some conclusions from which the Committee finds itself compelled to dissent. These relate mainly (a) to the methods by which patients falling ill of mental disorder can be brought under treatment, and (b) to the protection from the menace of litigation of medical practitioners who discharge duties in pursuance of the Lunacy Acts.

The Council proposes in the present Memorandum both to indicate in what respect its views on the above topics differ from those of the Royal Commission and to offer certain alternatives to the procedures the Commission has suggested; also to comment on some other matters that seem to call for special remark. First will be considered the methods by which the interests of patients suffering from various degrees of mental disorder can best be secured, and later the Memorandum will deal with the protection of members of the medical profession from vexatious actions at law instituted by patients who believe themselves aggrieved.

#### ARRANGEMENTS FOR BRINGING UNDER TREATMENT PERSONS SUFFERING FROM MENTAL DISORDER.

##### (a) Mental Cases outside the Lunacy Act.

4. The Council desires to emphasise the existence of forms and degrees of mental disorder which need not bring the patients under the Lunacy Acts or within the cognizance of the Board of Control. These patients are conscious or some degree of mental disorder and desire to be treated, but do not, either in their own interests or in the interests of the public, require compulsory restriction of their liberty. They can be satisfactorily treated at out-patient departments, or in general hospitals, or by private practitioners in their own houses or in nursing homes. As a fact, they are so treated at the present day, although the existing provision for treatment of this order, and especially for the poorer patients, is quite inadequate and ought to be increased. If the suggestion on page 150 of the Report regarding arrangements for treatment "without certification" is to be read as a proposal to bring these patients in any way under the Board of Control, then the Council is bound to disagree. Such a formality, with the consequent prospect of official visits on behalf of the Board of Control, is quite unnecessary, and would certainly deter many patients from accepting the medical treatment they require; and similarly, the managers of general hospitals and other institutions might well be reluctant to receive patients who appeared to be regarded officially as of unsound mind.

The Commissioners recognise (R 40) that Section 315 of the Lunacy Act, 1890, puts some difficulty in the way of treatment of these slight and curable cases, and recommends that the "provision needs considerable amendment." The Council supports this recommendation but re-affirms its opinion that the cases here considered ought not to be brought within the jurisdiction of the Board of Control or of any other Government Department.

The term "certification" as used in the Commissioners' Report is not quite free from ambiguity. Probably it generally means "full" certification of the patient as of "unsound mind" and the proper subject of a Reception Order. But it might be held to include all patients who by a formal process are undergoing treatment for mental disorder.

The Council repeats that there are patients who suffer from some degree of mental disorder but who need neither a formal "recommendation for treatment" nor a formal "certificate" and therefore ought not to be brought within the purview of the Board of Control. When either of these documents is required the Council of course recognises that the jurisdiction of the Board of Control at once applies.

##### (b) Mental Cases under the Lunacy Act.

5. Of patients who, in consequence of mental disorder, come within the provisions of the Lunacy Acts three groups may be recognised, namely:—

(a) Volitional (i.e., patients who realise that their mental disorder requires or may require treatment in an institution where restriction of liberty is permissible, and who to this end voluntarily surrender their liberty subject to certain conditions governing the right to resume it);

(b) Resistive (i.e., patients who, suffering from mental disorder, are in need of restraint for their own protection, care and treatment or for the protection of others but who refuse to acquiesce in, or deliberately object to, such treatment);

(c) Non-Volitional (i.e., patients who are the subject of mental disorder which needs institutional treatment but which prevents them giving either a reasoned assent, or a reasoned objection, to the detention required, such as would place them in the "Volitional" or "Resistive" class respectively).

#### VOLITIONAL: VOLUNTARY BOARDERS.

6. With the proposal of the Royal Commission approving the admission, under proper conditions, of Voluntary Boarders into public mental hospitals, registered hospitals, licensed

houses, general hospitals, nursing homes, and in single care, the Council is in entire agreement. The Commissioners prescribe a written application from the person wishing to be received as a Voluntary Boarder; presumably the application would have to be addressed to the Superintendent of the hospital or other institution concerned, and it would be well to indicate this precisely.

7. In contemplating the possibility that the mental condition of a Voluntary Boarder may, during his residence, deteriorate, so that he is no longer capable of volition, the Commissioners advise that should this condition continue for a month he should no longer be regarded as a "voluntary" patient but should be placed under certificate. The alternative would be to claim that as the voluntary entrance implies surrender of personal liberty for the purpose of treatment this surrender should continue even though the patient's mental capacity to express it had for the time being failed. The Council fully recognises the importance of keeping faith with a "voluntary" patient. To receive such a patient under the guarantee that he is at liberty to leave on a few hours' notice and then to put him, while in "voluntary" residence, under compulsory detention would be hard to justify; and in a system which sanctioned such a procedure "voluntary" patients would not place their confidence. The Council is of opinion that a distinction should be made between two groups. The patient who, received as a Voluntary Boarder, becomes mentally inert and acquiescent may be continued on a "voluntary" status, but he who is resistive, and demands his freedom in the terms of the bond, should be discharged, although this action may have immediately to be followed by certification and compulsory detention.

#### RESISTIVE PATIENTS: RECEPTION ORDERS AND EMERGENCY PROCEDURE.

8. The more or less sudden and acute manifestation of mental disorder creates a very difficult situation. Unless forcibly restrained, the patient may harm himself or others, or may destroy property, and in these circumstances careful medical examination may well be impossible. As the law now stands, if the doctor certifies the patient he runs the risk of an action for damages by an indignant convalescent; if he declines to certify and the patient harms himself or others there will be public reproach and the chance of censure by a Coroner's jury; while, in a doubtful issue, should the patient be placed in an ordinary nursing home, Section 315 of the Lunacy Act, 1890, may provide heavy penalties for all concerned.

9. The Commissioners recognise that in some of these cases law rather than medicine must take the initial step. Hence they advise that if a patient suddenly develops acute symptoms at home, rendering medical examination impossible, or is found at large in a condition that requires instant restraint, a constable, relieving officer or overseer should be empowered to remove him and place him under control. (R 57) Should, however, a patient be detained in this fashion proceedings must be taken within seven days to secure an authoritative warrant in the shape of a provisional treatment order or a reception order. (R 57) Unless this is done further detention of the patient will be illegal.

10. Procedure somewhat different from that just described is proposed. (R 57) when the development of dangerous symptoms is not quite so acute. Here an "order" signed by a relative or friend or public official and supported by a medical certificate to the effect that "it is expedient for the welfare of the patient or for the public safety that he should be forthwith placed under care" will justify the reception and detention of the patient in an appropriate institution. But once again, proceedings to obtain a provisional treatment order or a reception order must be taken if detention beyond seven days is contemplated. The procedure is that of the existing "Urgency Order."

11. There are yet other patients who require forcible removal and detention. Less violent and urgent perhaps than those mentioned in the two preceding paragraphs, they may none the less be dangerous to themselves or to others; and as they deliberately refuse advice and resist treatment force is the inevitable remedy. Under the present law such a position can be met by the existing Reception Order granted by a magistrate after consideration of a Petition presented by a relative or friend and supported by two medical certificates. The present medical certificate describes the patient as "a lunatic, idiot, or person of unsound mind," but in the new form the reading is to be a person "of unsound mind and a proper person to be taken charge of and detained under care and treatment." This amendment of the "certificate" adopts the proposal made by the Association in the evidence given to the Royal Commission.

12. The Commissioners suggest certain modifications of the present Reception Order. Thus they alter the rule which instructs the two doctors to act independently, and recommend that the doctors be entitled to consult together. The Council welcomes this proposal. Another recommendation is that the Reception Order shall apply only to patients who are not likely to recover within a period of six months, and this must be stated on the medical certificate; the Council cannot endorse this proposal. Obviously, one result will be that at the outset of institutional treatment the Reception Order will rarely be used, for in so uncertain a region as the prognosis of mental disorders the doctor will be reluctant to suggest an unfavourable outlook and the prospect of unlimited detention. The Council thinks that this time-clause should be omitted and the doctors left free to judge in each case which form of procedure is the more suitable.

Another suggested modification of the Reception Order is that the magistrate must see the patient and any available relatives; also, if he thinks it necessary, one or both doctors. He is further to exercise a "directed discretion" whether or not to inform the patient of the "allegations" made regarding his conduct. Later in this Memorandum the Council will argue that the Reception Order, and the intervention of the magistrate, as here advised, should apply only to certain cases. In such cases the activities of the magistrate as prescribed by the Commission may perhaps be of value.

The Council questions the Commissioners' demand that the Petition shall be accompanied by "a disclosure of the patient's property, if any." The immediate distress inflicted on the relatives by the necessity for certification may well claim some postponement of a matter that can hardly be described as urgent.

13. There is one other position for which provision must be made. According to the existing law, when a Justice of the Peace is informed that a person deemed to be a lunatic is not under proper care and control or is cruelly treated or neglected, the Justice shall direct two medical practitioners to examine the alleged lunatic and shall on their report order the detention of the patient if he judges it fit so to do. In such cases the right of entry of the doctors may be contested and the Justice ought to be empowered to secure this.

14. Subject to the criticisms presented in the above paragraphs the Council agrees with the proposals of the Commissioners relative to mental patients who are "resistive" in the sense defined in this Memorandum. (M 5(b))

#### NON-VOLITIONAL PATIENTS: PROVISIONAL TREATMENT ORDER.

15. The Commissioners take the view that cases of mental disorder should be classified in two categories, namely, (a) voluntary, (b) involuntary. The voluntary group consists of patients who enter a mental institution on their own initiative as Voluntary Boarders. All others are "involuntary" and can be placed under compulsory treatment only after medical examination and on the order of a magistrate. If recovery is anticipated within six months a single medical examination is sufficient, but if the outlook is less promising two medical certificates are required. The instrument justifying the shorter detention is the Provisional Treatment Order, while that for the longer period is the Reception Order. Such, essentially, is the scheme outlined by the Commission so far as the formal procedure governing the admission of mental patients to appropriate institutions is concerned.

16. The Council, with great deference, and assuming that the ends desired by the Commissioners are to be obtained, cannot accept as a practical scheme the classification of cases adopted by the Commission; nor can it agree that the intervention of a judicial officer prior to institutional treatment is invariably desirable. On the contrary, if the early treatment of mental disorders is to be realised, then, in the view of the Council, such intervention should be limited to cases in which the patient is capable of volition and definitely refuses or resists institutional treatment—cases, that is, where the use of force is necessary either for the patient's welfare or for the protection of the public. What has to be recognised is that between the Voluntary Boarder at one extreme, and the recalcitrant or deliberately resistive patient at the other, there are numerous patients in whom the will is in abeyance (non-volitional patients). The incapacity may be associated either with the irresponsiveness of stupor or melancolia, or with a state of mental confusion and indecision; in either event the patient is manifestly beyond the point at which any appreciable degree of judgement or choice is possible. Such patients are numerous, and many of them made an early recovery; hence they ought, if possible, to be saved from the stigma of formal certification. The Council's claim is that these patients can properly be admitted to an appropriate institution on an "Authorisation

for Treatment" given by a relative or friend and supported by a "recommendation" signed by two medical practitioners. The intervention of a judicial authority in these cases the Council regards as unnecessary and possibly harmful.

17. The contrast between the two positions above discussed may be briefly stated. Both the Commission and the Council propose a Reception Order and a Provisional Treatment Order, though the Council would prefer to name the latter instrument an "Authorisation for Treatment." Both agree that the Reception Order requires two medical certificates and the warrant of a magistrate. But while the Commission applies this Order when a patient is not likely to recover within six months, the Council proposes it when a patient capable of volition resists treatment, or, when a limited term of detention having failed, prolonged or even permanent detention appears inevitable. Again, the Commission's Provisional Treatment Order is to be supported by only a single medical "recommendation" and a magisterial authority, and is to be used when the patient is deemed likely to recover within six months. On the other hand, the Council's Provisional Treatment Order or Authorisation for Treatment needs merely the "authorisation" of a relative or friend or public official and "recommendations" from two medical practitioners but no magisterial intervention; it is offered as appropriate to all cases in which the patient either can be persuaded to submit to institutional treatment or exhibits evidences which show him to be incapable of volition.

18. To put the position in other words, while the Commissioners' Provisional Treatment Order is the Reception Order made by a magistrate but limited to a period of six months and needing only one medical certificate, the Council's Authorisation for Treatment is made by a relative or friend, or public official (not by a magistrate), is effective for 28 days but capable of extension, and is supported by two medical "recommendations." According to the Commissioners' scheme no patient other than a Voluntary Boarder can receive institutional treatment except on the approval of a magistrate, while the Council's proposal makes available such treatment without magisterial intervention for all patients who either yield to the doctors' advice or are mentally incapable of appreciating or judging this advice.

19. The Provisional Treatment Order proposed by the Commissioners is, like the Reception Order, granted by a magistrate on a Petition presented by a relative or friend. But it differs from the Reception Order in three respects, (a) it requires one medical "recommendation," but one only, (b) the "recommendation" must state that "the patient's mental condition is such that it is expedient for his welfare, or for the welfare of the public, that he should be detained under observation care and treatment," and (c) the Order is effective only for a month. If, however, the patient has not recovered at the end of a month the Order, if there is a reasonable prospect of recovery at an early date, may be extended for a further period of five months. To secure this extension a judicial authority (preferably the one who signed the original Order) must again see the patient, and a recommendation for "renewal" must be given by an "independent medical practitioner, or by the medical superintendent of a public mental hospital or other medical officer in the public service." The term "independent" as here used needs definition, and again it is not clear whether the proposal would or would not sanction a "renewal recommendation" by the medical superintendent of the institution where the patient had spent the previous month. These are points of detail, but in practice the exact interpretation of them will need authoritative explanation.

20. The following are, in the view of the Council, unwelcome features of the Commissioners' Provisional Treatment Order:—

(a) It imposes, at the outset of treatment, except in the case of the Voluntary Boarder, the intervention of a legal official on every patient who needs institutional treatment; in this respect it continues the formalities of the existing law. There is here, therefore, no approach to what the Commissioners desire, namely, the approximation of the treatment of mental disorders to the treatment of bodily ills. Again, as the relatives of the patient dislike the publicity and stigma which they associate with the presence of a magistrate, they will postpone active measures as long as possible, and the chance of early and hopeful treatment, which the Commissioners are anxious to encourage, will be prejudiced. Another appropriate comment is that detention under a "legal" warrant emphasises in the public mind the "stigma" of certification; it is this feature of the present practice that is so much resented.

(b) By prescribing a second legal interview at the end of a month the Commissioners actually enlarge the part

to be played by the law in the treatment of mental patients. They thus further depart from the ideal towards which amendments of the existing law ought, as they themselves urge, to be directed.

(c) The Order can be continued only for a period of six months; if at the end of this time further detention is advisable and the patient refuses to become a Voluntary Boarder, he must either be discharged or placed under a Reception Order. The last-mentioned course must mean another legal interview and further medical certification. As opposed to this the flexibility of the Council's Authorisation for Treatment would avoid these multiplied administrative complications, and would meet the position both of patients who may be expected to recover promptly and of those for whom the outlook is less promising.

(d) These increased legal activities will be unwelcome to the patient and to his friends. The Commissioners, contemplating the necessity for the removal of a patient, write, "in such a domestic crisis the first and natural concern of doctors and relatives alike is to obtain for the patient, with the least possible delay and the least possible publicity, his necessary removal to a place of safety and treatment. The unfamiliar formalities of legal procedure may well prove an additional cause of distress in such circumstances." (R 20) And yet, on the Commissioners' advice, "legal procedure" is to become not less but more formidable than in the present practice. Again, a multiplication of legal interviews will put a considerable burden on magistrates and, what is more important, on the medical officers of mental hospitals. This position becomes all the more evident when it is realised that the great majority of patients will, under the Commissioners' scheme, enter institutions under the Provisional Treatment Order. The belief that the medical practitioner can confidently estimate the probable date of the patient's recovery and thus sharply decide between a Provisional Treatment Order on the one hand and a Reception Order on the other, is not well-founded. The uncertainty of the future, the pressure of relatives, and the natural inclination of the doctor towards a hopeful prognosis, will combine to select the less forbidding course, and the Provisional Treatment Order therefore will usually be adopted. This will mean that every patient who enters an institution through this avenue will have an interview with a magistrate before he enters, a second interview after a month's interval unless he has recovered, and a third five months later, if, as will sometimes happen, a period of treatment extending over more than six months is required. Both magistrates and medical officers under such a scheme will find their burdens much increased. This also must be said, that the procedure here considered is largely superfluous, seeing that the patient during his residence enjoys the supervising and protective activities of the Board of Control; and so efficient have these activities proved that the Commissioners in the course of their investigations failed to discover a single instance of improper detention.

(e) Though called by another name and supported by one medical "recommendation" instead of two medical "certificates," the new Provisional Treatment Order will present to the patient and his friends no substantial difference from the present Reception Order. It will offer the same obstacles to early treatment and will carry the same objectionable stigma. To protest that it does not mean "full certification" does not alter the fact that the patient is removed and detained by legal authority just as he is under the present practice. He is openly the subject of legal detention and not of medical care and treatment. To assure the friends that a patient who has been "recommended" by a doctor, interviewed by a magistrate, and compulsorily detained, has not been "certified" and is under no "stigma," will hardly afford consolation and may possibly be regarded as an attempt to cheat the situation by a form of words.

(f) The Order suggested by the Commissioners needs the "recommendation" of only one medical practitioner. From this the Council strongly dissents. Except in an acute emergency and as a merely temporary expedient while a more formal warrant is being prepared (M 11), an issue so important as the restriction of a citizen's liberty ought not to rest on a single medical judgement; and collaboration with a colleague is clearly in the interests both of the patient and of the doctors concerned.

21. Altogether the Council finds it difficult to reconcile the conditions of the proposed Provisional Treatment Order with the expressed desire of the Commissioners that certification should be the last resort and not a necessary

preliminary to treatment, that facilities for the treatment of early and curable cases without certification should be encouraged, that procedure should be simplified, and "that the intervention of the law should be as unobtrusive as possible." (R 21) All these ends would be promoted were the intervention of the magistrates avoided in all cases other than those where the patient deliberately resists treatment and where, therefore, force must be used in opposition to his will. Such in essence, is the scheme which the Council ventures to set in opposition to the Provisional Treatment Order proposed by the Royal Commission.

22. The proposals of the Royal Commission and those of the Council are in substantial agreement as to the rules which should govern the reception of Voluntary Boarders. But, whereas, when this point is passed, the Commissioners at once introduce the magistrate, the Council urges that patients who will accept advice or persuasion, and also those who are incapable of volition, should be admitted to an institution for treatment for a specified period at the instance of a relative or friend with the sanction of two medical practitioners and without any need for magisterial approval (Authorisation for Treatment). Such approval the Council claims should be required only when the patient deliberately refuses to accept medical advice and resists the restraint necessary either for his own welfare or for the public safety (Reception Order).

23. The Commissioners, the Council fully recognises, have decided, not lightly, that the Provisional Treatment Order must be made by a magistrate. They have "not without reluctance," rejected the contrary proposition as impracticable "in the immediate future," while admitting as possible "that ultimately the treatment of mental illness will be so assimilated to the treatment of physical illness that the participation of a magistrate will no longer be considered necessary." (R 53) Even more decisively they say "if we were free to consider exclusively the medical treatment of the patient, we should have little hesitation in accepting this suggestion." (R 53) They doubt, however, whether public opinion is ready to countenance a departure from the "principle of English law that the liberty of the subject may not be infringed without the intervention of some judicial authority." (R 53)

24. It may, perhaps, be a delicate question to consider how far a Royal Commission should attempt to guide public opinion and how far it should consult popular prejudice. In any event, while the Commissioners acknowledge that "the liberty of the individual to manage himself and his property is a cardinal principle of our law," they acknowledge equally "that the principle is not an inviolable one." (R 17) As an illustration of the need in given circumstances for a suspension of the rule they quote the restricted liberty imposed on sufferers from certain infectious diseases. The position thus presented is not without its value in the present discussion. To-day, patients who are the victims of the infectious fevers not only go readily to hospital when so advised but they and their friends often request this measure. Yet, a generation ago, the fear of removal to hospital led, not infrequently, to concealment of the nature of the illness and to vigorous opposition to the proposal. Gradually the public has learned that the hospital policy means both adequate treatment for the patient and protection for the community; and this change of attitude has been brought about not by conspicuous legal intervention but by experience of medical good faith and of practical benefits. It is not unreasonable to expect that were a similar policy adopted in reference to sufferers from mental disorders there would be a similar advance in public education and opinion. The alternative is to emphasise and stereotype the present attitude for at least another generation. Perhaps the objection may be made that while the liberty of the sufferers from infectious disease is restricted only for a brief and easily estimated period, the victim of mental disorder may have to be the subject of an indefinite and perhaps a prolonged detention. Broadly, this proposition may be accepted; but it is surely qualified by the arrangement which secures for the mental patient the supervision of an organised and independent legal and medical authority (Board of Control) open to appeal at any time and empowered to terminate detention when this is no longer necessary. The Commissioners have found as a fact that this supervision is effective, and such a finding, pressed on the public attention and associated with procedure in which the early and formal intervention of the law is avoided, might well be utilised to establish in the public mind the conviction "that insanity is, after all, only a disease like other diseases," (R 16) and that the medical treatment of its victims is hindered rather than helped by a compulsory participation of the magistrate.

25. There may be added the further remark that the "principle" advanced by the Commissioners is qualified by exceptions in the area now actually under discussion. Thus under the present Lunacy Laws—

(a) a lunatic may, under various sections of the existing Acts, be detained in a workhouse for as long as twenty-three days before a Justice is asked to give official sanction to the detention.

(b) the present Urgency Order is valid for seven days on medical certificate alone, and the Commissioners propose to retain this arrangement.

A principle which allows such exceptions as the above cannot well be quoted as an absolute authority, and should not be allowed to stand in the way of the interests either of individual patients or of the general community.

Under the existing law the so-called pauper patient may have the advantage of a period of observation extending even to twenty-three days on medical judgment alone. As many of these patients recover during this period they are discharged without any legal interview or warrant. What is desired is that a similar chance of escape from stigma shall be open to mental patients generally, and this would be secured by the Council's Authorisation for Treatment. (M 17)

26. Further, it is the absence of such a neutral ground between full freedom for treatment and formal judicial detention such as is here suggested that inevitably gives rise to the difficulties associated with Section 315 of the Lunacy Act, 1890, both for patients and their friends, for doctors and those who take charge of patients on the one hand and for those who administer the Act on the other.

#### MEDICAL DUTIES AND RESPONSIBILITIES.

27. The Council recognises in the Commissioners' Report certain statements of peculiar interest to members of the medical profession. Some of these are quoted in the "Introduction" to this Memorandum; a few additional passages may here be added. Thus, in considering the nature of the problem presented to them the Commissioners write:—

(a) "that insanity is, after all, only a disease like other diseases . . . and that a mind diseased can be ministered to no less effectively than a body diseased. . . . For this new conception of the nature of insanity we are chiefly indebted to pioneers of the medical profession who have laboured to instil more scientific views into the mind of the public. . . . The modern conception calls for the eradication of old-established prejudices and a complete revision of the attitude of society in the matter of its duty to the mentally afflicted." (R 16)

(b) that "in slight or incipient cases compulsion is unnecessary and harmful. But it is in such cases and at that stage that curative treatment is most valuable and is likely to be productive of the best results." (R 18)

"Hence the necessity . . . of making provision either in connection with existing institutions or by the provision of new institutions, for the treatment of mental disease from the very earliest moment of the appearance of its symptoms." (R 19)

(c) "if the asylum be regarded, as it ought to be, . . . as a hospital for a special type of disease . . . the whole outlook is changed." (R 19)

(d) that the legal and administrative purpose should be "to bring the means of treatment and recovery within the reach of as many patients as possible without resort to certification." (R 43)

(e) That "the problem of insanity is essentially a public health problem to be dealt with on modern public health lines." (R 22)

The Commissioners, in short, in the above and in allied passages, endeavour to educate public opinion to the view that insanity is a manifestation of disease to be met by the technical arts of medical diagnosis and treatment; that here, as in bodily ills, it is from early recognition and expert treatment that therapeutic success may be anticipated; that many mental patients may be effectively cared for without any question of detention or restraint; and that when compulsory measures are needed these, while affording protection to the public, are essentially agencies directed to the patient's welfare. All these conclusions emphasise the argument advanced in this Memorandum, namely, that it is to the art and science of medicine rather than to legal intervention that the problem of insanity must be committed.

28. In the "Introduction" to this Memorandum are quoted also passages from the Report relative to the part played by medical practitioners in the administration of the Lunacy



Acts. These, and parallel phrases, show that the Commissioners were satisfied that "the existing lunacy code bristles with precautions against improper detention" (R 19); that they did not in the course of their investigations discover even a single instance of improper certification or detention; that medical practitioners in undertaking responsibilities under the Lunacy Acts are placed in an unfair position by their liability to vexatious and unreasonable litigation; that in consequence of this risk practitioners are, not unnaturally, becoming reluctant to sign lunacy certificates; and that both policy and justice demand that doctors should receive further protection against the menace of unjustifiable litigation. Further, on the subject of the importance of the part played by the medical practitioner, the Commissioners write—

(a) that "the more mental illness is assimilated to physical illness the more the public must rely on the medical profession." (R 20)

(b) that "it is remarkable that in the case of a form of disease probably more subtle and difficult of diagnosis than any other, the layman should insist on his right to sit in judgement on the expert." (R 20)

(c) that "when all is said and done reliance must inevitably be placed at some point on the skill and integrity of the medical man." (R 20)

The Council, in view of these findings, is bound to claim that various sensational rumours and suggestions which have at times alleged abuses in the administration of the law have been entirely disproved; and also, that the most searching enquiry has shown that in taking an important part in the application of the Lunacy Acts the medical profession has failed neither in integrity nor in sound judgement. The difficulties of decision, at least in a minority of cases, are great, for, as the Commissioners well say, "insanity is not a definitely ascertainable state. It is a matter of degree, upon which there must often be room for honest difference of opinion." (R 19)

#### PROTECTION OF THE MEDICAL PRACTITIONER DISCHARGING DUTIES IN PURSUANCE OF THE LUNACY ACTS.

29. The Council has now to consider the "further protection" which the Commissioners advise should be given to medical practitioners in the discharge of their professional duties in relation to insanity.

30. The present position is admittedly a most unsatisfactory one. Recent cases in the Courts have shown that a practitioner who has signed a certificate under the Lunacy Acts is liable to a civil action months, or even years, after the event, and on the plea that he has not acted with due care and in good faith. His difficulties may be increased by evidence from mental experts who feel justified in challenging a certificate though they may not have seen the patient until months or years after his recovery. In more than one recent instance the issue for the jury has in substance been, not, Was the doctor careless, but, Was the patient of unsound mind at the date of certification? That is, a court of law is asked long after the event to dispute a medical judgment made on the spot; and, if not convinced of the accuracy of the diagnosis, to draw the inference that the doctor has acted without due care. Whether the tribunal is an appropriate one or not, it is hardly reasonable to urge that when two authorities differ on a diagnostic issue one of them is necessarily guilty either of carelessness or of bad faith or of both of these faults. As quoted above from the Royal Commission "insanity is not a definitely ascertainable state. It is a matter of degree upon which there must often be room for honest difference of opinion." (R 19)

31. The most radical proposal for the further protection of the certifying practitioner appears in the claim that when an Order authorising the detention of a patient is signed by a magistrate it is this legal instrument and not the medical certificate that assumes responsibility. As a corollary there follows the contention that the medical practitioners in constructing the certificates are merely giving evidence which the magistrate may or may not accept. The doctors, that is, are witnesses and the magistrate is the deciding authority. Some colour is lent to this argument by the fact that the magistrate may call for other opinions and may take all the evidence under the sanction of an oath. But if the doctor in the procedure which leads to the detention of a patient has the status of a witness, he ought to enjoy the immunities of a witness, that is to say, that unless he commits perjury no civil or criminal proceedings can be taken against him for the evidence he has given. He does not exercise authority but merely gives to the representative of the law his opinion on the technical question at issue. Authority is exercised by the law; with the law, therefore, must rest responsibility.

Of considerable interest in relation to this argument is a judgement delivered in a recent case by Mr. Justice McCardie. The learned Judge said that if he had been freed from authority he would have thought that the effective cause of the detention was the order of the Justice and not the certificate of Dr. D. The decision under Section 16 of the Lunacy Act, 1890, lay with the Justice and not with the doctor. The Justice could decide as he pleased, whatever the certificate stated. The doctor's certificate although an essential requirement was a mere opinion which possessed, of itself, no operative force. Apparently, the learned Judge felt himself bound by a previous decision of one of the superior Courts, but it is noteworthy that even the judicial bench gives some measure of support to the claim that not medicine but the law is responsible for the detention of a certified patient.

32. The Association's witnesses before the Royal Commission presented the case just stated. The Commissioners, however, did not accept the claim; they rejected it on the ground that it would protect a practitioner "who gave a certificate negligently or in bad faith." Upon this it may respectfully be suggested that when the law appoints an official to decide *ay* or *no* on the proposed detention of a citizen it is the duty of the official to appraise the value of the evidence before he decides to act on it. Again, according to the existing law, the two doctors who take part in a Reception Order must not be in partnership with one another nor related to one another or to the patient, and in these circumstances a deliberate conspiracy on the part of two independent medical practitioners to act carelessly or in bad faith is difficult to imagine. Once more, when, as is the rule, one of the certificates is signed by the usual medical attendant of the patient or of his family it is against the interest of the doctor to send the patient out of his own care into an institution; in such circumstances the law forbids the family doctor to act as the regular medical attendant of the patient, and the same principle applies even when the patient is placed under "single care." Worthy of consideration, too, in this respect, is the failure of the Commissioners, either on enquiry or visitation, to find a single instance of improper certification or detention. Altogether, the fear of the negligent or disloyal practitioner seems decidedly over-stressed; if he exists, his opportunities are certainly severely restricted by the conditions here defined.

33. There is in the Lunacy Act, 1890, one protecting clause for the benefit of those who with due care and in good faith undertake any duty in pursuance of the Act. This is Section 330, which provides that if any proceedings are taken against any person for doing anything in pursuance of the Act, such proceedings may be stayed upon summary application to the High Court or to a Judge thereof "if the Court or Judge is satisfied that there is no reasonable ground for alleging want of good faith or reasonable care." Under this provision a doctor against whom an action has been entered may apply to the Court for stay of the action. But to succeed he must satisfy the Court, not only that there was no carelessness or want of good faith on his part, but also that there was no ground for alleging either of these faults. The doctor applies to the Court and the burden of proving a negative is placed on his shoulders. Such is the extent of the protection afforded by the existing law.

34. The Commissioners agree that "further protection" must be given to medical practitioners; and to secure this they propose that "the certifying doctor should not be exposed to an action in respect of anything done under the Act, unless the plaintiff can first satisfy a judge in chambers that there is *prima facie* ground for an allegation of want of good faith or reasonable care." (R 41) In short, while at present in an application to the Court that an action be stayed the onus of proving that there is no ground for an allegation of carelessness or of bad faith rests on the doctor, in the new proposals the burden of proof is placed on the plaintiff, and it is for him to establish (if he can) a *prima facie* case in support of such an allegation. Should he fail to satisfy the Court in this respect the action will be stayed.

35. As the alteration of Section 330 of the Lunacy Act as proposed by the Commissioners will transfer the onus of proof from the defendant to the plaintiff it may possibly improve matters. There is considerable doubt, however, whether in itself such an alteration will be sufficient to secure the object in view. Every now and again some victim of mental disturbance, in the future as in the past, will doubtless believe himself to have been wronged by a procedure which confined him in a mental hospital, and will seek a remedy at the hands of the law and at the expense of the doctor or doctors concerned. The defendant practitioner may apply for a stay of the action, and may, perhaps, under the new proposal, be more hopeful of success. But even if the Court grants the



application (and the standard of what is judged to be satisfying evidence is likely to vary) the decision will presumably be subject to legal review, with resulting expense and anxiety for the doctor.

36. The Council, therefore, while recognising the goodwill of the Commissioners and their desire to assist the medical profession in a difficult situation, yet doubts whether the mere modification of Section 330 will give an adequate degree of protection to the certifying practitioner or will secure that "willingness of the medical profession" (R 23) without which, as the Commission recognises, any system that can be devised must ultimately break down.

37. What the Council suggests is that the recommendation of the Commission on this point should be supplemented by a step which would place technical knowledge at the disposal of the Court when an application for a stay of an action is being heard. This aim would be secured by requiring the Court, before refusing such an application, to hear the opinion of an impartial expert competent to advise the Court on the technical values of the affidavits or other evidence that may be submitted. The Council is of opinion that the Association should press this proposal on the Government and the legislature in the hope that if adopted, together with the suggested modification of Section 330, it will command the goodwill of the profession. To meet the Council's proposal on this point a panel of medical experts should be set up by the Government.

38. The Council recognises that as the claim for the complete protection of the certifying practitioner (M 36) presented by the Association's witnesses to the Royal Commission has not been approved by the Commission, the chance of securing legislative sanction for it is not a good one. If this assumption proves to be correct the doctor will, as at present, continue to bear the responsibility for the patient's detention, that is, so far as the doctor is concerned the magistrate will have no protective value. The Commissioners' Report (R 36, 37) shows that in the judgement of many experienced persons the magistrate is valueless also to the patient. Whether the more active and more inquisitorial duties which are to be imparted to him will afford added efficacy in this direction may be open to debate, but it is certain that these new activities will not make him more welcome to the patient's friends, and they may in individual instances be prejudicial to the patient. In face of these considerations the Council urges (i) that in very many cases, as explained in this Memorandum, magisterial intervention is quite unnecessary, and (ii) that the interests of such patients will be best served by leaving the decision on methods of treatment to a medical judgement. This arrangement may seem, although there is no real change in this respect, to make more manifest the responsibility of the doctors concerned. Be this as it may, the Council believes that the profession will be prepared to meet the responsibility provided (a) that in an application for the stay of an action against a doctor the onus of proving an allegation of carelessness or of bad faith shall be on the plaintiff who affirms it, and (b) that when such an application is heard the Court shall have the opinion of an independent medical expert on the technical values of the affidavits or other evidence submitted.

#### ADDITIONAL NOTES.

39. The Royal Commission has considered the appointment, by local health authorities, of special "certifying medical officers" who would in whole or in part remove from the family practitioner the responsibility of lunacy certification; and the Commissioners rather encourage this view in respect at least to one of the certificates in cases where two of these documents are required.

The Council does not favour such appointments. An official announced as a "public certifying officer" would be avoided by the public as long as possible and certainly would not be welcome as a substitute for the trusted and confidential family practitioner. It might, however, be possible for each health authority to provide here as in other cases (e.g., the notification of Puerperal Pyrexia) a panel of experts any one of whom would meet the family doctor when a consultation was desirable and the patient's circumstances did not permit the payment of a consultation fee.

40. A small but convenient improvement to each medical recommendation or certificate would be the addition of a footnote drawing the doctor's attention to the fact that if he signs the document he cannot act as the "medical attendant of the patient" while the patient is in a mental hospital or in single care. This restriction exists under the present law, and presumably he will be continued. If the friends desire that the usual medical adviser shall continue as medical attendant, not he, but some other doctor must sign the official document.

## APPENDIX VI.

### COUNSEL'S OPINION IN RELATION TO THE LEGAL POSITION AND POWERS OF VOLUNTARY HOSPITALS WITH REGARD TO THE RECOVERY OF MONEY FOR THE TREATMENT OF PATIENTS.

Counsel was requested to advise the Association upon the following specific questions:—

(1) A hospital, supported in whole or in part by voluntary contributions and rendering gratuitous services to those unable to pay for hospital treatment makes special provision for more affluent patients on the basis of payment upon a scale determined with reference to the financial resources of individual patients. It also agrees with a local authority to treat certain classes of patients for a definite fee payable by the authority for every patient so treated and with a provident association to treat members of that association at a certain rate. Is that hospital, by reason of the fact that it is a charitable institution, unable to recover (a) from the individual patient, (b) from the local authority, and (c) from the provident association, the amount of the charges laid down in respect of the treatment rendered? If so, on what grounds and for what reason?

(2) Where the victim of any accident receives emergency treatment in a hospital, and establishes a claim to damages in an action for negligence against a third party, is there any means by which the hospital concerned can recover through such patient any sum on account of the expenses incurred by such hospital (a) if the victim falls within the class not treated gratuitously by the hospital, (b) if he falls within the class normally eligible for gratuitous treatment? and

(3) Generally with regard to the subject-matter of this case for the guidance and assistance of the Association.

#### OPINION OF MR. J. H. STAMP.

(1) A hospital, supported in whole or in part by voluntary contributions and rendering gratuitous services for those unable to pay for hospital treatment, which makes special provision for more affluent patients on the basis of payment on a scale determined with reference to the financial resources of individual patients and which agrees with a local authority to treat certain classes of patients for a definite fee payable by the authority for every patient so treated and with a provident association to treat members of that association at a certain rate, is not in my opinion by reason of the fact that it is a charitable institution unable to recover (a) from the individual patient, (b) from the local authority, or (c) from the provident association the amount of the charges laid down in respect of the treatment rendered.

Except in the case of any incorporated institution which by the terms of its incorporation might be prohibited from charging for its services or from suing for moneys owing to it (a case which so far as I am aware is wholly imaginary and not likely to arise in fact) the question whether a hospital can recover charges for its services depends upon the ordinary law of contract and whenever there is in fact a contract with a hospital by a person or body capable of entering into such a contract for the payment to a hospital of charges for services to be rendered by the hospital and the hospital renders services pursuant to the contract the hospital can, in my opinion, recover the agreed charges from the other contracting party.

Where a charitable institution such as a hospital differs from a commercial undertaking is not in relation to the enforcement of a contract which has been in fact entered into with it, but in relation to the question whether or not there is in fact any contract between the parties, and the difference is this, viz.:—That where a person invites or knowingly accepts services from a commercial undertaking in the course of its business a contract will be implied for payment of a reasonable price for the services so rendered, and when an implied contract for payment has arisen the amount to be paid can be subsequently agreed or determined by an action at law; but a charitable institution habitually renders its services gratis, so that the mere acceptance of services from such an institution raises no implied contract to pay for them, and even a promise to pay for the services after they have been rendered is not in law enforceable because there is in law no consideration for it, the services being past services and no implied obligation of payment having arisen from them. But where the services are in fact rendered pursuant to a contract, including a term requiring that payment should be made for the services, this difference of course disappears; and an express request to be admitted to a "paying ward" or "as a paying patient" would *prima facie*

amount to such a contract unless there were in the circumstances of any particular case something definite to exclude this result.

(2) In my opinion where an accident has been caused by negligence, and the victim receives emergency treatment in a hospital, the victim alone can bring an action against the person responsible for the negligence and he cannot include in his claim any sum in respect of the expenses of the hospital unless he is himself legally liable in contract to the hospital for the amount of the expenses, which—in such a case—can rarely be the fact. If the victim is legally liable to the hospital he can claim the amount for which he is so liable as part of his damages, but this gives no right to the hospital, whose only right of action is against the victim, its own debtor. If and when the hospital has obtained a judgment against its own debtor, and its own debtor has been awarded damages against the person responsible for the accident, the hospital may be in a position, as a judgment creditor, to make the award of damage available to satisfy its own judgment debt, but it will only be in the same position for this purpose as any other judgment creditor of the victim.

(3) It will I think be very difficult for the hospital to establish a legal claim to charge for emergency services to accident cases. In serious cases the victim is not in a position to enter into any contract before treatment and in few cases would it be practicable to raise with the victim any question as to the terms upon which he is to be treated so as to bring a legal contract into existence.

In other cases it would be a simple matter to require the signature of a formal request for admission in relation to any patient who ought to make a payment for the services of the hospital, the request being expressed to be made in the terms that payment should be made by the person signing the request, according to a specified scale, or "such of the ordinary scales of payment of the hospital as the Committee may consider applicable to the case"; the scales being indicated on the back of the form, or otherwise published so as to be capable of being incorporated in the request by a simple reference.

It is an obvious injustice that a person who has caused an accident through negligence or has granted a policy of insurance covering treatment in case of accident should escape liability because a charitable institution has given the necessary assistance and possibly the legislature might be induced to interfere if the case is of frequent occurrence.

The provisions for the purpose would not be of extreme simplicity as might be thought at first sight. They might enact in effect:—

(a) That (subject to the exception mentioned) a person treated in a hospital in consequence of injuries received in an accident should be liable to pay reasonable remuneration to the hospital for the treatment;

(b) That in any proceedings to recover such remuneration it should be a sufficient defence to prove that the patient was a proper object of gratis treatment by the hospital, unless the patient has recovered compensation or damages from any person responsible for the accident or under any policy of assurance entitling him to recover the cost of medical treatment; or

(c) That in any proceedings against any such responsible person or under any such policy in which the Plaintiff is successful any sum awarded in respect of the hospital treatment should be separately awarded and should be paid direct to the hospital.

An enactment on the foregoing lines would make well-to-do people liable in any event for hospital treatment, and poor people only when they had a remedy over against others. The exact form of any such enactment would require very careful consideration.

The payment of fees in a proper case would not necessarily interfere with the character of a hospital as a charity, any more than the admission of paying pupils to a school has a corresponding effect upon the school, provided that as a whole its object is charitable (See *Cann v. Committee of Nottingham Hospital* (1891) 1 Q.B. 585, and *Slater v. Mayor of London*, 19 Q.B.D. 79).

18th June, 1927.

## APPENDIX VII.

### SCHEME FOR CO-ORDINATION OF HOSPITAL PROVISION.

#### NEED FOR CO-ORDINATION.

At the present time there are in this country three types of hospital in which provision is made for the treatment and nursing of the sick, viz.:—voluntary hospitals, poor-law hospitals and municipal hospitals. If the proposed suggestions of the Minister of Health are carried into effect the poor-law hospitals will probably become municipal hospitals

and some scheme of co-ordinating the work of the voluntary hospitals and the municipal hospitals is essential so as to ensure (1) that there shall be no duplication of accommodation or competition with or between these two types of institution, and (2) that in the development of additional accommodation this development may be related to existing hospital accommodation.

#### CENTRAL ADVISORY HOSPITAL AUTHORITY.

The first step in the attempt to co-ordinate the work of the voluntary and municipal hospitals must be the establishment of a central advisory authority, appointed by the Minister of Health, and it is suggested that there should be established a Central Consultative Hospitals Council for England and Wales, constituted in such a manner so as to be thoroughly representative of all the various interests involved. The Voluntary Hospitals Commission might very well be used as the type of this Council. The Central Consultative Hospitals Council would act as between the Minister of Health and area co-ordinating hospital committees (the areas of which would be mapped out by the Council) in all matters concerning the hospital policy of the Ministry and the allocation of any grants which may be allotted to hospitals not directly maintained by the State in its various functions.

#### AREA CO-ORDINATING HOSPITAL COMMITTEES.

The local Voluntary Hospital Committees now in existence in many parts of the country might with advantage be used as the basis in any scheme for co-ordination, their constitution being so altered as to make them representative of all the interests involved in the areas with which they are concerned. They would act as area co-ordinating hospital committees. The areas covered by these area hospital committees should be large enough to be effective from an administrative point of view and not necessarily confined to local Government areas.

These area committees would normally deal with a comparatively large area in which will be situated a varying number of hospitals, both voluntary and municipal, which for effective administration would have to be grouped into smaller areas. The King Edward's Hospital Fund for London might well serve as the basis for the area co-ordinating hospital committee for London.

#### GENERAL SCHEME OF HOSPITAL GROUPING.

The hospital grouping which the Association envisages would be on lines similar to those suggested in the Interim Report of the Consultative Council on Medical and Allied Services, 1920, by which all hospitals in a given area will be grouped round a central or base hospital. In view of the existing state of affairs the central or base hospital will generally be one of the bigger voluntary hospitals. This may or may not be the locus of a medical school, but will in any case be expected to set the standard of hospital practice in the area and be the chief centre of education and research. The areas with which local co-ordinating committees will have to deal will generally be too large for effective administrative control, therefore they will have to be sub-divided, committees being appointed to act as the administration for a grouped system of hospitals.

#### GROUP HOSPITAL COMMITTEES.

These group hospital committees would act as advisers, and in some respects as administrators in connection with the work of the central or base hospitals, and the other hospitals grouped round the central or base hospitals. The areas with which these group committees would be concerned would be determined by (a) the needs of the population as ascertained by experience, (b) the locality of the central or base hospital, and (c) the position and grouping of the secondary hospitals.

#### CENTRAL OR BASE HOSPITAL.

Before a hospital could be said to occupy the position of a central or base hospital it should fulfil one or other of the following conditions:—

1. It should be a hospital with which a recognised medical school (under-graduate or post-graduate) is associated.

2. It should be a general hospital (voluntary or public) other than one associated with a medical school where such hospital—

(a) has outstanding advantages as regards staff and equipment, and is of sufficient size;

(b) acts as a consultative centre;

(c) deals with the investigation of the more difficult cases; and

(d) undertakes the more specialised methods of treatment.

Where a district is considered to be suitable for a grouped area but cannot be said to have a hospital fulfilling the necessary conditions then the central or base hospital should be developed from the most suitable hospital available, a necessary condition, however, being an adequate and efficient staff.

No class of case, other than infectious and certifiably insane, should be excluded from the central or base hospital. Certain categories of cases might, however, according to local circumstances, be allocated to other hospitals of the area provided they were still available for teaching purposes when necessary.

#### OTHER HOSPITALS.

All the other hospitals in the area as defined by the area co-ordinating hospital committee, including special and cottage hospitals, should be grouped round the central or base hospital and be co-ordinated with it.

The public hospital as at present must continue to provide accommodation for those cases which are outside the province of the respective voluntary hospital. Where the voluntary hospital is already holding the leading position and is progressive and locally supported it should maintain this position and any further developments which are necessary in the area should be made in co-operation with it. The public hospital, where not itself the central or base hospital, should develop not in competition with, but in co-ordination and co-operation with the voluntary hospital.

Where there is vacant accommodation in existing public hospitals such accommodation is not generally suitable at present to meet the needs of development without considerable alteration or adaptation. The provision of an adequate and efficient staff will also be necessary.

#### NECESSITY FOR CLEARING HOUSE.

A "clearing house" (i.e., a central bureau) to co-ordinate the distribution of cases requiring admission to the various hospitals would be essential under a system of co-ordination of grouped hospitals. It should work in close connection with the central or base hospital, and be situated near it, or even within it, but should be under the control of an area hospitals committee. It should also co-ordinate the hospital ambulance transport of the area.

#### RESPONSIBILITY FOR TREATMENT.

The responsibility for the treatment of cases in public hospitals could be undertaken by a visiting medical staff (on a part-time basis) with the assistance of a resident medical staff. This would help to ensure for them the same standard of treatment which exists in voluntary hospitals. The source would depend upon the needs of the area and the supply available.

It must, however, be made clear that the practitioners treating patients for whom the Government and Local Authorities are responsible, must be remunerated, and it is considered that the remuneration should take the form either of a fixed salary or of an honorarium for definite services and responsibility.

It is essential that such a visiting staff should have the right of access directly to the governing body of the particular hospital through its accredited representatives.

#### FUNCTIONS OF A GROUP HOSPITAL COMMITTEE.

Whilst an area committee should in no way interfere with the autonomy of any hospital within its area as to:—

- (i) Finance;
- (ii) Management;
- (iii) Election of Governing Body and Medical and Surgical Staffs;

it should definitely have in its functions:—

- (a) the co-ordination of admission and transfer of in-patients;
- (b) the establishment of a central clearing house or bureau;
- (c) the development of any new hospital accommodation for the area;
- (d) the co-ordination of the ambulance transport service in its area;
- (e) to ensure a uniform system of keeping hospital accounts;
- (f) the organisation and distribution of massed voluntary hospital contributions of the area.
- (g) the proportional distribution of any Government grants in aid that may become available.

## British Medical Association.

### CURRENT NOTES.

#### The Chairman of Council's Visit to South Africa.

DR. BRACKENBURY, as our readers will be aware from the article by him in this week's *Journal*, has returned from his brief but very successful visit to South Africa. The issue of the *Journal of the Medical Association of South Africa (British Medical Association)* for March 24th opens with an editorial article headed "Our departing guests."

"Yesterday Dr. Brackenbury, who came to attend our first Annual General Meeting as the official representative of the parent Association, left for England. His hurried visit to South Africa has been made at the expense of personal comfort to himself. We are all the more grateful, therefore, for the spirit of fellowship that prompted him, on the urging of the Council of the parent Association, to undertake it. It has been, from our part at least, a grand success. Dr. Brackenbury has gained our respect and admiration for his high qualities that we have learned to appreciate. He spoke, when he addressed us, with vigour, terseness, and knowledge; we realized at once that he knew his subject, and could give us points on it. At Bloemfontein he had an opportunity of meeting a number of members from the country areas, and we know that the impression he made will go far to strengthen that cordial conviction, engendered by Dr. Cox's visit three years ago, that our interests are one, and that our co-partnership should be fruitful in the future."

After graceful references to Sir Frank Colyer, Dr. Densham, and Dr. Hatrick, who also attended the South African Congress, our contemporary says:

"To all of them we express our thanks and our cordial appreciation of the services they have rendered on behalf of the parent Association to our Association. . . . We can assure them that when they decide to revisit us they will find a cordial welcome, not only from the Medical Association of South Africa and its officials, but from many personal friends whom they have made on their first visit."

#### Insurance Acts Committee.

The Insurance Acts Committee, at a special meeting called for the purpose, gave consideration to the proposals contained in the National Health Insurance Bill which is at present engaging the attention of Parliament. The Committee was chiefly concerned with the new arrangements which will govern the administration of additional benefits of a medical nature. It was considered advisable by the Committee to request the Secretary of the Ministry of Health to receive a deputation in order that the Committee's views might be explained. Accordingly a conference was held on Monday, April 23rd, when these views were explained at length to the Secretary of the Ministry. After discussion of the problems arising out of the Committee's suggestions, Sir Arthur Robinson promised that the Committee's views would receive immediate consideration. The Committee will decide what further action is necessary when the Ministry's reply is received.

#### Sir Charles Hastings Clinical Prize.

The Council has awarded the Sir Charles Hastings Clinical Prize, which includes an illuminated certificate and a money award of the value of fifty guineas, to Dr. Ambrose W. Owen, Aberdare, for his clinical study entitled "Some renal conditions met with in general practice." The award will be made at the forthcoming Annual Meeting of the Association at Cardiff. The prize will be open for competition in 1929. The following are the regulations governing its award:

#### Regulations.

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made.

4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, London, W.C.1, not later than December 31st, 1928, and the prize will be awarded at the Annual General Meeting of the Association to be held at Manchester in July, 1929.

5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work.

6. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.

7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address.

8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject of his essay for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.

9. Inquiries relative to the prize should be addressed to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

#### Medical Appointments Abroad.

The head office of the British Medical Association has a good deal of information placed at its disposal by its Branches overseas, which may be very useful to those proposing to accept medical appointments abroad. Practitioners are cordially invited to apply to the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, for any information that may be available regarding overseas appointments in which they may be interested.

### Association Notices.

#### ELECTION OF MEMBER OF CENTRAL COUNCIL 1928-31, TO REPRESENT THE AFRICAN GROUP OF BRANCHES.

DR. J. BARCROFT ANDERSON, London, England, and Dr. W. WATKINS-PITCHFORD, Bridgnorth, Salop, England, having been nominated in respect of the election to the Council of a member to represent the African Group of Branches for 1928-31, voting papers were issued from the Head Office to every member of the Branches in the Group. Of the 518 voting papers returned, 5 were spoiled; of the remainder, 292 were in favour of Dr. Watkins-Pitchford and 221 in favour of Dr. Barcroft Anderson.

Dr. Watkins-Pitchford thereby becomes elected a member of the Central Council for the period 1928-31, representing the African Group of Branches.

In the *British Medical Journal Supplement* of February 18th, 1928 (p. 51), will be found particulars as to the representation on the Central Council of the other Branches of the Association outside the United Kingdom.

#### SALISBURY AND TROWBRIDGE DIVISIONS.

The following change has been made by the Council, and takes effect as from the date of publication of this notice:

That the urban district of Warminster be transferred from the area of the Salisbury to that of the Trowbridge Division.

#### TABLE OF DATES.

May 12, Sat. Publication in *BRITISH MEDICAL JOURNAL SUPPLEMENT* of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.

May 15, Tues. Voting papers posted from Head Office, where there are contests in above elections. Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.

May 19, Sat. Last day for receipt at Head Office of voting papers for election where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body.

Publication in *BRITISH MEDICAL JOURNAL SUPPLEMENT* of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.

June 2, Sat.

Publication in *BRITISH MEDICAL JOURNAL SUPPLEMENT* of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.

Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).

June 7, Thurs.

Names of Representatives and Deputy Representatives must be received at Head Office by this date.

June 13, Wed.

Council.

June 21, Thurs.

Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.

June 30, Sat.

Supplementary Report of Council appears in *BRITISH MEDICAL JOURNAL SUPPLEMENT*.

July 4, Wed.

Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.

July 23, Fri.

Annual Representative Meeting, Cardiff, 10 a.m.

Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.

July 21, Sat.

Annual Representative Meeting, Cardiff.

July 23, Mon.

Council, Cardiff.

Annual Representative Meeting, Cardiff.

July 24, Tues.

Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.

July 25, Wed.

Council, Cardiff. Conference of Honorary Secretaries, Cardiff.

ALFRED COX, Medical Secretary.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting will be held at St. John's Hospital, Morden Hill, Lewisham, S.E.13, on Tuesday, May 1st, at 8.45 p.m. Clinical cases will be shown by Dr. E. Openheim and other members of the staff of the hospital.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—The annual general meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, May 8th, at 9 p.m.

**METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.**—The annual general meeting of the Division will be held to-day (Saturday, April 28th), at the Bottling Works of the United Dairies at Scrubbs Lane, Willesden. The United Dairies, Ltd., have kindly invited members of the Division and their wives and friends to a demonstration of modern methods of milk collection, treatment, and bottling. Tea will be provided after the demonstration, and the annual general meeting will follow immediately. Transport, by charabanc, will be provided by the United Dairies to and from their works. The charabanc will leave Connaught Place, Marble Arch, at 2.15 p.m. Members are asked to make use of the transport provided, and not travel by their own cars.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—The annual meeting of the Willesden Division will be held on May 16th. Agenda: Election of officers and committees, and consideration of Annual Report of Council.

**MIRLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, May 11th, at 8.15 p.m. A British Medical Association Lecture will be delivered by Professor Louise McIlroy on the management of labour.

**NORTH OF ENGLAND BRANCH: BISHOP AUCLAND DIVISION.**—A meeting of the Bishop Auckland Division will be held in the Cottage Hospital, Bishop Auckland, to-day (Friday, April 27th), at 8 p.m., for the election of representative to the Annual Representative Meeting.

**NORTH OF ENGLAND BRANCH: BLYTH AND MORPETH DIVISIONS.**—A clinical meeting of the Blyth Division will be held at the Thomas Knight Memorial Hospital, Blyth, on Wednesday, May 2nd, at 8.30 p.m., when Dr. W. H. Dickinson (Newcastle-upon-Tyne) will speak on some practical points in the diagnosis of pulmonary tuberculosis, and will show films.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary on Thursday, May 24th. Will members kindly inform the honorary secretary as soon as possible of any cases, notes, papers, specimens, or notices of motion they may wish to bring forward in order that they may be placed on the agenda paper? It is advisable that papers should be as short as possible.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—One of the series of post-graduate lectures arranged by the West Suffolk Division will be given by Mr. T. H. Just on diagnosis and treatment of acute inflammatory conditions of the ear, at the West Suffolk General Hospital on Saturday, May 5th, at 8.45 p.m.; coffee will be served at 8.30 p.m. A clinic will be held on Sunday, May 6th, at 11 a.m. The course is open to medical practitioners in West Suffolk and their guests.

**SURREY BRANCH: GUILDFORD DIVISION.**—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, May 3rd, at 4 p.m.; tea served at 3.45 p.m. There will be a clinical meeting in the wards and pathological demonstrations.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—The annual meeting of the Dewsbury Division will be held at the Dewsbury Infirmary on Friday, May 4th, at 8.15 p.m.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—The annual meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Stratford Arms Hotel, Wakefield, on May 10th, preceded by a supper at 7.45 p.m. Dr. A. Manknell (Bradford) will give an address on the British Medical Association and its work for the general practitioner.



## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

### Proprietary Medicines.

By ABERDEEN: That, in the opinion of the Representative Body, steps should be taken, in view of the very great number of proprietary medicines which have been put upon the market in recent years, to set up at Head Office a department to investigate these proprietary medicines and to supply information regarding them to members, either on request or in the *Journal*, or as otherwise deemed expedient; or, if this is considered impracticable, the publication entitled *Secret Remedies* should be brought up to date.

### Position of General Practitioners in relation to Hospitals and Clinics.

By ABERDEEN: That it be remitted to the Council to consider and report to the next Annual Representative Meeting upon the position of the general practitioner in relation to the voluntary and rate-supported hospitals and clinics.

## Meetings of Branches and Divisions.

### ABERDEEN BRANCH: ABERDEEN DIVISION.

A MEETING of the Aberdeen Division was held on April 12th, Dr. RORIE, chairman of the Division, presiding. Dr. Thomas Fraser was nominated as member of Council for election by Group Branches. Mr. F. K. Smith and Dr. John Craig were elected representatives and Mr. G. H. Colt and Dr. Charles Forbes deputy representatives for the forthcoming Annual Representative Meeting. The Model Rules (Organization and Ethical) were adopted by the Division.

### BOMBAY BRANCH.

A MEETING of the Bombay Branch was held on April 2nd at the Pathological Laboratory of the Grant Medical College, with Dr. R. Row in the chair.

It was agreed unanimously that the recommendations of the subcommittee of the Branch on the question of registration of midwives in the Bombay Presidency be approved, and that a copy of these recommendations should be sent to the honorary secretary of the Women's Medical Association.

Opening a discussion on the question of public hospitals and free treatment, Dr. YOUNG said that copies of the letter of Dr. Sandilands, who had opened the question, were sent to the superintendents and honorary staffs of nine hospitals in Bombay. Replies showed that the opinion was practically unanimous that the public hospitals should be reserved for the poor. Only in cases of emergency should well-to-do persons be admitted, and they should be charged on the same scale as they would have to pay to private medical practitioners or in private nursing homes. After discussion the following resolutions were adopted by the meeting unanimously:

- (1) That the public hospitals should be reserved for the poor only.
- (2) In emergency anybody might be admitted, and, if not poor, he should be charged fees at least on the scale as laid down by the Government resolution.
- (3) That it was desirable that small paying wards should be established in all the public hospitals as in the case of the Nowrosjee Wadia Maternity Hospital.

That a copy of these resolutions be sent to (i) the Surgeon with the Government of Bombay; (ii) the President of the Bombay Municipality and Dr. Sandilands, the executive health officer, thanking him for taking up this question.

### LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

At a general meeting of the St. Helens Division held on April 18th the payment for reports to coroners was discussed. A letter from Medical Services, London, was read with reference to contract practice for juveniles; the terms were considered inadequate, and disapprobation was expressed of club practice being restarted. Three names were submitted for the inquiry into varicose ulceration. A letter from St. Helens Hospital was discussed, and the meeting, in view of the offer to leave to practitioners the option of attending their patients as at present, decided to assist in the appointment of a surgical staff. The secretary was asked to call a meeting when he had any more information.

Reference was made to the deaths of Drs. J. Cotton and J. H. Don, both past chairmen of the Division.

### METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.

A CLINICAL meeting of the Lambeth and Southwark Division was held at the Belgrave Hospital, Clapham Road, on April 18th, when Dr. H. M. OMBY showed the following cases: (1) tuberculous cervical glands; (2) congenital morbus cordis; (3) rickets; (4) chronic parenchymatous nephritis; (5) tuberculous glands in cervical region and axilla, possibly Hodgkin's disease; (6) a doubtful case of cretinism; (7) a case of enlarged liver and spleen.

### NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held in the District Asylum on April 19th, under the chairmanship of the president, Dr. T. MACDONALD.

Dr. T. C. MACKENZIE read a paper on epochal insanities, in which he classified them as insanities of puberty, adolescence, the climacteric, and senility. He dealt very fully with each, describing the salient features. He read case histories illustrating the different forms, and showed two striking examples of senile insanity.

Mr. A. J. C. HAMILTON showed a typical case of Kohler's disease, with skiagrams of the affected foot.

Tea was served at the end of the meeting.

### SIERRA LEONE BRANCH.

The fourteenth scientific meeting of the Sierra Leone Branch was held on March 8th at the Connaught Hospital, with the president, Dr. PEACOCK, in the chair.

Dr. E. A. RENNER showed a case of trypanosomiasis in an adult African with a history of six months' illness. On admission to hospital the patient was dull, lethargic, and slept all day, but could easily be roused. After three intravenous injections of tryparsamide he became brighter, more active, and hardly slept at all during the day, but subsequently he was sent to the asylum as he showed marked signs of insanity. *T. gambiense* and *Loa loa* were found in the peripheral blood. Dr. Renner also showed a case of lymphadenoma in an African girl, aged 18; the illness had lasted for fifteen months. The cervical, right axillary, and the right and left inguinal glands were all markedly enlarged, and the spleen and liver were both palpable, but the blood picture was not striking. Treatment with novarsenobillon did not effect any improvement, and the patient subsequently returned with oedema of both legs.

Dr. M. C. EASMON showed four leprosy cases to illustrate the common types: an adult male, typical nodular type; an adult female, typical anaesthetic type—one digit missing from left foot and numerous light-coloured areas on trunk, face, and limbs, which were anaesthetic; and two youths, very early cases, the nasal smear examination being negative in both, but in one there was very early thickening of the lobes of both ears. Leprosy-like bacilli (acid fast) were obtained from the serum from these lobules. Both patients had pale areas on the face and apparently anaesthetic incisions at the back of the heel. Dr. Easmon showed a photograph of the back of a chicken-pox case illustrating an unusual complication in some of the pustules. After maturation and commencing to dry, a large ring of very superficial vesicle formation about the size of a penny appeared around some of the pustules. If protected from scratching there was no involvement of the true skin, and in a few days the dried blister scales dropped off. Dr. Easmon also showed a skiagram of a hip-joint for diagnosis. From infancy the left leg from the knee downwards had been a little smaller in all dimensions than the right. The patient was now 23 years old, and for the last two or three years had complained of excessive pain, after walking or standing, in the hip, knee, and back. The pain was never so severe as to arrive at a definite diagnosis, although there was obviously some abnormality about the hip-joint. The great trochanter had not yet ossified on to the rest of the femur.

Dr. R. M. GORDON exhibited larvae and adults of *A. smithii*, also infected salivary glands from the same species. The infections had been obtained by feeding bred adults on crescent carriers. *A. smithii* had not previously been shown to be a transmitter of malaria. He also showed microfilaria of *Loa loa* from a West African native suffering from trypanosomiasis; the patient had never been outside the colony of Sierra Leone.

Mr. Q. STEWART showed a patient who had had partial gastrectomy for suspected carcinoma of the stomach, Moynihan's modification of the Polya operation being used. The patient was a Liberian woman, 32 years old, who had lived in Freetown for a year. The symptoms pointed to pyloric obstruction, and there was a marked peristaltic wave in the epigastrium. The specimen showed a large saddle-shaped ulcer on the lesser curvature just proximal to the pylorus; the edges of the ulcer were markedly hypertrophied and hard, and enlarged hard glands were present along the lesser and greater curvatures. Mr. Stewart said that he had only seen two cases of gastric cancer in six years in West Africa. In regard to the question of diet and the apparent low incidence of cancer amongst African natives, it was interesting to find that tinned foods had entered largely into the diet of this patient. He also exhibited a radiograph of the humerus from a young man with a history of the arm giving way when he was using it to aid him in rising from a chair. There had been slight pain in the arm for one month previously. The radiograph showed a fracture with marked loss of bone substance. The important point was the diagnosis, so that the proper treatment could be applied, and Mr. Stewart was inclined to the diagnosis of a central sarcoma. A third case was that of a child, aged 4, with marked genu valgum and other signs of rickets, the interesting point being that rickets should occur in Freetown, where so much sunlight was present. Dr. E. J. Wright had, however, shown that the diet of the mother in these cases was deficient in vitamin content.

Dr. WRIGHT showed a case of tumour of the lower jaw in a pregnant African woman, aged 20. She gave a history of pain in the second left premolar two years previously, but there was no caries of the tooth, which loosened and came out. After a quiescent period of two months she noticed swelling of the jaw about the region from which the tooth had been extruded; this



steadily increased in size until it reached its present dimensions—about the size of a fowl's egg. The x-ray photograph shown was consistent with a diagnosis of myeloma.

The President welcomed Dr. J. Beringer, a guest at the meeting, remarking that it was through the efforts of Dr. Beringer that the Sierra Leone Branch of the Association had come into being.

#### JAMAICA BRANCH.

At a recent special meeting of the Jamaican Branch at the Public General Hospital Dr. ORR described the methods of ninking tuberculin injections for diagnostic purposes and their value; ten cases were shown. Dr. ORR answered numerous questions from Drs. L. M. MOODY, VINE, BROUSTORPH, GIFFORD, and ALLEN, and, on the proposition of Dr. L. M. CLARKE, seconded by Dr. GIFFORD, he was accorded a vote of thanks.

At another meeting of the Jamaica Branch, on March 15th, Dr. BORN delivered a lecture on malarial surveys, and afterwards gave a demonstration on anopheline mosquitos and larvae.

#### SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.

At a meeting of the Swansea Division on March 23rd, at the Swansea General Hospital, a lecture was given by Mr. H. R. WAKEFIELD on marvels of insect life, illustrated by lantern slides from original photographs by himself. Mr. Wakefield, one of the leading naturalists in South Wales, gave an admirably lucid lecture, and the thanks of the meeting were recorded him by Dr. J. S. H. ROBERTS, Dr. J. M. MORRIS NEATH, and Mr. H. L. QUICK.

#### STAFFORDSHIRE BRANCH: NORTH STAFFORDSHIRE DIVISION.

A MEETING of the North Staffordshire Division was held on April 13th, when Dr. GORDON HOLMES gave a most interesting address on acute infective diseases of the nervous system. A dinner was held in the evening.

## Correspondence.

### An Approved Society's Attitude towards Ophthalmic Benefit.

SIR,—If I may ventilate in your columns a grievance which I share with many others I would be grateful. I refused to sign for a patient a form (O.1) issued by the Amalgamated Engineering Union Approved Society, No. 334, which has a space only for recommendation to an optician, and gave him a letter in these terms: "I have examined Mr. — and consider he would be benefited by examination and treatment by an ophthalmic surgeon." This he forwarded to the society. In reply he received a form (Oph./T.4) stating:

"The society is not satisfied that for the reason stated by your doctor it is necessary for you to see an ophthalmic surgeon. Enclosed herewith is a note for you to take to a qualified optician to examine your eyes and, unless the optician is of opinion that your case is beyond his skill for sight-testing, to give an estimate for glasses in Part 2. Form O.1 must then be returned to the society for authorization O.1 optical benefit."

Enclosed was a letter to an optician, which ended with the instructions in block letters:

"If, however, you consider that an examination by an ophthalmic surgeon is necessary, will you kindly communicate with the society by letter before estimating for glasses, stating the specific grounds for recommending same?"

I shared the patient's indignation that my recommendation should be ignored, or, which is more important, be subject to revision or approval by an apparently higher authority—that of the optician. As the patient lives in Bootle, I communicated with the Panel Committee of that district, but was informed that, as ophthalmic benefit is styled "additional," there was no action they could take to remove the absurdity they recognized.

In the words of a colleague, "I have no more intention of recommending my patients to an optician than I have of entrusting my gold watch to a blacksmith." Nor do I feel it incumbent upon me to attempt to delude an approved society into thinking that my knowledge of eye diseases is very great by using the euphemism "retinitis" to describe any condition which is beyond my ken.

The optician did, in fact, recommend the patient in question for examination by an ophthalmic surgeon, which was carried out to our combined satisfaction, but it is a very real grievance that an optician's advice should be accepted by an approved society after that of the panel doctor has been ignored. The boast that panel patients are treated in exactly the same way as private patients can no longer be upheld if such an absurdity to be a cloak under which benefits required may be granted as if they were favours to be dispensed from the bounty and at the pleasure of the societies concerned.—I am, etc.,

Liverpool, April 20th.

J. K. REID, M.B., Ch.B.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander R. J. INMAN to the *Marborough*; A. J. TOZER to the *Victory* for R.N. Barracks, Portsmouth; A. G. BEE to the *Champion*; G. CARLILE to the *President* for three months' post-graduate course; F. E. SEARILL to the *Nelson*, temporarily.  
Surgeon Commander C. H. DAWES is placed on the retired list, with the rank of Surgeon Captain.  
Surgeon Lieutenants G. RORISON to the *Scarab*; W. D. M. SIM to the *Janita*.  
W. W. DARLEY and F. C. M. DAMFORD to be Surgeon Lieutenants.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant G. MCCOULL to be Surgeon Lieutenant Commander.  
Surgeon Lieutenant H. WILLOUGHBY to the *Champion* for training.  
Surgeon Sublieutenant F. T. HOLMAN to the *Suffolk* for training.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant C. J. S. O'MALLEY to Headquarters, R.A.F., Middle East.  
Flight Lieutenants A. BRISCOE to Headquarters, Aden Command; G. S. STRACHAN to Headquarters, R.A.F., India.

### INDIAN MEDICAL SERVICE.

Lieut.-Colonel J. W. D. MCGAW, C.I.E., Director, School of Tropical Medicine and Hygiene, Calcutta, to be Inspector-General of Civil Hospitals, Punjab.  
Lieut.-Colonel T. O. MCCOMBIE Young, an officer of the Medical Research Department, is placed on foreign service under the Indian Research Fund Association.

Consequent on the grant of leave to Brevet Colonel S. R. CHRISTOPHERS, C.I.E., Lieut.-Colonel J. CUNNINGHAM, Director, Pasteur Institute of India, Kasauli, is appointed to officiate as Director, Central Research Institute, Kasauli, and Major R. H. MALONE, Officiating Assistant Director, Central Research Institute, Kasauli, is appointed to officiate as Director, Pasteur Institute of India, Kasauli.

The services of Captain K. R. K. IYENGAR are, from April 11th, 1928, placed at the disposal of the Government of Madras for appointment as Director of the Pasteur Institute of Southern India, Coonoor.

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

Captain D. STEWART to be Major, with precedence as from July 14th, 1927.  
H. W. L. NICHOLS, late R.F.A. Special Reserve, to be Lieutenant.

## VACANCIES.

BARNSLEY AND WAKEFIELD JOINT SANITARIUM COMMITTEE.—Assistant Tuberculosis Officer and Resident Medical Officer. Salary £450 per annum, rising to £600.

BIRMINGHAM: PINK PNEUMOTIC MENTAL HOSPITAL.—Second Assistant Medical Officer (male). Salary £450 per annum, rising to £550, with an additional £100 a year while acting as Pathologist.

BURY BOROUGH.—Assistant Medical Officer of Health (part-time, female). Fee £1 12s. 6d. per session of two hours, twice weekly.

DEDFORD BOROUGH.—Medical Officer of Health. Salary £900 per annum, rising to £1,100.

BIRMINGHAM CITY INFECTIOUS DISEASES HOSPITAL.—Third Assistant Medical Officer. Salary £350 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Casualty House-Surgeon. Salary £120 per annum.

BRISTOL GENERAL HOSPITAL.—Pathologist and Curator of the Museum. Salary at the rate of £500 per annum.

BRISTOL ROYAL INFIRMARY.—Honorary Surgeon in charge of the Ear, Nose, and Throat Department.

BURNLEY: VICTORIA HOSPITAL.—House-Surgeon. Salary £125 per annum.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Resident House-Surgeon (male). Salary at the rate of £75 per annum.

CUMBERLAND AND WESTMORLAND MENTAL HOSPITAL, Carlisle.—Medical Superintendent. Salary £850 per annum, rising to £1,000.

ESSEX COUNTY COUNCIL.—Two Assistant County Medical Officers of Health. Salary £600 per annum respectively.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £100 per annum.

FRIE GOVERNMENT.—District Medical Officer. Salary £500 per annum, rising to £725.

GOLDEN SQUARE THROAT, NOSE, AND EAR HOSPITAL, W.1.—House-Surgeon (male). Salary £100 per annum.

HAMPSHIRE GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Surgeon to Out-patients.

HONG-KONG UNIVERSITY.—Professor of Physiology. Salary £800 a year, rising to £1,000.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Medical Registrar and Pathologist (male). Salary £300 per annum.

HULL ROYAL INFIRMARY.—Assistant House-Physician (male). Salary at the rate of £130 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Two Resident Medical Officers at the Glan Ely Hospital. Salaries £350 and £200 per annum respectively.

LEEDS PUBLIC DISPENSARY.—(1) Honorary Physician. (2) Honorary Surgeon. (3) Junior Resident Medical Officer; salary £150 per annum. LIVERPOOL: DAVID LEWIS NORTHERN HOSPITAL.—Honorary Assistant Orthopaedic Surgeon.

LONDON COUNTY COUNCIL.—Eighth Assistant Medical Officer (male) in the Mental Hospitals Service. Salary £300 a year, rising to £400 with fluctuating additions.

MADRAS AND SOUTHERN MAHARATTA RAILWAY COMPANY, LIMITED.—District Medical Officer. Salary according to age and qualifications, rising to a maximum of Rs.900 per mensem payable in India, plus £30 per mensem payable in England.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Honorary Assistant Surgeon.  
PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—Clinical Assistant in Medical Out-patient Department.  
ROTHERHAM HOSPITAL.—House-Physician (male). Salary £180 per annum.  
ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Ophthalmic Surgeon. (2) Assistant Physician.  
ST. BARTHOLOMEW'S HOSPITAL.—Assistant Physician to the Children's Department.  
ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.2.—Third Anaesthetist. Honorarium £25 per annum.  
STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Surgeon (male). Salary at the rate of £200 per annum.  
STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—(1) Assistant House-Physician; salary £125 per annum. (2) Honorary Anaesthetist. (3) Honorary Assistant Aural Surgeon. (4) Honorary Assistant Orthopaedic Surgeon.  
SUDAN GOVERNMENT.—Medical Officer for the Sudan Medical Service. Pay £E.720 a year, rising to £E.1,200.  
SUNDERLAND: ROYAL INFIRMARY.—Senior Resident Medical Officer (male). Salary £200 per annum.  
WALSALL GENERAL HOSPITAL.—Senior House-Surgeon. Salary £200 per annum.  
WEST HAM COMMUNITY BOROUGH.—Assistant Resident Medical Officer at Dagenham Sanatorium. Salary at the rate of £250 per annum.  
YORK: COUNTY HOSPITAL.—House-Surgeon (woman preferred). Salary £150.  
YORK DISPENSARY.—Resident Medical Officer (female). Salary £150 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Carnwath (Lanarkshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.7.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

ST. NERLAND ROYAL INFIRMARY.—House-Surgeons: L. D. Nelson, M.B., B.S., T. F. Jarman, M.B., B.S. House-Physicians, Children's Branch: Miss C. McLeay, M.B., Ch.B.

CERTIFYING FACTORY SURGEONS.—I. H. Maciver, M.B., Ch.B.Ed., for the East William District (Inverness); J. A. Whyte, M.B., Ch.B.Aberd., for the Abercharder District (Banff); J. A. Mulligan, M.B., Ch.B.Aberd., for the Bervie District (Kincardine); J. McKenzie, M.B., Ch.B.Aberd., for the Rhynie District (Aberdeen).

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Section of Orthopaedics.—Tues., 4.30 p.m., Cases. 5.30 p.m., Annual General Meeting: Election of Officers and Council for 1928-29.

Section of History of Medicine.—Wed., 5 p.m., Annual General Meeting: Election of Officers and Council for 1928-29. Papers will be read dealing with the sources of Harvey, as follows:—Professor F. J. Cole: The History of Embryology; Dr. J. F. Prendergast: Galen.

Section of Tropical Diseases.—Thurs., 8.15 p.m., Annual General Meeting: Election of Officers and Council for 1928-29. Demonstration by Sir Leonard Rogers: Climate and the Incidence of Small-pox, Cholera, and Plague: Forecasting Epidemics.

Section of Anaesthetics.—Fri., 8.30 p.m., Annual General Meeting: Election of Officers and Council for 1928-29. Discussion on Late Ether Convulsions. Opener: Dr. C. F. Hadfield.

Section of Otolaryngology.—Sat., 9.30 a.m., Cases. 10.30 a.m., Annual General Meeting: Election of Officers and Council for 1928-29. Papers:—Mr. John P. Stuart: The Histopathology of Mastoiditis; Dr. R. Graham Brown: Case of Spherical Bulging of the Floor of the Third Ventricle, Secondary to Internal Hydrocephalus and Stimulating a Pituitary Tumour. Cases and Specimens.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Oliver-Sharpay Lectures by Dr. E. P. Poulton: An Experimental Study of Certain Visceral Sensations.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Mon., April 30th, to Fri., May 5th. Royal Waterloo Hospital, Waterloo Road, S.E.1: Tues., 3 p.m., Clinical Demonstration; no fee. Royal London Ophthalmic Hospital, City Road, E.C.1: Tues., 1 p.m., Clinical Demonstration; no fee. Maudsley Hospital, Denmark Hill, S.E.5: Course in Psychological Medicine, Lectures, Demonstrations, and Clinical Instruction; one month, fee £5 5s. St. John's Hospital, Leicester Square, W.C.1: in the logical Waterloo Course in Medicine, Surgery, and Gynaecology. Royal Free Hospital, Gray's Inn Road, W.C.1: Wed., 5.15 p.m., Third Lecture Demonstration London School of Hygiene and Tropical Medicine: Tues. and Thurs., 2 p.m., Lecture clinic. Copies of all syllabuses sent on request. Apply Secretary, 10, Abchurch Lane, W.C.1.  
St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Eczema. Thurs., 5 p.m., Acne Vulgaris. Fri., 5 p.m., Warts.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics: Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics: Operations. Wed., 2.30 p.m., Demonstration of Eye Cases; 2.30 to 5 p.m., Medical, Skin, and Eye Clinics: Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics: Operations.

Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Surgical Cases; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics: Operations.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards. Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards. Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments. Fri., 10 a.m. to 1 p.m., Skin, Dental, and Electrical Departments, Medical Wards. Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear Operations, Medical Children's Department, Bacteriological Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Out-patient Departments. Special Lecture Tuesday, May 1st, at 4.30 p.m.: Skin Diseases Due to Protein Sensitization.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Sick Children: Wed., 4.15 p.m., Surgical Cases.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m. (Fee £2 2s. for three months' attendance.)

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Lecture: Some Pitfalls in Radiology. Fri., 4.15 p.m., Demonstration of Ophthalmological Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

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SCOTTISH MEDICAL SECRETARY: 6, Drumshugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Baecillus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

- APRIL.
- 27 Fri. Bishop Auckland Division: Cottage Hospital, Bishop Auckland, 8 p.m.  
Hendon Division: Annual Meeting, Hendon Cottage Hospital, 8.30 p.m.
- 28 Sat. Westminster and Holborn Division: Annual Meeting, United Dairies Works, Scrubs Lane, Willesden. Conveyances leave Connaught Place, 2.15 p.m.
- MAY
- 1 Tues. Lewisham Division: St. John's Hospital, Morden Hill, Lewisham, S.E.13, 8.45 p.m.  
North Wales Branch: Spring Meeting at Llandudno.
- 2 Wed. Blyth and Morpeth Divisions: Clinical Meeting, Thomas Knight Memorial Hospital, Blyth. Dr. W. H. Dickinson on duty. 8.30 p.m.
- 3 Thurs. Meeting, 2 to 4 p.m.  
Meeting, Royal Surrey County
- 4 Fri. GPs Group Committee, 2.30 p.m.  
Meeting, Dewsbury Infirmary, 8.15 p.m.
- 5 Sat. West Suffolk Division: West Suffolk General Hospital. Mr. T. H. Just on Acute Inflammatory Conditions of the Ear, 8.45 p.m.
- 8 Tues. St. Pancras Division: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 9 p.m.
- 10 Thurs. Wakefield, Pontefract, and Castleford Division: Annual Meeting, Strathall Arms Hotel, Wakefield. Dr. A. Mackinnon on the British Medical Association and its Work for the General Practitioner. Meeting preceded by supper, 7.45 p.m.
- 16 Wed. Willesden Division: Annual Meeting.
- 23 Wed. London: Private Practice Committee, 12 noon.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

BAILEY.—On April 16th, at 37, Whentworth Road, Edgbaston, Birmingham, to the wife of Hamilton Bailey, F.R.C.S., a son.  
BRIDE-BIRKS.—On Sunday, April 22nd, 1928, at Doris Court Nursing Home, Upper Chorlton Road, Manchester, Hilida Kathleen Bride-Birks, M.Sc., M.B., Ch.B., D.P.H. Manch., L.R.C.P., M.R.C.S., wife of the Rev. S. Graham Bride-Birks, M.Sc. Manch., D.Sc. Lond., of Buxton, Derbyshire, and Wye, Kent, of a daughter (Mary Kathleen).  
CONRICK.—At 18, Walker Street, Edinburgh, on April 3rd, the wife of Captain R. Fairman Conrick, R.A.M.C., R. of O., Uganda, a daughter.

#### MARRIAGES.

ANDERSON-STIRK.—At Overden Wesleyan Chapel, on Thursday, April 19th, by the Rev. J. Sainer Wilkinson, James Strirling Anderson, M.A., M.D., D.P.H., of Aberdeen, to Mary Stirk, M.R.C.S., L.R.C.P., daughter of Mr. and Mrs. Edmund Stirk of Halifax.  
CLARKE-BULLMORE.—At St. Oswald's, Millhouses, Sheffield, on April 11th, 1928, by the Rev. H. C. Foster, George Cyril Whitteley Clarke, M.R.C.S., L.R.C.P., of Sandhal House, Rotherham, to Ethel Bloda Bullmore of Nether Edge, Sheffield.  
LEWKE-GUNN.—On April 19th, at St. Paul's Cathedral, Namirembe, Uganda, by the Venerable Archbishop Lloyd, Richard A. B. Leakey, L.R.C.S. and F.E.D., L.R.F.P.S. Glas., of G.M.S. Toro, Uganda, son of H. Leakey of Woodland, Dorset, late Canon of Uganda, to Georgina E. T. Gunn, daughter of Mr. D. and Mrs. Gunn of Edinburgh.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 5TH, 1928.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

#### British Medical Association.

##### CURRENT NOTES.

##### The Winnipeg Annual Meeting in 1930.

During the past three weeks the Officers and officials of the Association have been in consultation, in regard to the details of the Winnipeg Annual Meeting, with two delegates specially sent by the Canadian Medical Association for this purpose. These delegates were Dr. T. C. Routley, General Secretary of the Canadian Medical Association, and Dr. J. D. Adamson of Winnipeg, a prominent Officer of the Manitoba Medical Association. The arrangements provisionally decided upon will be submitted to the Council at its June meeting, but members will be interested to know that the delegates showed that much thought had been already given to the arrangements in Canada: that every facility for interest and enjoyment will be given, not only at Winnipeg, but in every part of Canada which members can find time to visit; and that the Canadian Medical Association in general, and its members in Manitoba in particular, would cordially welcome a large attendance. The representatives of the B.M.A. had the pleasure of entertaining Dr. and Mrs. Routley and Dr. and Mrs. Adamson to lunch at the May Fair Hotel on April 25th. Dr. and Mrs. Routley left for Canada at the end of the week, but Dr. Adamson is staying for several months to do some post-graduate study, and will be a delegate of the Canadian Medical Association at the Annual Meeting of the British Medical Association at Cardiff.

##### Liability for Injuries to Assistants and Locumtenents.

The question arises from time to time whether a principal is liable under the Workmen's Compensation Acts for injuries sustained by assistants or locumtenents while carrying out their duties. It has been suggested by a correspondent in the *Journal* (see pp. 712 and 766 of October 15th and 22nd, 1927) that the way to avoid trouble and expense in this matter is to employ only those who have insured themselves for their own benefit. The matter cannot be settled quite so simply.

The Solicitor to the Association has been asked for his opinion, and informs us that no insurance by a workman (assistant or locumtenent in this case) would relieve the employer of his liability under the Acts. The position is as follows: a deputy or assistant whose salary does not exceed £350 per annum comes within the scope of the Workmen's Compensation Acts, and is entitled to the protection afforded by them. Quite apart from the amount of his salary, the locumtenent or assistant, if injured while carrying out his duties, might even have a claim against his principal at common law.

It seems, therefore, that the only safe course for a doctor employing a locumtenent or assistant to pursue is to insure himself against all risks by taking out a policy which would cover a common law claim as well as a claim under the Workmen's Compensation Acts. Such an insurance can be effected for a moderate annual payment through the Medical Insurance Agency, B.M.A. House, Tavistock Square, W.C.1.

##### The Home Divisions and Branches in 1927.

The Grants Subcommittee at its recent meeting reviewed the annual reports of the Divisions and Branches for 1927. With few exceptions all the home bodies have reported for the year, and the Subcommittee was much gratified with the activity recorded. As shown in the reports, the average annual cost of running a Division in the British Isles is 2s. a head, and a Branch 3s. 8d. a head. Among items of special interest reported by Divisions are the post-graduate activities of the Hereford, and Rochester, Chatham, and Gillingham Divisions. The former records a course of general post-graduate lectures under the auspices of the University of Birmingham in the autumn of 1927, and the Rochester, Chatham, and Gillingham Division organized a course of orthopaedic lectures and demonstrations.

##### Medical Appointments Abroad.

The head office of the British Medical Association has a good deal of information placed at its disposal by its Branches overseas, which may be very useful to those proposing to accept medical appointments abroad. Practitioners are cordially invited to apply to the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, for any information that may be available regarding overseas appointments in which they may be interested.

## ANNUAL REPORT OF COUNCIL, 1927-28—(continued).

## APPENDIX II.—FINANCIAL STATEMENT FOR THE TWELVE MONTHS ENDING 31ST DECEMBER, 1927.

## Balance Sheet 31st December, 1927.

Dr.	1926 £	1927 £ s. d.	LIABILITIES.	1926 £	1927 £ s. d.	ASSETS.	1926 £	1927 £ s. d.
To Creditors for:—						By LEASEHOLD PREMISES—		
Subscriptions paid in advance ...	1,076	995 0 11	"			Tavistock Square and Upper Woburn Place—		
Advertisements ditto ...	1,048	1,303 12 11	"			Balance at 31st December, 1926 ...	129,066	5 7
Publishing ditto ...	591	818 17 9	"			Less Depreciation written off for year ...	2,000	0 0
" Capital Grants due and not deducted by Overseas Branches when remitting subscriptions ...	7	1 15 6	"			By PREMISES HELD BY THE CHARTER—		
" Contributions ...	376	351 16 6	"			No. 6 Drumsheugh Gardens, Edinburgh		
" Engraving ...	78	43 5 6	"			Balance at 31st December, 1926 ...	3,650	0 0
" Irish Committee ...	67	81 19 2	"			Add Purchase Price of No. 7 Drumsheugh Gardens, Edinburgh		
" Income Tax on Interest Received ...		146 0 0	"			Less Depreciation written off for year ...	6,836	7 0
" Journal Index ...	77	75 10 2	"			By INVESTMENT—		
" Legal Charges ...	184	368 4 5	"			822 Shares of £10 each, fully paid, in the Scholastic, Clerical,		
" Library Books, etc. ...	135	126 17 8	"			and Medical Association, Ltd., purchased at par ...	5,220	
" Library Postcards ...		31 0 6	"			By INVESTMENTS REPRESENTING RESERVE (At cost or under)—		
" Miscellaneous Printing and Paper ...	910	496 12 6	"			£3,200 Bank of England Stock @ 200 ...		
" Publishing Journal ...	2,164	2,977 12 4	"			£5,000 Commonwealth of Australia 5% 1935-1945 Stock at cost (97½) ...		
" Paper for Journal ...	1,345	2,604 5 9	"			£1,000 London, Midland, and Scottish Railway 4% Guaranteed Stock at 80 ...		
" Postage of Journal ...	2,247	3,276 6 9	"			£5,000 New South Wales 5½% 1927-1934 at cost (99½) ...		
" Plant and Type ...	87	91 16 1	"			£3,000 Port of London 1% Stock 1940-1960 at cost (83½) ...		
" Rates, Taxes, Electricity, and Gas ...	166	151 16 0	"			By SINKING FUND INSURANCE—		
" Repairs ...	30	13 18 6	"			Friends Provident and Century Life Office ...		
" Reporting for Journal ...	110	103 2 6	"			By NEW ZEALAND GOVERNMENT—		
" Stationery ...	321	335 8 1	"			Amount outstanding in respect of Purchase Price of 429, Straud		
" Sundries ...	64	61 16 9	"			By LINEN—		
" Telephone Charges ...	52	52 3 0	"			Balance at 31st December, 1926 ...	77,500	
" Archives of Disease in Childhood ...	96	23 18 0	"			Add Purchase and Binding of Books during 1927 ...		
" Journal of Neurology and Psychopathology ...	60	113 11 6	"			Less Amount recovered for Lost Book ...		
" Purchase of Shares in Scholastic, Clerical, and Medical Association, Ltd., for which payment is deferred by agreement ...		1,170 0 0	"			Less Amount written off for Depreciation ...		
" Reserve to meet Dilapidations and Re-decorations ...		15,819 10 9	"			By FURNITURE AND FITTINGS—		
" Reserve Account—		1,800 0 0	"			Balance at 31st December, 1926 ...	1,721	
For the Extension of the Work and Premises of the Association ...			"			Add Purchases during year ...		
Balance at 31st December, 1926 ...	29,612	29,612 10 0	"			Less Amount written off for Depreciation ...		
Add Transfer from Income and Expenditure Account ...		6,000 0 0	"			By PLANT AND TYPE—		
" Sinking Fund—			"			Balance at 31st December, 1926 ...	10,252	
For redemption of Leasehold Premises—			"			Add Purchases during year ...		
Balance at 31st December, 1926 ...	1,000	1,000 0 0	"			Less Amount written off for Depreciation ...		
Add Transfer from Income and Expenditure Account ...		1,094 19 2	"			By PLANT AND TYPE—		
Balance at 31st December, 1926 ...		2,094 19 2	"			Balance at 31st December, 1926 ...	4,927	
Add Transfer from Income and Expenditure Account ...		6,560 0 0	"			Add Purchases during year ...		
" Loan Account—			"			Less Amount written off for Depreciation ...		
National Insurance Defence Trust ...	6,500	6,560 0 0	"			By PLANT AND TYPE—		
Overdraft at Bank ...	29,146	19,522 16 5	"			Balance at 31st December, 1926 ...	3,377	
" Surplus Account—			"			Add Purchases during year ...	2,436	
Balance at 1st January, 1927 ...	1,873	188,174 7 0	"			Less Reserve for Bad Debts and Discounts ...		
Add Excess of Income over Expenditure, 1927 ...		1,935 18 10	"			" Sundry Debtors (Publishing) ...	6,546	
		190,110 5 10	"			" Sundry Debtors ...	726	
		£270,100 2 2	"			" Accrued Returns and Mortgage Interest ...	286	
			"			" Cash in hand ...	1,825	
			"			" Cash in hand (Scottish Office) ...	744	
			"				36	

**Income and Expenditure Account for the Year ending 31st December, 1927.**

	1920.			1927.		
	£	s.	d.	£	s.	d.
Central Meetings Expenses	...	7,119	0	...	8,443	2 0
General Association Expenses	...	5,035	10 6	...	5,733	11 9
Central Premises Expenses	...	9,911	18 3	...	10,223	5 6
Central Staff Expenses	...	17,984	18 11	...	18,192	0 11
Central Printing, Stationery, and Postage Expenses	...	2,755	11 5	...	2,635	14 6
Library Account Expenses	...	911	12 0	...	914	12 6
Journal Account Expenses	...	90,637	8 11	...	63,412	4 1
Scottish Committee Expenses	...	2,079	0 6	...	2,142	0 0
Irish Committee Expenses	...	1,069	3 5	...	1,114	7 1
Capitation Grants to Branches	...	0,115	3 0	...	6,838	13 6
Subscriptions Written off for Deaths	...	189	0 9	...	213	9 3
" " Arrears	...	3,123	8 4	...	3,489	16 8
" " " " " "	...	£123,091	6 5	...	£129,439	17 9
" Archives of Disease in Childhood	...	90	0 1	...	23	18 0
" Journal of Neurology and Psychopathology	...	60	10 0	...	113	14 6
Amount transferred to Sinking Fund for the redemption of Leasehold Premises	...	1,000	0 0	...	1,034	19 2
Amount transferred to Reserve Fund for the extension of the work and premises of the Association	...	0,000	0 0	...	5,000	0 0
Amount transferred to Reserve for Depreciations and re-decorations	...	140	2 0	...	1,570	0 0
Interest and Stamp Duties Incurred in purchase of Shares	...	2,000	0 0	...	4,185	10 4
Depreciation written off—of Leasehold Premises, Tavistock Square, W.C.	...	200	0 0	...	1,335	18 10
" " of Scottish House	...	200	0 0	...	1,030	13 11
" " of Library	...	200	0 0	...	518	9 5
" " of Furniture and Fittings	...	1,140	0 0	...	4,037	9 2
" " of Plant and Type	...	517	9 2	...	1,873	1 2
Balance of Income over Expenditure—Carried to Balance Sheet	...	£130,357	11 4	...	£143,293	18 7



## Abstract A.] Central Meetings Expenses.

	1926.		1927.	
	£	s. d.	£	s. d.
ANNUAL REPRESENTATIVE MEETING—				
Railway Fares .....	419	3 0	952	18 0
Printings .....	248	18 0	316	9 9
Sundries .....	24	11 0	—	—
ANNUAL MEETING—				
Sectional Expenses, Handbook of Meeting, etc. ....	773	15 0	1,279	7 8
COUNCIL—				
Railway Fares .....	151	17 3	438	2 0
Printings .....	1,017	12 9	1,336	2 4
Sundries .....	889	19 0	929	18 7
SECRETARIES' CONFERENCE, Railway Fares, ...	1,938	6 9	2,314	9 5
Printings .....	114	12 1	207	9 2
COMMITTEES.				
Arrangements Committee—				
Railway Fares .....	112	19 0	60	7 8
Printings .....	47	0 0	60	5 1
British Pharmacopoeia Committee—				
Railway Fares .....	159	19 0	120	12 3
Printings .....	4	2 7	—	—
Sundries .....	6	11	—	—
Building Committee—				
Railway Fares .....	2	0 4	24	2 0
Printings .....	5	5	4	7 11
Sundries .....	—	—	3	3 0
Central Fiscal Committee—				
Railway Fares .....	83	1 4	139	17 4
Printings .....	30	3 7	17	11 5
Charities Committee—				
Railway Fares .....	23	16 4	60	15 8
Printings .....	1	9 6	11	10 10
Conference, B.M.A., with Society of A.O.H.—				
Railway Fares .....	3	10	47	17 8
Printings .....	10	3	2	2 8
Dominions Committee—				
Railway Fares .....	28	9 6	15	10 0
Printings .....	3	10 2	1	15 0
Finance Committee—				
Railway Fares .....	64	17 9	64	14 4
Printings .....	92	4 9	72	14 0
Hospitals Committee—				
Railway Fares .....	141	3 6	140	15 0
Printings .....	4	1 7	17	14 0
Pamphlet re "Hospital Policy" ..	16	1 6	8	17 0
Insurance Acts Committee—				
Railway Fares .....	423	15 3	452	1 0
Printings .....	90	12 11	59	17 5
Sundries .....	1	1 0	—	—
International Medical Soc. Code Committee—				
Railway Fares .....	515	9 2	511	18 5
Printings .....	—	—	10	10 3
Journal Committee—				
Railway Fares .....	53	11 4	27	1 8
Printings .....	2	5 2	3	4 10
Legal Actions Committee—				
Railway Fares .....	—	—	1	15 0
Printings .....	—	—	6	11
Medico-Political and Parliamentary Committee—				
Railway Fares .....	167	16 8	195	2 10
Travelling (Officials) .....	10	2 6	3	1 0
Printings .....	10	7 6	10	1 0
Sundries .....	3	5 0	—	—
Welsh Committee—				
Railway Fares .....	191	9 8	245	10 10
Printings .....	—	—	65	7 5 0

	1926.		1927.	
	£	s. d.	£	s. d.
Lunacy Law and Administration Committee—				
Railway Fares .....	—	—	—	—
Printings .....	—	—	—	—
Naval and Military Committee—				
Railway Fares .....	27	16 9	32	9 4
Printings .....	3	15 0	1	4 7
Office Committee—				
Printings .....	126	0 0	136	10 0
Printings .....	2	17 4	3	7 5
Ophthalmic Committee—				
Railway Fares .....	50	6 10	158	5 11
Printings .....	1	11 3	8	19 3
Organisation Committee—				
Railway Fares .....	117	16 10	154	13 6
Printings .....	16	3 6	35	9 6
"Annual Handbook" ..	2	0 8	339	10 0
"Articles and By-laws" ..	67	2 6	36	17 6
"Handbook for Newly Qualified" ..	294	15 0	153	10 0
"Non-Members' List" ..	209	16 6	255	1 6
Printings, etc. ....	273	1 11	210	6 2
Posting and Addressing Propaganda Issues of Journal	115	0 0	71	18 0
Sundries .....	15	2 6	13	15 8
Parliamentary Elections Committee—				
Railway Fares .....	—	—	6	8 0
Printings .....	—	—	11	3
Pathological Committee—				
Railway Fares .....	42	19 1	18	6 8
Printings .....	3	9 9	8	5
Poor Law Reform Committee—				
Railway Fares .....	14	15 3	8	18 7
Printings .....	—	—	7	5
Private Practice Committee—				
Railway Fares .....	—	—	30	1 2
Printings .....	—	—	12	2
Psycho-Analysis Committee—				
Railway Fares .....	—	—	111	17 8
Printings .....	—	—	10	7 1
Public Health Committee—				
Railway Fares .....	142	16 5	120	4 8
Printings .....	31	6 6	10	2 11
Travelling (Officials) ..	3	17 2	—	—
Prevalent Morbidity and Mortality Committee—				
Railway Fares .....	69	18 0	30	14 1
Printings .....	6	0 1	2	5 8
Recruitment of Med. Practitioners in Case of War—				
Printings .....	10	7	—	—
Spa Practitioners Committee—				
Railway Fares .....	—	—	15	6 6
Printings .....	—	—	1	1 10
Science Committee—				
Railway Fares .....	113	6 9	87	15 5
Printings .....	29	10 0	75	9 4
Sundries .....	97	15 7	404	15 8
Tests for Drunkenness—Committee re				
Railway Fares .....	35	11 5	7	17 0
Printings .....	3	2 11	—	—
Welsh Committee—				
Railway Fares .....	53	8 6	11	13 6
Printings .....	10	1	8	1 0
Sundries .....	—	—	—	—
Grand Total .....	4,370	14 3	5,763	5 0

Abstract D.] Central Staff Expenses.

	1920.	1927.
Financial Secretary and Business Manager	£ s. d. 1,425 0 0	£ s. d. 1,500 0 0
Clerical Staff, Finance Department	8,207 1 6	8,379 19 3
Less Proportion of Salaries debited to Journal Account	4,129 3 0	4,225 10 6
	4,078 18 6	4,154 8 9
Medical Secretary	1,500 0 0	1,800 0 0
Deputy Medical Secretary	1,312 10 0	1,352 10 0
Assistant Medical Secretary (1)	1,000 0 0	1,000 0 0
Do. (2)	900 0 0	975 0 0
Clerical Staff, Medical Department	4,673 11 1	4,649 17 2
Intelligence Officer	200 0 0	575 0 0
Clerical Staff, Intelligence Department	228 0 0	355 12 0
Porters and Janitor	833 0 0	891 12 0
Premiums of Deferred Annuities for Officials	810 1 8	829 13 4
Contribution to Office Staff Superannuation Fund	925 13 1	915 16 7
TRAVELLING AND SUBSISTENCE EXPENSES (Annual Meeting, etc.)—		1,330 9 6
Finance Department	£3 10 6	99 7 7
Medical Department	151 9 0	212 15 9
Intelligence Department	14 6 0	14 2 5
Fidelity Guarantee and Employers' Liability Insurances	271 5 0	326 5 10
	£18,931 13 11	£5 2 9

Abstract E.]

Central Printing, Stationery, and Postage Expenses.

	1920.	1927.
General Printing	£ s. d. 657 13 1	£ s. d. 607 7 11
General Postages:—		
Finance Department	600 17 1	646 8 8
Medical Department	419 8 3	429 6 2
Stationery	691 13 9	953 11 9
	£2,775 11 5	£2,676 14 6

Abstract F.] Library Expenses.

	1920.	1927.
Honorary Librarian's Honorarium	£ s. d. 20 5 0	£ s. d. 26 5 0
Librarian's Salary	489 13 1	495 13 4
Clerical Staff Salaries	278 11 3	271 1 8
Subscription to Messrs. H. K. Lewis's Library	91 3 0	101 0 0
Postages	6 1 0	20 12 6
Warehousing of Books	62 13 0	—
	£911 13 0	£914 12 6

Abstract B.] General Association Expenses.

	1920.	1927.
Auditors' Fee	£ s. d. 210 0 0	£ s. d. 210 0 0
Association Gold Medal and Testamur	57 5 0	—
Bank Charges	22 1 2	63 11 7
Charges on Bank Loan	437 1 10	—
Bonus to Member of Composing Staff	32 15 0	33 15 0
Faculty of Insurance, Subscription	2 2 0	2 2 0
Income Tax on Dividends and Interest	233 10 0	328 11 0
Intelligence Department, Papers, Press Cuttings, etc.	111 12 4	129 9 11
Legal Charges	231 0 0	727 7 1
Parliamentary Papers, Directories, etc.	43 10 2	59 19 9
Porters' Liveries	20 3 0	37 6 6
Repairs to and Hire of Typewriters	47 3 0	50 11 0
Research Scholarships	650 0 0	£50 0 0
Scientific Grants	350 0 0	358 3 0
Petty Cash	285 13 0	285 18 11
Prizes for Final Year Medical Students	50 0 0	120 0 0
Sir Charles Hastings's Clinical Prize	67 10 0	73 0 0
Mr. W. E. Wain's Pension	500 0 0	500 0 0
Stamping Subscription Receipt Books	132 18 4	118 7 4
Rent of Telephones (including Editorial)	170 9 7	172 19 11
Grant to Widow of deceased Porter	60 0 0	15 0 0
Special Grant for Investigation of Rheumatism	100 0 0	103 0 0
Grant to Kitchener Sub-Committee	200 0 0	150 0 0
Vote to Post-Graduates' Hostel	25 0 0	—
Vote to Memorial to Queen Alexandra	105 0 0	—
Vote to Association professionnelle Internationale des médecins	50 0 0	—
Loud Speaker Installation	104 19 0	—
Fee for preparation of Plans of 423, Strand	60 5 0	—
Fee for preparation of Preliminary Plans re Extension of B.M.A. House	—	250 0 0
Grant to Federal Council of the Medical Association of South Africa	—	1,000 0 0
Chairman of Council's visit to South Africa	—	50 0 0
Sundries	194 11 7	217 3 9
	£5,055 10 6	£5,759 11 9

Abstract C.] Central Premises Expenses.

	1920.	1927.
Cleaning Offices	£ s. d. 711 10 0	£ s. d. 774 6 6
Coal, Coke, and Wood	210 17 10	435 9 5
General Repairs, Upkeep, and Alterations	393 7 5	600 2 5
Electricity and Gas	454 17 1	333 1 11
Insurance	389 3 7	334 13 5
Ground Rent	2,500 0 0	2,500 0 0
Rates and Taxes	6,004 16 8	5,113 6 7
Care and maintenance of Grounds	120 10 2	72 5 3
	£9,911 18 3	£10,223 5 6

## Abstract A.]

## JOURNAL ACCOUNT.

## Income and Expenditure Account for the Year ending 31st December, 1927.

	1926.			1927.		
	£	s.	d.	£	s.	d.
<b>EDITORIAL.</b>						
Salaries:—						
Editor	2,000	0	0	2,000	0	0
Assistant Editor	1,500	0	0	1,500	0	0
Sub-Editor	873	3	4	923	3	4
Late Sub-Editor—Pension	226	13	4	226	13	0
Clerical Staff	1,855	13	8	1,871	7	4
Contributions to Journal	2,284	2	0	2,327	14	9
Fees to Pharmacologist	105	0	0	105	0	0
Engraving	418	16	5	374	1	0
Reporting	487	19	3	601	7	8
Legal Charges	64	8	8	25	12	11
Postages	63	0	0	76	0	0
Travelling, Parliamentary Papers, and Sundries	83	18	8	140	17	3
Analyses	1	1	0	4	14	6
Compiling Indexes for JOURNAL and SUPPLEMENT	154	7	4	161	12	6
Editorial Petty Cash	12	10	5	10	4	9
	10,173	14	1	10,364	9	5
<b>MANAGERIAL.</b>						
JOURNAL—Compositors' Wages, Machining, &c.	22,258	15	11	22,356	16	8
Paper	12,900	5	5	13,386	14	4
SUPPLEMENT—Compositors' Wages, Machining, &c.	2,021	14	2	2,236	13	8
Paper	1,173	11	4	1,233	13	6
Postage for Dispatch of JOURNAL	12,049	18	5	13,347	13	10
Address Bands for JOURNAL	810	16	6	863	11	0
Repairs to Plant	27	2	8	32	17	7
Proportion of Manager's and Clerks' Salaries	4,138	3	0	4,225	10	5
General Postage	330	8	7	323	4	4
Printings	274	2	7	190	9	0
Reprints	355	4	1	452	1	11
Stationery (Ledgers, &c.)	110	8	2	105	19	1
Insurances	25	3	1	32	14	11
Sundries	49	2	11	33	14	3
	56,513	14	10	59,047	14	7
	266,687	8	11	266,687	8	11

	1926.			1927.		
	£	s.	d.	£	s.	d.
Advertisements	45,276	18	10	47,536	4	3
Sundry Sales—Journals	6,261	13	7	6,419	14	8
" Pamphlets Covers, Blocks, etc.	268	10	1	261	17	5
" Reprints	387	18	3	442	7	2
"	...	...	...	...	...	...
Sale of Waste	12	16	0	11	2	3
Discounts on Machining, &c.	996	8	9	973	0	0
	53,207	5	6	55,634	5	9
Balance from Subscriptions for the cost of production and issue of the JOURNAL	...	...	...	13,717	18	4
	...	...	...	266,687	8	11







**Office Staff Superannuation Fund.**  
FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACTS AS TRUSTEE.

*Income and Expenditure Account for the Year ending 31st December, 1927.*

1927.		INCOME.		EXPENDITURE.	
Dec. 31.	1927.	£	s. d.	£	s. d.
	Contributions from Association ...	...	...	Pensions paid during the year ...	...
	" Members of Staff ...	...	...	Amounts refunded to retiring members ...	...
	Refund of Income Tax (1926-1927) ...	...	...	Charges incurred in purchase of Stock ...	...
	Interest on Investments and Deposits ...	...	...	Balance carried to Balance Sheet ...	...
	Cash received on Maturity New South Wales Government ...	...	...		
	5½ per cent. Stock ...	...	...		
	Less Book Value 31st December, 1926 ...	...	...		
		100	0 0		
		99	0 0		
		£	s. d.		
		1,767	9 0		
		753	3 6		
		128	5 0		
		694	3 0		
		£2,919	1 6		
		£2,919	1 6		

*Balance Sheet, 31st December, 1927.*

Dr.		Cr.	
To Capital Account—	LIABILITIES.	£	s. d.
Balance of 31st December, 1926		18,711	9 9
Add amount transferred from Income and Expenditure a/c		2,579	1 9
		<u>21,290</u>	<u>11 8</u>
	By Cash with Bankers—Current Account	£	s. d.
	—Deposit	2,579	1 9
	By Investments calculated at cost or under—		
	£250 Bank of England Stock @ 200	500	0 0
	£1,000 Bradford Corporation 5 per cent. Mortgage Loan at cost	1,000	0 0
	£100 Bristol Corporation 3½ per cent. Redeemable Stock @ 65	65	0 0
	£600 Cso of Good Hope 5 per cent. Inscribed Stock @ 64	384	0 0
	£2,600 Commonwealth of Australia 5 per cent. 1935-1945 at cost	2,600	7 6
	£1,000 Commonwealth of Australia 5 per cent. Stock 1945-75 at cost @ 83½	835	10 0
	£2,900 Consolidated 4 per cent. Stock at cost	2,499	18 7
	£5,000 Consols 2½ per cent. nt cost @ 84½	4,227	10 0
	£2,500 Conversion 3½ Stock at cost @ 85½	2,132	5 0
	£400 India Stock 5 per cent. @ 51½	206	0 0
	£587 London, Midland, and Scottish Railway 4 per cent. Debentures nt conversion price	483	0 0
	£650 London, Midland, and Scottish Railway 4 per cent. Preference Stock at conversion price	477	0 0
	£100 London, Midland, and Scottish Railway 4 per cent. Preference Stock (1925) at conversion price	53	10 0
	£719 London, Midland, and Scottish Railway 4 per cent. Gunrented Stock at conversion price	575	8 3
	£900 London and North Eastern Railway 5 per cent. Debenture Stock @ 56	504	0 0
	£500 National Savings Certificates	393	15 0
	£2,000 New Zealand 4 per cent. 1929 Consolidated Inscribed Stock @ 84½	1,909	7 6
	£400 New Zealand 5 per cent. 1945 Inscribed Stock @ 64	254	0 0
	£480 Stockton-on-Tees Corporation 5 per cent. Redeemable Stock 1915-1935 @ 70	335	0 0
	£2,900 War Loan 5 per cent. 1929-1947 @ 83½	2,709	7 7
		<u>21,290</u>	<u>11 8</u>

## TRUST FUNDS FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACTS AS TRUSTEE.

## Francis Fowke Bequest.

(Holding £487 London, Midland, and Scottish Railway 4% Guaranteed Stock "C" a/c.)

1927.	Jan. 1.	1927.		1927.	Dec. 31.	By Income Tax on Deposit Interest	By Balance, Cash in hand, Current and Deposit Accounts	£ s. d.	£ s. d.
		£ s. d.	£ s. d.						
	To Balance brought forward from 1926	...	213 11 4	...	...	...	...	...	1 0 0
	" Interest on Investment and Deposits	...	19 5 6	...	...	...	...	...	231 16 10
			<u>4232 16 10</u>						<u>£232 16 10</u>

## Fotherby Bequest Fund.

1927.	Jan. 1.	1927.		1927.	Dec. 31.	By Income Tax on Deposit Interest	By Balance, Cash in hand, Current and Deposit Accounts	£ s. d.	£ s. d.
		£ s. d.	£ s. d.						
	To Balance brought forward from 1926	...	59 1 7	...	...	...	...	...	4 0
	" Deposit Interest	...	1 3 9	...	...	...	...	...	60 1 4
			<u>£50 5 4</u>						<u>£60 5 4</u>

## Stewart Fund.

(Holding £579 London, Midland, and Scottish Railway 4% Debenture Stock "D" a/c.)

1927.	Jan. 1.	1927.		1927.	Dec. 31.	By Prize	By Certificate accompanying Prize	By Balance, Cash in hand	£ s. d.
		£ s. d.	£ s. d.						
	To Balance brought forward from 1926	...	37 13 1	...	...	...	...	...	50 0 0
	" Interest on Investment	...	18 10 6	...	...	...	...	...	5 0 0
			<u>£56 3 7</u>						<u>£56 3 7</u>

## Middlemore Fund.

(Holding £666 London and North Eastern Railway 3% Debenture Stock.)

1927.	Jan. 1.	1927.		1927.	Dec. 31.	By Balance, Cash in hand	£ s. d.
		£ s. d.	£ s. d.				
	To Balance brought forward from 1926	...	10 15 1	...	...	...	29 11 9
	" Interest on Investment	...	15 19 8	...	...	...	...
			<u>£26 14 9</u>				<u>£26 14 9</u>

## Katherine Bishop Harman Prize Fund.

(Holding £1,000 New South Wales 5% Stock, 1915-65.)

1927.	Jan. 1.	1927.		1927.	Dec. 31.	By Balance, Cash in hand	£ s. d.
		£ s. d.	£ s. d.				
	To Balance	...	21 0 0	...	...	...	64 0 0
	" Interest on Investment	...	40 0 0	...	...	...	...
			<u>£61 0 0</u>				<u>£61 0 0</u>

Sir Charles Hastings Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS NOMINAL TRUSTEES, THE CHAIRMAN OF THE REPRESENTATIVE BODY, CHAIRMAN OF COUNCIL, AND THE MEDICAL SECRETARY ACTING AS EXECUTIVE TRUSTEES.

1927.	£ s. d.	£ s. d.	By Loans—	1927.	£ s. d.	£ s. d.
Jan. 1.			Dec. 31.			
To Balance brought forward from 1926—			Cash "P"		20 0 0	
" Investments calculated at middle price 31st December, 1926—			Cash "B"		20 0 0	
£200 Greek Government 7% Refugee Loan of 1921 at 90½	181	0 0	Cash "C"		20 0 0	
25 Phoenix Assurance Co. £1 Shares at 184	331	5 0	Cash "D"		20 0 0	
20 Central Mining and Investment Corporation £3 Shares at 15	300	0 0	Cash "E"		20 0 0	
25 Swedish Match Co. "B" Shares 100 Swedish crowns each	304	13 0				
at 12½	152	3 0				
Cash at Bank—Current and Deposit Accounts						
Subscriptions and Donations						
Interest on Investments and Deposits						
	1,210	1 0				
	244	4 8				
	67	0 2				
	1,521	11 4				
	£1,521	11 4				

Medical Representation in Parliament Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACTS AS TRUSTEE.

1927.	£ s. d.	£ s. d.	By Grant	1927.	£ s. d.	£ s. d.
To Balance brought forward from 1926			" Income Tax on Deposit Interest		20 0 0	
" Subscriptions and Donations			" Balance—Cash at Bank—Current and Deposit Accounts		3 13 0	
" Interest on Deposits					1,132	11 2
	1,133	13 11				
	133	0 0				
	29	3 2				
	£1,385	9 1				

Central Emergency Fund.

FOR WHICH THE MEDICO-POLITICAL AND PARLIAMENTARY COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION ACTS AS TRUSTEE.

1927.	£ s. d.	£ s. d.	By Income Tax	1927.	£ s. d.	£ s. d.
To Balance brought forward from 1926—			" Balance 31st December, 1927—			
Cash at Bankers—Current Account			Cash at Bankers—Current and Deposit Accounts		202	19 3
Deposit Account			National Savings Certificates		337	10 0
National Savings Certificates (with accrued interest)			£1,000 5% War Loan, 1929-17 (at cost)		224	18 1
£1,000 5% War Loan, 1929-17 (at cost)			£250 4% Consolidated Stock (at cost) (originally 4% National		660	15 0
£250 4% Consolidated Stock (at cost)			War Bonds, 1927)		500	0 0
War Bonds, 1927)						
Subscriptions and Donations						
Interest on Investments and Deposits						
Accrued Interest on National Savings Certificates						
	2,175	1 0				
	62	12 3				
	61	0 9				
	25	0 0				
	£2,331	3 0				

**British Medical Association Charities Fund.**

Statement of Amounts Collected and Distributed for Twelve Months ending December 31st, 1927.

1926.		1927.	
£	s. d.	£	s. d.
To Subscriptions and Donations collected:—			
(a) For distribution at discretion of B.M.A. Charities Committee			
1,746	13 6		
(b) Royal Medical Benevolent Fund			
1,271	10 7		
(c) Royal Medical Foundation of Epsom College			
909	17 3		
(d) Royal Medical Benevolent Fund Society of Ireland			
31	19 0		
By amounts distributed to:—			
(a) Royal Medical Benevolent Fund.			
(1) Allocated from B.M.A. Charities Fund			
800	0 0		
(2) Earmarked for Fund			
1,271	10 7		
(b) Royal Medical Benevolent Fund Guild.			
Allocated from B.M.A. Charities Fund			
270	0 0		
(c) Royal Medical Foundation of Epsom College.			
(1) Allocated from B.M.A. Charities Fund			
500	0 0		
(2) Earmarked for Fund			
909	17 3		
(d) Royal Medical Benevolent Fund Society of Ireland.			
(1) Allocated from B.M.A. Charities Fund			
60	0 0		
(2) Earmarked for Fund			
31	19 0		
(e) Sir Charles Hastings Fund.			
Allocated from B.M.A. Charities Fund			
116	13 0		
£3,242 8 8		£3,242 8 8	

Having examined the Balance Sheet, dated 31st December, 1927, and Accounts with the Books and Vouchers of the Association, except as regards the Irish Committee and Scottish Committee Accounts, and having received all the information and explanations we have required, we report that the Balance Sheet is, in our opinion, properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Association according to the best of our information and the explanations given to us and as shown by the Books of the Association.

*We have inspected the Lease of the New Building and the Disposition in favour of the Association of the original premises in Edinburgh, and have verified the investments of the Association on General Account, on account of the Trust Funds, and of the Office Staff Superannuation Fund, and have further ascertained that the Deeds of the Freehold Property, 429, Strand, Agar Street, and Harvey's Buildings, are held by the Westminster Bank for the Association as security against the amount still unpaid by the New Zealand Government. The transfer of No. 7, Drumstrough Gardens, Edinburgh, was in course of registration at the close of the year.*

*We further report that we have examined the Accounts, with the books and vouchers, of the Medical Benevolent Funds for whom the Association receives remittances, and found them correct.*

N. BISHOP HARMAN, F.R.C.S.,  
*Treasurer.*

L. FERRIS-SCOTT, F.C.A.,  
*Financial Secretary and Business Manager.*

PRICE, WATERHOUSE & CO.; : :  
: : : : : Jewry, E.C.2.  
: : : : : 3, Frederick's Place, Old  
: : : : : 27th March, 1928.

## APPENDIX III.

## EXISTING ARTICLES AND BY-LAWS OF THE ASSOCIATION PROPOSED BY THE COUNCIL TO BE REVISED.

(See *Annual Report of Council*, H.M.J. SUPPLEMENT, of April 28th, 1928, page 143, para. 53.)

## ARTICLE 3.

## "Eligibility (for Membership).

3. Any Medical Practitioner registered in the United Kingdom under the Medical Acts, and any Medical Practitioner who does not reside within the area of any Branch of the Association and who, though not so registered, is possessed of any qualification entitling him to be so registered, and any Medical Practitioner residing within the area of any Branch of the Association not in the United Kingdom, who is so registered or possesses such medical qualification as shall, subject to the By-laws, be prescribed by the Rules of the said Branch, shall be eligible as an ordinary Member of the Association. Subject as aforesaid, the mode and conditions of election to membership shall from time to time be determined by or in accordance with the By-laws."

## ARTICLE 10.

## "Expulsion.

10. (a) The Council shall have power, on the representation of any Division or Branch, and after due enquiry, of which not less than fourteen days' notice specifying a time and place at which he may be heard in his defence shall have been served on the Member in the manner prescribed by the By-laws, finally to expel from membership of the Association any Member of such Division or Branch whose conduct shall be held by the Council to be such as renders him liable to expulsion under paragraph (d) of the last preceding Article. Provided that no such representation shall be entertained if made by a Division or Branch within an area outside the United Kingdom for which a Federal Council has been formed under the Articles and By-laws where that Federal Council has been invested with the powers of paragraph (c) of this Article.

(b) The Council shall have power on the application of the Branches within an area outside the United Kingdom for which a Federal Council has been or is being formed under the Articles and By-laws to invest that Federal Council with the powers of the next succeeding paragraph of this Article.

(c) (i) The Council of each Branch not in the United Kingdom having a membership of not less than thirty and not being within the area of a Federal Council invested with the powers of this paragraph, upon the representation of any two Members of such Branch, and (ii) any Federal Council invested with the powers of this paragraph, upon the representation of a Branch within the area of that Council shall have power at a Special Meeting of the Branch Council or Federal Council (as the case may be) convened at not less than one month's notice, and after due enquiry of which not less than twenty-eight days' notice in writing, specifying the time and place at which he may be heard in his defence, shall have been given to the Member, to expel from membership of the Association any Member of such Branch whose conduct shall be held by the Branch Council or the Federal Council (as the case may be) to be such as to render him liable to expulsion under paragraph (d) of the last preceding Article.

## ARTICLE 12 (1).

## "Incorporation (of Branches not in the United Kingdom).

12. (1) Subject as hereinafter provided, it shall be competent for the Members of a Branch not in the United Kingdom to procure themselves to be incorporated (in accordance with the law in force in the area of the Branch) under a name indicating that the body so incorporated is a Branch of the Association. A Branch so incorporated is hereinafter referred to as a Corporate Branch.

## ARTICLE 13.

## "Formation, Alteration, Dissolution, etc., of Branches and Divisions.

13. Subject in the case of Divisions and Branches not in the United Kingdom to the provisions of the By-laws, it shall rest with the Council from time to time to determine, recognise, and declare by resolution published in the Journal, what bodies of Members shall be Divisions, and what Divisions and groups of Divisions shall be Branches of the Association, and what shall be the local area of each Division, and accordingly the Council shall have full power from time to time to

annul, amend, subdivide and modify Divisions and Branches and the local areas thereof. Nevertheless, not less than one month's notice in all cases shall be given (in the manner prescribed by the By-laws) to any Division or Branch in whose boundaries or area any change is proposed, and in the case of a Corporate Branch no alteration in the boundaries or area thereof or of any Division thereof shall be made without the consent of that Branch."

## ARTICLE 16.

## "Federal Councils.

16. Federal Councils representative of the Branches in any area outside the United Kingdom defined and approved by the Council may be formed in the manner and for the purposes specified in the By-laws."

## ARTICLES 22 AND 23.

## "Extraordinary General Meetings.

22. The Council may, whenever it thinks fit, and it shall, upon a requisition made in writing as hereinafter provided by any 100 or more Members, convene an Extraordinary General Meeting for the purpose of transacting any such business as by Statute or by the Regulations or the By-laws is appointed to be transacted by a General Meeting.

23. Any such requisition shall state the object of the Meeting proposed to be called, such object being to transact some business which by Statute or by the Regulations or the By-laws is required to be transacted by a General Meeting, and the said requisition shall be left at the registered office of the Association."

## ARTICLE 28.

## "Annual Scientific Meetings.

28. The Council shall at least once a year arrange Meetings or Conferences, alone or in conjunction with other bodies, which it shall be open to every Member of the Association to attend, for the purpose of receiving addresses or other communications relating to the Medical or Allied Sciences, and discussing such subjects pertaining thereto as the Council may think proper, and the Council may arrange to hold such Meetings or Conferences in the United Kingdom or abroad. When held in the United Kingdom, one such Meeting shall be convened at the same place as the Annual General Meeting of the Association and in connection, but so as not to conflict therewith. For the more convenient consideration of the matters to be discussed, the Council may provide that they shall be considered in Sectional Meetings, and the Council shall appoint a President and other Officers of such Section as well as readers of any addresses that may be given."

## ARTICLE 33.

## "Resolutions (of Representative Body).

33. (1) Subject as provided by the Regulations, a resolution of the Representative Body (not being a resolution inconsistent with the provision of any Statute or of the Memorandum of Association) which affects the funds of the Association, or relates to the Regulations or By-laws, or to the policy of the Association in matters affecting the honour or interests of the medical profession and is carried by a majority of not less than two-thirds of the votes given thereon in the manner prescribed by the By-laws, or which relates to any other business within the powers of the Representative Body and is carried by a simple majority, shall be deemed to be a decision of the Association.

(2) Provided that no resolution of the Representative Body to make any addition to or any amendment, alteration, or repeal of any Regulation or By-law, or to make any new Regulation or By-law, shall have any operation unless a proposal to make the same shall have been previously approved and submitted to the Representative Body, either by the Council, or by a Branch or by a Division, and shall have been published in the Journal, not less than two months before the Annual Representative Meeting, or one month before the Special Representative Meeting at which such resolution is passed."

## ARTICLE 34.

## "Referendum.

34. In respect of every resolution of a General Meeting of the Association (except a resolution capable of being confirmed as a special resolution or a resolution confirming as a special resolution a resolution previously passed, or an extraordinary resolution or a resolution relating solely to the procedure of the Meeting), and in respect of every resolu-



14. It shall be competent for any Division or Branch offering special privileges to its Members to require a special subscription from those Members who desire to avail themselves of such special privileges, and it shall likewise be competent for any Division or Branch to charge such special subscription as it may think proper to its Extraordinary Members; but no Ordinary Member of any Division or Branch in the United Kingdom shall be called upon to pay any further subscription than that paid to the Association as a condition of enjoying any ordinary privilege of membership of such Division or Branch."

## BY-LAW 15.

*"Subscriptions to Branches not in the United Kingdom."*

15. (1) It shall also be competent (a) for any Corporate Branch to fix and from time to time alter the amounts of the subscriptions to be paid by its Members, and (b) for any other Branch not in the United Kingdom, by Rule (approved as hereinafter mentioned), to require each Member of such Branch to pay (in addition to his subscription to the Association and to any special subscription) an annual subscription of such amount as may be deemed by such Branch to be necessary for defraying expenses occasioned by the special circumstances of such Branch, and not capable of being defrayed out of any grant from the funds of the Association made in pursuance of the By-laws.

## TITLE OF BY-LAW 16.

*"Incorporation of Branches not in the United Kingdom."*

## BY-LAW 18 (1).

*"Local Management: Branches."*

18. (1) The management of the affairs of each Branch (other than a Corporate Branch) shall, save as otherwise provided in the By-laws, be vested in a Branch Council, composed of the following persons (being members of the Association):—

(a) In the case of a Branch in the United Kingdom those of the 24 Members (hereinafter mentioned) of the Council who are elected (as hereinafter provided) by the Branch or by any group of Branches to which the Branch belongs, and such one, if any, of the 12 Members (hereinafter mentioned) of the Council elected by Representatives of Constituencies at the Annual Representative Meeting as resides within the area of the Branch.

(e) In the case of a Branch in the United Kingdom a Public Health Service Member or Public Health Service Members of the Branch (in the proportion of one for every fifteen or fraction of fifteen of the other members mentioned in this By-law) to be elected in such manner as the Branch shall prescribe.

## BY-LAW 22.

*"Branches not in the United Kingdom: Special Powers."*

22. (1) A Branch not in the United Kingdom shall be competent from time to time to adopt by the vote of a General Meeting of the Branch, and without the approval of the Council, and use, at the expense of its own Members and for their benefit, or for the benefit of the local profession, any means authorised by the Memorandum of Association for the attainment of any of the objects of the Association, notwithstanding that such means shall not have been adopted, or shall not for the time being be used by the Association generally, but without power to impose any liability upon, or to pledge the credit of the Association in connection with any such adoption or user. Any such adoption shall forthwith be notified to the Council by the Branch.

(2) A Branch not in the United Kingdom shall be competent from time to time to adopt by the vote of a General Meeting of the Branch, and without the approval of the Council, Rules dealing with all or any of the following matters, which Rules shall be binding upon the Members of the Branch:—

(i) The number and area of the Divisions of the Branch.

(ii) The number, duties, and designation of office-bearers of the Branch, provided that the Branch shall at all times have an Honorary Secretary, who shall be the official medium of communication with the Association and with other Branches and Divisions.

(iii) The holding of Meetings of the Branch and the business to be considered thereat, but so as not to conflict with the Regulations as to the autonomy of Divisions.

(iv) The voting by proxy at any such Meeting and at any Meeting of the Council of the Branch.

(v) The eligibility of practitioners not registered in the United Kingdom for election by the Branch as Members of the Association.

(vi) The privileges of ordinary Membership of the Branch, other than the right to attend Meetings convened for the consideration of Association business.

(vii) Any other matter as to which the Council may, from time to time, authorise the Branches not in the United Kingdom to make Rules without the approval of the Council."

## BY-LAW 23 (1).

*"Federal Councils."*

23. (1) The Branches in any defined area outside the United Kingdom which shall be approved by the Council for the purpose may form a Federal Council, consisting of Members of the Association representing each of the Branches concerned, for the purpose of carrying out the objects of the Association on behalf of those Branches collectively within the area so defined and approved. Subject as hereinafter provided, any such Federal Council may be corporate or unincorporate."

## BY-LAW 27.

*"Divisions not in the United Kingdom: Special Powers."*

27. A Division not in the United Kingdom shall (subject in the case of a Division forming part of a Corporate Branch to any directions or regulations given or made by that Branch) be competent from time to time to adopt, by the vote of a General Meeting of the Division, and without the approval of the Council, Rules dealing with all or any of the following matters, which Rules shall be binding upon the Members of the Division to which they relate:—

(iv) Any other matter as to which the Council may, from time to time, authorise the Divisions not in the United Kingdom to make Rules without the approval of the Council."

## BY-LAW 40.

*"Number of Representatives."*

40. (1) Each Constituency shall be entitled to elect one Representative.

(2) Each Constituency in the United Kingdom having not less than 150 Members (according to the Annual List in force at the time of the election) shall be entitled to elect one additional Representative for each complete number of 100 Members in excess of fifty Members."

## BY-LAW 47.

*"Business of Annual Representative Meeting."*

47. The business of the Annual Representative Meeting shall be to elect a Representative of a Constituency as the Chairman of the Representative Body, and also a Representative of a Constituency as Deputy-Chairman; to elect a President of the Association; to elect such Members of the Council, and such other Officers and such Members of Committees as by the Regulations or By-laws may be required to be so elected; to consider the election of Honorary Members when recommended by the Council; to appoint a place at which the next Annual Representative Meeting shall be held; to consider the Annual Financial Statement and Balance Sheet presented by the Council; to consider Reports of the Council, Reports of Committees instructed to report to such Meeting, and Reports of Branches and motions relating to the adoption of such Reports in whole or in part; to make new By-laws, and alter and repeal By-laws, and to consider any resolution relating to the promotion of the medical or allied sciences or the maintenance of the honour or interests of the medical profession or of the Association which shall have been adopted by any Division or Branch; provided that any such resolution proposing material alteration of the constitution or policy of the Association shall have been published in the Journal for the consideration of all the Divisions not less than two months previously."

## BY-LAW 53.

*"Council: Composition of."*

53. The Council shall be composed of the Members *ex officio* mentioned in the Regulations and of Members elected in manner following, namely:—

(a) Twenty-four (being persons who have been Members of the Association for at least the period of three years immediately preceding their respective elections) by the Branches and Divisions of the Association in the United Kingdom, which shall be grouped for that purpose as hereinafter mentioned.

(b) Seven by the Branches of the Association not in the United Kingdom, which shall be grouped for that purpose as hereinafter mentioned.

- (c) Twelve (being persons who have been Members of the Association for at least the period aforesaid) by the elected Representatives of the Constituencies comprised in the Branches and Divisions of the Association in the United Kingdom, which Branches and Divisions shall be formed for that purpose into twelve groups as hereinafter mentioned, the Representatives of all the Constituencies in each such group being entitled together to elect one Member of Council.

## BY-LAW 55.

*"Mode of Election by Groups in the United Kingdom."*

55. (1) The election of twenty-four Members of Council by the Branches or Groups of Branches and Divisions in the United Kingdom shall be by means of voting papers sent by post by the Association from the Head Office to each Member of every Branch comprised in the Group.

## BY-LAW 56.

*"Mode of Election by Groups not in the United Kingdom."*

56. (1) The election of seven Members of Council by the Groups of Branches not in the United Kingdom shall be conducted in the manner prescribed by this By-law.

## BY-LAW 59.

*"Qualification."*

59. No person shall be eligible for election as a Member of Council to represent a Branch or Group of Branches in the United Kingdom (whether the election be by the Branch or Group or by the Representatives of Constituencies) unless at the time of his election he shall be a member of that Branch or of a Branch comprised in that Group.

## BY-LAW 60.

*"Terms of Office of Members of Council."*

60. (1) Each Member of Council elected by a Branch or Group or by the Representatives of Constituencies in the United Kingdom or by Public Health Service Members shall hold office for one year, and at the end of that time shall be eligible for re-election. Provided that a person who has served as the representative on the Council of one and the same Branch or Group of Branches or group or class of Members for six years successively shall for one year be incapable of being elected as such representative.

(2) Each Member of Council elected by a Branch or Group not in the United Kingdom or elected to represent the Royal Naval Medical Service, the Royal Air Force Medical Service, the Army Medical Service, or the Indian Medical Service, shall hold office for such period not exceeding three years as the electing body may determine, and at the expiration of such period shall be eligible for re-election, provided that no such Member shall be re-elected so as to make his period of continuous service as the Representative on the Council of one and the same Branch or Group exceed six years.

## BY-LAW 78.

*"Committees and Standing Committees."*

78. Each Standing Committee except the Scottish, Irish, Welsh and Dominions Committees shall appoint from its own number a Member of Council as Chairman. Each such excepted Committee shall appoint from its own number a Deputy-Chairman, as well as a Chairman, and either the Chairman or the Deputy-Chairman or the Honorary Secretary of that Committee shall be appointed from amongst Members of Council.

## BY-LAW 85.

*"Expenses."*

85. The expenses of any person which in pursuance of the 42nd Article of Association are to be defrayed out of the general funds of the Association, are the first-class travelling expenses within the United Kingdom of that person.

SCHEDULE TO BY-LAWS, AS TO APPOINTMENT OF MEMBERS TO INSURANCE ACTS COMMITTEE, OTHER THAN (1) MEMBERS THEREOF *ex officio*, (2) MEMBERS APPOINTED THERETO BY THE REPRESENTATIVE BODY OR COUNCIL.

*"Appointed Members . . ."**Otherwise appointed.*

Registered medical practitioners appointed as follows:—

5 such practitioners (being Members of the Association) elected (in the manner prescribed by the Representative Body) by the elected Representatives of the Constituencies formed for Great Britain under By-law 39, namely, 4 by all the elected Representatives (acting together) of the Constituencies so formed for England and Wales, and one by all the elected Representatives (acting together) of the Constituencies so formed for Scotland together with 27 practitioners (whether Members of the Association or not) to be nominated or qualified as under, viz.:—

23 to be selected so far as possible on a territorial basis from among practitioners nominated by the Local Medical Committees and Panel Committees formed in Great Britain under the Insurance Acts;

1 (being a member of the Staff of a Voluntary Hospital) to be nominated by the Hospitals Committee of the Association;

1 to be nominated by the Medical Women's Federation;

1 to be nominated by the Society of Medical Officers of Health;

1 to be nominated by the Poor Law Medical Officers' Association of England and Wales;

with power for the Members of the Committee appointed as above provided to co-opt as additional Members such number (if any) of non-panel practitioners as shall be required to secure that 4 such practitioners shall be Members of the Committee, 1 of whom shall be in general practice in an industrial area."

## SCHEDULE TO BY-LAWS, AS TO CHARITIES AND DOMINIONS COMMITTEES.

Name of Committee	Additional Members <i>ex-officio</i>	Appointed Members			Duties, Powers, &c.
		Appointed by the Representative Body	Appointed by the Council	Otherwise Appointed	
Charities		3	3	..	To direct the attention of members of the medical profession to the financial and educational positions which arise as a result of misfortune falling on members thereof; to appeal for contributions to meet these positions and to advise the Council on the administration of the Charities Trust Fund of the Association.
Dominions	All the Members of the Council who represent Branches not in the United Kingdom.	2	2	..	To consider questions specially relating to the Branches not in the United Kingdom."

## SCHEDULE TO BY-LAWS, AS TO DUTIES, POWERS, ETC., OF CENTRAL ETHICAL COMMITTEE.

Provided that, notwithstanding the foregoing provisions, the Committee shall not adjudicate upon or entertain any such question as aforesaid which has arisen in a Branch not in the United Kingdom having a membership of not less than thirty, except upon the request of the Council of that Branch.

# British Medical Association.

## NINETY-SIXTH ANNUAL MEETING, CARDIFF, JULY, 1928.

Patron: HIS MAJESTY THE KING.

President: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

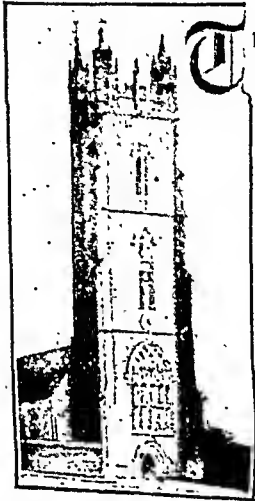
President-Elect: SIR EWEN J. MACLEAN, M.D., F.R.C.P., Professor of Obstetrics, Welsh National School of Medicine.

Chairman of Representative Body: C. O. HAWTHORNE, M.D., F.R.C.P.

Chairman of Council: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



TOWER OF ST. JOHN'S CHURCH, CARDIFF.

THE incoming President, Sir EWEN MACLEAN, will deliver his address to the Association on Tuesday, July 24th, at 8 p.m.

THE ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 20th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place on Friday evening, July 20th, at 7.30.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 24th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on Thursday, July 26th.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July

25th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held at St. John's Church, Cardiff, on Tuesday, July 24th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 23rd, from 2 till 6 p.m.; the formal opening by the President will take place on July 24th at 9.30 a.m. The exhibition will remain open on July 25th, 26th, and 27th from 9 a.m. till 6 p.m.

Saturday, July 28th, will be given up to excursions to places of interest in the neighbourhood.

### THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 25th, 26th, and 27th.

The following Sections will meet on Three Days.

#### MEDICINE.

President: SIR THOMAS LEWIS, C.B.E., M.D., F.R.C.P., F.R.S. (London).

Vice-Presidents: IVOR J. DAVIES, M.D., F.R.C.P. (Cardiff); E. GOW, M.D., F.R.C.P. (London); A. FERGUS HEVAT, M.D., F.R.C.P.Ed. (Edinburgh); CYRIL LEWIS, M.D., C.M. (Cardiff); Professor T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. (Dublin); I. LETHBRIDGE TIDY, M.D., F.R.C.P. (London).

Honorary Secretaries: ABEL EVANS, M.B., M.R.C.P., 36, Newport Road, Cardiff; ANTHONY FEILING, M.D., F.R.C.P., 52, Montague Square, London, W.1.

The following provisional programme has been arranged:  
Wednesday, July 25th.—10 a.m. Discussion: Diseases of the Coronary Arteries. To be opened by Dr. GEORGE A. ALLAN (Glasgow).

Thursday, July 26th.—10 a.m. Discussion: The Prevention and Treatment of Diphtheria. To be opened by Dr. J. D. ROLLESTON (London).

Friday, July 27th.—10 a.m. Discussion: Acute Nephritis. To be opened by Professor T. G. MOORHEAD (Dublin).

#### SURGERY.

President: Professor A. W. SHERRIN, C.B.E., M.S., F.R.C.S. (Cardiff).

Vice-Presidents: H. G. COOK, C.B.E., M.D., F.R.C.S. (Cardiff); C. H. PAGOE, M.S., F.R.C.S. (London); Professor ANDREW FULLERTON, C.B., C.M.G., M.Ch., F.R.C.S.I. (Belfast); J. W. GEARY GRANT, F.R.C.S. (Cardiff); WILLIAM MARTIN, M.B., C.M. (Cardiff); ALBERT J. WALTON, M.S., F.R.C.S. (London).

Honorary Secretaries: D. J. HARRIES, D.Sc., F.R.C.S., 105, Newport Road, Cardiff; R. ST. LEGER BROCKMAN, M.B., M.Ch., F.R.C.S., 79, Upper Manover Street, Sheffield.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: The Diagnosis and Treatment of Spinal Cord Tumours. To be opened by Mr. DONALD J. ARMOUR (London), followed by Dr. GEORGE RUDDOCH (London) and Sir PERCY SARGENT (London).

Thursday, July 26th.—10 a.m. to 12 noon. (Joint meeting with Section of Radiology and Physio-Therapies.) Discussion: The Fallacy of X Rays in Abdominal Diagnosis. To be opened by Mr. HERBERT J. PATERSON (London) and Dr. F. HERNIMAN-JOHNSON (London).

12 noon. Discussion: The Treatment of Gangrene. To be opened by Mr. W. SAMPSON HANDLEY (London).

Friday, July 27th.—10 a.m. Discussion: Pancreatitis. To be opened by Sir BERKELEY MOYNIHAN, Bt. (Leeds), followed by Mr. J. W. GEARY GRANT (Cardiff).

12 noon. Discussion: The Diagnosis of Ureteric Calculi. To be opened by Professor ANDREW FULLERTON (Belfast), followed by Dr. E. B. C. MAYRS (Belfast).

#### OBSTETRICS AND GYNAECOLOGY.

President: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London).

Vice-Presidents: MARGARET M. BADEN, M.D., F.R.C.S. (London); ARTHUR E. GILES, M.D., F.R.C.S.Ed. (London); Professor W. FLETCHER SHAW, M.D., Ch.B. (Manchester); Professor H. BECKWITH WHITEHOUSE, M.S., F.R.C.S. (Birmingham).

Honorary Secretaries: B. K. TENISON COLLINS, M.D., F.R.C.S.Ed., 12, Windsor Place, Cardiff; EVERARD WILLIAMS, M.D., M.R.C.P., 5, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Unsuccessful Forceps Cases. To be opened by Professor W. FLETCHER SHAW (Manchester), followed by Professor JAMES HENDRY (Glasgow) and Dr. DOUGLAS A. MILLER (Edinburgh).

Thursday, July 26th.—10 a.m. Discussion: The Diagnosis and Treatment of Sterility. To be opened by Dr. A. E. GILES (London), followed by Dr. SYDNEY FORSDIKE (London) and Mr. KENNETH M. WALKER (London).

Friday, July 27th.—10 a.m. Papers: Professor R. VAUDESCAL (Paris), Myomectomy during Pregnancy; Professor W. W. CHAPMAN (Montreal), Acute Conditions in the Lower Abdomen of the Female; Mr. EVERARD WILLIAMS (London): The Acute Pelvis.

#### MENTAL DISEASES AND NEUROLOGY.

President: EDWIN GOODALL, C.B.E., M.D., F.R.C.P. (Cardiff).

Vice-Presidents: E. D. ADRIAN, M.D., F.R.C.P., F.R.S. (Cambridge); G. H. R. GIBSON, D.S.O., M.D., F.R.C.P.Ed. (Edinburgh); BERNARD HART, M.D., F.R.C.P. (London); W. F. NELLIS, M.D. (Caerleon, Mon.); N. R. PHILLIPS, M.D. (Abergavenny).

Honorary Secretaries: EDWARD LEWIS, F.R.P.S., Dr. Emma Hall, Skewen, nr. Neath, Glam.; W. R. REYNELL, M.D., M.R.C.P., 87, Harley Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Autotoxaemia as a Factor in the Causation of the Psychoses. To be opened by Professor W. WEYGANDT (Hamburg), followed by Dr. E. MAPOTHER (London), Dr. J. P. PORTER-PHILLIPS (London), Dr. MARY R. BARKAS (London), Dr. A. HELEN A. BOYLE (Hove), Dr. D. F. RAMBAUT (Northampton), and Dr. F. A. PICKWORTH (Birmingham).

Thursday, July 26th.—10 a.m. Discussion: The Differential Diagnosis and Treatment of Cerebral States consequent upon Head Injuries. To be opened by Dr. C. P. SYMONDS (London),

followed by Dr. C. R. WORSTER-DROUGHT (London), Mr. WILFRED TROTTER (London), Dr. R. D. GILLESPIE (London), Dr. D. MCALPINE (London), and Dr. G. RIDDOCH (London).

*Friday, July 27th.*—10 a.m. *Discussion:* The Early Treatment of the Psychoses and Psychoneuroses. To be opened by Dr. A. HELEN A. BOYLE (Hove), followed by Dr. E. MAPOTHER (London), Dr. R. D. GILLESPIE (London), Dr. MARY R. BANKS (London), Dr. R. G. GORDON (Bath), and Dr. JOHN R. REES (London).

#### The following Sections will meet on Two Days.

##### **PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor E. H. KETTLE, M.D., M.R.C.P. (London).

*Vice-Presidents:* Professor JOHN CRUIKSHANK, M.D. (Aberdeen); Sir THOMAS HOUSTON, O.B.E., M.D. (Belfast); W. PARRY MORGAN, M.D. (Cardiff); A. F. S. SLADDEN, M.D. (Swansea).

*Honorary Secretaries:* J. B. DUGUID, M.D., Department of Pathology, Welsh National School of Medicine, The Parade, Cardiff; LAWRENCE P. GARROD, M.B., M.R.C.P., 68, Gloucester Terrace, Hyde Park, London, W.2.

##### **ORTHOPAEDICS.**

*President:* Sir JOHN LYNN-THOMAS, K.B.E., C.B., C.M.G. F.R.C.S. (Llechryd).

*Vice-Presidents:* A. ROCYN JONES, M.B., F.R.C.S. (London); J. J. MCINTOSH SHAW, M.C., M.D., F.R.C.S. (Edinburgh); S. ALWYN SMITH, D.S.O., O.B.E., M.D., F.R.C.S. (Cardiff); P. JENNER VERRALL, M.B., F.R.C.S. (London).

*Honorary Secretaries:* J. BERRY HAYCRAFT, M.C., M.B., F.R.O.S. 31, Cathedral Road, Cardiff; ERIC IVAN LLOYD, M.B., F.R.C.S., 33, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Low Backache and Sciatica. To be opened by Mr. W. A. COCHRANE (Edinburgh).

*Thursday, July 26th.*—10 a.m. *Discussion:* Volkmann's Ischaemic Contracture, with special reference to Treatment. To be opened by Sir ROBERT JONES, Bt. (Liverpool).

12 noon. Cinematograph Demonstration by the PRESIDENT of the Section on Methods of Treating (1) Colles's Fracture, (2) Fracture of Femur, and (3) Clubfoot, as practised by Sir Robert Jones.

##### **DISEASES OF CHILDREN.**

*President:* ALFRED HOWELL, M.D., M.R.C.P. (Cardiff).

*Vice-Presidents:* E. A. COCKAYNE, M.D., F.R.C.P. (London); HERBERT THOMAS EVANS, M.D., M.R.C.P. (Cardiff); CHARLES LEONARD ISAAC, M.B., F.R.C.S. (Edinburgh); CHARLES LEONARD ISAAC, M.B., F.R.C.S. (Edinburgh).

*Honorary Secretaries:* DANIEL THOMAS DAVIES, M.D., M.R.C.P., 24, Park Place, Cardiff; HILDA N. STOEISSIGER, M.D., 11, Belmont House, Candover Street, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Chronic Splenomegaly in Childhood. To be opened by Dr. ROBERT HURCHISON (London), followed by Mr. L. E. BARRINGTON-WARD (London).

*Thursday, July 26th.*—10 a.m. *Discussion:* Chronic Nephritis in Childhood. To be opened by Dr. J. C. SPENCE (Newcastle).

##### **OPHTHALMOLOGY.**

*President:* F. P. S. CRESSWELL, M.B., F.R.C.S. (Cardiff).

*Vice-Presidents:* HERBERT CAIGER, M.B., F.R.C.S. (Sheffield); L. V. C. (New)

*Honorary Secretaries:* J. S. (New) 1, Park Grove, Cardiff; F. A. JULER, M.D., F.R.C.S., 14, Portland Place, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Visual Efficiency and Working Ability. To be opened by Dr. A. FREELAND FERGUS (Glasgow), followed by Sir J. H. PARSONS (London) and Mr. N. BISHOP HARMAN (London).

*Paper:* Dr. T. H. WHITTINGTON (London), The Examination of the Eyes and Eyesight in Young Children.

*Thursday, July 26th.*—10 a.m. *Discussion:* The Etiology of Glaucoma. To be opened by Mr. W. S. DUKE-ELDER (London), followed by Dr. H. M. TRAQUAIR (Edinburgh), Mr. THOMSON HENDERSON (Nottingham), and Mr. N. BISHOP HARMAN (London).

*Paper:* Mr. A. H. LEVY (London), Telescopic Spectacles.

##### **LARYNGOLOGY AND OTOTOLOGY.**

*President:* DONALD R. PATERSON, M.D., C.M., F.R.C.P. (Cardiff).

*Vice-Presidents:* ALBAN EVANS, M.R.C.S., L.R.C.P. (Swansea); E. D. D. DAVIS, F.R.C.S. (London); ARCHIBALD MASON JONES, M.D., F.R.C.S. (Edinburgh).

*Honorary Secretaries:* A. A. PRICHARD, M.D., 14, Windsor Place, Cardiff; D. F. A. NEILSON, F.R.C.S., 40, Queen Anne Street, London, W.1.

##### **TUBERCULOSIS.**

*President:* HUGH MORRISTON DAVIES, M.D., M.Ch., F.R.C.S. (Ruthin).

*Vice-Presidents:* ALEXANDER BROWNLEE, M.D., F.R.C.S. (Edinburgh); DAN ARTHUR POWELL, M.D. (Cardiff); CECIL WALL, M.D., F.R.C.P. (London).

*Honorary Secretaries:* J. C. GILCHRIST, M.D., Tuberculosis Institution, Welsh National Memorial, 10, The Parade, Cardiff; J. C. HOYLE, M.B., B.S., 28, Malcolm Street, Cambridge.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* The Relation between Trauma and Tuberculosis, especially from the point of view of Compensation and Accident Insurance. To be opened by

Dr. NORMAN TATTERSALL (Leeds), followed by Mr. ROBERT MILNE (London) and Dr. OTTO MAY (London).

*Papers on Factors in the Biochemistry of Tuberculosis:* Dr. L. S. T. BURRELL (London), The Therapeutic Value of the Heavy Metals; Dr. J. C. HOYLE (Cambridge), The Serum Calcium in Experimental Tuberculosis; and Dr. W. H. TYTLER (Cardiff), The Tuberculin-active Fraction of the Tubercle Bacillus.

*Wednesday Afternoon.*—Demonstration of After-effects of Surgical Treatment of Tuberculous and other Diseases of the Lungs. Specimens, lantern slides, anatomical preparations of the phrenic nerve, etc., will be on view in the Pathological Museum during the meeting.

2.30 p.m. There will be an Explanatory Demonstration.

4 p.m. Cases will be shown in the X-ray Department, Cardiff Royal Infirmary (by the courtesy of Dr. OWEN L. RHYS); and Dr. R. CECIL B. WALL (London) will give a Physiological Demonstration.

*Thursday, July 26th.*—10 a.m. *Discussions:* (1) After-effects of Surgical Procedures on Cases of Pulmonary Tuberculosis. To be opened by Mr. A. TUDOR EDWARDS (London) and Dr. F. G. CHANDLER (London). (2) Tuberculosis as seen by the General Practitioner. To be opened by Dr. R. CAMERON (Cardiff), and others.

##### **RADIOLOGY AND PHYSIO-THERAPEUTICS.**

*President:* OWEN LEWELLIN RHYS, M.D. (Cardiff).

*Vice-Presidents:* T. GARFIELD EVANS, M.D., D.M.R.E. (Cardiff); C. B. HEALD, C.B.E., M.D., M.R.C.P. (London); THOMAS MARLIN, M.D., D.M.R.E. (London).

*Honorary Secretaries:* T. I. CANDY, M.B., B.Ch., 202, Stow Hill, Newport, Mon.; A. J. H. LLES, M.R.C.S., L.R.C.P., Shutterhouse, Taunton.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Ultra-violet Rays and the General Public. To be opened by Professor W. E. DIXON, F.R.S. (Cambridge), followed by Dr. C. B. HEALD (London).

*Thursday, July 26th.*—10 a.m. to 12 noon. (Joint meeting with Section of Surgery.) *Discussion:* The Fallacy of X Rays in Abdominal Diagnosis. To be opened by Mr. HERBERT J. PATTERSON (London) and Dr. F. HERNIMAN-JOHNSON (London).

#### The following Sections will meet on One Day.

##### **PREVENTIVE MEDICINE.**

*President:* EDWARD COLSTON WILLIAMS, M.D., F.R.C.S. (Cardiff).

*Vice-Presidents:* W. W. JAMESON, M.D., M.R.C.P. (London); DAVID LLEWELYN WILLIAMS, M.C., F.R.C.S. (Edinburgh); C. A. BRISTOCKE, M.R.C.S. (Haverfordwest).

*Honorary Secretaries:* H. W. CATTO, M.B., B.S., 193, Stow Hill, Newport, Mon.; D. C. KIRKHOPE, M.D., Town Hall, South Tottenham, London, N.15.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* The Value of the Present Methods of Control of Infectious Diseases: (a) The Control of Small-pox. To be opened by Dr. L. J. RACHMANN (Geneva), followed by Dr. J. MIDDLETON MARTIN (Gloucester), Dr. T. EUSTACE HILL (Durham), Dr. R. P. GARROW (Cheshire), Dr. R. BRUCE LOW (Cardiff), and Dr. C. E. H. MURRAY (Leicester). (b) The Control of Scarlatina. To be opened by Dr. R. A. O'BRIEN.

(c) The Control of Typhoid. To be opened by Dr. J. GRAHAM FORBES (London), Dr. B. A. I. PETERS (Bristol) and Dr. E. H. R. HARRIES (Birmingham).

##### **PUBLIC HEALTH.**

*President:* R. M. F. PICKEN, M.B., Ch.B. (Cardiff).

*Vice-Presidents:* D. T. ROCYN JONES, C.B.E., M.B., C.M. (Rumney, nr. Cardiff); J. D. JENKINS, M.D. (Rhondda); S. G. MOORE, M.D. (Huddersfield).

*Honorary Secretaries:* THOMAS EVANS, M.B., Public Health Department, Swansea; R. P. GARROW, M.D., Health Office, Saltergate, Chesterfield.

The following provisional programme has been arranged:

*Thursday, July 26th.*—10 a.m. *Discussion:* The Teaching of Hygiene: (a) To Health Workers. To be opened by Dr. W. W. JAMESON (London). (b) To the Child and the Adolescent. To be opened by Dr. A. EICHOLZ (London). (c) To the General Public. (Opener will be announced later.)

##### **MEDICAL SOCIOLOGY.**

*President:* WILLIAM EVANS THOMAS, M.D., C.M. (Ystrad Rhondda).

*Vice-Presidents:* Professor F. A. E. CREW, M.D., Ph.D. (Edinburgh); LETITIA DENNY FAIRFIELD, C.B.E., M.D. (London); Sir EVAN LEWIS-LLOYD, M.R.C.S., L.R.C.P. (Towyn); The Rev. Sir THOMAS J. JONES, M.B., B.S., F.R.S.E. (London); Mrs. C. J. PEARSON, M.R.C.S., L.R.C.P.

18, Crwys Road, Cardiff; ELIZABETH CASSON, M.D., D.P.M., Holloway Sanatorium, Virginia Water, Surrey.

The following provisional programme has been arranged:

*Friday, July 27th.*—*Discussion:* The Falling Birth Rate in its Various Aspects: (a) The Biological Aspect. To be opened by Professor F. A. E. CREW (Animal Breeding Research Department, University of Edinburgh). (b) The Economic Aspect. To be opened by Professor W. J. ROBERTS (University of Wales). (c) The Medical Aspect. To be opened by Sir THOMAS HORDEN, Bt. (London), and Lady BARRETT (London).



## TROPICAL MEDICINE.

President: PHILIP H. MANSON-BARR, D.S.O., M.D., F.R.C.P. (London).

Vice-Presidents: J. B. CHRISTOPHERSON, M.D., F.R.C.P., F.R.C.S. (London); Lieut.-Colonel A. G. McKENNEDY, M.B., Ch.B., F.R.C.S. (Edinburgh).

Honorary Secretaries: ERNEST HENRY PRICE, L.R.C.P.I., 153, Cathedral Road, Cardiff; H. MCCORMICK HANSCHELL, D.S.C., M.R.C.S., L.R.C.P., 35, Weymouth Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussions: (1) Recent Advances in Diagnosis and Treatment of Human Helminthiasis. To be opened by Lieut.-Colonel CLAYTON LANE, I.M.S. (ret.) (London). (2) Transmission of Kala-azar. To be opened by Dr. C. M. WENTON (London).

An exhibition of pathological specimens and preparations illustrating tropical diseases will be on view.

## HISTORY OF MEDICINE.

President: WALTER G. SWENNER, O.B.E., M.S., F.R.C.S. (London). Vice-Presidents: THOMAS WALLACE, M.D. (Cardiff); T. P. C. KERSPATRICK, M.D., F.R.C.P.I. (Dublin); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Glasgow); CHARLES SINGER, M.A., M.D., F.R.C.P. (London).

Honorary Secretaries: H. R. FREDERICK, M.B., Ch.B., 42, Victoria Road, Aberavon, Port Talbot, Glam.; KENNETH R. HAY, O.B.E., M.B., 47, Hill Street, Berkeley Square, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Historical Aspects of Ideas regarding the Nature and Treatment of Dropsy. To be opened by Dr. J. D. COMBIE (Edinburgh).

Papers: Dr. E. ROLAND WILLIAMS (Manchester), Welsh Physicians and the Renaissance; Dr. J. D. ROLLISTON (London), The History of Scarlet Fever; Dr. P. DIVINER (Swansea), The Welsh Physician in the Middle Ages; Mr. C. J. S. THOMPSON (London), The History and Lore of Cinchona Bark.

A collection illustrative of the theory and practice of folk-medicine, human and animal, in Wales will be housed in the National Museum of Wales, Cardiff. (See *British Medical Journal*, March 24th, 1928, p. 509.)

## THERAPEUTICS AND PHARMACOLOGY.

President: W. LANGDON BROWN, M.D., F.R.C.P. (London).

Vice-Presidents: Professor W. J. DILLING, M.B., Ch.B. (Liverpool); PHILIP HANNU, M.D., D.Sc., F.R.C.P. (London); W. H. AXWELL TELLING, M.D., F.R.C.P. (Leeds).

Honorary Secretaries: J. P. H. DAVIES, M.B., "Cranmoor," he Green, Llandaff, Cardiff; J. H. BURN, M.D., Pharmaceutical Society of Great Britain, Pharmacological Laboratory, 17, Bloomsbury Square, London, W.C.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Recent Advances in the Medical Treatment of Gastric Diseases. To be opened by Dr. A. F. HURST (London), followed by Dr. T. IZOD BENNETT (London), Treatment by Diet and Drugs; and others.

## DERMATOLOGY.

President: Sir ROBERT BOLAM, M.D., LL.D., F.R.C.P. (Newcastle-on-Tyne).

Vice-Presidents: JAMES BEATTY, M.D., M.R.C.P. (Cardiff); WILLIAM GRIFFITH, M.D., M.R.C.P. (London); HENRY SEMON, M.D., M.R.C.P. (London).

Honorary Secretaries: R. H. ENOCH, M.B., Ch.B., L.R.C.P., Royal Infirmary, Cardiff; J. E. M. WOLEY, M.B., M.R.C.P., 132, Harley Street, London, W.1.

The Honorary Local General Secretary of the Annual Meeting is Dr. G. I. STRACHAN, 20, Windsor Place, Cardiff.

## PROVISIONAL TIME-TABLE.

FRIDAY, JULY 27TH.  
10.0 a.m.—Annual Representative Meeting, City Hall, Cardiff.  
7.30 p.m.—Representatives' Dinner.  
7.30 p.m.—Ladies' Dinner.  
10.30 p.m.—Dance.

SATURDAY, JULY 21ST.  
9.30 a.m.—Annual Representative Meeting.  
8.0 p.m.—Smoking Concert.

SUNDAY, JULY 22ND.  
Excursion for the Representative Body.

MONDAY, JULY 23RD.  
9.0 a.m.—Council Meeting, City Hall.  
10.0 a.m.—Annual Representative Meeting.  
10.0 a.m.—Excursions for Ladies.  
2.0 p.m.—Reception Room open for Registration.  
2.0 p.m.—Excursions for Ladies.  
8.0 p.m.—Concert.

TUESDAY, JULY 24TH.  
9.0 a.m.—Opening of Pathological Museum.  
2.0 p.m.—Annual General Meeting, followed by Annual Representative Meeting.  
4.30 p.m.—Official Religious Service, St. John's Church, Cardiff.  
8.0 p.m.—Adjourned General Meeting and President's Address.  
9.30 p.m.—Reception by President and Local Executive, followed by Dance.

## WEDNESDAY, JULY 25TH.

9.0 a.m.—Council Meeting.  
9.0 a.m.—Reception Room open.  
9.0 a.m.—Exhibition open.  
9.0 a.m.—Pathological Museum open.  
10.0 a.m.—Sectional Meetings.  
10.0 a.m.—Ladies' Golf Competition.  
10.0 a.m.—Excursions for Ladies.  
1.0 p.m.—Irish Graduates' Luncheon.  
2.0 p.m.—Excursions and Garden Parties.  
2.30 p.m.—Secretaries' Conference.  
6.30 p.m.—Secretaries' Dinner.  
8.30 p.m.—Reception by Lord Mayor and City Council, City Hall.  
10.0 p.m.—Dance.

## THURSDAY, JULY 26TH.

8.30 a.m.—National Temperance League Breakfast.  
9.0 a.m.—High Mass, St. David's Cathedral, Charles Street.  
9.0 a.m.—Exhibition open.  
9.0 a.m.—Registration Office open.  
9.0 a.m.—Pathological Museum open.  
9.30 a.m.—Children's Days.  
10.0 a.m.—Children's Days.  
10.0 a.m.—Children's Days.  
2.0 p.m.—Honorary Graduation, University of Wales.  
3.30 p.m.—Garden Party in the Grounds of Cardiff Castle, by Invitation of the Marquis and Marchioness of Bute.  
7.15 p.m.—Annual Dinner of the Association, City Hall.  
10.0 p.m.—Dance.

## FRIDAY, JULY 27TH.

8.30 a.m.—Medical Missionary Breakfast.  
9.0 a.m.—Registration Office, Exhibition, and Pathological Museum open.  
10.0 a.m.—Sectional Meetings.  
10.0 a.m.—Excursions for Ladies.  
2.0 p.m.—Excursions and Garden Parties.  
2.30 p.m.—Golf Competition for Treasurer's Cup.  
8.30 p.m.—Reception by National Museum of Wales.  
10.0 p.m.—Dance.

SATURDAY, JULY 28TH.  
Excursions.

## PATHOLOGICAL MUSEUM.

The committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Cardiff next July proposes to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Instruments concerned in clinical diagnosis and pathological investigation. (4) Individual specimens of special interest or a series illustrating some special subject. (5) Exhibits of general interest. The committee appeals for the co-operation of the profession in making the museum a success. It will be easy of access, being situated in the same building in which the Sections will meet; it is hoped to make arrangements for exhibitors to demonstrate their specimens. Every care will be taken of the exhibits, and the contents of the museum will be insured. The honorary secretaries (Dr. J. B. Duguid and Dr. J. Mills, Department of Pathology and Bacteriology, Welsh National School of Medicine, The Parade, Cardiff) ask intending exhibitors to notify them as soon as possible.

## REDUCED RAILWAY FARES.

Reduced fares will be granted to persons travelling to attend the Annual Meeting. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue return tickets to passengers travelling to Cardiff in this connexion at the ordinary single fare and one-third, fractions of 3d. to be reckoned as 3d., and the minimum adult fare to be 1s. A voucher of the usual type must be surrendered when the ticket is bought; these vouchers, signed by the Financial Secretary of the Association, will be obtainable from him in due course on application.

## IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

The annual luncheon of the Irish Medical Schools' and Graduates' Association will be held at the Royal Hotel, Cardiff, on Wednesday, July 25th, at 1 o'clock sharp. The President-Elect of the British Medical Association, Sir Ewen Maclean, will be the guest of the association. Tickets for the luncheon, price 4s. 6d. each, exclusive of wines, may be obtained from the honorary secretary for the provinces, Dr. Falkland L. Cary, 67, King's Road, Harrogate. Members of the association are particularly requested this year to obtain their tickets well in advance, owing to the difficulty of catering for an unknown number of guests.

## Association Notices.

## TABLE OF DATES.

May 12, Sat.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 15, Tues.	Voting papers posted from Head Office, where there are contests in above elections.
May 19, Sat.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
June 2, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body.
June 7, Thurs.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 13, Wed.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
June 21, Thurs.	Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 30, Sat.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
July 4, Wed.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
July 20, Fri.	Supplementary Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
July 21, Sat.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 23, Mon.	Annual Representative Meeting, Cardiff, 10 a.m.
July 24, Tues.	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 25, Wed.	Annual Representative Meeting, Cardiff.
July 26, Thurs.	Annual Representative Meeting, Cardiff.
July 27, Fri.	Annual General Meeting, Cardiff, President's Address.
	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
	Meetings of Sections, etc., Cardiff.
	Meetings of Sections, etc., Cardiff.
	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—A meeting of the Cambridge and Huntingdon Branch with the Cambridge Medical Society will be held at Addenbrooke's Hospital to-day (Friday, May 4th) at 2.30 p.m. Dr. H. C. C. Veitch will read notes on a case of acute suppurative dacryo-adenitis, and clinical cases and pathological specimens will be shown.

DORSET AND WEST HANTS BRANCH.—The annual meeting of the Dorset and West Hants Branch will be held at the Yeoman Hospital, Sherborne, on Wednesday, May 9th, at 3 o'clock, with Dr. Grey-Edwards in the chair. Agenda: To confirm appointment of officers for 1928 elected at October meeting, 1927.—Mr. A. Basil Rooke (president), Dr. Whitaker and Dr. McCall (vice-presidents), Dr. McCall (honorary secretary); the president will read a paper on some recent advances in medicine and surgery. The Sherborne members invite visiting members to lunch, which will be provided at the Digby Hotel, and also to tea after the general meeting. Places of interest, such as the abbey and the almshouses, may be visited before the general meeting. Visiting members who have no cars of their own may be accommodated on communicating with the honorary secretary.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—The annual meeting of the Bournemouth Division will be held on Tuesday, May 8th, in St. Peter's Small Hall, Bournemouth, at 4.15 p.m. Agenda: Annual report and financial statement; election of officers for committees for 1928; consider proposal to hold Division meetings in the evenings instead of in the afternoons. The chairman, Dr. How White, invites members to tea at 4 p.m.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.—The annual meeting of the South-Eastern Counties Division will be held in the Railway Hotel, Newtown St. Boswells, on Wednesday, May 9th, at 3 p.m. Agenda: Election of officers; annual report and financial statement for year 1927; instructions to representative to Representative Meeting; nominate candidate for Scottish Committee; members' and non-members' lists; motion by Dr. McLay (Galashiels):

That the formation of a clinical group at Galashiels be considered;

Motions by Dr. Fairfax (Inverleithen):

(a) That the question of over-certification be considered;

(b) That representation be made to headquarters, British Medical Association, with a view to securing a rebate in proposed petrol tax for practitioners in the course of their professional duties; arrangements for annual dinner.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—The annual general meeting of the Lanarkshire Division will be held at St. Euoch Station Hotel, Glasgow, on Wednesday, May 9th, at 3 p.m.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—A lecture on intracranial birth injuries, illustrated by lantern slides, will be given on Sunday, May 6th, at 4 p.m., in the board room of the General Hospital, Altrincham, by Dr. Capon, physician to the Royal Southern Hospital, Liverpool. Tea will be served at 3.45 p.m.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—The annual meeting of the Southport Division will be held on Friday, May 11th, at 8.15 p.m., at 52, Houghton Street, Southport. Agenda: Annual report; election of office-bearers and committee; ophthalmoscopy demonstrations; scarlet fever recovery certificate for State-aided schools; "heart disease" certified as cause of death; social function; Public Medical Service for London letter contract medical service for juveniles; Annual Report of Council.

LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.—The meeting of the Warrington Division will be held at the Infirmary, Kendrick Street, Warrington, to-day (Friday, May 4th), at 8.30 p.m. Agenda: Minutes of last meeting; election of officers any other business.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A clinic meeting of the City Division will be held on Friday, May 11th when Dr. E. Cantley will show cases.

METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.—A meeting of the Hampshire Division will be held at the Hampstead General Hospital on Thursday, May 10th, at 8.30 p.m., for discussion of the Annual Report of Council.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—The annual meeting of the Lewisham Division will be held at the Town Hall, Catford, S.E.6, on Tuesday, May 15th, at 8.45 p.m.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—The annual meeting of the Marylebone Division will be held at 8.30 p.m. on Wednesday, May 9th, at 11, Chandos Street, Cavendish Square, W.1. Agenda: Recommendations of Executive Committee re officers of the Division; Executive Committee's report; the Annual Report of Council; Dr. Hawthorne will open a discussion on lunacy law reform, and Mr. McAdam Eccles on the general practitioner and paying beds in hospitals.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—The annual general meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1 on Tuesday, May 8th, at 9 p.m.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at the Claybury Mental Hospital, Woodford Bridge, on Tuesday, May 15th at 3.30 p.m. Dr. G. F. Barham, medical superintendent, will give a demonstration of cases.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—The annual meeting of the Willesden Division will be held on May 16th. Agenda: Election of officers and committees, and consideration of Annual Report of Council.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, May 11th, at 8.15 p.m. A British Medical Association Lecture will be delivered by Professor Louise McIlroy on the management of labour.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, May 16th, at 8.15 p.m. Dr. J. C. Spence will give a lecture entitled "Hypertrophic pyloric stenosis—its importance as an example of the method of diagnosis, treatment, and study of disease in childhood."

OXFORD AND READING BRANCH: OXFORD DIVISION.—A meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, May 23rd, at 2.30 p.m. Dr. F. G. Chandler will read a paper entitled "Bronchiectasis—early diagnosis and treatment."

SOUTHERN BRANCH: JERSEY DIVISION.—A meeting of the Jersey Division will be held at the General Hospital on Thursday, May 17th. Mr. C. H. B. Avarne will read a paper on the diagnosis and treatment of gall-stones.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary on Thursday, May 24th. Members are asked to inform the honorary secretary as soon as possible of any cases, notes, papers, specimens, or notices of motion they may wish to bring forward in order that they may be placed on the agenda paper. It is advisable that papers should be as short as possible.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.—One of the series of post-graduate lectures arranged by the West Suffolk Division will be given by Mr. T. H. Just on diagnosis and treatment of acute inflammatory conditions of the ear, at the West Suffolk General Hospital to-day (Saturday, May 5th), at 8.45 p.m.; coffee will be served at 8.30. A clinic will be held on Sunday, May 6th, at 11 a.m. The course is open to medical practitioners in West Suffolk and their guests.

SUSSEX BRANCH: BRIGHTON DIVISION.—A special meeting of the Brighton Division will be held to-day (Friday, May 4th), at 8.30 p.m., at Steine House (Y.M.C.A.), Old Steine, Brighton, when Messrs. Kodak, Ltd., will give a cinematograph display of medical subjects, with a little lighter relief. It is hoped that there will be a large attendance.

SUSSEX BRANCH: CHICHESTER AND WORTHING AND HORSHAM DIVISIONS.—The annual meeting of the Chichester and Worthing Division will be held in the Burlington Hotel, Worthing, on Wednesday, May 9th, at 6 p.m. Agenda: Election of office-bearers for 1928-29. A combined meeting of the two Divisions will be held immediately afterwards for the election of a representative and

a deputy representative for the Annual Representative Meeting at Cardiff in July. A paper will be given by Mr. P. B. Feilden on some observations on renal tuberculosis. Dinner will be served in the Burlington Hotel at 7.30 p.m.; members who intend to be present should notify Dr. Mackintosh so that adequate provision may be made.

**YORKSHIRE BRANCH: DEWSBURY DIVISION.**—The annual meeting of the Dewsbury Division will be held at the Dewsbury Infirmary to-day (Friday, May 4th), at 8.15 p.m.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Wednesday, May 16th, at 8.30 p.m. Agenda: Report of Executive Committee; election of officers for the ensuing year.

**YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.**—The annual meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Stratford Arms Hotel, Wakefield, on May 10th, preceded by a supper at 7.45 p.m. Dr. A. Manknell (Bradford) will give an address on the British Medical Association and its work for the general practitioner.

**YORKSHIRE BRANCH: YORK DIVISION.**—The annual general meeting of the York Division will be held to-day (Saturday, May 5th), at 8.30 p.m., in the York Medical Society's Room, 17, Stonegate. Agenda: Report of honorary secretary for 1927; election of officers and committee for ensuing year; reports on cases of varicose ulceration; fees for ambulance lectures; communication from West Riding Local Medical and Panel Committees regarding the proposed establishment of a medical institute in Leeds; the "Ideal Benefit Society"; reports by medical practitioners at request of coroners; York Civic and Health Week—appointment of subcommittee by Executive Committee; fees for medical service to non-insured persons.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held at Nuneaton General Hospital on April 18th.

Dr. C. F. RYAN read a paper on oedema of the eyelids. He emphasized the great importance of early examination of the eye itself, and for this purpose, he said, retractors might often be necessary, and in young infants even a general anaesthetic. Dr. Rudd classified the oedemas as follows: (1) inflammatory and non-inflammatory cases in which the conjunctiva and eyeball were normal; (2) cases in which there were changes in the conjunctiva and eyeball. In the inflammatory group he placed adjacent sepsis, dacryocystitis, dacryodermatitis, acute inflammation of lacrimal gland, conjunctivitis, herpes zoster ophthalmicus, and neutro eczema. In the non-inflammatory group he referred to general oedemas, as in heart case and nephritis, and to angioneurotic oedema. In group (2) included acute inflammation of the conjunctiva, any acute inflammation in the interior of the eyeball, acute glaucoma, acute iritis and iridocyclitis, parophthalmia, orbital cellulitis, tenonitis, thrombosis of cavernous sinus. He described two rare cases, one aneurysm between the carotid artery and the cavernous sinus, and one of thrombosis of the lower half of the conjunctiva only, following an operation on the maxillary antrum and possibly due to thrombosis in the pterygoid plexus. Dr. Rudd dealt very practically with the diagnosis, and especially the differential diagnosis, the conditions mentioned, and gave many helpful hints on treatment. A discussion followed, in which many members took part. Dr. Rudd having replied, on the motion of the CHAIRMAN he was ordered a hearty vote of thanks for his very useful and practical paper.

The SECRETARIES reported that they had written, with reference reports by medical practitioners at request of coroners, to three coroners, parts of whose districts were in the Division area, and it very favourable replies had been received from them all. He meeting instructed the secretaries to write to the county councils on the lines of the draft letter issued by headquarters. Dr. W. Lawson was elected representative and Dr. J. Chalmers deputy representative for 1928-29.

A letter received from the secretary of the London Public Medical Service was then considered, and after full discussion the following resolution was passed with one dissentient:

This meeting of the Nuneaton and Tamworth Division is entirely in sympathy with the resolutions passed by the annual meeting of the Public Medical Service for London on March 25th last, and desires its representative to vote against the acceptance of any capitation fee for public medical services, including medicine, either for juveniles or adults, which is less than 13s. per annum.

It was decided to hold the annual meeting at Nuneaton on Wednesday, July 18th.

### DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A social meeting of the West Dorset Division was held on April 18th, when about sixty members and friends were present. The party gathered at Corfo Castle at 3 p.m., and Dr. DRU DRURY gave a most interesting address on its history and architecture; afterwards a tour of the ruin was made. Later some of the old cottages in the village of Corfo were pointed out, and then the party proceeded to view the Church of St. Edward the Martyr; the verger gave an account of its history and special features. Tea was provided by Dr. and Mrs. Dru Drury at the villa, which had been kindly lent by Mr. Cavendish-

Bentnck, one of the governors of the Middlesex Hospital. He also had thrown open his extensive gardens, and the party was thus able to take a pleasant stroll after tea. Later a move was made to Church Knowle, two miles away, when the rector, the Rev. H. L. Russell, described the Early English church. Finally Barnstone was visited; this manor house, containing a mixture of thirteenth century and Tudor architecture, was kindly opened for inspection by the tenant, Mr. Cooper. Very cordial votes of thanks were accorded, at the suggestion of the chairman, Dr. REES, to all who had assisted to make the meeting so successful, and especially to Dr. and Mrs. Dru Drury.

### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on April 17th at the Town Hall, Catford, S.E., with Dr. W. E. HALLINAN in the chair, when Dr. WILLIAM GOLDSMITH gave an address on the diagnosis and treatment of pruritic skin conditions.

Dr. Goldsmith defined three groups: those due to external irritants, those accompanied by eruptions, and the primary or essential. Scabies was the most common dermatosis; its distribution made diagnosis easy, and treatment with sulphur ointment, 1 drachm to the ounce, for three or four days was a certain cure. Sulphur must not be used longer or dermatitis followed. Urticaria was an idiosyncrasy, similar to serum rash and anaphylaxis; it was treated by adrenaline or pilocarpine. Parathyroid extract and calcium were useful, also injections of pituitrin, while externally carbolic lotion and calamine were recommended, with avoidance of baths and changes of temperature. Papular urticaria of children might persist till the age of 12; impetigo often followed. Eczema was a specialized reaction; external causes were more important than the internal, and trauma, rough clothing, improper drying, and wind were cited. In the treatment of early stages 1 per cent. resorcin in water was used first, then lead lotion, followed by calamine when the exudate was lessened, and zinc and ichthyol paste. X rays were beneficial in persistent cases. Eczema of nipples was frequently an after-effect of scabies. In the axilla it was due to hyperhidrosis. A lotion of spirit and tannic acid was used, and X rays would reduce the sweat glands. Primary facial eczema of infants occurred more often in males and the first-born; they were often ravenous feeders, and might be breast-fed or bottle-fed. The condition was often associated with asthma. Scratching must be prevented. A mask of white lint was used, smeared with 3 per cent. coal tar and zinc paste. The skin should be cleaned with liquid paraffin.

DRS. BRACKEN, BEATTIE, H. EVANS, and BANTOCKMAN joined in the discussion, and Dr. BUCHAN proposed a vote of thanks to the lecturer.

### METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.

THE annual general meeting of the Westminster and Holborn Division was held on April 28th at the bottling works of the United Dairies at Scrubbs Lane, Willesden. The directors of the United Dairies had very kindly invited members and their friends to a short lecture by Mr. P. B. TUSTIN, and to an inspection of their methods of receiving, pasteurizing, and bottling milk. Tea was afterwards provided, and the annual general meeting followed immediately, at which the following officers were elected for 1928-29:

Chairman, Mr. Cecil Rowntree. Vice-Chairman, Mr. D. C. L. Fitzwilliams, C.M.G. Honorary Secretary and Treasurer, Dr. Cedric Hilliard. Representative in the Representative Body, Dr. R. R. Hay, O.B.E., Dr. F. Howard Humphris, and Dr. G. E. Orme.

This was the most successful meeting of the year, and everyone was interested and pleased with the modern methods used in this the largest bottling works in the world. Thanks were accorded to Mr. Ben Davies, the managing director, and to Mr. Tustin for their excellent arrangements and for providing transport to and from the works.

### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

A CLINICAL meeting of the Willesden Division was held on April 18th at the Willesden General Hospital, when Dr. BRIGHT BAXISTER spoke on ante-natal work.

He was strongly of the opinion that ante-natal work should be the province of the medical profession, and should be undertaken by them and not by the local municipal officers of health or by the midwives. In a large district there must be some central authority for purposes of organization, but other than this the work should be done by the general practitioner. The curriculum for midwives was insufficient to qualify them, and the local officer was not in a position to cultivate, between doctor and patient, the personal touch essential to the success of ante-natal work. It was most important that the doctor should appreciate the problems of the mother, and should be her friendly adviser; supervision of the general health was of prime importance, and should involve an inclusive medical examination of the patient. Unless there were definite indications a vaginal examination should not be performed during the first half of pregnancy, but should be a routine about the thirty-fourth week. The urine should be examined on several occasions during the first part, and part of pregnancy. The blood pressure was not raised as a rule during pregnancy, and a systolic blood pressure above 140 mm. Hg was not normal in a pregnant woman. The progress of the child should be watched. Suggestive evidence of twins was a uterus higher than normal at mid-term and an early slight oedema of the legs. A small patient often had a small

pelvis. Women with a boyish or male type of figure, small women with a flattening of the back just above the posterior superior iliac spines, and women with short forearms seemed particularly prone to contracted pelvis. Pelvimetric measurements were not of great reliability. An external conjugate of 7½ inches or less was unfavourable. Also unfavourable were cases in which the interspinous approached the interistal measurement. The best pelvimeter was the infant head; if it would engage in the brim, all was well, since a contracted pelvic outlet only comprised 1 per cent. of all pelvic contractures. A late engagement of the head was not always associated with abnormality, since it was not uncommon in otherwise normal cases. The resistance of the perineum, the dilatability of the vaginal canal, and the degree of softening of the cervix discovered on digital examination were important points in considering how long the dilatation of the genital would take. Toxaemia could not be totally excluded. Dr. Banister cited cases in which the urine had been normal three days previous to an eclamptic convulsion. Auto-infection undoubtedly occurred, but in cases in which haemolytic streptococci were found in the vagina prior to labour no known vaginal toilette would eradicate the organism. Ante-natal work was a personal matter always requiring the services of a doctor.

An interesting discussion followed. A unanimous vote of thanks was accorded to Dr. Banister for a very practical and enlightening address on the motion of Dr. J. WALKER BRASH, seconded by Dr. W. WOOLLEY SPOCKER.

Dr. William Paterson was nominated for the Council, Dr. C. F. T. Scott was elected representative at the Annual Representative Meeting, and Dr. G. W. R. Skene and Dr. C. de B. Thomson were elected deputy representatives.

#### SOUTHERN BRANCH: WINCHESTER DIVISION.

A MEETING of the Winchester Division was held at the County Hospital, Winchester, on April 18th. It was decided to refer the question of payment for police calls to the Southern Branch with the request that action be taken.

A discussion arose in connexion with a communication that had been received from the secretary of the Public Medical Service for London, in which it was advocated that a contract fee of 13s. per head per annum should be paid for attendance on juvenile members of the Independent Order of Oddfellows instead of 8s. 8d. suggested by the Medico-Political Committee. There was general agreement that the higher fee was not justifiable for rural districts, and it was resolved that the fee to be aimed at should be 8s. 8d., and that medical examinations should be insisted upon before acceptance of any applicant.

Dr. Livingston, chairman, and the honorary secretary were elected representative and deputy representative respectively of the Division in the Representative Body for 1928.

Mr. B. H. PROCOCK, surgeon to the hospital, then read a paper on the etiology and treatment of movable kidney.

#### STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.

A MEETING of the South Staffordshire Division was held on March 29th. After supper Mr. C. B. GOULDEN, ophthalmic surgeon to the London Hospital, delivered a lecture on ophthalmic emergencies in general practice. He dealt with ophthalmia neonatorum, concomitant squint, and acute glaucoma, referring particularly to the diagnosis, prevention, and treatment of each. There were forty-five members present, and at the close of the lecture many questions were asked, to which Mr. Goulden replied. A vote of thanks to the lecturer, proposed by Mr. W. F. CHOLMELEY, was carried unanimously.

#### WILTSHIRE BRANCH: TROWBRIDGE DIVISION.

THE annual general meeting of the Trowbridge Division was held at the Town Hall, Trowbridge, on April 18th, fourteen members being present.

A vote of condolence with the relatives of the late Dr. John Aage was passed.

The following officers were elected for the year 1928:

Chairman, Dr. D. Leigh Spence. Vice-Chairman, Dr. J. C. Keir. Honorary Secretary, Dr. A. D. Hamilton. Representative in Representative Body, Dr. C. E. S. Flemming. Deputy Representatives in Representative Body, Drs. Crossley and Lawrence.

A letter from the Public Medical Service for London re fees for contract practice was discussed. A motion was passed "that this Division considers that it would be a mistaken policy for the British Medical Association to fix terms for contract practice for juveniles which would apply throughout the country, should such rates be lower than those for adult members." The secretary was instructed to report this resolution to headquarters, enclosing a copy of the letter from the Public Medical Service for London.

The programme of meetings for 1928-29 was provisionally arranged.

#### WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

THE spring meeting of the Worcestershire and Herefordshire Branch was held at the Infirmary, Worcester, on April 26th, at 5 p.m., with the president, Dr. NALST, in the chair.

Mr. J. B. CAVENAGH of Worcester read an instructive and interesting paper on the diagnosis and treatment of acute otitis media, with illustrations and statistics, emphasizing the necessity of early incision. Mr. POWER of Hereford described a successful case of arthroctomy for acute tuberculous disease of the elbow-joint.

Mr. DEVEREUX of Malvern showed a case of osteosarcoma of the right scapula, and Dr. NEVILLE CROWE of Worcester one of rudimentary arms in an infant.

## National Insurance.

### PRACTITIONER'S NAME REMOVED FROM WORCESTER MEDICAL LISTS.

WE have received from the Ministry of Health notification the Minister's decision in the case of Dr. J. I. Hagard, who conduct was the subject of an inquiry at Worcester on Janus 10th, 20th, and 21st, following a representation by the C. of Worcester Insurance Committee to the effect that the continuance upon its medical list of this practitioner would be prejudicial to the efficiency of the medical service of the insured. The formal document embodying the Minister's decision, dated April 25th, reads as follows.

#### National Health Insurance Act, 1924.

The Minister of Health, having read and considered the report made by the Inquiry Committee constituted by him under Part of the National Health Insurance Medical Benefit Consolidated Regulations, 1924, to inquire into the case of Dr. John Ian Hagard of 51, Broad Street, Worcester, is satisfied that Dr. Hagard's continuance on the medical list would be prejudicial to the efficiency of the insured, and he has accordingly decided to remove, and does hereby in pursuance of Section 24 (2) (i) of the National Health Insurance Act, 1924, and of all other powers enabling him, remove Dr. Hagard's name from the medical list of the Insurance Committees for the county borough and county of Worcester, and further hereby directs that this decision shall take effect as from and including the 14th May, 1928.

The Minister has also considered the question of the costs of the inquiry, and hereby directs that no order be made as to such costs.

## Correspondence.

### The Petrol Tax.

SIR,—I am writing as an ordinary general practitioner, who car is on the road for fourteen hours a day, seven days a week in a practice which consists of myself and a partner. The petrol tax is going to mean an addition of £30 to the £28 already pay-as-car-taxation. I am not claiming that I am worse off than my brethren, for I know that there are men in crowded industrial or poorer country districts who must be even harder hit. When we all returned to our practices after our service in the war we were given a rebate of 3d. in the gallon on the petrol tax then in force.

I am writing to you, Sir, to ask whether, as an Association we are going to take up this matter and try to obtain such a rebate before the Budget gets through committee.—I am, etc.

A. P. HOPE SIMPSON.

•• We think that Dr. Hope Simpson may take it for granted that the Medico-Political Committee of the British Medical Association will take this matter into consideration. Experience of what happened in 1920 seems to suggest, however, that any concession would be difficult to extract from the Government. When the horse-power tax was introduced in that year, and the petrol rebate for medical practitioners was wiped out, the Association made every effort to secure preferential treatment for doctors from the Ministry of Transport, but without success.

### Contract Rate for Juvenile Oddfellows.

SIR,—It has very seldom happened that I am in agreement with the expressed views of the Medical Practitioners' Union; but I must confess that I think that a circular which I have just received from that society, dealing with the action of the Insurance Acts Committee and the Central Council of the British Medical Association in the matter referred to above, is justified, and merits the approval of panel practitioners.

I was amazed when I read the report of the action of the Council, as reported in the Supplement for April 21st (p. 130), more particularly when I saw that the Insurance Acts Committee had approved this retrograde step with only four dissentients. I can imagine nothing more calculated to reduce all fees for medical practice among the working classes, and nothing more certain to influence approved societies in demanding a lowering of the capitation fee under the National Insurance Acts, and the Minister of Health in his consideration of the subject.

Years ago it was decided by the Association that the rates of contract practice for juvenile members of friendly societies should not be less than the capitation fee under the Insurance Acts. I know of nothing that has transpired since then to account for this *volte face* in the attitude of the Council. It is, of course, disappointing and depressing to learn that practitioners in some places—some of them doubtless members of the British Medical Association—have been, and are, accepting less rates. But these "non-union" men have always, unfortunately, been with us. It is something new to me that the policy of the

Association is to be governed by those who will not act in conformity with its expressed views, or by the actions of doctors who do not even belong to the Association or any other medical society.

It is useless for Dr. Dunn to say that the proposed fee would not in any respect form a standard for the fee to be paid in national health insurance. He may not regard it as such, but the Minister and the approved societies will make it such. And Dr. Bone's argument that the proposed 6s. 6d. is as good as the insurance 9s., by reason of the freedom from certification, records, etc., is simply begging the question. It assumes that the profession is satisfied with the 9s. capitation fee, whereas, as Dr. Bone knows very well, it never has been satisfied with it or allowed that it constitutes a proper payment for the work done, and only accepted it under what one may term *force majeure*. The action of the Council and the Insurance Acts Committee in this matter seems to me to be the most retrograde step that has been taken for a long time, and tends to cut from under our feet all ground for future bargaining with either the Minister or the approved societies. It is to be hoped that the subject will form matter for discussion at the Representative Meeting, and perhaps also at the Annual Conference of Local Medical and Panel Committees; although, whatever be the result of such discussion, I fear that the real mischief has already been done.—I am, etc.,

Hull, April 26th.

JOS. NELSON.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon-Commander F. J. Gowan to the *Victory*; G. F. Syms to the *Flora*; E. L. Markham, O.B.E., to the *Conquest*; G. V. Hobbs to the *Cardiff*.

Surgeon Lieutenants R. A. Graft to the *Birmingham*; J. Hamilton to the *Pembroke* for R.N. Barracks, Chatham; C. B. Nicholson to the *Victory*.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon-Lieutenant G. McCull to be Surgeon-Lieutenant-Commander. Surgeon-Lieutenant B. R. B. Roberts to the *Courageux*. E. C. Johnson and S. Jenkins have entered on probationary Surgeon Lieutenants and attached to List 2 of the London Division. Probationary Surgeon Sublieutenant W. McE. Macgregor is confirmed in his rank, with seniority of March 18th, 1927.

### ROYAL ARMY MEDICAL CORPS.

Captains J. F. W. Meenan and G. J. McGorty, M.C., to be Majors (prov.).

### ROYAL AIR FORCE MEDICAL SERVICE.

Flying Officer L. I. Hyler is promoted to the rank of Flight Lieutenant, with effect from January 6th, 1928, and with seniority of January 6th, 1927 (substituted for notification in the *London Gazette* of January 10th, 1928).

P. B. L. Potter is granted a short service commission as a Flying Officer for three years on the Active List, with effect from and with seniority of March 20th, 1928, and is seconded for duty with the Princess Alice Memorial Hospital, Eastbourne.

### RESERVE OF AIR FORCE OFFICERS: MEDICAL BRANCH.

Flight Lieutenant L. Game ceases to be employed with the Regular Air Force.

### INDIAN MEDICAL SERVICE.

Consequent on the grant of leave to Lieut.-Colonel J. K. S. Fleming, O.B.E., Lieut.-Colonel H. E. Stanger-Leathes, Assistant Director of Public Health, Delhi, is appointed to officiate as Deputy Director-General, Indian Medical Services.

Major L. A. P. Anderson, an officer of the Medical Research Department, is confirmed as Assistant Director, Central Research Institute, Kasauli, with effect from April 4th, 1928.

Major C. Newcomb is placed on foreign service under the Indian Research Fund Association. He is to be placed in the Medical Research Department, are placed in the Medical Research Department of the Government of Bombay to undertake a malaria survey of Bombay city.

The services of Major J. R. D. Webb, O.B.E., are placed temporarily at the disposal of the Chief Commissioner, Delhi, for appointment as officiating Assistant Director of Public Health, Delhi, vice Lieut.-Colonel H. E. Stanger-Leathes.

To be Captains: P. E. B. Manning, with seniority April 3rd, 1925; S. Smyth, with seniority January 24th, 1927. To be Lieutenants: J. Quigley, with seniority September 1st, 1924; R. A. Hawthornthwaite, with seniority February 19th, 1925; R. D. Alexander, with seniority November 21st, 1926.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

The following officers, having attained the age limit of liability to recall, cease to belong in the Reserve of Officers: Lieut.-Colonels H. E. J. A. Howley and A. F. Carlyon.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

Captain W. Leslie, M.C., to be Major, with precedence as from November 30th, 1927. Lieutenant C. C. P. Anning is restored to the establishment. J. A. Kerr to be Lieutenant.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain G. F. Shepherd, from the Active List, to be Captain.

### COLONIAL MEDICAL SERVICES.

Dr. E. J. Clark, M.C., appointed Medical Officer of Health, Sanitation Branch, Medical Department, Gold Coast. Dr. D. D. Barker appointed Medical Officer, West African Medical Staff (Sierra Leone). Drs. J. Cauchi and A. Robertson promoted Senior Sanitation Officer and Medical Officer of Health, Nigeria, respectively. Dr. V. E. Whitman appointed Medical Officer of Health, Sanitation Branch, Medical Department, Gold Coast. Dr. W. Magowan appointed Medical Officer, Medical Department, Gold Coast.

### VACANCIES.

ACTON BOROUGH EDUCATION COMMITTEE.—School Dental Surgeon. Salary £500 per annum, rising to £600.

ACTON HOSPITAL, Gimmersbury Lane, W.3.—Male Resident Medical Officer. Salary £150 per annum.

BIRNLEY AND WAKEFIELD JOINT SANATORIUM COMMITTEE.—Assistant Tuberculosis Officer and Resident Medical Officer. Salary £450 per annum, rising to £600.

BENFORD BOROUGH.—Medical Officer of Health. Salary £900 per annum, rising to £1,100.

HELPS.—QUEEN'S UNIVERSITY.—Professor of Pathology. Salary £900 with supplement and pension.

BIRKENHEAD UNION.—Two Resident Assistant Medical Officers. Salary £200 per annum, rising to £300.

HOLINGROVE HOSPITAL, Wandsworth Common, S.W.11.—Honorary Physician. HINSTON UNIVERSITY.—Demonstrator in Pathology (part-time).

CHURCH ROYAL INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

CYMRIDLAND AND WESTMORLAND MENTAL HOSPITAL, Carlisle.—Medical Superintendent. Salary £850 per annum, rising to £1,000.

DARLINGTON GENERAL HOSPITAL.—Senior House-Surgeon (male). £150 per annum.

DEVON MENTAL HOSPITAL, Exminster, near Exeter.—Junior Assistant Medical Officer (male, unmarried). Salary £300 per annum, rising to £350.

DEPTFORD COUNTY COUNCIL.—Assistant Medical Welfare Medical Officer (woman). Salary £600 per annum, rising to £650.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £100 per annum.

FIM GOVERNMENT.—District Medical Officer. Salary £500 per annum, rising to £725.

HAMSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Surgeon to Out-patients.

HONG-KONG UNIVERSITY.—Professor of Physiology. Salary £800 a year, rising to £1,000.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, Grove End Road, N.W.8.—Resident House-Physician (male). Salary at the rate of £100 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Two Resident Medical Officers at the Glan Ely Hospital. Salaries £350 and £200 per annum respectively.

LEDS CITY.—Assistant Medical Officer for Maternity and Child Welfare. Salary £600 per annum.

LEDS PUBLIC DISPENSARY.—(1) Honorary Physician. (2) Honorary Surgeon. (3) Junior Resident Medical Officer; salary £150 per annum.

LEWISHAM BOROUGH COUNCIL.—Assistant Medical Officer of Health and Maternity and Child Welfare Medical Officer (male). Salary at the rate of £550 per annum, rising to £750.

LIVERPOOL AND DISTRICT HOSPITAL FOR DISEASES OF THE HEART.—Research Fellowship. Value £150 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Resident Medical Officer and Junior Resident Medical Officer. Salaries at the rate of £150 and £100 per annum respectively.

LONDON SKIN HOSPITAL, Fitzroy Square, W.1.—Honorary Physician or Surgeon, and Surgical Registrar.

MANCHESTER: AROCHS HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

MELBOURNE: CHILDREN'S HOSPITAL.—Medical Superintendent of Orthopaedic Section. Salary £1,000 per annum with emoluments, or £1,250 without.

NEW ZEALAND GOVERNMENT.—Senior Assistant Medical Officers (male) in the Mental Hospitals Department. Salary, single men £765, married men £900.

NORTHERN IRELAND.—Medical Referee under the National Health Insurance Scheme. Salary £600 a year, rising to £900, together with bonus.

PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, St. Quintin Avenue, W.16.—Honorary Assistant Dental Surgeon.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Physician in charge of the Skin Department.

ROTHERHAM HOSPITAL.—House-Physician (male). Salary £180 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Ophthalmic Surgeon. (2) Assistant Physician.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—House-Surgeon. Salary at the rate of £70 per annum.

ST. ALBANS AND MID-HERTS HOSPITAL AND DISPENSARY.—Male Resident Medical Officer. Salary £150 per annum, rising to £200.

ST. JOHN'S HOSPITAL, Lewisham, S.E.13.—Honorary Anaesthetist.

SHEFFIELD ROYAL HOSPITAL.—Assistant Physiologist. Salary £400 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician (male). Salary £130 per annum.

STOCKTON AND THORNTON HOSPITAL, Stockton-on-Tees.—Junior Resident Medical Officer (male). Salary £150.

STOKE NEWINGTON BOROUGH COUNCIL.—Medical Officer of Health. Salary at the rate of £700 per annum, rising to £800.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—(1) Assistant House-Physician; salary £125 per annum. (2) Honorary Anaesthetist. (3) Honorary Assistant Aurist Surgeon. (4) Honorary Assistant Orthopaedic Surgeon.

WALSALL COUNTY BOROUGH.—Assistant Medical Officer (Maternity and Child Welfare) (female). Salary £600 per annum, rising to £700.

WALSALL GENERAL HOSPITAL.—Senior House-Surgeon. Salary £200 per annum.

WATERLOO AND DISTRICT GENERAL HOSPITAL, Waterloo, near Liverpool.—Resident House-Surgeon. Salary £50 per annum.

WEST HAM COUNTY BOROUGH.—Assistant Resident Medical Officer at Dagenham Sanatorium. Salary at the rate of £250 per annum.

WILLESDEN PARISH.—Resident First Assistant Medical Officer (male) at Park Royal Hospital, Acton Lane. Salary £430, rising to £460.

WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL, Shooters' Hill, S.E.18.—House-Surgeon. Honorarium £120 per annum.



WORCESTER GENERAL INFIRMARY.—Senior and Junior Resident Medical Officers. Salaries £180 and £120 per annum respectively.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Bradford-on-Avon (Wiltshire), St. Margaret's Hope (Orkney), Slough (Buckinghamshire), Buckhaven (Fifehire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

FELLOWS, F. M., M.B., C.M., F.R.C.S.Ed., District Medical Officer and Public Vaccinator for the Poynton, etc., District of the Macclesfield Union.

FOWLER, W. M., M.B., Ch.B., Medical Referee for the Lochaber District (Sheriffdom of Inverness, Elgin, and Nairn), vice A. C. Miller, M.D., deceased.

McGIBBON, John E. C., M.B., B.S.Lond., D.L.O., Honorary Assistant Laryngologist and Aurist, Royal Southern Hospital, Liverpool.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Social Evening.—Mon., 8.30 p.m., Reception by the President and Lady Berry. 9.15 p.m., Illustrations Address by Mr. P. B. Tustin: Milk—from Cow to Consumer. A number of exhibits, lent by the lecturer, will be on view. Music and light refreshments.

Section of General Medicine.—Annual General Meeting.

Section of General Surgery.—Annual Meeting. Dr. Graham J. Dukes (Pathology). Mr. Ernest Miles will also speak.

Section of Neurology.—Thurs., 8.30 p.m., Annual General Meeting, followed by Pathological Meeting.

Clinical Section.—Fri., 5 p.m., Cases.

Section of Paediatrics.—Sat. and Sun., Annual Provincial Meeting at Bath.

HARVEIAN SOCIETY, Paddington Infirmary, Harrow Road, W.—Thurs., 4.30 p.m., Clinical Meeting.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich Road, S.E.10.—Fri., 8.45 p.m., President's Address.

#### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Mon., May 7th, to Sat., May 12th. Cancer Hospital, Fulham Road, S.W.3: Tues., 2 p.m., Operations and Demonstrations; no fee. Hospital for Sick Children, Great Ormond Street, W.C.1: Tues., 2.30 p.m., Ward Round, no fee. Royal London Ophthalmic Hospital, City Road, E.C.1: Wed., 12 noon, Demonstration; no fee. Central London Throat, Nose and Ear Hospital, Cray's Inn Road, W.C.1: Intensive Course (Clinical), Operative Surgery Clinics, Maudsley Hospital, Denmark Hill, S.E.5: Special Post-graduate Course in Psychological Medicine, afternoons only; fee 45 s.; continuing for four weeks. Central Hospital, Judd Street, W.C.1: After-course in Lecture Demonstrations and Operations p Hospital, Vincent Square, S.W.1: Afternoon Course. London School of Tropical Medicine, Endsleigh Gardens, W.C.1: Tues. and Thurs., 2 p.m., Lecture Demonstrations. Royal Free Hospital, Cray's Inn Road, W.C.1: Wed., 5.15 p.m., last Lecture Demonstration in Series in Electrophysiology. St. John's Hospital, Leicester Square, W.C.2: Special Course (Clinical), and Series of Lectures throughout the month; Pathology Course can be arranged if desired. Copies of all syllabuses sent on application, also details of general course of work. Apply Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1.

BELGRAVE HOSPITAL FOR CHILDREN, 1, Clapham Road, S.W.9.—Wed., 4.30 p.m., Clinical Meeting.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Mon., 5 p.m., Drug Eruptions. Tues., 5 p.m., Alopecia, Areata and Vitiligo. Thurs., 5 p.m., Mycosis Fungoides. Fri., 5 p.m., Skin Diseases due to Protein Sensitization.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 p.m., Demonstration of Surgical Cases; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Medical Cases; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Tues., 3.15 p.m., Treatment of Acute Suppuration.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards. Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards. Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards. Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments. Fri., 10 a.m. to 1 p.m., Skin, Dental, and Electrical Departments, Medical Wards, Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear Operations, Medical Children's Department, Bacterial Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Out-patient Departments. Special Lectures, Tuesdays, May 8th and 11th, at 4.30 p.m.: Gastric and Duodenal Ulceration.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed., 4.15 p.m., Medical Cases.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon. Tues., Wed., Thurs., and Fri., 11.30 a.m. (Fee £2 2s. for three months' attendance.)

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Constipation. Fri., 4.15 p.m., Demonstration of Surgical Cases.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager, Telegrams: Articulate Westcent, London).  
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IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

### Diary of the Association.

#### MAY.

- 4 Fri. London: Consulting Pathologists Group Committee, 2.30 p.m.
- 5 Sat. West Suffolk Division: West Suffolk General Hospital. Mr. T. H. Just on Acute Inflammatory Conditions of the Ear, 8.45 p.m.
- York Division: Annual Meeting, York Medical Society's Room, 17, Stonegate, 8.30 p.m.
- 6 Sun. Mid-Cheshire Division: General Hospital, Aldrincham. Dr. Capon on Intracranial Birth Injuries, 3.45 p.m.
- 8 Tues. Bournemouth Division: Annual Meeting, St. Peter's Small Hall, Bournemouth, 4.15 p.m.
- St. Pancras Division: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 9 p.m.
- 9 Wed. Chichester and Worthing and Hnrsham Divisions: Annual Meeting, Burlington Hotel, Chichester, 7.30 p.m.
- Renal Tuberculosis, 6 p.m.
- Dorset and West Hants Hospital, Sherborne, 3 p.m.
- Lanarkshire Division: Annual Meeting, St. Enoch Station Hotel, Glasgow, 3 p.m.
- Marylebone Division: 11, Chandos Street, Cavendish Square, W.1. Dr. Hawthorne will open a discussion on Lunacy Law Reform, and Mr. McAdam-Eccles on the General Practitioner and Paying Beds in Hospitals, 8.30 p.m.
- South-Eastern Counties Division: Annual Meeting, Railway Hotel, Newtown St. Boswells, 3 p.m.
- 10 Thurs. London: Charities Committee, 2.30 p.m.
- Hampstead Division: Hampstead General Hospital, 8.30 p.m.
- Walsfield, Pontefract, and Castleford Division: Annual Meeting, Stratford Arms Hotel, Walsfield. Dr. A. Macknell on the British Medical Association and its Work for the General Practitioner. Meeting preceded by supper, 7.45 p.m.
- 11 Fri. London: Library Subcommittee, 2.30 p.m.
- Chesterfield Division: Maternity Hospital, Chesterfield. R.M.A. Lecture by Professor Louise Mellroy on the Management of Labour, 8.15 p.m.
- City Division: Clinical Meeting.
- Southport Division: Annual Meeting, 52, Houghton Street, Southport, 8.15 p.m.
- 15 Tues. London: Central Ethical Committee, 2.15 p.m.
- Lewisham Division: Annual Meeting, Town Hall, Calford, S.E.6, 8.45 p.m.
- South-West Essex Division: Claybury Mental Hospital, Woodford Bridge, 3.30 p.m.
- 16 Wed. London: Hospitals Committee, 2.15 p.m.
- Sheffield Division: Annual Meeting, Church House, St. James Street, Sheffield, 8.20 p.m.
- Sunderland Division: Royal Infirmary, Sunderland. Dr. J. C. Spence on Hypertrophic Pyloric Stenosis, 8.15 p.m.
- Willesden Division: Annual Meeting.
- 17 Thurs. London: Insurance Acts Formulary Subcommittee, 11 a.m.
- London: Insurance Acts Foods and Drugs Conference, 2.20 p.m.
- London: Naval and Military Committee, 2.20 p.m.
- Jersey Division: General Hospital. Mr. C. H. B. Avarne on *Smallpox*, 2.30 p.m.
- 18 Fri. Suffolk Hospital. Sir Thomas Little, 2.30 p.m.
- 19 Sat. rs in Fibrosis, 8.30 p.m.
- 23 Wed. mittee, 12 noon.
- 24 Thurs. Cornwall Infirmary.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

SHERRARD.—On April 26th, at "Sarnia," 394, Upper Richmond Road, East Sheen, London, S.W.14, to the wife of Raphael Sherrard, L.R.C.P., L.M., L.R.C.S.I., a son.

SPROTT.—On April 27th, 1928, at the Prince Christian Nursing Home, Windsor, to Laura, the wife of Norman A. Sprott, M.D., M.Ch., F.R.C.S., of Eton, a daughter.

#### MARRIAGES.

RICHES-BRAND.—At All Saints' Church, Driffield, East Yorks, on May 2nd, by the Rev. Canon Sharrock, M.A., Vicar, assisted by the Rev. Sidney Barker, Eric William Riches, M.C., M.S., F.R.C.S., son of the late William Riches, Esq., Alford, Lincs, to Anne Margaret Selvia, youngest daughter of Dr. A. T. Brand, J.P., V.D., Inverly, Driffield.

TUCK-ELMIST.—On April 25th, at St. Peter's, Littleover, Derby, by the Rev. C. R. Brown, M.A., Vicar, Wilfred Henry, second son of Mr. W. H. Tuck, Stoke Ferry, Norfolk, to Mary Hermione Elmist, M.B., B.S., only child of Mr. and Mrs. W. Elmist, Lindum, Littleover, Derby.

#### DEATHS.

LYNN-THOMAS.—On April 30th, 1928, at Ruthven, Kinross-shire, Inverness-shire, Lynn, the beloved husband of Dorothy Guthrie, and the only son of Sir John and Lady Lynn-Thomas, Ltwyndrys, Llechryd, Cardiganshire, aged 31.

RYMER.—On April 23rd, 1928, at Sullom Holt, Barnacre, Gar-lang, Amy Gertrude, the beloved wife of Arthur Ernest Rayner, M.D., of Preston, Lanes.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 12TH, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### Hotel Accommodation at the Cardiff Meeting.

The following is a list of the hotels in Cardiff and district, with a statement of the charges for bed and breakfast:

	s.	d.
Angel Hotel ... ..	14	0
Royal Hotel ... ..	14	0
Queen's Hotel ... ..	14	0
Grand Hotel ... ..	10	0
Barry's Hotel ... ..	9	6
Alexandra Hotel ... ..	8	0
Railway Hotel ... ..	8	6
Great Western Hotel ... ..	8	6
Central Hotel ... ..	7	6
Sandringham Hotel ... ..	7	6
Esplanade Hotel, Penarth ... ..	18	0
Washington Hotel, Penarth ... ..	10	0
King's Head Hotel, Newport ... ..	10	0
Westgate Hotel, Newport ... ..	10	0

\*This charge includes dinner.

Penarth is only about five miles from Cardiff and so within easy reach. Newport (Mon.) is about twelve miles from Cardiff, and the new arterial road connecting the two towns will be in an advanced stage of completion by July. There is also an excellent train service, the journey taking about twenty minutes. Besides the above accommodation a number of boarding-houses and hostels are available, also a large amount of private accommodation. It would be a great favour if those intending to come to the Cardiff Meeting would write as soon as possible, stating the exact amount and kind of accommodation required; also those who cannot come, after booking accommodation, are earnestly requested to notify the hotels and lodgings secretary to that effect. It would be of great assistance if members would state if they are coming by car. All communications regarding the reserving of accommodation should be sent to the honorary secretary of the Hotels and Lodgings Committee, Dr. Abel Evans, 36, Newport Road, Cardiff.

##### Middlemore Prize, 1929.

The Middlemore Prize consists of a cheque for £50 and an illuminated certificate, and was founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider an award of the prize in the year 1929 to the author of the best essay on the following subject: "The clinical study of the vitreous body, its swellings, contractions, opacities, and reactions to toxic invasion; with special reference to glaucoma and detached retina." Essays submitted in competition must reach the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, by December 31st, 1928. Each essay must be signed with a

motto and accompanied by a sealed envelope, marked on the outside with the motto, and containing the name and address of the author. In the event of no essay being of sufficient merit, the prize will not be awarded in 1929.

##### Prizes for Essays by Medical Students, 1929.

The Council of the British Medical Association proposes to award, in March, 1929, prizes of £25 each for the best essays by final-year medical students on "The symptoms and sequelae of encephalitis lethargica, with their appropriate treatment." One prize will be given in each of the following groups of medical schools:

- Group 1.—St. Bartholomew's Hospital; St. Thomas's Hospital; Guy's Hospital; London Hospital.
- Group 2.—University College Hospital; St. Mary's Hospital; Middlesex Hospital; Royal Free Hospital (London School of Medicine for Women); Charing Cross Hospital; Westminster Hospital; King's College Hospital; St. George's Hospital.
- Group 3.—University of Birmingham; University of Bristol; University of Durham; University of Leeds; University of Liverpool; Victoria University of Manchester; University of Sheffield; Welsh National School of Medicine.
- Group 4.—University of Aberdeen; Anderson College of Medicine; University of Glasgow; Glasgow School of Medicine for Women; St. Mungo; Edinburgh; School of Medicine of Royal St. Andrews.
- Group 5.—Queen's University of Dublin (Trinity College); National University of Ireland (University College, Cork; University College, Dublin; University College, Galway); Royal College of Surgeons in Ireland (Schools of Surgery).
- Group 6.—The Medical Schools in the British Empire outside the British Isles.

The prizes will be awarded to the writers of the essays deemed by the examiners to be the best sent in, but if no essay received from a group is considered by the examiners to be deserving of a prize, no prize will be awarded. The essays, which must not exceed 5,000 words, should be clinical in nature, and must include concise notes of three cases personally observed by the student. Essays should be plainly written or typed on foolscap paper (one side only), and must reach the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than January 12th, 1929. Each essay must be signed by a pseudonym only, and be accompanied by a signed and dated statement that the essay has been the bona-fide work of the competitor, and that he or she has not yet passed the final professional examination, together with the candidate's full name, pseudonym, address, and medical school. The essays received will be adjudicated on by examiners appointed by the Council from among members of the Association not resident in the area of the group. The decision of the Council will be final.

##### Subject for Prize Essay, 1930.

The subject for an essay in a competition on somewhat similar lines, the prize for which will be awarded in March, 1930 (essays to be received by mid-January, 1930), will be: "Three cases illustrative of the value of ante-natal observation of pregnant women." Further particulars of this competition will be announced in due course.

## MEDICAL CERTIFICATION IN HEALTH INSURANCE.\*

BY

J. O. LYTH, M.B., B.S.LOND.,

LATE HONORARY SECRETARY, YORK LOCAL MEDICAL AND PANEL COMMITTEE.

We are all human, but rules and regulations do not always make allowances for human nature; and before proceeding to deal with the certification rules individually, I would like to stress one aspect of the question which has, I think, sometimes been rather lost sight of. It is that medical practitioners as a profession are not trained to regard the issuing of medical certificates as their main object in life, nor even as an important part of it. The Hippocratic oath, which still forms the ideal after which every medical student is trained to strive, contains no mention of medical certification. Yet we must recognize the fact that we have come to live in a bureaucratic age; more and more our lives are governed by rules and regulations. But the practice of medicine is essentially difficult to tie up into parcels with red tape; all sorts of unforeseen side issues crop up. However good rules may be, if too rigidly applied they may become a tyranny. No allowance can be made for times of epidemic, when every moment of a doctor's life, from getting up to going to bed—and often when called out of bed—may be occupied with responsible and worrying work.

It is for these reasons that I shall appeal to you, as principally representing approved societies, to make what allowances you can for the trials of medical practitioners in this matter of medical certification. We cannot but view the question from different angles. You are naturally and rightly concerned to save your societies' funds, or at least to see that they are properly expended. The doctor is not directly concerned with the funds of the societies; his aim is to get his patient well as quickly as possible; and as a doctor lives by his practice, and his practice depends on the goodwill of his patients, he must also have regard to his patient's point of view too. It is possibly these somewhat opposing points of view which have in the past engendered a lack of sympathy—I had almost said an antipathy—which it would be useless to ignore as having existed between the medical profession and approved societies generally. I can truly say that during the fifteen years or so that I have been interested in medical politics it has been my aim to improve the relations of doctors and approved societies, and it is in the hope that this aim may be furthered that I am here to-day.

I propose now briefly to consider some of the present certification rules, pointing out the difficulties which face medical practitioners, and offering some suggestions whereby they may be lessened or removed by the co-operation and goodwill of the approved society officials.

### *Change of Doctor and Certification.*

The forms under Rule 2 shall not be used for any patient other than one whom the practitioner is attending as an insured person. This raises the question of the proper procedure to be adopted when an insurance practitioner is attending an insured person, not on his list, in a private capacity. Cases are likely to crop up more frequently than formerly owing to the recently introduced regulation requiring a fortnight's notice before an insured person can change his doctor. If he refuses to be attended during the fortnight by the doctor on whose list he is, and requires attention from another insurance practitioner, this will have to be given privately. Whether a charge is made or not, if certificates have to be given, Form Med. 40 cannot be used. In such cases a plain private certificate, stating the cause of incapacity, can be, and should be, accepted by the approved society. I have personally on several occasions had such a form refused in the first instance, though after explanation it has been accepted. I suggest that it should be generally made known that such forms will in these circumstances be accepted.

Several pitfalls are exposed to the feet of the unwary practitioner when giving a first certificate under Rule 3. It is to be given "if desired by the insured person." In actual practice I have found that here, as in many other things, it is necessary to usurp the place of Providence, and either provide them with a certificate without demand, or ask them whether they desire one; but it is not a duty.

It is in the interpretation and carrying out of the rule regarding second certificates and further intermediate certificates that in my experience most of the friction between doctors and approved societies arises. I have found in a limited number of cases that there is an impression that the second certificate is required three days after the first one. Actually the second certificate must be given not later than the end of the seventh day after the first certificate. Further intermediate certificates are under a different rule—Rule 5—which states that if incapacity continues beyond the eight days from the first certificate further intermediate certificates shall be given by the practitioner (always if so desired by the insured person) *week by week* during the continuance of incapacity, and the word "week" is specifically defined as meaning midnight to one Sunday to midnight on the following Sunday. I believe I am justified in saying that this rule really is not properly understood by most approved society agents. It means that the length of time which may elapse between two consecutive intermediate certificates may be anything from seven to near fourteen days; and it means that the week-dates of intermediate certificates after the first one need not bear any relation either to the previous one, or to the approved society pay-day or to the insured person's working week, so long as each one is given on a day in the week, Sunday to Sunday, following the previous one. It is unfortunately true that in the past many approved society officials have instructed insured persons to ask for certificates on certain days of the week. No such demand can be justified, and I believe an understanding knowledge of the rule by approved society agents would do a great deal to remove the friction which still exists between agents and doctors.

### *Problem of Fitness for Work.*

It should be noted that the final certificate, given under Rule 6, is the only one which a doctor *shall* issue, whether or not he is asked to do so. Differences of opinion between practitioner and patient as to the fitness of the latter for work are bound to exist, and you will be conversant with the necessity under which the Ministry of Health found itself a year or so ago to define the term "incapable of work." Even the Ministry's circular leaves it a moot point as to exactly where the incapacity which prevents an insured person from following his usual employment, but does not prevent him from doing any work at all, ceases to be certifiable under the rules. As a profession we have always objected to this wording, and personally I think it would have been much better had the words been "incapable of following his or her usual employment," leaving it to be decided by the regional medical officer when and whether, and if so what, other employment could be followed.

The second part of Rule 6 provides for the giving of a delayed final certificate in cases where the doctor is of opinion that the insured person, though not fit at the time of examination, will be fit on the second day afterwards (or third day in rural practice). I would suggest that if this time limit were extended to even four days generally it would benefit all concerned. I think it very unlikely that the funds of approved societies would suffer, as I believe that in actual practice it would more often cut short the final week of incapacity to a few days than extend it by a day or two. The issuing of a final certificate when an insured person has started work is, of course, a breach of the regulations, and I have not very often, though occasionally, been asked to do so. Almost invariably when that has occurred I have been informed that it is asked for by the society agent—with what truth I cannot always say.

### *Rules that are Too Rigid.*

The particulars to be inserted in the certificate include the dates of examination and of signing, and the specific disease. An earlier form of certificate made it essential that such certificates should be signed on the date of examination; the present forms allow twenty-four hours' grace only. I suggest that this rule is a bad one, particularly when applied to the first certificate. How frequent it is for an insured person to come up with a slightly septic finger, or a sore throat, or a cold, all of which may prevent him from working that day and perhaps the next, but may be better in a couple of days or so, or, on the other hand, may develop into an incapacity lasting for a week or more. As he is not fit to work he is entitled to a certificate; but if he gets one the chances are that he will make a week of it. If we could say, "I won't put you on the sick list to-day, and you will probably be all right in a

\* A lecture (abridged) given on February 20th to the members of the York and District Centre of the Faculty of Insurance.

couple of days," and yet if he got no better could later give him a certificate showing that he was examined and was unfit for work on the first date, but signed at the date of the second examination, and the signature dated accordingly, who would be a penny the worse off? I am well aware that it is possible to give the first certificate at once, and to insist that the insured person, under Rule 10, intended for convalescent patients, shall come up again for examination in a period less than a week if the doctor thinks fit by filling in the appropriate space on the form instructing the patient to do so. But I certainly think that it would benefit everyone concerned, and conserve the funds of societies, if this rule were altered so that the dates of examination and signing need not coincide. So long as the facts stated on the certificate are true, what can it matter?

Now as to the definition of the "specific disease or bodily or mental disablement." Here is another of the bones of contention between doctors and insurance agents. Non-medical opinion seems to hold that in every case of illness it should be possible for the doctor on the first examination to give a definite diagnosis, and there has certainly been a good deal of friction in regard to so-called vague wording of certificates. The term "debility" is perhaps the surest word to raise a hornet's nest about the unfortunate doctor's ears, though I have had "gastritis" queried, and even "anaemia," though it is probably now generally known that there are several forms of primary anaemia, of which at least one is commonly fatal. If you go round the wards of any of our great hospitals and look at the charts of the patients, I guarantee that you will not find a diagnosis written up in 50 per cent. of the cases; and yet these are patients who have been under the skilled observation of several doctors and nurses, often for weeks.

#### Difficulties in Diagnosis.

I am not for one moment defending the practitioner who deliberately misleads or fails in his duty to make a diagnosis where one is possible. But I do suggest that the popular opinion that the doctor is a fool who cannot at once tell what is the matter with a patient, whom he knows is not fit for work, is quite wrong. On the other hand, a skilled and painstaking effort to find out may take weeks; whereas the attitude which I am afraid is too often adopted by approved societies places a premium on the charlatan who calls it a "chill on the liver" (whatever that may mean), and lets it go at that. Surely this is one of the instances where a little trust in the integrity of the medical practitioner would not be misplaced.

The rule that no fresh certificate shall be given without further examination is one which was almost bound to be made, and I hold no brief for a practitioner who attempts to evade it. But I would suggest that so far as possible the temptation to break this rule should not be placed in the way of practitioners by approved society agents. Quite often we are informed that an agent has asked for certificates dated so-and-so, quite irrespective of whether the patients were seen on those dates or not. At one time this was so prevalent that I felt compelled to report one case (a thing I have very rarely done) to the Ministry of Health, where an agent had actually given a list of dates to an insured person, who had long since returned to work without having seen me, for which he wanted a series of intermediate certificates covering quite a long period. On the other hand, I know that there has been laxity in this respect by insurance practitioners—so much so that Dr. Peter Macdonald, as chairman of our Insurance Committee, issued a very useful and necessary warning on the subject to doctors on the panel. But it is hardly playing the game to suggest to our patients that they shall ask us for something we cannot give them, when they inevitably think we are being obstinate and awkward if we refuse, no matter how we try to explain the position.

The rule, number 10, governing arrangements for examining convalescent patients, is at present practically a dead letter. I doubt whether the space provided on the certificate forms for the insertion of a date on which patients should next come to see the doctor is filled in on 1 in 10,000 of the forms. Yet with a little more mutual goodwill it might be made a useful way of saving funds and getting the insured persons back to work as soon as possible. But this is one of those instances where you cannot expect the disinterested support of a medical man, acting against the wishes of his patients very often, unless you are prepared to give as well as take, and to spare him all the worry and bother you can.

#### The Use of Special Certificates.

Rule 11, I suggest, is rather a stupid one; it permits of the giving of a special convalescent certificate, to cover a period of not more than fourteen days, only if the insured person has been continuously ill for twenty-eight days before. Surely the arbitrary period of twenty-eight days is too long; and anyway the special intermediate certificate, while not serving exactly the same purpose, might conceivably be used. It should not be beyond the wit of man to produce one form which would cover both Rule 11 and Rule 12 (regarding special intermediate certificates), and allowing a little more elasticity in their interpretation. Appeal could always be had to the regional medical officer in cases of serious doubt.

I think the maximum period of four weeks for special intermediate certificates is hardly long enough. It seems a little ridiculous to have to go on certifying an incurable case such as hemiplegia or a blind man every month. Also I suggest that perhaps here approved societies would not suffer any injury by trusting the insurance practitioners a little more than some of them do. Certain societies have actually, as a matter of routine, immediately referred to the regional medical officer every case in which a special intermediate certificate has been given. They may conserve their funds a little by having the decisions of the medical practitioners reversed in a few cases; but such a practice does not lead to good feeling, and in the long run I feel sure the funds will suffer more from the lack of incentive on the part of practitioners generally to assist in conserving them than they will gain by checking the possibly faulty judgement of a few. Moreover, even the regional medical officer is but human, and cases are not unknown where his judgement has proved less correct than that of the practitioner who knows the patient, with the result that a patient sent back to work against a practitioner's advice has in a short time again been on the sick list, perhaps for a much longer period than would otherwise have been the case.

Rule 13 allows a statement of cause of incapacity to be given as an alternative to stating the precise diagnosis on the certificate. This alternative operates only in the very exceptional cases where the stating of a precise diagnosis would be prejudicial to the patient. The procedure to be followed is cumbersome in the extreme, and in any case it does not, and is not intended to, provide for the holding up of a diagnosis in doubtful cases.

I think voluntary certificates might be used more freely than they are. Properly employed, they do something to lessen the rigidity of Rules 8 and 9 in regard to the times and circumstances in which certificates may be given. It is permissible for doctors to charge a fee for these, and as where they are used it is implied that the necessity for them has arisen through the neglect of the insured person to ask for a proper certificate at the proper time, no doubt this is technically justified. But since, as I have mentioned, in my experience it is usually necessary for the doctor to give the certificates required without waiting to be asked, unless there is to be trouble later on. I do not think most of us actually insist on a fee unless there has been a flagrant piece of carelessness on the part of the insured person. But certificates given under this rule will not cover the point I raised under Rules 7 and 8 in regard to the holding up of a first certificate for a few days in cases of slight illness.

#### Advice as to Additional Benefits.

The rule providing for the insertion of advice as to additional benefits on the certificate forms is not, I think, always understood. I have in at least one instance had such advice, given in the appropriate space, at first rejected by an approved society, though it was accepted later on my referring to this rule. Curiously, this rule seems to take it for granted that an insured person in need of additional benefits (such as dental treatment) will be necessarily or usually on the sick list and in receipt of certificates, whereas, of course, this is much more usually not the case.

The form of certificate for use on the death of a patient seems to have been drawn up with less consideration for the necessities of the occasion than the various other forms required. It provides for the insertion by the doctor of a number of quite unnecessary details, such as the date of the last certificate and various numerals showing the deceased's society, branch, and number, all of which can readily be found by referring to the previous certificate issued; and further, the wording is enviously vague, as it is addressed "To —," a blank individual, without any instructions as to what person's

name or designation is to occupy the blank. In point of fact, I have never had the slightest idea to whom the certificate is intended to be addressed, and have usually filled in the words "To whom it may concern"; but if these are intended they could have been printed in.

Now that I have said my say on this vexed question of medical certification, I do not pretend to have dealt with all the problems involved, but I trust I have said sufficient to show that as a profession we have no easy task in fulfilling these regulations—regulations which are, perhaps necessarily, so complex that I think only a minority of the officials concerned, whether medical practitioners or approved society agents, really thoroughly understand them; while I am sure that not one in a thousand of the insured persons has the slightest working knowledge of their intricacies. Like all laws, they are based upon the supposition that most people are either fools or knaves. Human nature being what it is, I suppose the regulations are necessary. It therefore behoves us on both sides to carry them out in as friendly a spirit and with as little unnecessary trouble as we can.

### Association Notices.

#### ELECTION OF 24 MEMBERS OF COUNCIL BY GROUPED BRANCHES IN THE BRITISH ISLES.

The following is a list of the nominations received for 1928-29:

Group.	Branches in Group.	Candidates Nominated.	No. of Seats.
A	North of England	Dr. J. HUDSON (Newcastle-on-Tyne)	1
B	Yorkshire	Dr. PETER MACDONALD (York)	1
C	Lancashire and Cheshire, North Lancashire and South Westmorland	Dr. J. C. MATTHEWS, M.C. (Liverpool) No nomination	2
D	East Yorks and North Lincoln. Midland	Dr. R. WALLACE HENNY (Leicester)	1
E	Cambridge and Huntingdon, Essex, Norfolk, South Midland, Suffolk	Dr. J. F. WALKER (Southend-on-Sea)	1
F	Birmingham Staffordshire	No nomination	1
G	North Wales Shropshire and Mid Wales	Dr. E. LEWIS-LLOYD (Towyn, Merioneth)	1
H	South Wales and Monmouthshire	Dr. W. E. THOMAS (Ystrad-Rhondda)	1
I	Metropolitan Counties	Dr. F. W. GOODBODY (Marylebone) Dr. CHRISTINE MURRELL (Kensington) Dr. W. PATERSON (Willesden) Mr. H. S. SOUTTAR, O.B.E. (Marylebone)	4
J	Bath and Bristol Gloucestershire West Somerset Worcestershire and Herefordshire	Dr. D. E. FINLAY (Gloucester)	1
K	Dorset and West Hants. South-Western. Wiltshire	Dr. C. E. S. FLEMING (Bradford-on-Avon)	1
L	Oxford and Reading. Southern	Mr. N. P. L. LUMB, O.B.E. (Southsea)	1
M	Kent. Surrey. Sussex	Dr. E. R. FOTHERGILL (Hove) Dr. S. MORTON MACKENZIE (Dorking)	1
N	Aberdeen. Dundee. Northern Counties of Scotland. Perth	Dr. T. FRASER, C.B.E., D.S.O. (Aberdeen) Dr. G. SMITH SOWDEN (Elgin)	1
O	Edinburgh. Fife	Dr. JOHN STEVENS (Edinburgh)	1
P	Glasgow and West of Scotland (4 City Divisions)	Dr. J. G. McCUTCHEON (Glasgow)	1
Q	Border Counties. Glasgow and West of Scotland (5 County Divisions). Stirling	Dr. J. LIVINGSTONE LOUDON (Hamilton)	1
R	Connnaught. Munster. South-Eastern of Ireland	Dr. DENIS WALSH (Graiguenamanagh)	1
S	Leinster	Dr. R. C. PEACOCKE, O.B.E. (Blackrock, Co. Dublin)	1
T	Ulster	Dr. R. W. LESLIE (Belfast)	1

Voting papers for Groups M and N will be posted from the Head Office on Saturday, May 12th; they are returnable not later than Saturday, May 19th, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

The Candidates referred to in the remaining Groups, being the only Candidates nominated for those Groups, are hereby declared elected Members of the Council for 1928-29.

#### ELECTION OF 2 MEMBERS OF COUNCIL BY PUBLIC HEALTH SERVICE MEMBERS.

The following, being the only candidates nominated for election as Members of Council for 1928-29 by Public Health Service members, are hereby declared elected Members of the Council for 1928-29:

Dr. G. F. BUCHAN, Medical Officer of Health, Willesden.  
Dr. E. H. SNELL, Medical Officer of Health, Coventry.

#### ELECTION OF 4 REPRESENTATIVES AND 4 DEPUTY REPRESENTATIVES IN THE REPRESENTATIVE BODY BY PUBLIC HEALTH SERVICE MEMBERS.

The following is a list of the nominations received for the election for 1928-29 of 4 Representatives and 4 Deputy Representatives in the Representative Body by Public Health Service members:

Dr. T. EUSTACE HILL, O.B.E., Medical Officer of Health, County of Durham.  
Professor H. KENN, O.B.E., Medical Officer of Health, Newcastle-on-Tyne.  
Dr. R. A. LYSTON, Medical Officer of Health, Hampshire.  
Dr. ERNEST WARD, Tuberculosis Officer, South Devon.  
Dr. R. H. WILSHAW, Medical Officer of Health, Worthing.

Voting papers will be posted to all Public Health Service members from the Head Office on Saturday, May 12th; they are returnable not later than Saturday, May 19th, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

#### TABLE OF DATES.

May 15, Tues.	Motions by Divisions and Branches for A.R.M. agenda on matters of which two months' notice must be given must be received at Head Office by this date.
May 19, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service Members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Representatives and Deputy Representatives must be elected by this date.
June 2, Sat.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Meeting, Cardiff, 10 a.m. of 12 members of Council by must be received (at A.R.M. p.m. setting, Cardiff.
July 21, Sat.	
July 23, Mon.	Annual Representative Meeting, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
	Meetings of Sections, etc., Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.**—The annual meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Tuesday, May 15th, at 3 p.m. Agenda: Report of executive; election of officials and executive; consideration of Annual Report of Council and instructions to representative thereon; Dr. J. D. Robson will open a discussion on the present-day treatment of borderline cases.

**EAST YORKS AND NORTH LINCOLN BRANCH: EAST YORKS DIVISION.**—The annual general meeting of the East Yorks Division will be held in Wilherforce House, Hull, on Friday, May 18th, at 3.30 p.m. Agenda: To receive the annual report of the Executive Committee and the treasurer's financial statement; to consider the new Division Model Rules of Organization; to elect officers; to receive the first link in the chain of office for the chairman's badge from Dr. Mackay, the retiring chairman; to consider the provision of a prize



for medical students at the University College. After tea there will be an inspection of local antiquities, with a commentary by the Director of Museums.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—The annual meeting of the Southport Division will be held to-day (Friday, May 11th), at 8.15 p.m., at 52, Houghton Street, Southport. Agenda: Annual report; election of office-bearers and committee; ophthalmoscope demonstrations; scarlet fever recovery certificates for State-aided schools; "heart disease" certified as cause of death; social function; contract medical service for juveniles; Annual Report of Council.

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A clinical meeting of the City Division will be held to-day (Friday, May 11th), when Dr. E. Cautley will show cases.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—The annual meeting of the Lewisham Division will be held at the Town Hall, Calford, S.E.6, on Tuesday, May 15th, at 8.45 p.m.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—A meeting of the South-West Essex Division will be held at the Claybury Mental Hospital, Woodford Bridge, on Tuesday, May 15th, at 3.30 p.m. Dr. G. F. Barham, medical superintendent, will give a demonstration of cases.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—The annual meeting of the Willesden Division will be held on May 16th. Agenda: Election of officers and committees, and consideration of Annual Report of Council.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, to-day (Friday, May 11th), at 8.15 p.m. A British Medical Association Lecture will be delivered by Professor Louise McIlroy on the management of labour.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The final clinical meeting of the Northern Counties of Scotland Branch for this season will be held at the Lawson Memorial Hospital, Golepie, on Saturday, May 19th, at 12 noon. The programme will include the demonstration of some surgical cases by Mr. B. S. Simpson, and notes on general anaesthetics by Dr. J. B. Simpson. Golfing members will note that Dr. Simpson has arranged for the courtesy of the green at Golepie, Brora, and Dornoch to be extended to them for that day. Members desiring to lunch at Golepie should notify the honorary secretary by May 17th. The annual meeting of the Branch is to be held at Kyle of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Island Division.

**NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, MORAY, AND NAIN DIVISION.**—The annual meeting of the Banff, Moray, and Nain Division will be held in the Fife Arms Hotel, Banff, on Saturday, May 12th, at 3 p.m. Agenda: Annual report of the Division; election of office-bearers; the Annual Report of Council; the B.M.A. Charities Fund. The courtesy of the Duff House golf course has been granted for those who wish to play.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, May 16th, at 8.15 p.m. Dr. J. C. Spence will give a lecture entitled "Hypertrophic pyloric stenosis—its importance as an example of the method of diagnosis, treatment, and study of disease in childhood."

**NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.**—A clinical meeting of the South Carnarvon and Merioneth Division will be held at the Towyn War Memorial Hospital on Tuesday, May 29th.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—A meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, May 23rd, at 2.30 p.m. Dr. F. G. Chandler will read a paper entitled "Bronchiectasis—early diagnosis and treatment."

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, May 17th. Mr. C. H. B. Avarne will read a paper on the diagnosis and treatment of gall-stones.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The annual dinner of the Portsmouth Division will be held at the Queen's Hotel, Culzeau, on Wednesday, May 16th, at 8 p.m. Tickets (price 1.6d. each) can be obtained from Dr. H. H. Warren. An after-dinner address will be given by Mr. Herbert Tilley.

**SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.**—A general meeting of the Bedfordshire Division will be held at the Bedford County Hospital on Wednesday, May 16th, at 3 p.m. Agenda: To elect a representative and deputy representative; to consider communication from the B.M.A. Charities Committee; to consider the Annual Report of Council; a paper by Mr. W. G. Nash on "Some cases of obstruction of the large intestine: their diagnosis and treatment."

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary on Thursday, May 24th. Members are asked to inform the honorary secretary as soon as possible of any cases, notes, papers, specimens, or notices of motion they may wish to bring forward in order that they may be placed on the agenda paper. It is advisable that papers should be as short as possible.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—In connexion with the post-graduate course arranged by the West Suffolk Division at the West Suffolk Hospital, Sir Thomas Horder will give a lecture on Saturday, May 19th, at 8.45 p.m., on etiological factors in phthisis and their bearing on treatment. Coffee will be served at 8.30 p.m. A clinic of medical cases will be held on Sunday, May 20th, at 11 a.m. The course is open to medical practitioners in West Suffolk and their guests.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—The next clinical meeting of the Brighton Division will be held at the Brighton Borough Sanatorium on Thursday, May 17th, at 3.45 p.m.

**WEST SOMERSET BRANCH.**—A meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital, Taunton, on Friday, May 18th, at 3.30 p.m. Agenda: Election of representative and deputies to the Annual Representative Meeting; consideration of Annual Report of Council.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Wednesday, May 16th, at 8.30 p.m. Agenda: report of Executive Committee; election of officers for the ensuing year.

## Meetings of Branches and Divisions.

### METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.

The Wandsworth Division held a dinner on May 2nd to celebrate the twenty-fifth anniversary of its foundation and to do honour to Dr. M. G. Biggs, one of the oldest members of the Division and still in active practice. The Division was inaugurated towards the end of April, 1903, and Dr. Biggs was its first chairman. A letter was read from Dr. Cox regretting his inability to attend, and commending highly the long service rendered to the British Medical Association by Dr. Biggs, especially in connexion with the work of the Central Ethical Committee. Dr. SNEKLETON, chairman of the Division, proposed the toast of "The British Medical Association," and Dr. ANDERSON, the Deputy Medical Secretary, replied. Dr. ARTHUR HOWELL, proposing the health of Dr. Biggs, recalled their early associations in the Wandsworth area. Dr. BIGGS, replying, said that in a few days he would be celebrating his eightieth birthday. Not many doctors were in practice at that age, but he might, perhaps, look forward to another ten years yet. Dr. HAWTHORNE, Chairman of the Representative Body, proposing the toast of "The Wandsworth Division," referred to the days when, owing to the energies of a former secretary, the Wandsworth Division was particularly well known at headquarters. After a period of quiescence there was renewed activity, and he wished the Division success in all its enterprises. He also recalled pleasant associations with Dr. Biggs. Dr. GARDNER, vice-president of the Division, replied. Dr. ARTHUR STANLEY, one of the representatives to the Representative Body, proposed "The Guests," and Dr. BISHOP, the other representative, proposed "The Chairman." Dr. SNEKLETON, replying from the chair, said his duties had been made easy by the work of the honorary secretary, Dr. G. Pollock, whose health he then proposed.

### SURREY BRANCH: CROYDON DIVISION.

The annual general meeting of the Croydon Division was held at the Croydon General Hospital on May 2nd. A letter was read from the United Dairies Company offering to convey members and their wives to Streatham to view their plant, and it was resolved that the invitation be accepted.

The report of the Executive Committee was received and adopted. The following officers were elected:

Chairman, Dr. G. E. E. Bravne-Nicholls. Vice-Chairman, Dr. R. L. Plakerton. Secretary, Dr. C. G. C. Seudamore. Assistant Secretary, Dr. G. G. Hamond. Auditor, Dr. G. G. Genge. Body, Dr. P. W. Hamond and Dr. G. G. C. Seudamore. Deputy Representative, Mr. E. M. Cowell.

After the conclusion of the business Dr. J. STANLEY WHITE gave an address on some recent aspects of biological therapy, illustrated by lantern and cinematograph.

### SURREY BRANCH: GUILDFORD DIVISION.

An ordinary meeting of the Guildford Division was held at the Royal Surrey County Hospital, Guildford, on April 5th, with Mr. H. B. BULLER in the chair. The meeting proceeded to elect representatives and deputies to the Annual Representative Meeting. Drs. Arnold Lyndon and G. M. Bluett were elected as representatives in the Representative Body, and Drs. James McGlashan and G. A. Clarkson were nominated as deputies. After some correspondence with the county medical officer of health and one of the members had been read and the subject discussed, Dr. Lyndon proposed that in the opinion of the Guildford Division the mileage fee under the Midwives Act, 1918, in the area of the Division should be one shilling each way. This was seconded by Dr. PEARSE and carried unanimously.

The CHAIRMAN exhibited skiagrams of osteomyelitis in children, of the femur, the radius, and the fibula, also one of a cervical rib. Mr. E. W. SNEAF showed a woman in the ward who had had three years' standing. The pulse fell from days, and had remained down. He also showed a case of myeloma of the head of the tibia in a middle-aged man discovered during an x-ray examination for a fracture which had occurred through it with slight violence.

### YORKSHIRE BRANCH: HARROGATE DIVISION.

At the annual meeting of the Harrogate Division, held on May 3rd, the following were elected as officers for 1923-29:

Chairman, Dr. R. T. Morris. Vice-Chairman, Dr. P. A. Stephen. Representative in Representative Body, Dr. Solly. Deputy Representative in Representative Body, Dr. Milburn.

Two recommendations were adopted by the meeting for inclusion in the agenda of the Annual Representative Meeting at Cardiff.

## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

*Reports by Medical Practitioners at Request of Coroners.*

By HARROGATE: That (with reference to para. 89 of the Annual Report of Council), following the custom in Scotland, the fee for a report from a practitioner to the coroner shall be £1 1s.

*Scheme of the Spa Federation for Spa Treatment of Insured Persons.*

By HARROGATE: That para. (m) of the recommendation contained in para. 128 of the Annual Report of Council be deleted and the following substituted therefor:

That an initial certificate as to incapacity for work up to one month be given by the home practitioner, any subsequent certificates that may be necessary being given at the spa.

*Life Insurance for Members.*

By SOUTH-EASTERN IRELAND BRANCH: That the Council be instructed to appoint a committee to inquire into the possibility of a compulsory scheme of life insurance for the members being established, the premium for such insurance to be included in the annual subscription.

*Medical Profession and Motor Spirit.*

By SOUTH-WEST WALES: That as the medical profession is such a large consumer of petrol (and its homologues)—used for professional purposes—the Representative Body is of the opinion that the Association should officially approach the petrol companies so that the medical profession may obtain petrol (and its homologues) at commercial rates.

*Maternal Mortality and Morbidity.*

By SOUTH-WEST WALES: That in the opinion of the Representative Body general practitioners should be adequately represented on any committee which may be appointed by the Association to consider and formulate schemes for the improvement of maternal mortality and morbidity.

*Midwives Act, 1918.*

By SOUTH-WEST WALES: That in the opinion of the Representative Body the Midwives Act, 1918, should be amended so that adequate payment be made for ante-natal work.

## Correspondence.

### *Right of Appeal to the Courts.*

SIR,—The leading article in the *Times* of May 3rd on "The Courts and the Executive" must have recalled to anyone who attended the Panel Conferences of recent years the claim so often urged in them for a right of appeal by panel doctors from decisions of the Minister to the High Court.

We have not got that appeal. We are at present working on a trial of a departmental system, and there has been no recent occasion of protest; but this article in the *Times* reveals the potential insecurity of the method in which we have been led to acquiesce. "These cases," it says, "occur at intervals long enough to prevent them making a lasting impression upon general readers. They go about their business and grow indifferent or forget." That is exactly what happens to the panel doctors in the intervals between *causes célèbres*. The echo of "the £1,000 fine" die away in a year or two, and can hardly be reawakened. It is not so with the officials. They "... go about their business, and consider how best they may further augment the power of their department by ousting the jurisdiction of the courts."

The last words of the article put the whole position in a nutshell. "Administrative tribunals may be necessary for the efficient dispatch of the mass of business entrusted to the departments by recent legislation. ..." But the system should "... save the Executive from all suspicion of desiring to interfere with the independence of the courts, and safeguard the subject's right of access to them on all proper occasions as his necessary protection from the extravagance of bureaucratic zeal."

The Cheshire Panel Committee has urged, in season and out of season, that that principle should be accepted and

established as governing the relation of the profession to the Ministry of Health. "There should be an appeal to the courts 'on the merits.'" were the words of our spokesman, Sir William Hodgson; an appeal, that is, not limited to mere technical points as at present.

There is no objection to administrative tribunals so long as the tension that may be engendered in such a system is limited by the safety valve of an appeal to the High Court. It is merely stupid to argue that such an appeal would be distasteful to doctors because public and expensive. So much the better if it be, for no one would make the appeal unless he had a good case that would command the backing of one of the professional bodies. Appeal would be rare, but decisive; but the fact that an appeal was possible would be constantly operative in mitigating the tone of the bureaucratic machine. To argue that the right of appeal would be bilateral—would cut both ways—is to mislead; for the other parties—the patients—have access to the courts already.

In the earlier stages of the controversy we were told an appeal was impossible because unconstitutional. Even those who used that argument now admit that this is not so. It is the denial of the right of appeal that is essentially unconstitutional.

It was the timidity engendered by the two other arguments I have mentioned that stiffened the will of the Panel Conference and made it pliable enough to accept on trial, the present departmental system. However "successful" it may be—for a time—it leaves us in a wrong relation with the Minister—not free contractors but dependent for reasonable conditions in the exercise of our calling on his interpretation of regulations which he is free to make and alter.—I am, etc.,

Holmes Chapel, Cheshire, May 3rd.

LIONEL JAMES PICTON.

### *Nursing Homes Registration Act, 1927: Doctors' Private Houses.*

SIR,—Buried away in the Annual Report of Council (*Supplement*, April 28th, pp. 152-53) is a most important report on this Act, with an explanation as to the position of those doctors—probably many hundreds, if not thousands—who receive into their private houses persons known as "private patients" or "paying guests," this latter euphemism being adopted to solace the patients or relatives. This report should be carefully read by all whom it concerns.

The position is this. Before July 1st this year every such doctor who receives into his private house even only one mentally or physically ill patient, and includes in his agreement or contract the provision of "nursing," whether by a nurse or attendant or otherwise, will have to register that house, which, together with his domestic staff and organization, will then become subject to inspection by the local supervising authority. In addition, he must display, in a conspicuous position in his house, his certificate of registration.

There are only two ways for him to escape from this objectionable position: either he should cease as from July 1st next to receive such patients, or if "nursing" is required he should stop "the provision of nursing," arranging that this should be an extra beyond his contract. He should recommend to the relatives a suitable person for them to engage, charge them for the board and residence, receive as the agent from the relatives the wages, and, handing them over from time to time to the nurse or attendant, obtain a receipt for the same addressed to the relatives.

In the case of those doctors who have no objection to inspection or whose houses cannot be conducted on these suggested lines, and must in consequence become registered, one would urge that they get into touch as soon as possible with their local authority (county or county borough) and obtain a copy of the draft by-laws, in order to see whether they contain anything thought to be objectionable. If so, then the recognized local medical organization should be urged to take immediate steps before it is found to be too late.—I am, etc.,

Hove, May 8th.

E. ROWLAND FOTHERGILL.

*The Bottle of Medicine.*

Sir,—Panel doctors are from time to time accused of extravagance in the provision of medicines for their patients; the latter certainly expect and demand drug treatment whenever their standard of health falls the slightest degree below what they believe to be the normal.

We are told—no doubt correctly—that more lectures in hygiene and health knowledge are necessary for the workers, that the people must be educated up to doing without medicine. Apropos of this, we would expect that such centres of learning as the great London hospitals would take the lead in giving non-medicinal treatment when possible. This, however, does not seem to be the case. Quite recently a lady who consulted the out-patient department of a hospital complaining of symptoms which, she was told, indicated "nothing serious," was given three bottles of medicine, one to be taken on rising, another before food, and the other after food. Owing to careless labelling the lady had no idea which to take first; she guessed, but as she vomited the meal concerned she concluded that she may have been mistaken. Finally, she brought the three bottles to her own doctor for an opinion. This is not an isolated instance.

It would be difficult for a panel doctor to justify the prescribing of three separate bottles of medicine to be taken by one patient in one day, and there is no doubt that he would be called upon to justify it sooner or later. May I venture to suggest that the hospitals are "letting down" panel doctors by such generous dispensing?—I am, etc.,

PHILIP R. KEMP.

London, E.15, May 2nd.

*Naval and Military Appointments.*

## ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders P. B. Egan to the *Iron Duke*, May 12th, and to the *Tiger*, May 2nd; R. R. Rickford, D.S.O., to the *Hibernia* on Squadron Medical Officer; G. A. S. Hamilton to the *Marlborough*; R. J. Inman to the *President*.

Surgeon Lieutenants O. D. J. Ball to the *Royal Oak*; T. L. Cleave to the *Pembroke* for R.N. Barracks, Chatham. M. Clifford has entered as Surgeon Lieutenant for short service and appointed to the *Victory* for Harlar Hospital for course of instruction.

## ROYAL AUSTRALIAN NAVY.

Surgeon Commander W. E. Roberts to the *Victory* for H.M.A.S. *Canberra* for trials.

## ROYAL ARMY MEDICAL CORPS.

Major J. da P. Langrish, D.S.O., retires on retired pay, and is granted the rank of Lieutenant-Colonel.

Captain P. R. O'R. Phillips to be Major (prov.).

Lieutenant (on probation) P. V. MacCarthy, from the seconded list, is restored to the establishment.

Lieutenant (on probation) J. M. Quinlan resigns his commission.

Temporary Lieutenant A. F. Dowling relinquishes his commission on account of ill health.

## ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader P. H. Young to R.A.F. General Hospital, Iraq. Flight Lieutenants J. G. Russell to R.A.F. Depot, Unbridge; D. L. Edwards to R.A.F. General Hospital, Iraq; L. I. Hyder to R.A.F. Combined Hospital, Iraq.

Flt. Lieut. G. W. McAleer, J. Freeman, and W. Heron to R.A.F. General Hospital, Iraq; E. P. Carroll and J. F. McGovern to R.A.F. Combined Hospital, Iraq.

## RESERVE OF AIR FORCE OFFICERS: MEDICAL BRANCH.

P. G. Mogg is granted a commission in Class DD as a Flying Officer.

## REGULAR ARMY RESERVE OF OFFICERS.

Major-General C. E. Pollock, C.B., C.B.E., D.S.O., into R.A.M.C., and Lieut.-Colonel B. A. Craig, R.A.M.C., having attained the age limit of ability to recall, cease to belong to the Reserve of Officers.

## MILITIA.

## ROYAL ARMY MEDICAL CORPS.

Major W. A. Lethem, M.C., resigns his commission.

## TERRITORIAL ARMY.

## ROYAL ARMY MEDICAL CORPS.

Lieutenant O. G. Miquith to be Captain.

Lieutenant D. R. McGregor is seconded under paragraph 137 T.A. Regulations.

Lieutenant N. F. C. Burgess from supernumerary for service with the University of London Contingent, Senior Division, O.T.C., to be Lieutenant A. Bowie to be Lieutenant.

## COLONIAL MEDICAL SERVICES.

Dr. V. V. H. Hoak appointed Assistant Government Medical Officer, East Guluana. Miss Grace M. L. Summerhayes appointed Lady Medical Officer, Gold Coast. Dr. J. A. Dunne, Medical Officer of Health, Sanitary Branch, Gold Coast, promoted Senior Sanitation Officer, Nigeria. Dr. C. R. C. Wilson transferred from Tanga to Arusha, Tanganyika.

## VACANCIES.

BEDFORD BOROUGH.—Medical Officer of Health. Salary £900 per annum, rising to £1,100.

BELFAST: QUEEN'S UNIVERSITY.—Professor of Pathology. Salary £900 with supplement and pension.

BIRMINGHAM GENERAL DISPENSARY.—Resident Holiday Locumtenent (male) for twelve weeks. 18 s. a week.

BOLTON INFIRMARY AND DISPENSARY.—House-Surgeon (male). Salary £150 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Casualty House-Surgeon. Salary £120 per annum.

CARDIFF: KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Area Assistant Tuberculosis Physician. Salary £600 per annum.

CHILTHAMPTON GENERAL AND EYE HOSPITALS.—(1) Honorary Assistant Surgeon and Surgeon to the Genito-urinary Department. (2) Honorary Radiologist and Electrotherapist.

CHESTER ROYAL INFIRMARY.—(1) House-Surgeon (male); salary £150 per annum. (2) Honorary Physician.

DEBENHAM: NORTH WALES COUNTIES MENTAL HOSPITAL.—Third Assistant Medical Officer. Salary £300 per annum.

DEVON MENTAL HOSPITAL, Exminster, near Exeter.—Junior Assistant Medical Officer (male, unmarried). Salary £200 per annum, rising to £250.

DUNHAM COUNTY COUNCIL.—(1) Assistant Welfare Medical Officer (woman); salary £600 per annum, rising to £650. (2) Assistant Medical Officer (resident) at the Hollywood Hall Sanatorium, Walsingham; salary at the rate of £450 per annum, rising to £500.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Surgeon to Out-patients.

HONG-KONG UNIVERSITY.—Professor of Physiology. Salary £800 a year, rising to £1,000.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Malda Vale, W.9.—Medical Registrar. Honorarium £100.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Two Resident Medical Officers at the Glan Ely Hospital. Salaries £250 and £200 per annum respectively.

LEEDS CITY.—Assistant Medical Officer for Maternity and Child Welfare. Salary £600 per annum.

LEEDS: ST. JAMES'S HOSPITAL.—House-Physician and Surgeon. Salary £200 per annum.

LEYTON BOROUGH.—Medical Officer of Health, School Medical Officer, and Medical Superintendent of the Isolation Hospital (male). Salary at the rate of £1,100 per annum, rising to £1,200.

LIVERPOOL MATERNITY HOSPITAL.—House-Surgeon. Salary at the rate of £90 per annum.

LIVERPOOL AND DISTRICT HOSPITAL FOR DISEASES OF THE HEART.—Research Fellow. £150 per annum.

LIVERPOOL AND SAMARITAN HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.

LONDON HOSPITAL, E.1.—Paterson Research Scholar in the Cardiographic Department. Salary at the rate of £400 a year.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Resident Medical Officer and Junior Resident Medical Officer. Salaries at the rate of £150 and £100 per annum respectively.

LONDON SKIN HOSPITAL, Fitzroy Square, W.1.—Honorary Physician or Surgeon, and Surgical Registrar.

LONDON UNIVERSITY.—Professor of Pathology (Sir William Dunn). Salary approximately £1,300 a year.

MADRAS PRESIDENCY, India.—Specialist in Venereal Diseases. Salary Rs.1,600 per calendar month.

MANCHESTER: ANCHORS HOSPITAL.—House-Physician. Salary at the rate of £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Medical Registrar. Salary at the rate of £150 per annum.

MARION HOUSE HOSPITAL, Golders Green, N.W.11.—House-Surgeon. Salary at the rate of £200 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Physician to the Department for Diseases of the Skin.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Honorary Ophthalmic Surgeon.

NEWPORT, MON.: ROYAL GWENT HOSPITAL.—House-Surgeon. Salary at the rate of £125 per annum.

NEW ZEALAND GOVERNMENT.—Senior Assistant Medical Officers (male) in the Mental Hospitals Department. Salary, single men £765, married men £900.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Physician in charge of the Skin Department.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—(1) Charles Murchison Scholar in Clinical Medicine. (2) Streetfield Research Scholar in Medicine and Surgery.

ST. ALBANS AND MID-HEARTS HOSPITAL AND DISPENSARY.—Male Resident Medical Officer. Salary £150 per annum, rising to £200.

ST. ANDREW'S HOSPITAL, Dollis Hill, N.W.2.—Two Resident Medical Officers (male). Salary £150 and £120 respectively.

ST. JOHN'S HOSPITAL, Lewisham, S.E.13.—Honorary Anaesthetist.

SHANGHAI MUNICIPAL COUNCIL.—Assistant Pathologist in the Public Health Department. Salary Taels 600 per mensem.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician (male). Salary £150 per annum.

STOCKPORT COUNTY BOROUGH.—Assistant Medical Officer (lady). Salary at the rate of £600 per annum, rising to £700.

STOCKPORT INFIRMARY.—House-Surgeon (male). Salary £175 per annum.

SUNDERLAND: DUNHAM COUNTY AND SUNDERLAND EYE INFIRMARY.—House-Surgeon. Salary £450 per annum, rising to £550.

WALSALL COUNTY BOROUGH.—Assistant Medical Officer (Maternity and Child Welfare) (female). Salary £600 per annum, rising to £700.

WALSALL GENERAL HOSPITAL.—House-Surgeon. Salary £125 per annum.

WARRINGTON GENERAL HOSPITAL, Leamington Spa.—Resident House-Physician. Salary at the rate of £165 per annum.

WEST HAM UNION.—Assistant Medical Officer (male). Salary £400 per annum, rising to £475.

WEMBLEY HOSPITAL.—Honorary Consulting Radiologist.

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—House-Physician (male). Salary £150 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Kirkwall (Orkney), Halesd (Essex), Lewes (Sussex). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

BEADLES, John N., M.B., B.S.Lond., Ophthalmologist, Norwood School Clinic.

HACKWOOD, John Fereday, M.B., B.S., F.R.C.S., F.R.C.S.Ed., Resident Medical Officer, Farnborough Hospital, Kent.

ROBERTS, John, M.B., Ch.B., F.R.C.S., Honorary Assistant Laryngologist, Liverpool Stanley Hospital.

PADDINGTON GREEN CHILDREN'S HOSPITAL.—House-Physician: John McMichael, M.B., Ch.B. House-Surgeon: George L. Alexander, M.B., Ch.B.

CERTIFYING FACTORY SURGEONS.—J. L. C. Doyle, M.R.C.S., L.R.C.P., for the Fakenham District (Norfolk); R. Dawson, M.B., Ch.B., Aberd., for the Middleton-in-Teesdale District (Durham); K. L. S. Ward, M.R., Ch.B., Ed., for the Westernham District (Kent); H. M. Roberts, L.R.C.P., L.R.C.S.Ed., L.R.F.P.S.Glas., for the Saltcoats District (Ayr); N. H. Linzee, M.R.C.S.Eng., L.R.C.P.Lond., D.P.H., for the Kingston District (Surrey); F. K. Beaumont, M.B., Ch.B., Leeds, for the Finedon District (Northampton); C. W. Cassell, M.B., Ch.B., Ed., D.T.M.L., for the Chaddesley-Corbett District (Worcester); R. Alderson, M.D., Durl., for the Crowborough and Uckfield Districts (East Sussex).

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

General Meeting of Fellows.—Tues., 5.30 p.m., Ballot for Election to the Fellowship.

Sections of Dermatology and Surgery.—Wed., 8.30 p.m., Special Discussion: Treatment of Venereal Ulcers by Intravenous Injection. Openers: Professor Sclater and Mr. Twistington Higgins, to be followed by Sir Sidney Alexander, Dr. Goldsmith, and Mr. David Levi.

Section of Dermatology.—Thurs., 4 p.m., Cases. 4.45 p.m., Annual General Meeting. Election of Officers and Council for 1928-29. Annual Dinner, 8 p.m.

Section of Disease in Children.—Fri., 4.30 p.m., Cases. 5 p.m., Annual General Meeting. Election of Officers and Council for 1928-29.

Section of Obstetrics.—Fri., 8 p.m., Annual General Meeting. Election of Officers and Council for 1928-29. Short Communication by Dr. Everard Williams: Full-term Pregnancy in a Patient with Grave Myelocytic Leukaemia.

Section of Electro-Therapeutics.—Fri., 6.30 p.m., Annual General Meeting. Election of Officers and Council for 1928-29. 7.30 p.m., Annual Dinner at the Café Verry, Regent Street.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, II, Chandos Street, W.1.—Thurs., 7.45 p.m., Demonstration and Paper by Dr. G. W. Bray: Vitamin B Deficiency in Infants—its Possibility, Prevalence, and Prophylaxis.

LONDON CLINICAL SOCIETY, London Temperance Hospital, Hampstead Road, N.W.1.—Thurs., 8.15 p.m., Clinical Evening.

ST. CYRES LECTURE.—In the Barnes Hall of the Royal Society of Medicine: Wed., 4.30 p.m., Professor K. F. Wenckebach: The Heart and Circulation in a Tropical Avitaminosis (Beri-beri).

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Mon., May 14th, to Saturday, May 19th.—National Hospital for Diseases of the Heart, Westmoreland Street, W.1.: Tues., 2.30 p.m., Clinical Demonstration; no fee. St. Mark's Hospital, City Road, E.C.1.: Tues., 5 p.m., Clinical Demonstration of Cases illustrating Diseases of the Rectum; no fee. Royal London Ophthalmic Hospital, City Road, E.C.1.: Thurs., 1 p.m., Clinical Demonstration; no fee. Infants Hospital, Vincent Square, S.W.1.: Course in Diseases of Infants, afternoons only; second week; fee £3 3s. Central London Throat, Nose and Ear Hospital, Gray's Inn Road, W.C.1.: Intensive Course—Clinical and Operative; three weeks; all day, fee 45 5s. clinical course. Maudsley Hospital, Denmark Hill, S.E.5.: Course in Psychological Medicine; third week. National Hospital, Queen Square, W.C.1.: Course in Neurology for two months; particulars and fees from the Fellowship of Medicine. Royal Free Hospital, Gray's Inn Road, W.C.1.: Wed., 5 p.m., First of four Lecture Demonstrations on Ante-Natal Diagnosis and Treatment; fee for the course, £1 1s. Copies of syllabuses on application to the Fellowship of Medicine, 1, Wimpole Street, London, W.1.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Mon., 5 p.m., Napkin-urea Eruptions in Infants. Tues., 5 p.m., Treatment of Syphilis. Thurs., 5 p.m., Pathology Demonstration. Fri., 5 p.m., Alopecia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 p.m., Demonstration of Surgical Cases; 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Cases for J.-Ray; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Some Reflections on Tumours of the Breast.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Neurological Cases.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards, Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards, Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Depart-

ments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments. Fri. 10 a.m. to 1 p.m., Skin, Dental, and Electrical Departments, Medical Wards, Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose and Ear Operations, Medical Children's Department, Bacterial Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Outpatient Departments. Special Lecture, Tuesday, May 15th, at 4.30 p.m. Gall-stones.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Victoria Infirmary Wed., 4.15 p.m., Surgical Cases.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Roy Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon. Tues., Wed., Thurs., and Fri., 11.30 a.m. (Fee £2 2s. for three month attendance.)

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Dr. A. Ramsbottom Treatment of Pernicious Anaemia. Fri., 4.15 p.m., Mr. W. H. Hey Demonstration of Surgical Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcon London)

MEDICAL SECRETARY (Telegrams: " " London)

EDITOR, British Medical Association (Telegrams: Aitiology Westcon London)

Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9852, 9853, and 9854 (internal exchange four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshough Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

##### MAY.

- 11 Fri. London: Library Subcommittee, 2.30 p.m.  
Chesterfield Division: Maternity Hospital, Chesterfield B.M.A. Lecture by Professor Louise McIlroy on the Management of Labour, 8.15 p.m.  
City Division: Clinical Meeting.  
Southport Division: Annual Meeting, 52, Houghton Street Southport, 8.15 p.m.
- 12 Sat. Banff, Moray, and Nairn Division: Annual Meeting, Fife Arms Hotel, Banff, 3 p.m.
- 15 Tues. London: Central Ethical Committee, 2.15 p.m.  
Dumfries and Galloway Division: Annual Meeting, Royal Infirmary, Dumfries. Discussion on Borderline Cases opened by Dr. J. D. Robson, 3 p.m.  
Lewisham Division: Annual Meeting, Town Hall, Catford S.E.6, 8.45 p.m.  
South-West Essex Division: Claybury Mental Hospital, Woodford Bridge, 3.30 p.m.
- 16 Wed. London: Hospitals Committee, 2.15 p.m.  
Bedfordshire Division: Bedford County Hospital, Mr. W. G. Nash on Obstruction of the Large Intestine, 3 p.m.  
Portsmouth Division: Annual Dinner, Queen's Hotel, Southsea 8 p.m.  
Sheffield Division: Annual Meeting, Church House, St. James Street, Sheffield, 8.30 p.m.  
Sunderland Division: Royal Infirmary, Sunderland. Dr. J. C. Spence on Stenosis, 8.15 p.m.
- 17 Thurs. London: Subcommittee, 11 a.m.  
London: Drugs Conference, 2.30 p.m.  
London: 2.30 p.m.  
Brighton: Brighton Borough Sanatorium, 3.45 p.m.  
Jersey Division: General Hospital. Mr. C. H. B. Avarne of Gallestones.
- 18 Fri. London: Public Health Committee, 2.30 p.m.  
East Yorks Division: Annual Meeting, Wilberforce House Hull, 3.30 p.m.  
West Somerset Branch: Taunton and Somerset Hospital Taunton, 3.30 p.m.
- 19 Sat. Northern Counties of Scotland Branch: Clinical Meeting Lawson Memorial Hospital, Gospie, 12 noon.  
West Suffolk Division: West Suffolk Hospital. Sir Thomas Infirmary. Dr. F. G. Chandlee on Cornwal Infirmary.
- 24 Thurs. 2.30 p.m.  
25 Fri. 2.30 p.m.  
29 Tues. 2.30 p.m.  
30 Wed. 2 p.m.  
31 Thurs. 3 p.m.  
Committee, 12 noon.
- 6 Wed. London: Conference of Representatives of Medical Staffs of Hospitals, 2 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### BIRTHS.

BEVAN.—On April 30th, at the Westcliff Nursing Home, Westcliff-on-Sea, to Mary, the wife of Frank A. Bevan, M.B., B.S., of Hadleigh, Essex, a daughter.

NORMAN.—On May 4th, to Dr. and Mrs. Rex P. Norman of "The Homestead," Rubery, Birmingham, a daughter.

#### DEATH.

RUTHVEN.—At Berca, Johannesburg, on March 28th, Mrs. Jane Buchanan Henderson Ruthven, L.R.C.P.Ed., etc., M.D.Bru., aged 67.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 19TH, 1928.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

#### MATTERS REFERRED TO DIVISIONS.

##### British Medical Association.

#### ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

The Annual Representative Meeting of the British Medical Association will be held in Cardiff on Friday, July 20th, 1928, and the following days as may be necessary.

#### RESOLUTIONS BY DIVISIONS AND BRANCHES FOR THE REPRESENTATIVE BODY, TOGETHER WITH RELEVANT RECOMMENDATIONS OF COUNCIL.

[Note.—This includes only those Recommendations of the Council contained in the Annual Report to which Amendments or Riders have been sent in; also any Motions from Divisions and Branches, of which two months' notice must be given.]

##### PRELIMINARY.

**Annual Meetings and Annual Representative Meetings.**  
Motion by SUNDERLAND: That the Council be instructed to consider the advisability of restricting the business of the Annual Meeting, which is held at various centres, to scientific and social work, and of an Annual Representative Meeting being held on a separate date at the British Medical Association House in London, to deal with medico-political business.

##### FINANCE.

##### Life Insurance for Members.

Motion by SOUTH-EASTERN IRELAND: That the Council be instructed to appoint a committee to inquire into the possibility of a compulsory scheme of life insurance for the members being established, the premium for such insurance to be included in the annual subscription.

##### Annual Subscription.

Motion by BATH: That the annual subscription to the Association be reduced to £2 2s.

##### MEDICAL ETHICS.

##### Membership and Acceptance of Post which is subject of "Important Notice."

Motion by NORTH MIDDLESEX: That no medical practitioner shall be eligible for membership of the Association who has obtained and holds a position to which he was appointed whilst it was the subject of an "Important Notice" in the *British Medical Journal*.

#### MEDICO-POLITICAL.

##### Contract Rate for Juvenile Oddfellows.

Motion: That the following recommendation of Council (*Supplement*, April 28th, 1928, pp. 153-54, para. 104) be adopted:

That the Representative Body approve a standard rate of 8s. 8d. per head per year including drugs for the remuneration of medical practitioners for medical attendance and medicine for juvenile members of the Manchester Unity of the Independent Order of Oddfellows; that the Council be authorized to approve a slightly lower rate than 8s. 8d. per head per year, for a time to be definitely stated, for application in any area in which it is satisfied that owing to economic conditions the standard rate of payment is not feasible; and that it be an essential part of this arrangement that there must be free choice of doctor by patient and of patient by doctor.

**Amendment by WANDSWORTH:** That "13s." be substituted for "8s. 8d." in the second and eighth lines of the recommendation.

**Amendment by TORQUAY:** That the Representative Body does not approve of the recommendation, and strongly deprecates the acceptance of any fee for contract medical practice, including medicine, either for juveniles or adults, which is less than 13s. per head per annum.

**Amendment by STOCKTON:** That any standard rate per head per year for the remuneration of medical practitioners for medical attendance and medicine for juvenile members of the Manchester Unity of the Independent Order of Oddfellows be not less than the capitation fee in force for persons insured under the National Health Insurance Acts.

**Amendment by STOCKTON:** That the arrangement by which the approved society pays the practitioner for work done in individual cases is preferable to an agreed capitation fee.

##### Reports by Medical Practitioners at Request of Coroners.

Motion by HARRGATE: That (with reference to para. 89 of the Annual Report of Council, see p. 150 of *British Medical Journal Supplement* of April 28th, 1928), following the custom in Scotland, the fee for a report from a practitioner to the coroner shall be £1 1s.

##### Private Practice.

Motion by CARDIFF: That (with reference to para. 91 of the Annual Report of Council) the Representative Body views with anxiety the tendency to transfer the treatment of many diseases and conditions previously in the hands of general practitioners and consultants to departments controlled by medical officers of health.

##### Proprietary Medicines.

Motion by ABERDEEN: That in view of the very great number of proprietary medicines which have been put upon the market in recent years steps be taken to set up at



Head Office a department to investigate these proprietary medicines and to supply information regarding them to members, either on request or in the *British Medical Journal*, or as otherwise deemed expedient; or, if this is considered impracticable, the publication entitled *Secret Remedies* be brought up to date.

*Position of General Practitioners in Relation to Hospitals and Clinics.*

**Motion by ABERDEEN:** That it be remitted to the Council to consider and report to the next Annual Representative Meeting upon the position of the general practitioner in relation to the voluntary and rate-supported hospitals and clinics.

*Medical Profession and Motor Spirit.*

**Motion by SOUTH-WEST WALES:** That as the medical profession is such a large consumer of petrol (and its homologues)—used for professional purposes—the Association officially approach the petrol companies so that medical practitioners may obtain petrol (and its homologues) at commercial rates.

*Midwives Act, 1918.*

**Motion by SOUTH-WEST WALES:** That in the opinion of the Representative Body the Midwives Act, 1918, should be amended so that adequate payment be made for ante-natal work.

*Ambulance Lectures.*

**Motion by YORK:** That the following resolutions of the Representative Body are hereby rescinded:

(A) "That ambulance work . . . should be treated by the profession as a matter of business and not of philanthropy."

(Adopted by the A.R.M., 1905, Minute 107, in approving a report by the Medico-Political Committee on "The position of medical men in connexion with ambulance competitions.")

(B) Minute 259, A.R.M., 1910. That members of the medical profession should be suitably remunerated for teaching subjects in connexion with the public health, such as nursing, first aid to the injured, and hygiene, and that the fee adopted by the London County Council of £1 ls. for each lecture is one which appears suitable for general adoption.

(C) Minute 263, A.R.M., 1910. That a fee should be charged for ambulance lectures given to the British Red Cross Society, and that the fee be not less than £1 ls. for each lecture.

*Medical Practitioners and Road Accidents.*

**Motion by BUCKINGHAMSHIRE:** That the Representative Body is of opinion that some arrangement should be made for payment for the emergency services rendered by doctors to patients meeting with accidents on the roads.

*Venereal Disease Schemes.*

**Motion by EDINBURGH and LEITH:** That the venereal disease schemes which are at present being administered are proving inadequate to secure the proper control and treatment of venereal disease, and that it is essential that further power should be conferred on medical practitioners and local authorities with a view to strengthening the voluntary system by placing a "compulsitor" on all persons infected with a venereal disease in order to secure the submission to treatment, and continuance under treatment, of such persons until discharged by a registered medical practitioner.

*Case of Tyndall v. Alcock.*

**Motion by BATH:** That the Representative Body regards with consternation the decision of the Assize Court in the case of Tyndall v. Alcock and the dismissal of the appeal; that this decision would seem to expose any surgeon who, although operating in good faith and with due precautions, failed to obtain a perfect result from his operation to be found in damages by a jury of laymen; that while recognizing that trial by jury is an integral part of the Constitution the Representative Body desires the Council to consider whether means cannot be found to ensure that expert witnesses appearing on opposite sides in a case shall not so confuse the issue by a divergent representation of facts that a lay jury cannot assess these facts at their true value.

**PUBLIC HEALTH.**

*Noise and Public Health.*

**Motion by EDINBURGH and LEITH:** (1) That in the interest of the public health the British Medical Association should support any measures which may be taken to so alter or amend existing legislation as to give greater power to local authorities to suppress unnecessary noise which is dis-

turbing to the lieges; and (2) that any noise from 11 p.m. to 6 a.m. which is capable of being prevented or mitigated, and which is dangerous or injurious to health, shall be a nuisance within the meaning of the Public Health Acts.

**CAUSATION OF PUERPERAL MORBIDITY AND MORTALITY.**

*Maternal Mortality and Morbidity.*

**Motion by SOUTH-WEST WALES:** That general practitioners should be adequately represented on any committee which may be appointed by the Association to consider and formulate schemes for the improvement of maternal mortality and morbidity.

**NATIONAL HEALTH INSURANCE.**

*Scheme of the Spa Federation for Spa Treatment of Insured Persons.*

**Amendment by HARNOGATE:** That subpara. (m) of the recommendation of Council (Supplement, April 28th, pp. 158-59, para. 128) be deleted and the following substituted therefor:

That an initial certificate as to incapacity for work up to one month be given by the home practitioner, any subsequent certificates that may be necessary being given at the spa.

*Medical and Dental Examination of Insured Persons.*

**Motion by WINDSOR:** That in the opinion of the Representative Body the establishment of periodical medical and dental examinations of all persons insured under the National Health Insurance Acts is urgently called for as an economic proposition, having regard to the return so to be obtained in health and productive efficiency; that every such insured person, when accepted as a patient on a doctor's panel, shall be by that doctor medically examined, and the result of that examination placed on record; that preliminary examination shall apply also to dental examination, when that additional benefit is included and available under the National Health Insurance Acts.

**HOSPITALS.**

*Industrial Accidents in Hospitals.*

**Motion by NEWCASTLE-ON-TYNE:** That industrial accidents should not be a charge on the voluntary hospitals or on the services of the visiting staff.

**British Medical Association.**

**CURRENT NOTES.**

**Some Work of the Week.**

On May 10th the Charities Committee of the Association allocated certain moneys to the several charities, discussed various methods of arousing a keener interest in medical charities amongst practitioners throughout the country, and dealt with a few points of internal administration. During the week representatives of the Insurance Acts Committee again discussed with Sir Arthur Robinson at the Ministry of Health the vexed question of increased sickness claims. As the outcome of this discussion Sir Arthur Robinson will prepare a memorandum, which will be considered by the representatives of the Insurance Acts Committee prior to a further discussion with the Ministry's representatives. The Library Subcommittee also met during the week and discussed various questions touching on the future of the Association's Library.

**Conference of Medical Staffs of Voluntary Hospitals.**

We wish to remind the medical staffs of the voluntary hospitals throughout the country of the conference which is to be held at the British Medical Association's House on Wednesday, June 6th, at 2 p.m., to consider hospital contributory schemes in their relation to the medical profession. The Medical Secretary would be glad to be advised at the earliest opportunity of the names of the representatives who have been appointed to attend the conference, as if a sufficient number of representatives signify their intention of being present it will be possible to arrange for reduced railway fares on lines similar to those adopted in connexion with the Annual Meeting—namely, a single fare and a third for the return journey. It cannot be definitely stated at this stage that this railway fare concession will be granted, but if the numbers are large enough to secure it the representatives who are nominated to attend will be advised in due course.

## MEDICAL SERVICES IN INDIA.

## REORGANIZATION SCHEME.

IN the Supplement of February 18th we reproduced, substantially in full, a memorandum on the terms and conditions of appointments to permanent commissions in the Indian Medical Service, issued from the India Office. The Secretary of State for India has now sanctioned a scheme for the reorganization of the medical services in India, based on proposals framed by the Government of India in consultation with the local governments. The details of this scheme are embodied in the communiqué by the Government of India printed below. The matter is being considered this week by the Naval and Military Committee of the British Medical Association.

## COMMUNIQUE BY THE GOVERNMENT OF INDIA.

1. In para. 23 of their Report the Royal Commission on the Superior Civil Services in India recommended that a Civil Medical Service should be constituted in each province, provision being made for the maintenance of a sufficient number of British officers to provide adequately for medical attendance on British members of All-India Services and their families. The Government of India have since been in correspondence with the Local Governments and with His Majesty's Secretary of State for India on the question of giving practical effect to these recommendations, and the Secretary of State has now sanctioned the following scheme, which is based on the proposals framed in consultation with Local Governments.

2. The Indian Medical Service, constituted on the same broad lines as at present, will be retained primarily to meet the needs of the Indian Army. In order to maintain the necessary minimum war reserve of military medical officers and to provide for European medical attendance for European officers of the Superior Civil Services and their families, Local Governments will be required to employ a stated number of Indian Medical Service officers. The Government of India will draw on the same Service to meet requirements of the civil administration for which they are responsible.

3. *War Reserve.*—It has been calculated on as precise a basis as possible that the war reserve to be employed by the civil side should consist of 131 British and 65 Indian officers. The larger number of British officers is due to the fact that British officers cannot be recruited in India in an emergency from the ranks of private practitioners.

4. *Civil Requirements.*—The other factor which enters into the reckoning is the need for making adequate arrangements for medical attendance on British personnel of the Superior Civil Services and their families, and for the requirements of the civil administration for which the Central Government are responsible. This factor includes the provision of a number of appointments hereafter termed "residuary," the incumbents of which must be retained permanently in civil employment, so as to ensure the continuance of a skeleton staff to cope with the medical requirements of the Civil Government, whether for the purpose of treatment or of administration, and who cannot therefore be treated as part of the war reserve.

5. Working on these data, the total number of Indian Medical Service officers required for civil employment is calculated at 302. The details are given below. (1) War reserve, 200; (2) For "residuary" posts in provinces, 46; (3) Requirements of Foreign and Political Department, 17; (4) Jails, 8; (5) Special posts under the Government of India, 14; (6) Port Health Officers, Bombay and Aden, 2; (7) Reserve of 5 per cent. as allowance for officers who would not be available on mobilization owing to illness, 15; total, 302. (The figures shown against (2), (3), (4), (5), and (6) represent "residuary" posts.) Of the total of 302, 212 will be Europeans and 90 Indians.

6. To provide employment for 302 officers, 237 posts are required. The remaining 65 officers will constitute the leave and study-leave reserve calculated at 21½ per cent. Of the 237 posts, 59 are available under the Government of India, including posts in the Foreign and Political Department, and 178 posts will be provided in the provinces; 112 of the 178 posts primarily represent requirements of Civil Services in the matter of European medical attendance, and must be held by British officers. This estimate of the medical requirements of the European members of the Superior Civil Services and their families is based on data which will change from year to year as proportion of European to Indian civil officers gradually diminishes. It will, therefore, be subject to periodical scrutiny and, if necessary, to revision. The remaining 66 posts will be open either to Europeans or Indians; 28 out of 59 appointments under the Government of India will similarly be open to officers of either race. Complete lists of (a) posts to be reserved for the Indian Medical Service and (b) reserved posts for which Indian officers of the service will be eligible, either equally with European officers or exclusively, are printed with this communiqué.

7. Under regulations framed by the Secretary of State in Council in 1923 under Rule 12 of the Devolution Rules, 258 appointments are at present reserved for the Indian Medical Service in provinces. The new scheme, which reserves only 178 posts for them, will gradually release 80 posts for Provincial Medical Services. It represents the maximum which can at present be set apart for these services consistently with the need for providing economical employment in peace time for the Medical War Reserve of the Indian Army, and with the obligation to provide European doctors for European personnel of the Superior Services.

8. The adoption of the new list of reserved posts will leave, on the civil side, a surplus of Indian Medical Service officers who are now holding appointments which are at present reserved for the service. The existing rights of these officers will be fully preserved, and prospects equivalent to those afforded by the present list of reserved posts will be retained for them. These prospects will be allowed to diminish only *pari passu* with the absorption of the surplus which will exist until the number of Indian Medical Service officers now in civil employ is equal to the number of posts reserved for them in the new list. The detailed measures required to safeguard the prospects of Indian Medical Service officers already in civil employ are now being worked out.

9. In the interests of the Army, the Local Governments, and of officers themselves, the following rules will come into force forthwith as an integral portion of the scheme: (i) Liability to serve on either civil or military side will be a definite condition of service for all future entrants to the Indian Medical Service; (ii) no officer will be transferred to civil employment without the consent of the Government of India and Local Government; (iii) an officer transferred to civil employment will not ordinarily be liable to be recalled to military employment (except on general or partial mobilization) without the consent of the Local Government, but the Government of India will retain the power to recall an officer against the wishes of a Local Government in very exceptional cases of absolute necessity; (iv) a Local Government will not be at liberty, without the consent of Government of India, to return to military employment an officer transferred to civil employment; (v) all officers in civil employment (including those now in the Service) about a year before the date on which they are expected to be due for promotion to the rank of Colonel will be required to state whether they wish to return to military employment, in order that they may be considered for promotion to administrative rank; (vi) those officers who elect to return to military employment will be recalled and employed in a position suitable to their rank without, however, any guarantee of eventual promotion; (vii) the case of each officer will then be considered on its merits when his name comes up for promotion, and (a) those considered suitable for military promotion will be retained on the military side until promoted to administrative rank, after which they would not normally revert to civil employment, while (b) those not considered suitable for promotion will normally revert to civil employment or, subject to approval of military authorities, be given the option of remaining in military employment in the rank of Lieutenant-Colonel until retirement; (viii) those officers who do not elect to return to military employment will either (a) sever their connexion with the Indian Medical Service and become members of the Provincial Medical Service on such terms as may be mutually agreed upon between themselves and the Local Government, in which case they will cease to belong to the war reserve, or (b) will continue to belong to the Indian Medical Service, in which case they will be eligible for further promotion on the civil side, and will continue to belong to the war reserve provided that they do not hold residuary appointments. Also they will be eligible to receive promotion in military rank, as at present, on the basis of the civil administrative posts which they hold; (ix) an officer who desires permanent civil employment, but does not succeed in obtaining it, will be guaranteed employment in the Military Medical Services unless he is unfit for active service, or there is some other equally valid impediment to his being employed on military duties.

## Civil Appointments Reserved for Officers of the Indian Medical Service.

## GOVERNMENT OF INDIA.

## Department of Education, Health and Lands and Home Department.

- \*1 Director-General, I.M.S.
- \*1 Deputy Director-General, I.M.S.
- \*12 Assistant Directors-General, I.M.S.
- \*1 Superintendent, X-Ray Institute.
- \*1 Imperial Serologist.
- \*1 Chief Medical Officer, Delhi.
- \*2 Civil Surgeons, Simla.
- \*1 Civil Surgeon, Coorg.
- \*1 Health Officer, Suma.
- \*1 Assistant Director of Public Health, Delhi.
- \*15 Medical Research Department appointments.
- \*1 Senior Medical Officer, Port Blair.
- \*1 Civil Surgeon, New Delhi.
- \*1 Public Health Commissioner with the Government of India.

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Incumbents of posts marked with an asterisk (\*) are not liable to be recalled on mobilization. Of the posts marked (1) only one Assistant Director-General, Indian Medical Service, and 11 officers of the Medical Research Department are liable to be recalled on mobilization.



## BRANCH AND DIVISION MEETINGS TO BE HELD.

**EAST YORKS AND NORTH LINCOLN BRANCH: EAST YORKS DIVISION.**—The annual general meeting of the East Yorks Division will be held in Wilberforce House, Hull, to-day (Friday, May 18th), at 3.30 p.m. Agenda: To receive the annual report of the Executive Committee and the treasurer's financial statement; to consider the new Division Model Rules of Organization; to elect officers; to receive the first link in the chain of office for the chairman's badge from Dr. Mackay, the retiring chairman; to consider the provision of a prize for medical students at the University College. After tea there will be an inspection of local antiquities, with a commentary by the Director of Museums.

**GLASGOW AND WEST OF SCOTLAND BRANCH.**—The annual meeting of the Glasgow and West of Scotland Branch will be held in the Pathological Department, Royal Infirmary, Glasgow, on Wednesday, May 30th, at 2.30 p.m. After the annual meeting there will be a clinical demonstration given by the members of the staff.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 19th, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) presidential address by Dr. Christine Murrell entitled "Our changing times."

**METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.**—The annual meeting of the Camberwell Division will be held at St. Giles's Hospital, Camberwell, on Tuesday, May 22nd, at 9 p.m. An address will be delivered by Mr. James R. Ogden on Tutank-Amen's tomb.

**MIDLAND BRANCH: CHESTERFIELD DIVISION.**—A meeting of the Midland Branch will be held at the Royal Hospital, Chesterfield, at 3 p.m., when there will be a

**NORTH CARNARVON AND ANGLESEY DIVISION.**—The annual meeting of the North Carnarvon and Anglesey Division will be held at the Anglesey Arms Hotel, Menai Bridge, to-day (Friday, May 18th), at 3 p.m. Agenda: Election of officers and committees, reception of annual report and financial statement; consideration of the Report of Council and instruction of the representative. The chairman, Dr. Helsby, invites members and ladies to tea at 4 o'clock in the hotel gardens.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The final clinical meeting of the Northern Counties of Scotland Branch for this season will be held at the Lawson Memorial Hospital, Golspie, on Saturday, May 19th, at 12 noon. The programme will include the demonstration of some surgical cases by Mr. B. S. Simpson, and notes on general anaesthetics by Dr. J. B. Simpson. Golfing members will note that Dr. Simpson has arranged for the courtesy of the green at Golspie, Brora, and Dornoch to be extended to them for that day. The annual meeting of the Branch is to be held at Kyle of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Island Division.

**NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.**—A clinical meeting of the South Carnarvon and Merioneth Division will be held at the Towy Wm Memorial Hospital on Tuesday, May 29th.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary, Oxford, on Wednesday, May 23rd, at 2.30 p.m. Agenda: Election of associate member of the Division; clinical cases: Dr. F. G. Chandler: Early diagnosis and treatment of bronchiectasis (with lantern slides).

**SHROPSHIRE AND MID-WALES BRANCH.**—The fifty-third annual spring meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary on Friday, May 25th, at 3.30 p.m. Agenda: Election of president for 1923-24; consideration of Annual Report of Council.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.**—A meeting of the South-West Wales Division will be held on Thursday, May 24th, at 3 p.m., at the Ivy Bush Hotel, Carmarthen, when a display of medical and other cinematograph films will be given by Kodak, Ltd.

**SOUTH-WESTERN BRANCH.**—An intermediate meeting of the South-Western Branch will be held at the Royal Cornwall Infirmary, Truro, on Thursday, May 24th, at 3.15 p.m. Agenda:—Papers and notes: Mr. L. C. Panting, notes on cases of aplastic kidney, lipoma of the caecum, obstruction of the ileum by a band with unusual findings, death from diabetic coma without pre-operative glycosuria; Dr. Eric Wordley: The transfusion problem; Dr. William King: A puzzling abdominal case; Dr. J. Stephen Moore: Myosarcoma of the jejunum; Dr. F. G. Bushnell: Sun and air bathing; Drs. Francis and Dorothy Chown: The use of sanocrysin in pulmonary tuberculosis; Dr. Frank O. Graham: Congenital high elevation of the scapula.

**SUFFOLK BRANCH: WEST SUFFOLK DIVISION.**—In connexion with the post-graduate course arranged by the West Suffolk Division at the West Suffolk Hospital, Sir Thomas Horder will give a lecture to-day (Saturday, May 19th), at 8.45 p.m., on etiological factors in fibrosis and their bearing on treatment. Coffee will be served at 8.30 p.m. A clinic of medical cases will be held on Sunday, May 20th, at 11 a.m. The course is open to medical practitioners in West Suffolk and their guests.

**WEST SOMERSET BRANCH.**—A meeting of the West Somerset Branch will be held at the Taunton and Somerset Hospital, Taunton, to-day (Friday, May 18th), at 3.30 p.m. Agenda: Election of representative and deputies to the Annual Representative Meeting; consideration of Annual Report of Council.

## Meetings of Branches and Divisions.

## DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

The annual meeting of the Bournemouth Division was held on May 8th; the annual report and financial statement were adopted. The following officers were elected for the ensuing year:

Chairman, Dr. Arden. Vice-Chairman, Dr. McCall. Honorary Secretary and Treasurer, Dr. Carter. Representatives in Representative Body, Dr. Le Fleming and Dr. Johnson Smyth. Deputy Representatives, Dr. Mahomed and Dr. Hutton.

A proposal to hold meetings of the Division in the evening instead of in the afternoon was referred back to the Executive.

## LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.

At a meeting of the Mid-Cheshire Division at the Altrincham General Hospital on May 7th Dr. CAPON, physician to the Royal Southern Hospital, Liverpool, gave a lecture, illustrated by lantern slides, on intracranial birth injuries. The basis of this lecture was a series of autopsies and clinical observation. The causes, pathology, symptoms, and treatment were fully discussed, and Dr. Capon received a cordial vote of thanks for a lucid and instructive lecture.

## LANCASHIRE AND CHESHIRE BRANCH: WARRINGTON DIVISION.

The annual meeting of the Warrington Division was held at the Infirmary on May 4th.

The following officers were elected for 1923-24:

Chairman, Dr. L. S. B. Tasker. Vice-Chairman, Dr. W. H. C. Patrick. Secretary and Treasurer, Dr. William Grant. Representative on Branch Council, Dr. Donald Ferguson. Representative in Representative Body, Dr. J. S. Manson.

A general discussion on the Annual Report of Council took place, and the representative received instructions.

In connexion with the proposed contract rate for juvenile Odd-fellows, strong opposition was expressed to any contracting with insurance societies.

## METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

A MEETING of the Camberwell Division was held at St. Giles's Hospital, Camberwell, on April 24th, when Dr. Cox was in the chair. An address was delivered by Dr. GUY BOUSFIELD, pathologist to the hospital, on modern methods of combating diphtheria. The lecturer criticized the methods hitherto used in the diagnosis of diphtheria; he did not agree with the view commonly held of the infallibility of the throat swab, but urged more extensive use of the Schick test. Dr. Bousfield fully explained the method of performing this test, and demonstrated a number of cases showing the positive and negative reactions. After the lecture an interesting address was given by Dr. J. G. FORBES of the London County Council Public Health Department on the statistics comparing the incidence and mortality rate of diphtheria in the borough of Camberwell during recent years. Several members took part in the general discussion later, and the meeting closed with a hearty vote of thanks to Dr. Bousfield and Dr. Forbes.

## METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at St. John's Hospital, Lewisham, on May 1st, with Dr. D. J. MILLER in the chair. Mr. WINSBURY WHITE showed a case in which he had removed the left kidney with an oxalate stone. He also exhibited the nozzle from an enema syringe which he had extracted, with the aid of the cystoscope, from the bladder of a woman who had tried to induce abortion. Dr. GOLDSMITH showed four cases, the first being an untreated epithelioma of the region of the eye and nose. The second patient was a man suffering from dermatitis herpetiformis, which was very irritating at night, but had no constitutional effects; it was treated with arsenic. The third patient was a child with systematized naevi on one side; and the fourth was a man with black hairy tongue, which resisted all forms of treatment. Dr. OFFENHEIM showed four patients, each of whom had had the radius plated, the movements being good; he also exhibited a case of fibrocystic disease of the humerus, occurring in a girl. Three cases were shown in which the clinical symptoms were similar, but the diagnoses were respectively kinked colon, gallstones, and duodenal ulcer. Dr. E. H. ROBERTS showed a case of pleurisy with effusion, which had cleared up, but pyrexia persisted; the x rays showed thickened pleura. Dr. HALLINAN moved a vote of thanks to the members who had shown cases.

## OXFORD AND READING BRANCH: WINDSOR DIVISION.

A POPULAR lecture on "What should we eat?" was given by Dr. S. H. DAUKES, director of the Wellcome Bureau of Scientific Research, in the Small Town Hall, Windsor, on April 20th, under the auspices of the Windsor Division. The speaker was introduced by Dr. J. J. PATERSON.

Dr. Daukes dealt first with fads and fancies in connexion with food, saying that many ideas called fads were customs or habits based upon sound reasons, while "fancies," especially those of children, should be tenderly dealt with, for there might be good grounds for the preferences and antipathies. He then emphasized the importance of the "aesthetic" side of digestion, explaining the parts played by appearance and service in their influence on the flow of the gastric juice. He proceeded to discuss the question

*Attendance of Witnesses at Service Subcommittee*

The committee had before it a communication of the Hastings Insurance Committee with regard to the attendance of witnesses at inquiries held by the Medical and Pharmaceutical Service Subcommittees. The Hastings Committee was of opinion that subcommittees should have power to compel the attendance of witnesses, and pointed out that in the absence of such compulsion a person might decline to give evidence, the subcommittee



to a decision in the absence of such evidence, and then, if the case proceeded to appeal, it was within the power of either party to compel the attendance of the witness, when the evidence given might materially alter the whole aspect of the case. The London Committee resolved to reiterate the view which it had placed before the Commissioners ten years ago (when it was turned down because the Commissioners felt that more experience was desirable) that power should be conferred upon the committee to subpoena witnesses in connexion with inquiries. In reply to a question by Dr. Chase, Mrs. HANDEL BOOTH, who had brought forward the recommendation, said that the question of requiring evidence to be on oath had not been considered.

#### Urgent Calls.

The committee further considered two cases of complaints against practitioners which, on account of exceptional difficulty in apportioning responsibility, had been twice previously adjourned. In the one case it was alleged that the practitioner failed to realize the seriousness of the patient's condition and to supply treatment, and in the other that he did not visit when he should have done. Both cases were complicated, however, by the fact that the practitioner did not appear to have been properly informed as to the seriousness and urgency of the case. In the first case the committee finally agreed that the practitioner had not failed to comply with the terms of service, but on the motion of Mr. MEANMORE, seconded by Dr. CARDALE, it was further agreed "that it was to be regretted that the insured person did not give to the practitioner when he called upon him some better indication of the urgency of his need, but it was also regrettable that the practitioner should appear to have been more concerned about the hour at which the call was made than about the condition of the patient." In the second case the committee found that the practitioner had been negligent, and added a rider, again on Mr. MEANMORE's proposition, "that it is desirable to emphasize the fact that a practitioner's express obligation under his terms of service is to visit a patient whose condition so requires, and that the committee cannot regard the absence of a specific request for a visit as invalidating that obligation." Dr. CARDALE, in supporting the rider, said that he did not believe there was anyone in the profession who would say that a doctor was relieved from responsibility for visiting a patient merely because he did not receive a request to do so.

#### Accuracy in Dispensing.

Dr. CARDALE raised a point on a case brought forward by the Pharmaceutical Service Subcommittee in which the subcommittee had recommended cautioning the chemist, but not a monetary penalty, for making up a prescription in which bicarbonate of soda was 35 per cent. over the amount ordered. The sentence in the report to which he took exception read: "It will be observed that the potassium iodide, which is the important and the most potent drug in the mixture, was dispensed with remarkable accuracy, and this to some extent influenced us in considering the matter from the point of view of the excess of bicarbonate of soda, which is not such a potent remedy." Dr. Cardale thought the qualification of "accuracy" by "remarkable" was unrivalled for, and that the suggestion that accuracy in dealing with drugs, which were of a potent nature should excuse inaccuracy in dealing with drugs less potent was wholly unwise. Mr. D. DAVIS, chairman of the subcommittee, agreed to delete the offending words.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders E. Cameron and F. C. Robinson are placed on the retired list with the rank of Surgeon Captain.  
Surgeon Commanders J. B. Crawford to the President for three months' post-graduate course; W. F. Beattie to the President for Medical Department, temporary supernumerary.  
A. R. Ewart has entered as Surgeon Lieutenant for short service and appointed to Haslar Hospital.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Sublieutenant H. S. Waters promoted to Surgeon Lieutenant.

### ROYAL ARMY MEDICAL CORPS.

Major A. T. Frost, O.B.E., to be Lieutenant-Colonel, vice Lieut.-Colonel D. O. Hyde, C.B.E., D.S.O.  
Major J. M. Weddell to be a Professor, Royal Army Medical College.  
Captain (prov. Major) C. H. G. Penny retires, receiving a gratuity, May 3rd, 1928, and is granted the rank of Major (substituted for notification in the London Gazette of May 2nd, 1928).  
Lieutenant J. D. Borham is placed on the half-pay list on account of ill health.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant G. P. O'Connell to R.A.F. Depot, Uxbridge.  
Flight Lieutenant F. Sheehan relinquishes his temporary commission on completion of service, and is permitted to retain his rank.  
Flying Officer P. O'Callaghan resigns his short-service commission.  
R. E. Alderson is granted a short-service commission as a Flying Officer for three years on the Active List with effect from, and with seniority of, May 1st, 1928, and is seconded for duty at the Victoria Infirmary, Newcastle-upon-Tyne, from that date.

### TERRITORIAL FORCE.

#### ROYAL ARMY MEDICAL CORPS.

Captain W. R. Churchouse, M.C., resigns his commission.  
Captain A. Mead, late R.E., to be Lieutenant, and relinquishes the rank of Captain.  
Superannuation for Service with the O.T.C.—W. A. Mackey to be for service with the Medical Unit, Glasgow University Contingent, Senior Division, O.T.C.

### COLONIAL MEDICAL SERVICES.

The following appointments have been made by the Secretary of State for the Colonies during the month of April: Dr. V. F. Anderson, Assistant Medical Officer, British Honduras; Dr. N. V. McKenna, Medical Officer, Federated Malay States; Dr. A. F. Brown, Medical Officer, Uganda; Dr. D. L. Wilson, Medical Officer, Tanganyika Territory; Dr. A. V. Clonney, Medical Officer, Tanganyika Territory; Lieutenant R. F. G. Dickson, Sanitation Officer, Kenya; Dr. E. J. Blackaby, District Medical Officer, Cyprus; Dr. W. Allan, Surgeon Sublieutenant A. H. Bean, Captain J. H. Doherty, Lieutenant C. W. F. MacLay, Dr. H. C. Weir, and Dr. T. H. I. Potts, Medical Officers, West African Medical Staff.

### VACANCIES.

BIRMINGHAM AND MIDLAND HOMEOPATHIC HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary £150.  
BIRMINGHAM EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary £600 per annum.  
BIRMINGHAM UNION.—Casualty Officer (male) at the Selly Oak Hospital. Salary at the rate of £200 per annum.  
BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Fourth House-Surgeon (male). Salary £120 per annum.  
BOLTON INFIRMARY AND DISPENSARY.—House-Surgeon (male). Salary £150 per annum.  
BRIGHTON: NEW SUSSEX HOSPITAL FOR WOMEN AND CHILDREN.—Honorary Anaesthetist.  
BREXLEY COUNTY BOROUGH.—Assistant Medical Officer of Health (lady). Salary at the rate of £475 per annum.  
CAMBRIDGE.—George Henry Lewis Student.  
CANON HOSPITAL (FNU), Fulham Road, S.W.3.—House-Surgeon. Salary at the rate of £100 per annum.  
CARBURY ROYAL INFIRMARY.—(1) House-Surgeon. (2) Aural House-Surgeon. (3) Casualty Surgical Officer. Salary at the rate of £50 per annum.  
CHILSEA HOSPITAL FOR WOMEN, Arthur Street, S.W.3.—Junior House-Surgeon (male). Salary £100 per annum.  
CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physicians (male). Salary at the rate of £100 per annum.  
COLCHESTER: ESSEX COUNTY HOSPITAL.—House-Physician (male). Salary £150 per annum.  
DORCHESTER: NORTH WALES COUNTIES MENTAL HOSPITAL.—Third Assistant Medical Officer. Salary £300 per annum.  
DURRY: NORWICH MENTAL HOSPITAL, Rowditch.—Second Assistant Medical Officer. Salary £350 per annum.  
DEVON MENTAL HOSPITAL, Exminster, near Exeter.—Junior Assistant Medical Officer (male, unmarried). Salary £300 per annum, rising to £350.  
DOWNS COUNTY REMOVAL EDUCATION COMMITTEE.—School Medical Officer (male). Salary at the rate of £750 per annum.  
DURHAM COUNTY COUNCIL.—Assistant Medical Officer (resident) at the Hollywood Hall Sanatorium, Wolsingham. Salary at the rate of £450 per annum, rising to £500.  
EASTGROVE: PRINCESS ALICE MEMORIAL HOSPITAL.—Junior House-Surgeon (male, unmarried), rising to Senior after three months. Salary at the rate of £100 per annum as Junior, and £125 per annum as Senior.  
EVELING HOSPITAL FOR CHILDREN, Southwark, S.E.1.—House-Physician (male). Salary £120 per annum.  
HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Physician. (2) House-Surgeon. (Male, single). Salary £50 for six months. (3) Medical Registrar (male) in Out-patient Department; salary £250 per annum.  
HUNTERSFIELD ROYAL INFIRMARY.—Senior House-Surgeon. Salary £200 per annum.  
HULL: VICTORIA HOSPITAL FOR SICK CHILDREN.—Resident House-Physician (lady). Salary £80 per annum.  
KING EDWARD VII WILSON NATIONAL MEMORIAL ASSOCIATION.—Two Resident Medical Officers at the Glan Ely Hospital. Salaries £350 and £200 per annum respectively.  
LACROIX RURAL DISTRICT COUNCIL.—Medical Officer of Health (male).  
LEIPS: ST. JAMES'S HOSPITAL.—House-Physician and Surgeon. Salary £200 per annum.  
LIVERPOOL AND SAMBLYTHN HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.  
LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Clinical Assistants in Actino-therapeutic Department.  
LONDON UNIVERSITY.—(1) Professor of Pathology (Sir William Dunn); salary approximately £1,350 a year. (2) Laura de Saliceto Student.  
MICHENON.—Health Worker for the Society of Friends. Salary £100 per annum.  
MIDCHESTER: AXGOTS HOSPITAL.—House-Surgeon (Orthopaedic). Salary £100 per annum.  
MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Senior and Junior House-Surgeons. Salary £120 and £100 per annum respectively.  
METROPOLITAN HOSPITAL, Kingsland Road, E.8.—Physician to the Department for Diseases of the Skin.  
MIDDLESEX HOSPITAL, W.1.—Surgeon and Assistant Surgeon.  
POPULAR HOSPITAL FOR ACCIDENTS, East India Dock Road, E.14.—Second Resident Officer. Salary at the rate of £175 per annum.  
QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Assistant Resident Medical Officer (male), for three months, and then as Senior Resident Medical Officer for three months. Salary as Assistant at the rate of £80 per annum, and as Senior £100 per annum.  
QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Casualty Officer. (2) House-Surgeon (male). (3) Physician in charge of the Skin Department. Salary for (1) and (2) £100 a year each.  
ROMFORD UNION.—Resident Second Assistant Medical Officer (male) at the Oldchurch Hospital, Romford. Salary at the rate of £250 per annum.  
ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Charles Murchison Scholar in Clinical Medicine.  
ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—House-Physicians, House-Surgeons, Casualty Officer (female), and Obstetric District Assistant.  
ST. LEONARDS-ON-SEA: BUCHANAN HOSPITAL.—Honorary Assistant Surgeon, Honorary Physician for Diseases of the Chest, and Honorary Ophthalmic Surgeon.  
ST. MARY'S HOSPITAL, W.2.—Surgical Registrar. Salary £200 per annum.  
ST. PAUL'S HOSPITAL FOR DISEASES OF THE GENITO-URINARY ORGANS AND SKIN, Endell Street, W.C.2.—Honorary Anaesthetist.

**SALFORD ROYAL HOSPITAL.**—Casualty House-Surgeon (male). Salary at the rate of £125 per annum.

**SHANGHAI MUNICIPAL COUNCIL.**—Assistant Pathologist in the Public Health Department. Salary Taels 600 per mensem.

**SHEFFIELD ROYAL HOSPITAL.**—Resident. Salary at the rate of £80 per annum.

**STOCKPORT INFIRMARY.**—(1) House-Surgeon (male); salary £175 per annum. (2) Assistant Honorary Aurist.

**SUNDERLAND: DURHAM COUNTY AND SUNDERLAND EYE INFIRMARY.**—House-Surgeon. Salary £450 per annum, rising to £550.

**SURREY COUNTY COUNCIL.**—Medical Superintendent at the Sanatorium, Milford, Surrey. Salary £900 per annum.

**TYLDSELY-WITH-SHAKESLEY URBAN DISTRICT COUNCIL.**—Medical Officer of Health. Salary £200 per annum.

**WALSALL GENERAL HOSPITAL.**—House-Surgeon. Salary £125 per annum.

**WEST LONDON HOSPITAL, Hammersmith Road, W.6.**—(1) House-Physician. (2) House-Surgeon. (3) Resident Assistant Casualty Officer and Aural and Ophthalmic House-Surgeon. (Males.) Salary at the rate of £100 per annum.

**WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.1.**—Senior Resident and Casualty Officer. Salary £104 per annum.

**WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.**—Third House-Surgeon (male). Salary £150 per annum.

**WORTHING HOSPITAL.**—House-Surgeon (male). Salary at the rate of £150 per annum.

**CERTIFICATE FACTORY SURGEON.**—The appointment at Penarth (Clamorgan-shire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

**COLSMITH, William N., M.A., M.D.Camb., M.R.C.P.Lond.,** Honorary Assistant Physician to St. John's Hospital for Diseases of the Skin, Leicester Square, London.

**ROE, R. B., M.R.C.S., L.R.C.P.,** Medical Referee under the Workmen's Compensation Act, 1925, for the Districts of the Leighton Buzzard, Newport Pagnell, Northampton, and Towcester County Courts (Circuit No. 23), vice Dr. R. A. Milligan deceased.

### DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
*Section of Odontology.*—Mon., 8 p.m., at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. Annual General Meeting: Election of Officers and Council for 1928-29. Paper:—Sir Frank Colyer: The Pathology of the Teeth of Elephants.  
*Section of Otorhinolaryngology.*—Tue., 8 p.m., at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. Annual General Meeting: Election of Officers and Council for 1928-29. Paper:—Mr. Clifford Morson: Observations on the Radium Treatment of Vesical Carcinoma.

**MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W.1.**—Mon., 8 p.m., Annual General Meeting; 9 p.m., Annual Oration by Sir Archibald Garrod: Lessons on Rare Maladies; followed by a Conversation.

### POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.**—West End Hospital for Nervous Diseases, Gloucester Gate, Regent's Park, N.W.1. Fri., 8.30 p.m., Clinical Demonstration of the Fundus Oculi (Ophthalmoscopes required), at the In-patient Department, Gloucester Gate, Royal Waterloo Hospital, Waterloo Road, S.E.1. Fri., 10 a.m., Clinical Demonstration (Gynaecological). Central London Throat, Nose and Ear Hospital, Cray's Inn Road, W.C.1: Intensive Course, Clinical and Operative; third week, occupying all day. National Hospital, Queen Square, W.C.1: Course in Neurology for two months. Maudsley Hospital, Denmark Hill, S.E.5: Course in Psychological Medicine; fourth and last week. Copies of syllabuses on application to the Fellowship of Medicine, 1, Wimpole Street, W.1.

**LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.**—Mon., 5 p.m., Urticaria. Tues., 5 p.m., Sarcoids and Lupus Pernio. Thurs., 5 p.m., Leprosy.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.**—Mon., 2.30 p.m., Demonstration of Gynaecological Cases; 2.50 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.50 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 p.m., Demonstration of Skin Cases; 2.50 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

**ROYAL NORTHERN HOSPITAL, Holloway Road, N.**—Intensive Course. Mon., 2.15 p.m., Demonstration of Surgical Cases; 2.50 to 5 p.m., Medical, Surgical, and Ear Clinics. Tues., 2.15 p.m., Treatment of Chronic Sinusitis. Wed., 2.15 p.m., The Surgical Aspect of Colic. Thurs., 2.15 p.m., Experience in the Treatment of Varicose Veins. Fri., 2.15 p.m., Fibrosis of the Lung. Thurs., 2.15 p.m., Pathological Investigations. Fri., 2.15 p.m., the Uterus; 3.15 p.m., Diagnosis of Gall-bladder Lesions by X Ray.

**WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.**—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards, Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards. Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments. Fri.,

10 a.m. to 1 p.m., Skin, Dental, and Electrial Departments, Medical Wards, Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear Operations, Medical Children's Department, Bacterial Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Out-patient Departments. Special Lectures, Tuesday and Friday, May 22nd and 25th, at 4.30 p.m.: Anesthetics.

**GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.**—At Western Infirmary Wed., 4.15 p.m., Skin Cases.

**LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.**—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon. Tues., Wed., Thurs., and Fri., 11.30 a.m. (Fee £2 2s. for three months attendance.)

**MANCHESTER ROYAL INFIRMARY.**—Thurs., 4.15 p.m., Lecture: Some War Experiences with Gastric and Duodenal Ulcers. Tea served at 3.45 p.m.

**SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.**—At Royal Hospital: Fri. 3.30 p.m., Laboratory Aids in the Diagnosis and Treatment of Gastric intestinal Disease.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).  
**MEDICAL SECRETARY** (Telegrams: Mediscera Westcent, London).  
**EDITOR, British Medical Journal** (Telegrams: Altiology Westcent London).  
 Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange four lines).

**SCOTTISH MEDICAL SECRETARY:** 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

**IRISH MEDICAL SECRETARY:** 16, South Frederick Street, Dublin. (Telegrams: Baecilus, Dublin. Tel.: 4737 Dublin.)

### Diary of the Association.

- 18 Fri. London: Public Health Committee, 2.30 p.m.
- 19 Sat. Northern Counties of Scotland Branch: Clinical Meeting Lawson Memorial Hospital, Colpsie, 12 noon.  
 West Suffolk Division: West Suffolk Hospital, Sir Thomas Harder on Etiological Factors in Tuberculosis, 8.30 p.m.
- 22 Tues. Camberwell Division: Annual Meeting, St. Giles Hospital Camberwell. Mr. James R. Ogden on Tutank-Amen's Tomb 9 p.m.
- 23 Wed. London: International Medical Sen Code Committee, 2.30 p.m.  
 Chesterfield Division: Royal Hospital, Chesterfield, 3 p.m.  
 Oxford Division: Radcliffe Infirmary, Oxford. Dr. F. G. Chandler on Bronchiectasis, 2.30 p.m.
- 24 Thurs. London: Medical-Political Committee, 2 p.m.  
 South-Western Branch: Royal Cornwall Infirmary, Truro, 3.15 p.m.  
 South-West Wales Division: Ivy Bush Hotel, Carmarthen, 3 p.m.
- 25 Fri. London: Dominions Committee, 2.30 p.m.  
 Shropshire and Mid-Wales Branch: Royal Salop Infirmary, 3.30 p.m.
- 29 Tues. South Carnarvon and Merioneth Division: Clinical Meeting, Town War Memorial Hospital.
- 30 Wed. London: Journal Committee, 2 p.m.  
 London: Finance Committee, 3 p.m.  
 Glasgow and West of Scotland Branch: Annual Meeting, Royal Infirmary, Glasgow, 2.30 p.m. Clinical Demonstration after Meeting.
- 31 Thurs. London: Private Practice Committee, 12 noon.

### JUNE.

- 5 Tues. London: Ophthalmic Subcommittee, 3.30 p.m.  
 City Division: Annual Meeting, Metropolitan Hospital, Kingsland Road, E.
- 6 Wed. London: Conference of Representatives of Medical Staffs of Hospitals, 2 p.m.  
 Lambeth House: Annual Meeting, B.M.A. Hospital, 3.30 p.m.  
 Metropolitan Hospital.
- 8 Fri. T.A. House, Tavistock Square, W.C.1 on Endocrinology and the Future, 9 p.m.
- 13 Wed. London: Council, 10 a.m.
- 14 Thurs. Hampstead Division: Annual Meeting, Hampstead General Hospital, 8.30 p.m.  
 Hyde Division: Annual Meeting, Hyde Town Hall, 8.30 p.m.
- 19 Tues. Lewisham Division: Town Hall, Catford. Mr. J. M. Redding on X-ray Examination of the Alimentary Tract, 8.45 p.m.  
 Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4 p.m.
- 20 Wed. Willesden Division: Willesden Hospital, Harlesden Road, N.W. Dr. Margaret Emslie on the Care of the Infant.
- 21 Thurs. Jersey Division: General Hospital. Dr. A. H. Jacob on Tuberculosis, 8.30 p.m.

## BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

### BIRTH.

**HORSBURGH.**—On April 22nd, to Dr. and Mrs. P. C. Horsburgh of Lyndhurst, Manor Court Road, Nunceaton, a daughter.

### DEATHS.

**CLARK-JONES.**—On May 8th, 1928, at 1, St. Matthew's Gardens, St. Leonards, Edwin Clark-Jones, M.R.C.S.Eng., L.R.C.P.Lond., aged 49 years.

**PRATT.**—On May 10th, 1928, at "Fern Grove," Hainton Avenue, Crimsby, Lines, Arthur Alfred Pratt, M.D., aged 60 years. Interment at Billingford Churchyard, near East Dereham, Norfolk, Tuesday afternoon.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 26TH, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### Access to the B.M.A. House.

THE private roadway and pavements leading into the British Medical Association House from Tavistock Square are now entirely closed for traffic while excavations are in progress, and the Association can take no responsibility for accidents occurring to persons who may pass over the site of the work now proceeding. A covered wooden passage has been constructed to form an entrance to the building for foot passengers from Tavistock Square. Members and others who do not wish to use this covered way, or who wish to bring motor cars or other vehicles into the Association's premises, must proceed southwards down Tavistock Square, turning left at the bottom of the Square into Tavistock Place, turning left again into Marchmont Street, and again left round Cartwright-Gardens, thus entering the courtyard of the B.M.A. House through the archway under the Great Hall.

##### Some Work at Headquarters.

On Wednesday the Hospitals Committee completed its arrangements for the conference of medical staffs of voluntary hospitals to be held at the British Medical Association House on Wednesday, June 6th. As indicated in a Current Note in last week's *Supplement*, if a sufficient number of representatives notify their intention to be present it will be possible to arrange for reduced railway fares at the rate of a single fare and a third for the return journey. The committee directed the preparation of a model contributory scheme to be submitted for discussion at its next meeting. The Association is constantly hearing of schemes in one part of the country or another which fail to conform to the requirements laid down from time to time by the Hospitals Committee, and it is thought that if a model contributory scheme is formulated it may serve as a useful guide, especially for members of hospital staffs in any area where a new scheme may be brought into existence. The committee also directed the preparation of a memorandum dealing with cottage hospitals in their relation to the hospital policy of the Association. On May 24th the National Formulary Subcommittee, to which the Retail Pharmacists' Union and the Ministry of Health were asked to send representatives, met to discuss the projected national formulary. It will be remembered that the subcommittee was set up to carry out the instruction of the Panel Conference that the Insurance Acts Committee should expedite the production of such a formulary. The subcommittee hopes to finish its work in time to report to the next conference.

##### By-laws under the Nursing Homes Registration Act, 1927.

THE Ministry of Health is just about to issue draft model by-laws under the Nursing Homes Registration Act, 1927. By the courtesy of the Ministry the British Medical Association was given an opportunity of seeing the draft by-laws and making suggestions for their amendment. Particulars of these suggestions will be found in the Annual Report of Council published in the *Supplement* to our issue of April 28th (p. 152), under the heading "Registration of Nursing Homes." It is important that Divisions should take an early opportunity of approaching their local authorities in order to secure that no amendments are made locally to which exception is taken. Clause 5 (1) of the Act lays down that there shall be no inspection of medical records. In order that this provision shall not be lost sight of the Ministry of Health has consented, at the suggestion of the Association, to recommend local authorities to print this section at the end of their by-laws, and it is very important that Divisions should see that this is done. The Ministry has already circularized local authorities (Circular 862 of March, 1928) calling their attention to the obligations imposed by the Act and the desirability of advertising its requirements to all concerned, and issuing the necessary forms of application for registration at the earliest possible date.

##### Examination of Vagrants for Small-pox.

THE Medical Secretary has received a number of requests for information as to what remuneration doctors should ask from the guardians for the duty of examining vagrants under Order No. 859 of the Ministry of Health to determine if they show any sign of being affected by small-pox. This Order places on Poor Law medical officers the duty of the daily inspection of vagrants for signs of small-pox before they are discharged, and states that "in view of the extra work and responsibility which may be involved the Minister will be prepared to consider any application which may be made by a board of guardians for his sanction to the payment of reasonable additional remuneration to the medical officer." The Public Health Committee has given careful consideration to the matter, and has also been in consultation with the Secretary of the Poor Law Medical Officers' Association, and has decided that the remuneration asked for should be 1s. a head, with a minimum of 10s. for each attendance.

##### Scholarships and Grants in Aid of Scientific Work. *Scholarships.*

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships as follows: An Ernest Hart Memorial Scholarship, of the value of £200 per annum, and three Research Scholarships, each of the value of £150 per annum. These Scholarships

are given to candidates whom the Science Committee of the Association recommends as qualified to undertake research in any subject (including State Medicine) relating to the causation, prevention, or treatment of disease. Each Scholarship is tenable for one year, commencing on October 1st, 1928. A Scholar may be reappointed for not more than two additional terms. A Scholar is not necessarily required to devote the whole of his or her time to the work of research, but may hold a junior appointment at a university, medical school, or hospital, provided the duties of such appointment do not interfere with his work as a Scholar.

#### Grants.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the causation, treatment, or prevention of disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

#### Conditions of Award: Applications.

Applications for Scholarships and Grants must be made not later than Saturday, June 2nd, 1928, on the prescribed form, a copy of which will be supplied on application to the Medical Secretary of the Association, B.M.A. House, Tavistock Square, London, W.C.1.

Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated, to whom reference may be made.

### NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

#### Treatment by Radiation and Electricity.

By BIRMINGHAM CENTRAL: That subpara. (3) of the recommendation contained in para. 81 of the Annual Report of Council be amended by the deletion of the words "except on the responsibility and under the general supervision of a registered medical practitioner" and the substitution thereof of the words "except on the recommendation by and under the direction of a registered medical practitioner."

#### Paying Centres for Infant Hygiene.

By BIRMINGHAM CENTRAL: That (with reference to Recommendation A contained in para. 95 of the Annual Report of Council), as it is a matter of experience that instructional centres frequently lead to subsequent treatment, the Representative Body considers it undesirable that paying centres for infant hygiene should be instituted.

#### Contract Rate for Juvenile Oddfellows.

By BIRMINGHAM CENTRAL: That the recommendation contained in para. 104 of the Annual Report of Council be amended to read as follows:

That in view of the fact that the whole cost of medical attendance on the juvenile falls on the parent, who is often in poor circumstances, the Representative Body approve of a standard rate in urban areas of 8s. 8d. per head per year, including drugs, for the remuneration of medical practitioners for medical attendance and medicine for juvenile members of the Manchester Unity of the Independent Order of Oddfellows; that the Council be authorized to approve a slightly lower rate than 8s. 8d. per head per year, for a time to be definitely stated, for application in any area in which it is satisfied that owing to economic conditions the standard rate of payment is not feasible; and that it be an essential part of this arrangement that there must be free choice of doctor by patient and of patient by doctor.

By CLEVELAND: That the recommendation contained in para. 104 of the Annual Report of Council be amended by the deletion of the words "that the Council be authorized to approve a slightly lower rate than 8s. 8d. per head per year, for a time to be definitely stated, for application in any area in which it is satisfied that owing to economic conditions the standard rate of payment is not feasible."

By WIGAN: That (with reference to the recommendation contained in para. 104 of the Annual Report of Council) the Representative Body deprecates the acceptance by medical practitioners of any contract to provide medical attendance and treatment for uninsured women and juveniles except through the agency of the State.

#### Membership and Acceptance of Post which is subject of "Important Notice."

By STRATFORD: That (with reference to the Motion by North Middlesex—see p. 213 of *British Medical Journal Supplement*, May 19th) any registered medical practitioner who has obtained a position to which he was appointed whilst it was the subject of an "Important Notice" in the *British Medical Journal* shall not be eligible for membership of the British Medical Association until the propriety of his membership has been considered and recommended by the Central Ethical Committee.

### Association Notices.

#### TABLE OF DATES.

June 2, Sat.	Publication in BRITISH MEDICAL JOURNAL SUPPLEMENT of result of election of members of Council by grouped Branches, and of result of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (on application at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in BRITISH MEDICAL JOURNAL SUPPLEMENT.
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—The annual general meeting of the Border Counties Branch will be held at the County Buildings, Dumfries, on Friday, June 15th, at 3 p.m. Agenda: Branch Council's report and financial statement; report of the election of office-bearers for 1928-29; Dr. John Ritchie will give his presidential address entitled "Some primitive conceptions of disease and their bearing on public health."

GLASGOW AND WEST OF SCOTLAND BRANCH.—The annual meeting of the Glasgow and West of Scotland Branch will be held in the Pathological Department, Royal Infirmary, Glasgow, on Wednesday, May 30th, at 2.30 p.m. After the annual meeting there will be a clinical demonstration given by the members of the staff.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the Stonehouse Hospital on Wednesday, June 6th, at 3.30 p.m.

GLOUCESTER BRANCH.—The annual general meeting of the Gloucester Branch will be held at the General Hospital, Stroud, on Thursday, May 31st, at 6 p.m. Agenda: Election of officers; annual report of the Branch Council; to make new rules, or alter or repeal existing rules; address by Dr. J. R. Charles, physician to Bristol Royal Infirmary, on manganese toxæmia.

KENT BRANCH.—The annual meeting of the Kent Branch will be held at Acacia Hall, Dartford, on Thursday, June 14th, at 2 p.m. The presidential address will be delivered by Dr. M. W. Renton on the increasing influence of hospital practice and clinics on private practice, both general and special. Dr. M. W. Renton invites all members and their wives to a luncheon at 1 p.m. in the gymnasium, Acacia Hall. Messrs. Burroughs Wellcome and Co. have arranged an exhibition of micrographs of the commoner parasites and pathogenic organisms with reference to the sero- and vaccine-therapy associated with their presence, and will entertain members and their wives at a garden party in the grounds of Acacia Hall. The Tennyson Smith golf challenge cup competition will be held on the same day.

KENT BRANCH: BROMLEY DIVISION.—A meeting of the Bromley Division will be held to-day (Friday, May 25th), at 8.30 p.m., at the Town Hall, Anerley (adjoining Anerley Station), when Mr. Philip Turner will give a paper on modern methods in surgical diagnosis. The annual meeting of the Division will be held on Thursday, May 31st, at the White Hart Hotel, Bromley, at 8.30 p.m. Agenda: Report of executive; election of officers; Annual Report of Council.

**KENT BRANCH: DARTFORD DIVISION.**—A general meeting of the Dartford Division will be held at Livingstone Hospital on Tuesday, May 29th, at 3 p.m. Agenda: Annual Report of Council; instruct representative in Representative Body; elect chairman, 1928-29.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The annual general meeting of the Hyde Division will be held in the Hyde Town Hall on Thursday, June 14th, at 8.30 p.m.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 19th, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) presidential address by Dr. Christine Murrell entitled "Our changing times."

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The annual general meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, June 5th. The next clinical meeting of the Division will be at the Metropolitan Hospital on Friday, June 8th, at 4.30 p.m.; tea at 4 o'clock.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A meeting of the Hendon Division will be held at the Hendon Cottage Hospital on Friday, June 29th, at 8.30 p.m., when members are invited to show cases. The meeting will subsequently discuss the Supplementary Report.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—The annual meeting of the Hampshire Division will be held at the Hampstead General Hospital on Thursday, June 14th, at 8.30 p.m., for the election of officers and Executive Committee.

**METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.**—The annual meeting of the Lambeth and Southwark Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Wednesday, June 6th. Tea at 4.15 p.m.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, June 19th, at 8.45 p.m. Mr. J. M. Redding will read a paper on some points in the x-ray examination of the alimentary tract.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—The annual general meeting of the North Middlesex Division will be held on Wednesday, May 30th, at 3.30 p.m., in the Southgate Council Offices, Palmer's Green. Agenda: Financial statement for 1927; election of Divisional officers; Annual Report of Council; instruction of representatives in Representative Body.

**MIDLAND BRANCH: LINCOLN DIVISION.**—The annual meeting of the Lincoln Division will be held at the Lincoln General Dispensary to-day (Friday, May 25th), at 3 p.m. Agenda: Election of officers; arrangement of a meeting to be addressed by a representative from headquarters.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 12th, at 9 p.m. Dr. W. Langdon Brown will read a paper on endocrinology and the future.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden Hospital, Harlesden Road, N.W., on Wednesday, June 20th. Dr. Margaret Emslie will discuss the care of the infant.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch is to be held at Kyle of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Islands Division.

**NORTH WALES BRANCH: SOUTH CARNARVON AND MERIONETH DIVISION.**—The next meeting of the South Carnarvon and Merioneth Division will be held at the War Memorial Hospital, Towyn, on Tuesday, May 29th, at 2.15 p.m. Agenda: Minutes and correspondence; report of Executive Committee (members are asked to bring with them the SUPPLEMENTS of April 28th, May 5th, and May 19th); demonstrations of x ray and artificial sunlight by Dr. F. A. Davies; cases will be shown by Dr. J. A. Davies and Dr. F. S. Jackson.

**SHROPSHIRE AND MID-WALES BRANCH.**—The fifty-third annual spring meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary to-day (Friday, May 25th), at 3.30 p.m. Agenda: Election of president for 1928-29; consideration of Annual Report of Council.

**SOUTHERN BRANCH.**—The annual meeting of the Southern Branch will be held at Queen's Hotel, Southsea, on Friday, June 8th. Supper will be served at 9 p.m., and there will then follow an address by Colonel Macarthur entitled "Some medical references to Pepys," which will be illustrated by lantern slides.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, June 21st, at 8.30 p.m. Dr. A. H. Jacob will read a paper on tuberculosis from the point of view of the tuberculosis officer.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The next meeting of the Hastings Division will be held at the Hastings Infirmary, Frederick Road, on Tuesday, June 12th, at 3.15 p.m. Dr. Bower will conduct members over the infirmary, and after tea clinical cases will be shown.

**WILTSHIRE BRANCH: TROWBRIDGE DIVISION.**—A social meeting of the Trowbridge Division will be held at the Norton Hill Colliery, Midover Norton, on May 31st, at 3 p.m., open to members and friends. After inspection of the colliery tea will be provided at the Commercial Hotel by the chairman, Dr. Spence.

## Meetings of Branches and Divisions.

### BIRMINGHAM BRANCH: BIRMINGHAM CENTRAL DIVISION.

The annual meeting of the Birmingham Central Division was held on May 8th, with Dr. BEARNS in the chair. The annual report of the Executive Committee was received and approved. The following officers were elected to serve during the ensuing year:

Chairman, Dr. Morris. Vice-Chairman, Dr. Beards. Honorary Secretaries, Drs. Garbutt and L. A. N. Lane. Representatives in Representative Body, Mr. W. Stark Adams, Mr. A. W. Nuthall, Drs. J. A. Brown, H. G. Dain, and W. A. Morris. Deputy Representative in Representative Body, Dr. L. A. N. Lane.

A letter was read from the medical officer of health about the provision of electrical and medicated baths in connexion with a public bath in Birmingham. It was decided to reply that there seemed to be ample provision at most of the hospitals, and that the probable demand would not justify the expense. It was decided that expenses, such as for stationery, incurred by the secretaries of the Medical Charities Fund should be met by the Central Division. The meeting was subsequently adjourned until May 18th, for further consideration of the report.

### DORSET AND WEST HANTS BRANCH.

The Dorset and West Hants Branch held its summer meeting at the Yealham Hospital, Sherborne, on May 9th. The following officers were elected for 1927-28:

President, Mr. A. Basil Rooke. Vice-Presidents, Drs. Whitaker and McCall. Honorary Secretary, Dr. McCall. Honorary Treasurer, Dr. Grey-Edwards.

The reports from the Bournemouth and West Dorset Divisions were approved. Mr. A. B. Rooke read a paper on some recent advances in medicine and surgery. The Sherborne members entertained the visiting members to lunch and tea.

### METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

The annual meeting of the Marylebone Division was held on May 9th, when the chairman, Dr. JONSON HORNE, presided. Dr. PERCY SPURGIN and Sir WILLIAM WILCOX were elected chairman and vice-chairman respectively for 1928-29. The Annual Report of Council was considered.

Mr. McANAM ECCLES opened a discussion on the general practitioner and paying beds in hospitals. He described in detail the various proposals that were under discussion in this connexion, and laid emphasis on the points that were likely to come before the Annual Representative Meeting for consideration and decision. Mr. BISHOP HARMAN, Mr. HAWTHORSE, Mr. WALTER SPENCER, Dr. ROXBURGH, Dr. GOULLET, and other members took part in the discussion, and accounts were given of the various schemes already in operation in London.

### METROPOLITAN COUNTIES BRANCH: STRATFORD DIVISION.

The members of the Stratford Division, at the invitation of their chairman, Dr. GARLAND COLLINS, visited the West Ham Council's sanatorium for adult cases of tuberculosis at Upton Park on May 9th, and were shown over the institution. From Dr. COLLINS they proceeded to the council's convalescent home at Upton Park, where, after inspecting the wards and grounds, tea was provided and the visitors were welcomed by the chairman of the hospitals committee of the council, who emphasized its desire to elicit the co-operation and goodwill of the local medical practitioners. Dr. CHALLANS, chairman of the West Ham Insurance Committee, responding for the visitors, congratulated the council on its efficient and up-to-date institutions. On behalf of the Stratford Division he reciprocated the desire of the council in respect to co-operation, and referred to the fact that the chairman of the Division was the medical officer of health for the borough.

### NEW SOUTH WALES BRANCH.

#### A Year's Work.

The annual report of the Council of the New South Wales Branch for the year ending March 29th, 1928, has now been issued to the members. During the period under review the membership of the Branch rose from 1,593 to 1,661. Ten ordinary meetings, three extraordinary, and seven clinical meetings of the Branch were held, the average attendance being fifty-one. The ordinary meetings were arranged in conjunction with meetings of clinical sections, a system which has been found to work very satisfactorily. The special clinical meetings were held at various hospitals, and the extraordinary meetings were concerned with the passing of the revised articles and by-laws. In connexion with the holding of the third session of the Australasian Medical Congress (British Medical Association) in Sydney in the spring of 1929, Sir Alexander MacCormick has been appointed president by the Federal Committee, and the organization of the Congress is proceeding satisfactorily. Additional land has been acquired for the Association's new premises in Macquarie Street, Sydney, and the desired frontage of 60 feet has now been secured; competitive designs for a building have been invited from architects throughout the Commonwealth. During the year seven British Medical Association Lectures were delivered at meetings of local associations outside the metropolitan area, and post-graduate courses were held in diseases of children and in obstetrics.



A combined meeting of the Chichester and Worthing and the Horsaam Divisions was then held for the purpose of electing a representative to the Annual Representative Meeting at Cardiff in July. Dr. H. J. M. Milbank-Smith was elected representative and Dr. M. H. H. Vernon deputy representative. Mr. F. E. FELDEN (Hove) read a most interesting paper on some observations on renal tuberculosis, which was illustrated by lantern slides. In the discussion which followed the CHAIRMAN, Drs. GIBSON, GARRATT, GRIFFITHS, TEMPLETON, and HEYWOOD-WARDINGTON spoke. Dinner followed in the Burlington Hotel. The health of the chairman was proposed by Dr. LEDGER and seconded by Dr. PARRY; both referred to the esteem in which Dr. Hinds was held, and wished him happiness in his approaching retirement from practice.

## GENERAL COUNCIL

OF

## MEDICAL EDUCATION AND REGISTRATION.

## SUMMER SESSION, 1928.

THE one hundred and twenty-seventh session of the General Medical Council was opened on Tuesday, May 22nd, at the Council's offices at Hallam Street, under the presidency of Sir DONALD MACALISTER, Bt., K.C.B.

*New Members.*

The following new members were introduced and took their seats: Alfred William Sheen, C.B.E., M.S., F.R.C.S., as representative of the University of Wales for one year from December 12th, 1927; John Kay Jamieson, M.B., as representative of the University of Leeds for three years from January 1st, 1928; Sir William Taylor, K.B.E., C.B., M.D., F.R.C.S.I., as representative of the Royal College of Surgeons in Ireland for one year from February 1st, 1928; Sir Robert Alfred Bolam, O.B.E., M.D., as representative of the University of Durham for five years from March 6th, 1928; and George Henry Edington, M.D., as representative of the Royal Faculty of Physicians and Surgeons of Glasgow, from May 7th, 1928, to April 6th, 1930.

*PRESIDENT'S ADDRESS.*

Sir DONALD MACALISTER then delivered the following address from the chair:

GENTLEMEN,—We have to record with regret the loss of no fewer than six members of the Council since our last session in November. Dr. James Alexander Macdonald of Taunton died on April 23rd. He was first elected a direct representative of English practitioners in 1911, and again and again re-elected. His energetic character and his skill in practical affairs won him a high place in the regard of his brethren, and enabled him to attain to leadership in their councils. His lamented death creates a vacancy on the Council, which must be filled by an election to be held "as soon as conveniently may be" during the summer. Sir Arthur Chance has for twelve years been a conspicuous figure among us; his keen intellect and knowledge of professional conditions gave value to his frequent contributions to our discussions and to our administrative work. I am sorry to say that it is not to waning interest but to ill health that his retirement is due. Our cordial good wishes for his recovery go with him. The Royal College of Surgeons in Ireland have honoured us by sending in his room Sir William Taylor, K.B.E., C.B., Regius Professor of Surgery in the University of Dublin, and Past-President of the College. Dr. James Alexander Adams, for eight years our esteemed colleague from the Royal Faculty of Glasgow, has also been constrained by impaired health to withdraw from our fellowship. We shall miss his sturdy good sense and his hearty goodwill. I am happy to learn that rest and care are already effecting an improvement in his strength. To Dr. Adams's seat the Royal Faculty have elected my Glasgow colleague Colonel George Henry Edington, M.D., D.Sc., Honorary Physician to His Majesty the King, and President of the Faculty, to whom in your name and my own I offer a cordial welcome. Three other members have retired from office at the expiration of their respective terms—Dr. Thomas Wardrop Griffith, C.M.G., University of Leeds, Dr. David Hepburn, C.M.G., University of Wales, and Dr. Robert Howden, University of Durham. For a series of years these have been our familiar friends and fellow members in this Council, and we cannot let them leave us without acknowledging gratefully their loyal helpfulness in our common tasks. The University of Leeds has chosen to represent its Professor James Kay Jamieson, Dean of its Medical Faculty; Wales has appointed Professor Alfred William Sheen, C.B.E., director of the Surgical Unit in the Welsh National School of Medicine at Cardiff; and Durham has presented us an old friend in a new guise by returning Sir Robert Bolam, O.B.E., to bear for a time a double burden of representation. By experience in his case, by reputation in the case

of his professional colleagues, we are well assured that their co-operation in the work of the Council will be as serviceable as it is welcome.

Of members *emeriti* three in the fullness of years have passed in honour from our veterans' roll. These are Sir William Solby Church, Bt., K.C.B., from 1889 to 1899 member for Oxford, and until his death trustee for the English Branch Council; Sir Dyce Duckworth, Bt., who at the end of last century represented the Royal College of Physicians of London, and acted as our treasurer for fifteen years; and Dr. Henry William Langley Brown, from 1906 to 1919 elected and re-elected by the suffrages of his fellow practitioners in England and Wales. As one of the few members of the Council who was privileged to serve with and to learn from all of these, I offer my memorial tribute to the worthy examples they furnished to their successors.

On November 23rd, 1858, nearly seventy years ago, the Council met for the first time pursuant to a summons by the Secretary of State. During threescore years and ten many wise and good members of our profession have been inscribed upon its roll of members *emeriti*. From them we have received a heritage which we are proud to cherish and emulous to maintain. For more than half of its lifetime I have been privileged to take part in the Council's fellowship, and, recalling memories of nearly forty years, I am convinced that at no previous period was it more conscious than it now is of its responsibilities or more zealous to fulfil them for the public good. Our inheritance from the "fathers and brethren" of past generations has not been dissipated, it has been enhanced.

Twenty-four years ago the Council adventurously entrusted me, then one of its junior members, with the onerous task of upholding the dignity of the President's chair. My term of office expires a week hence; but as May 27th may fall outside the limits of the present session, I propose to consult your convenience in making a fresh election of a President by resigning my trust into your hands this afternoon, so soon as certain necessary business is completed. No President, let me say, has ever received a fuller measure of loyal support and encouragement than has fallen to me. For that, and for the opportunity you have thus given me of rendering service to the public, and to the profession as its ministers, I shall ever be proud and grateful.

The Lord President of the Council, with whose office we stand in special relation, has informed us that on March 22nd His Majesty in Council revoked the Order in Council of 1908, by which the privilege of practising in this country was originally afforded to the practitioners of Quebec. That Province, by formal legislation, had already withdrawn the reciprocal privilege of practice within its territory hitherto accorded to the registered practitioners of the United Kingdom.

*The British Pharmacopoeia.*

In June, 1926, the Council, on the recommendation of the Pharmacopoeia Committee, requested the Lord President "to take steps for the appointment of a suitable committee, including members of the Council, empowered to make inquiries, to collect information, to receive evidence, and to make recommendations on the question whether it is desirable to make any, and if so what, alterations in the existing law or practice relating to the preparation or publication of the *British Pharmacopoeia* and to its adaptation to the requirements of the British Empire." The Lord President was pleased to grant the Council's request, and a subcommittee of the Committee of Civil Research was duly appointed in July, 1926, the terms of reference being those suggested by the Pharmacopoeia Committee. The Right Hon. H. P. Macmillan, K.C., was appointed chairman, and your President and Dr. Dalo were members. The report of the subcommittee, which is unanimous, has now been submitted for the Council's consideration, and will be brought before you by the Pharmacopoeia Committee at this session. Its conclusions were reached, as I can testify, after very careful and judicial consideration of the problems that have to be solved in the altered circumstances of the times; and I shall have no hesitation in commending to you, as worthy of adoption, the proposals for the readjustment of our practice which have been wrought out.

harmonious deliberation, by the subcommittee. I record here with special satisfaction the first conclusion—"that it is not necessary or desirable to make any alterations in the existing law relating to the preparation or publication of the *British Pharmacopoeia*." For if that view is accepted, it will rest with the Council, without waiting for legislation, to take immediate action for such alterations in our practice as may be found necessary or desirable in view of the current revision of the *British Pharmacopoeia* 1914. I am but giving expression to the sentiments of my fellow members when I say that we are all deeply and gratefully sensible of the singular ability and wisdom of our chairman, Mr. Macmillan, and of the eminent service which, through him, the Lord President has rendered to the Council and to British pharmacopoeial science and practice. [The report is summarized at p. 915 of this week's *Journal*.]

#### Medical Education in India.

By your instructions the important reports on medical education in India furnished by Sir Norman Walker and Colonel Needham, with the conclusions of the Executive Committee thereon, have been communicated to the Secretary of State for India, and through him to the Government of India and to the Indian universities. We have been officially assured that in the course of this year the question of the central control of standards of medical qualification in India will be dealt with in connexion with the pending inquiry on Indian government generally; and further, that proposals are now before the Central Legislature for the establishment of an All-India Medical Council, with which this Council will be able to discuss and settle questions of reciprocal recognition of professional qualifications more conveniently and more satisfactorily than is possible in present conditions.

The University of Calcutta, which has meantime applied for the recognition of its degrees, has brought into early operation its new regulations, revised so as to bring them into better accordance with the statutory requirements for practice in this country, and desired that its final examinations held under the amended regulations should be inspected and reported on by an inspector approved by the Council. The Indian Government, notified of this application, has deputed Lieut.-Colonel J. W. D. Megaw, I.M.S., to perform this service, in the absence of Colonel Needham on leave. His appointment has been duly approved, and the Executive Committee will probably have to meet in July to receive his report and others relating to India.

#### The General Council's Income Tax.

Two recent decisions, in the Court of Appeal and in the High Court, directly affect the Council and call for mention. The first has reference to an application for exemption from income tax payments on dividends received from investments of surplus income by the General Council and its Branch Councils. The Court appears to have decided that, though the Council is concerned by statute with medical education and registration, its functions are not so exclusively "educational" as to make it legally a "charity" within the meaning of the law. Our Legal Assessor has kindly prepared an opinion bearing on the purport of the decision which will be at our disposal for guidance.

#### Proceedings for Misdemeanour.

The second decision, obtained at the instance of the Dental Board, may be held to dispose finally of the objection sometimes raised to the Council's proceedings in cases of conviction in England or Ireland for "misdemeanour" under Section 29 of the Medical Act, 1858. It has been asserted by counsel for the defence that in that section "misdemeanour" must be read as if the words were "indictable misdemeanour." The objection has, under legal advice, been again and again overruled from the chair. That ruling is now sustained by the judgement of the High Court.

The Act for ratifying the Agreement on Medical Registration, made on behalf of Great Britain, Northern Ireland, and the Irish Free State, has been passed into law, and the Agreement is now in force.

#### Registration of Opticians Bill.

The Departmental Committee appointed to consider the

Registration of Opticians Bill, before which Mr. Eason and I gave evidence on your behalf, have reported against the Bill, and it will no doubt now be dropped.

I regret to say that the greater part of your time this session must be occupied by judicial inquiries into allegations of misconduct or of conviction against registered practitioners. Some of them offer features of difficulty, which will probably call for prolonged deliberations; all of them will certainly receive your close and considerate attention. It may well be that to do justice to all the evidence brought before you the session may be prolonged beyond the end of the present week, and so encroach upon the Whit Monday holiday. Much will depend on the progress we make in the first two or three days of the session.

#### The Medical Register.

The publication in February of the *Medical Register* and of the *Students' Register* shows that the annual numbers of registered practitioners and of registered medical students continues to fall steadily from those of the post-war inflation period. In 1927, 1,941 new practitioners were enrolled, as compared with an average number of 2,167 for the preceding seven years. The number of medical students entered in the *Register* was 1,214, as compared with the seven years' average of 1,441 per annum. The decrease in both figures is likely to continue for two or three years, more particularly as regards practitioners, for the effects of the drop in the number of students, which took place in 1923 and 1924 under the influence of the new regulations, are not yet exhausted.

Though the decrease in annual registration is reflected in our financial statement, I am glad to say that, owing to prudent anticipation on the part of the Finance Committee, it has been discounted in advance. Our surplus for the past year is less than it has been, but it still reaches the substantial amount of £3,031; while the assets of the General and Branch Councils have been increased by £2,557. Our financial position is, in fact, sound and satisfactory.

#### RE-ELECTION OF PRESIDENT.

A vote of thanks was accorded to the President on the motion of Professor LEATHES, seconded by Sir NORMAN WALKER.

Sir Donald MacAlister then retired from the chair, which was occupied temporarily by Sir Holburt Waring.

Sir NORMAN WALKER proposed the re-election of Sir Donald MacAlister for a period of five years. Sir JOHN MOORE seconded, and this was carried unanimously.

Sir DONALD MACALISTER, on again taking the chair, was heartily applauded. He said: "I am getting rather old for service, but if you think there is anything I can do for you still, my services are heartily at your disposal."

#### National Insurance.

##### WARWICKSHIRE PANEL AND LOCAL MEDICAL COMMITTEE.

##### Case of Excessive Cost of Prescribing.

A MEETING of the Warwickshire Panel and Local Medical Committee was held at Coventry on May 10th, when Dr. HERBERT MALINS presided over a very full attendance. A considerable part of the proceedings was taken up with the hearing of a representation made by the Minister of Health that excess cost had been imposed on the Drug Fund by the nature of a certain practitioner's prescribing. The case of the Ministry was laid before the Panel Committee by one of the Ministry's medical officials, and the practitioner concerned attended in person. It was subsequently decided by the Panel Committee that excess cost had been imposed on the Drug Fund by reason of the large quantities of proprietary articles ordered; a charge of undue frequency not being satisfactorily established. The sum of £10 was assessed as the amount of the excess in the three months reviewed.

The Warwickshire Insurance Committee asked the Panel Committee to meet in conference and to be regarded with a view to advising how the excess could be avoided. The Panel Committee decided that this was an administrative matter, as they had already expressed opinions upon several doubtful cases and were prepared to give further decisions as requested.

##### Proposed Joint Post-Graduate Scheme.

The question arose of combining with the Oxfordshire and Northamptonshire areas for a joint scheme providing facilities of post-graduate study for doctors in rural areas. The suggestion

emanated from the Ministry of Health consequent upon the Panel Committee's previous application for a local scheme financed from the Special Mileage Fund. It was intimated that the Ministry were prepared to sanction a joint scheme for doctors in rural areas, the circumstances of whose practices are such that it would be necessary to employ locumtenents if they proposed to absent themselves for purposes of post-graduate study and could not afford other expenses incidental to a course of study. The chairman was authorized to represent the Panel Committee in further negotiations and arrangements.

The chairman reported that in accordance with the discretion given to him he had authorized realization of the Panel Committee's assets accumulated as the result of voluntary levies, and had paid over to the National Insurance Defence Trust the sum of £669, which was the quota ascertained to be due. The question of further methods of raising the Panel Committee's administrative income was deferred.

Dr. C. R. LUXN reported in detail with regard to the recent meeting of the Midland Conjoint Group, and it was decided to take advantage of the offer to give publicity to reports of the Panel Committee's meetings made by the *Birmingham Medical Review*.

## Correspondence.

### Contract Rate for Juvenile Oddfellows.

SIR,—At a meeting of the Kingston-upon-Hull Panel and Local Medical Committee, held on May 10th, the recommendation of the Council of the British Medical Association that the contract rate for attendance upon juveniles should be 8s. 8d. per annum (in some cases less), including medicine, was considered; and I was instructed to send to you for publication in the *Supplement* the following resolution, which was passed unanimously:

"That this Committee strongly disapproves of the proposal put forward by the Medico-Political Committee, endorsed by the Insurance Acts Committee and approved by the Council, recommending the acceptance of a fee of 8s. 8d. per annum for attendance upon juvenile members of clubs or societies;

"That it is especially disappointed at the apparent attitude of the Insurance Acts Committee, inasmuch as it holds—as the Insurance Acts Committee has hitherto held—that any such lowering of the fee for any form of contract practice will prejudicially affect the capitation fee under the National Health Insurance Acts.

"And that it urges all Local Medical Committees to see that the matter is brought forward before the Local Divisions of the British Medical Association in order that representatives may be instructed to oppose and vote against the recommendation of Council when it comes before the Annual Representative Meeting in July."

—I am, etc.,  
Hull, May 12th.

JOS. NELSON,  
Honorary Secretary.

\* \* This matter is of primary interest and importance to those practitioners who have hitherto been rendering services of the character indicated at a rate, at the highest, of 6s. 6d. per annum. There is no suggestion, of course, that there is any obligation at all to develop this class of work in areas where other methods prevail or are preferred. The general effect of such raising of the contract rate on that adopted for insurance work or other classes of contract work has been carefully considered by the Medico-Political Committee, the Insurance Acts Committee, and the Council, who are of opinion that a favourable rather than an unfavourable effect on the other capitation fees may be expected. In these circumstances it appears desirable that practitioners and areas not primarily concerned with contract attendance on juvenile Oddfellows should not commit themselves to a final decision before discussion at the Representative Meeting in July.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders C. M. R. Thatcher to the *Greenwich* in continuation and as Naval Health Officer and Medical Transport; F. C. Hunot to the *Victory* X1 for R.N. Hospital, Portland; G. D. Ferguson to the *Maize*; J. S. Orwin to the *Royal Sovereign*; G. E. D. Ellis, O.B.E., to the *Victory* X1 for Portland Dockyard.

Surgeon Lieutenant Commanders A. B. Grant to the *Cambrian*; J. E. Clark to the *President*, additional for three months' post-graduate course; A. De B. Joyce to the *Triad*.

Surgeon Lieutenants A. M. McDonnell to the *President* for three months' post-graduate course; C. B. Nicholson to the *Dolphin*; P. J. A. The O'Rourke to the *Yarmouth*; J. A. Cusack to the *Royal Sovereign*; E. G. Davis to the *Tamar* for R.N. Hospital, Hong-Kong; P. B. Jackson to the *Mantis*.

Surgeon Lieutenant (short service) E. J. K. Weeks has transferred to the permanent list, seniority of September 8th, 1924.

To be Surgeon Lieutenants A. R. Ewart and M. Clifford.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant D. R. F. Bertram to the *Victory* for R.N. Hospital, Haslar, for training.

Surgeon Lieutenant J. L. Cox to the *Emperor of India* for training.

### ROYAL ARMY MEDICAL CORPS.

Major (temporary Lieut.-Colonel) B. Biggar, from the seconded list, is restored to the establishment, and relinquishes the temporary rank of Lieutenant-Colonel, March 2nd, 1927 (substituted for notification in the *London Gazette* of March 11th, 1927).

Captains to be Majors: D. H. Coats, G. T. Garraway, and P. C. Russell. A. MacMillan to be Lieutenant on probation.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant G. S. Strachan to No. 28 Squadron, India, instead of to Headquarters, India, as previously notified.

Flight Lieutenant T. Sheehan relinquishes his temporary commission on completion of service and is permitted to retain his rank, April 29th, 1928 (substituted for notification in the *London Gazette* of May 8th, 1928).

The following are granted permanent commissions in the ranks stated: Flight Lieutenant F. B. C. L. B. Crawford and Flight Lieutenant R. G. Freeman.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel R. McK. Skinner, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

#### SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS.

Lieutenant G. Marshall to be Captain.

B. R. Crossley to be Lieutenant.

### INDIAN MEDICAL SERVICE.

Colonel H. M. Cruddas, C.M.G., O.B.E., has retired from the service. Lieut.-Colonel W. V. Coppinger, Professor of Ophthalmic Surgery, Medical College, Calcutta, and Ophthalmic Surgeon of the College Hospital, is appointed to officiate as Surgeon-General, Bengal, during the absence of Major-General Tate on leave.

The services of Major M. G. Bhandari are placed at the disposal of the Government of the Punjab for employment as Superintendent of the Borsal Institute, Lahore.

Lieutenants to be Captains: K. M. Bharucha and J. D. O'Neill.

## VACANCIES.

BELFAST: ULSTER HOSPITAL FOR CHILDREN AND WOMEN.—(1) Honorary Physician. (2) Honorary Assistant Physician.

BETHNAL GREEN HOSPITAL, E.2.—Assistant Medical Officer. Salary £400 per annum.

BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary £150.

BIRMINGHAM EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary £60 per annum.

BRIDGES OF WEIR: SANATORIA OF SCOTLAND.—Resident House-Physician (Protestant, male, unmarried). Salary £200 per annum.

BURNLEY COUNTY BOROUGH.—Assistant Medical Officer of Health (lady). Salary at the rate of £475 per annum.

CAMBRIDGE UNIVERSITY: PATHOLOGICAL LABORATORY.—John Lucas Walker Studentship. Annual value £300.

CANCER HOSPITAL (FREE), Fulham Road, S.W.3.—House-Surgeon. Salary at the rate of £103 per annum.

CHILTHSDON: ADMINISTRATIVE COUNTY OF ESSEX.—Three Assistant County Medical Officers of Health. Salary £600 per annum each.

CHESTER UNION.—Resident Assistant Medical Officer at the Institution. Salary £200 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physicians (male). Salary at the rate of £103 per annum.

COSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary £150 per annum.

DERBY: BOROUGH MENTAL HOSPITAL, Rowditch.—Second Assistant Medical Officer. Salary £350 per annum.

DOWN COUNTY REGIONAL EDUCATION COMMITTEE.—School Medical Officer (male). Salary at the rate of £750 per annum.

EASTBOURNE: PRINCESS ALICE MEMORIAL HOSPITAL.—Junior House-Surgeon (male, unmarried), rising to Senior after three months. Salary at the rate of £100 per annum as Junior, and £125 per annum as Senior.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—House-Physician (male). Salary at the rate of £125 per annum.

HARTLEPOOL HOSPITAL.—House-Surgeon. Salary £150 per annum, rising to £200 after six months.

HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—Honorary Assistant Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Physician. (2) House-Surgeon. (Males, single.) Salary £50 for six months. (3) Medical Registrar (male) in Out-patient Department; salary £250 per annum.

KENSINGTON BOARD OF GUARDIANS.—Assistant Medical Officer (woman) at St. Mary Abbott's Hospital. Salary £250 per annum.

KENT COUNTY COUNCIL.—Locumtenent Assistant Medical Officer at the County Sanatorium, Lenham. Salary 18 8s. a week.

LEICESTER ROYAL INFIRMARY.—Locumtenent House-Surgeon. Four guineas weekly.

LONDON UNIVERSITY.—(1) Professor of Pathology (Sir William Dunn); salary approximately £1,350 a year. (2) University (part-time) Chair of Dietetics, tenable at St. Thomas's Hospital Medical School; salary £1,000 a year.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon (Orthopaedic). Salary £100 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—Senior and Junior House-Surgeons. Salary £130 and £100 per annum respectively.

NEWPORT, MON.: ROYAL GWENTY HOSPITAL.—(1) Honorary Surgeon. (2) Two Honorary Assistant Surgeons. (3) Honorary Assistant Ophthalmic Surgeon.

NOTTINGHAM: CITY MENTAL HOSPITAL.—Deputy Medical Superintendent. Salary £650 per annum, rising to £700. In addition £50 per annum for D.P.M. and £10 for M.P.C.

POPULAR HOSPITAL FOR ACCIDENTS, East India Dock Road, E.14.—Second Resident Officer. Salary at the rate of £175 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) Casualty Officer. (2) House-Surgeon (male). (3) Physician in charge of the Skin Department. Salary for (1) and (2) £100 a year each.



ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Charles Murchison Scholar in Clinical Medicine.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—House-Physicians, House-Surgeons, Casualty Officer (female), and Obstetric District Assistant.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Clinical Assistant in the Medical Out-patient Department.

ST. MARY'S HOSPITAL, W.2.—Surgical Registrar. Salary £200 per annum.

SALFORD ROYAL HOSPITAL.—Casualty House-Surgeon (male). Salary at the rate of £125 per annum.

STAFFORDSHIRE GENERAL INFIRMARY.—House-Physician (male). Salary at the rate of £150 per annum.

STOCKPORT INFIRMARY.—Visiting Anaesthetist.

SURREY COUNTY COUNCIL.—Medical Superintendent at the Sanatorium, Milford, Surrey. Salary £900 per annum.

SWINSEY HOSPITAL.—House-Surgeon (male, unmarried). Salary £150 per annum.

TONBRIDGE UNION.—Resident Assistant Medical Officer (male) at the Institution. Salary £275 per annum, rising to £350.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male, unmarried). Salary £175 per annum.

WEIR HOSPITAL, Grove Road, Balham, S.W.12.—Junior Resident Medical Officer (male, unmarried). Salary £150 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (3) Resident Assistant Casualty Officer and Aural and Ophthalmic House-Surgeon. (Males.) Salary at the rate of £100 per annum.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Two Resident House-Surgeons (male). Salary at the rate of £100 per annum.

WOOLWICH UNION.—First Assistant Medical Officer at the Plumstead and District Hospital, Salary £400 per annum, rising to £500.

CERTIFYING FACTORY SURGEON.—The appointment at Salford and Stretford (Lancashire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.—Honorary Physician: W. Ernest Lloyd, M.D., M.R.C.P. Out-Patients' Officer, Ophthalmic Department: Alexander Lumsden, M.B., Ch.B.

LEVY, S. I., F.R.C.S., Assistant Surgeon to the London Jewish Hospital, Stepney Green.

CERTIFYING FACTORY SURGEONS.—T. E. Skinner, M.R.C.S., L.R.C.P., for the Wivenhoe District (Essex), and S. Jackson, M.D.E., at Penarth (Glamorgan).

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
*Sections of Laryngology and Otology.*—Summer Meeting. Thurs., 10 a.m. to 12.30 p.m. (Laryngological).—Mr. Rake: Achalasia and Degeneration of Auerbach's Plexus; Mr. A. J. Wright: Silent Tracheotomy, its Signification; Dr. Lowndes Yates: Methods of Estimating the Linfinity to Post-operative Haemorrhage from Unsutured Wounds; Mr. W. M. Mollison: Dysphagia due to Pharyngeal Paralysis. 2.30 to 4.30 p.m. (Laryngological).—Dr. Jobson Horne: Cancer of the Vocal Cords; Dr. Watson-Williams: Familial Infectivity of Chronic Sinusitis; Sir St. Clair Thomson: Intrinsic Cancer of the Larynx operated through a Laryngofissure (internal demonstration). Fri., 10.30 a.m. to 12.30 p.m. (Otolological).—Professor Dr. Otto Mayer (Vienna): The Pathology of Otosclerosis; Dr. A. Lowndes Yates: A Working Hypothesis for Research in Otosclerosis; Mr. Harold Kisch: Temporal Muscle Grafts in the Radical Mastoid Operation; Mr. Douglas Guthrie: Ear Grafting in Mastoid Surgery. 4 to 6.30 p.m. (Laryngological)—Cases and Specimens. Dinner at the Hotel Victoria at 7.45 p.m., followed by a dance. Sat., Otolological Session—8.30 a.m., Cases. 10.30 a.m., Professor G. Portmann (Bordeaux): Vasomotor Affections of the Internal Ear; Mr. William S. Sharpe: The Influenza Ear. Cases and Specimens. There will be a display of instruments and apparatus during the Meeting.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, London School of Hygiene and Tropical Medicine, Endsleigh Gardens, W.C.1.—Wed., 5.15 p.m., Dr. Joaquin J. Valleron, Roentgenologist to the Herriek Clinio, Panama, Lantern Demonstration: The Value of X-Ray in Intestinal Amoebiasis.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, London, W.1.—St. Peter's Hospital, Henrietta Street, W.C.1: Wed., 2 p.m., Clinical Urological Demonstration; no fee. Royal Northern Hospital, Holloway Road, N.7: Thurs., 4.30 to 5.30 p.m., Clinical Demonstration; no fee. St. John's Hospital, Leicester Square, W.C.2: Post-graduate Course in Dermatology, every afternoon. National Hospital, Queen Square, W.C.1: Course in Neurology for two months; particulars and tickets from the Fellowship of Medicine. Copies of syllabuses on application to the Secretary.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Thurs., 5 p.m., Skin Diseases of Animals Transmissible to Man. Fri., 5 p.m., Bullous Eruptions.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards, Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards, Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical

Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments. Fri. 10 a.m. to 1 p.m., Skin, Dental, and Electrical Departments, Medical Wards, Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose and Ear Operations, Medical Children's Department, Bacterial Therap Department. Daily of 2 p.m., Operations, Medical and Surgical Out-patient Departments.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri. 3.30 p.m., Strabismus.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Eye Infirmary: Wed. 4.15 p.m., Eye Cases.

### British Medical Association. OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent London).

Telephone numbers of *British Medical Association* and *British Medical Journal* Museum 9561, 9562, 9563, and 9564 (internal exchange four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumshough Gardens, Edinburgh. (Telegrams: 24351 Edinburgh.)  
IRISH MEDICAL SECRETARY: Frederick Street, Dublin. (Telegrams: Dublin.)

#### Diary of the Association.

##### May.

- 25 Fri. London: Dominions Committee, 2.30 p.m.  
Bromley Division: Town Hall, Anerley. Mr. Philip Turner or Modern Methods in Surgical Diagnosis, 8.30 p.m.  
Lincoln Division: Annual Meeting, Lincoln General Dispensary 3 p.m.  
Shropshire and Mid-Wales Branch: Royal Salop Infirmary 3.30 p.m.  
29 Tues. Dartford Division: Livingstone Hospital, 3 p.m.  
South Camarvon and Merioneth Division: War Memorial Hospital, Town, 2.15 p.m.  
30 Wed. London: Journal Committee, 2 p.m.  
London: Finance Committee, 3 p.m.  
Glasgow and West of Scotland Branch: Annual Meeting, Royal Infirmary, Glasgow, 2.30 p.m. Clinical Demonstration after Meeting.  
North Middlesex Division: Annual Meeting, Southgate Council's Offices, Palmers Green, 3.30 p.m.  
31 Thurs. London: Private Practice Committee, 12 noon.  
Bromley Division: Annual Meeting, White Hart Hotel, Bromley, 8.30 p.m.  
Gloucester Branch: Annual Meeting, General Hospital, Stroud. Dr. J. R. Charles on Manganese Toxicemia, 6 p.m.  
Trowbridge Division: Norton Hill Colliery, Midsomer Norton, 3 p.m.

##### JUNE.

- 5 Tues. London: Ophthalmic Subcommittee, 3.30 p.m.  
City Division: Annual Meeting, Metropolitan Hospital, 8.30 p.m.  
6 Wed. Representatives of Medical Staffs of Division: Annual Meeting, B.M.A. W.C.1, 4.15 p.m.  
Metropolitan Hospital, 3.30 p.m.  
Meeting, Metropolitan Hospital, 3 p.m.  
8 Fri. Meeting, Queen's Hotel, Southsea. Some Medical References to Pepsy, 10 a.m.  
12 Tues. Hastings Division: Hastings Infirmary, Frederlek Road, 3.15 p.m.  
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. W. Langdon Brown on Endocrinology and the Future, 9 p.m.  
13 Wed. London: Council, 10 a.m.  
14 Thurs. Hampstead Division: Annual Meeting, Hampstead General Hospital, 8.30 p.m.  
Hyde Division: Annual Meeting, Hyde Town Hall, 8.30 p.m.  
Kent Branch: Annual Meeting, Acacia Hall, Dartford, 2 p.m.  
Luncheon, 1 p.m.  
15 Fri. Border Counties Branch: County Buildings, Dumfries, 3 p.m.  
19 Tues. Lewisham Division: Town Hall, Catford. Mr. J. M. Redding on X-ray Examination of the Alimentary Tract, 8.45 p.m.  
Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

BULMAN.—At Hillside, Hereford, on May 18th, to Dr. J. R. and Mrs. Bulman, a son.

GHAK.—On April 5th, at Nairobi, to Dr. and Mrs. R. U. Gillan (Ceraldine Sikes, M.B., Ch.B.), Scots Mission, Tumutumu, Kenya Colony, a daughter.

NEWHAM.—To W. B. Turner Newham, A.R.I.B.A., and Marjorie Newham, M.R.C.S., L.R.C.P. (née Auden), a son, on April 17th, at Windy Ridge, Waterkloof, Pretoria, South Africa.

PANTON.—On May 17th, 1928, at 35, Houghton Street, Southport, to Dr. and Mrs. J. Allison Panton (née Kathleen Heath), a daughter.

#### DEATH.

WALLER.—On May 16th, at "The Drachenfels," Nuneaton, Dr. Harry Mortlock Waller in his 57th year.



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 2ND, 1928.

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## GENERAL COUNCIL

OF

### MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1928.

#### THE BRITISH PHARMACOPOEIA.

THE PRESIDENT (Sir Donald MacAlister) made a lengthy statement to the Council on the report of the subcommittee appointed by the Committee of Civil Research at the instance of the Council to inquire into the existing law and practice relating to the preparation or publication of the *British Pharmacopoeia*. [This report was summarized at length in the *British Medical Journal*, May 26th, p. 915.] The Pharmacopoeia Committee of the General Medical Council, he said, found itself fully in accord with the first conclusion of the report—that it was not necessary or desirable to make any alterations in the existing law, but that the practice should be altered in conformity with the recommendations set out by the subcommittee. These recommendations appeared to be both practicable and likely to promote the better adaptation of the *Pharmacopoeia* to present and future conditions both in Great Britain and in the Dominions. He thought the Council would be well advised to approve generally of the recommendations, and to remit to the Pharmacopoeia Committee the duty of taking immediate steps towards carrying them into effect. The Pharmacopoeia Committee desired to place on record its grateful acknowledgement of the services rendered to the Council by the Lord President of the Privy Council in procuring the formulation of this report, and its readiness to give all needful assistance on the Council's behalf in setting up the improved machinery of preparation therein described. It was felt that the time had come when the services of the various experts, hitherto obtained individually, should be given in council. Such a method would be likely to result in a better *Pharmacopoeia*, one more representative of the requirements of medical practitioners, and embodying the latest knowledge. It was therefore proposed to set up a standing Pharmacopoeia Commission, which would have power to appoint subcommittees with special terms of reference—such, for example, as chemical nomenclature. A further proposal was that in future the *British Pharmacopoeia* should be revised at stated intervals of ten years, which was believed to be sufficiently long to justify reissue. Every now and then there would arise new drugs, new methods of preparing drugs, and new uses of old drugs, for which a standard must be set. It was decided that the *British Pharmacopoeia* should contain only standard drugs in general use throughout the Empire. In some parts of the Empire the *British Pharmacopoeia*

had been adopted by law as the essential standard; therefore it was desirable that the Dominions should have power, where local drugs or alternative preparations required to be sanctioned, to give effect by legislation to the use of local supplements.

Dr. H. H. DALE, as a member of the subcommittee, supported all that the President had said, and especially praised Mr. H. P. Macmillan's extremely able chairmanship. It had been a very hardworking subcommittee, taking pains to obtain evidence from every organization which was at all in a position to criticize the arrangements hitherto made by the General Medical Council. On every one of its constructive recommendations the subcommittee was unanimous. He believed that when this work was brought to fruition it would give general satisfaction and furnish the machinery which the Council needed to meet the growing and changing public requirements.

The Council agreed to convey to the Lord President of the Privy Council its thanks for the report of the Committee of Civil Research which he had caused to be produced and submitted to the Council; approved generally of the changes in practice recommended in the report; and authorized and directed the Pharmacopoeia Committee to take, on behalf of the Council, all necessary steps for carrying the conclusions and recommendations into effect.

#### DISCIPLINARY CASES.

The number of disciplinary cases on the programme of the summer session of the General Medical Council was unusually large. There were thirteen medical inquiries and three dental inquiries on the list. The case of Dr. Dorothy Logan excited a great amount of public interest, and during the hearing the press and public galleries were crowded.

#### False Statutory Declaration.

Dorothy Cochran Logan, registered as of Cavendish Place, London, N.B., B.S.Lond. 1912, M.D. 1915, was summoned on the following charge:

"That you were on November 7th, 1927, at the Mansion House Justice Room in the City of London, convicted of the following misdemeanour—namely, of knowingly and wilfully making certain statements false in material particulars in a statutory declaration made and declared by you on October 12th, 1927, under and by virtue of the Statutory Declarations Act, 1835, and were fined £100 and ordered to pay £10 10s. costs."

Dr. Logan conducted her own case, without the aid of counsel or solicitor.

Mr. C. Harper, the Council's Solicitor, in presenting the facts of the case, said that at the Mansion House Dr. Logan had pleaded "Guilty." He described the nature of a statutory declaration, an instrument of most solemn affirmation, created or at any rate clearly defined by the Statutory Declarations Act, 1835. The Council's own disciplinary procedure was largely based on statutory declarations, because it had no power to compel the attendance of witnesses or to put them on oath when they appeared. Accordingly every complaint of infamous conduct must be supported by one or more statutory declarations, unless, indeed, the complainants were a Government department, a public body, or a university, in which case statutory declarations might be dispensed with, obviously because it was assumed that there could be no complaint made

otherwise than in good faith by these bodies. He then narrated the story of the Channel swim hoax. A prize of £1,000 was offered by the *News of the World* under certain conditions, and Dr. Logan, taking the view, rightly or wrongly, that not all the supposedly successful previous swimmers had been genuine, resolved to attempt such a swim herself, and, if she failed, to represent for a time that she had succeeded, with a view to bringing home to the public by the eventual disclosure the need for more adequate supervision of swimming. The attempt took place on October 10th, 1927. After swimming for about two hours from the French coast Dr. Logan got into a motor boat, and, on arriving near the English coast, entered the water again. Two statutory declarations were signed before a commissioner of oaths, one by herself, and the other by her "trainer," and the cheque for £1,000 was presented. Her statutory declaration stated that she swam the whole distance unassisted. Within a few hours of receiving the cheque she found herself the subject of embarrassing congratulations, and disclosed the truth earlier than she had intended to do. She made no profit out of the incident, but on the contrary sustained a serious loss. Her defence was that she had not appreciated the importance of a statutory declaration. She had made a point of the fact that when she made her original statement she was not cross-examined upon it, but it might well be that those in the newspaper office and others concerned would not be inclined to cross-examine an "M.D." with an address in Harley Street, to determine whether she was speaking the truth. Moreover, they were all anxious to believe that an English woman swimmer had beaten a record previously held by an American. He desired not to overstate the charge, but it deserved the attention of the Council. It was not that practitioners were specially concerned with statutory declarations, as they were with certificates, but Dr. Logan was a citizen, and must be expected to have regard to truthfulness in such attestations, and, indeed, as a person on the *Medical Register*, to set a special example in this respect. To permit laxity in regard to statutory declarations would be a serious matter for the State, whatever the intentions might be. He added that as soon as the notice of inquiry was served on Dr. Logan she came to see him and discussed the case with the utmost frankness, but he would venture to suggest to her again that any investigation of the facts leading up to the conviction was not likely to help her, and that her wisest course would be to content herself with an explanation of why she made the false declaration, and to give an assurance to the Council that nothing of the kind would happen again.

The President said that this was a charge of having been convicted of a misdemeanour. Therefore the conviction must be taken as having been proved, and the sole question the Council had to consider was the gravity of the conviction as affecting the professional position of Dr. Logan.

Dr. Logan said that she had pleaded guilty at the Mansion House because she could not bring forward the witnesses who knew the circumstances under which she signed the document which proved to be a statutory declaration—those, namely, who had been at the newspaper office where the statutory declaration was signed and who knew exactly the nature of the proceedings. She would not ask the Council to go behind the conviction, but only to consider that she had unwittingly done this illegal act; she had been brought into it, and had not herself sought out the commissioner of oaths and allowed him to draw up a declaration which she knew to be false. She was not even aware that the commissioner of oaths was present. At the very worst hers was a technical offence. False pretences had never been suggested. The money never really came into her possession even for a day. She was told that the paper presented for her signature in the newspaper office was merely for the purpose of the insurance company. At the time, having scarcely recovered from the effects of an adventurous night in the Channel, followed by the blaze of publicity, her mentality was not quite up to normal. What she signed was not read over to her. She was sorry that she was "such an idiot" as to sign it, but she did not know that a mere ordinary typewritten document in a newspaper office, bearing no stamps or other signs, could be a legal instrument. She asked the editor of the paper what responsibility she took in signing it, and was told that she took none at all—it was only between the newspaper and the insurance company. Here the President intervened to remark, "No responsibility if it were true," to which Dr. Logan replied, "He did not say that." She agreed that she had done an extremely foolish thing, but she did not know it was an illegal act, otherwise she would have certainly thrown up the business.

Mr. Atkins, the managing clerk of the solicitors who had drawn up the declaration, was called, and said that he got particulars as to the times of the swim and so forth from the newspapers. He handed a copy to Dr. Logan, who said, "I suppose this is all right. I have not a lawyer here." The commissioner of oaths, who was present, was, he thought, introduced to her as "our solicitor." Mr. Watson, commissioner of oaths, also gave evidence, and agreed, on cross-examination by Dr. Logan, that he did not take any steps to see that she understood the serious nature of the document, beyond seeing that she read it over, and that he did not warn her that if anything in the document was untrue she was liable to proceedings.

Dr. Logan offered herself as a witness and repeated in the box the now familiar story. Asked why she did not draw back when it came to the question of the signature of a document, she said that to have done so at that moment would have turned what she believed to be a task with a serious purpose into a purposeless and tasteless joke. In reply to a question by Sir Robert Bolam, she said that she divulged the truth to Lord Riddell, with whom she sought an interview, not in his capacity as proprietor of the *News of the World*, but as chairman of the Royal Free Hospital, on the second day after the signing of the declaration. It was desired to keep the "story" for publication in the *News of the World* on the following Sunday, and the staff were in some trepidation lest any

journal should forestall them. The President asked if she signed medical certificates, and she replied that she had signed a great many of them and regarded them very conscientiously. "I am a Scottish doctor, and it is difficult for a Scottish doctor to put a pen to paper beneath that which is not true. You have no complaint before you as to my certificates."

Corroborative evidence was given by Mr. Carey, the "trainer," who said that he also only learned subsequently that a commissioner of oaths had been present on the occasion.

After a deliberation of fifty minutes in *camera* the Council's decision was announced by the President as follows:

Dr. Logan, I have to tell you that the Council have very carefully and seriously considered the conviction which has been recorded against you and which has been proved to their satisfaction. That conviction was for an offence against the Perjury Act, which is of a very serious character. They have also taken account of the explanations you have given by way of mitigation of the gravity of that conviction, and they desire me to say to you that they have formed the opinion that you, at the time, and perhaps even subsequently, have been very imperfectly realizing the responsibility which rests upon every citizen, and in a special degree, as a member of an honourable profession, upon a registered medical practitioner, to refrain from appending your signature to any statement of which you cannot vouch for the contents being true. They have, however, come to the conclusion that perhaps the punishment to which you have already been subjected for that offence against good citizenship, and the proceedings of to-day, may have enabled you to realize afresh and more fully the responsibilities which rest upon you, and, believing that in time to come you will never purport to attest, whether in a so-called legal document or otherwise, anything which you know to be untrue, and that your conduct henceforth will be worthy of the profession of which you are a member, they have decided not to erase your name from the *Medical Register*.

#### Adultery during Professional Relationship.

The case next considered by the Council was that of Harry Simpson Harling, registered as of Skipton Road, Ilkley, L.R.C.P., L.R.C.S. Ed., L.F.P.S. Glas., who was summoned on the charge that, being a registered medical practitioner, he abused his position by committing adultery with Mrs. Annie Belton, a married woman, with whose family he stood in professional relationship, of which adultery he had been found guilty by the decree of the Divorce Court in the case of *Belton v. Belton and Harling*, in which he was the co-respondent.

Dr. Harling was represented by Mr. Eddy, counsel.

In the absence of a complainant, the Council's Solicitor stated the facts, and put in a statutory declaration by Mr. Belton, to which respondent's counsel objected on the ground that Mr. Belton was not present to prove its truth. The President, however, ruled that the statutory declaration might be put in in the absence of the witness, more particularly as Mr. Belton had attended at the previous session of the Council in November, when the case was adjourned at Dr. Harling's request and in his interests.

It appeared that Dr. Harling had been in practice at Gainsborough, and had subsequently disposed of his practice there to another doctor. The Council's Solicitor had procured a ledger used by Dr. Harling in his practice, which showed entries under Mr. Belton's name from 1922 to February, 1926. It was asserted that he and Mrs. Belton lived together from May, 1925.

Dr. Harling, in evidence, strongly denied that any impropriety had taken place between himself and Mrs. Belton while he was in attendance on her family, though he knew her socially, was a friend of the family, and was called in to adjust differences which had arisen between Mr. and Mrs. Belton. Asked by the Legal Assessor whether the relation from 1922 to 1926 was anything more than that of doctor and patient, he replied that it was social friendship.

You were no more than an ordinary acquaintance?—As I understand the term "ordinary acquaintance," that is perfectly true. Yet you knew that Mr. and Mrs. Belton were living unhappily?—She and others told me so on many occasions.

Is that usually discussed in ordinary acquaintanceship? You mean that Mrs. Belton made you her confidant?—Yes.

During the whole time you were attending her family professionally, for four years or more, do you seriously suggest that nothing ever took place to lead up to your living with this woman in May, 1926?—Absolutely nothing.

Mrs. Belton and her sister gave evidence corroborating Dr. Harling's statement.

Mr. Eddy, in addressing the Council for Dr. Harling, complained of various irrelevant circumstances which had been introduced into the case, one being the separation between Dr. Harling and his wife, which took place in 1920, and had nothing to do with Mrs. Belton or any other woman, and another Dr. Harling's financial affairs, which again were quite outside the scope of the Council's inquiry. The Council was simply concerned with the point as to whether adultery had occurred during professional relationship. In his submission when adultery took place professional relationship had entirely ceased. It was shown that in February, 1925, Mr. Belton asked Dr. Harling to send in his account, a thing he had never done before, and this was taken by counsel as an indication that he wished to close the account and to have no more to do with Dr. Harling professionally.

After a long private session the Council's decision was announced by the President, who said that the Council had found that the facts alleged against Dr. Harling in the notice of inquiry had been found proved to its satisfaction. The Council had accordingly judged him guilty of infamous conduct in a professional respect, and had instructed the Registrar to erase his name from the *Medical Register*.

#### Improper Friendship during Professional Relationship.

On May 24th and 25th the Council was occupied with the case of Harold Foster Strickland, registered as of Wickham Road, Beckenham, F.R.C.S. Eng., L.R.C.P. Lond., who was summoned on the charge that, being a registered medical practitioner in professional relationship with a married woman and her family, he

abused his position by entering into and—notwithstanding the expositions of the husband—persisting, unknown to him, in maintaining a friendship of an improper character with the said woman.

The complainant was the husband, who was referred to throughout the case as "Mr. C." The President requested the press to refrain from mentioning the name should it be accidentally divulged during the hearing.

Dr. Strickland was represented by Mr. Neilson, K.C., instructed by Messrs. Hempsons, solicitors, on behalf of the Medical Defence Union, and the complainant by Mr. Carthew, counsel, instructed by Messrs. Le Brasseur and Oakley, solicitors.

Mr. Carthew, in opening the complaint, said that his client "Mr. C." was a barrister, married in 1914, and residing at Beckenham. The medical attendant of the family was Dr. Hope Murray, who, in 1913 or 1914, took Dr. Strickland into partnership. Dr. Hope Murray had been in the habit of attending the family personally, but in 1924, when he was away, Dr. Strickland attended "Mrs. C." in her confinement, and from that period, Dr. Murray retiring shortly afterwards from the practice, Dr. Strickland became the regular and sole attendant. In May, 1927, an estrangement occurred between Dr. Strickland and his wife, and from that time onwards Dr. Strickland paid many social visits to "Mr. C.'s" house. It was not until later, however, that "Mr. C." had any occasion to be suspicious. In the summer of 1927 Dr. Strickland spent a week-end at the seaside with the "C." family, and during that time attended "Mrs. C." for some trifling complaint. In the autumn "Mr. C." was forced to broach the matter to the respondent, but was assured by him that there was nothing in it. On Christmas Eve "Mrs. C." and another lady went out in their car, and having the curiosity to follow on his bicycle, "Mr. C." discovered that Dr. Strickland had also been in the car. "Mr. C." then talked over the matter with his wife, and it was arranged that she should go to Switzerland on holiday. During her absence, looking over some housekeeping papers, "Mr. C." discovered a letter written by Dr. Strickland containing many endearing expressions, such as "I feel our fondest hopes and wishes may one day be realized," and "I am yours, darling, absolutely and for ever." As a consequence the husband brought the complaint to the Council.

"Mr. C." in the witness-box, said that his recollection was that the social relationship with Dr. Strickland did not amount to anything until 1926. Dr. Strickland was their only family doctor from 1925 onwards. His accounts were paid up to the middle of 1926, after which the witness received no answer to his repeated request for the account.

Dr. Strickland, giving evidence on his own behalf, said that he had known the family for many years, had been at numerous parties with both "Mr. and Mrs. C." and as their children went to the same schools they met very often. The incident of Christmas Eve was quite unpremeditated. He met "Mrs. C.'s" car by accident, stood talking for a few moments in the rain, and was invited in by the ladies for the sake of shelter. He denied that he had ever met "Mrs. C." clandestinely, though he agreed that they had met at the houses of mutual friends, who, knowing their special friendship, had left them together for short intervals. Asked how he came to write the letter which had been put in, he said that it was because he loved "Mrs. C." He admitted that there was one other letter of a similar character. As for professional relationship, it was true that he attended "Mrs. C." on her confinement in 1924, but only during the actual delivery; the case was then taken over by his senior partner.

Sir Herbert Waterhouse gave evidence as to character. Dr. Strickland had been his dresser and house-surgeon, and he had seen a great deal of him. He regarded him as one of the kindest men he had ever known, as well as straightforward and trustworthy in every respect. He was one of the most brilliant young surgeons of the day. The President asked whether the letter had not altered his opinion, to which the witness replied that he had been amazed to hear the letter read, and could attribute it only to an overwrought mind.

Mr. Neilson, in defence, said that he had not known of a case in which a practitioner had been erased from the *Register* because he had been carried away by his feelings, and, however foolish he might have been, had stopped short of misconduct. In this case there was no misconduct at all. All that had happened was that Dr. Strickland had expressed his love for the wife of another man. There was no foundation for the charge that he had abused his professional position to get into the confidence, and presently into the affections, of a patient. Viscount Esher had said that "infamous conduct" was something which must be done by a medical man in the actual pursuit of his profession. This technical and legal expression could only relate to a qualified medical man acting as such. In this case the facts were so entirely different as to be outside the definition. The association of these people began in social intercourse. Isolated instances of attendance on the family had been quoted, but Mr. Neilson argued that it was only from the time a medical man was called in up to the time that the patient recovered, and discharged his obligation by paying his fee, that the person concerned could be said to be the doctor's patient. Unless there was a definite continuing appointment, as was sometimes the case, there was no professional relationship in the intervals between sicknesses. The former patient was under no obligation to return to the same doctor. In this case there was an attendance on "Mrs. C." in 1924, and after that nothing of any account at all. Dr. Strickland had not abused a professional relationship. All that had been said against him was regard this as sensible citizens. Those who had no warm blood in their veins would pass austere judgements. But if the affection did not proceed to misconduct, if it went no further than, as in this case, the writing of a foolish letter, he would ask the

Council to pause before saying that the conduct was dishonourable or disgraceful. He added that Dr. Strickland had not seen the lady since she went to Switzerland in January last, and had sold his practice at Beckenham.

Mr. Carthew said that it was by reason of his professional position that Dr. Strickland had gained entrance into this house. The essence of family practice was trust; a husband must have perfect confidence in the correctness of the practitioner's conduct towards his wife. As to infamous conduct, was it not infamous conduct to write such a letter to the wife as had been read, and at the very same time to be assuring the husband that there was nothing whatever in the intimacy? It was asked what Dr. Strickland could have done after falling in love with a married woman; the very least he could have done was to find some pretext for breaking off the professional relationship.

The Council went in camera. On the readmission of the parties and strangers, the President announced that the Council had found the facts proved, had judged Dr. Strickland to have been guilty of infamous conduct in a professional respect, and had directed the Registrar to erase his name from the *Register*.

#### *Alleged Canvassing to Attract Patients.*

The Council next considered the case of George Howard Shanley, registered as of Pelaw-on-Tyne, L.M.S.S.A., who appeared on the charge that he had sought to attract to himself patients, either directly or by an agent. Eight charges relating to individual canvassing were set down on the list, but only one of these was taken. It was understood that statutory declarations relating to the others had been distributed among members of Council, but in the absence of the witnesses they were not formally put in. It was also charged against Dr. Shanley that in April, 1927, whilst addressing the Wardley Lodge of the Durham Miners' Association, he invited the persons present to become his patients.

Dr. Shanley conducted his own defence. The complainants, the London and Counties Medical Protection Society, were represented by Mr. Carthew, counsel, instructed by Messrs. Le Brasseur and Oakley, solicitors.

Mr. Carthew said that Dr. Shanley came to Pelaw-on-Tyne and commenced practice in 1927. At that time there were two other doctors there, Dr. Stich and Dr. Thomson, practising in partnership. Shortly after Dr. Shanley's arrival Dr. Stich wrote him saying that he rather expected he would call upon him and his partner, and also drew attention to the fact that there had been a canvasser or canvassers making systematic calls at practically every house in the district on Dr. Shanley's behalf, and he could not imagine that Dr. Shanley was unaware of what was going forward. Dr. Shanley replied that the canvassing was entirely without his sanction, and that as soon as he heard of it he gave instructions that it must cease. He added that he valued his professional reputation at least as highly as did Dr. Stich, and that he understood there had been previous unsavoury incidents in the medical history of the town, which he hoped would not be repeated. Dr. Stich replied that if any further cause for complaint arose he would place the matter in the hands of his protection society. In April, 1927, Dr. Shanley attended a lodge meeting of the miners at Wardley and gave a ten minutes' address, during which, it was alleged, he gave them information as to how they might change their panel doctor, and indicated how persons who wished to become his patients could do so by leaving their names and addresses at his "call-house" (a name used in the North of England for a kind of branch surgery). He also urged on the same occasion the need for another colliery doctor to deal with compensation cases.

Dr. Stich, in evidence, said that he had been in practice in Pelaw since 1919. He agreed that he wrote to the London and Counties Medical Protection Society about what he had heard as to Dr. Shanley's canvassing. He would have approached Dr. Shanley privately on the matter had Dr. Shanley paid him the usual courtesy call. Asked whether he thought a practice could be built up by a man going round and asking people to become his patients, Dr. Stich replied that he did not know; that was not the way he had built up his own.

Three miners from Wardley then testified as to the speech made by Dr. Shanley a year previously. Their testimony was that they heard Dr. Shanley invite the persons present to become his panel patients. On cross-examination by Dr. Shanley they could none of them remember what their wages had been for that particular week, and yet their memory was unshaken, said Dr. Shanley, as to a much less vital matter to them—the exact words spoken in the course of an address. One of them said that he could remember a previous lodge meeting addressed by a doctor, but that was a long time ago. Another, who said that Dr. Shanley's actual words were, "If you want to change your doctor all you have to do is to fill up the form and hand it to me," admitted that his house was a "call-house" for Dr. Stich. The only one of the eight charges relating to individual canvassing which was proceeded with concerned a man named Joseph Bail, who gave an account of street conversations which were sharply challenged by Dr. Shanley, but the witness persisted in maintaining its essential truth.

Dr. Shanley then gave evidence on his own behalf. He said that he was asked to address the lodge meeting at the invitation of the secretary, in proof whereof he put in a letter from that official, who had told him it was a privilege extended to other doctors who had newly come to the district. He was told that an explanation of the position with regard to compensation and also as to change of insurance doctor would be welcomed. There was an impression at the colliery that Dr. Stich and Dr. Thomson alone could treat compensation cases. In what he said at the meeting he did not for one moment discredit or attempt to injure any other doctor. He explained the matters quite impersonally, and he was careful to say that a change of doctor could

be made from one practitioner to any other, not to himself. He agreed that when he first started in practice one person did, unknown to him, start canvassing on his behalf. This person had offered himself to him as a collector, but at that time there was nothing to collect, and the man, with a mistaken sense of doing him a good turn, went about trying to get him patients. He put a stop to the practice as soon as he learned of it. He added that, unlike the complainants, he could not afford to bring witnesses from Durham, though many there were willing to testify to the truth of his statements, and he had certain statutory declarations.

Mr. Carthew objected to these statutory declarations being put in in the absence of the witnesses, and his objection was upheld by the President. Dr. Shanley protested that, as the statutory declarations of absent witnesses for the complainant, though not formally put in, had been distributed to the members of the Council, and were doubtless in their minds, it was only elementary justice that his own declarations should be in some way produced. He had had legal advice in Newcastle that such declarations would be received in the absence of witnesses. Eventually Mr. Carthew waived his objections so far as two of the declarations were concerned, and these were read; they were from miners who had been at the meeting in question, not Dr. Shanley's patients, and affirmed that it was their recollection that Dr. Shanley made no request to the men to give their cards to him. Dr. Shanley also stated that on the previous Sunday the miners at Wardley had passed a unanimous resolution affirming that when he addressed them a year ago he did not give any personal invitation. He reminded the Council that the miners were strong trade unionists, they imagined medical men also were trade unionists, and they would not have been likely to tolerate any infringement of trade union principles. The chairman and other officials at the meeting were patients of different doctors, and had he said anything wrong in his address he would have been stopped at once. He alleged that this complaint had been brought out of malice, that the witness Ball had spoken demonstrable falsehoods, which he would bring to the attention of the Public Prosecutor, and added that, so far from being unmindful of the ethics of the profession, he had refused a position worth £500 a year because it was the subject of an "Important Notice" by the British Medical Association. His only ground of self-accusation in all those circumstances was that when he first settled in Pelaw he had not called upon Dr. Stich.

At the close of his address Dr. Shanley was overcome with emotion, and there was a painful interlude during which the proceedings of the Council were suspended.

Mr. Carthew said how much he regretted that the accusation of malice against Dr. Stich had not been made when Dr. Stich was in the witness-box, where he could have refuted it.

After a very brief consideration *in camera* the Council decided that in respect of the two complaints on which evidence was tendered the charge had not been proved. The case against Dr. Shanley was therefore dismissed.

#### Conviction for Felony.

The next case was that of Kenneth Albert Wilson, registered as of Wharnclyff Street, Newcastle-on-Tyne, L.R.C.P., L.R.C.S.Ed., L.R.F.P.S.Glas., who was summoned on the charge that in March last, at the Central Criminal Court, he was convicted of a felony—namely, of using an instrument to procure miscarriage, and was sentenced to eighteen months' imprisonment in the second division.

Dr. Wilson attended, accompanied by a warder, and was represented by Mr. Magid, counsel, on the instruction of Messrs. Martindale and Clark, solicitors.

The certificate of conviction was handed in, and leave was given to the Council's solicitor to amend the charge by the insertion of the words "to wit, a catheter or some other means" after the word "instrument."

Mr. Magid made a speech to the Council on behalf of Dr. Wilson, during which he was reminded more than once by the President that the Council could not review the evidence; all that it could do was to consider any mitigating circumstances. Mr. Magid emphasized the disadvantage of his client, who was a man of colour, in making his case understood by a British jury, and also said that application had been made for leave to appeal to the High Court, but the application had been refused. The President said that that must have been because the grounds of appeal were not relevant. Counsel added that Dr. Wilson was a most loyal subject of His Majesty, and had served under the colours during the whole period of the war.

The Council, finding the conviction proved, directed the Registrar to erase from the *Medical Register* the name of Kenneth Albert Wilson.

#### Cases Coming up for Judgement.

Four cases in which, at previous sessions, the facts had been proved, but judgement had been postponed to give the practitioners concerned an opportunity of considering their position, were now brought up to be finally dealt with. Three of the cases related to convictions for being drunk—namely, those of Percy Bateman, registered as of New Cross Road, S.E., Robert Moore, registered as of Mawney Road, Romford, and Duncan Miller, registered as of Washington, county Durham. These three practitioners now attended, and produced testimonials as to their sobriety in the interval, and gave assurances as to their future conduct. In all three cases the Council, having taken account of the testimonials and assurances, did not see fit to direct the Registrar to erase the name.

The fourth case was that of Frederick Joseph William Porter, D.S.O., registered as of the Army Medical Service, against whom it had been found that he had sought to obtain patients and to promote his own professional advantage by means of notices inserted in the Indian press.

Major Porter attended and produced nine letters from medical colleagues and others testifying to his excellent conduct since the hearing a year ago, and undertook that there should be no repetition of the offences with which he had been charged.

In this case also the President announced that the Council did not see fit to direct the Registrar to erase the name.

(To be continued.)

## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

### Pathological Reports.

By BRISTOL: That subpara. (3) of the recommendation contained in para. 117 of the Annual Report of Council be amended by the addition of the words "and where no hospital facilities exist for the provision of pathological investigations for such patients" after the words "pay a fee."

### Scheme of the Spa Federation for Spa Treatment of Insured Persons.

By NORTH GLAMORGAN AND BRECKNOCK: That consideration of the recommendation contained in para. 128 of the Annual Report of Council be postponed until the position of practitioners practising in the town or area has been definitely defined.

### Assistant Medical Officers to Mental Hospitals.

By YORK: That (with reference to para. 93 of the Annual Report of Council) recommendations A to E be referred back to the Council for further consideration.

## Association Notices.

### COUNCIL ELECTION.

THE names of members already declared elected to the Council for the session 1928-29 in respect of the groups of home Branches in which there were no contests were published in the *Supplement* of May 12th (p. 208).

Contests took place in—

Group N, comprising the Aberdeen, Dundee, Northern Counties of Scotland, and Perth Branches, the candidates nominated being Dr. T. Fraser of Aberdeen and Dr. G. Smith Sowden of Elgin. Of the 641 voting papers issued, 260 valid papers were returned and 4 spoilt; 148 were in favour of Dr. Fraser and 112 in favour of Dr. Sowden. Dr. T. FRASER thereby becomes a member of the Council for 1928-29.

Group M, comprising the Kent, Surrey, and Sussex Branches, the candidates nominated being Dr. E. Rowland Fothergill of Hove and Dr. S. Morton Mackenzie of Dorking. Of the 1,798 voting papers issued, 758 were returned. Of these, 10 were spoilt, and of the remainder 409 were in favour of Dr. Fothergill and 339 in favour of Dr. Morton Mackenzie. Dr. FOTHERGILL thereby becomes a member of the Council for 1928-29.

### Representatives and Deputy Representatives of Public Health Service Members.

Only 5 candidates were nominated by the public health service members for the appointment of 4 representatives of that service in the Representative Body and 4 deputy representatives—namely, Dr. T. Eustace Hill (M.O.H., co. Durham), Professor Harold Kerr (M.O.H., Newcastle-upon-Tyne), Dr. R. A. Lyster (M.O.H., Hampshire), Dr. E. Ward (T.O., South Devon), and Dr. R. H. Wiltshaw (M.O.H., Worthing).

Of the 1,214 voting papers issued, 414 were returned, 4 of these being spoilt. The counting of the votes was by the single transferable vote system, the quota of votes to be obtained by any candidate to secure election being 83. On the first count Dr. Eustace Hill, with 156 votes, and Professor Kerr, with 93 votes, secured election. Dr. Lyster secured 61 votes on the first count, Dr. Ward 68, and Dr. Wiltshaw 32. On transferring Dr. Hill's surplus of 73 votes it was found that 46 of these went to Dr. Lyster, making his total 107; 15 to Dr. Ward, making his total 83; and 12 to Dr. Wiltshaw, making his total 44; with the result that Dr. Lyster and Dr. WARD, along with Dr. HILL and Professor KERR, were elected representatives.

Dr. WILTSHAW becomes deputy representative for Dr. Hill.

Under the By-laws the appointment of the three remaining deputy representatives rested in the hands of the Chairman of the Representative Body, who has appointed Dr. THOMAS of Swansea deputy for Professor H. Kerr, Dr. R. M. F. EVANS of Cardiff deputy for Dr. R. A. Lyster, and Dr. E. COLSTON WILLIAMS of Glamorgan deputy for Dr. E. Ward.



## TABLE OF DATES.

June 7, Thurs.	Names of Representatives and Deputy Representatives must be received at Head Office by this date.
June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Meeting, Cardiff, 10 a.m. of 12 members of Council by must be received (at A.R.M., p.m.)
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff.
July 25, Wed.	Meeting, Cardiff, President's Address. Annual General Meeting, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH.**—The annual general meeting of the Border Counties Branch will be held at the County Buildings, Dumfries, on Friday, June 15th, at 3 p.m. Agenda: Branch Council's report and financial statement; report of the election of office-bearers for 1928-29; Dr. John Ritchie will give his presidential address entitled "Some primitive conceptions of disease and their bearing on public health."

**CAMBRIDGE AND HUNTINGDON BRANCH.**—Owing to the occasion of the opening of the new theatres at Addenbrooke's Hospital by Sir Berkeley Moynihan, Bt., P.R.C.S., to-day (Friday, June 1st), there will not be a meeting of the Cambridge Medical Society on that date. It is hoped that as many members as possible will attend the opening ceremony. In the event of any member not having received due notification of this, if he will kindly communicate with the honorary secretary of the Cambridge Medical Society the omission will be rectified.

**GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.**—A meeting of the Lanarkshire Division will be held at the Stonehouse Hospital on Wednesday, June 6th, at 3.30 p.m.

**KENT BRANCH.**—The annual meeting of the Kent Branch will be held at Acacia Hall, Dartford, on Thursday, June 14th, at 2 p.m. The presidential address will be delivered by Dr. M. W. Renton on the increasing influence of hospital practice and clinics on private practice. Dr. Renton invites members and their wives to a luncheon at 1 p.m. Messrs. Burroughs Wellcome and Co. have arranged an exhibition of micrographs of the commoner parasites and pathogenic organisms with reference to sero- and vaccine-therapy, and will entertain members and their wives at a garden party. The Tennyson Smith golf challenge cup competition will be held on the same day.

**LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.**—The annual general meeting of the Hyde Division will be held in the Hyde Town Hall on Thursday, June 14th, at 8.30 p.m.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 19th, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) presidential address by Dr. Christiano Murrell entitled "Our changing times."

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—The annual general meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, June 5th. The next clinical meeting of the Division will be at the Metropolitan Hospital on Friday, June 8th, at 4.30 p.m.; tea at 4 o'clock.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—The annual meeting of the Hampshire Division will be held at the Hampstead General Hospital on Thursday, June 14th, at 8.30 p.m., for the election of officers and Executive Committee.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A meeting of the Hendon Division will be held at the Hendon Cottage Hospital on Friday, June 29th, at 8.30 p.m., when members are invited to show cases. The meeting will subsequently discuss the Supplementary Report.

**METROPOLITAN COUNTIES BRANCH: LAMBETH AND SOUTHWARK DIVISION.**—The annual meeting of the Lambeth and Southwark Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Wednesday, June 6th. Tea at 4.15 p.m.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, June 19th, at 8.45 p.m. Mr. J. M. Redding will read a paper on some points in the x-ray examination of the alimentary tract.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 12th, at 9 p.m. Dr. W. Langdon Brown will read a paper on endocrinology and the future.

**METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.**—The annual general meeting of the South-West Essex Division will be held at the Wesleyan Schoolrooms, High Road, Leyton, on Tuesday, June 5th, at 3.30 p.m. Mr. Russell Howard will read a paper on some aspects of surgical emergencies.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—Two meetings of the Wandsworth Division will be held in the Town Hall, Wandsworth, to consider the Koch diagnosis and treatment of tuberculosis by means of tuberculin, together with a proposal for a collective investigation into the subject. The first meeting will be held on Friday, June 22nd, at 9 p.m., when Dr. Robert Carswell will read a paper on "History and diagnosis." At the second meeting, on Friday, June 29th, at 9 p.m., Dr. Robert Carswell will read another paper entitled "Treatment, and a proposal for a collective investigation." The meetings will be open to all members of the medical profession.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden Hospital, Harlesden Road, N.W., on Wednesday, June 20th, at 9 p.m. Dr. Margaret Emslie will discuss the care of the infant.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch is to be held at Kyles of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Islands Division.

**SOUTHERN BRANCH.**—The annual meeting of the Southern Branch will be held at Queen's Hotel, Southsea, on Friday, June 8th. Supper will be served at 9 p.m., and there will then follow an address by Colonel Macarthur entitled "Some medical references to Pepsy," which will be illustrated by lantern slides.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, June 21st, at 8.30 p.m. Dr. A. H. Jacob will read a paper on tuberculosis from the point of view of the tuberculous officer.

**SUSSEX BRANCH: HASTINGS DIVISION.**—The next meeting of the Hastings Division will be held at the Hastings Infirmary, Frederick Road, on Tuesday, June 12th, at 3.15 p.m. Dr. Bower will conduct members over the infirmary, and after tea clinical cases will be shown.

**WILTSHIRE BRANCH.**—The annual meeting of the Wiltshire Branch will be held on Wednesday, June 27th, at 3 p.m., at the County Mental Hospital, Devizes, when a British Medical Association Lecture will be given by Mr. W. McAdam Eccles on the treatment of hernia by trusses, illustrated by their actual application.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.**—The annual meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, June 11th, at 3.30 p.m. Agenda: Election of officers, etc.; Annual Report of Council; instructions to representative; post-graduate lectures; correspondence.

**YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.**—The annual picnic of the Huddersfield Division will be on Thursday, June 21st. The charabanc will leave York Place at 12.15 p.m. for Dovedale. Afternoon tea will be served at the Peveril of the Peak Hotel on arrival at 3.30 p.m. The afternoon will be spent in Dovedale, and the charabanc will leave Dovedale at 5.45 p.m. for Buxton, where dinner will be served at 6.45 p.m. at the St. Anno's Hotel. The party will leave Buxton at 8 p.m., and should arrive in Huddersfield about 10 o'clock. The inclusive charge for charabanc, tea, dinner (exclusive of beverages), and tips, will be £1 2s. 6d. per head; for those going in their own cars 10s. per head.

## Meetings of Branches and Divisions.

## BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

The quarterly meeting of the West Bromwich Division was held on April 24th at the West Bromwich General Hospital. The honorary secretary was instructed to ask Dr. Sansome, police surgeon, if he would approach the authorities in the matter of the suggested payment for police calls, and also to communicate with the coroner, Mr. Lyon Clark, regarding the suggested scale of fees for reports to coroner.

At the conclusion of the business meeting Mr. RUSSELL GREEN read a paper on the radiation treatment of cancer of the cervix uteri, illustrated by lantern slides. A vote of thanks, proposed by Dr. MITCHELL and seconded by Dr. ADAMSON, was accorded to the lecturer.

## BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.

The annual meeting of the Dumfries and Galloway Division was held in the Royal Infirmary, Dumfries, on May 15th, when Dr. GEORGE R. LIVINGSTON, the chairman, presided.

The following officers were elected for the current year:

Chairman, Dr. J. D. Robson (Glasgow).	Dr. R. S. (Dumfries).
Wells (Kirkcubbin).	native in
Clinical Secretary,	in Repre-
Representative Body,	
Sanitary Body, Dr. J. D. Robson.	

Dr. CROMIE, in moving a vote of thanks to Mr. Livingston, the retiring chairman, emphasized the amount of work he had done, which had involved both time and money; he described him as an ideal chairman. The motion, having been seconded by Dr. JOHN KIRCHIE, was carried with acclamation.

Mr. LIVINGSTON responded and moved a vote of thanks to Dr. Cromie, expressing regret that ill health was the cause of his retiring. Dr. EASTERBROOK seconded, and emphasized the difficulties Dr. Cromie had overcome, especially on the social side. The motion was duly acknowledged by Dr. CROMIE.

The Division considered the Report of Council and instructed their representative in the Representative Body, especially concerning Clause 104, which was unanimously condemned.

Dr. ROBINSON, from the chair, initiated a debate on the present method of dealing with borderland causes, and Dr. EASTERBROOK



lucidly explained the law applying to Scotland. Several took part in the subsequent discussion, after which tea was provided by the retiring chairman.

#### EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

The annual meeting of the South-Eastern Counties Division was held at Newtown St. Boswells on May 9th. Dr. D. C. Graham was elected vice-chairman. Dr. J. S. Muir (Selkirk) was again nominated representative, with Drs. S. Davidson (Kelso) and McWhan (Duns) as deputy representatives. The appointment of the honorary secretary was extended. The annual report and financial statement for the year was approved.

The SECRETARY read a letter from the Medical Secretary on public education in health; it was agreed that the Division should take no action in the matter. The proposal relating to the capitation payment for services to juvenile Oddfellows was discussed and the representative was instructed.

Dr. FAIRFAX opened a discussion on over-certification.

#### EGYPTIAN BRANCH.

A CLINICAL meeting of the Egyptian Branch was held on April 25th in the School of Medicine, Cairo. Professor ALI BEY ISMAHIM demonstrated a case of bilharzial pancreatitis, a very unusual manifestation of the disease, in which exploratory laparotomy had been performed for a large epigastric tumour. After the exploration the patient was given a course of tartar emetic and the mass entirely and rapidly disappeared. Dr. HASSAN BEY SHAHEEN, surgeon to the ear and throat department of the Kasr-el-Aini Hospital, read a paper on the treatment of rhinoscleroma and incurable deafness. Having tried surgery, vaccines, tartar emetic, radium, x rays, and diathermy for the treatment of rhinoscleroma without any satisfactory results, he ultimately found in colloidal iodine, given intravenously, a possible specific. He showed three cases of rhinoscleroma treated in hospital. One patient, a boy aged 15, was completely cured; and two women, one aged 40 and the other 60, who were both still in hospital, showed signs of responding to the treatment. The nose, which previously was completely blocked in these two patients, had, under the influence of this treatment alone, subsided, and allowed the passage of air. The cases of deafness were shown and were examined by members of the section; the conditions concerned were chronic catarrhal otitis media and otosclerosis, both of very long standing. In each case an appreciable improvement was claimed, and in some instances the patients themselves stated that the improvement was remarkable. The result of the injection was often observed within twenty-four hours, both in its effect on the hearing and on tinnitus. Cases of internal ear deafness were also reported and improvement noted. Most of Dr. Shaheen's patients were treated in hospital. Professor A. K. HENRY showed a case of forequarter amputation for sarcoma, involving the right deltoid muscle, and described a simplification of the current procedure. Professor Henry also showed a patient from whom he had removed a tuberculoma from the left cerebellar hemisphere six weeks previously, using a straight mesial incision instead of the "crossbow" type. He described a simple way of steadying the needle during ventricular puncture, and demonstrated an extension to the Hudson drill which made that instrument suitable for cerebellar decompression, together with a lighted retractor in which the lamp and the case containing the battery could be sterilized in alcohol.

#### LANCASHIRE AND CHESHIRE BRANCH: MANCHESTER DIVISION.

The annual general meeting of the Manchester Division was held in the Milton Hall, Manchester, on May 18th. The annual report for 1927 was submitted and approved.

The following officers were elected for 1928-29:

Chairman, Dr. R. Boyd. Vice-Chairmen, Dr. J. D'Ewart and Dr. W. F. Dearden, J.P. Honorary Secretary and Treasurer, Dr. R. G. McGowan. Representatives in the Representative Body, Dr. R. Boyd, Dr. W. F. Dearden, J.P., Dr. J. D'Ewart, and Dr. A. Gregory.

The thanks of the Division were tendered to Alderman A. W. Chapman, J.P., for the valuable services rendered by him during the years he held the office of chairman of the Division. The Report of Council was considered, and the representatives were instructed to vote against the recommendation relating to a contract rate for juvenile Oddfellows.

#### METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.

THE St. Pancras Division held its annual general meeting on May 8th at the British Medical Association House, when Dr. ARNOLD VINEY was in the chair.

The annual report of the Executive Committee stated that the membership of the Division had increased to 215 ordinary and 4 associate members. The meetings held during the year had been very successful, and it was hoped to arrange a similar programme for the new session. It was proposed to repeat in the coming year the holding of a joint clinical meeting with the London Clinical Society. A subcommittee, consisting of Sir William Hamer, Dr. Geoffrey Evans, and Dr. A. J. Clarke, had been appointed to discuss with the medical officer of health for St. Pancras the question of educating the lay public in the prevention of disease, and to offer him the assistance of the Division. An honorary charities secretary had been appointed for the Division, and it was hoped that members would give support to the dependants of their less fortunate former colleagues. The report was adopted.

The following officers were elected for 1928-29:

Chairman, Sir William Hamer. Vice-Chairman, Dr. P. P. Dalton. Honorary Secretary and Treasurer, Dr. H. Fleetwood Walker. Charities Honorary Secretary, Dr. Percy Stocks. Representatives in Representative

Body, Dr. Kathleen Kitchin and Dr. W. A. M. Swan. Deputy Representatives in Representative Body, Dr. Kathleen Harding and Dr. Geoffrey Evans.

The annual report of the Central Council was presented and very keenly debated. The representatives were instructed to oppose the Central Council's recommendations regarding the provision of paying centres for infant hygiene, on the ground that there was no evidence of any considerable public demand for such centres, and that there were sufficient private practitioners able and willing to advise their private patients on these matters. They were also instructed to oppose the Central Council's recommendations regarding contract rates for juvenile Oddfellows.

The meeting closed with hearty votes of thanks to the chairman, Dr. Arnold Viney, and to the honorary secretary, Dr. P. P. Dalton.

#### METROPOLITAN COUNTIES BRANCH: SOUTH-WEST-ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at Claybury Mental Hospital on May 15th. The salient points in the Annual Report of Council were explained by Dr. PANTING. There was some discussion on the reports on puerperal morbidity and mortality, lunacy and mental disorder, and the contract rate for juvenile Oddfellows, but no recommendation was put forward. Dr. Panting was reappointed representative in Representative Body. After tea Dr. BAHAM, medical superintendent, conducted members round the hospital, and showed the arrangements recently devised for private patients. The modern policy of making the surroundings of the patients cheerful and pleasing was especially evident in a recently built room for a single patient, with large French windows overlooking a terrace, and no obvious means of restraint. It was interesting to compare an old-fashioned single room, cell-like, with high grated windows. Later a series of cases was shown.

#### METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

THE annual meeting of the Willesden Division was held at the Willesden General Hospital on May 16th. The annual report of the executive and the financial report were approved.

Dr. C. F. T. Scott was nominated for the post of honorary secretary of the Branch. The following were elected:

Chairman, Dr. F. R. Sturridge, M.C. Vice-Chairman, Dr. J. W. Brash. Honorary Secretary, Dr. William Paterson. Clinical Secretary, Dr. J. Freeman Neal.

The Annual Report of Council was considered, and the representative, Dr. Scott, was instructed.

The chairman, Dr. Brash, handed over the badge of office to his successor, Dr. Sturridge, and was accorded a hearty vote of thanks. Votes of thanks were also accorded to the honorary secretary, the clinical secretary, the honorary auditor, and the Willesden General Hospital.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, MORAY, AND NAIRN DIVISION.

THE annual meeting of the Banff, Moray, and Nairn Division was held at Banff on May 12th, with Dr. JAMES TAYLOR of Keith in the chair. Dr. STEPHEN (Banff) raised the question of increased amount of work which the honorary staffs of hospitals were called upon to do for local authorities, instancing the number of tonsil operations performed, for which the education authority paid nothing. On the proposal of Dr. COWIE, seconded by Dr. D. G. CAMPBELL, it was agreed that the education authorities in the Divisional area should be asked to pay a uniform fee on the British Medical Association scale to the hospitals for all operations performed on cases recommended by the authorities for treatment at the hospital. On the proposal of Dr. CAMPBELL it was decided that local committees should be formed of the hospital staffs to obtain information as to the whole question of payment for services rendered to patients recommended for treatment or operation by any local authority. The Divisional annual report and financial statement were approved. The following were elected as office-bearers for the coming year:

Chairman, Dr. D. Grant (Hopeman). Vice-Chairman, Dr. J. Stephen, D.S.O. (Banff). Secretary and Treasurer, Dr. G. S. Sowden (Elgin). Representative in Representative Body, Dr. A. B. Murray (Banff). Deputy Representative in Representative Body, Dr. D. I. Walker (Banff).

Dr. JAMES TAYLOR was accorded a very hearty vote of thanks for his services as chairman during the past year. The Annual Report of Council was then considered, and the representative was instructed on several matters. With regard to the B.M.A. Charities Fund, it was unanimously decided to make a levy of five shillings per member, exclusive of those who already contribute to the funds. After the meeting, which was one of the most successful held in the Division, the members present, and their friends, were entertained to tea by the Banff members.

#### PUNJAB BRANCH.

THE first annual meeting of the Punjab Branch was held in the King Edward Medical College, Lahore, on March 24th and 25th.

The first lecture of the meeting was given by Major A. M. DICK, I.M.S., professor of ophthalmology and diseases of the ear, nose, and throat, King Edward Medical College, on electrical appliances used in the examination of the ear, nose, and throat. He exhibited a portable outfit used by himself which contained all the essentials for ordinary examinations, and could be worked from a small dry cell.

Lieut.-Colonel H. H. BROOME, principal and professor of surgery, King Edward Medical College, demonstrated various electrical instruments used in the examination of the bladder, urethra, and

rectum. He discussed the value of the cystoscope and sigmoidoscope, and explained the application of the urethroscopy to the treatment of gonorrhoea and strictures.

Lieut.-Colonel H. R. BOTT, I.M.S., professor of operative surgery, King Edward Medical College, gave a practical demonstration of the operative technique involved in dealing with a tumour of the thyroid gland.

A lecture demonstration on uterine fibroids was given by Captain S. N. HAYES, I.M.S., professor of midwifery and gynecology, King Edward Medical College, who exhibited many specimens of cases operated on by himself, and microscopical slides.

Major B. P. BARUCHA, I.M.S., professor of anatomy, King Edward Medical College, gave a lecture on the nervous system, detailing its development and the latest advances in its anatomy and physiology, with reference to practical points in diagnosis and treatment.

The meeting on March 25th opened with a lecture demonstration by Lieut.-Colonel J. J. HARPER-NELSON, I.M.S., professor of medicine, King Edward Medical College, on artificial pneumothorax in the treatment of pulmonary tuberculosis. There were also demonstrations in the pathology, physiology, entomology, and pharmacology departments of the King Edward Medical College.

The business meeting of the Branch was held at 3 p.m., when, in the absence of the president, Lieut.-Colonel R. WELLS, I.M.S., took the chair. The annual report was read by the SECRETARY and approved without alteration.

The following officers were elected for 1928-29:

President, Lieut.-Colonel H. H. BROOME, I.M.S. Vice-President, Lieut.-Colonel C. A. GILL, I.M.S. Honorary Secretaries, Lieut.-Colonel J. J. HARPER-NELSON, O.B.E., M.C., I.M.S., and Dr. G. S. CHAWLA.

On the proposal of Lieut.-Colonel C. A. GILL it was agreed, with acclamation, to place on record the appreciation of the Branch of the earnest work which had been carried out by Lieut.-Colonel J. J. HARPER-NELSON, to whose efforts the success which had been attained in connexion with the Branch during the past year was entirely due. The members were subsequently entertained to tea in the library of the College by the Branch.

#### YORKSHIRE BRANCH: YORK DIVISION.

The annual meeting of the York Division was held in the York Medical Society's Room on May 5th, when Dr. G. W. GOSLING was in the chair.

The HONORARY SECRETARY reported that the total amount provisionally promised in respect of the British Medical Association Science Prize for St. Peter's School was now just under £40. The matter was left in the hands of the Executive Committee.

Drs. EVERTS and TAYLOR reported on the result of the personal appeal in respect of medical charities, which was very satisfactory, and said that there were now twenty-five members subscribing through the Division amounts totalling £40, exclusive of those members who subscribed direct to headquarters or direct to medical charities. The CHAIRMAN, on behalf of the Division, thanked them for the satisfactory result of their efforts.

The HONORARY SECRETARY reported that as a result of a conference between representatives of the Division and Messrs. Rowntree it had been decided that the suggested scheme for attending their employees on a capitation basis was not practicable. It was unanimously decided to take no further action in the matter.

The representative was instructed to support the recommendation of the Council under the heading of medical defence and x-ray examinations.

The report of the honorary secretary for 1927 was unanimously approved.

The following officers were elected for the year:

Chairman, Dr. N. C. FOSYTH, Vice-Chairman, Dr. P. R. McNAUGHT. Honorary Secretary, Dr. J. C. LYLE. Representative in Representative Body, Dr. P. Macdonald. Deputy Representative in Representative Body, Dr. H. E. K. REYNOLDS.

In the absence of the newly elected chairman the vice-chairman, Dr. McNAUGHT, assumed the chair at this point of the proceedings. The HONORARY SECRETARY read the whole of the correspondence which had passed between the local secretary of the St. John Ambulance Association, the headquarters of the British Medical Association, and himself on the question of the giving of lectures free of charge. After discussion it was decided that a motion should be put down on the agenda for the Representative Meeting in the name of the Division.

The HONORARY SECRETARY read a communication from the secretary to the West Riding Local Medical and Panel Committee outlining a scheme for the establishment of a medical institute in Leeds for the provision of a meeting place for various medical bodies, facilities for social intercourse, etc., for members of the medical profession in Yorkshire. The honorary secretary was instructed to reply stating that, while approving the scheme, it was desirable to point out that members of the Division were already adequately catered for by the York Medical Society, and that it was unlikely that much support could be expected from the individual members of the Division.

The honorary secretary was authorized to seek an immediate interview with the town clerk on the matter of reports by medical practitioners at the request of coroners.

The honorary secretary reported that on a suggestion from junction with the local authorities the education of the public in health matters had been appointed to act in connexion with a scheme for a civic and health week in York this year, and that it had been decided to offer to provide a lecturer on some suitable subject during this week. The co-operation of the Division had been welcomed by the subcommittee, and the matter was now going forward.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenant Commander A. W. North to be Surgeon Commander. Surgeon Lieutenant G. Kirker to be Surgeon Lieutenant Commander.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander F. L. Cassidi to the *Rodney* for training. Surgeon Lieutenant H. E. Hall to be Surgeon Lieutenant Commander. Probationary Surgeon Sublieutenant G. O. Barber to the *Tiger* for training.

### ROYAL ARMY MEDICAL CORPS.

Temporary Lieutenant D. W. Stuart relinquishes his commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant (Honorary Squadron Leader) F. W. Squair relinquishes his temporary commission on completion of service, and is permitted to retain the honorary rank of Squadron Leader.

The following are granted short-service commissions in the rank of Flying Officer for three years on the Active List: J. H. Cullinan, T. A. Edwards, A. R. French, F. J. Nyhan, and B. A. Porritt.

### INDIAN MEDICAL SERVICE.

The services of Lieut.-Colonel C. H. Reinhold, M.C., are placed at the disposal of the Chief Commissioner, Delhi.

The services of Lieut.-Colonel J. M. A. MacMillan, Civil Surgeon, Simla East, are replaced at the disposal of the Government of the Central Provinces.

Major H. K. Rowntree, M.C., is appointed to be Civil Surgeon, Simla East.

On reversion from foreign service under the Governing Body of the School of Tropical Medicine and Hygiene, Calcutta, Captain G. C. Maitre, I.M.S., of the Medical Research Department, is appointed to officiate as Assistant Director at the Central Research Institute, Kasauli.

Captains to be Majors: M. T. Khandwalla, J. Rodger, M.C., and G. A. Khan.

### REGULAR ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel E. E. Ellery, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

#### SUPPLEMENTARY RESERVE OF OFFICERS: ROYAL ARMY MEDICAL CORPS.

Lieutenants C. W. Badger and C. C. H. Chavasse to be Captains. J. N. Leitch to be Lieutenant.

### TERRITORIAL ARMY.

#### ROYAL ARMY MEDICAL CORPS.

Major F. R. Harris, having attained the age limit, relinquishes his commission.

Major A. Morris, T.D., having attained the age limit, retires, and retains his rank with permission to wear the prescribed uniform.

Captain D. W. M. Mackenzie, R.A.M.C., to be Divisional Adjutant 47th (2nd London) Division and School of Instruction, vice Prov. Major W. S. Martin, M.C.

Captain R. H. Yolland resigns his commission.

Captain J. M. Chrystie to be Major, with precedence as from May 21st, 1927.

Lieutenant D. P. Levaek to be Captain, with precedence as from June 28th, 1927.

W. H. A. Dodd to be Captain, with precedence as from 1927.

Superannuation for Service with the O.T.C.—Second Lieutenant T. A. A. Hunter, from the General List, T.A., to be Lieutenant, with precedence as from November 26th, 1927, superannuation for service with the Medical Unit, University of London Contingent, Senior Division, O.T.C.

### TERRITORIAL ARMY RESERVE OF OFFICERS.

#### ROYAL ARMY MEDICAL CORPS.

Captain J. McC. Smellie, from the Active List, to be Captain. Lieutenant W. B. Balcanen, from the Active List (T.A. General List, Birmingham University Contingent, O.T.C.), to be Lieutenant.

## VACANCIES.

ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—(1) Resident Senior House-Surgeon. (2) House-Surgeon, Male. Salary for (1) at the rate of £200 per annum, and for (2) £150 per annum, rising to £200 on appointment as Resident House-Surgeon after three months.

AMBROSE INFIRMARY.—Resident Medical Officer. Salary at the rate of £150 per annum.

BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary £150.

BUNLEY UNION.—Resident Male Medical Officer at Primrose Bank Institution. Salary £300 per annum.

CAMBRIDGE UNIVERSITY.—PATHOLOGICAL LABORATORY.—John Lucas Walker Studentship. Annual value £300.

CHESTER CITY.—Assistant Medical Officer of Health. Salary £600 per annum.

COSSILLY MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary £150 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Resident House-Surgeon. (2) Resident House-Physician. Males. Salary at the rate of £125 per annum each.

DONSET MENTAL HOSPITAL, HERRISON.—Junior Assistant Medical Officer (unmarried). Salary £300 per annum, rising to £350.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Junior Resident Medical Officer (male). Salary £100 per annum.

DORHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary £120 per annum.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—(1) House-Physician. (2) Obstetric Assistant. (3) Two House-Surgeons. Salary at the rate of £50 per annum each.

GLoucestershire ROYAL INFIRMARY AND EYE INSTITUTION.—House-Physician (male). Salary at the rate of £150 per annum.

HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—Honorary Assistant Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Physician. (2) House-Surgeon. (Males, single). Salary £50 for six months. (3) Medical Registrar (male) in Out-patient Department; salary £250 per annum.

HOVE: LADY CHICHESTER HOSPITAL.—(1) House-Physician; salary at the rate of £100 per annum. (2) Junior House-Physician; honorarium at the rate of £50 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Assistant Ophthalmic Surgeon.

KING'S COLLEGE HOSPITAL, S.E.5.—Junior Aural Surgeon.

LONDON COUNTY COUNCIL.—Eighth Assistant Medical Officer (male) in the Mental Hospitals service. Salary £300 per annum, rising to £400 with fluctuating temporary additions.

LONDON UNIVERSITY.—University (part-time) Chair of Dietetics, tenable at St. Thomas's Hospital Medical School. Salary £1,000 a year.

LONOTOWN AND BORDEN JOINT HOSPITAL BOARD.—Medical Officer (part-time) for Infectious Diseases Hospital. Salary £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER BUEN'S HOSPITAL.—Junior Resident Medical Officer. Salary at the rate of £50 per annum.

MANCHESTER CITY.—(1) Woman Medical Officer; salary £600 per annum. (2) Assistant Medical Officer at Baguley Sanatorium; salary £350 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Senior and Junior House-Surgeons. Salary £150 and £120 per annum respectively.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer to the Dermatological Department. Salary at the rate of £20 per annum.

MANSFIELD AND DISTRICT HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £150 per annum.

MARSHOTE: ROYAL SEA-BATHING HOSPITAL.—Male House-Surgeon. Salary at the rate of £100 per annum.

MIDDLESEX HOSPITAL AND MEDICAL SCHOOLS.—Medical Registrarship. Salary £300 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—House-Physician (male, unmarried). Salary at the rate of £125 per annum.

NOTTINGHAM: CITY MENTAL HOSPITAL.—Deputy Medical Superintendent. Salary £650 per annum, rising to £700. In addition £50 per annum for D.P.M. and £10 for M.P.C.

OLDHAM ROYAL INFIRMARY.—House-Surgeons in charge of (1) Women's and Children Wards, (2) Male Wards, (3) Out-patients and Special Departments. Salary at the rate of £175 per annum each.

QUEEN MARY'S HOSPITAL FOR THE EAST END, E.15.—(1) House-Physician. (2) Two House-Surgeons. (3) Obstetric House-Surgeon. (4) House-Physician and Casualty Officer.

St. Mary's HOSPITAL, W.2.—Assistant Director to the Surgical Unit. Salary £750 per annum.

SALFORD ROYAL HOSPITAL.—Honorary Assistant Physician.

SOUTHPORT (GENERAL) INFIRMARY.—Junior House-Surgeon (male, unmarried). Salary at the rate of £100 per annum, and additional £50 for services rendered in the Venereal Diseases Department.

VICTORIA HOSPITAL FOR CHILDREN, Tito Street, S.W.3.—Senior Resident Medical Officer (male). Salary £250 per annum.

WILKESDEN GENERAL HOSPITAL.—(1) Clinical Assistant to the Gynaecological Out-patient Department. (2) Two Clinical Assistants to the Surgical Out-patient Department.

WOODFORD MUNICIPAL DISTRICT, Alberta, Canada.—Municipal Doctor. Salary \$2,000 per annum.

WOOLWICH UNION.—First Assistant Medical Officer at the Plumstead and District Hospital. Salary £400 per annum, rising to £500.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

PATEY, D. H., M.S., F.R.O.S., Surgeon to Out-patients at the Hampstead General and North-West London Hospital.

SCOTT, Robert, M.B., Ch.B., Medical Referee under the Workmen's Compensation Act, 1925, for the districts of the Axminster, Honiton, Tiverton (Circuit No. 57), Exeter, Newton Abbot, and Torquay (Circuit No. 58) County Courts, vice J. R. Thomas, deceased.

CERTIFYING FACTORY SURGEONS.—H. V. Crabtree, M.B., Ch.B., Manch., for the Exeter District, Devon; J. W. Crawshaw, M.B., Ch.B., Vict., for the Tyldesley District, Lancaster.

### DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Social Evening.—Mon., 8.30 to 9 p.m. Reception by the President and Lady Berry. 9.15 p.m., Illustrated Address by Mr. C. Leonard Woolley: Recent Excavations at Ur of the Chaldees. Music and light refreshments.  
Section of Surgery.—Wed., 8.30 p.m., Annual General Meeting. Discussion: Hare-lip; to be opened by Dr. Victor Veau (Paris). Mr. C. H. Fagge, Mr. T. Pomfret Kilner, and others will speak.  
Section of Ophthalmology.—Fri., 4.30 p.m., Tea. 4.45 p.m., Cases. 5 p.m., Mr. Montagu Hine: Report on a Case of Neuro-fibromatosis of the Eyelid, and of a Case in which a Glass Ball burst in the Socket; Mr. F. Ridley: Lysozyme-antibacterial Body present in Cret Concentration in Tears, and especially its Relation to the Human Eye. 6.15 p.m., Annual General Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall, S.W.1: Tues. and Thurs., 5 p.m., Croonian Lectures by Dr. Charles Bolton: The Interpretation of Gastric Symptoms.  
LONDON CLINICAL SOCIETY, London Temperance Hospital, Hampstead Road, N.W.1.—Thurs., 8.45 p.m., Macalister Lecture by Sir Berkeley Moynihan, Bt.: Medicine in Art.

### POST-GRADUATE COURSES AND LECTURES.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Cray's Inn Road, W.C.1.—Mon., 1.30 p.m., Examination of the Pharynx. Wed., 1.30 p.m., Examination of the Larynx.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—Thurs., 4 p.m., Clinical Demonstration.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 4 p.m., Treatment of Prostatic Obstruction.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ARTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.15 p.m., Treatment of Fractures, with Demonstrations. Tea at 3.45 p.m.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINIC.—At Jessop Hospital: Tues., 3.30 p.m., Obstetrical Cases. At Royal Hospital: Fri., 3.30 p.m., Clinical Cases.

## British Medical Association.

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TAVISTOCK SQUARE, W.C.1.

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### Diary of the Association.

JUNE.  
5 Tues. London: Ophthalmic Subcommittee, 3.30 p.m.  
City Division: Annual Meeting, Metropolitan Hospital, Kingsland Road, E.  
South-West Essex Division: Annual Meeting, Wesleyan School-rooms, High Road, Leyton. Mr. Russell Howard on Surgical Emergencies, 3.30 p.m.  
6 Wed. London: Conference of Representatives of Medical Staffs of Hospitals, 2 p.m.  
Lambeth and Southwark Division: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4.15 p.m.  
Lanarkshi . . . hospital, 3.30 p.m.  
7 Thurs. London: . . . from 2 to 4 p.m.  
8 Fri. City Div . . . Metropolitan Hospital, Kingsland Road, E., 11.30 p.m.  
Southern Branch: Annual Meeting, Queen's Hotel, Southsea. Colonel Macarthur on Some Medical References to Pepys, preceded by Supper, 9 p.m.  
11 Mon. Hereford Division: Annual Meeting, 20, East Street, Hereford, 3.30 p.m.  
12 Tues. Hastings Division: Hastings Infirmary, Frederick Road, 3.15 p.m.  
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1 Dr. W. Langdon Brown on Endocrinology and the Future, 9 p.m.  
13 Wed. London: Council, 10 a.m.  
14 Thurs. Hampstead Division: Annual Meeting, Hampstead General Hospital, 8.30 p.m.  
Hyde Division: Annual Meeting, Hyde Town Hall, 8.30 p.m.  
Kent Branch: Annual Meeting, Acacia Hall, Dartford, 2 p.m.  
Luncheon, 1 p.m.  
15 Fri. Border Counties Branch: County Buildings, Dumfries, 3 p.m.  
16 Tues. London: Central Ethical Committee, 2.15 p.m.  
Lewisham Division: Town Hall, Catford. Mr. J. M. Redding on X-ray Examination of the Alimentary Tract, 8.45 p.m.  
Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4 p.m.  
20 Wed. Willesden Division: Willesden Hospital, Harlesden Road, N.W. Dr. Margaret Emble on the Care of the Infant, 9 p.m.  
21 Thurs. Huddersfield Division: Annual Meeting, 12.15 p.m.  
Jersey Division: General Hospital. Dr. A. H. Jacob on Tuberculosis, 8.30 p.m.  
22 Fri. Wandsworth Division: Town Hall, Wandsworth, to consider the Koch Diagnosis and Treatment of Tuberculosis. Paper by Dr. Robert Carswell, 9 p.m.  
27 Wed. Wiltshire Branch: Annual Meeting, County Mental Hospital, Devizes. B.M.A. Lecture by Mr. W. McAdam Eccles on Treatment of Hernia by Trusses, 3 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

MACGREGOR.—At 22, King Street, Hereford, on May 23rd, to Dr. and Mrs. Ian W. MacGregor, a daughter.  
SINCLAIR.—On May 26th, 1928, at 2, Queen's Road, Erith, Kent, to Dr. and Mrs. J. Denny Sinclair, a son.

#### DEATHS.

CLARKE.—On May 22nd, 1928, at 3, Chandos Street, Cavendish Square, Kate Litton, the dearly loved wife of Ernest Clarke, C.V.O., M.D., F.R.C.S.  
HODSDON.—Suddenly, on May 28th, Sir James Hodsdon, K.B.E., M.D., F.R.C.S.E., of 6, Chester Street, Edinburgh.  
MACDONALD.—At a Nursing Home in Aberdeen, on May 21st, Thomas MacDonald, M.B., G.M.Ed., J.P., President, Northern Counties of Scotland Branch, British Medical Association, Netherdale, Beaulieu, Inverness-shire.

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 9TH, 1928.

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### NATIONAL HEALTH INSURANCE AS SEEN BY A CONSULTANT PHYSICIAN.\*

BY

A. S. WOODWARD, C.M.G., C.B.E., M.D., F.R.C.P.

WHEN I received an invitation from the Faculty of Insurance to give a brief address on a subject related to national health insurance, I accepted gladly, for I thought it would give me an opportunity of placing before those who are specially interested in the subject my impressions of certain phases of the work of approved societies, with which I have been associated for a great many years, from the standpoint of a doctor who acts as medical adviser to one of them. Having no responsibility for the administrative machinery or finances of an approved society on the one hand, nor for the work of the general practitioner on the other, I feel I may be able to express views with a degree of impartiality which is not always present when either one or the other deals with this subject.

It would be interesting and, indeed, profitable, if time permitted, to follow closely the history of sickness insurance. I can, however, do no more than briefly touch upon it. It had its origin in the voluntary action of workers to protect themselves financially against ill health by means of mutual aid societies. As this country was the first to develop industrially, it was perhaps natural that it should have been the pioneer of voluntary sickness insurance. The movement of the workmen was strengthened by the action of many employers in establishing welfare institutions, prompted, no doubt, to some extent by self-interest, but undoubtedly also by humanity and a sense of social duty. Yet though the need for central or Governmental action was certainly present from the early days of the industrial revolution, no step in this direction was taken by the State. It is not without interest, therefore, to remember that although Britain was the pioneer of voluntary sickness insurance, Germany was the first country to inaugurate a compulsory scheme. It is true that the German scheme was inspired by the political motives of Bismarck rather than by the needs of the workers, and was regarded with considerable suspicion by them as tending to weaken their allegiance to their

trade unions and attach them to the State; but while in this country the introduction of the Insurance Act in 1911 was a purely social measure, its reception by the trade unions and friendly societies could hardly be called enthusiastic. Compulsory insurance, nevertheless, needs no champions to-day; it is its own best advocate. In establishing the scheme we learned much from the experience of Germany, but we did not copy that country, and the Government of the day wisely used existing organizations for the purpose of administering health insurance.

The approved society system has its critics even now, but they are a gradually diminishing body; the societies have not only survived the criticisms of the past, but at the International Labour Conference at Geneva last year they or their equivalent were accepted by the Government representatives of thirty-seven of the forty-three countries represented as the most desirable type of organization for administering sickness insurance—surely a very remarkable tribute to the British system. A scheme of sickness insurance administered by the State is indeed a rarity. This is the more remarkable in view of the considerable extent of the State's activity in other forms of compulsory insurance. The fact that a compulsory scheme of sickness insurance should be allocated to these semi-independent bodies can only be explained, I suggest, by the nature of the problem itself and the peculiar difficulties presented in dealing with claims for benefit. Sickness is unlike unemployment in that whereas unemployment is an ascertainable fact, incapacity for work is a condition which varies with the individual and his occupation. There is need, therefore, for an individual and, I might say, a psychological test, and for that personal knowledge of the patient which can best be supplied by the family physician. Sickness insurance is a many-sided problem which calls for methods other than those which can be supplied by a State medical service or a public authority administration. It is not adaptable to formalism, but calls for sympathy, understanding, and initiative. To get the most out of it there is need for close co-operation between the medical and the administrative arms, and in this respect my experience teaches me that much ground has yet to be covered and a good many misunderstandings removed.

It is hardly a matter for surprise that so few people outside those associated with its administration realize that the scheme of national health insurance as originally laid down had a definitely preventive side as well as provision for curative measures. The general ignorance on

\* An address delivered to the Faculty of Insurance on March 31st, 1928.

this subject serves to emphasize how few of us really keep in touch with the legislative measures passed by Parliament unless we are brought into direct personal contact with them in some way. I cannot help feeling that approved societies themselves are in some measure to blame by reason of the strange nomenclature which they use in connexion with the preventive side. Why should funds declared at a valuation to be available for spending on preventive or treatment benefits be called a surplus? If this term is retained instead of finding a more convenient one, is it not inevitable that the general public, and even panel practitioners—not to say a Chancellor of the Exchequer—will think that these funds are something additional to the scheme, instead of being a fundamental part of it?

I have not a very intimate knowledge of national health insurance finance, but as a doctor I can appreciate the practical results of the existence of these surpluses as applied to individual sufferers—whether increased cash payments are made or they are supplied with surgical belts, given optical treatment, sent to convalescent homes, supplied with dentures, or nursed when they are sick. I read in the press recently that a sum of about £4,000,000 had been spent during the past year on treatment benefits alone. From the medical standpoint this is, of course, the best part of the scheme, as it approaches the problem of sickness from the right direction; it is because it is so valuable that I would like to see still further development. Insured workers are now entitled to a right to such medical advice and treatment as can reasonably be expected from general practitioners as a class, but because of the inadequacy of this I know that, in London at all events, an appreciable number are sent to a hospital for treatment. In this way they receive specialist treatment, but they get it, as it were, by the back door and not as a right; they do not pay for it, and I think it should be paid for. On the other hand, there are many insured persons who require specialist treatment much more urgently, but do not receive it. I cannot but feel that a scheme which does not provide specialist treatment is not only incomplete, but is only partially effective, and should be remedied. This is impossible at present, I am told, on account of the cost, and that brings me to another phase of my subject—namely, the heavy incidence of sickness claims.

Among my friends I have a number of actuaries connected with approved societies, and during the past year or two their time seems to be mainly occupied in studying sickness curves. When I remind them of the general improvement in the health of the community which has taken place over the past few years, they flourish a graph and say, "Not among our members." When they go on to say that the treatment and curative benefits of which I have just been speaking are in very serious jeopardy as a consequence of the sustained heavy claims, I must share their concern. This matter is also causing apprehension to the Ministry of Health, and is the subject of investigation between them and members of my own profession engaged in insurance practice. Happily I am not here to propound a solution, but as I see the papers of a great many claimants in the course of a year, in the nature of things I cannot help gaining certain impressions. In placing some of these before you I do so not without feelings of trepidation, and certainly in no unfriendly spirit. I have no desire to make a Roman holiday by offering myself as a sacrifice on the No Man's Land of improper claims, but I cannot help thinking that there may be many contributory causes for high claims, the reasons for which are not far to seek and the totality of which must be considerable, although the basic causes, whatever they may be, may only emerge as the result of prolonged investigation.

A doctor, however conscientious he may be, is a human being, and in the course of his practice he will meet with a number of instances that might well make a specialist hesitate to say whether the patient is capable or not; the more conscientious he is the more he will hesitate. To blame the average doctor for certifying a patient as incapable where there is so much doubt would not only be unjust, but would be unreasonable. Difficult cases, however, are relatively uncommon, and necessarily cannot be the

cause of the heavy sickness claims. It is my considered opinion that the heavy claims must arise from ordinary common ailments—we have no rare diseases in this country to-day—and I cannot help thinking that a part of the difficulty may be not so much in laxity in certification, but in a failure on the part of the doctor to make proper use of the machinery of certification. There is a space on the medical certificate upon which the doctor may enter the date when the patient should next be examined, but little if any use is made of this space; consequently many claimants may remain on the funds for a number of days in excess of their incapacity for work. If the patient takes the initiative and presents himself for examination he will no doubt be given a final certificate, but if he only presents himself for examination at the end of a week, although he may have recovered some days previously, he will not be declared "off" until the day of his examination. Many patients must be near recovery on, say, the date of the last examination prior to the date of declaring "off"; one would have thought such patients would be required to present themselves for examination before the expiry of another week, say in the mid-week, even though the might continue to require treatment. Yet, as I have stated, they are seldom so requested.

I should be interested to hear the views of others upon this particular point. From inquiries I have made personally, I am informed that there are a great many complete weeks of sickness, and I can only assume it is because the patients present themselves for examination at weekly intervals. This may be, and no doubt is, a very suitable arrangement for patients who are seriously ill, but in the case of minor ailments, or where the incapacity is drawing to a close, it is not sufficient. There is nothing in medicine that I know of to indicate that sickness should run in cycles of complete weeks, or that so much incapacity should come to an end on a Saturday prior to starting work on a Monday, or come to an end on the Thursday, if the week's work commences on Friday; yet experience would seem to indicate that this actually happens. As to the collective significance of these additional days in affecting the finances of the scheme as a whole, it is only necessary to mention that Sir Walter Kiernan informed the Annual Panel Conference in October, 1926, that if one additional week's sickness benefit were paid to each person on the sick fund in one year the additional benefit scheme of a proportion of approved societies must be withdrawn altogether, and a specialist service would be no longer possible within the scheme.

I gather from the reports in the *British Medical Journal* that doctors themselves have complained of their difficulties in connexion with refusing certificates, stating that they were unable to refuse the application of an insured person for a certificate, as the patient could immediately transfer to some other doctor and, in addition, would take the other members of his family. This may be a reason, but it can hardly be considered a justification for improperly granting certificates; and, while the new rule delaying the transfer of such a member for a fortnight may do some good, the real remedy must rest with the profession itself, and with it only.

Before I leave the vexed question of certification, there is one phase of it which to me has been somewhat surprising, and that is the tendency amongst some practitioners to grant monthly certificates to patients where subsequently the patient is actually found not to be incapable of work. I am speaking from personal knowledge of certain instances, not a few, where the patient has returned to work before the expiry of the certificate or has obtained a final certificate before the expiry of the previous one. It would have been thought that, since the patient is under the doctor's care for four weeks before a monthly certificate may be granted, the practitioner would have been familiar with his condition, yet the facts point otherwise and seem to indicate a lack of care on the part of the doctor. In connexion with the question of definite weeks there is a suggestion that the Ministry of Health thinks in terms of fixed periods; it issues four-weekly certificates, and in the case of parturition appears to standardize the period of incapacity at four weeks. In a few cases this



may be too long, but in many instances the mother is not fit to return to work so soon after the confinement and when she is still nursing her child.

Regarding certification I have heard doctors criticized for using vague terms in their diagnoses. The administrative branch will not allow such terms as "debility." It can be argued that this diagnosis may cover a large number of ailments which, if taken separately, would not be sufficient, but which will, taken together, certainly present a picture of incapacity for work due to debility. The term is, however, of no assistance to societies in discharging their obligation to safeguard the interests of the general body of members. Definitions are, as the great John Hunter said, "of all things the most damnable," and even to-day we have no satisfactory definition of what exactly is meant by the phrase "capable of work." In an effort to help the society regional medical officers will sometimes state that although a man is not fit for his ordinary work, he is fit for light employment, disregarding the fact that no legal authority has ever been able to translate such an expression into precise terms. In considering certificates I am also prompted to suggest that regional medical officers might with very slight alterations save a great deal of trouble and worry to societies, panel doctors, and their patients, if they would inform the societies whether a condition causing incapacity is, in their opinion, of a chronic character, so that no further reference need be made. It certainly would be an advantage to societies if regional medical officers could advise them as to the necessity for additional benefits.

For my part I am strongly of opinion that all societies should have medical advisers at their head offices; if this were the case then regional medical officers, panel practitioners, and patients would be saved many examinations that are irksome and unnecessary. I would go further, and plead that societies through their medical advisers should be given the benefit of making references to regional medical officers for consultative purposes on the understanding that the result should be communicated to the panel practitioner and medical adviser direct as a private and confidential document.

The duty of a doctor to his patients will, I feel sure, always remain unaffected by the exigencies of a particular scheme, but doctors who have much experience of workmen's compensation claims realize that the psychological element which manifests itself in such cases is often very remarkable. It is not infrequent in cases of severe injury that a surprising development towards recovery takes place so soon as a settlement is reached. This is not a matter of theory—it is a commonplace fact. It is of interest principally in showing how large a part mind plays in the health of a patient. I do not suggest that there is any conscious exaggeration of symptoms or condition on the part of the patient, but it is a phase of psychology which no student of medicine can afford to ignore. The explanation may be that so long as the patient has nothing to distract his thoughts, and no other interests in life than his health and his certificates, these of necessity lead to introspection that is antagonistic to recovery.

The insurance scheme is passing through a rather critical stage, having regard to the heavy and increasing expenditure on claims as compared with past years, and the need for getting to closer grips with the problem has become too insistent to be delayed any longer. No attempt to grapple with it that does not involve co-operation between the approved societies and the doctors is likely to be successful, whereas I believe that combined investigation on their part cannot fail to find the more immediate causes of the present serious position, and, perhaps also, to find a remedy. I have the fullest confidence that if practitioners can be brought to appreciate the full significance of the machinery of certification, as well as the desire on the part of approved societies to help, my profession will be found willing to co-operate with societies to their utmost capacity. As a first step the tendency on the part of both parties to indulge in long-range recrimination should be abandoned. I am, indeed, aware that a sympathetic understanding has already been reached between

many individual practitioners and representatives of approved societies, often to the great advantage of the insured. A doctor can frequently suggest an appliance or convalescent home treatment which the approved society can supply and thus enable the member to return to work. When this is done it not only relieves the doctor of attendance upon the patient, but is also a relief to the society's funds. This in itself shows the need for a mutual understanding and a working scheme between these medical men and societies.

I have already mentioned convalescent home treatment; this is a subject to which not nearly sufficient attention has been given. There are numerous cases, especially among women, of debility, anaemia, neurasthenia, etc., for which a cure can hardly be expected so long as the patient remains in her existing home surroundings; consequently a sufferer will continue on the funds for long periods. Yet if such patients could be sent away for convalescent home treatment and given fresh air, good food, and a complete change of surroundings, many of them would recover their normal health. Now I am well aware that there are not nearly sufficient convalescent homes in the country—in fact, there are, I understand, only about 130 available for general use by approved societies; further, some of these are closed in the winter and others will only admit certain types of cases, many of them rigidly excluding such cases as suspected tuberculosis, neurasthenia, asthma, heart cases, etc.—the very types which most need this form of treatment. Yet many patients whose complaints become chronic could have their working capacity restored were such homes available in the early stages of their convalescence. Apart altogether from the saving in suffering to the members, it would be a business proposition if these people could be given suitable treatment, and it is a phase of the preventive side of health insurance the development of which I would commend to your earnest consideration. I do not propose to reiterate the complaints regarding the present position of treatment and accommodation for tuberculosis patients. This subject has been so much ventilated as to render any comments on my part unnecessary.

Much heat and not very much light has been engendered by the suggestion that malingering may be taking place among claimants for benefit, and I am a little puzzled as to the cause of so much indignation. I am tempted to ask: "Has there been such an improvement in social conditions or moral outlook generally since the days when the friendly societies and trade unions were the only forms of sickness insurance, and when improper claims among members—so many of whom were of a better class—were not infrequent? Are such societies entirely free from improper claims on their private side to-day?" It would be interesting to know whether there is also a tendency on the part of the more comfortable sections of the community to understate their claims, say, under their fire insurance or burglary policies. The answer may be "Yes," but it would surprise me. Yet insured persons, many of whom think in making a claim for benefit that they are simply getting back what they have paid for, and that their claim is backed by the State, are assumed by some to be incapable of exaggerating their symptoms. Those who think so forget that the heaviest claims are amongst women, especially married women, and that many of them receive very low wages and have children to care for; indeed, the temptation to them to remain at home to look after their children whilst drawing benefit must often be severe. It is ridiculous to suggest that the amount of benefit is insufficient as a temptation, for it very often approximates closely to their weekly wages, and sometimes even exceeds them.

No consideration of the question of sickness benefit would be complete without a brief reference to the nature of those illnesses that are the largest contributory causes. I have taken the following figures from the latest available official figures.

In 1926, out of a population of 36,067,000 in England and Wales, there were 14,102,000 insured persons entitled to benefits under the National Health Insurance Act. Sickness and disablement benefits were expended for 28,250,000 weeks' incapacity, equivalent to the loss of the whole year's work of 540,000 persons. These figures do not include the first three days of illness, for which benefit is not payable.

The principal causes of every thousand deaths in order of mortality in 1926 were diseases of the heart and circulation (226), respiratory diseases (150), cancer (117), diseases of the nervous system (103), and tuberculosis (82). These five conditions are responsible for 64 per cent. of the death rate, and are the principal diseases which we have to overcome. If the community could be rid, in addition, of venereal disease and alcoholism, the sickness curve would be enormously reduced.

Malignant disease was the cause of 53,220 deaths in England and Wales in 1926—nearly one-eighth of all the deaths; the recorded death rate—namely, 1,170 per million—from this condition is steadily increasing.

In 1926 nearly one-twelfth of all the deaths in England and Wales was due to tuberculosis, numbering 37,525, although it is stated that the death rate from this disease has fallen from 3,189 per million in 1847 to 820 in 1926.

In connexion with syphilis, the Royal Commission on Venereal Diseases reported in 1916 that the number of persons affected by syphilis would not fall below 10 per cent. in large cities. Many leading authorities, however, dispute this extraordinarily high percentage.

Of the children in the London County Council blind schools 50 per cent. are blind through the effects of venereal disease. The navy and army, at home and abroad, lost the work of over 2,200 men who were off duty during the whole of 1923 from this cause.

In considering illnesses and deaths due to alcoholism, one has to remember that this poison may be a factor in many conditions that are not revealed on the certificates, and, further, the habit lowers resistance to disease and may impair mental efficiency. However, statistics show that sobriety is on the increase, in that convictions for drunkenness to-day are only one-third of what they were fifteen years ago.

In considering the merits and limitations of the Insurance Act scheme to-day, it would be well for all of us to remember what the conditions were before the passing of that much criticized and contentious measure. The average worker in the country could not afford medical advice and, consequently, many of them delayed going to a doctor or dispensary until permanent damage had been done to their health. The complete absence of income during incapacity caused the utmost anxiety, so as seriously to militate against a patient's recovery, and, indeed, his desire was to hasten back to work and to get the doctor to patch him up for the time being in order that he might do so. It is true that the village club or friendly society did, to some extent, mitigate the suffering caused by sickness to a limited number, but throughout the country as a whole the worker looked upon an illness as a calamity. Major operations to patients resident in rural districts were rare, and hospital accommodation in many regions was limited to the work-house infirmary, which has always been distasteful to the average worker, while the teeth of the poorer class generally were in a deplorable condition.

These days are, happily, far behind us. The sick workman has now an established right under the National Health Insurance Act to medical treatment and medicines for which he makes payment, thus protecting himself from any stigma of pauperism that might attach to treatment received other than as a right. He has the approved society to show him how to obtain his benefit and to assist him in obtaining admission to a hospital or to obtain such appliances or treatment as is supplied under the additional benefit schemes. In fact, there has been a new orientation in regard to health matters for the workers of the country to-day which I hope will in due course be extended to their wives and children. Time does not permit me to dilate upon the value of research; but this unquestionably will have to form part of the scheme when finances are available. Apart from the immense sums of money paid out in cash benefits yearly, which at least ensure a minimum of income, one society of which I have some knowledge gives dental benefit and optical treatment as well as convalescent home treatment and surgical appliances to well over 200,000 persons per annum. This is only one society, and most of the others, I understand, are doing the same sort of thing.

As a doctor with considerable experience of hospital work among both the insured and the uninsured I cannot but regard the establishment of the national health insurance scheme as a much needed blessing to the workers. I need hardly add that it is gratifying to be a member of a community which has made this great forward step in promoting health services, for, in the words of a great English writer, "The true greatness of a State consisteth essentially in population and breed of men."

## British Medical Association.

### CURRENT NOTES.

#### Some Work at Headquarters.

THE Dominions Committee had before it on May 25th reports on the satisfactory adjustment of minor difficulties in the medical services in East Africa and Palestine. In each case the matter in dispute had arisen out of the introduction of new regulations in the service concerned, and in both the Committee had been able to make representations designed to assist the Colonial Office in dealing with the matter. In the first case two medical officers who had joined the medical service in Tanganyika during the period of transition between the old and the new regulations for the East African Medical Service had, through some misunderstanding, been deprived of the special privileges attaching to officers appointed under both the old and the new regulations. They have now been granted the full benefit of the old regulations as from the actual date of their appointment. In the second case a group of senior medical officers in the Palestine Health Department have, after prolonged negotiations, made good their claim to promotion to Class I. The Committee is in correspondence with the Colonial Office as to the position of the medical service in the Windward Islands, which has long been unsatisfactory. Various adjustments have been made recently in service conditions in these islands, and the Committee considers that if the remuneration of the service can now be raised to a more adequate level it may become possible to regard the service as one which members of the British Medical Association need no longer hesitate to enter. The improved financial position of the colony, as indicated in the estimates for the present year, gives the Committee some ground for assuming that there is no longer any insuperable economic obstacle in the way of the desired reform. But until such reform is actually sanctioned the conditions cannot be considered such as to justify any practitioner who desires an opportunity for efficient professional work in seeking it in this service.

#### Sir Charles Hastings Clinical Prize.

The Sir Charles Hastings Clinical Prize, which includes an illuminated certificate and a money award of fifty guineas, will be open again for competition in 1928-29. As already announced, the award for the current year has been made to Dr. Ambrose W. Owen, Aberdare, for his clinical study entitled "Some renal conditions met with in general practice," and the prize will be presented to him at the forthcoming Annual Meeting of the Association at Cardiff. The following are the regulations governing the next award:

#### Regulations.

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.
2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.
3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made.
4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, London, W.C.1, not later than December 31st, 1928, and the prize will be awarded at the Annual General Meeting of the Association to be held at Manchester in July, 1929.
5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work.
6. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.
7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address.
8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject of his essay for publication in the *BRITISH MEDICAL JOURNAL* or for presentation to the appropriate Section of the Annual Meeting of the Association.
9. Inquiries relative to the prize should be addressed to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

*Contract Rate for Juvenile Oddfellows.*

By SOUTH GARNARVONSHIRE AND MERIONETH: That para. 104 of the Annual Report of Council be referred back for further consideration, and that meanwhile the Council obtain the views of the Divisions by direct circular, and also that the Local Medical and Panel Committees be consulted before any definite recommendation is arrived at.

*Assistant Medical Officers to Mental Hospitals.*

By YORK: That (with reference to para. 93 of the Annual Report of Council) Recommendations B to F be referred back to the Council for further consideration. (Corrected form.)

## Association Notices.

### TABLE OF DATES.

June 13, Wed.	Council.
June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, *Medical Secretary.*

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BORDER COUNTIES BRANCH.**—The annual general meeting of the Border Counties Branch will be held at the County Buildings, Dumfries, on Friday, June 15th, at 3 p.m. Agenda: Branch Council's report and financial statement; report of the election of office-bearers for 1928-29; Dr. John Ritchie will give his presidential address entitled "Some primitive conceptions of disease and their bearing on public health."

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual social meeting of the Bournemouth Division will be held on Saturday, July 14th, when a visit will be paid to the Pitt Rivers Museum, Farnham, Blandford, to be followed by tea at Larra Tree Grounds, Tolland Royal.

**EDINBURGH BRANCH.**—The annual meeting of the Edinburgh Branch will be held on Tuesday, June 26th. Luncheon at 12.15 for 12.30 p.m. (charge 4s.). Dr. Craig (Pathhead) has obtained the courtesy of the green of the Ford Valley Golf Club for the annual competition (stroke). He has also obtained the courtesy of the Pathhead bowling green. Visits have been arranged for Prestonhall Gardens, Crichton Castle, and Churley, and the Vogrie Nursing Home, the latter by invitation of Professor G. M. Robertson. At 4.30 p.m. Dr. Craig will entertain the party to tea. The business meeting will take place at 5 o'clock. Agenda: Report of Branch, treasurer's business, and annual report; election of officers; presentation of golf competition prizes; report of election of representative to the Central Council; election of vacancy on board of the Queen Mary Nursing Home; proceedings of Scottish Committee; Annual Report of Council and Annual Representative Meeting; amendment of Rule 4 (2) (g).

**KENT BRANCH.**—The annual meeting of the Kent Branch will be held at Acacia Hall, Dartford, on Thursday, June 14th, at 2 p.m. The presidential address will be delivered by Dr. M. W. Renton on the increasing influence of hospital practice and clinics on private practice. Dr. Renton invites members and their wives to a luncheon at 1 p.m. Messrs. Burroughs Wellcome and Co. have arranged an exhibition of microphotographs of the commoner parasites and pathogenic organisms with reference to sero- and vaccine-therapy, and will entertain members and their wives at a garden party. The Tennyson Smith golf challenge cup competition will be held on the same day.

**LAKESHIRE AND CHERE BRANCH: HYDE DIVISION.**—The annual general meeting of the Hyde Division will be held in the Hyde Town Hall on Thursday, June 14th, at 8.30 p.m.

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 19th, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) presidential address by Dr. Christine Murrell entitled "Our changing times."

**METROPOLITAN COUNTIES BRANCH: CITY DIVISION.**—A clinical meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., to-day (Friday, June 8th), at 4.30 p.m.; tea at 4 o'clock.

**METROPOLITAN COUNTIES BRANCH: HAMPSHIRE DIVISION.**—The annual meeting of the Hampshire Division will be held at the Hampshire General Hospital on Thursday, June 14th, at 8.30 p.m., for the election of officers and Executive Committee.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A meeting of the Hendon Division will be held at the Hendon Cottage Hospital on Friday, June 29th, at 8.30 p.m., when members are invited to show cases. The meeting will subsequently discuss the Supplementary Report.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, June 19th, at 8.45 p.m. Mr. J. M. Redding will read a paper on some points in the x-ray examination of the alimentary tract.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 12th, at 9 p.m. Dr. W. Langdon Brown will read a paper on endocrinology and the future.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—Two meetings of the Wandsworth Division will be held in the Town Hall, Wandsworth, to consider the Koch diagnosis and treatment of tuberculosis by means of tuberculin, together with a proposal for a collective investigation into the subject. The first meeting will be held on Friday, June 22nd, at 9 p.m., when Dr. Robert Carswell will read a paper on "History and diagnosis." At the second meeting, on Friday, June 29th, at 9 p.m., Dr. Robert Carswell will read another paper entitled "Treatment, and a proposal for a collective investigation." The meetings will be open to all members of the medical profession.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden Hospital, Harlesden Road, N.W., on Wednesday, June 20th, at 9 p.m. Dr. Margaret Emslie will discuss the care of the infant.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch is to be held at Kyle of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Islands Division.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting of the Division will be held at the Royal Infirmary, Sunderland, on Wednesday, June 20th, at 8.15 p.m. Among the matters to be considered at this meeting is the question of the adoption by the Division of a resolution on the scale of minimum commencing salaries for whole-time chief medical officers of health.

**SOUTHERN BRANCH.**—A meeting of the Southern Branch will be held at the Royal Portsmouth Hospital on Wednesday, June 13th, at 3 p.m. Sir Archibald Reid will deliver a lecture on the treatment of intestinal toxæmia in relation to arthritis, neuritis, mental disorder, and diseases of the skin. The cases upon which the lecture is based will be shown to the meeting.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, June 21st, at 8.30 p.m. Dr. A. H. Jacob will read a paper on tuberculosis from the point of view of the tuberculosis officer.

**SOUTH-WESTERN BRANCH.**—The eighty-ninth annual meeting of the South-Western Branch will be held on Wednesday, June 27th, at 3.15 p.m., in Bromley's Café, Barnstaple, when Mr. Pickard will resign the chair to Dr. Harper, who will deliver his inaugural address entitled "The influence of William Smellie and William Hunter on obstetric medicine in the eighteenth century." The report of the Branch Council for the year 1927-28, and the financial statement for the year 1927, will be presented to the meeting, and the officers of the Branch for the year 1928-29 will be elected. Luncheon, by invitation of the President-Elect, will be taken at 1 o'clock at Bromley's Café, and after the meeting has concluded tea will be provided. The annual dinner of the Branch, to which medical and non-medical guests and ladies are invited, will be held at 7 o'clock at the café. Tickets, 8s. each (exclusive of wines), may be obtained from Dr. H. C. Jonas, Bouthport Street, Barnstaple. Accommodation for the night could be arranged if notice is given to Dr. H. C. Jonas, Bouthport Street, or Dr. Killard-Leavey, Litchdon House, Barnstaple.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Town Hall, Kingston-on-Thames, on Wednesday, June 27th, at 2.15 p.m. The Kingston-on-Thames Division invites members to lunch at Nuthall's Restaurant at 1 p.m. Colonel C. W. Proffit will address the meeting on the British Empire Cancer Campaign in Surrey, and the president (Dr. H. R. Cran) will deliver his presidential address. After the meeting members will motor to Epsom to visit Epsom College; tea will be taken in Big School. The annual dinner will be held at Reid's Restaurant, Ashford Road, Epsom, at 6.30 for 6.45 p.m. (tickets 7s. 6d., exclusive of wines).

**SUSSEX BRANCH: HASTINGS DIVISION.**—The next meeting of the Hastings Division will be held at the Hastings Infirmary, Frederick Road, on Tuesday, June 12th, at 3.15 p.m. Dr. Bower will conduct members over the infirmary, and after tea clinical cases will be shown.

**WILTSHIRE BRANCH.**—The annual meeting of the Wiltshire Branch will be held on Wednesday, June 27th, at 3 p.m., at the County Mental Hospital, Devizes, when a British Medical Association Lecture will be given by Mr. W. McAdam Eccles on the treatment of hernia by trusses, illustrated by their actual application.

**WEST SOMERSET BRANCH.**—The annual meeting of the West Somerset Branch will be held at Deller's Café, Taunton, on Saturday, June 23rd, at 12.15 noon. Agenda: Induction of president-elect; annual report; election of officers, Branch Council, and Ethical Committee.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.**—The annual meeting of the Worcestershire and Herefordshire Branch will be held at the Hospital, Hereford, on Thursday, June 21st, at 3.15 p.m. Agenda: Report of Branch Council; election of president for 1929-30; election of honorary treasurer and secretary. Dr. Naish will vacate the chair and introduce his successor, Dr. Hincks. A clinical meeting will then be held. Dr. Naish invites all members of the Branch attending to have lunch with him at the Green Dragon Hotel at 1.30 p.m. After the meeting tea will be provided.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.**—The annual meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, June 11th, at 3.30 p.m. Agenda: Election of officers, etc.; Annual Report of Council; instructions to representative; post-graduate lectures; correspondence.

**YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.**—The annual picnic of the Huddersfield Division will be on Thursday, June 21st. The charabanc will leave York Place at 12.15 p.m. for Dovedale. Afternoon tea will be served at the Peveril of the Peak Hotel on arrival at 3.30 p.m. The afternoon will be spent in Dovedale, and the charabanc will leave Dovedale at 5.45 p.m. for Buxton, where dinner will be served at 6.45 p.m. at the St. Anne's Hotel. The party will leave Buxton at 8 p.m., and should arrive in Huddersfield about 10 o'clock. The inclusive charge for charabanc, tea, dinner (exclusive of beverages), and tips, will be £1 2s. 6d. per head; for those going in their own cars 10s. per head.

## Meetings of Branches and Divisions.

### LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

The annual meeting of the St. Helens Division was held at the Fleeco Hotel on May 18th, when Dr. LATTAM was in the chair.

The following officers were appointed for 1928-29:  
Chairman, Dr. A. S. Wilson. Vice-Chairman, Dr. E. M. Reid. Honorary Secretary and Treasurer and Representative in Representative Body, Mr. A. A. W. Merrick. Deputy Representative and Charities Honorary Secretary, Dr. A. McL. Ferrie, M.C.

The Annual Report of Council was discussed. Strong exception was taken to the recommendation of the Council regarding contract practice for juvenile Oddfellows, and the representative was instructed to vote against it.

The matter of the suggested honorary staff at St. Helens Hospital was discussed, and a deputation was appointed in response to the hospital's letter asking for assistance in appointing and drawing up conditions.

### METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

The annual meeting of the Lewisham Division was held at the Town Hall, Catford, S.E.6, on May 15th, when Dr. W. E. HILLMAN, M.C., occupied the chair.

The officers were elected as follows:  
Chairman, Dr. J. W. Miller. Vice-Chairman, Dr. G. W. Charsley. Honorary Secretary, Dr. C. J. B. Buchan. Representative in Representative Body, Dr. G. W. Charsley. Deputy Representative in Representative Body, Dr. C. J. B. Buchan.

It was unanimously agreed to instruct the representative at Cardiff to vote against the acceptance of 8s. 8d. per annum for juvenile Oddfellows, and it was agreed to support the nominations of Drs. Chase, Hallinan, and Thomson, the retiring members of the London Panel Committee, at the election in June.

### MIDLAND BRANCH: DERBY DIVISION.

The annual meeting of the Derby Division was held at the Derbyshire Royal Infirmary on Tuesday, May 15th, when Dr. S. J. PARKHILL was in the chair.

The following officers were elected for 1928-29:  
Chairman, Dr. G. A. F. Heyworth. Vice-Chairman, Mr. F. L. A. Greaves. Secretary, Dr. John A. Watt. Treasurer, Dr. H. Barber. Representatives in the Representative Body, Dr. H. A. Lavelle and Dr. J. B. Bart.

The Annual Report of Council was considered and the representatives duly instructed. It was resolved to support a minimum fee of 10s. for medical attendance on juveniles.

The appointment of a charities secretary was considered, and it was left to the secretary to consult with the present collectors for medical charities.

The secretary was instructed to write to the county clerk as to fees for reports to coroners.

### YORKSHIRE BRANCH: DONCASTER DIVISION.

The annual meeting of the Doncaster Division was held at Doncaster on May 17th, when Dr. HENRY J. CLARKE was in the chair.

The following officers were elected for the year 1928-29:  
Chairman, Dr. Henry J. Clarke. Vice-Chairman, Dr. F. W. Johnson. Honorary Secretary and Treasurer, Mr. L. Dougal Callander. Honorary Assistant Secretary, Dr. H. F. Renton. Representative in Representative Body, Dr. J. D. Evans.

The Annual Report of Council was generally discussed and adopted. The programme of meetings for the winter 1928-29 was approved.

## GENERAL COUNCIL

OF

## MEDICAL EDUCATION AND REGISTRATION.

### SUMMER SESSION, 1928.

(Concluded from page 232.)

#### EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council, with Sir DONALD MACALISTER in the chair, was held on May 21st. Among the communications read was one from the Privy Council transmitting a copy of the *Dublin Gazette* of April 24th, which declared that the Register of medical practitioners for the Irish Free State was to be established on and from May 26th.

**Opticians Law in Jamaica.**—At a previous meeting an enactment registering opticians, recently passed in Jamaica, was considered, and the Registrar was instructed to send to the Governor for his observations the President's memorandum recounting the arguments against the Memorial Practitioners (Registration) Bill in this country. The Governor now replied that the conditions obtaining in Jamaica differed widely from those in Great Britain; in Jamaica there were very few medical men with ophthalmic experience, and for this reason alone it appeared to him that properly qualified opticians should have official recognition and protection. He added that since the law came into operation the itinerant vendors of spectacles had been completely eliminated, and the law was proving a very useful measure.

**Recent Ordinances in the Empire.**—An ordinance passed in October last in the Territory of North Australia was transmitted from the Dominions Office. This ordinance lays it down that no person other than a medical practitioner shall practice medicine or surgery in the Territory, or assume the title "doctor," under a penalty of £100, or imprisonment for six months, or both. The committee recorded its satisfaction that unqualified practice had been prohibited in the Territory. An ordinance amending a former proclamation has been passed in South-West Africa providing that if a person licensed under the provisions of any law to practise as a physician and surgeon, as a dentist, or as a chemist or druggist, has been found guilty of improper or disgraceful conduct, or conduct which, when regard is had to such person's profession, is improper or disgraceful, the Administrator may reprimand and caution him or direct that his licence be suspended for a specified period or cancelled.

**Calcutta University.**—It was reported that the examinations under the new regulations at the University of Calcutta, on a satisfactory report of which the Council is to consider the recognition of the degrees, were due to take place at the end of April, and that Lieut. Colonel J. W. D. Megaw, I.M.S., had been deputed to act as inspector. It was stated that candidates taking the final examination under the new regulations would receive a certificate distinct from those taking it under the old, thus obviating any ambiguity in the connotation of a degree granted in 1928 and 1929.

**Use of Drugs by Midwives.**—A communication was read from the Central Midwives Board in reply to the exception taken by the committee to the distribution to midwives for use in their practice of a schedule of drugs. The letter from the Board stated:

"It is essential that pregnant, parturient, and lying-in women should have all the care possible, and should not suffer unnecessarily. To deprive a woman of a drug—say opium—in a prolonged first stage of labour is to inflict unnecessary suffering upon her and even militate against her safety. To make her wait for the doctor may be to wait too late. The midwife should deal with the situation without delay. The administration of any drug requires judgement, and part of the training of the midwife is concerned with this.

"In the course of a quarter of a century only one woman has been reported to the Board for improper administration of a drug, and she was censured for it. The existing Rule E19 seems, therefore, to have been very effective, and the Board strongly objects to its limitation in the direction suggested."

In view of the announcement by the Ministry of Health that a committee was about to be appointed to deal with



the functions and training of midwives, the committee passed a resolution declaring that it would be glad, if opportunity were offered, to give evidence on behalf of the General Medical Council, the Council reserving to itself meanwhile the right to make such observations on midwifery training as it saw fit. A copy of the rules of the Central Midwives Board as amended, which had been transmitted by the Ministry of Health, was considered, and the committee raised no objection to the changes proposed in the rules, but doubted whether the definition of "abortion," as given in the explanatory matter, was sufficiently clear or accurate.

**Chiropodists (Registration) Bill.**—It was agreed to inform the Lord President of the Privy Council that the attention of the committee had been drawn to the bill introduced into the House of Lords relating to the registration of chiropodists and to the fact that the co-operation of the General Medical Council was therein mentioned. On behalf of the Council the Executive Committee stated that in the absence of further evidence that there was any necessity for this bill in the public interest, the Council was not prepared to be associated with it.

**Misdemeanours and Professional Discipline.**—The appeal of *Pickup v. The Dental Board* (*Journal*, May 26th, p. 922) was considered by the committee. The legal assessor to the Council (Mr. Douglas Bartley) pointed out that the penal section under which the Council derived its jurisdiction in respect to medical practitioners (Section 29 of the Medical Act) differed somewhat from the corresponding section of the Dentists Act, but the reasoning of the judges in this recent appeal seemed to apply with equal force to this section. The legal assessor continued:

"It is improbable that in view of the decision in *Pickup's* case a contention similar to his would now be successfully urged in respect of Section 29, for the word "misdemeanour" is used in the same sense in each Act, and the decision is consequently equally applicable to both.

"For the future, therefore, both the General Medical Council in respect of medical practitioners as well as dentists, and the Dental Board in respect of dentists, may consider that they have jurisdiction to deal with misdemeanours of every kind if committed by a registered medical practitioner or a dentist."

**Election of Direct Representative.**—The committee approved certain dates for the election of a direct representative in place of the late Dr. J. A. Macdonald. The notice of election is to be published on September 28th, the last day for nominations is October 13th, voting papers will be issued on October 20th, and will be returnable by October 29th, and the result will be notified on November 1st.

#### THE DIPLOMA IN PUBLIC HEALTH.

The rules, and especially the duration of study, for the Diploma in Public Health were the subject of a discussion in the General Medical Council on May 25th.

Sir JOHN MOORE, chairman of the Public Health Committee, said that the Conjoint Board had asked the following questions of the Council:

- (1) What evidence is a candidate supposed to produce showing that his "study of public health" has extended over twelve months, in accordance with the rule of the Council, when all the courses required by the Regulations have been completed in nine months?
- (2) Is it within the competence of the Committee of Management of this Board to determine what constitutes the "study of public health" for the purpose of making up the total period of twelve months over and above all the courses required by the Regulations?
- (3) Is every case in which a man has complied with the Regulations, so far as all the courses are concerned, in less than twelve months to be submitted to the General Medical Council for their decision as to whether his "study of public health" complies with the Regulations?

To these questions it was proposed to make the following answers:

- (1) Evidence of satisfactory attendance on the courses prescribed in Rules 3 and 6 should be furnished by the respective teachers of those courses, and fulfilment of the requirements of Rule 2 should be certified by the supervisor of the curriculum, or by some other competent officer representing the teaching body.
- (2) In view of the above answer to the first question, the second question does not arise.
- (3) Yes; any cases of difficulty arising in reference to compliance with the rules should be submitted to the General Medical Council.

Sir JOHN MOORE pointed out that this diploma was specially under the aegis of the General Medical Council, and any exemptions under the rules and regulations must

be considered by the Public Health Committee of the Council before being granted. By next January five years would have elapsed since the new regulations came into being, and his committee thought that the time had arrived for the visitation by the Council of the examinations held by the licensing bodies for the Diploma in Public Health.

Professor ARTHUR THOMSON was disposed to think that certain of the conditions were a source of irritation to those responsible for the conduct of the examinations. He urged that an informal visitation of the examinations should precede any inspection, so that information might be gained as to the peculiar difficulties of the licensing bodies in conforming to the rules laid down by the Council. The questions just mentioned by Sir John Moore, and the answers thereto, showed how real the difficulty was. The questions were very reasonable ones, and however complete the replies from a legal point of view, they were not very informing or helpful. He therefore suggested an informal visitation.

The PRESIDENT said that the difference between a visitation and an inspection was that the former was for the private information of the Council only, while the results of the latter were for general publication.

Professor THOMSON went on to speak of the disadvantage under which a candidate laboured, in that, having already spent five or six years in obtaining a registrable qualification, he had to wait two years after qualification before he could take the D.P.H., and had to do twelve months' study for that diploma. The PRESIDENT reminded the speaker that if he desired to propose any alteration of the rules he must give notice. Professor THOMSON said that his only point was that all the work could be done in much less time than that ordained by the Council.

Professor R. J. JOHNSTONE also thought that the reason for insistence on the full twelve calendar months was not very clear.

Mr. H. L. EASON said that it was the intention that there should be two courses of study, one of six months and the other of five months, and that the remaining month of the twelve should be a holiday. These courses should not overlap. If a man had completed these two courses in nine months he should not be allowed to go for examination, but should occupy his further time in public health study, just as the ordinary student in medicine, surgery, and midwifery occupied his surplus time.

Sir HOLBURN WARING said that in his experience there had been great difficulty in interpreting the rules and regulations of the Council. The Conjoint Board had tried conscientiously to carry them out, but had found that some of the difficulties had not been cleared up after correspondence with the Public Health Committee. It was quite a long time before replies were received, and when they were received they were not very clear. One of the difficulties in the regulations was that it could not be said whether the courses could be concurrent or not; presumably they could overlap. He was informed by representatives of the licensing bodies that the entire courses which the Council demanded could be carried through in nine months; the regulations said that they must be accomplished in twelve. He thought the Conjoint Board was entitled to more informative replies.

Sir JENNER VERRALL said that the Public Health Committee had devoted a considerable time to trying to escape from the dilemma which Sir Holburn Waring had just placed before them. The rules as drawn up precluded the possibility of getting through the courses in nine months. When the rules came up for revision it might be desirable to consider whether some compression of the course was possible, but under the rules as at present framed it was clearly not in order.

Sir GEORGE NEWMAN said that a few years ago it was relatively easy to obtain the diploma, and many took it with a desire simply to have an additional diploma for whatever it might be worth. When the Council decided to lay down some rules which would make the taking of the diploma more stringent, it was inevitable that there should be disappointment. The rules which were objected to really said two things—namely, that no man should take the D.P.H. until two years after his qualification, and that no man should take it until he had been twelve months—not



nine months—at the precise and particular study of public health as set out in the rules. The rules might be good or bad, but there they were, and the committee had no alternative but to administer them. The figures for the professional examinations held in 1927 for these qualifications as compared with ten years ago would show the difference the rules had made to the licensing bodies. The rules were designed by the Council to “turn off the tap” of the large number of men entering for the D.P.H. with no serious intention of taking up a public health career. It might be asked whether the “tap” had been turned off too far. But the fact was that there were candidates in ample number for public health appointments as presented in the advertising columns of the medical journals. It had been asked, What about the colonies? and the suggestion had been made that a compression of the course was specially desirable for students who came for this purpose from the Dominions. But this was a British diploma. The regulations for appointments in the colonies did not say that the D.P.H. must be held; sometimes it was said that preference would be given to such diplomates, but it was not a statutory requirement. He was afraid it was inevitable that when new rules were introduced there should be some disappointment, but the question was whether the public health service had been fortified, and whether enough candidates were forthcoming. On both issues there could be no doubt. He strongly denied Sir Holburt Waring’s statement that there was delay in answering questions from the licensing bodies. The procedure was that when a licensing body sent an interrogatory to the Registrar, the Registrar forwarded a letter to the chairman of the Public Health Committee, who immediately drafted a reply, which was sent to him or to Sir Leslie Mackenzie for endorsement, and was dealt with by them as quickly as the post would permit. Sir Holburt Waring had said that the answers were unsatisfactory, but he wished Sir Holburt himself would draft an answer. He (Sir George) spent the greater part of his life answering questions, and so far as the training for public health work was concerned he had charged himself with special responsibility, and all his resources at the Ministry of Health were available to any licensing body.

Sir NORMAN WALKER recalled that, many years ago, the Council attempted to draw up regulations for a curriculum of nine months for the D.P.H.—that was in days when the necessary requirements were much less complex than now—but Dr. David McVail pointed out that it would be of no use because the licensing bodies would immediately set to work to compress the nine months into six!

Dr. COFFEY asked why it should not be expressly stated in the regulations that the courses could not be completed in nine months. Why allow the licensing bodies to continue to think otherwise?

The PRESIDENT said that if study began on March 1st the student could not be admitted to examination until March 1st the following year, no matter how far his study had progressed.

Sir ROBERT BOLAM asked Sir George Newman, in view of his statement that there was an ample supply at the moment of qualified persons taking up the Public Health Diploma, whether he thought there was any danger of future lack of candidates arising out of the diminished numbers now entering the profession.

Sir GEORGE NEWMAN replied that he saw no danger. In 1927 the number passing the first examination under the new regulations was 208, and the final examination 161, out of totals of 294 and 225 respectively.

A recommendation, that the time had arrived for the visitation by the Council of the examinations held by the licensing bodies for the Diploma in Public Health, was carried.

#### GENERAL MEDICAL COUNCIL’S INCOME TAX.

Sir HOLBURT WARING (Senior Treasurer) presented the financial statement of the Council, which showed that the income of the General and Branch Councils for 1927 was £15,078, and the expenditure £12,046. The receipts for registration fees showed a decrease in England of £655, in Scotland of £302, and in Ireland of £500. The number of

practitioners registering, which decreased slightly in 1927 as compared with 1926, was likely to decrease for the next two or three years in consequence of the falling off of students which occurred markedly in 1923 owing to the new regulations. He reported, with regard to the question of income tax and the liability of the Council under Schedules A and D, that the unsuccessful appeal to the High Court last autumn had been followed by an appeal, equally unsuccessful, to the Court of Appeal. The Finance Committee was advised that there was no probability that a further appeal to the House of Lords would have any other result, and therefore additional expenditure on appeals would not be justified. The question of the Council’s liability had been under consideration since 1923, and meantime the payment of tax had not been made. The amount now due was £1,359, and the committee recommended that this sum be charged as an expenditure for the current year.

#### THE MEDICAL CURRICULUM.

Sir HUMPHRY ROLLESTON, chairman of the Education Committee, submitted a report on the progress made throughout the country towards the readjustment of the medical curriculum in accordance with the resolutions of the Council adopted in 1922. It contained merely the observations of certain of the licensing bodies.

Dr. BRACKENBURY desired to emphasize one point which he thought to be of considerable public importance. Statements had been made—outside the Council—that medical students were very imperfectly equipped for such services as ante-natal work, infant hygiene, minor ailments of children, and so forth. It had been part of the business of the Education Committee to point out the importance of these things to the teaching bodies—not, indeed, as new subjects in the curriculum, but as aspects of existing subjects. All these teaching bodies had now recognized in some way the importance of these matters, and had satisfied themselves that the students would be educated so that on qualification they would be able to undertake such services if they desired to do so. There was no excuse, therefore, so far as the Council was concerned, for public bodies or the medical officers of such bodies saying that in these particular fields other means must be taken, that the general practitioner was not educated in the performance of these duties, and that either, on the one hand, recourse must be made to whole-time specialists, or, on the other, that the duties must be entrusted to dentists, nurses, perhaps opticians, and osteopaths, as the case might be. The public could rely on the knowledge and trained ability of the general practitioner.

Sir JENNER VERRALL drew attention to the subject of medical ethics. He knew that the Council had not been slack in impressing on the licensing bodies the necessity of this particular matter, but the profession was desirous that enhanced importance should be given to it in the course of the medical curriculum. There was still a need for the various teaching bodies carefully and specifically to ask the attention of students, especially those on the point of becoming qualified, to this question.

A second report was forthcoming from the Education Committee on various matters remitted to it. Dealing with a resolution adopted at a conference on maternal mortality held in London on February 28th, calling for further training and experience in midwifery as a preliminary to general practice, the Education Committee stated that it was fully alive to the importance of medical students having satisfactory training and experience before taking the final examination in midwifery. It did not think any useful purpose would be served at present by proposing any changes in the curriculum, but it learned with gratification of the setting up of a departmental committee, and hoped that the Council would have the opportunity of offering evidence. The committee also expressed itself in sympathy with the resolution recently adopted and sent to the Minister of Health by the medical committee which he had appointed, asking that instruction might be given to medical students both in the social and scientific value of the official statistics of causes of death and in the practical construction of medical certificates.

A table was submitted showing that the number of practitioners registered during 1927 was 1,695 (942 from

English, 475 from Scottish, and 278 from Irish licensing bodies), and that the average length of the curriculum was five years and ten months.

Some discussion took place on the pre-registration qualifications of the student. Sir HENRY WAINING said that he did not think the pre-registration examination had worked out as well as the Council would have liked.

It was agreed to request the Education Committee to review the position of pre-registration examinations in their bearing on the medical curriculum, having in mind the different standards of instruction taken. From new regulations laid down at London University and by the Conjoint Board in London it appeared that in the first case a student could complete his curriculum after a maximum of fifty-four months—or even of fifty-one months in certain circumstances—and in the other case after fifty-seven months. The Conjoint Board seemed, in effect, to have gone back to the old regulations, under which a period of not more than six months spent at a secondary school or recognized institution could count as part of the curriculum.

#### RESULTS OF EXAMINATIONS.

Sir NORMAN WALKER, chairman of the Examination Committee, presented the yearly tables showing the results of examinations held in 1927 for qualifications admitting to the Register. The highest percentage of passes in medicine and surgery (85 per cent. in each case, with, respectively, 74 and 80 students entering) was obtained at Aberdeen University, and next in medicine came Dublin University, with 79 per cent. of passes, and in surgery Sheffield University, with 76 per cent. In the list of exemptions a feature was the number of holders of the degree of Bachelor of Science or of Arts of American universities, who claimed and obtained exemption from the first professional examination at the University of Edinburgh. The number of such was just upon forty. It was interesting, said Sir Norman Walker, that there should be a considerable number of young Americans who evidently thought that there were advantages in the study of medicine in the Old Country.

The committee proposed to present to the Council a report on the various examinations in materia medica, in respect of which there is a good deal of diversity.

#### ELECTION OF COMMITTEES.

During the session the following committees were elected:

**Executive.**—Sir R. Bolam, Sir G. Newman, Sir H. Rolleston, Sir J. Verrall, Sir H. Waring, Sir H. Young, Sir J. Hodsdon, Sir L. Mackenzie, Sir N. Walker, Dr. Dixon, Sir J. Moore, Mr. Sinclair.

**Dental Executive.**—As above, with Mr. Dolamore.

**Education Committee.**—Dr. Brackenbury, Sir F. Buzzard, Mr. Jamieson, Mr. Leathes, Sir G. Newman, Sir H. Rolleston, Sir J. Hodsdon, Dr. Mackay, Dr. Lorrain Smith, Dr. Dixon, Dr. Kidd, Mr. Sinclair.

**Examination Committee.**—Mr. Enson, Dr. Fawcett, Mr. Gamgee, Mr. Monsarrat, Dr. Stopford, Sir H. Waring, Dr. Mackintosh, Dr. Russell, Sir N. Walker, Dr. Coffey, Dr. Johnstone, Sir W. Taylor.

**Public Health Committee.**—Dr. Brackenbury, Mr. Eason, Sir G. Newman, Mr. Sheen, Mr. Thomson, Sir J. Verrall, Mr. Edington, Sir L. Mackenzie, Dr. L. Smith, Dr. Kidd, Dr. Magennis, Sir J. Moore.

**Pharmacopoeia.**—The President (chairman), Sir R. Bolam, Sir F. Buzzard, Dr. Dale, Mr. Leathes, Sir H. Rolleston, Sir H. Waring, Mr. Edington, Dr. Mackintosh, Sir N. Walker, Dr. Kidd, Dr. Magennis, Sir J. Moore.

**Finance Committee.**—Sir H. Waring (chairman), Sir G. Newman, Sir J. Hodsdon, Dr. Dixon.

**Business Committee.**—Sir N. Walker (chairman), Mr. Eason, Mr. Leathes, Dr. Magennis.

**Penal Cases Committee.**—Sir R. Bolam, Mr. Eason, Sir N. Walker, Dr. Coffey.

**Dental Education and Examination Committee.**—Sir J. Hodsdon (chairman), Mr. Ackland, Mr. Dolamore, Sir H. Waring, Mr. Guy, Mr. Sinclair.

The Education, Examination, and Public Health Committees are elected on the nominations of the Branch Councils. The President is *ex officio* a member of all committees.

#### REMOVAL OF NAME AT PRACTITIONER'S REQUEST.

The Council adopted a recommendation of the Executive Committee acceding to the application of Harold Dearden,

M.R.C.S.Eng., L.R.C.P.Lond., for the removal of his name from the Medical Register on the ground that he had ceased to practise. The Royal Colleges concerned had no valid objection to make.

#### DISCIPLINARY CASES.

##### Complaint with Regard to a Magazine Article.

The Council devoted a whole morning to the consideration of the case of Reginald Francis Edmund Austin, registered as of Wimpole Street, London, M.R.C.S., L.R.C.P., who was summoned on the charge:

That, being a registered medical practitioner, you sought to attract to yourself patients and to promote your own professional advantage by means of an article upon appendicitis written by you and published in the number for December, 1927, of the magazine *Health and Efficiency*, in which you extolled your own methods and depreciated those of other practitioners.

And that in relation to the facts so alleged you have been guilty of infamous conduct in a professional respect.

Mr. Melville, K.C., appeared for Major Austin, and Mr. Oswald Hempson, solicitor, for the Medical Defence Union, the complainants.

Mr. Hempson put in a statutory declaration by Dr. James Neal, general secretary of the Medical Defence Union, stating that the Council of that body had had the article under consideration, and believing that it constituted a case of self-advertisement and discredited the profession of medicine, resolved to bring it before the General Medical Council. Mr. Hempson said that a man must be known to some extent by his associates, and therefore he first called attention to certain advertisements in the publication in question, including many "cures" for various maladies, "gland treatment" for the renewal of youth, the electro-medical clinic of J. Stenson Hooker—a name which would be familiar to the Council—advertisements of chiropractors, and so forth. Major Austin must have been familiar with the character of this magazine, for he had been writing a series of articles for it since April, 1927. An editorial note at the beginning of the series said that readers would recognize the voice of one who spoke with authority. The article in question was headed: "Nature Cure Explained: The Truth about Appendix Operations: An Insane Medical Craze Exposed," and this was followed by the author's name and medical qualifications. On the first page of the article was a portrait of the late Florence Mills, "yet another victim of operation for appendicitis." He understood that with neither the title of the article nor the portrait and its caption had Major Austin anything to do. The article stated that, although in his younger days the author used to operate on appendicitis cases, for the last nineteen years, since reading an article in an American health magazine, he had not once advised an operation, and in no case had life been lost by his patients, even in gangrenous and pus cases. The article continued:

"Operative treatment frequently leaves the patient in bad health. . . . All this unnecessary operating to-day brings to mind a chestnut of my student days. 'What did you operate for?' inquired the medical student. 'For 100 guineas,' replied the eminent surgeon. 'Yes, but I mean, what did the patient have?' rejoined the student. 'He had 100 guineas,' said the eminent surgeon."

Could anything, Mr. Hempson asked, be imagined more insulting to the profession? Other extracts from the article were:

"Operation has become the accepted procedure, and the average medico no more questions its wisdom than he disputes the law of gravity. . . ."

"Surgeons when they operate in these cases work exactly opposite to Nature. And that is why the public so often hears that 'the operation was successful, but the patient died.' . . . all cases which rupture into the abdominal cavity are caused by the doctor himself in his efforts to make a diagnosis. He then, often points to the ruptured pus sac as evidence that the operation was 'just in time.'"

"Can there be any wonder that appendicitis is so fulminating in the hands of the orthodox medical man, or can there be any surprise at the high death rate?"

Mr. Hempson described the article as self-laudatory, full of the pronoun "I," and disparaging and insulting to the profession. In an editorial note in the same issue as the "appendicitis" article it was stated that "There is no denying that this is the 'golden age of surgery'—it is, for surgeons." The death of Florence Mills was mentioned—"dead, after being operated upon, at the age of 26; and on the other hand Major Austin, who never operates for appendicitis, has never yet lost a patient's life under his treatment. It is such cases as this one which arouse ordinarily quiet men to a kind of fury in reading such pernicious nonsense as that a patient is 'safer on the operating table than in crossing Trafalgar Square.'"

Major Austin, in evidence, said that he was 61 years of age and had been in practice for thirty-six years. Until 1921, with the exception of two years, his whole career had been spent in the medical service of the army in India, from which he retired with the rank of major, and entered private practice. He had been interested in "Nature cure" methods for twenty years; it was not a new or sudden interest on his part. Before these present articles he had never published anything in the lay press. What he said about "Nature cure" was the sincere expression of his views. He was sorry that his article should convey the impression that he depreciated his colleagues; he had not intended to attack the profession at all. The heading of the article was altered without his knowledge; the heading he had given was "Appendicectomy and Sanity." The portrait of Florence Mills was also inserted without his knowledge, nor could he accept responsibility for the editorial comment. Within a week of the publication of the article he protested to the editor against the way in which it was presented. This was before he heard from the British Medical

Association asking for an explanation. The other articles of the series, one of which was entitled "Nature *versus* the Knife in Cancer," had not been altered. He never saw the proof of the article; he was paid a small fee for writing it, but he had no financial interest in the journal.

In cross-examination Major Austin said that he had no intention to disparage men; his protest was against methods. The joke about the hundred guineas was a very old one, which he had heard made by Sir Arbuthnot Lane two years ago in a lecture on health; he had also seen it in medical journals, and it was frequently quoted at medical meetings. The remark, "The operation was successful, but the patient died," was also a common comment. Asked to justify his statement that all cases which ruptured into the abdominal cavity were caused by the doctor himself in his efforts to make a diagnosis, he said that this was true of every case that he had seen. He was aware of the nature of the magazine before he contributed to it; he had seen in it articles by Sir Arbuthnot Lane. The fact that a number of people who contributed to or advertised in it called themselves "doctor" had not troubled him. He agreed with the suggestion of his counsel, on re-examination, that the magazine contained many most reputable advertisements, and that the principal articles in this particular issue were of a kind to which no sort of objection could be taken. He had expressed himself in a way that he should not have done, but self-advertisement was the furthest thing from his mind. Asked why he contributed to a lay instead of a medical journal, he said that he had submitted to the *British Medical Journal* an article pointing out the value of "Nature cure"—an epitome of a lecture which he gave to a medical society in 1922—but it was rejected.

On behalf of the editor of *Health and Efficiency* a statutory declaration was put in bearing out Major Austin's statements as to the alterations which he (the editor) had made in the title of the article, the fact that no proof was sent to the author, and that Major Austin made a remonstrance to him a few days after the appearance of the article.

Mr. Melville, in a closing speech, expressed his client's great regret that he should have done anything which was not according to the accepted standards of the profession, and gave a solemn promise on his behalf that he would never contribute in future any articles to the lay press. In this article he had only been drawing on his experience as an illustration to justify him in declaring the "Nature cure" method to be the right one, and not with any idea of attracting patients. He had been in the army in India for twenty years, and he had perhaps not quite acquired that facility for precise expression which belonged very generally to the civil practitioner at home. The speaker thought that Mr. Hampson had over-emphasized the "joke." Many such jokes were told at the expense of the legal profession—more than at the expense of the medical—and he, for his part, never resented them.

After a brief period *in camera* the Council came to a decision which was announced by the PRESIDENT as follows:

Major Austin, I have to tell you that the Council has given very careful consideration to the charge brought against you, and the Council has found the facts alleged therein to have been proved to its satisfaction—namely, that you sought to attract to yourself patients and to promote your own professional advantage by means of an article in this magazine, in which you extolled your own methods and depreciated those of other practitioners. These facts, which have been proved, bring you within the terms of the Council's Warning Notice, which states that the practice of the Council, contrary to the public interest and discredit to the profession of medicine. The Council, as you will see from the terms of the Warning Notice, takes a serious view of such cases. In order, however, to give you time to realize your position in this regard, the Council has postponed judgement on the facts proved against you until the May session of 1928, when you will be required to send to the Registrar the names of written application from the Registrar, to testify by letter, addressed to him for the use of the Council, as to your conduct, especially in reference to this practice of advertising, in the interval of a year which will elapse. You will receive in due course a formal written intimation of what I have just announced to you, and the intimation will specify the date of the meeting to which I have referred, when you should be present; and you should understand that, in the event of any repetition of the offence during the interval, the Council may forthwith instruct the Registrar to erase your name from the *Medical Register*. The Council has taken account of what was said on your behalf by your counsel as to your error of judgement and your determination not to offend again, and your assurances will be recorded on the minutes.

#### Charge of Adultery during Professional Relationship.

The last case considered by the Council was that of Lewis Jones, registered as of Norfolk Street, London, M.R.C.S., L.R.C.P., who was summoned on the charge that he had abused his position by committing adultery with Alice Mary Braden, a married woman, with whom and whose husband he stood in professional relationship, of which adultery he had been found guilty by the decree of the Divorce Division in June, 1927, made absolute in December of the same year, in the case of Braden v. Braden and Lewis Jones, in which he was the co-respondent.

There was no complainant in the case, and the facts were laid before the Council by the Council's Solicitor, Mr. Harper. He said that Mr. Braden was married in 1918, and Dr. Lewis Jones attended both husband and wife from about that time until 1926, when he (the husband) became suspicious as to the relationship. Later the couple went away together.

Mr. Ronald Braden testified that he lived at Crouch Hill, and that his marriage was happy until 1926. Dr. Lewis Jones, who was in practice in the Hornsey neighbourhood, attended his wife's family before his own marriage. In 1919 the witness was discharged from the army and was instructed by the Ministry of Pensions to place himself under the care of a local practitioner,

and accordingly selected Dr. Jones. Letters to the witness from his wife and from Dr. Jones after they had gone away together were read. Bottles of medicine with the labels in Dr. Jones's handwriting and addressed to Mrs. Braden were exhibited; these were found in the house after Mrs. Braden had left her husband. In cross-examination Mr. Braden said that his wife was occasionally attended by Dr. Jessie Maxwell of Crouch End, but Dr. Lewis Jones was her medical attendant. Dr. Jones was actually treating her a week before she left home with him. He had asked Dr. Jones on more than one occasion to send in his account, but the reply was that he could not think of doing so—he was a friend of the family.

A letter was put in from the Ministry of Pensions stating that periodical claims had been made to the Ministry of Pensions for attendance on Mr. Braden by Dr. Jones up to 1923. A servant maid employed by the Bradens gave evidence as to the doctor's attendances at the house.

Dr. Lewis Jones, examined by his counsel, Mr. Davies, said that he was 54 years of age, and commenced general practice in Hornsey in 1910. He had never attended Mrs. Braden as her doctor, though on one or two occasions, when she was suffering pain after dental treatment, he gave her an aspirin. He had treated Mr. Braden under the pensions scheme down to 1923. Mrs. Braden, he knew, was attended by Dr. Maxwell. The medicines produced were made up for Mrs. Braden after she had come away with him, and were left inadvertently at the house when she returned to fetch her belongings.

Mrs. Braden and her sister gave corroborative evidence.

Mr. Harper commented on the fact that Dr. Maxwell had not been called, and also on the circumstance that at a time when Dr. Jones and Mrs. Braden were admittedly living together at a hotel bottles of medicine should be made up and labelled for Mrs. Braden and somehow find their way to Mr. Braden's house.

After deliberation *in camera* the Council found that the facts alleged against Dr. Lewis Jones in the notice of inquiry had not been proved, and the case was accordingly dismissed.

#### Convictions for Misdemeanours.

The Council considered the case of Robert Louis Portway, registered as of Long Acre, London, M.R.C.S., L.R.C.P., D.P.H., who was summoned on the charge that he had been convicted in 1924 of being drunk and disorderly, and in 1927 of being drunk whilst in charge of a motor car. The Council's Solicitor, in stating the facts, said that after his conviction in 1924 Dr. Portway was warned by the Council. It was stated that as a result of the second conviction Dr. Portway had resigned an appointment worth £750 a year.

Dr. Portway made a statement to the Council, saying that he knew it was useless to go behind the conviction, but he wished to point out that he was brought before a county bench which was notoriously hard on motorists; had the case gone before a jury he had every reason to believe he would have been acquitted. He was not driving the car at the time; he had pulled it up on some common land and gone to sleep, when he was roughly awakened by a policeman, and after protest on his part was led off to the police station, where he lost his temper and his discretion. Had he been left alone he would have been all right. He had been already punished out of all proportion, for he had resigned a position in the Civil Service as a consequence of the conviction, and, having applied for and obtained an appointment in the Colonial Medical Service, he was turned down for this, also from the same cause.

The Council found the facts of the conviction proved, but postponed judgement until the November session on the usual conditions as to the production of testimonials as to conduct in the interval.

#### THE DENTAL BOARD.

A SESSION of the Dental Board, under the chairmanship of the Right Hon. Sir FRANCIS DYKE ACLAND, took place from May 8th to 11th. Mr. Michael Heseltine, C.B., was appointed by the Minister of Health a member of the Board in place of Mr. L. G. Brock, resigned to take up his duties as chairman of the Board of Control.

In his address from the chair Sir Francis Acland referred to a motion before the Board for reducing the retention fee to £3. Every pound of retention fee means about £9,500 in income. The present income, with a retention fee of £4, was rather over £2,000 in excess of expenditure, and there did not seem to be much margin for reducing the fee during even the earlier years of practice. He discussed certain alternatives, and expressed the hope that the Board would be able to find some way of lightening the burden during the early years. With regard to clinics he refrained from any statement, as he understood that certain aspects of this question might soon be *sub judice*, except to say that all the members of the Discipline Committee were fully alive to the possibilities of the commercialization of dentistry which might be involved and to the danger to the public interest. Any action must be directed, not by the wishes of the profession or of the Board, but solely by the duty of the Board to see that the law and the code of conduct proper to dentists were maintained. It must not be thought that the possibility, or indeed the desirability, of action in certain circumstances had been ruled out.

After discussion it was agreed to amend the regulations to

provide that the annual retention fee be kept at £4, that the annual registration fee for 1929 and future years be fixed at £2, and that the annual retention fee for the two years immediately following original registration be £2.

The Board agreed that the grants in aid of dental teaching should be increased from £21,000 to £24,000. The number of students who had been assisted by grants and loans up to the present was 464, of whom 242 had qualified. A report was made on the dental health propaganda undertaken by the Board; this has taken the form of films, posters, transparencies in public vehicles, etc. The Research Committee brought forward a number of reports on investigations; these were "progress" reports from the committee of the Medical Research Council for the investigation of dental disease and the Dental Investigation Committee of the Department of Scientific and Industrial Research. A sixth series of post-registration lectures was arranged for next winter in London, Manchester, Sheffield, and possibly Glasgow. In reply to a request from the British Dental Association the Board reaffirmed a previous resolution that the insertion of appointments in local directories, even though no payment was made, was undesirable.

#### Disciplinary Business.

The Board had before it no fewer than 14 disciplinary inquiries. In only one case was it found that the facts set out in the complaint had not been proved, but in nine other cases the Board, while deciding that the facts had been proved, did not proceed to a "finding," but gave a warning to the practitioner or required him to appear with testimonials at a later session. Another case was that of Frank Ernest Cor, registered as of Defoe Road, Tooting, who had previously appeared on a charge that he had certified the completion of certain work to a society, and had been paid therefor, whereas no dentures were in fact supplied. When this case came before the General Medical Council (*Supplement*, December 10th, 1927, p. 227) the Council remitted it to the Board for further inquiry. The Board now, on further consideration, decided that Mr. Cor's name ought not to be erased from the *Register*, but added that Mr. Cor, who did not appear before the Board at the original inquiry, might have saved himself a good deal of inconvenience, and the Board some trouble, if he had appeared before it when he was called upon to do so in the first instance.

In three cases the Board found that the name ought to be erased from the *Register*, and made a recommendation to that effect to the General Medical Council. The first was the case of Laurent Eugene Deprimoz, registered as of Whitehorse Road, Croydon, "Dentist, 1921," who was summoned on the charge that he had abused his position by committing adultery with a married woman with whom he stood in professional relationship, of which adultery he had been found guilty by the decree of the Divorce Division in a case in which he was the co-respondent. There was a sharp conflict of evidence in the case, Mr. Deprimoz denying that there had been any professional relationship, except that on one occasion he had made a denture for the woman in question as a gift. The Board, however, found as stated, and when the case came before the General Medical Council on May 22nd, after hearing further Mr. Deprimoz's counsel and the Board's solicitor, the Council decided that Mr. Deprimoz had been guilty of conduct which was infamous or disgraceful in a professional respect, and directed the Registrar to erase his name from the *Dentists Register*.

The second case was that of Alfred Catlow, registered as of Westgate, Burnley, "Dentist, 1921," who was summoned on the charge that he had been convicted of certain misdemeanours—namely, that unlawfully and by a certain false pretence and with intent to defraud he had obtained from the Amalgamated Weavers' Association two sums of £1 each in respect to the alleged making of dentures. Mr. Catlow's defence was that the faults were those of his agent. The Board found that the name ought to be erased, and on the case coming before the General Medical Council on May 22nd the Council, after hearing the Board's solicitor, and considering a letter from Mr. Catlow, who was not present, decided that, Alfred Catlow having been found to have been convicted of the misdemeanours or offences alleged against him, his name must be erased from the *Dentists Register*.

The third case was that of Henry Patrick Jones, registered as of Woodlesford, Yorkshire, "Dentist, 1921," who was summoned on the charge of having canvassed for the purpose of procuring patients. The complainants were the Public Dental Service Association. It appeared that the respondent had been warned by the Registrar with regard to certain methods he had adopted in his practice, and gave an undertaking to discontinue them, but broke the undertaking for reasons which seemed to him to be sufficient—namely, that a certain approved society had convinced him that he was not canvassing. The Board came to the conclusion that Mr. Jones was not only canvassing, but was doing so in breach of his undertaking and in defiance of the Board, and found that his name ought to be erased from the *Register*.

On the case coming before the General Medical Council on May 22nd a long hearing was given to it, and counsel for the complainants and solicitor for the respondent addressed the Council. The Council, in order to give the practitioner some time to realize his position, adjourned pronouncing judgement until May of next year, when he would be required to produce evidence from his professional brethren and others of standing in his neighbourhood as to his professional conduct generally and in particular with regard to his conduct in relation to the practice of canvassing and of making unprofessional attempts to procure patients.

## Correspondence.

### Examination of Vagrants for Small-Pox.

Sm.—The Current Note on page 221 of the *Supplement* of May 26th about examination of vagrants for small-pox comes rather late in the day. One quarter is past and paid for. I made arrangements with my board on fair lines, and they agreed.

The arrangement that I have made is that they pay the usual fee for a visit in the immediate neighbourhood (under one mile)—that is, 5s.—and I see any casual or casuals; they vary from one to eight. This seems reasonable to me, and I am satisfied with the remuneration. There are, on an average, casuals to be seen on four or five days a week. The work does not take long. It certainly ties one up to a slight extent, since I try to visit the casual ward as early as possible.—I am, etc.,

Woolley R.S.O., Herefordshire, May 27th.

JOHN S. CLARKE.

## Naval and Military Appointments.

### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenants R. R. Baker to the *Vindictive*; W. D. M. Sim to the *Pembroke* for the R.N. Infirmary, Chatham, temporary; R. W. Higgins to the *Tamar* for R.N. Hospital, Hong-Kong; D. R. Campbell to the

service) W. P. E. McIntyre has transferred

as Surgeon Lieutenant (short service) and appointed to Haslar Hospital for course of instruction.

### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenants H. E. Hall and W. J. Payno to be Surgeon Lieutenant Commanders.

### ROYAL ARMY MEDICAL CORPS.

Major C. R. Nislar, D.S.O., to be Lieutenant-Colonel, vice Lieut.-Colonel E. E. Parker, deceased.

Major E. Varvill, M.C., retires on retired pay.

Captain T. H. Twigg to be Major (prov.) and remains seconded.

Temporary Captain J. W. Fell relinquishes his commission and resumes the rank of Captain.

Temporary Lieutenant J. D. Cooper relinquishes his commission.

### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants P. D. Barling to Headquarters, Middle East; A. F. Cook to No. 2 Armoured Car Company, Middle East.

The following Flying Officers are promoted to the rank of Flight Lieutenant: P. H. Perkins and S. F. Heatley.

### RESERVE OF AIR FORCE OFFICERS: MEDICAL BRANCH.

Flight Lieutenant F. K. Wilson is transferred from Class Dii to Class Di.

### REGULAR ARMY.

Lieut.-Colonel and Brevet Colonel (Temporary Colonel) J. C. Kennedy, C.B.E., K.M.P., from R.A.M.C., to be Colonel.

## VACANCIES.

ASHTON-UNDER-LYNE UNION.—Medical Superintendent of Lake Hospital and Medical Officer of Darlton House, also Second Medical Officer. Salary £300 and £150 per annum respectively.

BIRMINGHAM HOSPITAL.—Resident Medical Officer. Salary £200 per annum. BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.—Resident House-Surgeon. Salary £150.

BIRMINGHAM GENERAL HOSPITAL.—Assistant Surgeon. Honorarium £50 per annum.

BRIGHTON: ROYAL ALEXANDRIA HOSPITAL FOR SICK CHILDREN.—House-Surgeon (male). Salary at the rate of £120 per annum.

BRISTOL GENERAL HOSPITAL.—Honorary Clinical Assistants.

CAMBRIDGE UNIVERSITY: PATHOLOGICAL LABORATORY.—John Lucas Walker Studentship. Annual value £300.

CHESTER CITY.—Assistant Medical Officer of Health. Salary £600 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—(1) Radiologist; honorarium 150 guineas per annum. (2) House-Physician (male). Salary at the rate of £100 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—House-Surgeon (male). Salary £150 per annum.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Resident House-Surgeon. (2) Resident House-Physician. Males. Salary at the rate of £125 per annum each.

DARLINGTON GENERAL HOSPITAL.—Honorary Assistant Surgeon.

DEVONPORT: ROYAL ALBERT HOSPITAL AND EYE INFIRMARY.—Assistant House-Surgeon (unmarried). Salary at the rate of £50 per annum.

DONCASTER: ROYAL INFIRMARY.—Third House-Surgeon (male). Salary at the rate of £150 per annum.

DURHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary £120 per annum.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Junior Assistant Medical Officer. Salary £350 per annum, rising to £400.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—(1) House-Physician. (2) Obstetric Assistant. (3) Two House-Surgeons. Salary at the rate of £50 per annum each.

HANSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Casualty Surgical Officer at the Out-patient Department, Bayham Street. Salary at the rate of £100 per annum.



IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Two House-Surgeons (males). Salary at the rate of £100 per annum each.

LIVERPOOL SANATORIUM, Delamere Forest.—Assistant to the Medical Superintendent. Salary £250 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Physician.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—Research Studentship in the Department of Medical Entomology. Value £250 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon (male). Salary £120 per annum.

MANCHESTER CITY.—Assistant Medical Officer at Baguley Sanatorium. Salary £350 per annum.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £500 per annum, rising to £750.

MANCHESTER ROYAL EYE HOSPITAL.—Senior and Junior House-Surgeons. Salary £150 and £120 per annum respectively.

MURBAT: ROYAL SEA-BATHING HOSPITAL.—Male House-Surgeon. Salary at the rate of £100 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—House-Physician (male, unmarried). Salary £115 per annum.

NEWCASTLE-UPON-TYNE EYE HOSPITAL.—Junior House-Surgeon. Salary £100 per annum.

OLDMAN ROYAL INFIRMARY.—House-Surgeons in charge of (1) Women's and Children's Wards, (2) Male Wards, (3) Out-patients and Special Departments. Salary at the rate of £175 per annum each.

PAPWORTH VILLAGE SETTLEMENT.—Second Assistant Medical Officer. Salary £250 per annum.

POPULAR HOSPITAL FOR ACCIDENTS, E.—Senior Resident Officer. Salary £200 per annum, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children.

PRESTWICH, NEAR MANCHESTER: COUNTY MENTAL HOSPITAL.—Assistant Medical Officer. Salary £350 per annum, rising to £450.

RENFREWSHIRE EDUCATION AUTHORITY.—School Medical Officer. Salary £500 per annum, increasing to £675.

ROYAL CHEST HOSPITAL, City Road, E.C.—Medical Registrar (part-time). Honorarium £50 per annum.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—House-Surgeon. Salary at the rate of £70 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.1.—House-Physician (male). Salary at the rate of £100 per annum.

ST. MARY'S HOSPITAL, W.2.—Assistant Director to the Surgical Unit. Salary £750 per annum.

ST. PETER'S HOSPITAL FOR STONE, Henrietta Street, W.C.2.—Clinical Assistants.

SALFORD ROYAL HOSPITAL.—(1) House-Physician attached to (a) Orthopaedic Department, (b) General Department, (c) Gynaecological, Aural, and Skin. Salary at the rate of £125 per annum each.

SALVATION ARMY: THE MOTHERS' HOSPITAL, Lower Clapton Road, E.5.—Junior Resident Medical Officer. Salary at the rate of £60 per annum.

SHEPHERD: PARISH COUNCIL OF TINGWALL, WHITNESS, AND WEIRDALE.—Parish Medical Officer and Parochial Vaccinator. Salary from Parish Council £56 per annum.

SOUTHAMPTON: ROYAL SOUTH HAMPS AND SOUTHAMPTON HOSPITAL.—House-Physician (male, unmarried). Salary £130 per annum.

STEPNEY PARISH.—Resident Deputy Medical Superintendent at the St. Peter's (Whitechapel) Hospital. Salary £600 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.3.—Senior Resident Medical Officer (male). Salary £250 per annum.

WILLESDEN GENERAL HOSPITAL.—(1) Clinical Assistant to the Gynaecological Out-patient Department. (2) Two Clinical Assistants to the Surgical Out-patient Department.

WREXHAM AND DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Two Resident House-Surgeons (male). Salary £100 per annum each.

WINDSOR: KING EDWARD VII HOSPITAL.—Senior House-Surgeon. Salary at the rate of £120 per annum.

CERTIFYING FACTORY SURGEONS.—The following announced: Wishaw (Lanarkshire), Scalloway (Orkney-shire). Applications to the Chief Inspector, Whitehall, S.W.1.

MEDICAL REFEREE (Ophthalmic Specialist) for the Lanark District. Applications to the Private Secretary, Scottish Office, Whitehall, S.W.1, by June 23rd.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

### APPOINTMENTS.

ST. MARY'S HOSPITAL, London, W.—Surgeon in charge of In-patients: V. Z. Cope, M.D., M.S., F.R.C.S. Surgeon in charge of Out-patients: R. M. Handfield-Jones, M.C., M.S., F.R.C.S.

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

Section of Obstetrics and Gynaecology.—Fri., 8 p.m., Professor A. Louise McIlroy: A Case of Dysmenorrhoea due to Calcification of the Ovary; Mr. Clifford White: Vulval Metastases from Pelvic Growths; Professor W. Stroganoff (Leningrad): Standard of Results in the Treatment of Eclampsia—An Experiment in the Treatment of Eclampsia by Telephone (communicated by the Honorary Secretary).  
—At the Pharmacological Laboratory, Oxford: General Meeting.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 5 p.m., Croonian Lecture by Dr. C. Bolton, C.B.E.: The Interpretation of Gastric Symptoms.

#### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Royal Eye Hospital, St. George's Circus, Southwark, S.E.: Mon., 3 p.m., Clinical Demonstration; no fee. Royal Northern Hospital, Holloway Road, N.7: Mon., 10 a.m., Clinical Demonstration; no fee. Hospital for Epilepsy and Paralysis, Maida Vale, W.9: Tues., 2 p.m., Clinical Demonstration; no fee. Children's Clinic, Cosway Street, N.W.1: and

other Hospitals: Second week, Instruction in all branches of Diseases of Children; fee for one week, £1 1s. Syllabus on application to the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Mon., 1.30 p.m., Examination of the Nose. Wed., 1.30 p.m., Examination of the Ear.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 p.m., Demonstration of Medical Cases: 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical; Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics: 2.30 p.m., Demonstration of Surgical Cases: 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics: 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., The Autonomic Nervous System, its Form and Functions.  
ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Wed., 4.30 p.m., Treatment of Enlarged Prostate. Tea at 4 p.m.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards, Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards, Demonstration of Venereal Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye, Ear, Nose, and Throat, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear Operations, Medical Children's Department, Bacterial Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Out-patient Departments.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m., Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

MANCHESTER: ANCONTS HOSPITAL.—Thurs., 4.15 p.m., Treatment of Fractures, with Demonstrations. Tea at 3.45 p.m.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Jessop Hospital: Tues., 3.30 p.m., Ulcers and Tips in Midwifery. At Royal Hospital: Fri., 3.30 p.m., Clinical Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTION .. Secretary and Business  
Manager .. don.  
Medical Sec .. at, London.  
Editor .. Atiology Westcent,  
London.

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24361 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Baclilus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

##### JUNE.

- 8 Fri. City Division: Clinical Meeting, Metropolitan Hospital, Kingsland Road, E., 4.30 p.m.  
Southern Branch: Annual Meeting, Queen's Hotel, Southsea. Colonel MacArthur on Some Medical References to Pepys, preceded by Supper, 9 p.m.
- 11 Mon. Hereford Division: Annual Meeting, 20, East Street, Hereford, 3.30 p.m.
- 12 Tues. Hastings Division: Hastings Infirmary, Frederick Road, 3.15 p.m.  
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. W. Langdon Brown on Endocrinology and the Future, 9 p.m.
- 13 Wed. London: Council, 10 a.m.  
Southern Branch: Royal Portsmouth Hospital, Sir Archdall Reid on Intestinal Toxaemia, 3 p.m.
- 14 Thurs. Hampstead Division: Annual Meeting, Hampstead General Hospital, 8.30 p.m.  
Hyde Division: Annual Meeting, Hyde Town Hall, 8.30 p.m.  
Kent Branch: Annual Meeting, Acacia Hall, Dartford, 2 p.m.  
Luncheon, 1 p.m.
- 15 Fri. Border Counties Branch: County Buildings, Dumfries, 3 p.m.
- 19 Tues. London: Central Clinical Committee, 2.15 p.m.  
Lewisham Division: Town Hall, Catford. Mr. J. M. Redding on X-ray Examination of the Alimentary Tract, 8.45 p.m.  
Metropolitan Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4 p.m.
- 20 Wed. London: Private Practice Committee, 2 p.m.  
Sunderland Division: Royal Infirmary, Sunderland, 8.15 p.m.  
Willesden Division: Willesden Hospital, Harlesden Road, N.W. Dr. Margaret Emslie on the Care of the Infant, 9 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

#### DEATHS.

YOUNG.—At Accra, West Africa, on May 28th, of yellow fever, Dr. W. A. Young, aged 39, Director of Medical Research, West African Medical Service, and of Mabene, Letham, Forfarshire.  
YOUNGER.—On June 2nd, at 2, Meeklenburgh Square, W.C.1, George Younger, son of John Younger, M.R.C.S., L.R.C.P., son of the late Dr. E. G. Younger, and beloved husband of Lilian Elizabeth Younger (née Abdy).



# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 16TH, 1928.

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### British Medical Association.

#### CURRENT NOTES.

##### Reports on Deaths furnished by Doctors at the Request of Coroners.

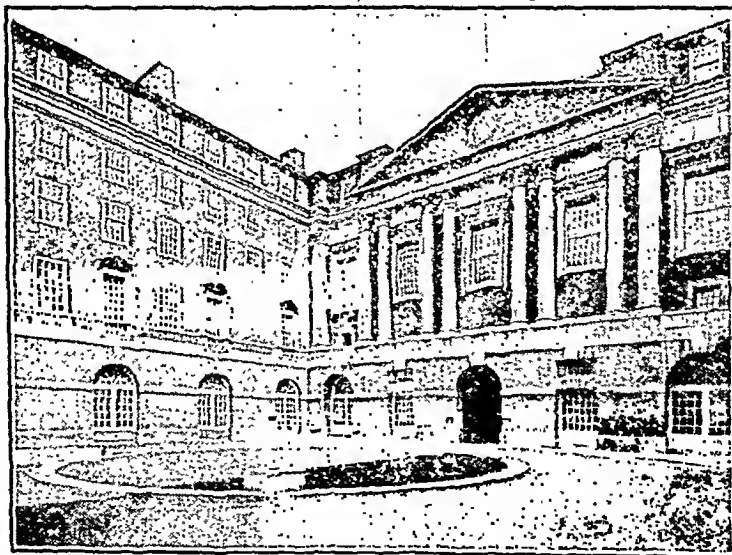
THE Medico-Political Committee at its last meeting had before it a report from the Divisions which had taken action to persuade local authorities to authorize their coroners to pay a fee to doctors for furnishing, on request, information in regard to sudden deaths which might enable them to dispense with inquests. The report showed that most of the Divisions which had taken action had succeeded, but there are still many areas where no action has been taken. Those Divisions which have not yet made their effort should be encouraged by what has been done, and remember that they have a very good argument on which to base their request—namely, that of economy. An expenditure of 10s. 6d. is well worth while to a local authority if it results in information which obviates the cost of an inquest, not to mention the possible additional cost of a *post-mortem* examination. Doctors should wait for the coroner's request for information before supplying a report.

As soon as it can be shown that more authorities are paying these fees than are not, it will be possible for the British Medical Association to approach the Home Office with a view to persuading that Department to bring pressure to bear on the areas that are not paying, or in the alternative to make a general rule applying to the whole country.

##### Help to Individual Members.

The Association is in possession of a very large amount of information on all matters affecting medical practitioners in their professional lives. It is thus often able to help members individually in difficulties of a professional nature, and doing so constitutes a considerable part of its daily work. The Medical Department alone has some 5,000 files, dealing with all branches of medical activity. The Intelligence Department, besides assisting

in the collecting and recording of information, has a supply of press cuttings on matters concerning the profession, and this information, together with that arising in the course of correspondence, is so far as possible filed in such a way as to be readily available for the assistance of members through the medium of the Editorial and Medical Departments. Inquiries by members, whether through the honorary secretaries of Divisions or Branches, or otherwise, on any matter of doubt or difficulty affecting them in their professional capacity are welcomed; such inquiries should be addressed to the Medical Secretary. Expert opinion on income-tax questions as affecting the profession is published in the *British Medical Journal*. The Solicitors of the Association are consulted when legal matters arise which affect the general interests of the profession.



BRITISH MEDICAL ASSOCIATION HOUSE: COURT OF HONOUR.

##### Medical Appointments Abroad.

The head office of the British Medical Association has a good deal of information placed at its disposal by its Branches overseas, which may be very useful to those proposing to accept medical appointments abroad. Practi-

tioners are cordially invited to apply to the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, for any information that may be available regarding overseas appointments in which they may be interested.

#### British Medical Association Library.

The Association's Library contains more than 30,000 volumes, including books in all branches of medical literature. It is open on weekdays from 10 a.m. to 6.30 p.m. (Saturdays from 10 a.m. to 2 p.m.). The librarian and his assistant are always ready to help members to find books or references. Besides the facilities afforded to members for consulting monographs, periodicals, and works of reference in the library, books in all branches of medical literature and many in general science can be obtained on loan by members resident in the British Isles, free of charge (other than postage), from the lending department. The books issued include latest editions, new books and new editions being made available as soon as possible after publication. Books can ordinarily be kept for twenty-eight days. Inquiries about the library and lending department should be addressed to the Librarian, British Medical Association House, Tavistock Square, London, W.C.1.

#### Middlemore Prize, 1929.

The Middlemore Prize consists of a cheque for £50 and a certificate, and was founded by the late Richard Middlemore, F.R.C.S., of Birmingham, to be awarded for the best essay or work on any subject which the Council of the British Medical Association may from time to time select in any department of ophthalmic medicine or surgery. The Council is prepared to consider an award of the prize in the year 1929 to the author of the best essay on the following subject: "The clinical study of the vitreous body, its swellings, contractions, opacities, and reactions to toxic invasion; with special reference to glaucoma and detached retina." Essays submitted in competition must reach the Medical Secretary, B.M.A. House, Tavistock Square, W.C.1, by December 31st, 1928. Each essay must be signed with a motto and accompanied by a sealed envelope, marked on the outside with the motto, and containing the name and address of the author. In the event of no essay being of sufficient merit, the prize will not be awarded in 1929.

#### Access to the B.M.A. House.

The private roadway and pavements leading into the British Medical Association House from Tavistock Square are now entirely closed for traffic while excavations are in progress, and the Association can take no responsibility for accidents occurring to persons who may pass through the site of the work now proceeding. A covered wooden passage has been constructed to form an entrance to the building for foot passengers from Tavistock Square. Members and others who do not wish to use this covered way, or who wish to bring motor cars or other vehicles into the Association's premises, must proceed southwards down Tavistock Square, turning left at the bottom of the Square into Tavistock Place, turning left again into Marchmont Street, and again left round Cartwright Gardens, thus entering the courtyard of the B.M.A. House through the archway under the Great Hall.

### Association Notices.

#### PROPOSED AMALGAMATION OF GLASGOW CENTRAL, GLASGOW EASTERN, GLASGOW NORTH-WESTERN, AND GLASGOW SOUTHERN DIVISIONS, TO FORM A "GLASGOW DIVISION."

NOTICE is hereby given of the following proposals made by the Glasgow and West of Scotland Branch:

(1) That the existing Glasgow Central, Glasgow Eastern, Glasgow North-Western, and Glasgow Southern Divisions of the Glasgow and West of Scotland Branch be amalgamated, and their total area extended, to form a "Glasgow Division," coterminous with the City of Glasgow, the areas of the Dumbartonshire, Lanarkshire, and Renfrewshire and Buteshire Divisions being modified accordingly.

Or alternatively, in the event of the foregoing proposal for formation of a "Glasgow Division" not being approved:

(2) That the boundaries of the Glasgow Central, Glasgow Eastern, Glasgow North-Western, and Glasgow Southern Divisions be adjusted so as to make the total area of these Divisions correspond with that of the City of Glasgow, the areas of the Dumbartonshire, Lanarkshire, and Renfrewshire and Buteshire Divisions being modified accordingly.

Written notice of the above proposals has been given to the existing Divisions above mentioned, and the matter will be determined in due course by the Council of the Association. Any body, or member, affected by the proposed changes or either of them, and objecting thereto, is requested to write, giving reasons, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than July 9th, 1928.

ALFRED COX, *Medical Secretary.*

#### TABLE OF DATES.

June 21, Thurs.	Meetings of Constituencies must be held between this date and July 20th to instruct Representatives.
June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL</i> SUPPLEMENT.
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, *Medical Secretary.*

#### BRANCH AND DIVISION MEETINGS TO BE HELD.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual social meeting of the Bournemouth Division will be held on Saturday, July 14th, when a visit will be paid to the Pitt Rivers Museum, Farnham, Blandford, to be followed by tea at Larma Tree Grounds, Toller Royal.

**DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.**—The annual supper of the West Dorset Division will be held at the Antelope Hotel, Dorchester, on Thursday, June 21st, at 7.30 p.m. Tickets 6s. each (exclusive of wines). The annual meeting will be held after supper. Agenda: Election of officers, Executive Committee, and members of Branch Council for 1928-29; consideration of the Annual Report of the Council of the Association and instructions to representative; annual report of honorary secretary.

**EDINBURGH BRANCH.**—The annual meeting of the Edinburgh Branch will be held at Pathhead Ford on Tuesday, June 26th. Luncheon will be provided in the Hall, Pathhead, at 12.15 for 12.30 p.m. (charge 4s.). Dr. Craig (Pathhead) has obtained the courtesy of the green of the Ford Valley Golf Club for the annual competition (stroke). He has also obtained the courtesy of the Pathhead bowling green. Visits have been arranged for Prestonhall Gardens, Crichton Castle, and Church, and the Vogrie Nursing Home, the latter by invitation of Professor G. M. Robertson. At 4.30 p.m. Dr. Craig will entertain the party to tea. The business meeting will take place at 5 o'clock. Agenda: Report of Branch, treasurer's business, and annual report; election of officers; representation of golf competition prizes; report of election of representative to the Central Council; filling of vacancy on the board of the Queen Mary Nursing Home; proceedings of Scottish Committee; Annual Report of Council and Annual Representative Meeting; Power of Branch to appoint additional members to Branch Council under Rule 4 (2) (g).

**METROPOLITAN COUNTIES BRANCH.**—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 19th, at 4 p.m. Business: (1) Report of secretaries on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) presidential address by Dr. Christine Murrell entitled "Our changing times."

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—A meeting of the Hendon Division will be held at the Hendon Cottage Hospital on Friday, June 29th, at 8.30 p.m., when members are invited to show cases. The meeting will subsequently discuss the Supplementary Report.

**METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.**—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, June 19th, at 8.45 p.m. Mr. J. M. Redding will read a paper on some points in the x-ray examination of the alimentary tract.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, July 10th, at 9 p.m. Dr. W. Camac Wilkinson will read a paper on the home treatment of tuberculosis by the general practitioner.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—Two meetings of the Wandsworth Division will be held in the Town Hall, Wandsworth, to consider the Koch diagnosis and treatment of tuberculosis by means of tuberculin, together with a proposal for a collective investigation into the subject. The first meeting will be held on Friday, June 22nd, at 9 p.m., when Dr. Robert Carswell will read a paper on "History and diagnosis." At the second meeting, on Friday, June 29th, at 9 p.m., Dr. Carswell will read another paper entitled "Treatment, and a proposal for a collective investigation." The meetings will be open to all members of the medical profession.

**METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.**—A meeting of the Willesden Division will be held at the Willesden Hospital, Harlesden Road, N.W., on Wednesday, June 20th, at 9 p.m. Dr. Margaret Enslie will discuss the care of the infant.

**NORFOLK BRANCH.**—The annual meeting of the Norfolk Branch will be held at the Town Hall, Aylsham, on Thursday, July 5th, at 3 p.m. Agenda: Report of the Branch Council and annual financial statement; induction of the new president, Dr. B. B. Sapwell, by the retiring president, Sir Hamilton Ballance, K.B.E., C.B.; election of officers; an address by Mr. Vivian Carter, British secretary of Rotary International, on the diagnosis of personality. Ten (to which ladies are invited) at 4.30 p.m. at the Grange, Aylsham, by invitation of Dr. Sapwell and Miss Sapwell.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch is to be held at Kyle of Lochalsh on June 30th. This will be the first meeting of the Branch which has been held in the area of the Islands Division.

**NORTHERN COUNTIES OF SCOTLAND BRANCH: ISLANDS DIVISION.**—The general meeting of the Islands Division will be held on Saturday, June 30th, in the Station Hotel, Kyle of Lochalsh, at 10.30 a.m., to elect officers and Executive Committee.

**NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.**—A meeting of the Division will be held at the Royal Infirmary, Sunderland, on Wednesday, June 20th, at 8.15 p.m. Among the matters to be considered at this meeting is the question of the adoption by the Division of a resolution on the scale of minimum commencing salaries for whole-time chief medical officers of health.

**NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.**—The annual meeting of the North Lancashire and South Westmorland Branch will be held on Tuesday, July 3rd, at 3.15 p.m., in the Ethel Hedley Hospital, Calgarth (by kind permission of Dr. Hough and the Governors of the Hospital). Dr. J. Lang Cochran will deliver his presidential address. Ladies are invited, and a boat on Lake Windermere will be placed at their disposal.

**NORTH WALES BRANCH.**—The annual meeting of the North Wales Branch will be held at the North Wales Sanatorium, Llangrffan, Denbigh, on Friday, July 6th. The council of the Welsh National Memorial Association and the house committee of the sanatorium will entertain the members to lunch, and a tour of the institution will be made. Agenda and further particulars will be announced later, but members are requested to make a note of the date as a large attendance is hoped for.

**OXFORD AND READING BRANCH.**—A meeting of the Oxford and Reading Branch will be held at the Holloway Sanatorium, Virginia Water, on June 27th.

**SOUTHERN BRANCH: PORTSMOUTH DIVISION.**—The annual business meeting of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, June 21st, at 9.30 p.m., preceded by a supper at 9 p.m. Agenda: Election of officers and committee; Honorary Secretary's report; alteration of Rule 5; Resolution.

That the Council's proposed methods of publicity concerning public education in health are not in the best interests of the profession; Portsmouth Hospital Contributory Scheme; report of the Representatives' Committee.

**SOUTHERN BRANCH: JERSEY DIVISION.**—A meeting of the Jersey Division will be held at the General Hospital on Thursday, June 21st, at 8.30 p.m. Dr. A. H. Jacob will read a paper on tuberculosis from the point of view of the tuberculosis officer.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH.**—The fifty-eighth annual meeting of the South Wales and Monmouthshire Branch will be held at the Free Library, Victoria Gardens, Neath, on Thursday, June 21st, at 2.45 p.m. Agenda: Correspondence; Annual Report of Council and balance sheet for 1927; election of officers; installation of president; presidential address by Dr. J. M. Morris. The passing of the old family doctor. At the conclusion of the meeting, a visit will be paid to the National Oil Refineries at Llandarcy. The mayor, Councillor W. K. Owen, J.P., invites members to tea at Groll Grounds, Neath, recently purchased as a war memorial. If time permits some cases of interest to the general practitioner from the public health clinics will be shown by Dr. J. M. Morris.

**SOUTH-WESTERN BRANCH.**—The eighty-ninth annual meeting of the South-Western Branch will be held on Wednesday, June 27th, at 3.15 p.m., in Bromley's Café, Barnstaple, when Mr. Pickard will resign the chair to Dr. Harper, who will deliver his inaugural address entitled "The influence of William Smellie and William Hunter on obstetric medicine in the eighteenth century." The report of the Branch Council for the year 1927-28, and the financial statements of the Branch for the year 1928-29 will be presented to the meeting, and the Luncheon, by invitation of the President-Elect, will be taken at 1 o'clock at Bromley's Café, and after the meeting has concluded, tea will be provided. The annual dinner of the Branch, to which medical and non-medical guests and ladies are invited, will be

held at 7 o'clock at the café. Tickets, 8s. each (exclusive of wines), may be obtained from Dr. H. C. Jonas, Boutport Street, Barnstaple. Accommodation for the night could be arranged if notice is given to Dr. H. C. Jonas, Boutport Street, or Dr. Killard-Leavey, Litchdon House, Barnstaple.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Town Hall, Kingston-on-Thames, on Wednesday, June 27th, at 2.15 p.m. The Kingston-on-Thames Division invites members to lunch at Nuthall's Restaurant at 1 p.m. Colonel C. W. Proffit will address the meeting on the British Empire Cancer Campaign in Surrey, and the president (Dr. H. R. Cran) will deliver his presidential address. After the meeting members will motor to Epsom to visit Epsom College; tea will be taken in Big School. The annual dinner will be held at Reid's Restaurant, Ashley Road, Epsom, at 6.30 for 6.45 p.m. (tickets 7s. 6d., exclusive of wines).

**SUSSEX BRANCH.**—The fifteenth annual meeting of the Sussex Branch will be held in the Royal York Hotel, Brighton, on Thursday, June 21st, at 2 p.m. Agenda: Election of officers; induction of president to chair; Annual Report and Financial Statement of Council; presidential address. The members of the Brighton Division invite other members intending to be present to luncheon at the Royal York Hotel, Brighton, at 1 p.m. In the afternoon cars will leave the hotel about 3 p.m. for Falmer, where Dr. Eliot Curwen will demonstrate a Romano-British Settlement at Buckland Bank. Tea will be provided at Falmer. Members are invited to bring their wives to this excursion.

**SUSSEX BRANCH: BRIGHTON DIVISION.**—The next clinical meeting of the Brighton Division will be held at the Royal Sussex County Hospital, Brighton, on Thursday, June 28th, at 3.45 p.m.

**WILTSHIRE BRANCH.**—The annual meeting of the Wiltshire Branch will be held on Wednesday, June 27th, at 3 p.m., at the County Mental Hospital, Devizes, when a British Medical Association Lecture will be given by Mr. W. McAdam Eccles on the treatment of hernia by trusses, illustrated by their actual application.

**WEST SOMERSET BRANCH.**—The annual meeting of the West Somerset Branch will be held at Deller's Café, Taunton, on Saturday, June 23rd, at 12.15 noon. Agenda: Induction of president-elect; annual report; election of officers, Branch Council, and Ethical Committee.

**WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.**—The annual meeting of the Worcestershire and Herefordshire Branch will be held at the Hospital, Hereford, on Thursday, June 21st, at 3.15 p.m. Agenda: Report of Branch Council; election of president for 1929-30; election of honorary treasurer and secretary. Dr. Naish will vacate the chair and introduce his successor, Dr. Hincks. A clinical meeting will then be held. Dr. Naish invites all members of the Branch attending to have lunch with him at the Green Dragon Hotel at 1.30 p.m. After the meeting tea will be provided.

**YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.**—The annual picnic of the Huddersfield Division will be on Thursday, June 21st. The charabanc will leave York Place at 12.15 p.m. for Dovedale. Afternoon tea will be served at the Peveril of the Peak Hotel on arrival at 3.30 p.m. The afternoon will be spent in Dovedale, and the charabanc will leave Dovedale at 5.45 p.m. for Buxton, where dinner will be served at 6.45 p.m. at the St. Anne's Hotel. The party will leave Buxton at 8 p.m., and should arrive in Huddersfield about 10 o'clock. The inclusive charge for charabanc, tea, dinner (exclusive of beverages), and tips, will be £1 2s. 6d. per head; for those going in their own cars 10s. per head.

## Meetings of Branches and Divisions.

### CONNAUGHT BRANCH.

The annual general meeting of the Connaught Branch was held at the Railway Hotel, Galway, on May 19th.

Honorary Secretary, Dr. John Mills  
Committee, Mr. M. G. O'Malley and  
Representative Body, Dr. John Mills.  
Body, Dr. E. S. Foley.

The Report of Council was considered and discussed.

### ESSEX BRANCH.

The annual meeting of the Essex Branch was held at the Palace Hotel, Southend-on-Sea, on May 24th, when Dr. KEVERN (Wivenhoe), president, was in the chair, and forty-five members were present.

The following officers were elected for the ensuing year:

President, Dr. T. Brice Poole. Past-President, Dr. G. T. Ke. Dr. J. F. Walker. Honorary

Dr. KEVERN, having in the presidential chair, passed on to

into the presidential chair and badge

PRESIDENT and to the HONORARY SECRETARY, both of whom briefly

replied. Dr. BRICE POOLE expressed his gratitude for the honour

that had been done him in electing him president for the year, and invited all the members present to take lunch with him.

The HONORARY SECRETARY presented the financial statement for the year, which showed that the Branch Fund had a balance of £44 4s. 6d., and the Private Voluntary Fund a balance of £10 9s. 11d.

Dr. WALKER drew the attention of the meeting to the great

needs of the B.M.A. Charities Fund, and proposed that £5 should, as in the previous year, be sent to the Charities Fund from the Branch Voluntary Fund. Dr. HAYNES seconded this proposal, and suggested that the amount should be increased to the whole of the Voluntary Fund, which was unanimously agreed.

Lunch followed the meeting, at the invitation of Dr. Brice Ponle, and afterwards members and their wives had a most enjoyable cruise in a motor yacht across the mouth of the Thames and up the Medway.

#### GLASGOW AND WEST OF SCOTLAND BRANCH.

THE annual meeting of the Glasgow and West of Scotland Branch was held in the Glasgow Royal Infirmary on May 30th, about eighty members attended under the chairmanship of Dr. R. M. BUCHANAN, president.

The annual report of the Branch Council was read and approved. The following office-bearers were elected for the ensuing year:

*President*, Dr. R. M. Buchanan. *President-Elect*, Dr. G. C. Crawford. *Honorary Secretary*, Dr. J. G. McCutcheon. *Vice-President*, Dr. James Hill and Dr. J. P. Brown. *Honorary Treasurer*, Dr. A. S. Richmond. *Auditors*, Dr. J. Wallace Anderson and Dr. George A. Allan.

After the annual meeting a clinical demonstration was given by the medical and surgical staff of the Glasgow Royal Infirmary, when many interesting and instructive cases were demonstrated.

On the motion of the CHAIRMAN a vote of thanks to the directors, medical and surgical staffs, and nursing staffs for their hospitality to the members of the Branch was heartily adopted.

At the clinical meeting a collection was taken for medical charities, which amounted to £14 8s.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held at the Lawson Memorial Hospital, Golspie, on May 19th, under the chairmanship of the vice-president, Dr. E. K. MACKENZIE. The chairman referred to the death of Dr. J. W. Mackenzie, and the secretary was instructed to send a sympathetic letter to Mrs. Mackenzie. The chairman also referred to the serious illness of Dr. T. Macdonald, the president, and the secretary was instructed to send him a telegram of sympathy.

Mr. B. S. SIMPSON gave a demonstration of surgical cases, including fragilitas ossium, nucocoele of the appendix, Paget's disease of the nipple, congenital megacolon, spasmodic torticollis, and two cases of extensive injury of the hand.

Dr. J. B. SIMPSON read a paper on general anaesthesia, which proved very interesting and instructive. Dr. Simpson said that his usual method was to induce anaesthesia by means of ethyl chloride administered in a closed mask, and then to continue the anaesthesia with a mixture of ether and chloroform by the open method. He described also the method of anaesthesia by nitrous oxide and oxygen, and of the administration of carbon dioxide in connexion with anaesthesia, emphasizing its value in cases where there was difficulty with respiration.

#### NORTHERN COUNTIES OF SCOTLAND BRANCH: ISLANDS DIVISION.

A MEETING of the Islands Division was held in the Royal Hotel, Stornoway, on May 30th, when members of the Isle of Lewis acted as hosts. After dinner Mr. POAVES, surgeon to the new Lewis Hospital, conducted the members on a tour of inspection of the hospital, which was followed by a discussion on various matters.

#### NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

THE annual general meeting of the Cleveland Division was held at the Zetland Hotel, Saltburn-by-the-Sea, on May 17th. The annual report of the Executive Committee was approved.

The following officers were unanimously elected for the year 1928-29:

*Chairman*, Dr. James Brownlee. *Vice-Chairman*, Dr. H. Minnie Levick. *Representative in Representative Body*, Dr. John Inkster. *Assistant Secretary*, Dr. John the Maternity and Child Welfare Committee of Dr. John Howell.

The Middlesbrough and District Motor Club hospital insurance scheme was considered, and it was resolved that the secretary inform the club that the Division welcomed the scheme as an attempt to deal with the problem of the hospital treatment of motor accidents, but noted that the insurance covered maintenance only, and that their members would still be dependent on the charity of the honorary medical staff for their treatment.

Mr. H. D. Levick was appointed to represent the Division at a conference called by Sir Thomas Oliver to consider the question of the investigation of cancer in the northern counties. Dr. Dingle, the medical officer of health for Middlesbrough, notified the Division, through Dr. Levick, that he wished to make investigations into cancer in the town, and requested the help of members. It was resolved that members should notify Dr. Dingle voluntarily of any cases that came to their knowledge.

#### NORTH OF ENGLAND BRANCH: HEXHAM DIVISION.

THE annual meeting of the Hexham Division was held in the Abbey Hotel on May 25th, when Dr. FAIRCLOUGH was in the chair.

The annual report of the Executive Committee was received and approved, and the following officers were elected to serve during the ensuing year:

*Chairman*, Dr. Lloyd. *Vice-Chairman*, Dr. Turnbull.

It was agreed that the election of the representative and deputy

representative in the Representative Body (by the Consett Division) in the Hexham-Consett constituency be allowed to stand—namely, Drs. J. Charles and M. D. McKenzie.

A resolution that a voluntary levy of 5s. per member per annum be raised in defray cost of refreshments at meetings was carried. It was agreed to hold two summer meetings, one at Woolly Sanatorium and the other at Prudhoe Hall Colony for Mentally Defective Children, in June or July.

With regard to the inquiry into varicose ulceration treatment, five members expressed their willingness to reply.

The suggestion of the Council of the Durham University College of Medicine for a united endeavour of the Northern Counties to engage in the cancer campaign was approved, and the honorary secretary was elected to represent the Division at the proposed preliminary meeting.

#### NORTH WALES BRANCH: SOUTH CARMARVONSHIRE AND MERIONETH DIVISION.

A VERY successful meeting of the South Carmarvonshire and Merioneth Division was held at the Towyn Cottage Hospital on May 29th, when there was a good muster of members.

Previous to the meeting the members were entertained to lunch by Drs. H. P. ROWLANDS and J. A. DAVIES at the Corbett Hotel.

The Report of Council was considered, and it was resolved to ask the Representative Body not to adopt the recommendation for 8s. 8d. for attendance on juvenile members of friendly societies.

Dr. J. A. DAVIES showed cases of congenital claw-hand, paralysis of the hypoglossal nerve, and extensive ulceration of the legs. Dr. Davies also gave demonstrations of the x-ray and artificial sunlight apparatus at the hospital, and records of cases treated were shown. Dr. F. S. JACKSON showed a case of pseudo-hypertrophic paralysis (muscular).

At the conclusion of the meeting the members were entertained to tea by the matron of the hospital.

Altogether the meeting was one of the most pleasant functions in connexion with the Division in recent years.

#### OXFORD AND READING BRANCH: OXFORD DIVISION.

THE third meeting of the year of the Oxford Division was held at the Radcliffe Infirmary on May 23rd, when Dr. MONTGOMERY was in the chair and forty members were present.

The SECRETARY read a letter from headquarters about a demonstration of the handling of milk, and he was instructed to write and find out when and where this could be given.

Dr. A. G. WALTER (Wallingford) was unanimously elected an associate member of the Division.

Mr. BEVERS showed a woman, aged 39, where a large fibroid was causing the usual symptoms and signs, the best line of treatment.

Notes of a male patient, aged 39, who with symptoms referable to the left ureter was indefinite, but a pyelogram revealed obstruction of the left ureter by a small stone. The removal of which was followed by complete alleviation of the patient's symptoms.

Dr. F. G. CHANDLER contributed a paper on the early diagnosis and treatment of bronchiectasis. He first discussed the differential diagnosis between bronchiectasis and tuberculosis, chronic abscess, chronic empyema with a broncho-pleural fistula, foreign body or tumour in the bronchus, pressure on a bronchus, and syphilitic conditions. In the earlier stages a diagnosis had to be made on the symptoms and their history, the physical signs, bacteriological and pathological investigations, radiological examinations, and lipiodol injections. Many illustrative lantern slides were shown. The lecturer pointed out that frequently only an injection of lipiodol made an accurate diagnosis possible. Treatment was described under the following heads: the removal of obstruction; preventive treatment; general hygiene; diathermy; postural measures; creosote chamber; vaccines; medicinal treatment by inhalation, by mouth, by intratracheal injection; collapse methods—artificial pneumothorax, oleothorax; pleuric evulsion; pneumolysis, thoracoplasty, removal of the diseased area, and drainage.

#### SHROPSHIRE AND MID-WALES BRANCH.

THE fifty-third annual spring meeting of the Shropshire and Mid-Wales Branch was held at the Royal Salop Infirmary on May 25th, when the president, Dr. W. H. LEWIS, was in the chair. Reference was made to the loss occasioned by the death of Dr. James Wheatley, medical officer of health for the county of Salop, a member of the Branch Council, and a past-president of the Branch. The HONORARY SECRETARY having intimated that the coroner for Shrewsbury and district was entirely in favour of a payment of 10s. 6d. for reports on cases when an inquest or necropsy was not held, he was instructed to write to the county council on the matter. Mr. W. S. EDMOND, senior surgeon to the Royal Salop Infirmary, was elected to take office in October as the next president. The statement of accounts for 1927 was received and adopted. The Annual Report of Council was considered, and recommendations in regard to the following matters were approved: (1) infant hygiene centres; (2) fees for juvenile Odd-fellows; (3) report on puerperal morbidity; (4) report on lunacy certification; (5) ophthalmic benefit.

A Charities Committee was formed to consist of the president and honorary secretary for the time being, and Dr. Mackie. The members afterwards took tea at the kind invitation of the president.



## SOUTH WALES AND MONMOUTHSHIRE BRANCH.

The annual social meeting of the South Wales and Monmouthshire Branch was held at Pontefract on May 31st at the Taf Fechan Waterworks. The modern plant was examined in detail, and the various processes of water purification and filtering were demonstrated. After a motor run round the reservoir two and a half miles long, the party proceeded to Pontsarn Sanatorium, Welsh National Memorial Association, where they were received by the matron and Dr. D. A. Powell, principal medical officer of the association, and entertained to tea.

## ULSTER BRANCH.

The annual meeting of the Ulster Branch was held in the King Edward Memorial Hall of the Royal Victoria Hospital, Belfast, on May 17th, following a meeting of the McKisack Memorial Fund; an interesting series of clinical cases and pathological specimens was exhibited.

Dr. S. Moaog showed a case of pneumothorax, a case of aortic incompetence with mitral lesion, and a case of disseminated sclerosis with acute exacerbations and remissions. Professor Mellwaine exhibited radiographs of cardiac cases, a case of digitalis heart block, and one of exophthalmic goitre with auricular fibrillation. Dr. Foster Coates (Belfast) brought two patients with transverse myelitis, and one with abscess of lung. Dr. Boyd Campbell of enlarged spleen, one of subacute pulmonary infection with obstinate constipation, one showing fits associated with congenital syphilis, a specimen and radiograph of a case of aortic stenosis, and electro-cardiographic records from a case of influenza myocarditis. Dr. R. Maashall (Belfast) showed a case of bronchiectasis with cerebral abscess, one of persistent tremor of the thumb, one of splenic anaemia of fifteen years' duration, one of aortic aneurysm, one of aortic stenosis of uncertain origin, one of Hodgkin's disease with hemiplegia, an unusual case of general paralysis treated by malaria, and a mother and child with brachydactyly. Dr. Tunnicliffe (Belfast) demonstrated a case of coarctation of the aorta. Dr. Allen (Belfast) showed two cases of cretinism, a child aged 10 with acute rheumatic fever, mitral incompetence, and aortitis, a case of congenital heart disease, and one of dyspituitarism. Dr. M. J. Nolan (Downpatrick) showed a case of infantile face paralysis. Dr. Ivan McCaw exhibited some fine ringworm cultures. Sir Thomas Houston demonstrated some rough and smooth colonies of enterococci, and the reactions of *Staphylococcus deformans*. Dr. Eakin showed a case of goitre and parathyroid disease, a patient with paralysis of left arm following whooping-cough, and a case of interstitial keratitis. Mr. Mitchell (Belfast) showed a case of enucleation of the breast by Thomas's incision, and a case of tear of the right brachial plexus and fractured clavicle due to a motor cycle accident; there was complete loss of power and of sensation in the arm. Mr. T. S. Kirk (Belfast) presented a case of excision of knee-joint for chronic arthritis, and charts illustrating pneumonia treated by subcutaneous oxygen. Professor A. Fullerton exhibited a series of pyelograms, a case of haemorrhagic pancreatitis with recovery after operation, one of ureteral calculus without urinary signs, and one of ureteral implantation for ectopia vesicae. Mr. Howard Stevenson (Belfast) showed two cases of gastric ulcer on the posterior surface treated by excision, and a case of gastrectomy for carcinoma. Mr. S. T. Irwin showed cases of Erb's paralysis, two of congenital club-foot, one of Stoeckel's, one of pancreatic cyst, one of spontaneous fracture of ischium, and slides showing fractures involving the knee-joint. Mr. P. T. Cryan (Belfast) exhibited two cases of trigeminal neuralgia cured by division of the sensory root of the Gasserian ganglion, a chart indicating the causes of chronic gastric retention, a patient with an ulcer of the lesser curvature and a normal stomach picture who had been treated by hemigastrectomy; in it the radiogram was normal except that it showed some gastric retention, on which discovery was based a successful operation. Mr. H. P. Malcolm (Belfast) with Mr. Craig, showed a case of angioma. Professor R. J. Johnston and Mr. H. L. R. Grier (Belfast) demonstrated several gynaecological specimens. Mr. G. R. B. Bruce (Belfast) showed a case of carcinoma of the hepatic flexure ulcerating through the skin; the operation was performed in July, 1927. A diagnosis of appendicular abscess had been made. Mr. F. A. McLaughlin presented an unusual case of congenital syphilis and a case of double congenital coloboma iris. Dr. Evans exhibited some x-ray photographs of fracture of ilium, fracture of the skull, and of stricture of the colon. Mr. C. J. A. Woodside (Belfast) showed a case of hemiplegia with aphasia of central origin following head injury, a case of acute intestinal obstruction due to two separate co-existing lesions with recovery after six days' duration, and a gun-shot wound of the abdomen with perforation of small intestine and peritonitis, which terminated in recovery.

## YORKSHIRE BRANCH: WAKEFIELD, PONTEFRAC, AND CASTLEFORD DIVISION.

The annual meeting of the Wakefield, Pontefract, and Castleford Division was held at the Stratford Arms Hotel, Wakefield, on May 10th, when Dr. T. Gibson was in the chair.

The following officers were elected for the ensuing year:

Chairman, Dr. H. Scholefield. Vice-Chairman, Dr. J. R. Kaye. Honorary Secretary and Treasurer, Dr. N. S. Twist. Representative in the Representative Body, Dr. R. B. Radcliffe. Deputy Representatives in the Representative Body, Drs. T. E. Lister and G. B. Hillman.

The annual report of the Executive Committee was read by the Secretary and adopted.

The Annual Report of Council was considered. Several points of interest were discussed, and it was resolved that the representative be instructed to vote in favour of the Council's recommendations concerning the Manchester Unity of Oddfellows' juveniles.

In the absence of Dr. Manknell, owing to illness, his paper on the British Medical Association and the general practitioner was read by the Chairman. A vote of thanks was passed to the writer of the paper, and the honorary secretary was instructed to express the regret of the Division to Dr. Manknell upon his indisposition, and to wish him a speedy recovery.

In the subsequent discussion Drs. Hillman, Reynolds, Downie, Walker, Twist, Lyle, and Kaye took part.

NOTICES OF MOTION BY DIVISIONS FOR THE  
ANNUAL REPRESENTATIVE MEETING,  
CARDIFF, 1928.*Remuneration of Non-professional Medical Teachers,  
Laboratory and Research Workers.*

By HENDON: That the recommendation contained in para. 80 of the Annual Report of Council be amended to read as follows:

That the scale of salaries relative to non-professional medical teachers, laboratory and research workers, should not apply to those academic appointments in universities and medical schools which are of a temporary character and where the duties attached to the posts are in direct connexion with the advancement of the practitioner's knowledge and experience in the particular branch of work which he proposes to cultivate.

*Assistant Medical Officers to Mental Hospitals.*

By PERTH: That Recommendation C contained in para. 93 of the Annual Report of Council be amended to read as follows:

That those assistant medical officers to mental hospitals who had held the position of house-surgeon or house-physician for one year or who had held a hospital appointment for one year should receive an additional £50 per annum.

By PERTH: That the Representative Body is of opinion that subpara. (iii) of the last paragraph of para. 93 of the Annual Report of Council should be amended by the substitution, in the fifth line, of the words "recently admitted" for the word "acute."

*Paying Centres for Infant Hygiene.*

By PERTH: That (with reference to Recommendation A contained in para. 95 of the Annual Report of Council) in the opinion of the Representative Body it is undesirable that paying centres for infant hygiene be established.

*Protection of Medical Practitioner signing a Certificate under  
the Lunacy Act, 1890.*

By BOURNEMOUTH: That (with reference to the recommendation contained in para. 115 of the Annual Report of Council)—in regard to Section 330 of the Lunacy Act, 1890—(a) the onus of proof of want of reasonable care and want of good faith should be on the plaintiff; (b) unless the plaintiff can satisfy the judge that he is able to prove in a court of law the want of reasonable care and good faith, the case should not proceed to trial; and (c) the judge should be able to call in expert opinion on the point of reasonable care in respect of medical certificates if he himself is in any doubt.

By BOURNEMOUTH: That (with reference to the recommendation contained in para. 115 of the Annual Report of Council) if, under Sections 13 and 16 of the Lunacy Act, 1890, a magistrate make an order to one or two medical men as the case may be (two medical men under Section 13 and one under Section 16) to examine a person believed to be of unsound mind, it should be considered that the magistrate should be solely responsible as an instrument of the law and the doctors should have the status of a witness and enjoy the immunities of a witness.

*Method of Voting at Elections in Representative Meetings.*

By BOURNEMOUTH: That the method of voting at the elections in the Annual Representative Meetings should be by the simple majority vote, and not, as at present, by means of the single transferable vote.

By E. R. FOTHERGILL (Brighton): That Standing Orders 39, 42 (iv), 45 (vii), 46 (vi), 47 (iii), and 48 (iii) be amended by deletion of all reference to the single transferable vote as mode of election, and the substitution of the simple majority vote.



# British Medical Association.

## NINETY-SIXTH ANNUAL MEETING, CARDIFF, JULY, 1928.

Patron: HIS MAJESTY THE KING.

President: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

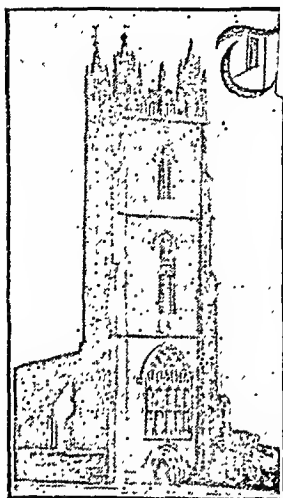
President-Elect: SIR EWEN J. MACLEAN, M.D., F.R.C.P., Professor of Obstetrics, Welsh National School of Medicine.

Chairman of Representative Body: C. O. HAWTHORNE, M.D., F.R.C.P.

Chairman of Council: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

### PROVISIONAL PROGRAMME.



TOWER OF ST. JOHN'S CHURCH,  
CARDIFF.

THE incoming President, Sir EWEN MACLEAN, will deliver his address to the Association on Tuesday, July 24th, at 8 p.m.

THE ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 20th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place on Friday evening, July 20th, at 7.30.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 24th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on Thursday, July 26th.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July

25th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held at St. John's Church, Cardiff, on Tuesday, July 24th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 23rd, from 2 till 6 p.m.; the formal opening by the President will take place on July 24th at 9.30 a.m. The exhibition will remain open on July 25th, 26th, and 27th from 9 a.m. till 6 p.m.

Saturday, July 28th, will be given up to excursions to places of interest in the neighbourhood.

### THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 25th, 26th, and 27th.

The following Sections will meet on Three Days.

#### MEDICINE.

President: Sir THOMAS LEWIS, C.B.E., M.D., F.R.C.P., F.R.S. (London).

Vice-Presidents: IVON J. DAVIES, M.D., F.R.C.P. (Cardiff); A. E. GOW, M.D., F.R.C.P. (London); A. FERGUS HESWAT, M.D., F.R.C.P.Ed. (Edinburgh); CYRIL LEWIS, M.D., C.M. (Cardiff); Professor T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. (Dublin); H. LETHBRIDGE TIDY, M.D., F.R.C.P. (London).

Honorary Secretaries: ABEL EVANS, M.B., M.R.C.P., 36, Newport Road, Cardiff; ANTHONY FEILING, M.D., F.R.C.P., 52, Montagu Square, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Diseases of the Coronary Arteries. To be opened by Dr. GEORGE A. ALLAN (Glasgow).

Thursday, July 26th.—10 a.m. Discussion: The Prevention and Treatment of Diphtheria. To be opened by Dr. J. D. ROLLESTON (London).

Friday, July 27th.—10 a.m. Discussion: Acute Nephritis. To be opened by Professor T. G. MOORHEAD (Dublin).

#### SURGERY.

President: Professor A. W. SIMEN, C.B.E., M.S., F.R.C.S. (Cardiff).

Vice-Presidents: H. G. COOK, C.B.E., M.D., F.R.C.S. (Cardiff); C. H. FAGOE, M.S., F.R.C.S. (London); Professor ANDREW FULLERTON, C.B., C.M.G., M.Ch., F.R.C.S.I. (Belfast); J. W. GRARY GRANT, F.R.C.S. (Cardiff); WILLIAM MARTIN, M.B., C.M. (Cardiff); ALBERT J. WALTON, M.S., F.R.C.S. (London).

Honorary Secretaries: D. J. HARRIES, D.Sc., F.R.C.S., 105, Newport Road, Cardiff; R. ST. LEGER BROCKMAN, M.B., M.Ch., F.R.C.S., 79, Upper Hanover Street, Sheffield.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: The Diagnosis and Treatment of Spinal Cord Tumours. To be opened by Mr. DONALD J. ARMOUR (London), followed by Dr. GEORGE RIDDOCH (London), Sir PERCY SARGENT (London), and Mr. GEOFFREY JEFFERSON (Manchester).

Thursday, July 26th.—10 a.m. to 12 noon. (Joint meeting with Section of Radiology and Physio-Therapeutics.) Discussion: The Fallacy of X Rays in Abdominal Diagnosis. To be opened by Mr. HERBERT J. PATTERSON (London) and Dr. P. HENRIKMAN-JOHNSON (London), followed by Dr. A. F. HURST (London).

12 noon. Discussion: The Treatment of Gangrene. To be opened by Mr. W. SAMPSON HANDLEY (London), followed by Mr. PHILIP TURNER and Mr. E. G. SLESINGER (London).

Friday, July 27th.—10 a.m. Discussion: Pancreatitis. To be opened by Sir BRUCELEY MOYNIHAN, Bt. (Leeds), followed by Mr. J. W. GRARY GRANT (Cardiff) and Dr. A. F. HURST (London).

12 noon. Discussion: The Diagnosis of Ureteric Calculi. To be opened by Professor ANDREW FULLERTON (Belfast), followed by Dr. E. B. C. MAYRS (Belfast), Mr. KENNETH M. WALKER (London), Mr. J. SWIFT JOLY (London), and Mr. HENRY WADE (Edinburgh).

#### OBSTETRICS AND GYNAECOLOGY.

President: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London).

Vice-Presidents: MARGARET M. BASDEN, M.D., F.R.C.S. (London); ARTHUR E. GILES, M.D., F.R.C.S.Ed. (London); Professor W. FLETCHER SHAW, M.D., Ch.B. (Manchester); Professor H. BECKWITH WHITEHOUSE, M.S., F.R.C.S. (Birmingham).

Honorary Secretaries: B. K. TENISON COLLINS, M.D., F.R.C.S.Ed., 12, Windsor Place, Cardiff; EVERARD WILLIAMS, M.D., M.R.C.P., 5, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 25th.—10 a.m. Discussion: Unsuccessful Forceps Cases. To be opened by Professor W. FLETCHER SHAW (Manchester), followed by Professor JAMES HENDRY (Glasgow) and Dr. DOUGLAS A. MILLER (Edinburgh). Paper: Professor R. VAUDESAL (Paris), Myometomy during Pregnancy.

Thursday, July 26th.—10 a.m. Discussion: The Diagnosis and Treatment of Sterility. To be opened by Dr. A. E. GILES (London), followed by Dr. SIDNEY FORSDIKE (London) and Mr. KENNETH M. WALKER (London).

Friday, July 27th.—10 a.m. Papers: Professor W. W. CHIFMAN (Montreal), Acute Conditions in the Lower Abdomen of the Female; Mr. EVERARD WILLIAMS (London), The Acute Pelvis; Dr. GEORGE GRAY WARD (New York), Radium Therapy in Carcinoma of the Cervix Uteri: an Analysis of the Results Obtained at the Women's Hospital in New York; Dr. E. FARQUHAR MURRAY (Newcastle-on-Tyne), Radium in the Treatment of Carcinoma Cervicis and Intractable Menorrhagia; Dr. JAMES YOUNG (Edinburgh), Prognosis and Treatment of the Albuminuria of Pregnancy.

#### MENTAL DISEASES AND NEUROLOGY.

President: EDWIN GOODALL, C.B.E., M.D., F.R.C.P. (Cardiff).

Vice-Presidents: E. D. ADRIAN, M.D., F.R.C.P., F.R.S. (Cambridge); G. H. R. GIBSON, D.S.O., M.D., F.R.C.P.Ed. (Edinburgh); BERNARD HART, M.D., F.R.C.P. (London); W. F. NELLS, M.D. (Caeleion, M.D., F.R.C.P. (Aberdeen)).

Honorary Secretaries: LEWIS, F.R.F.P.S., Drymma Hall, Skewes; W. R. BRYNELL, M.D., M.R.C.P., 87, Harley S

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* Autotoxaemia as a Factor in the Causation of the Psychoses. To be opened by Professor W. BARKAS (London), followed by Dr. E. MAPOTHER (London), Dr. MARY R. BOYLE (Hove), Dr. D. F. RAMBAUT (Northampton), Dr. F. A. PICKWORTH (Birmingham), and Dr. I. A. WILE (New York).

**Thursday, July 26th.**—10 a.m. *Discussion:* The Differential Diagnosis and Treatment of Cerebral States consequent upon Head Injuries. To be opened by Dr. C. P. SYMONDS (London), followed by Dr. G. WORSTER-DROUGHT (London), Mr. WILFRED TROTTER (London), Dr. R. D. GILLESPIE (London), Dr. D. MCALPINE (London), and Dr. G. RIBBEN (London).

**Friday, July 27th.**—10 a.m. *Discussion:* The Early Treatment of the Psychoses and Psychoneuroses. To be opened by Dr. A. HILLEN BOYLE (Hove), followed by Dr. E. MAPOTHER (London), Dr. R. D. GILLESPIE (London), Dr. MARY R. BARKAS (London), Dr. R. G. GONDON (Bath), Dr. JOHN R. REES (London), and Dr. I. A. WILE (New York).

The following Sections will meet on Two Days.

#### **PATHOLOGY AND BACTERIOLOGY.**

*President:* Professor E. H. KETTLE, M.D., M.R.C.P. (London).  
*Vice-Presidents:* Professor JOHN CRUICKSHANK, M.D. (Aberdeen); Sir THOMAS HOUSTON, O.B.E., M.D. (Belfast); W. PARRY MORGAN, M.D. (Cardiff); A. F. S. SLADDEN, M.D. (Swansea).

*Honorary Secretaries:* J. B. DUGUID, M.D., Department of Pathology, Welsh National School of Medicine, The Parade, Cardiff; LAWRENCE P. GARROD, M.B., M.R.C.P., 65, Gloucester Terrace, Hyde Park, London, W.2.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* The Pathology of Encephalo-mycelitis occurring in the course of Virus Disease and Exanthemata. To be opened by Professor H. M. TURNBULL (London) and Professor J. MCINTOSH (London), followed by Professor J. C. G. LEDINGHAM (London), Dr. MERVYN H. GORDON (London), Dr. J. G. GREENFIELD (London), Dr. J. E. MCCARTNEY (London), Dr. S. P. BEDSON (London), and Professor G. HADFIELD (Bristol).

**Thursday, July 26th.**—10 a.m. *Discussion:* Variations in the Intestinal Flora in Health and Chronic Disease, to be opened by Professor J. CRUICKSHANK (Aberdeen), followed by Sir THOMAS HOUSTON, Bt. (London), Sir THOMAS HOUSTON (Belfast), Professor J. H. DIBLE (Cardiff), Dr. A. F. S. SLADDEN (Swansea), Dr. L. F. GARROD (London), and Dr. C. E. DUKES (London).

#### **ORTHOPAEDICS.**

*President:* Sir JOHN LYNN-THOMAS, K.B.E., C.B., C.M.G., F.R.C.S. (Lisibryd).

*Vice-Presidents:* A. ROBYN JONES, M.B., F.R.C.S. (London); J. J. R.C.S.Ed. (Edinburgh); S. ALWYN R.C.S.Ed. (Cardiff); P. JENNER (London).

*Honorary Secretaries:* RY HAYCRAFT, J.C., M.B., F.R.C.S., 31, Cathedral Road, Cardiff; ERIC IVAN LLOYD, M.B., F.R.C.S., 33, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* Low Backache and Sciatica. To be opened by Mr. W. A. COCHRANE (Edinburgh), followed by Mr. P. JENNER VERHALL (London).

**Thursday, July 26th.**—10 a.m. *Discussion:* Volkmann's Ischaemic Contracture, with special reference to Treatment. To be opened by Sir ROBERT JONES, Bt. (Liverpool), followed by Mr. STEWART MIDDLETON (Edinburgh) and Mr. ALAN H. TODD (London).

12 noon. Cinematograph Demonstration by the PRESIDENT of the Section on Methods of Treating (1) Colles's Fracture, (2) Fracture of Femur, and (3) Clubfoot, as practised by Sir Robert Jones.

#### **DISEASES OF CHILDREN.**

*President:* ALFRED HOWELL, M.D., M.R.C.P. (Cardiff).

*Vice-Presidents:* E. A. COCKAYNE, M.D., F.R.C.P. (London); HERBERT THOMAS EVANS, M.D., M.R.C.P. (Cardiff); CHARLES LEONARD ISAAC, M.B., F.R.C.S.Ed. (Swansea).

*Honorary Secretaries:* DANIEL THOMAS DAVIES, M.D., M.R.C.P., 24, Park Place, Cardiff; HILDA N. STOEISSIGER, M.D., 11, Belmont House, Candover Street, London, W.1.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* Chronic Splenomegaly in Childhood. To be opened by Dr. ROBERT HUTCHISON (London), followed by Mr. L. E. BARRINGTON-WARD (London), Dr. LEONARD FINDLAY (Glasgow), and Dr. CHARLES P. LAPAGE (Manchester).

**Thursday, July 26th.**—10 a.m. *Discussion:* Chronic Nephritis in Childhood. To be opened by Dr. J. C. SPENCE (Newcastle), followed by Dr. H. T. ASHBY (Manchester) and Dr. NORMAN B. CAPON (Liverpool).

#### **OPHTHALMOLOGY.**

*President:* F. P. S. CRESSWELL, M.B., F.R.C.S. (Cardiff).

*Vice-Presidents:* HERBERT CAIGER, M.B., F.R.C.S. (Sheffield); L. V. CARGILL, F.R.C.S. (London); R. J. COULTER, M.B., F.R.C.S.I. (Newport, Mon.); F. GRIFFITH THOMAS, M.B., B.Ch. (Swansea).

*Honorary Secretaries:* J. W. TUDOR THOMAS, M.B., F.R.C.S., Clifton Lodge, 16, Cathedral Road, Cardiff; F. A. JULES, M.D., F.R.C.S., 14, Portland Place, London, W.1.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* Visual Efficiency and Working Ability. To be opened by Dr. A. FUKELAND FERGUS (Rothsay), followed by Sir J. H. PARSONS (London) and Mr. N. BISHOP HARMAN (London).

*Paper:* Dr. T. H. WHITTINGTON (London), The Examination of the Eyes and Eyesight in Young Children.

**Thursday, July 26th.**—10 a.m. *Discussion:* The Etiology of Glaucoma. To be opened by Mr. W. S. DUKE-ELDER (London), followed by Mr. THOMSON HENDERSON (Nottingham) and Mr. N. BISHOP HARMAN (London).

*Paper:* Mr. A. H. LEVY (London), Telescopic Spectacles.

#### **LARYNGOLOGY AND OTOTOLOGY.**

*President:* DONALD R. PATERSON, M.D., C.M., F.R.C.P. (Cardiff).

*Vice-Presidents:* ALBAN EVANS, M.R.C.S., L.R.C.P. (Swansea); E. D. DAVIS, F.R.C.S. (London); ARCHIBALD MASON JONES, M.D., F.R.C.S.Ed. (Cardiff).

*Honorary Secretaries:* A. A. PRICHARD, M.D., 14, Windsor Place, Cardiff; D. F. A. NEILSON, F.R.C.S., 40, Queen Anne Street, London, W.1.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* Chronic Ethmoiditis. To be opened by Dr. ROSS SKILLERN (Philadelphia), followed by Mr. W. G. HOWARTH (London).

**Thursday, July 26th.**—10 a.m. *Discussion:* Drainage of Brain Abscess. To be opened by Sir PERCY SARGENT (London), followed by Mr. SYDNEY R. SCOTT (London).

#### **TUBERCULOSIS.**

*President:* HUGH MORRISTON DAVIES, M.D., M.Ch., F.R.C.S. (Ruthin).

*Vice-Presidents:* ALEXANDER BROWNLEE, M.D., F.R.C.S.Ed. (Fairwater, nr. Cardiff); DAN ARTHUR POWELL, M.D. (Cardiff); CECIL WALL, M.D., F.R.C.P. (London).

*Honorary Secretaries:* J. C. GILCHRIST, M.D., Tuberculosis Institute, Welsh National Memorial, 10, The Parade, Cardiff; J. C. HOYLE, M.B., B.S., 28, Malcolm Street, Cambridge.

The following provisional programme has been arranged:

**Wednesday, July 25th.**—10 a.m. *Discussion:* The Relation between Trauma and Tuberculosis, especially from the point of view of Compensation and Accident Insurance. To be opened by Dr. NORMAN TATTERSALL (Leeds), followed by Mr. ROBERT MILNE (London) and Dr. OTTO MAY (London).

*Papers on Factors in the Biochemistry of Tuberculosis:* Dr. L. S. T. BURRELL (London), The Therapeutic Value of the Heavy Metals; Dr. J. C. HOYLE, m in Experimental Tuberculosis; The Tuberculin-active Fraction.

**Wednesday Afternoon.**—Demonstration of After-results of Surgical Treatment of Tuberculosis and other Diseases of the Lungs. Specimens, lantern slides, anatomical preparations of the phrenic nerve, etc., will be on view in the Pathological Museum during the meeting.

2.30 p.m. There will be an Explanatory Demonstration.

4 p.m. Cases will be shown in the X-ray Department, Cardiff Royal Infirmary (by the courtesy of Dr. Owen L. Rhys); and Dr. R. CECIL B. WALL (London) will give a Physiological Demonstration.

**Thursday, July 26th.**—10 a.m. *Discussions:* (1) After-effects of Surgical Procedures on Cases of Pulmonary Tuberculosis. To be opened by Mr. A. TUDOR EDWARDS (London) followed by Dr. F. G. CHANDLER (London). (2) Tuberculosis as seen by the General Practitioner. To be opened by Dr. R. CAMERON (Cardiff), followed by Dr. ANGUS E. KENNEDY (London).

#### **RADIOLOGY AND PHYSIO-THERAPEUTICS.**

*President:* OWEN LEWELLYN RHYS, M.D. (Cardiff).

*Vice-Presidents:* T. GARFIELD EVANS, M.D., D.M.R.E. (Cardiff); C. B. HEALD, C.B.E., M.D., M.R.C.P. (London); THOMAS MARLIN, M.D., D.M.R.E. (London).

*Honorary Secretaries:* T. I. CANDY, M.B., B.Ch., D.M.R.E.; 202, Stow Hill, Newport, Mon.; A. J. H. ILES, M.R.C.S., L.R.C.P., Shutterne House, Tannaton.

The following provisional programme has been arranged

**Wednesday, July 25th.**—10 a.m. *Discussion:* Ultra-violet Rays and the General Public. To be opened by Professor W. E. DIXON, F.R.S. (Cambridge), followed by Dr. C. B. HEALD (London).

**Thursday, July 26th.**—10 a.m. to 12 noon. (Joint meeting with Section of Surgery.) *Discussion:* The Fallacy of X Rays in Abdominal Diagnosis. To be opened by Mr. HERBERT J. PATERSON (London) and Dr. F. HERNAMAN-JOHNSON (London), followed by Dr. A. F. HURST (London).

The following Sections will meet on One Day.

#### **PREVENTIVE MEDICINE.**

*President:* EDWARD COLSTON WILLIAMS, M.D., F.R.C.S.Ed. (Cardiff).

*Vice-Presidents:* W. W. JAMESON, M.D., M.R.C.P. (London); DAVID LEWELLYN WILLIAMS, M.C., F.R.C.S.Ed. (Cardiff); C. A. BRISTOCKE, M.R.C.S. (Haverfordwest).

*Honorary Secretaries:* H. W. CATTO, M.B., B.S., 198, Stow Hill, Tottenham, London, N.15; D. C. KIRKHOPE, M.D., Town Hall, South

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:*—The Value of the Present Methods of Control of Infectious Diseases: (a) The Control of Small-pox. To be opened by Dr. L. J. RAJCHMANN (Geneva), followed by Dr. J. MIDDLETON MARTIN (Gloucester), Dr. T. EUSTACE HILL (Durham), Dr. R. P. GARROW (Chesterfield), Dr. R. BAUCE LOW (Cardiff), and Dr. C. KILLICK MILLARD (Leicester). (b) The Control of Scarlet Fever and Diphtheria. To be opened by Dr. R. A. O'BRIEN (Beckenham), followed by Dr. J. GRAHAM FORBES (London), Dr. B. A. I. PETERS (Bristol), and Dr. E. H. R. HARRIES (Birmingham).

#### PUBLIC HEALTH.

*President:* R. M. F. PICKEN, M.B., Ch.B. (Cardiff).

*Vice-Presidents:* D. T. ROCYN JONES, C.B.E., M.B., C.M. (Rumney, nr. Cardiff); J. D. JENKINS, M.D. (Rhonda); S. G. MOORE, M.D. (Huddersfield).

*Honorary Secretaries:* THOMAS EVANS, M.B., Public Health Department, Swansea; R. P. GARROW, M.D., Health Office, Saltergate, Chesterfield.

The following provisional programme has been arranged:

*Thursday, July 26th.*—10 a.m. *Discussion:* The Teaching of Hygiene. To be opened by Dr. W. W. JAMESON, Professor of Public Health, London School of Hygiene, followed by Dr. H. B. BRACKENBURY (London).

#### MEDICAL SOCIOLOGY.

*President:* WILLIAM EVANS THOMAS, M.D., C.M. (Ystrad Rhondda).

*Vice-Presidents:* Professor F. A. E. CREW, M.D., Ph.D. (Edinburgh); LETITIA DENNY FAIRFIELD, C.B.E., M.D. (London); EVAN LEWYS-LLOYD, M.R.C.S., L.R.C.P. (Pwll); The Rev. Sir JAMES MARCHANT, K.B.E., LL.D., F.R.S.E. (London); Mrs. C. NEVILLE ROLFE, O.B.E. (London).

*Honorary Secretaries:* F. Y. PEARSON, M.R.C.S., L.R.C.P., 18, Crwys Road, Cardiff; ELIZABETH CASSON, M.D., D.P.M., Holloway Sanatorium, Virginia Water, Surrey.

The following provisional programme has been arranged:

*Friday, July 27th.*—*Discussion:*—The Falling Birth Rate in its Various Aspects: (a) The Biological Aspect. To be opened by Professor F. A. E. CREW (Animal Breeding Research Department, University of Edinburgh). (b) The Economic Aspect. To be opened by Professor W. J. ROBERTS (Professor of Economics, University College of South Wales and Monmouth). (c) The Medical Aspect. To be opened by Sir THOMAS HORDER, Bt. (London), and Lady BARRETT (London).

#### TROPICAL MEDICINE.

*President:* PHILIP H. MANSON-BAHR, D.S.O., M.D., F.R.C.P. (London).

*Vice-Presidents:* J. B. CHRISTOPHERSON, M.D., F.R.C.P., F.R.C.S. (London); Lieut.-Colonel A. G. MCKENDRICK, M.B., Ch.B., F.R.C.S.Ed., I.M.S. (ret.) (Edinburgh).

*Honorary Secretaries:* ERNEST HENRY PRICE, L.R.C.P.I., 153, Cathedral Road, Cardiff; H. MCCORMICK HANSHELL, D.S.O., M.R.C.S., L.R.C.P., 35, Weymouth Street, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussions:* (1) Recent Advances in Diagnosis and Treatment of Human Helminthiasis. To be opened by Lieut.-Colonel CLAYTON LANE, I.M.S. (ret.) (London). (2) Transmission of Kala-azar. To be opened by Dr. C. M. WENTON (London).

An exhibition of pathological specimens and preparations illustrating tropical diseases will be on view.

#### HISTORY OF MEDICINE.

*President:* WALTER G. SPENCER, O.B.E., M.S., F.R.C.S. (London).

*Vice-Presidents:* THOMAS WALLACE, M.D. (Cardiff); T. P. C. KIRKPATRICK, M.D., F.R.C.P.I. (Dublin); Professor J. A. NIXON, C.M.G., M.D., F.R.C.P. (Clifton); CHARLES SINGER, M.A., M.D., F.R.C.P. (London).

*Honorary Secretaries:* H. R. FREDERICK, M.B., Ch.B., 42, Victoria Road, Aberavon, Port Talbot, Glam.; KENNETH R. HAY, O.B.E., M.B., 47, Hill Street, Berkeley Square, London, W.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Historical Aspects of Ideas regarding the Nature and Treatment of Dropsy. To be opened by Dr. J. D. COMRIE (Edinburgh).

*Papers:* Dr. E. ROLAND WILLIAMS (Maenclochog), Welsh Physicians and the Renaissance; Dr. J. D. ROLLESTON (London), The History of Scarlet Fever; Dr. P. DIVERRES (Swansea), The Welsh Physician in the Middle Ages; Mr. C. J. S. THOMPSON (London), The History and Lore of Cinchona Bark.

A collection illustrative of the theory and practice of folk-medicine, human and animal, in Wales will be housed in the National Museum of Wales, Cardiff. (See *British Medical Journal*, March 24th, p. 509, and June 2nd, 1923, p. 954.)

#### THERAPEUTICS AND PHARMACOLOGY.

*President:* W. LANGDON BROWN, M.D., F.R.C.P. (London).

*Vice-Presidents:* Professor W. J. DILLING, M.B., Ch.B. (Liverpool); PHILIP HAMILL, M.D., D.Sc., F.R.C.P. (London); W. H. MAXWELL TELLING, M.D., F.R.C.P. (Leeds).

*Honorary Secretaries:* J. P. H. DAVIES, M.B., "Elgin," Llanishan, Cardiff; J. H. BURN, M.D., Pharmaceutical Society of Great Britain, Pharmacological Laboratory, 17, Bloomsbury Square, London, W.C.1.

The following provisional programme has been arranged:

*Wednesday, July 25th.*—10 a.m. *Discussion:* Recent Advances in the Medical Treatment of Gastric Diseases. To be opened by Dr. A. F. HURST (London), followed by Dr. T. IZOD BENNETT (London), Treatment by Diet and Drugs.

#### DERMATOLOGY.

*President:* Sir ROBERT BOLAM, M.D., LL.D., F.R.C.P. (Newcastle-on-Tyne).

*Vice-Presidents:* JAMES BEATTY, M.D., M.R.C.P. (Cardiff); WILLIAM GRIFFITH, M.D., M.R.C.P. (London); HENRY SEMON, M.D., M.R.C.P. (London).

*Honorary Secretaries:* R. H. ENOCH, M.R.C.S., L.R.C.P., Royal Infirmary, Cardiff; J. E. M. WIGLEY, M.B., M.R.C.P., 132, Harley Street, London, W.1.

The following provisional programme has been arranged:

*Friday, July 27th.*—10 a.m. *Discussion:* Urticaria. To be opened by Dr. A. R. HALLAM (Sheffield), followed by Dr. H. W. BARBER (London).

*Papers:* Dr. H. C. G. SEMON (London), Souttar's Steam Caustery in Dermatology; Dr. J. E. M. WIGLEY (London), Thallium Epilation in the Treatment of Ringworm; Dr. W. J. O'DONOVAN (London), Salvarsan III-effects and Fatalities.

The Honorary Local General Secretary of the Annual Meeting is Dr. G. I. STRACHAN, 20, Windsor Place, Cardiff.

#### PROVISIONAL TIME-TABLE.

##### FRIDAY, JULY 20TH.

10.0 a.m.—Annual Representative Meeting, City Hall, Cardiff.  
7.30 p.m.—Representatives' Dinner.  
7.30 p.m.—Ladies' Dinner.

##### SATURDAY, JULY 21ST.

9.30 a.m.—Annual Representative Meeting.  
8.0 p.m.—Smoking Concert.

##### SUNDAY, JULY 22ND.

Excursion for the Representative Body.

##### MONDAY, JULY 23RD.

9.0 a.m.—Council Meeting, City Hall.  
10.0 a.m.—Annual Representative Meeting.  
10.0 a.m.—Excursions for Ladies.  
2.0 p.m.—Reception Room open for Registration.  
2.0 p.m.—Excursions for Ladies.  
8.0 p.m.—Concert.

##### TUESDAY, JULY 24TH.

9.0 a.m.—Reception Room open for Registration.  
9.30 a.m.—Official Opening of Exhibition by President-Elect.  
10.0 a.m.—Annual Representative Meeting.  
10.0 a.m.—Excursions for Ladies.  
11.0 a.m.—Opening of Pathological Museum.  
2.0 p.m.—Annual General Meeting, followed by Annual Repre-

sentatives' Dinner, St. David's Church, Cardiff.  
President's Address.  
Local Executive, followed

by Dance.

##### WEDNESDAY, JULY 25TH.

9.0 a.m.—Council Meeting.  
9.0 a.m.—Reception Room open.  
9.0 a.m.—Exhibition open.  
9.0  
9.0  
10.0  
10.0 a.m.—Excursions for Ladies.  
1.0 p.m.—Irish Graduates' Luncheon.  
2.0 p.m.—Excursions and Garden Parties.  
2.30 p.m.—Secretaries' Conference.  
2.30 p.m.—Annual Conference of Spa Practitioners Group.  
4.30 p.m.—Annual Conference of Consulting Pathologists Group.  
6.30 p.m.—Secretaries' Dinner.  
8.30 p.m.—Reception by Lord Mayor and City Council, City Hall.  
10.0 p.m.—Dance.

##### THURSDAY, JULY 26TH.

Breakfast, League Breakfast, Central, Charles Street.

and Childs Cups.

10.0 a.m.—Excursions for Ladies.  
3.30 p.m.—Garden Party in the Grounds of Cardiff Castle, by invitation of the Marquis and Marchioness of Bute.  
7.15 p.m.—Annual Dinner of the Association, City Hall.  
10.0 p.m.—Dance.

##### FRIDAY, JULY 27TH.

8.30 a.m.—Medical Missionary Breakfast.  
9.0 a.m.—Registration Office, Exhibition, and Pathological

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2.0 p.m.—Contest competition for Treasurer's Cup.  
7.30 p.m.—Popular Lecture by Sir Berkeley Moynihan.  
8.30 p.m.—Reception by National Museum of Wales.  
10.0 p.m.—Dance given by South Wales and Monmouthshire Branch.

##### SATURDAY, JULY 28TH.

Excursions.

## PATHOLOGICAL MUSEUM.

THE committee appointed to organize the Pathological Museum in connexion with the Annual Meeting of the British Medical Association at Cardiff next July proposes to arrange the material under the following heads: (1) Exhibits bearing on discussions and papers in the various Sections. (2) Specimens and illustrations relating to any recent research work. (3) Instruments concerned in clinical diagnosis and pathological investigation. (4) Individual specimens of special interest or a series illustrating some special subject. (5) Exhibits of general interest. The committee appeals for the co-operation of the profession in making the museum a success. It will be easy of access, being situated in the same building in which the Sections will meet; it is hoped to make arrangements for exhibitors to demonstrate their specimens. Every care will be taken of the exhibits, and the contents of the museum will be insured. The honorary secretaries (Dr. J. B. Duguid and Dr. J. Mills, Department of Pathology and Bacteriology, Welsh National School of Medicine, The Parade, Cardiff) ask intending exhibitors to notify them as soon as possible.

## REDUCED RAILWAY FARES.

Reduced fares will be granted to persons travelling to attend the Annual Meeting. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue return tickets to passengers travelling to Cardiff in this connexion at the ordinary single fare and one-third, fractions of 3d. to be reckoned as 3d., and the minimum adult fare to be 1s. A voucher of the usual type must be surrendered when the ticket is bought; these vouchers, signed by the Financial Secretary of the Association, will be obtainable from him in due course on application.

## HOTEL ACCOMMODATION.

THE following is a list of the hotels in Cardiff and district, with a statement of the charges for bed and breakfast:

	s.	d.
Angel Hotel ... ..	14	0
Royal Hotel ... ..	14	0
Queen's Hotel ... ..	14	0
Grand Hotel ... ..	10	0
Barry's Hotel ... ..	9	6
Alexandra Hotel ... ..	8	0
Railway Hotel ... ..	8	6
Great Western Hotel ... ..	8	6
Central Hotel ... ..	7	6
Sandringham Hotel ... ..	7	6
Esplanade Hotel, Penarth ... ..	*18	0
Washington Hotel, Penarth ... ..	10	0
King's Head Hotel, Newport ... ..	10	0
Westgate Hotel, Newport ... ..	10	0

\*This charge includes dinner.

Penarth is only about five miles from Cardiff and so within easy reach. Newport (Mon.) is about twelve miles from Cardiff, and the new arterial road connecting the two towns will be in an advanced stage of completion by July. There is also an excellent train service, the journey taking about twenty minutes. Besides the above accommodation a number of boarding-houses, hostels, and private apartments are available. A large amount of such accommodation has been secured, and members who intend going to Cardiff are requested to write without delay to the Hotels and Lodgings Secretary. It would be a great favour also if those members who have made private arrangements to stay with friends would inform the Hotels Secretary of the name and address of the friends with whom they are staying, as it is the wish of the Local Executive that, as far as possible, invitations to certain functions should be sent to those who are entertaining members of the Association. When writing for accommodation it is most important that members state clearly (a) whether they will be accompanied by a lady, (b) whether they are coming by car, and (c) the exact dates of intended arrival in and departure from Cardiff. This last point is very important, as it is found that many members omit this when writing, and so cause much unnecessary correspondence. The Honorary Secretary of the Hotels and Lodgings Committee, to whom all communications should be addressed, is Dr. Abel Evans, 36, Newport Road, Cardiff.

## ANNUAL DINNER OF THE ASSOCIATION.

THE annual dinner of the Association will be held in the Assembly Rooms, the City Hall, Cardiff, on Thursday, July 26th, at 7.15 p.m. The dinner will be open to ladies and lay guests, and it is likely that the number present will be large. The price of the ticket is 15s. (exclusive of wines), and, as the tickets will bear the number of a table and a seat, it is particularly requested that those who wish to sit together or make up parties will arrange this before application, as it will be impossible to alter seating at a later date. Application, accompanied by remittance, should be made to the Honorary Secretary of the Dinner and Dance Committee, Dr. T. R. Rees, 1, Walker Road, Splott, Cardiff.

## WELSH CONCERT AT THE CARDIFF MEETING.

AN important musical event in connexion with the Cardiff Meeting will be a Welsh concert, which will be held in the New Theatre, Cardiff, on the evening of Monday, July 23rd. The Downis Male Choir will sing, and the other artists taking part include Mr. Tudor Davies, Miss Megnn Foster, and Miss Gwendolyn Mason the well-known harpist. The love of the Welsh people for music is well known, and this concert will demonstrate to the visitors that in Wales they can not only appreciate good music, but can also produce musicians of the first order. It is likely that the concert will be broadcast.

## ARRANGEMENTS FOR SPORTS.

WHILE appropriate attention has been paid to the scientific and medico-political sides of the Annual Meeting in Cardiff, visitors will find that extensive arrangements have been made for social entertainment and for sports.

## Golf.

IN the realm of golf the competition for the Ulster and Childo Cups will be held on Thursday, July 26th, on the links of the Southerndown Golf Club. Southerndown is about an hour's run from Cardiff, and arrangements have been made for the competitors to go down in two parties, one starting at 9 a.m., and the other at 1 p.m.

The conditions of play are the same as in previous years, and intending entrants should send their names, with the necessary particulars, to Dr. Garfield Evans, 127, Cathedral Road, Cardiff.

The final stage of the Treasurer's Cup competition will be played on the Royal Porthcawl course on Friday, July 27th. Play will commence at 2 p.m., and the party will leave Cardiff at 1 p.m.

Practically all the golf clubs in the vicinity of Cardiff have thrown their courses open to visiting members for the week of the Meeting, and a full list of these will be published in the *Handbook of the Meeting*.

The Notts Ladies Challenge Cup, which was presented by Mrs. Owen Taylor of Nottingham in 1926, will be played for on the morning of Wednesday, July 25th, on the course of the Royal Porthcawl Club. As Porthcawl is about an hour's run from Cardiff, charabancs will leave the Ladies' Club at 9 o'clock that morning.

The conditions of play are the same as in previous years, and competitors should send their full names, addresses, and L.G.U. handicaps to Mrs. Garfield Evans, 127, Cathedral Road, Cardiff, as soon as possible, and not later than July 16th.

The competition is open to lady members, wives of members, and daughters of members; other lady relatives accompanying members may be allowed to compete under special conditions.

## Lawn Tennis.

TWO tennis tournaments have been arranged, both on the courts of the Cardiff Lawn Tennis Club. On Thursday, July 26th, a ladies' doubles American tournament will be held at 10 a.m., and at the same hour on the following day a mixed doubles tournament will be held. Intending competitors for either event are asked to send their names to Mrs. Garfield Evans of 127, Cathedral Road, Cardiff, without delay, so that the necessary arrangements can be made. Besides the Cardiff Club practically all the lawn tennis clubs in Cardiff and district have offered visiting

members and their ladies the hospitality of their courts, and a full list of these will be found in the *Handbook* of the meeting.

#### Bowls.

Arrangements have also been made for members to indulge in the games of bowls, and a number of excellent bowling greens in Cardiff and the surrounding area have been thrown open to visiting members. It is hoped that advantage will be taken of this, and, if a sufficient number apply, a bowling competition will be arranged between a local green and a B.M.A. team. Any members intending to take part in this competition are asked to communicate with Dr. R. C. Robertson, Struan, Llanbradach, near Cardiff.

#### IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE annual luncheon of the Irish Medical Schools' and Graduates' Association will be held at the Royal Hotel, Cardiff, on Wednesday, July 25th, at 1 o'clock sharp. The President-Elect of the British Medical Association, Sir Ewen Maclean, will be the guest of the association. Tickets for the luncheon, price 4s. 6d. each, exclusive of wines, may be obtained from the honorary secretary for the provinces, Dr. Falkland L. Cary, 67, King's Road, Harrogate. Members of the association are particularly requested this year to obtain their tickets well in advance, owing to the difficulty of catering for an unknown number of guests.

## CONTRIBUTORY SCHEMES FOR HOSPITAL BENEFIT.

### CONFERENCE OF MEDICAL REPRESENTATIVES OF VOLUNTARY HOSPITALS.

A CONFERENCE, summoned by the British Medical Association, and composed of representatives of the medical staffs of voluntary hospitals from all parts of the kingdom, was held in the Great Hall of the British Medical Association House, Tavistock Square, London, on June 6th, to discuss contributory schemes for hospital benefit (defined in the hospital policy of the British Medical Association as schemes "to which contributions are made for which there is to be a stated or implied return"). A memorandum setting out the basis of discussion had been circulated, and attention was drawn to certain principles which the Association regards as fundamental and to be insisted upon before any contributory scheme is launched—namely:

(a) That only persons below a definite income limit should be entitled to join a contributory scheme for hospital benefit.

(b) That (except in emergency) a contributor to a scheme should only be admitted to hospital upon the recommendation of the attending practitioner.

(c) That recognition should be made of the services of the medical staff.

The chair was taken by Dr. H. B. BRACKENBURY (Chairman of Council of the Association), who was supported by Dr. C. O. Hawthorne (Chairman of the Representative Body), Mr. N. Bishop Harman (Treasurer), and Mr. W. McAdam Eccles (Chairman of the Hospitals Committee). The attendance was very large, representatives being present from some forty hospitals in London and about one hundred and fifty hospitals elsewhere in Great Britain and Ireland. Every type of voluntary hospital was included—general, special, and cottage hospital. Representatives came from as far north as Dundee, as far north-west as Belfast, and as far south-west as Plymouth. The proceedings lasted little more than two hours, but during that time a very useful discussion took place.

The CHAIRMAN, in opening, said that the subject before this large and representative conference was not the whole position of voluntary hospitals, their means of support, and their methods of management, nor the proposed grouping of hospitals and co-ordination of hospital services. The subject was the relationship of hospital staffs to contributory schemes, and if speakers kept to that subject they would have plenty to occupy their time. The preponderating support of the voluntary hospitals had gradually shifted from charitable subscriptions and donations to other contributions not charitable in nature, but having the character of insurance payments made with a view to an explicit or implied return. The problem was to resolve what action should be taken by hospital staffs in this new situation—for the prevention of the exploitation of their services and also for the preservation of their interests as private practitioners. One of the great difficulties was that the persons responsible for contributory schemes were very often not the same persons as those responsible for the management of the hospitals; when there were defects in the construction or working of the schemes there was apt to be a tossing of the responsibility from one body to another. Clearly, then, the

subject was a complicated one. No doubt all those present were conscious of the peculiar circumstances or difficulties of their own hospitals or areas, but he begged them in conferring not to think too closely of their own localities, and to remember that some sacrifice of one's particular point of view might be necessary in arriving at any common policy.

#### *The History of Hospital Policy.*

Mr. BISHOP HARMAN (Treasurer of the British Medical Association) presented two documents which had been circulated, one the memorandum on contributory schemes, already mentioned, and the other the British Medical Association's pamphlet entitled "Policy Affecting Hospitals," the latter being a compendium of the policy of the Association which had been arrived at in the course of the last seven or eight years. This policy, he said, was based upon resolutions passed by the Representative Body. Such resolutions had to be published two months before the meeting, and, further, in order to become the policy of the Association, they had to be agreed to by a majority of at least two-thirds. Ordinarily a matter of policy came from some Division which sent up its recommendation, but in this matter of hospital policy the Hospitals Committee of the Association set itself to the task as far back as 1921. A memorandum was then drafted, submitted to the Council, debated very keenly again and again, ultimately reaching the Divisions, and then the Representative Meeting. This had now grown in subsequent years to the pamphlet which was in the hands of those present. The policy embodied therein dealt with many points, such as the co-ordination of all sorts of hospitals, the development of voluntary hospitals, the position of statutory hospitals, and so forth, but only one section of it—that relating to contributory schemes—concerned the present meeting. The Association (Mr. Bishop Harman continued) had never failed to recognize that it had a duty to the whole profession, and in this matter the Council determined not only to consult the members of the Association, but the staffs of hospitals generally. During the last six or seven years there had been a series of such conferences. The first was held during the Annual Meeting at Cambridge in 1920, and was presided over by Sir Cuthbert Wallace, when the principal item discussed was the relation of hospitals to State-supported patients. At that conference one well-known consultant complained bitterly of the inarticulateness of hospital staffs. The next conference was in London in December, 1920, under the chairmanship of Sir James Galloway, when the principal business was the preparation of evidence to be laid by the Association before the Cave Committee. The conference which followed was among London hospital staffs on matters affecting London particularly. Another conference was held in 1922, when the statement of policy was considered clause by clause. During the next year the Labour party brought out its hospital policy, and in 1924 there was an interesting two-day conference between the Labour party and the Association's representatives; after that debate the attitude of the Labour party was considerably modified. The Labour spokesmen had come prepared to accept State hospitals and nothing else, and as a result of that conference they went away recognizing that the voluntary hospitals had a place in the nation.



*An Ideal Contributory Scheme in London.*

Mr. W. McADAM ECCLES (Chairman of the Hospitals Committee of the British Medical Association) said that the Treasurer of the British Medical Association had given the history of the evolution of the criteria for what might be described as an ideal contributory scheme for hospital benefit. It was not always the case that ideals could be made to fructify, and, further, it was obvious that an ideal might be possible in one environment and impossible in another. Such an ideal scheme (Mr. Eccles continued) had been inaugurated and carried out in London. London was huge, populous, and difficult to co-ordinate. The economic stress following the war led to the preparation of a scheme for hospital benefit whereby those persons who were wage-earners could voluntarily and cheerfully contribute towards their maintenance and treatment while at hospital, whether as in-patients or out-patients. This was the scheme of the Hospital Saving Association, and it fulfilled all the criteria laid down by the British Medical Association, although it was found to be somewhat difficult to get them actually carried out. As to income limit, it was definitely laid down that the contributor's income must be within hospital income limits, as follows: single man or woman, £4 per week; married, without dependent children, £5 per week; married, with dependent children, £6 per week. These were comparable to the British Medical Association figures, which set out the yearly income. A definite income limit was essential in the interests of the medical staff and the private practitioner. As to the requirement that admission to hospital must be, except in emergency, on the recommendation of the attending practitioner, the principle was over and over again propounded in the literature relating to the scheme and in meetings convened by the Hospital Saving Association, and its desirability was gradually taking hold of both patient and practitioner. There were "snags," however, one of which arose out of the wish of some patients to visit the hospital on their own initiative, presenting the "green voucher." The Hospital Saving Association could not absolutely prevent this, but the hospital itself could do so by making it a rule that all green vouchers must be accompanied by a doctor's recommendation. Upon this rule the medical staff should insist. Another "snag" was discovered when the attending practitioner was found not to be desirous of giving a recommendation to his patient for hospital consultation or treatment or both. This refusal might be quite legitimate in some cases, but on the other hand there were instances in which the recommendation was withheld perhaps without due reason. Such action was apt to lead to trouble, and it was difficult to see how it could be overcome, except, perhaps, by change of doctor. The third principle, that recognition should be made of the services of the medical staff out of the money received by the hospital from a contributory scheme, was perhaps the most debatable. Mr. McAdam Eccles read the paragraphs of the hospital policy of the British Medical Association bearing upon this matter:

Payments made... be for work done based on... time to time between the... making full allowance for provision of hospital accommodation, maintenance, and payment of medical staff.

When the Board of Management of a voluntary hospital enters into a financial arrangement... under a contributory scheme or otherwise for the reception of patients, such arrangement should be taken to cover the cost of maintenance and medical treatment, and a percentage of all such receipts should be passed into a fund which is at the disposal of the honorary medical staff of that hospital.

The contract made was for hospital benefit as a whole, consequently the payment under any financial arrangement was for treatment as well as for accommodation and maintenance. When interrogated, nine out of ten subscribers to the scheme would express their belief that they had contributed towards treatment, and it was only fair that this legitimate belief should not be betrayed. It was, however, the medical staff who should impress upon the lay authorities of the hospital that a percentage of the money thus received should pass into a medical staff fund. It was hardly the function of the administrators of the contributory scheme to do so. Where medical staffs had done this, their request had not been resented, and where money had been passed over the amount received had been used by the staffs for very good purposes. Often it had gone to supplement the scientific equipment of the hospital—for example, to install an extra cardiographic apparatus or addi-

tional x-ray tubes. No amount which might possibly be received could be called adequate for all the service rendered, but in these days it was essential that there should be some recognition of the work done by the medical profession on behalf of those who believed they had actually paid for the same. ("Hear, hear.") Many objections had in the past been raised against a medical staff fund, but these were gradually disappearing, and an increasing number of medical staffs saw the wisdom of such a fund. (Applause.)

*The Position on Merseyside.*

Dr. J. C. MATTHEWS (Liverpool) mentioned some of the difficulties which had arisen in applying the Association's three principles in his own area. The main difference between the provinces and London in respect to contributory schemes was that in the provinces the contributions were organized through the various works or employers, and in most cases the employers added a percentage. It was hoped ultimately to include in the scheme the hospitals in the neighbouring townships of Merseyside; the population affected would be about one million. The problem in Liverpool had been under discussion for several years. A scheme was finally launched which was satisfactory to the staffs, and operations were started in July of last year. For several reasons not concerning the medical profession the scheme was undergoing revision at the present time. In this revision all the points of professional interest also had come under discussion again, and had more or less been re-argued. The staffs of the voluntary hospitals of Liverpool alone comprised about one hundred individuals; they had formed themselves into a Hospital Staffs Association, and it was this body, with the very active and willing co-operation of the local Division of the British Medical Association, which had so far carried on the negotiations. As for the three main points of the scheme, the first two (income limit and practitioner's recommendation) were agreed; on the third (recognition of services of medical staff) there were still some differences of opinion. The lay authorities of the hospitals in Liverpool, however, had begun to realize the justice of the claim. The following paragraph appeared in the original scheme, and had been included in the recent report of the Reversion Committee:

That the hospitals be asked to give favourable consideration to the request of the doctors for the allocation by the hospital to the hospital staff funds of an agreed percentage of grants received from the council.

One step further was being taken: the Hospital Staffs Association hoped to arrange for a conference with nominated representatives of the lay committees of the hospitals. There was some uneasiness on the part of hospital treasurers with regard to the success of the contributory scheme, and the negotiations were not yet completed. He felt, however, that their lay friends in Liverpool were largely in agreement with the request that the services which the hospital staffs rendered to contributors should cease to be gratuitous. In consequence of the scheme a number of employers had ceased to give their former subscriptions, and for the moment hospital incomes appeared to be going down. The rapid growth of the scheme, however, rendered it very probable that there would be ample funds available for hospital needs, and that then the request of the staffs for recognition would be brought forward with a prospect of its favourable reception.

*The Cottage Hospital.*

Dr. C. LAMPOUGH (Gosport) spoke of the question as it affected a cottage hospital—namely, the Gosport War Memorial hospital, with 26 beds. On the staff of this hospital all the practices in Gosport were represented, and there were three honorary visiting surgeons from Portsmouth. The three fundamental principles set out by the Association had been adopted: contributions were obtained by a voluntary levy on each employee's weekly wage; a committee elected annually by the workers themselves organized and managed the scheme; persons whose income from all sources was less than £250 per annum were eligible, unless they were single persons or persons without dependants, in which case their income must not exceed £200 per annum. The rate of contribution was one penny per week per £1 of wage, but nothing had been contributed by the employers. Of the total sum contributed to the fund, 70 per cent. was paid to the hospital for maintenance of patients; 20 per cent. to the medical staff fund, and 10 per cent. was used

for various purposes, including an allocation to the local district nursing society, contributions to the Portsmouth hospitals in respect of patients there, and administrative expenses of the scheme, these last amounting only to 1.25 per cent. of the total. The contributory scheme brought to the hospital three times as much as was received from charitable subscribers and donors. The scheme had worked very satisfactorily, but there was a tendency for representatives of the scheme to try to increase their numerical strength in the management of the hospital, and owing to the large proportion of revenue received from this source the Hospital Management Committee rather tended to sympathize with this attempt. The hospital was immensely popular in Gosport, and the annual income was invariably larger than the expenditure. Nothing was paid to the medical staff fund from receipts other than the contributory scheme. (Applause.)

#### GENERAL DISCUSSION.

After these three opening statements from different points of view, general discussion was invited.

Mr. H. S. SOUTTAR (London Hospital) said that those of them who had studied contributory schemes would realize that these were going to have a revolutionary influence on the future of the hospitals and of the medical profession. They were not a small thing which was going to come in to-day and make some trivial difference to the subscriptions. They were going to alter entirely the whole basis of the hospital clientele and treatment. The subject was a complicated one, and he desired to confine himself entirely to one small aspect, placing before the conference some considerations as to the purpose for which the contribution was made. The answer to such a question given by the committee of the hospital would most likely be entirely different from the answer given by the patient. The committee would assert that the contribution was to meet the cost of maintaining the patient in hospital, his food and clothing, and so forth, and that it had nothing to do with medical treatment. The patient, on the other hand, would say that he gave his contribution in order that when he wanted medical treatment he should be able to get it. The fact that he had to be fed and maintained, he would claim, was a mere incident; the important thing from his point of view was the treatment. ("Hear, hear.") The patient did not want to be maintained for some weeks in a hospital bed; what he wanted was to get rid of his hernia, or whatever the trouble might be. This question was extremely important at the present moment. Upon the decision of the hospital staffs would depend the whole future of the contributory schemes. If hospital staffs allowed the idea to take root that all the contributory scheme had to do was to provide for the "keep" of the patient in hospital, that idea would be established as a permanent principle. It was perfectly obvious that an ordinary working man could not stand the expenditure of a big operation or of a long medical illness, but if in times of health and prosperity he subscribed a very small amount he would be able to cover the whole of that expense. Actuarially, if a workman paid sixpence a week it would cover handsomely the probable cost of any hospital maintenance and treatment that he might require. If he did not pay for his treatment, what was, in fact, the economic position of the hospital staff? A man came into hospital, say, for a hernia, for which he was relieved, and he paid the hospital £8. Who had earned that £8? The point which the speaker wished to make was that as long as the staffs were not paid it was the staffs who were paying for the hospital. But he did not think his own chairman would like him to send in a little note at the end of his operating session and say, "Kindly add thirty guineas as my donation to-day to the hospital fund"! He asked again, For what was this contribution paid by the prospective patient? If it was recognized that the patient really was paying for the treatment he received, if the patient was greeted in hospital as a man who was paying his way, instead of it being derogatory for recognition to be made of the services of the medical staff, it added to the dignity of the profession and of the patient as well. (Applause.) He begged that it might be recognized that in the contributory scheme the patient paid for his treatment. Why should anyone be shy or squeamish about admitting it? (Loud applause.)

Mr. EDWARD DEANESLY (Wolverhampton and Staffordshire Hospital) said that the staff of his hospital were in entire agreement with the principles enunciated for contributory schemes. He was sure that these schemes were going to

revolutionize the finances and position of the whole profession. All hospitals were looking round for fresh sources of income, and the only source in sight, apart from grants from the Government, was these contributory payments. At present the employers did not pull their weight; they did not make, as employers, the contributions to hospitals which they ought to make. It was forgotten by them that it was impossible to carry on industry in any town in the kingdom without a well-equipped hospital; they did not always realize that they were getting something for nothing. One great difficulty which was already confronting Wolverhampton was the overlapping of contributory schemes. It was not acceptable to have a London agent coming down and suggesting that the people should make their contributions to London hospitals rather than to their own. In the Wolverhampton area the local hospital was well supported, largely because of the good management of the Hospital Saturday Fund. But Birmingham had launched a scheme which practically promised hospital treatment to all contributors, although such a promise could not be fulfilled on account of lack of accommodation. Unless something was done to remedy the overlapping of areas a scheme would be met by insuperable difficulties, and it was no easy matter in a large area to bring about co-ordination.

Dr. W. COLLIER (Radcliffe Infirmary and County Hospital, Oxford) said that in connexion with the County Hospital one of the earliest of the contributory schemes was started and had been extremely successful; it had prevented the hospital from falling into a third-rate position. In 1913 the working income was under £10,000 a year; at the present time it was £42,000. A large part of the income came from agricultural labourers. At the same time those concerned had been out to protect the interests of the general practitioner, and, as far as possible, the consultant. The first two principles in the policy of the British Medical Association had been accepted, the third principle—recognition of the services of the staff—not yet. If the staff went to the committee to-morrow and said, "You must pay up a definite amount from the contributory scheme to the medical staff," he thought the contributory scheme would be at once destroyed. But as the result of the present discussion he thought that the medical staffs in the county hospitals would take the question up much more seriously than they had done hitherto. With regard to Mr. Souttar's point about sixpence a week from the worker, this would be impossible of application to the agricultural labourer, who was earning only 30s. a week.

Mr. R. ST. LEGER BROCKMAN (Sheffield Royal Infirmary) said that from the point of view of finance as seen by the lay boards the Sheffield scheme had been a huge success. But thirty, forty, or fifty small tradesmen who could afford to run their own motor cars were now joining the scheme on the basis of paying £1 a year. The unfortunate thing was that Sheffield refused the income limit at the beginning. The scheme had been running for some years, and all these people were in. If, now, the staffs insisted on the income limit, these people would have to come out of the scheme, and the staff would be accused of wrecking tactics. The position was unfortunate; there was a lack of hospital beds, and waiting lists tended to lengthen, while continual pressure was put on the staffs through various large firms who claimed to be paying so much to the scheme—in Sheffield the employers gave one-third of what the men gave—and wanted a *quid pro quo*.

Dr. A. J. BALLANTYNE (Glasgow Eye Infirmary) declared that in Glasgow there was no such thing as a contributory scheme. There the hospital system was as close to voluntarism as anything could be. Large contributions certainly were made by the workers, but no conditions were laid down as to privileges or specific services in return. Although, so far as was known, there was no contributory scheme in Glasgow at present, it was felt that such a scheme might be brought forward at any time; it was largely a question of facility in securing funds. In considering the principles laid down in the Association's memorandum it was felt in Glasgow that there was a certain lack. It might easily happen that in some hospitals the governors would be approached by lay bodies, such as representatives of the workers, with a view to devising some contributory schemes without the staffs being consulted; indeed, it was stated that the medical staffs of the hospitals concerned in many instances had not been consulted in the setting up of the scheme. Something should be laid down by the Association as a principle to be observed—namely, that staffs

in these cases must be consulted. A contributory scheme implied a contract between the contributor and the hospital with regard to services, and the members of the medical and surgical staffs would be parties to such a contract, and should be consulted with regard to the scheme. If a scheme were devised without consultation with the medical staff the staff would be greatly strengthened in its opposition could it point to something which had been definitely laid down by the Association in this connexion. He wished to move a resolution on the subject.

The CHAIRMAN thought it would be inadvisable in a meeting of that character to pass any definite resolutions, though he would not rule out some general proposition which would receive practically unanimous assent. It was quite in order, however, to mention and speak to a resolution which the speaker would like to have had brought forward.

Dr. BALLANTYNE said that he would, in deference to the chairman, refrain from proposing any resolution, but he asked members of staffs to be wary lest a contributory scheme be brought forward without the staff being taken into consultation.

Dr. CLIFFORD ELLINGSWORTH, though representing the West London Hospital, spoke on behalf of the London Panel Committee, on which he represented the non-insurance practitioners north of the Thames. The Panel Committee had asked him to express its agreement with the principles laid down by the Association in regard to contributory schemes, but to state that certain hospitals did not confine the benefit to hospital treatment. In their out-patient departments they invaded the province of the general practitioner. The Panel Committee was of opinion that general practitioner treatment should not be provided by the hospitals under the contributory schemes. Many voluntary hospitals, the speaker continued, were run by lay secretaries, whose ambition was to get as many green vouchers as possible without considering the work thrown on the hospital staff or the injustice done to the general practitioners. Mr. Sontar had mentioned that patients thought they were paying for their treatment. The speaker declared that they did not in any way pay for their treatment; was it recognized that at the present time the voluntary hospitals had become the x-ray centres for the whole of their district, including the service of insured patients, who, with the green voucher, demanded and received x-ray treatment at the hospital? The same was true of drugs for which there was specific provision under the national health insurance system without reference to the hospital.

Dr. R. WHITTINGTON (Hove Hospital) asked how far visits and consultations at the patient's house should be included in contributory schemes. Any contributory scheme which was going to be of great use to the patient must include in some cases consultations at the patient's house or at the consultant's house. At the hospital there were a number of patients who came up for consultations, and one would like to know how far the contributory schemes ought to cover the cost of consultations in those cases that could not come up to the hospitals. Such cases ought to be covered by any adequate contributory scheme. When the scheme in his own area was started such service was included, and an adequate fee of three guineas was apportioned to the consultant who saw the patient either at his own house or at the patient's house. This provision had recently, without any consultation with the medical profession, been cut out of the scheme, and it seemed to him that it must of necessity be so cut out if contributions to the scheme were to be kept as low as they were under most of the schemes now in existence. If a contributory scheme was to be of use it should be on an actuarial basis so that the contributions were adequate to the benefits.

Sir RICHARD LUCE, M.P. (member of the Hospitals Committee), said that this question had had a long history. The question arose soon after the war, when it began to be recognized by a very large number of members of hospital staffs that the time had come for some recognition of the work done at hospitals. But practically nothing had been done in the way of obtaining that recognition which was then said to be necessary. It was difficult to see the reason for this long delay in coming to a definite issue. All members of staffs felt a certain diffidence in approaching the boards of hospitals to ask money for themselves, and probably that had been one of the obstacles to progress; they liked also the freedom given to them as voluntary workers. But there was no doubt that the time

had come when it was necessary that the vast amount of work done in hospitals should receive some remuneration, especially in the case of the younger members of the staffs. If this was not done now it was difficult to see when it would be done. Suppose the State took over the hospitals; what could the staffs say when the State was their master if they had been willing to work for nothing under the present system? It was essential to be prepared for such an event by some sort of payment. There were already State hospitals and municipal hospitals the staffs of which were getting a certain amount of remuneration. As time went on these hospitals might grow and come into competition with the voluntary hospitals, and if the staffs of one kind of hospital were paid and the staffs of another were not the result might be to the detriment of the voluntary hospitals. It seemed to be the duty of the conference to make a determined effort to arrive at some practical conclusion on this aspect of the question. (Applause.)

Dr. C. HERBERT HALL (Watford and District Peace Memorial Hospital) asked how it had come about that the British Medical Association scheme had not been accepted more widely. One great reason was that it had not received the support of the consultant staffs of the big London hospitals. Again, this was primarily a question for the staffs of hospitals. It was they who must bring forward the case before their committees, and it was particularly the seniors who should do it, but it was not being done. His colleague Dr. Francis Smith and himself at Watford were just approaching the end of their time at the hospital, and they had been sent forward by the staff to advocate before the committee the British Medical Association scheme in its entirety. The committee had listened to them because it recognized that they had no axe to grind for themselves. One mistake made at Watford was that the British Medical Association scheme was not taken in its entirety at first; it was very desirable to have a scheme logical from beginning to end. The Watford experience was that when it came to debating with the committee as to the hospital staff fund the Labour element on the committee proved to be the strongest supporters of the staff, recognizing that the doctor should receive his share. The total amount of new money coming to his hospital as a result of the scheme was £4,000 a year at least, and the medical staff had been offered a fixed sum of £350, which they had turned down. He thought that sufficient emphasis had not been laid at headquarters on the desirability of having a percentage arrangement. He and his colleagues believed that the scheme at Watford would presently be earning for the hospital from £8,000 to £10,000 a year, and the staff should receive an increased amount accordingly, as it would do on a percentage basis. He urged support for the full British Medical Association policy, with the principle of a percentage.

Dr. CRANSTON WALKER (Birmingham and Midland Hospital for Skin and Urinary Diseases) begged the conference to remember that the sick man's claim to service was fundamentally based on his sickness, not on his membership of a particular scheme or guild or clique, nor on his position in society, nor on his means. He also mentioned the nurses, who, in voluntary hospitals, were to a large extent, like the medical staff, donors of their services. They were not paid fairly or properly, and he would suggest that with funds available it was the duty of the medical staff to see that some proportion of such funds went to the nurses.

Mr. A. J. WALTON (London Hospital), referring to the remarks just made by Dr. Hall, and his rebuke to the consultants of the London hospitals for not giving full support to the scheme, said that he thought the rebuke justified, and he would like to throw a little light on the position. Of the three fundamental propositions set out, the second one (admission only on the recommendation of the attending practitioner) had been universally accepted. His own hospital had become much more than formerly a consultative centre, and most of the patients admitted were admitted more or less at the request of himself and his colleagues. The difficulty was that they had no adequate means of determining what was the patient's income. It happened that certain patients paid sums up to £5 per week for their maintenance. On one or two occasions, on mentioning to the lay committee that there were such patients, he had been told, "Yes, but the cases were admitted at your own request." The staff had no means of discovering the patient's economic circumstances. With regard to the third principle (recognition of the services of the medical





committee might also refer cases of this nature to the Insurance Committee for investigation by the Medical Service Subcommittee. In the particular case which led to the conference the Ministry had informed the Insurance Committee that it was in order for the subcommittee to investigate the matter, and therefore the Panel Committee decided to take no further action at present.

#### Definition of a Splint.

It was reported that the Ministry of Health, in reply to a request by the committee, had furnished a definition of a splint: "... the department take the view broadly that splints are appliances intended to secure immobility of bones or parts of bones in relation to one another, in the treatment of fractures, dislocations, diseased or injured bony surfaces or joints, and ruptured muscles or tendons." The Ministry had previously excluded a spinal jacket from being defined as a splint, and the committee requested to be informed in what way a spinal jacket was contrary to the description of the splint laid down in the letter.

#### DANGEROUS DRUGS: WITHDRAWAL OF AUTHORIZATION.

The Home Secretary gives notice that he has withdrawn from Frederick Denis Parbury, M.R.C.S., L.R.C.P., of Elsham Road, Kensington, the authorizations granted by the Regulations made under the Dangerous Drugs Act, 1920, to duly qualified medical practitioners to be in possession of and to supply raw opium and the drugs to which Part III of the Act applies, and has also directed that the exception in Regulation 4 of the Dangerous Drugs Regulations, 1921, which permits dangerous drugs to be supplied on a prescription given by a duly qualified medical practitioner, shall not apply in respect of prescriptions given by Dr. F. Parbury. Any person supplying Dr. Parbury with raw opium or any of the drugs to which Part III of the Dangerous Drugs Act, 1920, applies, and any person supplying the drugs on a prescription signed by him, will be committing an offence against the Acts.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander R. J. G. Parnell, seniority in present rank ante-dated to May 5th, 1921.

Surgeon Commander D. P. H. Pearson is placed on the retired list.

Surgeon Commanders C. Ross to the *President* for post-graduate course; W. F. Beattie to the *Victory* for R.M. Barracks, Portsmouth.

Surgeon Lieutenant Commander J. F. Ainley to the *Egmont* for hospital ship *Moine*, and as ophthalmic specialist from date of joining.

Surgeon Lieutenants R. R. Baker to the *Vindictive*; W. D. M. Sim to the *Pembroke* for R.M. Infirmary, Chatham, temporary (amended appointments); T. L. Cleave to the *Collipe*; P. C. H. Bamford to the *Tamar*.

Messrs. F. Dolan, S. J. Savage, and R. E. P. Cohen have entered as Surgeon Lieutenants for short service, and appointed to the *Victory* for R.N. Hospital, Haslar, for course of instruction.

#### ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant W. J. Payne to be Surgeon Lieutenant Commander. Surgeon Lieutenants W. Winstanley to the *Seikirk* to complete fourteen days' training; J. L. Cox to the *Seikirk* for eighteen days' training, appointment to *Empire of India* cancelled; J. B. Oldham to the *Victory* for R.N. Hospital, Haslar, for training; R. Eskine-Gray to the *Pembroke* for R.N. Hospital, Chatham.

#### ROYAL ARMY MEDICAL CORPS.

The notification in the *London Gazette* of November 28th, 1917, regarding temporary Captain Robert B. Martin, M.C., is cancelled.

Temporary Lieutenant Robert B. Martin, M.C., relinquishes his commission, November 14th, 1917.

Henry McNeill to be temporary Lieutenant.

Lieutenant on probation J. G. Weston resigns his commission.

#### REGULAR ARMY RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel M. P. Corkery, O.B.E., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commanders F. N. B. Smartt to No. 1 Air Defence Group Headquarters, W. A. S. Duck, O.B.E., to Wessex Bombing Area Headquarters, Andover.

Flight Lieutenant (honorary Squadron Leader) H. C. Perkins relinquishes his temporary commission on completion of service, and is permitted to retain the honorary rank of Squadron Leader.

Flight Lieutenant H. B. Troup is promoted to the rank of Squadron Leader.

Flight Lieutenants J. K. R. Landells to R.A.F. Depot, Uxbridge; G. E. Church to R.A.F. General Hospital, Iraq.

Flying Officers J. Hill to R.A.F. Combined Hospital, Iraq; L. Freemantle to Station Headquarters, Hinaidi.

#### INDIAN MEDICAL SERVICE.

Lieutenant-Colonels to be Colonels: J. W. D. Megaw, C.I.E., vice Colonel C. R. Bakke, K.I.F.; retired; Brevet Colonel W. D. A. Keys, C.I.E., vice Colonel H. M. Cradock, C.I.C., O.B.E., retired.

Lieut.-Colonel G. D. Franklin, O.B.E., an Agency Surgeon, is posted as Civil Surgeon, Ajmer, and Chief Medical Officer in Rajputana.

Lieut.-Colonel J. R. J. Tyrrell, an Agency Surgeon, is posted as Chief Medical Officer in Central India, and Agency Surgeon, Indore.

Major W. E. R. Dimond, Officiating Assistant Director of Public Health, North-West Frontier Province, is confirmed.

Major H. B. Gibson, whose retirement was notified in the *London Gazette* of December 31st, 1926, is granted the rank of Lieutenant-Colonel. The services of Major G. B. Hanna are placed permanently at the disposal of the Government of Bengal, with effect from October 24th, 1927, for employment in the Jail Department.

Captains to be Majors: J. E. Ainsley, David Clyde, and R. A. Leembruggen.

Lieutenant T. A. Malone to be Captain.

Lieutenant J. H. Clapp has resigned his commission.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

Captain J. K. Rennie, M.C. (late R.A.M.C., T.A.) to be Captain with precedence as from October 26th, 1926.

#### TERRITORIAL ARMY RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Major J. H. Donnell, having attained the age limit, relinquishes his commission and retains his rank.

Captain C. F. Hardy, M.C., having attained the age limit, relinquishes his commission and retains his rank.

General Hospitals.—Captain W. Seymour, having attained the age limit, relinquishes his commission, and retains his rank.

Hygiene Companies.—Captain D. Smith, having attained the age limit, relinquishes his commission and retains his rank.

#### COLONIAL MEDICAL SERVICES.

Dr. N. P. Jewell appointed Resident Surgical Officer, Nairobi Hospital, Kenya. Dr. H. B. Owen, Medical Tutor, Makerere College, promoted Medical Superintendent, Mulago, and Principal of the Medical School. Dr. G. F. Allen appointed Bacteriologist, Institute for Medical Research, Federated Malay States. Dr. W. L. Paterson appointed Medical Officer, Kenya. Drs. N. J. Williams and R. E. Barrett appointed Assistant Bacteriologist and Medical Officer, Uganda, respectively. Dr. J. J. Mitchell, Medical Officer, appointed Medical Officer, Hoima, Uganda. Miss C. N. Twining appointed Lady Medical Officer, Kenya. Captain M. Clayton-Mitchell appointed Resident Surgeon, Colonial Hospital, Grenada, Windward Islands. Miss J. M. M. Aitken appointed Lady Medical Officer, Gold Coast. Drs. H. V. R. Miller and J. H. Pottinger appointed Medical Officers of Health, and A. Reid appointed Medical Officer, Gold Coast respectively. Dr. D. Whitbourne appointed Lady Medical Officer (for one year only) to Lagos Town Council, Nigeria. Dr. R. N. Hunter appointed Medical Officer of Health, Nairobi Municipal Area, etc., Kenya.

#### VACANCIES.

BIRNLEY: BECKETT HOSPITAL AND DISPENSARY.—House-Physician (male). Salary £140 per annum.

DUNSTABLE: NORTH DEVON INFIRMARY. House-Surgeon. (male). Salary at the rate of £150 per annum.

BIRMINGHAM GENERAL HOSPITAL.—Assistant Surgeon. Honorarium £50 per annum.

BOMBAY: COMA AND ALEEF'S HOSPITAL FOR WOMEN AND CHILDREN.—Medical Officer in Charge (lady). Remuneration Rs.800-50-1,000 per mensem for officer of Asiatic domicile, and Rs.600-50-800, plus £20 per mensem on overseas pay for officer of non-Asiatic domicile.

BRIGHTON: NEW SUSSEX HOSPITAL FOR WOMEN AND CHILDREN.—(1) Honorary Assistant Ophthalmic Surgeon. (2) Honorary Clinical Assistants for out-patients.

BRISTOL: EYE HOSPITAL.—Honorary Rhinologist.

BURY INFIRMARY.—Senior House-Surgeon (male). Salary at the rate of £200 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—(1) Radiologist; honorarium 150 guineas per annum.

EAST SUSSEX COUNTY COUNCIL.—Coroner for the Lewes District. Salary £750 per annum.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Junior Assistant Medical Officer. Salary £350 per annum, rising to £400.

ERITH UNION DISTRICT COUNCIL.—Medical Officer of Health. Salary £800 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Resident Surgical Officer (male). Salary £175 per annum.

HARPENDEN GENERAL AND NORTH-WEST LONDON HOSPITAL, Harpenden Hill, N.W.3.—Casualty Surgical Officer at the Out-patient Department, Bayham Street. Salary at the rate of £100 per annum.

HAVE HOSPITAL.—Resident Medical Officer (male, unmarried). Salary £150 per annum.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon (male). (2) Casualty House-Surgeon. Salary £150 and £130 per annum respectively.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—Two House-Surgeons (males). Salary at the rate of £100 per annum each.

LEDS JEWELL HAZEL-MOSER HOSPITAL.—Resident Medical Officer. Salary £50 per annum.

LONDON CORPORATION.—Medical Officer of Health for the Port of London. Salary £1,500 per annum, rising to £2,000.

MANCHESTER: ANCHORS HOSPITAL.—House-Surgeon (Orthopaedic). Salary at the rate of £100 per annum.

MANCHESTER EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £600 per annum, rising to £750.

MANFIELD AND DISTRICT HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £150 per annum.

MARGHERIT STREET HOSPITAL FOR CONSUMPTION, 26, Margaret Street, W.1.—Honorary Assistant Physician.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) House-Physician. (2) House-Surgeon. Males. Salary at the rate of £125 per annum each.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—(1) Medical Registrars. Salary £250 per annum each. (2) Honorary Assistant to the Ophthalmic Department.

NEWARK HOSPITAL AND DISPENSARY.—Resident House-Surgeon (male). Salary at the rate of £150 per annum.

POPPIE HOSPITAL FOR ACCIDENTS, E.—Senior Resident Officer. Salary £200 per annum, plus fees £75 per annum as Anaesthetist to Dental Clinic for L.C.C. School Children.

QUEEN CHARLOTTE'S HOSPITAL, Marylebone Road, N.W.1. Assistant Resident. Salary at the rate of £80 per annum, rising as senior.

QUEENSLAND GOVERNMENT.—Medical Officer for the Department of Public Instruction. Salary £500-£600.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.1.—House-Physician (male). Salary at the rate of £100 per annum.



ST. MARK'S HOSPITAL, FOR CANCER, FISTULA, AND OTHER DISEASES OF THE RECTUM, City Road, E.C.1.—Resident Surgical Officer (male). Salary £150 per annum.

ST. MARY'S HOSPITAL, W.2.—Assistant Director to the Surgical Unit. Salary £750 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Physician. (2) House-Surgeons attached to (a) Orthopaedic Department, (b) Genito-Urinary Department, (c) Gynaecological, Aural, and Skin Departments. Salary at the rate of £125 per annum each.

SALVATION ARMY: THE MOTHERS' HOSPITAL, Lower Clapton Road, E.5.—Junior Resident Medical Officer. Salary at the rate of £60 per annum.

SHEPHERD: PARISH COUNCIL OF TINGWALL, WHITNESS, AND WEISDALE.—Parish Medical Officer and Parochial Vaccinator. Salary from Parish Council £55 per annum.

SOUTH-EASTERN HOSPITAL FOR CHILDREN, Sydenham, S.E.25.—Assistant Resident Medical Officer (lady). Honorarium at the rate of £75 per annum.

WEIR HOSPITAL, Balham, S.W.12.—Junior Resident Medical Officer (male, unmarried). Salary £150 per annum.

WILKESDEN GENERAL HOSPITAL, Harlesden Road, N.10.—Resident House-Surgeon (male, unmarried). Salary at the rate of £200 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Chagford (Devon), Oswestry (Salop). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

ARKLE, J. S., F.R.C.S.Ed., Honorary Ophthalmic Surgeon, Royal Victoria Infirmary, Newcastle-on-Tyne.

CUNNINGHAM, HUGH BOYD, M.B., B.S.Durh., Ophthalmic Specialist Medical Referee under the Workmen's Compensation Act to County Courts Circuits 1 and 2 (Northumberland and Durham) vice Dr. A. S. Percival, resigned.

FENTON, M. J., M.B., Ch.B., Clinical Assistant, London Hospital for Diseases of the Skin, Blackfriars Road, S.E.1.

MARTIN, Miss Margaret, M.A., M.B., Ch.B., M.R.C.P.Ed., Honorary Assistant Physician, Edinburgh Hospital for Women and Children.

CERTIFYING FACTORY SURGEONS.—J. F. M. Burnett, M.B., Ch.B.Aberd., for the Bradford-Avon District (Wilts); W. E. Parry, M.B., B.S.Lond., for the City of London; R. S. Ross, M.B., B.Ch., B.A.O.Belf., for the Accrington District (Lancaster); J. D. S. Sinclair, M.B., Ch.B.Glas., for the Carnwarth District (Lanark).

### DIARY OF SOCIETIES AND LECTURES.

#### ROYAL SOCIETY OF MEDICINE.

General Meeting of Fellows.—Tues., 5.30 p.m., ballot for election to the Fellowship.

Section of Dermatology.—Thurs., 4 p.m., Cases.

Section of Epidemiology.—Fri., 8 p.m., Annual General Meeting, Election of Officers and Council for 1928-29. Dr. J. Alison Glaver: Some Observations on Naso-pharyngeal Infections in Public Schools.

### POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Charing Cross Hospital, W.C.2.*: Clinical Demonstration in the Ear, Nose, and Throat Department, 11 a.m. No fee. *Royal Eye Hospital, St. George's Circus, Southwark, S.E.1.*: Clinical Demonstration, Fri., 3 p.m. No fee. *South London Hospital for Women, 88, Newington Causeway, S.E.*: Clinical Demonstration, Wed., 10.30 a.m. No fee, but women only admitted. *Chelsea Hospital for Women, Arthur Street, S.W.3.*: Course in Gynaecology.—*City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, E.2.*: Special Course. Post-graduates can spend the entire day at the Hospital. *London Temperance Hospital, Hampstead Road, N.W.1.*: General Practitioners Course, 4.30 to 6 p.m., Medicine, Surgery, and Specialties. Copies of all syllabuses sent on application, also details of general course of instruction and specimen copies of the *Post-Graduate Medical Journal*. Apply, Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1. Mayfair, 2236.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Mon., 1.30 p.m., Hearing Tests. Wed., 1.30 p.m., Examination of the Accessory Sinuses.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 p.m., Demonstration of Eye Cases; 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Medical Cases (children); 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Foreign Bodies in the Gastro-intestinal Tract.

ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Wed., 4.30 p.m., Retention of Urine.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—Wed., 8 p.m., Twenty-first Anniversary Dinner, Café Royal, Regent Street. Thurs., at 11, Chandos Street, W.1, 7.45 p.m., Demonstration; 8.15 p.m., Annual General Meeting. Paper by Professor E. Brumpt (Paris), Differential Diagnosis of the Intestinal Amoebae of Man.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Surgical Wards, Skin Department; 2 p.m. to 5 p.m., Eye and Gynaecological Departments. Tues., 10 a.m. to 1 p.m., Medical Wards, Demonstration of Veneral Diseases, Electrical and Dental Departments; 2 p.m. to 5 p.m., Gynaecological Operations, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Department, Medical Wards, Pathological Demonstration; 2 p.m. to 5 p.m., Eye Department, Surgical Wards. Thurs., 10 a.m. to 1 p.m., Neurological and Massage Departments; 2 p.m. to 5 p.m., Eye and Genito-urinary Departments.

Medical Wards, Clinical Demonstration; 2 p.m. to 5 p.m., Throat, Nose, and Ear Department. Sat., 9 a.m. to 1 p.m., Medical Wards, Throat, Nose, and Ear Operations, Medical Children's Department, Bacterial Therapy Department. Daily at 2 p.m., Operations, Medical and Surgical Out-patient Departments.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Jessop Hospital: Tues., 3.30 p.m., The Gynaecological Aspect of Contraception. At Royal Hospital: Fri., 3.30 p.m., Surgical Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediceera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Altitude Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9852, 9853, and 9854 (Internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 7, Drumshough Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 23561 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

##### JUNE.

- 19 Tues. London: Central Ethical Committee, 2.15 p.m.  
Lewisham Division: Town Hall, Catford. Mr. J. M. Redding on X-ray Examination of the Alimentary Tract, 8.45 p.m.  
Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1, 4 p.m.
- 20 Wed. London: Private Practice Committee, 2 p.m.  
Sunderland Division: Royal Infirmary, Sunderland, 8.15 p.m.  
Wilkesden Division: Wilkesden Hospital, Harlesden Road, N.W. Dr. Margaret Emslie on the Care of the Infant, 9 p.m.
- 21 Thurs. Huddersfield Division: Annual Picnic, 12.15 p.m.  
Jersey Division: General Hospital. Dr. A. H. Jacob on Tuberculosis, 8.30 p.m.  
Portsmouth Division: Annual Meeting, Queen's Hotel, Southsea, 9.30 p.m. Supper 9 p.m.  
South Wales and Monmouthshire Branch: Annual Meeting, Free Library, Victoria Gardens, Nentli, 2.45 p.m.  
Sussex Branch: Annual Meeting, Royal York Hotel, Brighton, 2 p.m. Luncheon, 1 p.m.  
West Dorset Division: Annual Supper, Antelope Hotel, Dorchester, 7.30 p.m. Annual Meeting after Supper.  
Worcestershire and Herefordshire Branch: Annual Meeting, Hospital, Hereford, 3.15 p.m. Lunch, Green Dragon Hotel, 1.30 p.m.
- 22 Fri. London: Maternity and Child Welfare Subcommittee, 2 p.m.  
London: Scholarships and Grants Subcommittee, 3.30 p.m.  
Wandsworth Division: Town Hall, Wandsworth, to consider the Koch Diagnosis and Treatment of Tuberculosis. Paper by Dr. Robert Carswell, 9 p.m.
- 23 Sat. West Somerset Branch: Annual Meeting, Deller's Café, Taunton, 12.15 p.m.
- 25 Mon. London: Library Subcommittee, 2.30 p.m.
- 26 Tues. Edinburgh Branch: Annual Meeting, Pathhead Ford. Luncheon, 12.30 p.m. Business Meeting, 5 p.m.
- 27 Wed. Oxford and Reading Branch: Holloway Sanatorium, Virginia Water.  
Surrey Branch: Annual Meeting, Town Hall, Kingston-on-Thames, 2.15 p.m. Luncheon, Nuthall's Restaurant, 1 p.m. Annual Dinner, Reid's Restaurant, Ashley Road, Epsom, 6.45.  
Wiltshire Branch: Annual Meeting, County Mental Hospital, Devizes. B.M.A. Lecture by Mr. W. McAdam Eccles on Treatment of Hernia by Trusses, 3 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

HALL.—At Hawksmoor, Windermere, on June 3rd, to Dr. and Mrs. Taylor Hall, a son.

SIDDONS.—At Pontypool, on June 4th, to Enid Mary Siddons, M.B., B.S.Land. (née Pawell), and Bertram Siddons, M.B., Ch.B.Ed., a son.

#### MARRIAGES.

ADAMS CLARK-SMITH.—On June 12th, at the Church of St. Bartholomew's the Great, Smithfield, London, Dr. Willoughby Adams Clark, only son of Dr. and Mrs. Adams Clark of Erme House, Penge, to Ruth Ashton, eldest daughter of Mr. and Mrs. Edgar Smith at Stonegate, Leicester.

HARKER-FRANKLIN.—On June 6th, 1928, at St. Paul's, Wiltington, Manchester, Maurice John Harker, M.A., B.Ch.Camb., of Oswestry, to only son of Mr. and Mrs. A. J. Harker of Wimbeldon Park, to Margaret Denise, youngest daughter of Mrs. Franklin of West Didsbury.

SHEPPARD-MARSHALL.—At the Cathedral, Rangoon, on May 12th, by the Rev. W. R. Garrad, assisted by the Rev. Archdeacon W. H. Cowper Johnson, Arthur Lewin Sheppard, Major, Indian Medical Service, to Edith Treliving Marshall, M.B., B.S., daughter of W. A. Marshall, Esq., and Mrs. Marshall of Brighton, Sussex.

#### DEATHS.

INGRAM-JOHNSON.—At Seremban, Federated Malay States, on May 28th, 1928, Dr. R. E. Ingram-Johnson, beloved husband of F. A. Ingram-Johnson. R.I.P.

WOOLLETT.—On June 7th, 1928, at Kingston House, Newmarket, after a long illness, very patiently borne, Sidney Winslow Woollett, O.B.E., late Major, R.A.M.C., in his 72nd year. R.I.P.

# SUPPLEMENT

TO THE

# BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 23RD, 1928.

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## British Medical Association.

### PROCEEDINGS OF COUNCIL.

Wednesday, June 13th, 1928.

A MEETING of the Council of the British Medical Association was held at the Association's House in Tavistock Square, London, on Wednesday, June 13th. Dr. H. B. BRACKENBURY took the chair at 10 a.m. Those present were:

Sir Robert Philip (President), Dr. C. O. Hawthorne (Chairman of Representative Body), Mr. Bishop Harman (Treasurer), Mr. R. G. Hogarth (Past President), Sir Ewen Maclean (President-Elect), Dr. A. Lyndon (Deputy Chairman of Representative Body), Sir Robert Bolam (Immediate Past Chairman of Council), Dr. J. Barcroft Anderson, Dr. J. Armstrong, Dr. F. J. Baidon, Major-General Sir Alfred Blenkinsop, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. G. F. Buchan, Dr. H. G. Dain, Dr. C. E. Douglas, Mrs. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. T. Fraser, Dr. F. W. Goodbody, Rear-Admiral J. Falconer Hall (ret.), Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. E. K. Le Fleming, Dr. R. W. Leslie, Dr. E. Lewys-Lloyd, Dr. J. Livingstone Loudon, Sir Richard Luce, M.P., Dr. J. G. McCutcheon, Dr. S. Morton Mackenzie, Dr. O. Marriott, Dr. J. C. Matthews, Dr. G. W. Miller, Dr. Christine Murrell, Lieut.-Colonel F. O'Kincaly, Dr. W. Paterson, Dr. R. C. Peacocke, Dr. J. R. Prytherch, Dr. F. Radcliffe, Dr. E. H. Snell, Mr. H. S. Souttar, Dr. E. A. Starling, Dr. Lockhart E. W. Stephens, Dr. John Stevens, Lieut.-Colonel Ashton Street, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. E. Walker, Mr. A. M. Webber, Sir William de Courcey Wheeler.

Apologies for absence were received from Dr. D. E. Finlay, Dr. P. J. Gomez, Dr. R. Langdon-Down, Mr. A. W. Nuthall, Mr. J. Patrick, Group-Captain N. J. Roche, Dr. D. Walshe, and Dr. W. E. A. Worley.

The Chairman referred at the outset to the death of Dr. J. A. Macdonald. The Council, he said, over which Dr. Macdonald had presided for a longer period than any other Chairman, had peculiar opportunities of appreciating his qualities and the great work which he had done for the profession over many years, though it was a work which, the speaker feared, had not been appreciated by the rank and file of the profession as it should have been. The Council had also to deplore the loss of another valued member, Dr. A. Manknell, and of two former members, Dr. G. E. Shuttleworth and Dr. W. Snodgrass.

The members stood for a few moments in a silent tribute.

The Chairman was authorized to convey to those members of the Association whose names figured in the recent Honours List the Council's congratulations.

A communication was received from the Canadian Medical Association intimating that in connexion with the Annual Meeting to be held at Winnipeg in 1930 it desired to nominate Dr. Harley Smith as President of the British Medical Association for 1930-31. It was agreed to recommend this nomination to the Representative Body.

Certain tentative arrangements for the Annual Meeting in 1930 were discussed. The suggested date for the opening was August 26th, and a programme was sketched following more or less closely that of the Annual Meeting in this country. It was stated that the Representative Meeting would be held that year in London. Some discussion took place on the probable expense of travel to Canada, and the chairman said that at the earliest moment—probably at the Cardiff Meeting—an announcement on this subject would be made. In the meantime the greater the number of members who intimated the probability of their attendance the more favourable were the terms likely to be.

A report was received from Sir Robert Philip on the Harvey Tercentenary Celebrations, which he attended as President of the Association. He wrote that the profession owed a debt of gratitude especially to Sir John Rose Bradford for the reverent dignity with which, as President of the Royal College of Physicians of London, he conceived and managed the numerous functions.

The Council approved the action of its chairman in having nominated Dr. J. W. Bone as representative of the Association on the Departmental Committee on the Midwives Acts; Mr. R. G. Hogarth and Sir Thomas Horder as the Association's delegates to the forthcoming International Congress on Cancer in London; and Dr. F. G. Thomson, Dr. W. E. A. Worley, and Dr. J. D. R. Monro as practitioners who might suitably be co-opted on the medical committee of the proposed London Clinic for Rheumatic Diseases promoted by the British Red Cross Society.

Sir Robert Philip, the President, was appointed to represent the Association at the annual conference of the National Association for the Prevention of Tuberculosis, to be held in London in October, and Dr. W. Paterson at the National Conference on Maternity and Child Welfare in July. Sir Humphry Rolleston's appointment as representative of the Association on the advisory committee of the Pharmaceutical Society concerned with the control of therapeutic substances was renewed, as was that of Mr. Russell Coombe on the court of governors of the University College of the South-West of England.

It was reported that the Brighton Division executive committee had complained that the section dealing with the International Union of Medical Organizations in the Annual Report of Council was too meagre in respect to the details it furnished to permit of the committee advising the Division as to what action it should take, if any, on the Council's decision. (The Council decided, as stated in the Supplement

of April 21st, p. 126, not to join this international medical movement.) After some discussion it was agreed to send to the Brighton Division, and to any Division making similar inquiries, any information in the Council's possession with regard to the subject, and to refer them to the reports of the discussions in the Council on this subject, as printed in the *Supplement*, but the Council did not see its way to publish in the *Supplementary Report* the lengthy memorandum by the Medical Secretary which was before the Council.

#### *The Medical Service in India.*

Dr. Goodbody, chairman of the Naval and Military Committee, brought forward a report on the reorganization of the medical services in India, which had been the subject of a communiqué issued by the India Office. From this communiqué it appeared to be contemplated that the proportion of European to Indian officers in the Indian Medical Service would greatly diminish, though the committee had been assured that for the present at all events there would be a ratio of approximately one Indian to two Europeans in the service taken as a whole. Dr. Goodbody pointed out that one of the chief inducements to candidates entering the Indian Medical Service in the past was the prospect of civil employment. Under the new arrangements the prospects of such employment were materially diminished. An officer might enter the service believing that he would have opportunities for civil employment, but yet be retained during the whole of his period of service on the military side. It was true that after a period of six or twelve years' service an officer might retire on a gratuity of £1,000 or £2,500 respectively, provided he gave notice of such intention twelve months in advance. The committee believed that this safeguard would be still more valuable if the officer were informed at the end of his fourth or tenth year of service what his prospects of civil employment were; he would then be able to judge whether or not it was in his interests to remain in the service. The committee did not consider that the new proposals would attract an adequate number of European medical men to the service, and put forward a recommendation that the Secretary of State for India be informed that the new proposals did not seem likely to have this effect so long as the posts of chief administrative medical officers of local governments were not scheduled on the list of appointments reserved for I.M.S. officers, and so long as definite information as to the prospects of civil employment as just stated were not afforded to the officers. Dr. Goodbody added that some later information made him feel that had such information been before the committee at the time of its meeting the recommendation would have been still stronger. The important fact brought out was that the heads of the medical services of the provincial governments need not be members of the Indian Medical Service at all. The largest hospital for Europeans in India, at Calcutta, which was solely concerned with Europeans, could be officered under this arrangement by non-European members of the I.M.S.

Lieut.-Colonel O'Kinealy said that since the meeting of the Naval and Military Committee he had had the opportunity of seeing and hearing from several brother officers of the service, and the general conviction was that the civil side of the service under these new conditions was practically moribund. In the first place, it was said that on the civil side 178 posts would be provided in the provinces, and that 112 of that number must be held by British officers. The memorandum went on to say: "The medical requirements of European members of the Superior Civil Services are based on data which will change from year to year as the proportion of European to Indian officers gradually diminishes and will be subject, therefore, to periodical revision"—in other words, the reserved appointments for European officers of the Indian Medical Service would gradually pass away. Of these appointments reserved for officers of the I.M.S. a number were definitely reserved for British officers; others were open to Indian officers equally with British. In the Government of India, the headquarters of the Government of the country, the Department of Education, Health, and Lands, under which the medical service worked, had thirty appointments reserved to officers of the Indian Medical Service, and out of this number twenty-five might be held by Indian officers, these twenty-five including the director-generalship of the Indian Medical Service, the deputy director-generalship, and the two assistantships of the director-general. In the Foreign and Political Department, which looked after the interests

of all the native States (that is, the States ruled by Indian princes), it was somewhat significant that out of twenty-nine posts reserved for officers of the I.M.S. only three were open to Indian officers. With regard to the local governments a very important matter had to be pointed out. At the present moment the presidencies of Madras, Bombay, and Bengal each had a surgeon-general, and each of the provinces, such as the United Provinces, Punjab, Bihar and Orissa, and the Central Provinces, had an officer of the I.M.S. as inspector-general of the civil hospitals. Under this schedule not one of these appointments was even mentioned as to be occupied by an officer of the I.M.S. He asked the Council to think of the feelings of the men in the Indian Medical Service at the present time, who went in with the prospect of rising to administrative grade. It was not too much to say that this was a death-warrant to their hopes, and he trusted that the Council would put up a strong protest. Take Calcutta: there the Medical College Hospital and the Gynaecological Hospital each had a resident surgeon and the former a resident physician. These three appointments were all held by officers of the I.M.S. at the present moment, but they were excluded from this list. In the Presidency General Hospital—the European general hospital at Calcutta—there were two resident surgeons, both of them European officers of the I.M.S., and these appointments again were excluded from this list. The surgeon-superintendent of the European general hospital in Calcutta might be an Indian officer of the I.M.S. There were three professorships at the Medical College, Calcutta, which were reserved for British officers of the I.M.S. who were "specially qualified" as physician, surgeon, and gynaecologist. But when it came to deciding what was meant by "specially qualified" might it not be urged that men applying were not "specially qualified" because they had not been resident in these particular hospitals? Colonel O'Kinealy said in making these remarks he was not intending to cast any reflection on the Indian members of the service, many of whom were men of the highest professional standing, but he was now dealing with the possibilities of the service attracting a sufficient number of the right kind of European officer. He moved as an amendment to the committee's recommendation:

That the Secretary of State for India be informed (1) that the Association has carefully considered the new proposals for the reorganization of the medical services in India and notes that the prime object of the proposals is to maintain a war reserve of military medical officers and to provide European medical attendance for European officers of the Superior Civil Services and their families; (2) that the Association is convinced that the new proposals will not attract an adequate number of European medical men to the Indian Medical Service so long as (a) the chief administrative medical officers of local governments are not specifically included in the list of appointments of officers of the Indian Medical Service, and so long as (b) the prospect of employment on the civil side, which is the chief inducement to enter the I.M.S., is as indefinite as it is at present.

Sir Alfred Blenkinsop seconded the amendment, and associated himself with all that Colonel O'Kinealy had said.

The amendment was accepted by Dr. Goodbody, and agreed to unanimously.

Colonel O'Kinealy said, in reply to a question by Sir Jenner Verrall, that at the present moment European medical officers were practically non-procurable from the military side for the civil side. The military side declared that it had not got its full strength, and therefore he did not think it could be blamed for not sparing officers, but the result was that British officers were not being obtained as they were required for the civil side.

#### *Scale of Salaries for Public Health Appointments.*

Sir Robert Bolam, as chairman of the conference between representatives of the Association and of the Society of Medical Officers of Health, brought forward a report with recommendations, which had been postponed from the previous meeting of Council in order that the public health representatives might be present. He said that the conference met on March 28th, and considered some suggestions from the representatives of the society with a view to the modification of the scale of salaries for whole-time public health appointments. Before dealing with these, however, it would be well to have regard to the position in Scotland, where the conference recommended that the working arrangement agreed to for one year as from June last with regard to the application of the scale to Scottish public health appointments, and approved by the Representative Body in 1927, should be extended for a further period of

one year on the understanding that, if by the end of that period experience showed that these arrangements had not brought about that measure of success in the application of the scale to Scotland which would justify continuing the arrangement, the advisability of reverting to the original scale should be considered.

Dr. G. W. Miller, chairman of the Scottish Committee, moved that instead of an extension for one year it should be for five years. He said that after the Council authorized the Scottish Committee to negotiate with the Scottish Board of Health and the local authorities the committee succeeded in converting the Board to acquiescence. A circular letter was drawn up by the Board for issue to all health and education authorities in Scotland, but when the Board found that the modified scale was authorized for one year only it did not issue the letter and would not issue it. Nevertheless, the Board had advised the payment of salaries at scale rates where the authorities had consulted it during the past year. He wished to impress upon the Council the importance of this modified scale for Scotland. The opinion both among medical officers of health and general practitioners was unanimously in its favour. Only the other day the medical officer of health in his own town expressed to him the hope that the modified scale would be adopted, as otherwise all would be confusion. The Scottish people had a pretty good hump of common sense, and knew that, the financial conditions in Scotland being what they were, it was of no use asking the local authorities, who were seeking to economize in every possible direction, to give what they regarded as extravagant salaries to their medical officers. To limit the extension to one year was to send them into the fight with their hands tied.

Dr. Douglas seconded the amendment. He asked whether it could be of any use to put forward a scheme for one year only. One year's experience was not sufficient for any body of men to estimate the working of such a matter as this. The Board of Health was willing, if the period were made five years instead of one, to back them up. The Board was shortly going out of existence; its power in a year's time would be nil, and the matter of public health would be dealt with by the Secretary for Scotland. Was it not common sense to have this matter dealt with by the Board of Health while it still had power, and get it established for a term of years? In reply to Dr. Buchan, who had asked whether the terms of the letter of the Board of Health alluded to were satisfactory, Dr. Douglas said that the terms were such as to make it clearly understood that the grant would be awarded in the case of any authority which adopted the scale. Dr. Buchan still wanted to know whether the grant would be withheld in the case of any authority which did not.

Dr. McCutcheon said that the members and officials of the present Board would do their best to get the scale adopted in Scotland, but not if it was to be only for one year.

The Scottish amendment extending to five years the working arrangement agreed to was carried, and the Scottish Committee was instructed to obtain full details of all appointments made under the arrangements, and of all in which the salary was below that laid down in the modified scale.

The Council then returned to the question of the proposals made on behalf of the Society of Medical Officers of Health with regard to certain points for an improvement in the scale which might be put up to local authorities.

Sir Robert Bolam reminded the Council of the history of this subject. He said that of late years the situation in respect to the existing scale in England and Wales had greatly improved, so that at the present time a very large number of appointments were on that scale. What was proposed in the conference from the side of the representatives of the society was that the Association should issue a suitable letter to all local authorities asking them to give favourable consideration to the following points in connexion with new and existing appointments:

- (a) Reasonable increments (25 per cent. on the minimum in eight years).
- (b) Suitable grading for senior medical officers (£750-£1,100) on certain lines duly set out and based on population.
- (c) Suitable scale for deputy medical officers of health (60 per cent. of salary of medical officers of health).
- (d) Application of scale to existing officers.
- (e) Suitable recognition of long service (after ten years' service a further 25 per cent. on the minimum in five years).

Sir Robert Bolam said that the last suggestion would mean

that if an officer was appointed at a basic salary of £800 this would rise in eight years to £1,000, and after two further years the long service period would be reached, and then under the scale proposed there would be further emolument, so that in fifteen years from the time of appointment the basic salary would be raised from £800 to £1,200. At the conference in question he took what he thought to be the proper course for the chairman of such a body; a conference was rather different from a committee, and in a conference such as this, consisting of representatives of two bodies, matters could not usefully be put to the vote and decided by a majority. He had felt, therefore, that the best course was to bring the proposals to the Council and let it decide. He was bound to say that the Ministry of Health was not favourable to the proposals suggested, and would consider itself compelled to make quite clear to the local authorities that it had no part or lot in them, though it could take no objection to propaganda work on their behalf. Sir Robert Bolam added that he considered the matter was not helped by the practice of the Society of Medical Officers of Health in publishing in its journal particulars of these matters before they had been considered by the Council of the British Medical Association, which in the end must take, or refuse to take, action. The question for the Council was whether it was a politic thing at the present time to send this forward to the local authorities, not as a policy which was going to the Representative Body, but as the opinion of the Council. If the Council set its name as the executive of the Association to a letter of this kind it must be held to approve the reasonableness of the proposals.

Dr. Johnson pointed out that any proposals of this kind would cause other officials of local authorities to appeal for similar concessions.

Dr. Buchan said that the Society of Medical Officers of Health was not asking for any revision of the scale, except in two instances—namely, a suitable grading for senior medical officers on the range of salaries between £750 and £1,100, and that the deputy medical officer of health should receive a salary equal to 60 per cent. of that of his chief. At the present time senior medical officers were all in the grade of £750 to £1,100, and as a result of experience it had been found that no matter how large the area in which the senior medical officer worked his salary was much nearer the lower end of the scale than the upper. It was felt, therefore, that a considerable grading of that salary should be undertaken. Many local authorities required guidance in these matters. With regard to the other items all that was being asked for was a rise in salary for certain officers in certain localities. He did not think it was anything very exceptional to ask for a rise of salary after a number of years' service. Now that the minimum scale had in fact been decided upon it had caused local authorities to say, "Oh, the officer is getting the scale salary. What more does he want?" The Public Health Service representatives were not asking the British Medical Association to depart in any way from the terms of agreement which had been reached with the Ministry of Health, nor that these suggestions should be made the policy of the Association, but merely that they should be indicated as a guide to the authorities. What they were asked for was chiefly certain increases in salary, and it was thought better that these increases should be asked for collectively than individually by members in the different areas. No attempt was to be made to enforce the points, but only to appeal to the sense of justice among local authorities. Save in Scotland, the minimum scale operated in something like 90 per cent. of cases, so that it could not be said that there was anything ridiculous about the £600 minimum for assistant medical officers, and all that was asked for was that steps should be taken to get reasonable increments in accordance with these various suggestions.

The Chairman (Dr. Brackenbury) said that the Council had two questions to consider: first, whether these propositions were reasonable in themselves, and secondly, whether it was a wise thing at present to write round officially to the local authorities commending these propositions. With regard to this second question, he was bound to say that in his opinion it was not. Although the success in applying the scale had been quite gratifying—he was speaking of England and Wales—yet there was, he believed, at the present moment more irritation at the scale among local authorities than there had ever been since it came into existence. The officers of the Ministry of Health, who were in the best position to know, stated that that was so. They were having more trouble with—more

protests from—local authorities on all hands with regard to their support of the scale than they had had at any time during the past three years or so for which they had given it their official support. The Association of Municipal Corporations had indicated to a number of authorities that its support of the scale was not as wholehearted as it had sometimes been represented—not by the British Medical Association—and that all that it had said was that it was willing as an Association to have it sent out to local authorities with the statement that it was commended to them as a guide which was not unreasonable in influencing their independent action when making appointments. The County Councils Association never had approved the scale, in spite of modifications in the direction which it desired, and it was being asked at the moment to start on a very definite parliamentary campaign against recognition of the scale by the Ministry of Health in any way whatever. During the previous week he had gone down to the annual meeting at Bath of the Association of Education Authorities; he had gone, not as a representative of the British Medical Association, but of an education authority, and his reason for going was because there was on the agenda a resolution with regard to the salaries of medical officers, protesting against the Ministry of Health backing up the British Medical Association and the Society of Medical Officers of Health. This body was at first inclined to say that there should be no scale at all; it had had to modify that position, but it protested against the Ministry of Health in any way identifying itself with a scale, and, above all, withholding giants—as it appeared the Ministry had done in at least one case (Lindsey, Lincolnshire)—from the local authority because the authority proposed to make an appointment at a figure below the scale. In face of this more militant attitude of the local authorities and of the fact that the fight for the minimum scale might have to be renewed, was it an appropriate moment at which to issue a letter which local authorities might regard, not as a mere pinprick, but, having great respect for the powers of the British Medical Association, as another attempt on the part of the Association—somehow they always spoke of the Association and not of the Society of Medical Officers of Health—to impose its opinion upon them? With regard to the Association of Education Authorities, whose idea was that there should be no scale at all, but that each authority should be master in its own house, he thought he had succeeded the previous week in presenting the view that better men would be got into the service if the service under all the various authorities were regarded as one whole service, not as a number of independent services, so that a man or woman could start anywhere in a junior appointment with the hope of rising to the highest administrative national posts. He had told the meeting at Bath that so far as medical men were concerned they were satisfied with the very general application of the scale in England and Wales, but that if any reasonable modifications of detail were proposed the representatives of the medical profession would very carefully consider them, also that if it was desired to set up an arbitration committee, which had been proposed from the medical side from the first, composed of representatives of both sides, with a representative of the Ministry of Health in the chair, this would be acceptable. He thought that the majority of representatives of education authorities were agreeable to such a proposition, but there was a powerful section which affirmed that it had no desire to go into conference, and, while accepting the desirability of a scale, held that its character must be gone into *de novo*. As to the reasonableness of the propositions, take the one which asked for suitable grading of senior medical officers. This was reasonable enough in itself, but the view of the local authorities was that the present scale had the advantage of allowing a considerable latitude to individual authorities; the more that latitude was impaired the more difficult it would be to persuade local authorities to accept the scale. With regard to the application of the scale to existing officers he really did not think that if this were pressed it would result in any better position. When a request came from an area for help to raise the salary to a more suitable level, if the Division supported the request, the Association was ready to exert whatever pressure it could, and, in fact, nothing more could be done in the collective way unless all existing medical officers felt the matter so strongly that they would resign their appointments and seek reappointment under the scale. He had also grave doubts about the increments proposed.

Sir Jenner Verrall considered that certain aspects of the proposals might be regarded as putting a pistol at the head of the people concerned.

Sir Robert Bolam thought that regard ought to be paid to the effect which the inevitable letter from the Ministry of Health would have on the existing scale. The Ministry would send down a letter dissociating itself from these proposals, and he feared the effect which this might have on the solid position already achieved.

Dr. Buchan replied that when recently he and others from the conference interviewed the officials at the Ministry of Health it appeared that the Ministry was at first under the impression that these points were to be enforced on local authorities, in which case the Ministry said that it would have to make it clear that it had no part in them; but it was afterwards stated that the Ministry had no objection to propaganda in the hope of bettering the position of officers appointed previous to the operation of the scale or establishing suitable increments.

The recommendation that the Association ask local authorities to give favourable consideration to these various points in connexion with new and existing appointments was lost by a large majority. It appeared that only the two members of Council elected by the public health service members supported the recommendation.

It was agreed to recommend to the Representative Body that the scale of minimum commencing salaries be made applicable to whole-time appointments in Northern Ireland.

#### *Annual Conference of New Zealand Branch: Delegate's Report.*

Mr. Victor Bonney, who was the official delegate to the annual conference of the New Zealand Branch of the Association in February last, was introduced to the Council at this point, and gave some account of his visit. Before he addressed the Council a letter which had been sent to headquarters from Dr. Hugh Douglas, President of the New Zealand Branch, was read, acknowledging the very kind greetings conveyed by Mr. Victor Bonney, whose presence, said Dr. Douglas, had helped to cement the bond of affection already existing between the Branch and the parent body. The sacrifice which Mr. Bonney and others had made in leaving their work to visit this distant part of the globe was fully appreciated, but the reflection that they had performed some very worthy service must be a compensation. Another letter expressing similar sentiments was received from the President of the Victorian Branch, which Mr. Bonney had also visited.

Mr. Bonney presented to the Association a gift from the New Zealand Branch in the form of an inkstand made of silver, greenstone, and New Zealand woods. He said that the inkstand was sent by the Branch as a token of its loyalty and affection to the parent body. He was charged to tell them that nowhere in the Dominions was there a body of men more loyal to the Association or more anxious to keep in touch with the old country. The inkstand was of purely New Zealand material. The top of it was made of New Zealand greenstone from the west coast of the South Island, the top of the plinth was of the magnificent kauri pine so characteristic of New Zealand, and other parts were of the honeysuckle tree and other woods. An old Latin quotation was inscribed on the plinth: "*Coelum non animus mutant qui trans mare currunt.*"

Continuing, Mr. Bonney described his tour through Australasia. He started at Hamilton in the North Island, about seventy miles south of Auckland, where the meeting opened; then went to Rotorua, where the second half of the meeting was held. After visiting Lake Taupo he went on to Napier, where he addressed a meeting of the Association, and then crossed to the South Island, and at Christchurch, a very flourishing and beautiful city, again addressed the local members. He lectured and operated also at Dunedin, a university town reminiscent of Edinburgh, and Queenstown, saw something of the lakes and the wonderful scenery of Mount Cook, then returned for three days to Wellington, on the North Island, visiting also Wanganui and New Plymouth, and finally getting to Auckland at the end of five weeks. During that time he had the opportunity of meeting the greater number of medical men in New Zealand. He lectured or addressed meetings at all these places, and operated at most of them. In every place he found the most extraordinary loyalty and the desire to be one with the old country.



Leaving New Zealand, he went to Sydney, and from there to Canberra, the new federal capital, where he was present at the inaugural meeting of the College of Surgeons of Australasia, and had the honour of being made an honorary Fellow. He next went to Brisbane, where he met the local members of the Association, meeting many more on returning to Sydney, after which he went to Hobart and Launceston, and then to Melbourne, where he spoke and operated at the four principal hospitals. He had thus acquired, for the time he was away, a very close insight into the conditions obtaining in Australasia. He had come back impressed with the need for maintaining closer relationships with the medical profession in the southern continent. While there was absolute loyalty to Britain and things British—indeed, it had made him ashamed to see the earnestness with which these people clung to the old country, even people who had never seen it, and who belonged to the third generation of Australasians—American influence and culture were very close, and there was some tendency for Australians to look to America for their literature and example. It was very important that frequent visits should be paid to these Dominions, and those who went out were really unofficial ambassadors. He also urged the need for establishing better facilities for post-graduate study whereby fruitful intercourse between Australasians and the mother country might be promoted.

The Chairman, amid the applause of the Council, expressed the pleasure with which the inkstand had been received, the latest of a number of prized possessions exhibiting the loyalty of the Branches overseas, and also thanked Mr. Bouney for the extraordinarily able and energetic manner in which he had carried out the mission entrusted to him. He assured him that his remarks would have the earnest consideration of the Council.

Another overseas matter mentioned was that Dr. Todd, honorary secretary of the New South Wales Branch, had forwarded a handsomely bound copy of the New South Wales medical roll of honour, compiled by Miss Dulcie Cohen, a member of the staff of the Association in Sydney, containing the date of appointment to service and honours of all members of the medical profession in New South Wales who had served overseas in the great war. The Council accepted the volume with thanks, and directed it to be placed in the Library of the Association.

#### *Medical Services in the Colonies and Dependencies.*

Dr. W. Paterson, chairman of the Dominions Committee, brought forward a report on several interesting matters. One was the position of the Windward Islands Medical Service. In December, 1927, the committee had reported that until the Association's suggestions with regard to salary, leave, and study leave had been adopted, or at any rate until some improvement had been made, it could not recommend the withdrawal of the "Important Notice" with regard to this service. Following this a letter was received from the secretary of the Grenada Branch pointing out that the revenue of the colony showed a substantial increase per head of a growing population, and that the annual deficit had been turned into a surplus. A letter was thereupon sent to the Secretary of State expressing the disappointment of the Association on finding that the estimates for 1928 showed no provision either for an improvement of the scale of salaries of the medical officers or for an increase in the medical establishment, and called attention to official statements which indicated that an improvement in the scale of medical salaries and an increase in establishment should receive attention at the earliest possible moment. The Colonial Office had forwarded a copy of this letter to the Governor of the Windward Islands. Another matter touched upon by Dr. Paterson was the indigenous systems of medicine in Ceylon, where, a year or two ago, the majority of a committee appointed by the Ceylon Government reported in favour of financial assistance for the training of those seeking to qualify themselves as practitioners of the indigenous systems of medicine and the investigation of the medicinal value of drugs used by those practising such systems. The Colonial Office had recently reported that the Legislative Council of Ceylon had made provision in its latest estimates for a grant for Ayurvedic study to the amount of Rs. 75,000 (about £5,000). The Secretary of State was not aware of the manner in which it was proposed to expend this sum.

#### *National Health Insurance (Amendment) Bill.*

Dr. Dain, chairman of the Insurance Acts Committee, brought forward the question of the National Health Insurance (Amendment) Bill, now before the House of Lords, which, he said, made several important alterations in the relations of the medical profession to the parties concerned in the administration of national health insurance, especially in regard to additional treatment benefits. The bill repealed a subsection in the 1924 Act which had been relied upon by the profession as securing that any additional medical benefits should not be administered by approved societies but through Insurance Committees. It appeared from the bill that approved societies would now be able to establish their own clinics for ophthalmic treatment and for any other kind of specialist treatment, and thus they would be in a position to select and control staffs and largely to determine the character of the treatment. It was true that the societies would be governed by regulations made by the Minister, which the Minister had promised should be submitted to the Association before approval, but the Insurance Acts Committee considered that the protection which the profession had enjoyed under the section of the old Act now proposed to be repealed was better than any protection under regulations. The Minister had declined to accept certain amendments which, in the committee's view, would have safeguarded the position. During the Committee stage the Minister of Health accepted a proposal for a further benefit—namely, "The payment of whole or any part of medical or surgical or specialist services." The Insurance Acts Committee pointed out to the Minister that the word "specialist" should not be used in any additional benefit clause, as this word did not appear to have been employed in the previous Acts, and was difficult of definition. The Minister agreed to a revised wording, and also to the inclusion of certain other words, which the committee had suggested should be inserted in an earlier clause, but which the Minister thought more suitable to this, so that the clause was put to, and accepted by, the standing committee in the following form: "The payment of the whole or part of the cost of medical or surgical treatment or advice by any registered medical practitioner not being treatment within the scope of any other additional benefit or of medical benefit under a special scheme approved by the Minister for the purpose."

The Council agreed at this point to take a reference in the report of the Hospitals Committee to this same subject.

Mr. McAdam Eccles, chairman of the Hospitals Committee, said that his committee had had under review only the question of how this bill for the increase of benefits under the Act concerned the staffs of hospitals. The committee was of opinion that the members of the staffs of voluntary hospitals should not take part in any additional treatment benefit under the Acts at a hospital or other charitable institution if its administration and control was to be wholly by approved societies, even though these should be governed by regulations made by the Minister of Health.

Dr. Hawthorne here moved what was in some sense an amendment to this part of the report of the Hospitals Committee:

That in the opinion of the Council it is essential, if the medical profession is to take part in the provision of additional treatment benefits under the National Health Insurance Acts, that these, as is the case with statutory medical benefit, shall be administered in such a fashion that the services of the medical practitioners who elect to give advice and treatment in connexion therewith shall not be under the direction and control of any approved society or societies; and that this position shall receive statutory recognition and definition.

He said that the discussion in the Hospitals Committee had necessarily to be confined to the position as affecting hospital staffs, but it was obvious that when additional benefits became established they might be given by consultants who were not members of hospital staffs, and thus the Hospitals Committee's expression of opinion covered only a part of the situation. He thought it was the general wish of the Hospitals Committee to have a more inclusive resolution. Another reason which led him to frame this proposal was that the conditions under which additional benefits were to be given would depend upon regulations by the Ministry, and naturally might vary with the Minister's political complexion and outlook. The only secure position would be to have such conditions defined in the Act itself. He added that just as the Association years ago fought for the protection of the practi-

tioner from interference by approved societies in connexion with ordinary medical benefit, so the Association should fight to-day to secure that when the consultants came under the Aet they also should be protected from similar interference.

Dr. Goodbody seconded. Mr. Eccles said that Dr. Hawthorne's proposal did express the feeling of the members of the Hospitals Committee, and therefore he supported it, though he was afraid the time was too far gone for the last clause to be effective.

Some discussion took place on the meaning of the word "control" in the resolution. Dr. Wallace Henry asked whether the appointment of, say, two representatives of an approved society on the board administering the benefit would constitute "control." Dr. Hawthorne replied that "control" signified any arrangement which allowed representatives of approved societies to be able to overmaster and direct the administration of any particular benefit. He consented to the omission of the last sentence in his resolution, having no wish to press anything which was doomed in advance to futility.

Dr. Le Fleming and Mr. Turner were against this dropping of the reference to statutory recognition, the latter declaring his "profound disrespect for legislation by regulation." He thought the Council should stick to its guns. The Chairman pointed out the difficulty, if any part in the administration were allowed to the approved society, of arriving at a form of words which would allow of so much voice as was safe without making its influence preponderant.

Dr. Buchan said that the form of "control" to be allowed to approved societies in additional medical benefits should obviously be the same as that exercised by them in the case of ordinary medical benefit. The Chairman said that the approved societies exercised no control whatever over ordinary benefit. It was true that in practice officials of approved societies were the representatives of insured persons on Insurance Committees, but the approved societies as such were not represented. There was more than one method whereby control might be secured. The competent body administering medical benefit might contain no representatives of approved societies at all, it might consist wholly of representatives of one or more societies, or it might consist of a miscellaneous group of persons interested, including a certain number of representatives of societies, and it would be possible to get preponderant control by the societies even though their representatives on the administrative body were not in an actual majority. But for practical purposes the rather vague word "control" was perhaps the best. It was not laid down that there must be no representation of approved societies on these bodies.

After further discussion it was agreed that the last clause of the resolution, calling for statutory recognition and definition, should not form part of the main resolution, but should be put subsequently, and Dr. Hawthorne also agreed to a suggestion that, instead of the words "under the direction and control of any approved society," the phrase should be "under the control of any approved society." In this form the resolution was adopted unanimously. The further proposition, "That in the opinion of the Council this position should receive statutory recognition and definition," was put as a rider, and also agreed to. The report of the Insurance Acts Committee was then approved.

Sir Robert Bolam raised the question of the interpretation and interrelation of certain of the clauses in the schedule of the new bill, wherein the additional benefits were set out, and after some conversation on these points he moved that the bill should be amended in respect to the clause in the schedule which ran: "Payments to approved charitable institutions in respect of any treatment of members required for the prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit." His motion was that this should not be capable of adoption by an approved society without it being allowable at the same time to have payments to private practitioners for similar advice and treatment at places other than clinics or institutions.

This was agreed to unanimously in the hope that it would still be possible in the House of Lords to secure an amendment to this effect.

#### *Fees for Inspection of Vagrants.*

Dr. Hillman, acting-chairman of the Public Health Committee, said that a number of inquiries had been received as to the fees which the Association considered appropriate for

inspecting vagrants for small-pox. Previous to the meeting of the Public Health Committee, the Medical Secretary had advised inquirers that the Association had laid down no rate of remuneration for this service, but that if it was on a sessional basis a fee of £1 11s. 6d. per session of not more than two hours might be found suitable, or, if on a capitation basis, 1s. per head, with a maximum of one guinea per hour, and a minimum of 10s. 6d. per attendance. The Public Health Committee had expressed the opinion that suitable remuneration for this service would be 1s. per head, with a minimum of 10s. for any one visit.

Dr. Bone said that this service was now being carried out in practically every workhouse with a casual ward in this country. He gave one instance within his own knowledge. The examinations began on January 23rd, once daily at 7.30 p.m., until February 13th, when they were carried out twice daily, at 7.30 p.m. and 8 a.m. The morning examinations were discontinued on April 25th. During the whole period 14,439 examinations were carried out on 9,686 individuals by one doctor up to June 12th. Each session occupied about one and a half hours, so that 432 hours' service were given. At the rate suggested by the committee of 1s. per head the sum to be received by the doctor would be £721; at the sessional rate of £1 11s. 6d. the 288 sessions would mean £453. The sum which the guardians actually offered, up to June 30th, was £250, which the doctor was very pleased to accept, but the Ministry said that this must not be paid, and suggested instead £5 5s. per week as a maximum, which meant £120. What the Ministry offered was, of course, far too low, but the figures suggested by the committee seemed to be unduly high, and he suggested that this matter be referred back for further consideration, and that in the meantime the committee get in touch with the Poor Law Medical Officers' Association and with the men actually carrying out this work.

Dr. Buchan pointed out that this was an exceptional service; it was not like a constant job for which a salary was paid; it was a duty dovetailing suddenly upon Poor Law medical officers, a responsible one also, for if they missed a case of small-pox there would be a public outcry. What the Ministry suggested in the case Dr. Bone had mentioned was equal to 2d. per head for the examination, which would make medical practice purely farcical. Anything less than 6d. per head seemed unreasonable.

It was agreed that the matter be left with Dr. Bone (chairman of the Medico-Political Committee), Dr. Hillman (acting-chairman of the Public Health Committee), and Dr. Buchan to confer as to an appropriate scale of payment, and to take such steps as seemed desirable.

#### *By-election of Direct Representatives to General Medical Council.*

Dr. Bone, for the Medico-Political Committee, said that the election of two direct representatives for England and Wales on the General Medical Council would take place shortly to fill vacancies arising from the death of Dr. J. A. Macdonald and the appointment of Sir Robert Bolam to represent the University of Durham on the Council. He moved that the usual procedure in connexion with these elections, as approved by the Annual Representative Meeting in 1915 for a by-election in 1916, be followed.

After some discussion it was agreed to alter somewhat the original procedure. The Divisions would, as usual, be advised by the Medico-Political Committee of the fact of the election, but instead of merely requesting that the matter be taken into consideration by the Divisions they are to be asked to call a meeting of the whole profession in their areas, and to inform the committee by a certain date of the names of any person or persons legally qualified for election whom the meeting might have deemed suitable to be nominated. The rest of the procedure is to follow the usual course, including a special meeting of representatives of Divisions, at the time of the Annual Representative Meeting, to make the final choice.

#### *"Clocking-in" by Medical Officers.*

The Medico-Political Committee had considered a question recently raised in Belfast, where the corporation had adopted automatic time-recording machines, whereby its staff, including medical officers, recorded their time of arrival on duty, and reported that "The committee sees no objection to medical officers being required to record, in common with other

employees of the corporation, their time of arrival on duty on an automatic time recorder, being of opinion that there is no difference in principle between this method and that of signing a book stating the time of attendance."

Dr. Leslie strongly protested against this verdict. The principle of "clocking-in" had hitherto been confined to wage-earners. The hour of arrival and departure might well be left to the honour of a professional man. One medical officer in Belfast had resigned rather than "clock-in." An endorsement by the Council of this practice of "clocking-in" would have far-reaching consequences. He moved:

That the Council objects to medical officers being required to record their time of arrival or departure from duty on a recording machine as is customary among wage-earners, believing as they do that this custom is derogatory.

Sir William Wheeler seconded. The medical officers of the Belfast corporation had, he said, been put in the same position as scavengers. Dr. Buchanan spoke in support of the resolution, but not on any ground of the dignity of the professional man. "Clocking-in" in the case of the wage-earner was for the definite purpose of recording overtime, for which the medical officer did not receive payment. As for dignity, no doubt the street-sweeper had his dignity to maintain just as much as the medical man. Sir Robert Bolam asked whether this was really a matter of serious importance. What real difference was there between a system of this sort, where a man had a key and registered the time he entered the institution, and writing one's name and time of arrival in a book? Dr. Bone said that if the Council felt that "clocking-in" was derogatory it would be necessary to have a full discussion of the circumstances which had arisen in Belfast, where signature in an attendance book had proved unsatisfactory. Dr. Dain said that ever since he was a student the honorary staffs of voluntary hospitals in Birmingham had always "clocked-in."

Appeals were made to the chairman of the Medico-Political Committee to withdraw the paragraph, but he did not see his way to do so. Eventually the motion before the Council being that the report of the Medico-Political Committee (including this paragraph) be approved, Dr. Leslie, instead of his previous resolution, moved as an amendment that the report be approved with the exception of this paragraph, and this was carried.

#### Other Business.

On the question of the Chiropodists (Registration) Bill, which has been introduced into the House of Lords, the Council passed a resolution that it was undesirable that chiropodists should be recognized in a special register, as such register would convey to the public that chiropodists were competent to undertake—to quote from the preamble of the bill—"the diagnosis and treatment of diseases of the feet."

On the motion of Mr. McAdam Eccles the Council agreed to the reprinting for widespread distribution among hospital staffs of the report of the recent Conference on Contributory Schemes, which appeared in the last *Supplement*.

Progress was reported in the preparations for building extensions at Headquarters.

A matter adjourned from the last Council meeting was brought forward again by Dr. Lyndon, chairman of the Central Ethical Committee. This concerned the question of removal from membership of the Association of any medical man whose name had been erased from the Register of a Dominion, Colony, or Dependency. The amended article, as drafted by counsel, was as follows:

9. Membership of the Association may be terminated in any of the following ways—namely:

(c) *Ipso facto* . . . (iii) upon erasure on the ground of professional misconduct from any Medical Register for the time being established for the Irish Free State, or for India or any British Dominion, Colony, or Dependency, or any Province or State forming part thereof respectively, or for any British Protectorate or Mandated Territory.

This was agreed to as a recommendation to the Representative Body.

Dr. Bone, for the International Medical Sea Code Committee, reported that the committee had prepared a simple questionnaire on the signs and symptoms of disease and injuries for the use of master mariners when seeking medical advice by wireless from a surgeon on another ship or on shore. Special thanks were due to Mr. H. S. Sonttar and Dr. H. L. Tidy for the preparation of this questionnaire.

Dr. Bone also reported for the Private Practice Committee,

which had had the advantage of a report by the Medical Secretary on the result of his personal investigations into the health services of certain county, county borough, and other authorities. The report of the committee would be issued to Divisions and Branches probably at the end of 1928 or the beginning of 1929.

Dr. Walker, for the Charities Committee, moved, and it was agreed, that a sum of £332 standing to the credit of the Charities Trust Fund be allocated in certain proportions to the Royal Medical Benevolent Fund, Epsom College, and the Sir Charles Hastings Fund.

The Scottish Committee was authorized to call a conference of representatives of staffs of voluntary hospitals in Scotland to consider hospital policy, and also a conference of secretaries of Branches and Divisions for the more effective organization and stimulation of interest in the work of the Association in Scotland.

Other reports, which dealt only with routine matters and gave rise to no discussion, were submitted by the Journal, Finance, Office, and Organization Committees.

The Council rose at 6.45 p.m.

## Association Notices.

### TABLE OF DATES.

June 30, Sat.	Supplementary Report of Council appears in <i>BRITISH MEDICAL JOURNAL SUPPLEMENT</i> .
July 4, Wed.	Amendments and riders for inclusion in A.R.M. agenda must be received at Head Office by this date.
July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

### BRANCH AND DIVISION MEETINGS TO BE HELD.

**BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.**—A quarterly meeting of the West Bromwich Division will be held at the Smethwick Committee Rooms, 1, South Road, Smethwick, on Tuesday, June 26th, at 3 p.m., for the consideration of Annual Report of Council and instructions to representative.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual social meeting of the Bournemouth Division will be held on Saturday, July 14th, when a visit will be paid to the Pitt Rivers Museum, Farnham, Blandford, to be followed by tea at Larra Treo Grounds, Tolland Royal.

**EDINBURGH BRANCH.**—The annual meeting of the Edinburgh Branch will be held at Pathhead Ford on Tuesday, June 26th. Luncheon will be provided in the Hall, Pathhead, at 12.15 for 12.30 p.m. (charge 4s.). Dr. Craig (Pathhead) has obtained the courtesy of the green of the Ford Valley Golf Club for the annual competition (stroke). He has also obtained the courtesy of the Pathhead bowling green. Visits have been arranged for Prestonhall Gardens, Crichton Castle, and Church, and the Voe Nursing Home, the latter by invitation of Professor G. M. Robertson. At 4.30 p.m. Dr. Craig will entertain the party to tea. The business meeting will take place at 5 o'clock. Agenda: Report of Branch, treasurer's business, and annual report; election of officers; presentation of golf competition prizes; report of election of representative to the Central Council; filling of vacancy on the board of the Queen Mary Nursing Home; proceedings of Scottish Committee; Annual Report of Council and Annual Representative Meeting; Power of Branch to appoint additional members to Branch Council under Rule 4 (2) (g).

**LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.**—A meeting of the Mid-Cheshire Division will be held in the board room of the Altrincham General Hospital on Tuesday, June 26th, at 8.30 p.m. Agenda: To instruct representative in the Representative Body. Address by Dr. T. W. H. Garstang entitled "Personal reminiscences of the profession in fifty years, and of the British Medical Association in the last twenty-five years."

**LANCASHIRE AND CHESHIRE BRANCH: ROCHEDALE DIVISION.**—A meeting of the Rochdale Division will be held in the Lyceum (Rochdale Education Committee Offices), Baillie Street, Rochdale, on Wednesday, June 27th, at 8.30 p.m. Business: Annual Report of Council and instructions to representatives.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The next meeting of the Hendon Division will be held at Hendon Cottage Hospital on Friday, June 29th, at 8.30 p.m. Agenda: Clinical meeting, cases and specimens will be shown by Drs. E. B. Morley, J. W. Ensor, R. Hunt Cooke, and Mr. L. G. Phillips. Other members are invited to show cases and specimens at this meeting.

and to notify their intention to the honorary secretary by June 27th.—Consideration of Supplementary Report. Dr. and Mrs. H. R. S. Walford have extended an invitation to members of the Division and their friends to view, from their grounds at Hendon Grove, the Air Pageant on Saturday, June 30th, at 2.30 p.m. Members wishing to attend are requested to notify the honorary secretary as early as is convenient, when personal invitations will be issued.

**METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.**—A meeting of the Marylebone Division will be held at 11, Chandos Street, Cavendish Square, W.1, on Thursday, June 28th, at 8.15 p.m. Agenda: Annual Report of Council—adjourned discussion; amendments will be proposed by (1) Dr. David Roxburgh, (2) Dr. Graham Little, M.P. Discussion on Lunacy Law Reform, to be opened by Dr. Hawthorne. Instructions to representatives in Representative Body.

**METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.**—A meeting of the North Middlesex Division will be held on Thursday, June 28th. This will be a visit to the London factory of Messrs. Oxo, Ltd. Members are asked to meet at 16, Southwark Bridge Road, S.E. (near Southwark Bridge, south side), at 2.30 p.m. The visit will occupy two hours, and afternoon tea will be provided. Arrangements will be made for parking cars. The nearest stations are Mansion House or Cannon Street (5 minutes), Bank or London Bridge (10 minutes).

**METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, July 10th, at 9 p.m. Dr. W. Camac Wilkinson will read a paper on the home treatment of tuberculosis by the general practitioner.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—Two meetings of the Wandsworth Division will be held in the Town Hall, Wandsworth, to consider the Koch diagnosis and treatment of tuberculosis by means of tuberculin, together with a proposal for a collective investigation into the subject. The first meeting will be held to-day (Friday, June 22nd), at 9 p.m., when Dr. Robert Carswell will read a paper on "History and diagnosis." At the second meeting, on Friday, June 29th, at 9 p.m., Dr. Carswell will read another paper entitled "Treatment, and a proposal for a collective investigation." The meetings will be open to all members of the medical profession.

**NORFOLK BRANCH.**—The annual meeting of the Norfolk Branch will be held at the Town Hall, Aylsham, on Thursday, July 5th, at 3 p.m. Agenda: Report of the Branch Council and annual financial statement; induction of the new president, Dr. B. B. Snppwell, by the retiring president, Sir Hamilton Ballance, K.B.E., C.B.; election of officers; an address by Mr. Vivian Carter, British secretary of Rotary International, on the diagnosis of personality. Tea (to which ladies are invited) at 4.30 p.m., at the Grange, Aylsham, by invitation of Dr. Snppwell and Miss Snppwell.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch will be held at the Station Hotel, Kyle of Lochalsh, on Saturday, June 30th, at 2.5 p.m. Business: Report of election of officers of Branch; report of Branch Council and annual financial statement. Before the meeting members and their guests will lunch together at the hotel at 12.30 p.m. After the meeting there will be an opportunity for those who wish to play golf, and motor boat cruises are also being arranged. For members coming by road who do not wish to take their cars across Dornie Ferry, motor transport will be arranged from there to Kyleakin, leaving the west side of the ferry at 11.45 a.m.

**NORTHERN COUNTIES OF SCOTLAND BRANCH: ISLANDS DIVISION.**—The general meeting of the Islands Division will be held on Saturday, June 30th, in the Station Hotel, Kyle of Lochalsh, at 10.30 a.m., to elect officers and Executive Committee.

**NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.**—The annual meeting of the North Lancashire and South Westmorland Branch will be held on Tuesday, July 3rd, at 3.15 p.m., in the Ethel Hedley Hospital, Calgarth (by kind permission of Dr. Hough and the Governors of the Hospital). Dr. J. Lang Cochrane will deliver his presidential address. Ladies are invited, and a boat on Lake Windermere will be placed at their disposal.

**NORTH WALES BRANCH.**—The annual meeting of the North Wales Branch will be held at the North Wales Sanatorium, Llangwyfan, Denbigh, on Friday, July 6th. The council of the Welsh National Memorial Association and the house committee of the sanatorium will entertain the members to lunch, and a tour of the institution will be made. Agenda and further particulars will be announced later, but members are requested to make a note of the date as a large attendance is hoped for.

**OXFORD AND READING BRANCH.**—The annual meeting of the Oxford and Reading Branch will be held, by kind invitation of the Governors and Medical Superintendent, at Holloway Sanatorium, Virginia Water, on Wednesday, June 27th, at 4.30 p.m. Agenda: Election of officers. A cricket match (St. Thomas's Hospital v. The Sanatorium) will be in progress from 2.30 p.m., and the members may like to have the opportunity of seeing the hospital during the afternoon. Tea 4.45 p.m. In the forenoon the Collier golf cup will be played for at Wentworth. Competitors must play from the competition tees at three-quarters of their lowest handicap. Players are asked to make their own arrangements for partners.

**OXFORD AND READING BRANCH: OXFORD DIVISION.**—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary, Oxford, on Wednesday, June 27th, at 2.30 p.m. Agenda: Correspondence, instructions, clinical cases. Mr. Rose-Innes: Surgery and other pursuits in the islands of Scotland.

**SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.**—The annual meeting of the South-West Wales Division will be held at the Ivy Bush Hotel, Carmarthen, on Thursday, June 28th, at 3 p.m. Business: Election of officers for the coming year. Agenda for the Annual Representative Meeting and instructions to representative. Nomination from Division of president-elect for South Wales Branch.

**SOUTH-WESTERN BRANCH.**—The eighty-ninth annual meeting of the South-Western Branch will be held on Wednesday, June 27th, at 3.15 p.m., in Bromley's Café, Barnstaple, when Mr. Pickard will resign the chair to Dr. Harper, who will deliver his inaugural address entitled "The influence of William Smellie and William Hunter on obstetric medicine in the eighteenth century." The report of the Branch Council for the year 1927-28, and the financial statement for the year 1927 will be presented to the meeting, and the officers of the Branch for the year 1928-29 will be elected. Luncheon, by invitation of the President-Elect, will be taken at 1 o'clock at Bromley's Café, and after the meeting has concluded tea will be provided. The annual dinner of the Branch, to which medical and non-medical guests and ladies are invited, will be held at 7 o'clock at the café. Tickets, 8s. each (exclusive of wines), may be obtained from Dr. H. C. Jonas, Bouthport Street, Barnstaple. Accommodation for the night could be arranged if notice is given to Dr. H. C. Jonas, Bouthport Street, or Dr. Killard-Leavey, Litchdon House, Barnstaple.

**SURREY BRANCH.**—The annual meeting of the Surrey Branch will be held in the Town Hall, Kingston-on-Thames, on Wednesday, June 27th, at 2.15 p.m. The Kingston-on-Thames Division invites members to lunch at Nuttall's Restaurant at 1 p.m. Colonel C. W. Profeit will address the meeting on the British Empire Cancer Campaign in Surrey, and the president (Dr. H. R. Cran) will deliver his presidential address. After the meeting members will motor to Epsom to visit Epsom College; tea will be taken in Big School. The annual dinner will be held at Reid's Restaurant, Ashley Road, Epsom, at 6.30 for 6.45 p.m. (tickets 7s. 6d., exclusive of wines).

**SUSSEX BRANCH: BRIGHTON DIVISION.**—The next clinical meeting of the Brighton Division will be held at the Royal Sussex County Hospital, Brighton, on Thursday, June 28th, at 3.45 p.m.

**WILTSHIRE BRANCH.**—The annual meeting of the Wiltshire Branch will be held on Wednesday, June 27th, at 3 p.m., at the County Mental Hospital, Devizes, when a British Medical Association Lecture will be given by Mr. W. McAdam Eccles on the treatment of hernia by trusses, illustrated by their actual application.

**WEST SOMERSET BRANCH.**—The annual meeting of the West Somerset Branch will be held at Deller's Café, Taunton, on Saturday, June 23rd, at 12.15 noon. Agenda: Induction of president-elect; annual report; election of officers, Branch Council, and Ethical Committee.

## Meetings of Branches and Divisions.

### METROPOLITAN COUNTIES BRANCH.

The president of the Metropolitan Counties Branch and Mrs. E. B. Turner were "at home" at 21, Westbourne Terrace, W., on June 7th. The guests numbered over 140, and included many members of the Branch, accompanied by their wives, together with Lady Bowly and members of committee of the Royal Medical Benevolent Fund Guild. As Mr. E. B. Turner's term of office as president has now drawn to a close it was pleasant to see so many of his old friends and colleagues, and to observe the esteem and affection in which he is held. The delightful classical singing and pianoforte recitals of Miss Norah Scott Turner and Mr. Greenwood were much appreciated, and a most enjoyable evening was spent.

### METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

The annual meeting of the Camberwell Division was held at St. Giles Hospital, 22nd. In the unavoidable absence of the president, the chair was taken by Mr. MASTERMAN.

The annual report was read and approved. The following officers were elected for the ensuing year:

President, Mr. E. W. G. Masterman	R. C.
Harkness, Honorary Secretary, Dr. J.	and
Deputy Representative in Representative	d Dr.
J. H. Clatworthy.	

A delightful address was then given by Mr. JAMES R. OGDEN on the treasures of Tut-ank-Amen's tomb. Several interesting and beautiful slides were shown, including many original photographs taken by the lecturer during his recent visit to Luxor. Dr. BATTEN, proposing the vote of thanks, congratulated Mr. Ogden on giving the most enjoyable address he had ever heard at a Divisional meeting.

### METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

The annual general meeting of the City Division was held at the Metropolitan Hospital on June 5th, when Dr. PHILIP HAMILL was in the chair. Thirty-seven members were present. After the SECRETARY had delivered his report for the past year a very excellent cinematograph entertainment was given by Messrs. Kodak Ltd., including (1) excision of rib for empyema; (2) peristalsis of the different parts of the intestinal canal; (3) trephining as performed by Mr. Souttar; (4) a film demonstrating golf strokes. A hearty vote of thanks was passed to Messrs. Kodak Ltd. and their representatives for the exceedingly interesting show.



A clinical meeting was held at the Metropolitan Hospital on June 8th, when Mr. R. A. RAMSEY showed a most instructive series of cases.

#### METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.

A GENERAL meeting of the Tower Hamlets Division was held on May 29th, at the Limehouse Town Hall, when Dr. E. B. HASTINGS was in the chair.

A letter was read from the secretary of the London Public Medical Service with reference to the suggested fee of 8s. 8d. per head per annum for juvenile Oddfellows, and it was resolved that the Division deprecate this proposal. An invitation from the Wellcome Bureau of Scientific Research for the Division to hold a meeting at the museum was accepted.

It was decided that the question of fees for reports by medical practitioners at the request of coroners should be dealt with by the Metropolitan Branch Council.

The following officers were elected.

*Chairman*, Dr. W. H. F. Oxley. *Vice-Chairman*, Dr. B. Morris. *Honorary Secretary*, Dr. L. Mushin. *Honorary Treasurer*, Dr. M. L. Barrett. *Representative in Representative Body*, Dr. W. H. F. Oxley. *Deputy Representative in Representative Body*, Dr. M. L. Barrett.

On the motion of Dr. MORRIS a vote of thanks was accorded with acclamation to Dr. Hastings for his work in the past as chairman. In reply Dr. HASTINGS said he hoped to maintain his association with the Division.

#### PERTH BRANCH.

At a meeting of the Perth Branch, presided over by Dr. MENZIES, the Report of Council was considered. Paragraph 104, which recommended 8s. 8d. for attendance on juveniles, was not approved, as it was felt that future private negotiations with the Government would be hindered if the profession accepted less than the yearly panel fee. Objection was also taken to the paragraph relating to paying centres for infant hygiene. With reference to assistant medical officers to mental hospitals, the opinion was expressed that the diploma in psychological medicine should be under the control of the General Medical Council, and also that a man who had previously been a house-physician was preferable, as regards salary, to a man holding the diploma.

Dr. Haig (Crieff) was appointed representative in the Representative Body, and Dr. Low deputy representative.

#### STAFFORDSHIRE BRANCH.

A MEETING of the Staffordshire Branch was held on May 17th at the Victoria Hotel, Wolverhampton, when Dr. J. A. M. CLARK, chairman of the Branch, was in the chair, and there were twenty members present. Mr. S. W. MASLEN JONES read a paper on uterine infection, dealing particularly with the treatment of acute puerperal infection of the uterus by means of glycerin. He laid stress on the importance of the details of the technique of introducing the glycerin into the uterus, particularly with regard to (1) the adoption of the lithotomy position, and (2) the avoidance of volsellum forceps for manoeuvring the cervix into position, which is done by manipulation. The advantages of this method of treatment were then dealt with, and finally its use in chronic infections of the uterus. The paper was followed by a brisk discussion. Dr. S. C. DYKE showed a series of pathological specimens, including a kidney with a tuberculous lesion which had healed naturally, an enormous hydatid cyst of the ovary which had caused obstruction in labour, and a carotid tumour. Mr. W. F. CROSBY also showed two pathological specimens, a large vesical calculus which had caused no bladder symptoms, and a collection of long thin gall-stones removed from a gall-bladder which had been drained some years before the present operation.

#### SURREY BRANCH: GUILDFORD DIVISION.

The annual meeting of the Guildford Division was held at the Royal Surrey County Hospital on June 7th, when Mr. H. B. BUTTER was in the chair. Dr. W. F. Fleming was elected chairman and Dr. J. McGlashan vice-chairman for the ensuing year, and Mr. Bluett was desired by the meeting to continue as honorary secretary.

Dr. Charles C. Scott was nominated as president-elect of the Surrey Branch, subject to his consenting to serve, and Dr. Conor H. Donaldson was elected an associate member of the Division.

The annual report of the Executive Committee was adopted. A discussion took place on the contributory scheme which is being instituted in West Surrey by the newly formed Hospital League. The honorary secretary was nominated as a representative on the committee, and instructed to report the progress of the scheme, and especially to emphasize that recognition should be made of the services of the medical staffs of the hospitals included.

The Annual Report of Council was considered and the representative instructed.

It was reported that Dr. H. P. Gabb, who was the winner of the Treasurer's Golf Cup competition on May 23rd, is eligible to play in the final at Cardiff.

#### YORKSHIRE BRANCH: HARROGATE DIVISION.

On June 13th the CHAIRMAN and Mrs. MORRIS were at home to members of the Division at the Harlow Manor Hydro. Some sixty members and their wives were present at tea, which was held in the ballroom. Afterwards the company took full advantage of the facilities afforded them in the grounds for playing tennis, croquet, bowls, and putting golf.

## NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, CARDIFF, 1928.

### *Appreciation of Deceased Members.*

By BRIGHTON: That it be referred to the Council to consider and report whether, and if so in what manner, it would be possible for the Association to place on permanent record from time to time its indebtedness and appreciation of deceased members—who by their outstanding contributions of voluntary medico-political and medico-sociological services for the maintenance of the honour and interests of the medical profession merit such record—in such a manner as at the same time to encourage others of its members to like services.

### *Payment of Expenses of Group Representatives.*

By BRIGHTON: That (with reference to the recommendation contained in para. 61 of the Annual Report of Council) in order to allow of expenses of Group Representatives attending Representative Body being paid as contemplated under new By-law 32A (3), there be added after the words "meetings of Council" in new Article 42 (2) the words "or of the Representative Body."

By BRIGHTON: That (with reference to the recommendation contained in para. 61 of the Annual Report of Council) in order to allow the expenses of Group Representatives attending Committees being paid as contemplated by new Article 42 (2) the words "or of Committees" be added after the words "of the Council" in new By-law 32A (3).

### *Paying Centres for Infant Hygiene.*

By BRIGHTON: That the Representative Body disagrees with the conclusions and recommendations contained in paragraph 95 of the Annual Report of Council, and adopts the following resolution, which was the view of the Council in 1917—namely:

That while it fully appreciates the value of any educational work proposed to be undertaken at paying centres for middle-class mothers in the way of giving lectures on infant management, it does not approve of these centres providing consultations and advice in respect of mothers and young children belonging to classes of the community who are quite able to consult their own family doctor.

By HAMPSTEAD: That (with reference to Recommendation A contained in paragraph 95 of the Annual Report of Council) the Representative Body regards the subject of infant hygiene as an essential part of general medicine; that it urges general practitioners to be prepared to advise their patients upon it when consulted, and is opposed to the setting up of the proposed "paying centres" as being subversive to the principles of family practice.

By HAMPSTEAD: That (with reference to paragraph 95 of the Annual Report of Council) in the opinion of the Representative Body practical instruction in the subject of infant hygiene should form part of the clinical education of all medical students.

### *Lunacy and Mental Disorder.*

By BRIGHTON: That generally throughout the Memorandum on the Report of the Royal Commission on Lunacy and Mental Disorder as regards England and Wales (see Appendix V to Annual Report of Council), where reference is made to institutional treatment words be added which will indicate that the various places mentioned at commencement of paragraph 6 of that Memorandum are referred to.

By BRIGHTON: (i) That it be made clear in paragraph 4 of the Memorandum on the Report of the Royal Commission on Lunacy and Mental Disorder as regards England and Wales (see Appendix V to Annual Report of Council) that the out-patient departments suggested are not the ordinary ones at present at voluntary hospitals; and (ii) that the word "special" be inserted before the words "out-patient department."

By BRIGHTON: That it is not desirable, as contemplated in paragraph 17 of the Memorandum on the Report of the Royal Commission on Lunacy and Mental Disorder as regards England and Wales (see Appendix V to Annual Report of Council), to do away with the intervention of a magistrate or some public official where the patient is not capable of volition.

### *Scheme for Co-ordination of Hospital Provision.*

By BRIGHTON: That the Representative Body go into Committee to consider the scheme for co-ordination of hospital provision (see Appendix VII to Annual Report of Council) and subsequently consult the Infirmary Medical Superintendents Society before finally adopting the Report.



## Correspondence.

*Association Professionnelle Internationale des Médecins.*  
(A.P.I.M.)

SIR,—An appeal has been made to the British Medical Association by this young, but active, association, which, if we remember the early struggles of our own body, might have fallen upon more sympathetic ears. The Association Professionnelle Internationale des Médecins (A.P.I.M. for short) is a society which aims at being in medical politics for Europe what we are for the Empire—the body which can speak for the united profession. It is a great idea, and we may be proud of the fact that its inception was the thought of an ordinary country doctor outside Paris. That it is meeting a demand seems clear from the fact that, though it has only existed for eighteen months, twenty-four countries have joined it, while other nine are in correspondence with it. Finland and Russia alone have definitely refused, the former through having no official body through which to deal; so if we stay out we shall be in good company. Not only does the majority of the profession in Europe see the possibilities; these are recognized by others as well. The League of Nations is accepting it; its International Labour Office, through M. Maurette, the director, has said that the formation of a body like the A.P.I.M. was desirable in order that it might be consulted on “fundamental medical questions.” The International Association of Benefit Societies is also watching it, and our “opposite number” in Britain, the Association of Benefit Societies, is represented by Messrs. Canter and Rockliff, names not unfamiliar to us. With these facts before us it is quite clear that the A.P.I.M. may prove to be a necessity for the welfare of the profession; it will certainly fulfil a useful function in connexion with the League, and incidentally will have up against it the full power of the Association of Benefit Societies.

Now such an organization deserves all the help that it can get, and no one is more able to help it than we of the British Medical Association. Our Association is in a very splendid position. Recognized within the Empire as the mouthpiece of the profession, regarded with respect not unmixed with envy by the great trade unions, it is the ideal society to which the A.P.I.M. looks, whose experience and prestige it invokes, and whose comradeship it would wish to have.

How has the Council met its overtures? With the caution proper to any breaking of new ground the Council was a little timid as to having any dealings with the infant body; but a more courageous instinct moved it to send over Dr. Cox as an observer to the general meeting last September. He went quite prepared to be critical. He returned with the definite opinion that this is a sound proposition, and said so in the excellent report with which he furnished the Council, a report which, in my opinion, should have been sent down to Divisions before any decision was come to. He, at any rate, has no doubts.

“I am of opinion that our Association ought to belong to the A.P.I.M. . . . I felt that there was a good deal to be said for the view (which I put forward as plainly as I could at the Congress) that it was doubtful whether the new body could really do anything which could not be done by the usual collaboration between friendly bodies and officials. . . . But having been at the Congress, and having heard what the other representatives had to say, and particularly having in view the recognition which is going to be given to the body by the International Labour Office, and the necessity of having something to act as ‘opposite number’ to the new international ‘approved society’ organization, I hardly see how we can afford to remain outside.”

Such was the considered opinion of our Medical Secretary: but the Council put it aside. The new body was too young. Foreigners had a different standpoint from ours. And it was to cost £125 per annum more. For these reasons, following an adverse opinion of the Finance Committee, they turned it down. That is their definite opinion, and I think they are wrong.

For one thing, I do not think that so important a departure should be settled *in camera*, so to speak, by the Council. Clearly, in my submission, the sanction of the Representative Body should have been sought. But apart from that, on the merits of the case, my contention is

that this is not a financial matter. It is a matter of the honour and prestige of the Association, and, through it, of the nation. There stands an appeal to us to help our less fortunate brethren with our greater experience and skill in the management of medical affairs. It is an opportunity we have never had before, and may never have again. Last September Dr. Cox was appealed to by the entire Congress, especially by Germany, whose representative, if we do not go in, will be the dominant power; it was a fine gesture on his part. The Americans, true to their policy of isolation, are not in yet, but are to be guided by Britain. At that moment, in my view, the British Medical Association stood at a higher point than it has ever reached in its history, with the entire profession of Europe turning to it for help and for guidance. Dr. Cox came home convinced. He drew up the report, which left no doubt as to his views.

The Council quite properly considered the financial aspect, and—unfortunately, as I think—gave too much credence to the tale of expense. What, to us, is £125 per annum? Less than 1d. a head; possibly it might run to 1d. if the thing expands. But this is not a question we should decide on the money aspect. We exist for the welfare of the profession, not in the narrow, but in the broadest, sense. But even from the money point of view it might not be all loss. There are in Europe about 250 men on the *British Medical Register*. Practically none of these are our members. If we take a hand in the A.P.I.M. we might pick up many of these, and get some to act for us. That might be considered.

But history will have to repeat itself one way or the other. There are two trends. The one is that of Bright and Cobden, the strictly insular position that avoids “entangling alliances,” the one that has already brought on us the scorn of Napoleon as “a nation of shopkeepers” and the epithet of “perfidious Albion,” a school of thought that one had hoped was dead. There is the other which, looking beyond these shores and above material interests, which helped everywhere the fight for freedom, destroyed the slave trade, took its part in the liberation of Greece and of Italy. Which of these lines shall we follow, for follow one we must? I appeal once again to the Council and to the Association to adopt a policy which shall be in accord with the great traditions of British statesmanship—the succour of the weak wherever they may be. And anyone who reads the report will agree that, in comparison with ourselves, the medical men abroad are woefully bound down, and that our help would be of great advantage to them. The Brighton Division asked for and received a copy of the report, and I believe that any other Division may have one on application. I hope that in some way we may be able to ventilate this most important subject at the Annual Representative Meeting.—I am, etc.,

St. Andrews, June 17th.

C. E. DOUGLAS.

*Infectious Diseases and State Insurance.*

SIR,—It may be of interest to members of our profession to know that State-insured persons are not secured against infectious diseases. By this I mean that local authorities throughout the country have the right to determine what should, or should not be, notifiable. An example of this is to hand.

A few days ago two sisters contracted measles. On the fourth day one developed complications of such a nature that immediate removal to a fever hospital was absolutely necessary as well as imperative. On telephoning the “authority,” I was informed that measles was not on the notifiable list, but that the patient could be admitted at a charge of £3 3s. a week. This the patient could not afford to pay, and as a trained nurse was also out of the question the sequel was obvious. One could not see a patient die without a struggle, so it ended in the fees being guaranteed for a fortnight. On the strength of this the patient was admitted. Unfortunately the time expires on June 22nd, and, although at the hour of writing, the case has taken a favourable turn, I cannot imagine the patient being discharged on that date as convalescent. Who, then, is to be responsible for future charges?

It is nothing less than a grave scandal that such a state of things should exist. When we consider, too, the fact that measles has become a serious complaint, affecting adults as well as children, and when we consider the various complications that may arise, it is obvious that it should be notifiable

throughout the country. We know that the finances of hospitals have suffered grievously through the Insurance Act, and that contributions from insured patients are necessarily imperative, but that this should happen is beyond both reason and logic.—I am, etc.,

Canford Cliffs, June 12th.

FRANCIS G. BENNETT.

#### Examination of Vagrants for Small-pox.

SIR,—Dr. J. S. Clarke's letter in the *Supplement* of June 9th (p. 247) is very much to the point. Here, too, one quarter was paid for in April. I arranged with the board of guardians in February to do the inspections for 7s. 6d. per day. This was sanctioned by the Ministry of Health.

The daily number of vagrants here is anything from 6 to 30, average, say, 20. The men are stripped and lined up in readiness, and the inspection seldom takes as much as five minutes. The casual ward is just under half a mile from my house. On foot I take twenty minutes to get there and back and do the inspection, fifteen minutes on a bicycle, or ten minutes by car. I do the inspection at 7.45 a.m. In the winter it makes a welcome object for a short walk before breakfast. At this time of the year I do it on my way back from my morning swim, and get up perhaps a quarter of an hour earlier in order to fit it in.

I consider 7s. 6d. a sufficient fee. The remuneration suggested by the Public Health Committee would work out at about 20s. a day here. Anxious though I am to support the British Medical Association, I have not the courage to apply for this.—I am, etc.,

Blandford, Dorset, June 12th.

L. BODLEY SCOTT.

### National Insurance.

#### LOCAL MEDICAL AND PANEL COMMITTEES.

##### COUNTY OF SURREY.

At the meeting of the County of Surrey Panel Committee on March 16th, under the chairmanship of Dr. ARNOLD LYNDON, an interesting point arose with regard to a Surrey insurance practitioner who had received a request from the Insurance Committee that he should refund money which had been overpaid him, owing to a clerical error in the office of the committee, since the end of 1921. The practitioner had been paid on 200 more names than were on his list. It appeared that no scrutiny of the register had been made since 1921 until recently, when it was discovered that five other practitioners had been paid on wrong data, three of whom had been overpaid and two underpaid. Dr. ANDERSON, the secretary of the Insurance Acts Committee of the British Medical Association, was of opinion that under the distribution scheme, which formed part of the practitioners' agreement with the Insurance Committee, the case for refunding was clear, but he considered that the Insurance Committee had been very negligent in not having had the register examined more frequently, and advised that the representatives of the Panel Committee should raise the matter at the next meeting. The practitioner who had been overpaid explained that he had always accepted the Insurance Committee's figures as correct. The error occurred at the very end of 1921, when the capitation fee was 11s., but in that first quarter the increase received was only £7 above what he had been receiving previously, and he had not noticed that it was higher. Subsequent payments were made at the lower capitation fee of 9s. 6d., so that the chance of detecting the error diminished. The Panel Committee agreed, on the motion of Dr. DANIEL, seconded by Dr. MORRIS MACKENZIE, to ask its executive to frame a protest to be sent to the Surrey Insurance Committee at its next meeting, to make an earlier scrutiny of the register, and to request the Ministry of Health to receive a deputation from the Panel Committee for the purpose of discussing the question.

##### COUNTY OF NORFOLK.

At a recent meeting of the Norfolk Local Medical and Panel Committees, under the chairmanship of Dr. B. D. Z. WRIGHT, it was reported that under the mileage scheme for 1927 the amount allocated was, for general mileage, £9,430, and for special mileage, £935. The scheme was approved. The question was raised as to the scaling down of the mileage, and the secretary was instructed to ask the clerk of the Norfolk Insurance Committee on what principle the mileage was estimated.

##### COVENTRY.

At its meeting on June 5th, with Dr. ARTHUR HAWLEY in the chair, the Coventry Panel Committee adopted a vote of sympathy and condolence with the relatives of Dr. Arthur Reginald Pittard, who died recently after a short illness. Dr. Pittard was a leading insurance practitioner in the city, and had been a member of the Panel Committee for over eight years. It was reported that consequent upon the extension of the city boundary the preparation of a scheme for paying mileage had become necessary, the enlarged area of the county borough of Coventry being some three times the size of the old city, and a scheme was accordingly considered and approved. Claims for special competence which were allowed included the service of enucleation of tonsils and the injection of varicose veins for varicose eczema.

### Naval and Military Appointments.

#### ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders G. D. Walsh to the *President* for Medical Department, temporary; G. H. Innes to the *Barham* on commissioning; G. Carlisle to the *Victory* for R.N. Hospital, Haslar; H. F. Briggs to the *Kent* on commissioning; D. H. C. Given to the *Tamar* for Singapore Naval Base, as Medical Officer in Charge of Medical Organization and as Naval Health Officer.

Surgeon Lieutenant Commanders J. W. Tighe to the *Fisgard*, temporary; W. E. Heath to the *Colombo*; A. E. Phillips to the *Titanic* on relief.

Surgeon Lieutenants C. H. Egan to the *Barham*; J. Hamilton to the *Victory*; E. T. S. Rudd to the *Victory* for R.N. Barracks, Plymouth; W. P. L. McIntyre to the *Field* for Plymouth.

Surgeon Lieutenants (short service) R. C. May, M.C., has transferred to the permanent list.

Surgeon Lieutenants (short service) and appointed to the *Victory* for R.N. Hospital, Haslar, for course of instruction.

#### ROYAL NAVY VOLUNTEER RESERVE.

Surgeon Lieutenant W. Cathiness to be Surgeon Lieutenant Commander, Surgeon Lieutenant W. F. Lascelles to the *Victory* for R.N. Hospital, Haslar, additional, for training.

Probationary Surgeon Sub-Lieutenant A. Elliott to the *Champion* for training.

#### ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel R. V. Cowey, D.S.O., having attained the age limit for compulsory retirement, retires on retired pay.

Major L. V. Thurston, D.S.O., to be Lieut.-Colonel vice Lieut.-Colonel R. V. Cowey, D.S.O., to retired pay.

#### SUPPLEMENTARY RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Lieutenant F. W. Oldershaw to be Captain.

#### ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant J. A. Perdan relinquishes his temporary commission on completion of service and is permitted to retain his rank.

Flying Officers J. H. Cullinan to the Aeroplane and Armament Experimental Establishment, Martlesham Heath; T. A. Edwards to No. 3 Flying Training School, Grantham; A. R. French to R.A.F. Base, Gosport; P. J. Nahan to No. 2 Flying Training School, Digby; B. A. Porritt to No. 5 Flying Training School, Sealand.

#### INDIAN MEDICAL SERVICE.

Major R. L. Vance is appointed to officiate as an Agency Surgeon and is posted as Chief Medical Officer, Western India States Agency and Residency Surgeon, Rajkot.

#### TERRITORIAL ARMY.

##### ROYAL ARMY MEDICAL CORPS.

Captain J. D. M. Cardell resigns his commission.

Lieutenant D. T. McDonald (late Northumberland Fusiliers) to be Lieutenant.

General Hospitals.—Lieutenant H. Miller to be Captain, with precedence as from June 15th, 1927.

#### TERRITORIAL ARMY RESERVE OF OFFICERS.

##### ROYAL ARMY MEDICAL CORPS.

Captain A. F. G. Guinness from Active List to be Captain.

Lieutenant J. W. Mirdoch from Active List to be Lieutenant.

General Hospitals.—Major T. H. W. Alexander, having attained the age limit, relinquishes his commission and retains his rank.

### VACANCIES.

ABERDEEN ROYAL INFIRMARY.—Junior Assistant Ophthalmic Surgeon.

BIRMINGHAM UNIVERSITY.—(1) Assistant Lecturer in Physiology. (2) Assistant Lecturer in Biochemistry in the Physiology Department. Stipend £300 per annum each.

BOMBAY: CHINA AND ALLESTON HOSPITAL FOR WOMEN AND CHILDREN.—Medical Officer in Charge (ad-mensum for officer of Asiatic per mensem as overseas pay) £20

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—Third House-Surgeon and Casualty Officer (male). Salary at the rate of £120 per annum.

BRADFORD CITY: Assistant School Medical Officer (male). Salary £600 per annum.

BRIGHTON: SUSSEX THROAT AND EAR HOSPITAL.—Honorary Surgeon.

CHICHESTER: ROYAL WEST SUSSEX HOSPITAL.—Honorary Assistant Surgeon to the Throat, Nose, and Ear Department.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.L.—Surgeon to the Ear, Nose, and Throat Department.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Resident Surgical Officer (male). Salary £175 per annum.

HULL ROYAL INFIRMARY.—(1) Assistant House-Surgeon (male). (2) Casualty House-Surgeon. Salary £150 and £130 per annum respectively.

KENSINGTON BOARD OF GUARDIANS.—Assistant Medical Officer (male) at St. Mary Abbott's Hospital. Salary £250 per annum.

KENSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL.—Junior Resident Medical Officer. Salary at the rate of £100 per annum.

KIDDERMINSTER AND DISTRICT GENERAL HOSPITAL.—House-Surgeon (male). Salary £150 per annum.

KIRKBY: BALFOUR HOSPITAL.—Surgeon and Consultant for the County of Orkney and Superintendent of the Balfour Hospital. Salary £600 per annum.

**LANCASHIRE COUNTY COUNCIL.**—Junior House-Surgeon (woman) at the Biddulph Grange Orthopaedic Hospital. Salary £150 per annum.

**MANCHESTER UNION.**—Junior Resident Assistant Medical Officers at (1) The Withington Hospitals and Institution; (2) Crumpsall Infirmary and Institution; (3) Booth Hall Infirmary for Children. Salary at the rate of £275 per annum each.

**MANCHESTER UNIVERSITY.**—Reader in Materia Medica and Therapeutics. Stipend £800 per annum.

**NEWARK HOSPITAL AND DISPENSARY.**—Resident House-Surgeon (male). Salary at the rate of £150 per annum.

**NORFOLK AND NORWICH HOSPITAL.**—Honorary Physician.

**OPPORT: BRITISH HOSPITAL.**—Medical Officer. Salary £150 per annum.

**PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY.**—(1) House-Physician. (2) House-Surgeon. Salary £190 and £150 per annum respectively.

**PRINCESS LOUISE KENSINGTON HOSPITAL FOR CHILDREN, W.10.**—Honorary Anaesthetist.

**ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.**—Junior Clinical Assistants.

**ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, Broad Street, W.C.2.**—Refraction Assistant. Salary at the rate of £100 per annum.

**SHEFFIELD UNION HOSPITAL.**—Resident Assistant Medical Officer. Salary £250 for first year, rising to £300 for second year.

**SHETLAND: PARISH COUNCIL OF TINGWALL, WHITENESS, AND WEISDALE.**—Parish Medical Officer and Parochial Vaccinator. Salary from Parish Council £56 per annum.

**STOCKPORT INFIRMARY.**—House-Surgeon. Salary £175 per annum.

**SURREY COUNTY COUNCIL.**—(1) Deputy County Medical Officer of Health. (2) Assistant Medical Officer. Salary for (1) £1,000 per annum; and for (2) £900 rising to £700.

**SWANSEA COUNTY BOROUGH.**—Assistant Dental Surgeons. Salary £450 per annum, rising to £550.

**URRAY PARISH COUNCIL.**—Medical Officer and Parochial Vaccinator. Salary £50 per annum and vaccination fees.

**WILLENDEEN GENERAL HOSPITAL, Harlesden Road, N.10.**—Resident House-Surgeon (male, unmarried). Salary at the rate of £100 per annum.

**WOOLWICH UNION.**—Second Assistant Medical Officer at the Plumstead and District Hospital (male, unmarried). Salary £350, rising to £400.

**CERTIFYING FACTORY SURGEONS.**—The following vacant appointments are announced. Banchory Tarn (Lancashire), Salford (Lancashire), Ilkington (Lancashire), applications to the Chief Inspector of Factories, S.W.1.

*This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.*

### APPOINTMENTS.

**KELLET, Frank, M.A., M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P.,** Assistant Pathologist to the Laboratories of Pathology and Public Health, Harley Street, W.1.

**PETERLIN, F. G. T., M.B., Ch.B.Aberd.,** Certifying Factory Surgeon for the Kirkwall District, Orkney.

**SINCLAIR, W. A., M.B., Ch.B.,** Medical Referee under the Workmen's Compensation Act, 1925, for the Orkney District.

### DIARY OF SOCIETIES AND LECTURES.

**ROYAL SOCIETY OF MEDICINE.**  
*Section of Urology.*—Special Meeting, Thurs., 2 p.m., Operations at St. Peter's Hospital, 8.30 p.m. (at 1, Wimpole Street) paper by Professor Jurasz (Poznan) Movable Kidney, to be followed by a discussion, Fri., 11 to 12 a.m., Demonstration of Special Instruments at 1, Wimpole Street, 2 p.m., Operations at St. Thomas's Hospital, 8.30 p.m., President's Dinner at Verrey's Restaurant.

*Section of Disease in Children.*—Provincial Meeting, at the Royal Infirmary, Leicester, Sat., 2 p.m., Dr. H. Stanley Banks: Treatment of Toxic Diphtheria by Large Intravenous Doses of Antitoxin, 2.30 p.m., Mr. C. H. Bond: Effect of Certain Radiated Sterols on the Cellular Constituents of the Blood, 3.15 p.m., Dr. G. Brittain Gill: On Calcium Deficiency and its Treatment, 3.30 p.m., Cases, 4.30 p.m., Tea in the Honorary Staff Room, 5 p.m., Discussion.

### POST-GRADUATE COURSES AND LECTURES.

**FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.**—Royal National Orthopaedic Hospital, Great Portland Street, W.—Special Clinical Demonstration in Surgery in Out-patient Department, Tues., 2.30 p.m. No fee. *Royal Eye Hospital*, St. George's Circus, S.E.1.—Special Clinical Demonstration in Ophthalmology, Wed., 3 p.m. No fee. *West-End Hospital for Nervous Diseases*, Welbeck Street, W.1.—Special Course of Lectures and Clinical Demonstrations upon Selected Cases for four weeks, 5 p.m. daily, Fee, £2 2s. *London Temperance Hospital*, Hampstead Road, N.W.1.—Practitioner's Course in Medicine, Surgery, and the Special Departments, 4.30 to 5 p.m. daily. Second week. Copies of all syllabuses sent on application, also details of general course of instruction, and specimen copies of the *Post-Graduate Medical Journal*. Apply Secretary, Fellowship of Medicine, 1, Wimpole Street, W.1. Mayfair 2256.

**JOINT TUBERCULOSIS COUNCIL.**—Special Course at Lord Mayor Treloar Cripple's Hospital and College, Alton. Monday to Saturday.

**NORTH-EAST LONDON POST-GRADUATE COLLEGE**, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations, Tues., 2.15 p.m., Demonstration of Medical Cases; 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations, Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations, Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations, Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

**ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY.**—St. John's Hospital, Leicester Square, W.C.2, Wed., 4.15 p.m., Annual General Meeting (tea at 4 p.m.). Agenda: To receive Reports of Honorary Treasurer, Honorary Secretary, and Elect Officers and Council. To be followed by Ordinary Meeting, Admission of Fellows, Clinical Cases.

**ST. PAUL'S HOSPITAL**, Endell Street, W.C.2.—Thurs., 4.30 p.m., Diagnosis and Treatment of Renal and Ureteric Calculi.

**LIVERPOOL UNIVERSITY CLINICAL SCHOOL ANTE-NATAL CLINICS.**—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon., Tues., Wed., Thurs., and Fri., 11.30 a.m.

**SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.**—At Jessop Hospital, Tues., 3.30 p.m., Gynaecological Cases. At Royal Hospital, Fri., 3.30 p.m., Surgical Cases.

### British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

#### Departments.

**SUBSCRIPTIONS AND ADVERTISEMENTS** (Financial Secretary and Business Manager, Telegrams: Articulate Westcent, London).

**MEDICAL SECRETARY** (Telegrams: Medisecra Westcent, London).

**EDITOR, British Medical Journal** (Telegrams: Altology Westcent, London).

**Telephone numbers of British Medical Association and British Medical Journal**, Museum 9851, 9852, 9853, and 9854 (internal exchange, four lines).

**SCOTTISH MEDICAL SECRETARY:** 7, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 24351 Edinburgh.)

**IRISH MEDICAL SECRETARY:** 15, South Frederick Street, Dublin. (Telegrams: Bocillus, Dublin. Tel.: 4737 Dublin.)

#### Diary of the Association.

- JUNE.**
- 22 Fri. London: Maternity and Child Welfare Subcommittee, 2 p.m.  
London: Scholarships and Grants Subcommittee, 3.30 p.m.  
Wandsworth Division: Town Hall, Wandsworth, to consider the Koch Diagnosis and Treatment of Tuberculosis. Paper by Dr. Robert Carswell, 9 p.m.
- 23 Sat. West Somerset Branch: Annual Meeting, Deller's Café, Taunton, 12.15 p.m.
- 25 Mon. London: Library Subcommittee, 2.30 p.m.
- 26 Tues. Edinburgh Branch: Annual Meeting, Pathhead Ford, 12.30 p.m. Business Meeting, 5 p.m.  
Birmingham General Hospital, Dr. Reminiscences, 8.20 p.m.  
h Road, Smethwick, 3 p.m.  
ary, Oxford, Mr. Rose-Innes in the Islands of Scotland, 2.30 p.m.
- Oxford and Reading Branch: Annual Meeting, Holloway Sanatorium, 4.30 p.m.
- Rochdale Division: Lyceum, Ballie Street, Rochdale, 8.30 p.m.
- Surrey Branch: Annual Meeting, Town Hall, Kingston-on-Thames, 2.15 p.m. Luncheon, Nuthall Restaurant, 1 p.m. Annual Dinner, Reid's Restaurant, Ashley Road, Epsom, 6.45.
- Wiltshire Branch: Annual Meeting, County Mental Hospital, Devizes. B.M.A. Lecture by Mr. W. McAdam Eccles on Treatment of Icteria by Trusses, 3 p.m.
- 28 Thurs. Brighton Division: Clinical Meeting, Sussex County Hospital, Brighton, 3.45 p.m.  
Chandos Street, Cavendish Square, Incey Low Reform, to be opened by 3.15 p.m.  
Visit to London Factory of Messrs. Oxo Ltd., 2.30 p.m.
- South-West Wales Division: Annual Meeting, Ivy Bush Hotel, Carmarthen, 3 p.m.
- 29 Fri. London: Science Committee, 2.30 p.m.  
London Division: Hendon Cottage Hospital, 8.30 p.m.  
Wandsworth Division: Town Hall, Wandsworth, to consider the Koch Diagnosis and Treatment of Tuberculosis. Paper by Dr. Robert Carswell, 9 p.m.
- 30 Sat. Islands Branch: Annual Meeting, 10.30 a.m.  
Northampton Branch: Annual Meeting, 12.20 p.m.
- JULY.**
- 3 Tues. North Lancashire and South Westmorland Branch: Annual Meeting, Ethel Hedley Hospital, Carlisle, 3.15 p.m.
- 5 Thurs. London: Psycho-Analysis Committee, 2 to 4 p.m.  
Norfolk Branch: Annual Meeting, Town Hall, Aylsham, 3 p.m.

### BIRTHS, MARRIAGES, AND DEATHS.

*The charge for inserting an announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.*

#### BIRTHS.

**BRITAIN.**—On June 14th, at The Elms, Sutton Road, Walsall, to Jenny Simpson, M.B., Ch.B., wife of Bert Britain, a daughter.

**GILL.**—On June 9th, at the Mission Station, Cona Bay, Papua, Iona (née Campbell), the wife of Cecil E. C. Gill, M.B., Ch.B.Ed., of a son (David Ian).

**WESTON.**—At 50, Westgate, Gnisborough, Yorks, on June 6th, to Dr. and Mrs. Cuy Weston, a daughter.

#### MARRIAGES.

**HOBBS—SCRIVEN.**—On June 12th, 1928, at St. Mary's Church, Frensham, Surrey, by the Rev. Rowland Scriven, M.A., uncle of the bride, assisted by the Rev. M. C. H. Collet, M.A., Vicar of Frensham, Frank Bedo Hobbs, M.D., M.R.C.P., of Downing Street, Farnham, Surrey, to Elsie Fetherstonhaugh, only daughter of G. Scriven, M.D., B.Ch., and Mrs. Scriven of Brown Cables, Lower Bourne, Surrey.

**TAYLOR.**—On June 14th, by licence, Arthur Walford Taylor, of Trinity Street, Norwich, elder son of Dr. The Close, Norwich, to Iris Desirée, late Alfred Haldinsein, J.P., and Mrs. Norwich.

#### DEATHS.

**GILLIES.**—At 14, Adross Street, Inverness, on June 13th, 1928, Kenneth Gillies, M.A., M.B., C.M.

**MACDOUGALL.**—On June 12th, after an operation, John Aymers MacDougall, M.D. F.R.C.S.E., of The Hill, Balerno (formerly of Letterewe-Cannes),

# SUPPLEMENT TO THE BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 30TH, 1923.

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### SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

### MATTERS REFERRED TO DIVISIONS.

## British Medical Association.

### SUPPLEMENTARY ANNUAL REPORT OF COUNCIL, 1927-28.

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Medical Benevolence ...	284	O.B.E.	A Member of Council. A Member of the Public Health, Medico-Political and Parliamentary, and Arrangements Committees. A Chairman and Representative of the Bradford Division. President of Section of Medical Sociology, 1924.
Oversea Branches ...	284	Dr. Arthur Manknell	A Chairman of the Northamptonshire Division.
<b>APPENDIX.—National Insurance Defence Trust Balance Sheet and Income and Expenditure Account, 1927 ...</b>	<b>286</b>	Dr. John More	A Member of the Border Counties Branch Council.
		Dr. Tom Dryden Nicholson	A Chairman of the North Lincolnshire Division.
		Dr. Arthur Alfred Pratt	A Chairman of the North Lincolnshire Division.

### Preliminary.

#### OBITUARY.

157. The following is a supplementary list of Members whose deaths the Association deplores:—

Name.	Offices held in the Association.
Dr. Ardeshir Koyaji	Member of Bombay Branch Council.
Dr. James Will Cook	A Chairman of the Bury Division.
Dr. Timothy Corkery	A Member of the Executive Committee of the Chesterfield Division.
Dr. Thomas Augustus Davidson	A Member of the Ulster Branch Council.
Mr. Wm. James Foster	A President of the Oxford and Reading Branch.
Dr. Alfred Charles Edward Harris	A President of the Lancashire and Cheshire Branch and a Chairman and Representative of the Birkenhead Division.
Dr. Wm. James Howarth, C.B.E.	A Member of the Public Health, and Insurance Acts Committee.

Name.	Offices held in the Association.
Dr. George Edward Shuttleworth	Member of Council, 1899-1903. Member of Parliamentary Bills Committee, a President of the Lancashire and Cheshire Branch, a Vice-Chairman of the Hampstead Division and a Member of the Metropolitan Counties Branch Council. Secretary, 1883, and Vice-President, 1885 and 1906, of Section of Psychology.
Mr. Thomas Waddelow Smith	Secretary of Section of Neurology and Psychology, 1926.
Dr. William Snodgrass	Member of Council 1919-22. A Chairman of the Glasgow North-Western Division, a Chairman of Scottish and a Member of Arrangements Committees.
Dr. John Barclay Stewart	A Chairman of the Bury Division.
Dr. David Lewis Williams	A Chairman of the South West Wales Division.
Dr. Allan Huston Adams, Dr. Albert James Beesley, Dr. John Mcara Burke, Dr. Oliver Carlyle, Dr. John Donal Carroll, M.C., Dr. Vincent Theodore Carruthers, Dr. Edwin Clark-Jones, Dr. Colin Richard Cole, Dr. Egbert John Connell, Dr. Henry Charles Morriset Delohery, Dr. Joseph Horns Fenn, Dr. James Peter Fitzsimmons, Dr. Andrew Gilmour, Dr. Harry Groom, Dr. John Walter Barron Hannington, Dr. David Heard, Dr. Henry Louis Powell Hulbert, Dr. Reginald Edward Ingram-Johnson, Dr. Spencer Jackson, Dr. Harry Jessop, Dr. Schalk Willem Joubert, Dr. Basil Carlyle Kennedy, Dr. John Timothy Kennedy, Dr. Alfred James Lowe, Dr. Kenneth Alexander Maclean, M.C., Dr. James Macpherson, Dr. Albert George Meares, Dr. Wm. Gardner Neill, Dr. John Oswald, Lt.-Col. Edward Ernest Parkes, R.A.M.C., Dr. Elizabeth Park Young Paterson, Dr. Reginald Spencer Pearson, Dr. Thomas Philip, Dr. Robert Johnson Pirie, Dr. Robert David Prichard, Dr. John Lawson Rankine, Dr. Herbert Midgeley Reeve, Dr. Harry Sautelle Roberts, Dr. Robert Roger, Dr. Robert Rosie, Dr. Jane Buchanan Henderson Ruthven, Dr. Hubert John Satchwell, Dr. Neill Campbell Satt, Dr. Timothy Francis Sheehan, Dr. Francis Wm. Squair, Dr. Vytlingam Supramaniam, Dr. Henry Mortlock Waller, Dr. Sidney Winslow Woollett, O.B.E., Dr. Wm. Alexander Young.	

## DR. J. A. MACDONALD.

158. The Council feels that something more than the ordinary formal notice is due to the memory of Dr. J. A. Macdonald, who for many years not only served the Association with all his strength in many official capacities, but was an outstanding personality who earned the respect and the affection of all who knew him.

## BIRTHDAY HONOURS.

159. The Council has pleasure in reporting that Honours have been conferred upon the following members, to whom the congratulations of the Association have been sent:—

## Companion of Honour.

Prof. J. S. Haldane, F.R.S., Oxford.

## K.C.M.G.

Sir Wm. Thomas Prout, C.M.G., O.B.E., London.

## K.C.V.O.

Prof. John Marnoch, Aberdeen.

## K.B.E.

Major-Gen. W. H. Ogilvie, C.B., C.M.G., K.H.P., I.M.S.

## Knighthood.

Lt.-Col. H. S. Newland, Adelaide.

Dr. T. Watts, M.P., Manchester.

## SIR CHARLES HASTINGS FUND.

160. This Fund was instituted in 1925 by an endowment of about £70 a year due to the generosity of the late Lt.-Col. J. W. F. Rait, I.M.S., and Mrs. Rait. Colonel Rait thought there was room for a fund which could be used promptly and with less formality than the other medical benevolent funds in existence. He particularly wished the Trustees to be able to give at their entire discretion grants or loans to help members of the profession or their dependants in emergency.

The Trustees are the Chairman of the Representative Body, the Chairman of Council and the Medical Secretary. Small grants have been made in a number of cases, mostly in the form of loans, to meet difficulties not likely to recur and which demanded instant action. For example, in several instances loans (without interest and to be repaid when the recipient is in a position to pay) have been made to the sons or daughters of doctors who have died while their children were in the middle of their education. These loans have enabled these very deserving cases to meet class or examination fees. A promising young doctor whose health had broken down was advanced money to enable him to complete a sanatorium course which was benefiting his health but stood in danger of being interrupted for want of funds. These are only a few examples of the uses to which the Fund has been put and the Trustees are glad to feel that the Fund is serving the purpose which its honoured founders had in mind. It is hoped that Colonel Rait's wish may be fulfilled and that other members of the profession may see their way to add to the capital of the Fund, either by donation or bequest.

## GIFT FROM THE NEW ZEALAND BRANCH.

161. Mr. Victor Bonney, the official delegate of the Association at the Annual Meeting of the New Zealand Branch has brought back with him a present which he was asked by the Branch to transmit to the Council. It consists of a handsome inkstand of New Zealand wood, greenstone and silver, and it is inscribed "*Coelum non animus mutant qui trans mare currunt.*"

The Council welcomes this evidence of the loyalty and affection of one of its most distant and most successful Branches and is proud to have this token of kinship to exhibit in the House in proximity to the President's Chair which was the gift of the Australian Branches.

## ANNUAL MEETING, 1930.

162. The Council has approved certain arrangements with respect to the Annual Meeting at Winnipeg, in 1930, and hopes to publish details as to travelling facilities, etc., at an early date.

The Council recommends:—

**Recommendation:** That W. Harvey Smith, M.D., Winnipeg, be elected President of the Association, 1930-31.

## APPOINTMENTS DURING YEAR OF REPRESENTATIVES OF ASSOCIATION ON OUTSIDE BODIES.

(Continuation of para. 24 of Annual Report.)

163. The following further appointments have been made by the Council:—Departmental Committee on Midwives Act, Dr. J. W. Bone; Fourteenth Annual Conference of the National Association for the Prevention of Tuberculosis, the President; 1928 National Conference on Maternity and Child Welfare, Dr. W. Paterson; Advisory Committee of Pharmaceutical Society re Control of Therapeutic Substances, Sir Humphry Rolleston; Court of Governors of University College of South-West England, Mr. Russell Coombe; British Empire Cancer Campaign International Convention, 1928, Mr. R. G. Hogarth and Sir Thomas Horder, Bart.

## NEW SOUTH WALES MEDICAL ROLL OF HONOUR.

164. The Council has been pleased to accept a handsomely bound copy of the New South Wales Medical Roll of Honour, containing the date of appointment to service and the honours, if any, of all members of the medical profession in New South Wales who served overseas. The Roll of Honour may be inspected in the Library of the Association.

## PSYCHO-ANALYSIS COMMITTEE.

165. The Committee appointed by the Council in 1926 to consider, pursuant to the instruction of the A.R.M., the subject of Psycho-Analysis is still considering its reference. Although meetings have been held monthly throughout the session, the work of the Committee is not sufficiently advanced to permit of any report being made at this stage.

## Building.

166. The Council, in view of the great importance of this matter and to ensure continuity in the negotiations and the control of the building operations, has appointed a special Building Committee to consider all questions of rebuilding in connection with the premises of the Association. This special Committee consists of Sir Robert Bolam (Chairman), Dr. H. B. Brackenbury, Mr. N. Bishop Harman, Dr. C. O. Hawthorne, and Dr. R. Wallace Henry, together with the chief officials of the Association acting in an advisory capacity.



## TAVISTOCK SQUARE.

Information was received that Tavistock Square, where the London House of the Association stands, formed part of a Town Planning Scheme under which it was scheduled as residential and not for commercial purposes. Assurance was thereupon sought and obtained that the B.M.A. House was outside the boundaries of the Town Planning Scheme and that, in any case, the Association's building proposals will not be affected.

## DEMOLITION.

Possession was obtained early in September, 1927, of two of the five houses fronting the main road, and the work of demolition was commenced at the earliest possible moment. It was then found that arrangements could conveniently be made for re-housing the two tenants in the other three houses and for proceeding with Blocks A and B together, thus reducing the cost of demolition, excavation and rebuilding. The demolitions have been completed, and the work of excavation is being pushed rapidly forward. It has been found necessary to close the private road leading into the Association's premises, but a covered wooden way has been erected in order to interfere to as small an extent as possible with the convenience of visitors to the premises.

## CONTRACT.

After due enquiry and consideration, the Council approved the erection of Blocks A and B by means of a contract embodying a schedule of agreed prices for work carried out, in lieu of a tender with one price for the complete building. Under such a scheme greater latitude is allowed for alterations which may be found to be necessary or desirable, and no payment is made for work included in the original scheme and subsequently omitted.

## BUILDING LINE.

Very protracted negotiations were necessary with both the Bedford Estate Office and the London County Council over the questions of the front building line and the party walls on the north and south of the proposed extensions. The west side of the main road on which the extension of the B.M.A. House will front had already been settled, and both the Bedford Estate Office and the London County Council, together with the local Borough Council, desired to set out a general building line extending for nearly three-quarters of a mile. Some difficulty was experienced in adjusting the variations in the lines upon which the demolished houses stood. Formal consent from the London County Council has now been obtained to the plan submitted, and the party wall awards setting out the necessary underpinning, position of stanchions, and lighting areas to be left have been duly signed.

## CLERK OF WORKS.

A Clerk of Works of standing and considerable experience has been appointed.

## HOARDINGS.

Consideration was given to the possibility of letting the hoardings fronting the main road to poster advertisers but it was found desirable to utilise the space for announcements concerning the extension of the B.M.A. House, the organisations housed therein, and the prospective tenants.

## SCOTLAND.

A scheme for the extension of the Scottish House of the Association, by the purchase of No. 7, Drumsheugh Gardens, Edinburgh, and the reconstruction of portions of Nos. 6 and 7, Drumsheugh Gardens, has been considered and approved. The work is being carried through; details are given in this report under the heading of "Scotland."

## Organisation.

(Continuation of paras. 47-62 of Annual Report.)

## HONORARY SECRETARIES WHO HAVE RELINQUISHED OFFICE.

167. Since the publication of the last Supplementary Report of Council (B.M.J. Supplement, June 25th, 1927) the following Honorary Secretaries of Divisions and Branches have relinquished office. The Council takes great pleasure in extending to these officers the thanks of the Association, realising as it does that the success of the Association depends very largely upon those who occupy the position of Secretaries of local units of the Association.

## Honorary Secretaries of Divisions.

Division or Branch.	Name of Secretary.	Year of Appointment.
Aberdeen	F. K. Smith	1915
"	H. E. Smith	1922
Assam Valley	F. W. O'Connor	1926
"	E. A. M. J. Goldie	1927
Ayrshire	A. Scott (Asst.)	1927
Barnstaple	S. C. Shaw	1922
Birmingham Central	W. H. Marris	1925
Blackburn	J. Shearer	1922
Brighton	L. A. Parry	1920
Cardiff	A. Evans (Jun. Sec.)	1927
Dartford	W. F. Laee	1922
Dover	A. R. Jordnn	1920
Dumfries	J. Cromie	1923
Eastbourne	W. Muir Smith (Deed.)	1907
East London	P. W. Laidler	1925
"	C. Hurwitz	1927
East Norfolk	H. D. Woodroffe	1924
East Yorkshire	W. W. Adamson	1925
Edinburgh & Leith	C. M. Pearson	1925
Glasgow North Western	M. White	1923
Glasgow Southern	V. O. Taylor	1920
Ilwakes Bay	S. Scouler	1926
Hyde	G. MacQueen	1925
Inverness	J. W. Mackenzie	1913
Kensington	H. M. Stratford	1922
Lambeth & Southwark	E. L. M. Rusby	1921
Liverpool	R. Kennon	1925
Mid-Cheshire	R. Reid Duncan	1923
Newcastle-on-Tyne	E. Farquhar Murray	1922
North East Ulster	W. Porter	1912
North Glamorgan & Brecknock	A. W. Owen	1926
Northamptonshire	W. M. Robson	1921
Nuneaton & Tamworth	R. J. Cyriax	1925
Otzo	W. E. Carswell	1925
Plymouth	S. Noy Scott	1915
Portadown & West Down	J. S. Darling (Deceased)	1904
Rochdale	J. Melvin (Deceased)	1907
Southland	A. A. Stewart	1927
South Middlesex	T. Ruddock-West	1922
Southport	E. W. Lewis	1922
Stockport	F. W. Scholesfield (Jt. Sec.)	1922
Stockton	G. C. M. McGoniglo	1925
Surrey Valley	J. Dunlop	1927
Swansea	H. R. Tighe	1923
Taranaki	G. H. Thomson	1925
Wandsworth	J. Kennish	1915
Wanganui	G. H. Robertson	1922
Warrington	D. Meikle	1925
Wellington	G. F. V. Anson	1925
West Bromwich	J. M. Mitchell	1922
West Middlesex	Agnes Dunnett	1922
Western Transvaal	J. C. Truter	1927
Woolwich	W. Remington	1927

## Honorary Secretaries of Branches.

Assam	E. A. M. J. Goldie	1927
Birmingham	P. C. Cloake	1926
Border (S.A.)	Gertrude Neale	1925
Border Counties	R. Connell (Asst.)	1926
Edinburgh	John Stevens	1914
"	F. E. Jardine (Asst.)	1923
Grigoland West	Comyns Duthie	1927
Hongkong and China	S. S. Strahan	1925
Kenya	W. H. Kauntze	1926
Kent	E. A. Starling	1910
Lancashire & Cheshire	A. Corsar Stanrock	1924
Mashonaland	J. W. Hurworth	1925
Metropolitan Cos.	H. M. Stratford	1924
Midland	C. C. Binns	1926
New Zealand	D. E. Fenwick	1925
Southern	Lockhart E. W. Stephens	1920
South Indian & Madras	Clive Newcombe	1927
South Midland	E. Broughton Barnes	1924
Southern Transvaal	Max Greenberg	1924
Tanganyika	S. Mackenzie	1927
Tasmanian	E. Brettingham Moore	1927
Uganda	A. L. Giblin	1927
West Somerset	W. L. Webb	1926
"	W. G. Parker	1925

**Medico-Political.****ASSISTANT MEDICAL OFFICERS TO MENTAL HOSPITALS.**

(Continuation of para. 93 of Annual Report of Council.)

168. The Council desires that further time should be allowed during which negotiations may take place with the bodies concerned and considers that it would therefore be appropriate if the Representative Body at the present time confined itself to a general discussion of the proposals contained in Recommendations B to E, leaving over until the A.R.M. 1929 any question of formulation of policy:—

The Council recommends:—

**Recommendation:** That Recommendations B, C, D and E contained in para. 93 of the Annual Report of Council relative to salaries of assistant medical officers to mental hospitals be given general approval, but not made part of the policy of the Association until there has been a further opportunity for negotiations between the Association and the bodies concerned with the appointment of assistant medical officers to mental hospitals:

**ENCROACHMENTS ON THE SPHERE OF PRIVATE PRACTICE.**

(Continuation of para. 91 of Annual Report of Council.)

169. The Special Committee has received a report by the Medical Secretary on the result of his observations with regard to the publicly supplied medical services in several typical areas. This report will be used as the basis of a report which the Council hopes to be able to present to the Divisions in the autumn. In the meantime the Council desires to express its thanks to the Medical Officers of Health in the areas visited, for the generous assistance given to the Medical Secretary during his visits; and also to those Medical Officers who replied so promptly and freely to the requests made to them for particulars of the services in their areas.

**ANTE-NATAL WORK.**

170. The following resolution was passed by the A.R.M. 1927:—

Minute 142.—Resolved: That it be an instruction to the Council to consider the Midwives Act, 1918, in the interests of all concerned with ante-natal work.

As certain of the questions involved in the above reference are being discussed by the Private Practice Committee, and by the Puerperal Morbidity and Mortality Committee, and others will come under the consideration of the Departmental Committee referred to in the next paragraph, the Council considers it inadvisable to present to the Representative Body at the present time any detailed report upon the subject matter of above Minute 142.

A Departmental Committee consisting of Sir Robert Bolam (Chairman), Dr. J. W. Bone, Dame Janet M. Campbell, Lady Cynthia Colville, Dr. W. A. Daley, Mr. J. S. Fairbairn, F.R.C.S., Dr. T. Eustace Hill, Miss Alice Gregory, Mr. A. B. MacLachlan, Dr. F. N. Kay Menzies, Mrs. Bruce Richmond and Miss Stephenson has been appointed with the following reference:—

“To consider the working of the Midwives Acts, 1902 to 1926, with particular reference to the training of midwives (including its relation to the education of medical students in midwifery), and the conditions under which midwives are employed.”

and the Council has authorised the preparation of evidence on the lines of the reference to the Departmental Committee and the nomination of witnesses to give evidence on behalf of the Association before that Committee.

**GENERAL MEDICAL COUNCIL BY-ELECTION, 1928.**

171. In November, 1924, at the election of four Direct Representatives for England and Wales on the General Medical Council the Association's candidates, namely, Sir Robert Bolam, H. B. Brackenbury, J. A. Macdonald, and Sir Jenner Verrall, were returned. The Council regrets to have to report that through the death of Dr. J. A. Macdonald a by-election is imminent. There is also another vacancy caused by the election of Sir Robert Bolam as representative on the General Medical Council for the University of Durham and his consequent resignation of office as a Direct Representative.

The Council has put into operation the following scheme in connection with the two vacancies:—

(1) The Medico-Political Committee shall cause to be circulated as early as possible a notice to every Division in England and Wales (i) advising the Divisions of the fact that an election of two Direct Representatives on the General Medical Council for England and Wales will in the ordinary course take place in October, 1928; (ii) requesting that the Divisions shall call meetings of the whole profession in their areas in order to take this matter into consideration; and (iii) asking to be informed not later than July 2nd, 1928, of the names of any person or persons, legally qualified for election, whom such

meetings may deem suitable to be nominated for election as a Direct Representative.

(2) The Committee shall cause a list to be prepared of those persons, legally qualified for election, who shall have been named in the manner provided in Clause (1). The said list shall be circulated to the Divisions at the earliest possible date before the Annual Representative Meeting, 1928, and each constituency shall be requested to adopt such resolutions as may enable its Representative at the Annual Representative Meeting, 1928, to give effect to the wishes of the constituency in a vote taken in the manner hereinafter prescribed.

(3) At the time of the Annual Representative Meeting, 1928, a Special Meeting of Representatives of Divisions in England and Wales shall be convened, to select from the list of nominees two persons for nomination as Candidates. Voting shall be by ballot. The Candidates who receive the greatest number of votes shall be deemed to be the Candidates selected for support by the Association.

(4) The Medico-Political Committee shall arrange that the persons so selected shall be duly nominated on behalf of the Association as Candidates for the office of Direct Representatives on the General Medical Council, and every effort shall be made by the Association to secure the election of the said Candidates.

**Declaration by Candidate.**

I, the undersigned, hereby consent if duly selected in accordance with the procedure mentioned above, to be nominated as a Candidate at the election in 1928 of two Direct Representatives on the General Medical Council for England and Wales.

Signed .....

Qualifications .....

Address .....

The scheme is with slight variations the same as that approved by the A.R.M. in 1915, the only important exception being that the nomination of Candidates from whom the final selection is to be made at the A.R.M. is by meetings of the whole profession and not by Division meetings.

**INTERNATIONAL MEDICAL SEA CODE.**

(Continuation of para. 92 of Annual Report of Council.)

172. The Council has drawn up a simple questionnaire on the signs and symptoms of disease and injuries for the use of master mariners when seeking medical advice by wireless from a surgeon on another ship or on shore, and has submitted it to the Board of Trade with a request that the Board will assist the Council in its attempt to draw up an international medical sea code by having the questionnaire set into code (or cipher). In order that the code may be of further assistance to master mariners the Council proposes to preface it with explanatory notes and sample messages.

**CHIROPODISTS (REGISTRATION) BILL.**

173. The Chiroprodists (Registration) Bill, introduced into the House of Lords on 2nd May, 1928, by Viscount Novar and down for second reading on 18th July, 1928, has for its object the recognition by the State of chiroprodists as a class of special practitioner. A chiroprodist is defined as:—

“A person who practises chiropody”;

and “Chiropody.”

“means and includes the diagnosis and medical, mechanical or surgical treatment of foot ailments such as abnormal nails, bunions, corns, warts, and callosities, but does not include the performance of operations for which an anæsthetic is required.”

The Council recommends:—

**Recommendation:** That it is undesirable that chiroprodists should be recognised in a special register as such register would convey to the public that chiroprodists were competent to undertake the diagnosis and treatment of diseases of the feet.

**INVESTIGATIONS INTO MATERNAL DEATHS, STILL BIRTHS, NEO-NATAL DEATHS AND PUERPERAL FEVER.**

174. Arising out of suggestions by the Ministry of Health that an investigation should be conducted into all maternal deaths, still births, neo-natal deaths and cases of puerperal fever, the Council decided that such investigations would be useful if carefully controlled by competent experienced medical officers and if the results were used exclusively for scientific and public health purposes, and urged that it was important that, where necessary, such investigation should be followed by the offer of expert advice and assistance, institutional or otherwise. Having received a satisfactory assurance on this matter from the Ministry of Health, the Council (see paragraph 39 of Appendix IV. to the Annual Report of Council, page 168 of the Supplement of 28th April, 1928)

presses upon Divisions and all members of the profession generally, the necessity of giving all the assistance they can towards making the observations under such investigations as complete and accurate as possible. In Circular 888 the Minister of Health has stated that it is his intention to set up a representative Maternal Mortality Committee which will consider the investigations in question, and, with a view to securing uniformity in the methods of obtaining the information desired, he proposes to invite the Committee to draw up a questionnaire to serve as a guide to authorities in making their investigations and hopes that the Committee will commence its work at an early date.

#### REGISTRATION OF NURSING HOMES.

(Continuation of para. 98 of Annual Report of Council.)

175. The Council has approved the draft by-laws which the Ministry of Health proposes to issue to local authorities as a model for the by-laws which these authorities may adopt.

#### MANCHESTER CORPORATION ACT, 1924.

176. Under the Manchester Corporation Act, 1924, a medical practitioner who runs an "establishment for massage or special treatment" (such term including premises used for the reception of persons requiring massage, manicure, chiropody, light, electric, vapour, or other baths, or other similar treatment) may be exempted from registering his house if he lodges with the Corporation a certificate (in the approved form) signed by two medical practitioners practising or residing in the city, not being in partnership with the practitioner concerned or with each other or not having any financial or other interest in the establishment, to the effect that the practitioner concerned is a suitable person to carry on such an establishment. The same position obtains in London under the London County Council General Powers Act, 1915. The Council, while fully recognising the necessity of supervising the activities of persons who are not registered medical practitioners and who are using the above forms of treatment has advised the Manchester Division to point out to the Corporation its objections to the operation of this Act as being a restriction on the legal right of a registered medical practitioner to practise a certain branch of his profession, and to urge that some way be found to remove the restrictions thus placed on medical practitioners.

#### Public Health and Poor Law.

##### APPLICATION TO SCOTLAND OF SCALE OF MINIMUM COMMENCING SALARIES FOR WHOLE-TIME PUBLIC HEALTH APPOINTMENTS.

177. The Annual Representative Meeting, 1927 (Minute 135), approved the action of the Council in agreeing for one year to the following modifications of the scale in its application to Scottish appointments:—

(i) that the commencing salary for resident medical officers be £250 to £400, plus emoluments;

(ii) that the commencing salary of medical officers employed in departments be on a graded scale, the average salary over 10 years being not less than £600, the minimum commencing salary to be not less than £500;

(iii) that the scale of commencing salaries for chief medical officers of health be as follows:—

Population not exceeding 50,000 ...	£800 to £900
" " " 100,000 ...	£900 to £1,100
" " " 250,000 ...	£1,100 to £1,400
" exceeding 250,000 ...	£1,400 to £1,600

(iv) that a minimum commencing salary of not less than £700 may be recognised in county areas, with a population not exceeding 25,000, where co-ordination with an adjoining area is not feasible.

The Council has again given this matter very careful consideration in consultation with the Scottish Committee and the Scottish Branch of the Society of Medical Officers of Health, and has come to the conclusion that under present conditions the scale, as above quoted, offers the best prospect of success in Scotland. As it is understood that the Scottish Board of Health will give no approval of the scale unless it is accepted as a settlement with some assurance of stability the Council recommends:—

**Recommendation:** That the working arrangement—quoted above—agreed to for one year as from 16th June, 1927, with regard to the application to Scotland of the scale of minimum commencing salaries for whole-time public health appointments be extended for a further period of five years on the understanding that if by the end of that period experience shows that the arrangement had not brought about that measure of success in the application of the scale to Scotland which would justify its continuance, the advisability of reverting to the original scale in Scotland be considered.

##### APPLICATION TO NORTHERN IRELAND OF SCALE OF MINIMUM COMMENCING SALARIES FOR WHOLE-TIME PUBLIC HEALTH APPOINTMENTS.

178. So far the scale of minimum commencing salaries has only been applied to England and Wales, and Scotland (in the modified form above-mentioned). At the request of the Ulster Branch, the Council now recommends:—

**Recommendation:** That the scale of minimum commencing salaries for whole-time public health appointments be made applicable to whole-time public health appointments in Northern Ireland.

##### PUPIL ASSISTANTS TO MEDICAL OFFICERS OF HEALTH.

179. During the present session two advertisements were tendered for insertion in the *B.M.J.* inviting applications for pupil assistants to medical officers of health. In one it was stated that the borough council concerned had authorised its medical officer of health to receive one pupil assistant who would live and be boarded at the isolation hospital and that the conditions afforded exceptional training for the D.P.H. The other stated (1) that the Health Committee of the Borough was prepared to receive applications from medical practitioners who desired training in public health administration; (2) that the appointed practitioner would receive instruction in public health administration and be given duties in connection with sanitation, infectious diseases, tuberculosis, bacteriology, maternity and child welfare and school medical work; (3) that there would be ample time for study, classes, etc., and if necessary the certificate in public health administration required for the D.P.H. would be given. The appointment was offered for six or twelve months, no premium being required and no salary offered.

The only declaration by the Association on the subject of pupil assistants for medical officers of health is the following paragraph which appeared in the Supplementary Report of Council for 1909-10, and was approved by the Annual Representative Meeting in 1910:—

37. A question has arisen as to the insertion in the "British Medical Journal" of an advertisement for an Assistant Medical Officer of Health (pupil), from whom a premium was required. The Council is of opinion that it is undesirable that a premium paying pupil of a Medical Officer of Health should in any circumstances be designated "Assistant Medical Officer of Health," and instructions have been given to decline advertisements of the kind.

The Council is of opinion that appointments of this kind should not be advertised in the "British Medical Journal" as it considers it undesirable that persons who are *in statu pupillari* should be engaged in duties which are ordinarily performed by salaried officials.

The Council recommends:—

**Recommendation:** That advertisements for pupil assistants to act (a) either as residents in infectious hospitals, sanatoria or institutions of a similar nature, or (b) to do work usually assigned to assistant medical officers of health or assistant school medical officers, should not be accepted for publication in the "British Medical Journal" whether or not a premium be required.

##### COMBINED APPOINTMENTS OF WHOLE-TIME MEDICAL OFFICER OF HEALTH, POOR-LAW MEDICAL OFFICER AND PUBLIC VACCINATOR.

(Continuation of paras. 119-120 of Annual Report of Council.)

180. In addition to the case referred to in paras. 119-120 of the Annual Report, the Council reports that the Ministry of Health has recently approved a combined appointment of a Medical Officer of Health, Medical Superintendent of Infectious Diseases Hospital, Medical Officer of a Poor Law Institution and District Medical Officer for the Union District and Public Vaccinator on the ground that it must abide by the circular of the Local Government Board of 1910 which definitely encourages such appointments in suitable cases.

##### FEES FOR INSPECTION OF VAGRANTS FOR DIAGNOSIS OF SMALLPOX.

181. In his circular to Boards of Guardians in England and Wales (No. 859, dated 23.1.23) the Minister of Health stated that, in view of the prevalence of smallpox amongst casuals, such persons should be examined by the medical officer with a view to detecting cases of small pox. The circular also stated that "in view of the extra work and responsibility which may be involved by this addition to the medical officer's normal duties the Minister will be prepared to consider any application which may be made by a Board of Guardians for his sanction to the payment of reasonable additional remuneration to the medical officer."

A number of enquiries have been received as to the fee which the Association considers appropriate for poor-law medical officers for this service, and the Council is in negotiation with the Ministry of Health on the matter.

#### PUBLIC EDUCATION IN HEALTH.

(Continuation of para. 116 of Annual Report of Council.)

182. Up to 10th May, 1928, only 31 Divisions and Branches had reported the action they were taking in regard to the education of the public in health matters.

#### STATUS OF MEDICAL OFFICERS OF HEALTH AND TOWN CLERKS.

183. Arising out of correspondence with the Ministry of Health in relation to the status of the M.O.H.s. and Town Clerks the Minister now takes the following position:—

(1) the work of a local authority consists of various elements constituting a whole with reference to which the policy of the authority is framed,

(2) in order to frame that policy, it is necessary for the authority to study these elements in their relations with each other,

(3) to assist it in this process, it requires the services of an officer able to view the work of departments as a whole and to bring them into proper relation with each other,

(4) this officer can be no other than the Clerk to the authority,

(5) the facts stated under the foregoing heads do not, either in principle or in practice, in any way involve the assignment to the Clerk of any functions which properly belong to the Medical Officer of Health or any other professional officer appointed by the Council,

(6) it follows from these facts that official correspondence between the local authority and the Ministry should be conducted, on the side of the authority, through the Clerk, a clear distinction being drawn between such official correspondence and semi-official correspondence between professional officers of the authority and of the department on professional points, whether as a preliminary to the framing of the policy of the Council or otherwise.

The Council had informed the Ministry that it considers it impossible for Town Clerks to be really responsible for the work carried out by Medical Officers of Health and their subordinate medical officers, and that this also applies to the work of all technical officers employed by a local authority. The Council is restating its position in a further letter to the Minister.

#### PUBLIC HEALTH APPOINTMENTS.

184. From 18th June, 1927, up to and including 16th June, 1928, the Association has dealt with matters relating to 206 appointments under the Scale of Minimum Commencing Salaries for Whole-Time Public Health Appointments. In 180 of these the scale salary has either been offered or secured after negotiation, which shows a distinct improvement on the two previous years the figures for which were 1925-26 (first year of operation of scale) 173 appointments dealt with, 138 of which were in accordance with scale; 1926-27, 180 appointments dealt with, 151 of which were in accordance with scale.

#### POOR-LAW APPOINTMENTS.

185. During the session the Association has advised with reference to a number of poor-law medical officer appointments.

#### CO-OPERATION WITH SOCIETY OF M.O.H.

186. During the past session there have been two meetings of the Conference between representatives of the Association and the Society of Medical Officers of Health, at which matters relating to the scale of minimum commencing salaries for whole-time public health appointments have been discussed as well as the question of co-operation between the two bodies.

### National Health Insurance.

#### AMENDING BILL.

(Continuation of para. 127 of Annual Report.)

187. Considerable apprehension has been felt with regard to the possible effect upon the medical profession of the proposals in the new National Health Insurance Bill, at present before Parliament, dealing with additional treatment benefits and their administration. The Third Schedule to the Bill repeals the following Sub-Section 5 of Section 75 of the 1924 Consolidated Act (which was in the original 1911 Act):—

"75. (5) Additional benefits shall be administered by the society or branch of which the persons entitled to the benefits are members, except that where the benefits are in the nature of medical benefit, they shall be administered by and through the insurance committee."

The existence of this section had hitherto been relied upon by the profession as securing that any additional benefits of

the nature of medical benefit should not be administered by approved societies. In order to appreciate the change contemplated under the new Bill, the additional treatment benefits affecting the work of the medical profession are set out in adjoining columns below, as scheduled under the 1924 Consolidated Act and as scheduled under the new Bill.

#### ADDITIONAL BENEFITS.

As scheduled in 1924 Act. As scheduled in new Bill.

1. Medical treatment and attendance for any person dependent upon the labour of a member.

15. Payments to hospitals in respect of the maintenance and treatment therein of members, and the payment of the whole or any part of the travelling expenses incurred by members in travelling to and from the hospital.

17. The payment of the whole or any part of the cost of ophthalmic treatment, other than that provided as part of medical benefit and of the whole or any part of the cost of optical appliances.

20. Such other additional benefits, being of the same character as any of those hereinbefore mentioned, as may be prescribed.

188. An explanatory Memorandum issued by the Ministry of Health pointed out that the additional benefits both previously and as proposed in the new Bill, fell into two classes, namely, those which were of the nature of medical benefit and those which were of the nature of cash payments towards the cost of the provision of treatment. In the first category only one additional benefit was admitted by the Minister to have existed hitherto, namely, medical treatment and attendance on the dependents of insured persons. This particular additional benefit the Bill proposes to abolish, and in these circumstances the Minister pointed out that the necessity for the retention of Section 75 (5) of the 1924 Act no longer existed, whilst on the other hand he would have powers under Clause 14 (3) (7) of the new Bill which would enable him to control the administration of all additional benefits, treatment benefits or otherwise.

189. The Council has always held the view that additional benefits such as ophthalmic benefit, were in the nature of medical treatment, but has had to accept the legal view that they were quite properly administered by approved societies in that they were cash payments by societies on behalf of, or to members. The legal view has been that while in respect of the additional (ophthalmic) benefit an approved society could make these payments towards the cost of the services in question, it could not engage oculists, put them on a panel, and turn its benefit into a free treatment of its members' eyes by these oculists, as such would then be the provision of services or treatment in the nature of medical benefit, within the meaning of above Section 75 (5).

190. If a comparison is made of ophthalmic benefit as scheduled under the old Act, and as now scheduled under No. 13 of the new Bill, it becomes evident that under the new description (the safeguard of Section 75 (5) of the 1924 Act being abolished) approved societies may themselves establish their own clinics for ophthalmic treatment under Clause 13 of the new Schedule and for any other kind of specialist treatment under Clause 16. In this way they might be in a position to select and control staffs, medical and other, and largely to determine the character of the treatment to be carried out. It is true that under the Bill approved societies will be governed by regulations made by the Minister of Health, which the Minister has promised will be submitted to the Association for its consideration prior to their approval. It is conceivable that these regulations would prove acceptable to the profession, but it was considered that the protection hitherto afforded the profession by Section

9. Payments to hospitals in respect of the maintenance and treatment therein of members, and the payment of the whole or any part of the travelling expenses incurred by or in respect of members travelling to and from hospitals.

13. The payment of the whole or any part of the cost of provision of ophthalmic treatment (other than as provided as part of medical benefit) and the whole or any part of the cost of optical appliances.

15. Payments to approved charitable institutions in respect of any treatment of members required for the prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit.

16. Such other additional benefits, being of a character similar to that of any of those hereinbefore mentioned, as may be prescribed.

75 (5) of the old Act was better than any protection likely to be provided under regulations.

191. Steps were, therefore, taken during the Committee stage of the Bill in the House of Commons to have proposed amendments that the words "the provision of" in additional benefit No. 13 be deleted, that the restricting Sub-Section 75 (5) of the 1924 Act be allowed to stand, or so amended as to maintain the principle that when an additional benefit is of the nature of medical benefit, in whatsoever way it may be administered, it shall not be administered by approved societies. Dr. A. V. Davies, a member of the Standing Committee, kindly undertook to propose these amendments but was not successful, as the Minister declined to accept them.

192. Unsuccessful efforts were made to have the same amendments made to the Bill during the Committee Stage of the House of Lords.

The Bill also proposed an entirely new additional benefit, namely, No. 15:—

"15. Payments to approved charitable institutions in respect of any treatment of members required for the prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit."

which was considered would prevent a society from making arrangements whereby the services of practitioners in their private capacity could be made available in respect of any treatment of its members required for the prevention or cure of disease (e.g., ear, nose or throat specialists), at private consulting rooms. Consequently, it was suggested to the Minister that the position foreshadowed might be prevented by the insertion after the word "institutions" in additional benefit No. 15, the words "or to registered medical practitioners under a special scheme approved by the Minister for the purpose," which suggestion the Minister intimated his willingness to accept. During the Committee stage in the House of Commons, however, an amendment was tabled for the inclusion of a further additional benefit, namely:—

"The payment of the whole or any part of medical or surgical or specialist services,"

which the Minister had intimated to the proposers he was prepared to accept, and which he informed the Association, with the addition of the words: "Under a special scheme approved by the Minister for the purpose" would seem better adapted to meet the point made by the Association in connection with additional benefit 15. The new suggestion, however, was not considered completely to meet the point of view put to the Minister and it was pointed out that the word "specialist" had not been used in any additional-benefit clause, that it did not appear to have been used in any National Health Insurance Act, and that it was difficult of definition. It was suggested that it would be preferable if the new additional benefit read as follows:—

"The payment of the whole or part of the cost of medical or surgical treatment or advice by any registered medical practitioner not being treatment within the scope of any other additional benefit or of medical benefit under a special scheme approved by the Minister for the purpose."

which suggestion the Minister accepted, and the additional benefit was passed by the Standing Committee of the House in that form. Efforts were made during the Third Reading of the Bill in the House of Lords, to have additional benefit 16 (No. 15 quoted above) so amended that it should not be capable of adoption by an approved society without payments to private medical practitioners for similar advice and treatment at places other than approved charitable institutions being necessarily allowable at the same time. No success, however, attended these efforts.

193. The additional medical treatment benefits as they now appear in the Bill which only awaits Royal Assent are as follows:—

8. The payment of the whole or any part of the cost of medical or surgical advice or treatment by any registered medical practitioner, not being advice or treatment within the scope of any other additional benefit or of medical benefit, under a special scheme approved by the Minister for the purpose.

10. Payments to hospitals in respect of the maintenance and treatment therein of members, and the payment of the whole or any part of the travelling expenses incurred by or in respect of members in travelling to and from hospitals.

14. The payment of the whole or any part of the cost of the provision of ophthalmic treatment (other than as provided as part of medical benefit) and the whole or any part of the cost of optical appliances.

16. Payments to approved charitable institutions in respect of any treatment of members required for the

prevention or cure of disease, not being treatment within the scope of any other additional benefit or of medical benefit.

17. Such other additional benefits, being of a character similar to that of any of those hereinbefore mentioned, as may be prescribed.

194. The Council considers that the failure to secure the retention of Clause 75 (5) of the present Act, or the deletion of the words "the provision of" in additional benefit 13 is regrettable notwithstanding the Ministry's assurance that the position will be amply safeguarded by regulations. If the present or any other Minister should attempt by regulations, or the absence of them, to hand over the administration of benefits of the nature of medical benefit to approved societies it will, of course, be necessary to organise those members of the profession concerned in a refusal to give service under such conditions in pursuance of the well established policy of the Association, and the Council has no doubt that practical unanimity could be got on a point such as this.

The Council recommends:—

**Recommendation:** That it is essential if the medical profession is to take part in the provision of additional (medical) treatment benefits under the National Health Insurance Acts that these, as in the case of statutory medical benefit, shall be administered in such fashion that the services of the medical profession, who elect to give advice and treatment in connection therewith, shall not be under the control of any approved society or societies.

**Recommendation:** That the position set forth in the above resolution should receive statutory recognition and definition.

#### SICKNESS BENEFIT CLAIMS AND MEDICAL CERTIFICATION.

(Continuation of paragraph 126 of the Annual Report.)

195. Discussions are still proceeding between the Insurance Acts Committee and representatives of the Ministry with respect to the above question. Various data dealing with the large increase in the amount of sickness and disablement benefits have been submitted by the Ministry to the Insurance Acts Committee but so far the Committee is not satisfied that the real causes, or at any rate, all of them have been discovered. One thing, however, is plain that the suggestion that the increase is due solely or even mainly to a sudden and radical change in the methods of certification adopted by insurance practitioners as a whole cannot be accepted as a solution.

The Council will give any assistance in its power to ascertain the causes in co-operation with other parties concerned.

#### NATIONAL INSURANCE DEFENCE TRUST.

196. The Insurance Acts Committee submits herewith for the information of the Representative Body and Divisions, a copy of the audited statement for the year 1927, and statement of the income and expenditure accounts for that year, in respect of the National Insurance Defence Trust.

#### Hospitals.

##### CONFERENCE re CONTRIBUTORY SCHEMES FOR HOSPITAL BENEFIT.

(Continuation of para. 137 of Annual Report.)

197. This Conference was held at the offices of the Association on June 6th, under the Chairmanship of the Chairman of Council, and was extremely well attended as is indicated by the following table:—

	No. of Hospitals.	No. of Representatives.
London ... ..	36	58
Provincial ... ..	117	161
Scotland ... ..	5	7
Ireland ... ..	1	1

A very interesting discussion took place upon the Association's memorandum on contributory schemes for hospitals policy and its pamphlet entitled "Policy affecting Hospitals." It was very encouraging to note how the support of the Association's hospital policy by the medical practitioners chiefly concerned has grown since the inauguration of these Conferences in 1920. A full report of the discussion will be found in the B.M.J. Supplement of 16th June, 1928, pages 258-262, copies of which are being circularised to all voluntary hospitals throughout the country.

#### COTTAGE HOSPITALS AND HOSPITAL POLICY.

198. A pamphlet is being prepared dealing with the application of the Association's Hospital Policy to Cottage Hospitals, special reference being made to the method of payment of medical staffs of cottage hospitals for treatment therein.



## CONTRIBUTORY SCHEMES.

199. A model contributory scheme for hospital benefit is in course of preparation, as it is considered that this will be of assistance in securing the adoption of the policy of the Association in regard to such schemes.

## MIDDLE-CLASS HOSPITAL POLICY.

(Continuation of para. 134 of Annual Report of Council.)

200. Consideration of Minute 219 of the A.R.M. 1927 has been deferred until the report of the "Pay Beds Committee" of King Edward's Hospital Fund for London (referred to in para. 132 of Annual Report of Council) is available.

## Naval and Military.

## CONDITIONS OF SERVICE OF THE ROYAL NAVAL MEDICAL SERVICE.

(Continuation of para. 141 of Annual Report.)

201. At the request of a Division, the Council urged upon the Admiralty:—

(a) That there should be an upper limit in the promotion zone, that is to say, an officer after having served for a period of 18 years should be eligible for promotion for a period extending for 5 years beyond that date, and no longer.

(b) That the regulations dealing with the question of pensions should be amended to provide that in no circumstances should the pension of an officer who was in the Service when the 1919 changes were made, and who was retired with the rank of Surgeon-Commander, be reduced below the pre-war figure of £547. 10s. 0d.

In regard to the first question, the Admiralty informed the Council that when promotion to Surgeon-Captain by strict selection was first introduced, it was laid down that there should be no upper limit to the zone of promotion, since otherwise the effect would have been to debar officers very near the top of the Surgeon-Commander's list by seniority from a chance of being selected for promotion; that it considered that the advantages of this system outweighed any possible disadvantages, and that there will always be a certain number of officers who must be aware that they have practically no chance of promotion, and such officers are at liberty, under existing regulations, to apply to retire, if they wish to start a civilian career before reaching the age of 50.

As regards the second question, the Admiralty lays stress on the facts (i) that the 1919 scheme must be viewed as a whole; (ii) that although rank for rank the increase in the rate of retired pay to medical officers was relatively small compared with other Branches, the effect of the new scales was to enable a Surgeon-Commander (entered at, say, the age of 25) to earn the maximum retired pay of his rank after approximately 23 years' service as compared with 30 years' service under the old rules; and (iii) that, under a concession notified in 1922, officers compulsorily retired for age under the new regulations who were on the Surgeon-Commander's list on the 1st July, 1919, will have retired pay of not less than £547. 10s. 0d. per annum assured to them, whatever changes take place in the cost of living.

On the above grounds the Admiralty does not see its way to adopting the Council's suggestions.

The Council has decided to defer further consideration of the question of promotion for 12 months, and as regards pensions the Council has come to the conclusion that no useful purpose will be served by taking any further steps.

## RE-ORGANISATION OF THE MEDICAL SERVICES IN INDIA: THE FUTURE OF THE INDIAN MEDICAL SERVICE.

(Continuation of para. 139 of Annual Report.)

202. There has recently been issued by the India Office a Communiqué concerning the re-organisation of the Medical Services in India to the following effect:—

(i) that the I.M.S. constituted on the same broad lines as at present will be retained primarily to meet the needs of the Indian Army, the Local Governments being required to employ a stated number of I.M.S. officers in order to maintain the necessary minimum war reserve and to provide for European medical attendance for European officers of the I.C.S. and their families;

(ii) that the total number of I.M.S. officers required for civil employment is calculated at 302, of which 212 will be Europeans and 90 Indians;

(iii) that there will be 237 posts for these officers after allowing for leave and study reserve, 178 of which will be in the provinces and 59 under the Government of India.

These posts will be filled as follows:—

Under Provincial Governments: 178 posts, of which 112 must be held by European officers, the remaining 66 to be open to Europeans or Indians.

Under Government of India: 59 posts, of which 28 will be open to Europeans or Indians, the remaining 31 being open to Europeans only;

(iv) that the medical requirements of European members of the Superior Civil Services are based on data which will change from year to year as the proportion of European to Indian officers gradually diminishes and will be subject, therefore, to periodical revision;

(v) that certain rules will come into force as an integral portion of the scheme. These rules deal with the question of employment on the military and civil sides, and provide *inter alia* that liability to serve on either the military or civil side will be a definite condition of service for all future entrants to the Service.

The civil appointments, which are reserved for I.M.S. officers are scheduled, but the Council notes with deep concern that the posts of Chief Administrative Medical Officers of Local Governments are not included in this schedule. In the opinion of the Council this is a retrograde step and is against the best interests of the Service. It means that adequate opportunities are lacking for reaching high rank in the Service, and this, coupled with the fact that employment on the civil side is now so indefinite, renders the new proposals unsatisfactory.

203. After careful consideration of the whole matter, the Council has informed the Secretary of State for India that the Association is convinced that the new proposals will not attract an adequate number of European medical men so long as:—

(a) the posts of Chief Administrative Medical Officers of Local Governments are not specifically included in the list of appointments reserved for officers of the Indian Medical Service; and

(b) the prospect of employment on the civil side, which is the chief inducement to enter the I.M.S. is as indefinite as it is at present.

## Medical Benevolence.

(Continuation of para. 142 of Annual Report.)

## B.M.A. CHARITIES TRUST FUND.

204. From 1st January to 30th April, 1928, the sum of £919 11s. 3d. was received for distribution among medical charities at the discretion of the Trustees (as compared with £809 for the corresponding period last year), and has been distributed as follows:—

	£	s.	d.
Royal Medical Benevolent Fund ...	450	0	0
Royal Medical Foundation of Epsom College ...	400	0	0
Royal Medical Benevolent Fund Guild ...	50	0	0
Sir Charles Hastings Fund ...	49	11	3

In addition, the following amounts have been collected for and transmitted to the undermentioned Funds, the amounts for the corresponding period last year being also given for the purpose of comparison:—

	1928.	1927.
	£ s. d.	£ s. d.
Royal Medical Benevolent Fund	1,107 6 5	1,074 17 7
Royal Medical Foundation of Epsom College ...	756 6 0	749 0 3
Royal Medical Benevolent Fund Society of Ireland ...	34 10 6	22 19 0
Sir Charles Hastings Fund ...	*94 6 2	*56 16 9

\* Includes contributions from the B.M.A. Charities Trust Fund.

## Oversea Branches.

## WINDWARD ISLANDS MEDICAL SERVICE.

(Continuation of para. 144 of Annual Report of Council.)

205. The Medical Registration (Amendment) Ordinance of 1927 will prevent from practising in the Colony unqualified persons and persons not possessed of qualifications which would permit them to be registered in England. This removes a grievance to which the Association has never ceased to call attention since the original ordinance was passed.

The Secretary of the Grenada Branch having reported that the revenue of the Colony showed a substantial increase per head of a growing population and that the annual deficit had been transformed into a surplus which had permitted of the creation of a reserve fund and of steadily increasing expenditure in public services, the Council has informed the Secretary of State that the Association is disappointed to find that the estimates for the Colony for 1928 make no provision either for an improvement of the scale of salaries of the medical officers or for an increase in the medical establishment. In doing so the Council has called attention to statements by the Secretary of State and statements contained in reports dealing with the Service, which indicated that improvement

in the scale of salaries and increase in establishment should receive attention at the earliest possible moment. A copy of this letter has been forwarded by the Colonial Office to the Governor of the Windward Islands.

#### DELETERIOUS DRUGS ORDINANCE OF STRAITS SETTLEMENTS.

(Continuation of para. 145 of Annual Report of Council.)

206. According to a local newspaper it appears that the regulations under the Deleterious Drugs Enactment (Federated Malay States and Straits Settlements) have been brought into line with the Dangerous Drugs Regulations of the United Kingdom, but official confirmation of this has not yet been received.

#### INDIGENOUS SYSTEMS OF MEDICINE IN CEYLON.

207. The Colonial Office has reported that the Legislative Council of Ceylon has made provision in its estimates for 1927-28 for the sum of Rs.75,000 as a grant for Ayurvedic study.

#### WORK OF THE OVERSEA BRANCHES.

208. The reports of the Australian Federal Committee, of the Federal Council in South Africa, and of practically the whole of the Branches of the Association overseas show a splendid record of activity. The following points are of special interest.

#### AFRICA.

##### The Union of South Africa.

209. The outstanding event of the year has, of course, been the First Annual Scientific Meeting of the Medical Association of South Africa (British Medical Association), held in Bloemfontein. This was attended by the Chairman of the Council of the Association and other home delegates who have reported most enthusiastically on the success of the Congress and the kindness that was shown to them. The Council offers its hearty congratulations to the President of the Congress, Dr. C. H. Bidwell, the Honorary Secretaries, Drs. Alice Cox, Marion Thomson, and Louise Tomory, and the members of the Orange Free State Branch who did so much to secure the success of the Congress. The Federal Council under the Chairmanship of Dr. A. J. Orenstein has been engaged during the year in many matters of the greatest importance to the profession in South Africa. It has been particularly active in placing the organisation of the Branches on a satisfactory footing, many new Divisions have been formed, and the membership has consequently increased considerably. The logical outcome of its action in this connection is a proposal to amend the constitution by creating a House of Delegates which would occupy a position similar in status to that of the Representative Body in this country. The suggestion has wisely been postponed for the time being until the new Constitution has been further tested. The questions of the payment of medical staffs of public hospitals, the training of native medical assistants and the proposed National Insurance Scheme for South Africa are engaging the attention of the Federal Council and are of the first importance. The Council is glad to note that in addition to the great activity shown by the Federal Committee and the Branches in the ordinary work of the Association, the Association in South Africa has during the year increased its Benevolent Fund from £400 to £1,000.

##### South-West Africa.

210. The South-West Africa Branch which works under conditions of distance, climate and travelling difficulties that make organisation extremely difficult, has been successful in securing the extension of the provisions of the Union Medical, Dental and Pharmacy Bill to South-West Africa, and, as a result of this, the unsatisfactory position with regard to the control of medical and pharmacy matters which has existed since the end of the German occupation has been settled.

##### Rhodesia.

211. The Mashonaland Branch is in a flourishing condition and reports a regular series of monthly meetings.

##### East and West Africa.

212. The Kenya and Sierra Leone Branches report a year of successful activities and increased memberships, the former body having held no less than 11 meetings. Practically all the doctors in these areas are members of the Association.

#### ASIA.

##### India.

213. The Bombay Branch has approved a report on the question of registration of midwives in the Presidency. The Branch has also under consideration the question of free and paying treatment in public hospitals, and with its record of activity it is not surprising to find that the Branch membership is steadily increasing.

A new Calcutta Branch has been formed during the year, and there is every indication that the new body will meet a long felt want in the area. The thanks of the Council are given to those members who have made this fresh start in circumstances of great difficulty.

The incidence of tuberculosis in Hyderabad has engaged the serious attention of the Branch there, and a scheme has

been drawn up for the construction of a tuberculosis sanatorium. The Branch has made application to the Government for a grant towards the cost of the Institution, and the remainder of the money required will be raised by voluntary contributions.

The need for a medical organisation has long been felt in the Punjab, and to meet this need the Punjab Branch has recently been revived. Forty-five new members have joined the Branch and a fine programme of scientific meetings at frequent intervals was carried through.

The South Indian and Madras Branch also reports a year of successful activity.

#### Ceylon.

214. The action taken by the Ceylon Branch in connection with the question of indigenous systems of medicine in Ceylon is dealt with in the Council's Annual Report. A record of nine meetings with an increased membership completes a satisfactory year's work.

#### Hong Kong and China.

215. Notwithstanding the unsettled conditions in China, the Hong Kong and China Branch has been active during the year, and a most successful function was recently held at which over 100 medical practitioners were present.

#### Malaya.

216. The Malaya Branch has now its own medical journal which is the official organ of the Branch. The Branch has considered questions relating to the Malayan Medical Service and to the deleterious drugs ordinances of the Straits Settlements. Its membership is now nearly 300, which represents a considerable increase during the year.

#### AUSTRALASIA.

217. The membership of the Association in Australasia is now over 5,000, representing a remarkable increase of over 1,200 in the past five years. The Branches of the Association in Australasia severally and collectively are in an enviable position both as regards numerical strength and influence.

#### Australia.

218. The Australian Federal Committee under the Chairmanship of Sir George Syme has again had before it many matters of importance to the profession in the Commonwealth. The Council is greatly interested to note that the Federal Committee, after considering the question of medical service in public hospitals, has reached the conclusion that in public hospitals which treat as in-patients those who are able to pay in whole or part the cost of maintenance and treatment, the medical staffs should receive payment for their services to those who pay while continuing to treat gratuitously those unable to pay. The Committee discussed with the Australian Pharmaceutical Conference points of mutual interest in connection with the proposed national health insurance scheme. Other matters dealt with include the adoption of a Common Form of Agreement for the use of the whole of the Branches in Australia in connection with Friendly Society Lodge Practice; the drafting of model rules governing procedure in ethical matters; and the adoption of uniform rates for travelling medical officers of life assurance societies.

The membership of the New South Wales Branch again shows a satisfactory increase. No less than 20 meetings were held during the year, the ordinary meetings being arranged with meetings of clinical sections, a system which has been found to work very satisfactorily. Additional land has been acquired for the new premises of the Branch, and the system of B.M.A. Lectures delivered at meetings of local associations outside the metropolitan area has been continued. In connection with the holding of the third Session of the Australian Medical Congress in Sydney in 1929, Sir Alexander MacCormick has been appointed President by the Federal Committee, and the organisation of the Congress is proceeding satisfactorily.

The organisation of the Queensland Branch has been improved by the formation of nine local medical associations during the year. Conference of representatives of country local medical associations and of the Bush Nursing Association have been held for the consideration of the hospital policy of the Branch. The Branch contemplates obtaining new premises, and the questions of finance and a suitable site are now under consideration. A successful post-graduate course lasting over several days, and the formulation, in co-operation with the City Medical Officer of Health, of a scheme of diphtheria immunisation, complete a satisfactory year's work.

The Victorian Branch reports 21 meetings and an increased membership. The report of the Branch for the year covers a wide field of great interest and importance to the profession in Victoria. Numerous ethical problems have again been dealt with; the formation of a Lodge Medical Practitioners' Section of the Branch has been approved, and action has been taken in connection with the salaries of municipal health officers, state medical officers, and resident medical

officers of public hospitals, in the majority of cases with satisfactory results. Owing to the growing importance of the hospital policy of the Association a special Hospitals Committee has been formed to deal with all matters in connection with hospitals. The Medical Agency under the auspices of the Branch continues in a flourishing condition, as does also this British Medical Insurance Company.

The work of the Council of the Western Australian Branch has been particularly heavy during the year. The new provisions of the Workers' Compensation Act having entailed careful consideration.

#### Tasmania.

219. The Tasmanian Branch reports an improvement in the amount of clinical work that has taken place at meetings of the Branch. The post-graduate work of the Branch has been continued and several important ethical questions have been decided.

#### New Zealand.

220. The New Zealand Branch reports an increase of 45 in its membership. During the year, the Branch took steps for its Incorporation, and the Council extends to the Branch its best wishes for continued success under the new regime under which the corporate status of the Branch will be improved. The Branch has now received, from Dr. MacEachern, who, in 1926, made a tour of the hospitals in New Zealand at the request of the Branch, a comprehensive report on the whole situation. The report will be a valuable source of reference and the Branch is in communication with the Government with a view to publication and circulation of the report.

The Executive Committee of the Branch has been in frequent communication with the Government on matters bearing on the health of the community; the newly-formed Obstetrical Society, which aims at enrolling all members of the Association in New Zealand actively engaged in obstetrical work, has been affiliated to the Branch; the Medical Agency, the net profits of which belong to the members of the Branch continues to fulfil its useful purpose, and the Medical Benevolent Fund has now reached the satisfactory total of nearly £7,000.

#### WEST INDIES.

221. The Jamaica Branch, the oldest of the Overseas Branches of the Association celebrated its Jubilee in December. The Council, on behalf of the whole membership of the Association, extends to the Branch hearty thanks for past good work, congratulations on the jubilee and best wishes for increasing usefulness of the Branch to the profession in Jamaica.

H. B. BRACKENBURY, Chairman.

#### APPENDIX.

##### NATIONAL INSURANCE DEFENCE TRUST.

(A) Balance Sheet, 31st December, 1927.

##### LIABILITIES.

	£	s.	d.
To Capital Account:			
Balance 31st December, 1926	104,585	4	11
Add Excess of Income over Expenditure	22,887	6	9
	127,472	11	8

##### ASSETS.

	£	s.	d.
By Investments represented at average cost by:—			
£2,500 Central London Railway 4½% Debs.	2,325	0	0
£5,000 Commonwealth of Australia 5% 1935-45	4,906	5	0
£5,000 Commonwealth of Australia 5% 1945-75	5,090	0	0
£15,000 Consolidated 2½% Stock	8,262	10	0
£10,000 Consolidated 4% Stock	8,560	0	0
£15,000 Conversion 3½% Stock	11,603	2	6
£10,000 Conversion 4½% Stock	9,770	0	0
£12,000 Funding Stock 4% 1950-90	10,360	12	6
£10,000 India 5½% Stock 1932	10,175	0	0
£5,000 India 3½% Stock	3,518	15	0
£5,650 National War Bonds 3rd Series 1928	5,881	8	1
£9,050 New Zealand 5% Stock 1935-45	5,106	5	0
£5,000 New Zealand 4½% Stock 1944	4,868	15	0
£5,000 New South Wales 5% Inscribed Stock 1935-55	4,771	17	6
£5,000 New South Wales 4½% Stock 1935-45	4,690	12	6
£5,000 Queensland 5% Inscribed Stock 1940-60	4,662	10	0
£1,500 Treasury Bonds 5½% 1930	1,530	0	0
£11,250 War Loan Bearers Bonds	9,993	12	6
£5,000 Victorian Government 3% Consol. Stock 1929-49	3,615	12	6
(Market Value at 31st December, 1927, £122,245)			
By Loans—			
British Medical Association	6,500	0	0
Essex Public Medical Service	£400	0	0
Less: Repayment	£50	0	0
	350	0	0
	6,850	0	0
By Cash at Bank	1,010	13	7
	127,472	11	8

We have examined the above Balance Sheet with the books of the Trust, and find them to be in accordance therewith.

We have verified the Investments and Bank Balances.

(Signed) PRICE, WATERHOUSE & CO.

3, Frederick's Place, Old Jewry, London, E.C.2,  
March 29th, 1928.

#### (B) Income and Expenditure Account for the Year ending 31st December, 1927.

	£	s.	d.		£	s.	d.
To Repayment to B.M.A. of Expenses in connection with				By Subscriptions	10,176	4	6
(a) Annual Conference of Local Medical and Public Committees, and election of direct representatives on Insurance Acts Committee				Dividends and Interest on Investments	4,070	0	0
(b) Railway Fares of Insurance Acts Committee, Sub-Committees and Deputations, and				Interest on Loans	200	10	0
(c) Reprinted record cards and reply envelopes	214	17	4	Deposit Interest	7	9	6
Accountants' Fees in connection with statistical information supplied to the Insurance Acts Committee	5	5	0				
Preparation of Addressograph Links for monthly issue of envelopes to practitioners furnishing statistics	4	5	7				
Income Tax on Bank Interest and untaxed Dividends	51	0	0				
Miscellaneous Printings and Stationery	41	3	0				
Bank Charges	16	8	0				
Railway Fares	5	1	8				
Postages	70	0	0				
Audit Fee	10	10	0				
Petty Cash	31	3	0				
Salary of Clerk	26	5	0				
Charges incurred in purchase of stock	60	10	0				
Balance of Income over Expenditure	22,887	6	9				
	£23,550	4	0		£23,550	4	0

#### British Medical Association.

##### CURRENT NOTES.

##### Spa Practitioners Group: Annual Conference.

THE attention of members of the Spa Practitioners Group of the Association is drawn to the fact that the first annual conference of this Group will be held during the course of the Annual Meeting at Cardiff on Wednesday, July 25th, at 2.30 p.m.. Every member of the Association who regularly prescribes the mineral waters or baths of the spa in which he resides, or who is on the staff of a hospital or clinic where the use of local mineral waters is part of the routine treatment is *ipso facto* a member of the Group.

##### Consulting Pathologists Group of B.M.A.: Annual Conference.

The first annual conference of the Consulting Pathologists Group will be held at Cardiff on Wednesday, July 25th, at 4.30 p.m., upon the conclusion of the Spa Practitioners Group Conference (referred to above). Every member of the Association (not being a member of the Public Health Service) who is working in an institution or private pathological laboratory engaged in examining and reporting on specimens for clinical purposes is *ipso facto* a member of the Group.

#### Association Notices.

##### EAST YORKS AND NORTH Lincs BRANCH: EAST YORKSHIRE DIVISION.

NOTICE is hereby given by the Council to all concerned that the East York and North Lincoln Branch and the East York Division of that Branch, respectively, propose that their names be altered to East Yorks and North Lincs Branch, and East Yorkshire Division. Any body or person affected by either of these proposals, and objecting thereto, is requested to notify the Medical Secretary, stating reasons, by not later than July 30th.

## TABLE OF DATES.

July 20, Fri.	Annual Representative Meeting, Cardiff, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Cardiff) by this date, 2 p.m.
July 21, Sat.	Annual Representative Meeting, Cardiff.
July 23, Mon.	Council, Cardiff.
July 24, Tues.	Annual Representative Meeting, Cardiff. Annual General Meeting, Cardiff, President's Address.
July 25, Wed.	Council, Cardiff. Conference of Honorary Secretaries, Cardiff.
July 26, Thurs.	Meetings of Sections, etc., Cardiff.
July 27, Fri.	Meetings of Sections, etc., Cardiff.

ALFRED COX, Medical Secretary.

## BRANCH AND DIVISION MEETINGS TO BE HELD.

**DORSET AND WEST HANTS BRANCH.**—The summer meeting of the Dorset and West Hants Branch will be held at the Church House Hall, Wimborne, on Wednesday, July 4th, at 3 p.m., when Mr. Rooke, president, will take the chair. Agenda: Communications; time and place of next meeting. Papers:—Dr. Whitaker: "Historical theories of the cardio-vascular system"; Dr. Luker: "Haemorrhage in early pregnancy." Lunch (price 2s. 6d.) can be obtained at the King's Head Hotel. Dr. Le Fleming invites visiting members to tea at his house after the meeting.

**DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.**—The annual social meeting of the Bournemouth Division will be held on Saturday, July 14th, when a visit will be paid to the Pitt Rivers Museum, Farnham, Blandford, to be followed by tea at Larua Tree Grounds, Tolland Royal.

**EAST YORKS AND NORTH LINCOLN BRANCH.**—The seventy-second annual meeting of the East Yorks and North Lincoln Branch will be held at Driffield on Wednesday, July 18th, at 1.15 p.m. Business: Amended draft by-laws; annual report and financial statement for 1927; election of officers for 1928-29. The president (Dr. Erc) will introduce the new president (Dr. Nelson), who will then take the chair. Luncheon will be served at the Bell Hotel at 1.30 p.m., after which he will deliver his introductory address. An excursion is being arranged to some place of interest in the neighbourhood. The president and Mrs. Nelson kindly invite members and their wives to afternoon tea in the hotel at 4.45.

**LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.**—A meeting of the Southport Division will be held at 52, Hoghton Street, Southport, to-day (Friday, June 29th), at 8.30 p.m. The main business is to discuss the Annual Report of Council. It is hoped that every member will make an effort to be present.

**METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.**—The next meeting of the Hendon Division will be held at Hendon Cottage Hospital to-day (Friday, June 29th), at 8.30 p.m. Agenda: Clinical meeting, cases and specimens will be shown by Drs. B. B. Morley, J. W. Ensor, R. Hunt Cooke, and Mr. L. G. Phillips; consideration of Supplementary Report. Dr. and Mrs. H. R. S. Walford have extended an invitation to members of the Division and their friends to view, from their grounds at Hendon Grove, the Air Pageant on Saturday, June 30th, at 2.30 p.m.

**METROPOLITAN COUNTIES BRANCH: ST. PANCRA'S DIVISION.**—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, July 10th, at 9 p.m. Dr. W. Camae Wilkinson will read a paper on the home treatment of tuberculosis by the general practitioner.

**METROPOLITAN COUNTIES BRANCH: WANDSWORTH DIVISION.**—The second meeting of the Wandsworth Division to consider the Koch diagnosis and treatment of tuberculosis by means of tuberculin, together with a proposal for a collective investigation into the subject, will be held in the Town Hall, Wandsworth, to-day (Friday, June 29th), at 9 p.m. Dr. Carswell will read a paper entitled "Treatment, and a proposal for a collective investigation." The meeting will be open to all members of the medical profession.

**NORFOLK BRANCH.**—The annual meeting of the Norfolk Branch will be held at the Town Hall, Aylsham, on Thursday, July 5th, at 3 p.m. Agenda: Report of the Branch Council and annual financial statement; induction of the new president, Dr. B. E. Sapwell, by the retiring president, Sir Hamilton Ballance, K.B.E., C.B.; election of officers; an address by Mr. Vivian Carter, British secretary of Rotary International, on the diagnosis of personality. Tea (to which ladies are invited) at 4.30 p.m. at the Grange, Aylsham, by invitation of Dr. Sapwell and Miss Sapwell.

**NORTHERN COUNTIES OF SCOTLAND BRANCH.**—The annual meeting of the Northern Counties of Scotland Branch will be held at the Station Hotel, Kyle of Lochalsh, on Saturday, June 30th, at 2.5 p.m. Business: Report of election of officers of Branch; report of Branch Council and annual financial statement. Before the meeting members and their guests will lunch together at the hotel at 12.30 p.m. After the meeting there will be an opportunity for those who wish to play golf, and motor boat cruises are also being arranged. For members coming by road who do not wish to take their cars across Dornie Ferry, motor transport will be arranged from there to Kyleakin, leaving the west side of the ferry at 11.45 a.m.

**NORTHERN COUNTIES OF SCOTLAND BRANCH: ISLANDS DIVISION.**—The general meeting of the Islands Division will be held on Saturday, June 30th, in the Station Hotel, Kyle of Lochalsh, at 10.30 a.m., to elect officers and Executive Committee.

**NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.**—The annual meeting of the North Lancashire and South Westmorland Branch will be held on Tuesday, July 3rd, at 3.15 p.m., in the Ethel Hedley Hospital, Calgarth (by kind permission of Dr. Hough and the Governors of the Hospital). Dr. J. Lang Cochrane will deliver his presidential address. Ladies are invited, and a boat on Lake Windermere will be placed at their disposal.

**NORTH WALES BRANCH.**—The annual meeting of the North Wales Branch will be held at the North Wales Sanatorium, Llangwffan, Denbigh, on Friday, July 6th. The council of the Welsh National Memorial Association and the house committee of the sanatorium will entertain the members to lunch, and a tour of the institution will be made. Agenda and further particulars will be announced later, but members are requested to make a note of the date as a large attendance is hoped for.

**SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.**—The annual meeting of the Bedfordshire Division will be held at the Swan Hotel, Bedford, on Wednesday, July 4th, at 3 p.m. Agenda: Annual report for 1927; election of officers; Supplementary Report of Council; address by Sir Maurice Craig entitled "Some points in the treatment of nerve exhaustion." Tea will be provided. The chairman invites the members to luncheon at the Swan Hotel at 1.15 p.m. An Executive Committee meeting will be held at 2.30.

**SURREY BRANCH: CROYDON DIVISION.**—A general meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, July 3rd. Dr. G. E. E. Brayne-Nicholls will take the chair at 8.30 p.m. Agenda: Correspondence; formation of Charities Committee; to instruct representatives in Representative Body.

**YORKSHIRE BRANCH: SHEFFIELD DIVISION.**—The Executive Committee of the Sheffield Division have decided to welcome the successful students at the final M.B. examination, including those who have qualified since June, 1926, at a luncheon to be held at the Royal Victoria Hotel, Sheffield, on Wednesday, July 4th, at 1.15 p.m. The luncheon is open to all members of the Sheffield Division. Tickets, 6s. each (without wine). A general meeting will be held at the Church House, St. James Street, Sheffield, on Friday, July 6th, at 8.30 p.m. Agenda: Annual Report of Council and instruction of representatives. It is hoped that there will be a large attendance.

## Meetings of Branches and Divisions.

## BOMBAY BRANCH.

The annual meeting of the Bombay Branch was held on May 23rd at the Pathological Laboratory of the Grant Medical College, when Dr. Row was in the chair. At the outset Dr. Row referred in feeling terms to the great loss sustained by the medical profession and the Bombay Branch by the untimely death of Dr. A. K. Contractor, and a resolution of condolence was adopted.

The meeting considered the rules regarding eligibility as representative of the Branch to the Annual Meeting of the British Medical Association. Draft rules submitted by the Branch Council for guidance in electing a representative to the Annual Meeting were approved as suggestions.

Dr. NUNAN, at present in England, was unanimously elected as representative in the Representative Body.

The SECRETARY having read the annual report, Dr. Row traced the history of the resuscitation of the Branch about two years ago. He thanked his colleagues, especially the secretaries, Drs. Yodh and Bana, who, he said, had carried on the work under great difficulties. The report was unanimously adopted, as were also the accounts.

The following officers were elected for the year 1928-29: President, Lieut.-Colonel A. F. Hamilton, I.M.S. Vice-Presidents, Major S. K. Engineer, O.B.E., and Dr. J. E. Sandilands, M.C. Joint Honorary Secretaries and Treasurers, Dr. F. D. Bana and Dr. B. B. Yodh.

Colonel HAMILTON, having been inducted in the chair, thanked the members for electing him as president, and a vote of thanks to the retiring president was passed unanimously.

NOTICES OF MOTION BY DIVISIONS FOR THE  
ANNUAL REPRESENTATIVE MEETING,  
CARDIFF, 1928.

## Scheme for Co-ordination of Hospital Provision.

By CAMBERWELL: That (with reference to the recommendation contained in para. 135 of the Annual Report of Council) the "scheme for co-ordination of hospital provision" reported in Appendix VII, in as far as it concerns the public hospital, be referred back to the Council for further consideration.

## Secret Remedies.

By LANCASHIRE AND CHESHIRE: That the Representative Body instruct the Council to consider the advisability of resuming the investigation into the composition of secret remedies and the publication of the results.

## Pathological Reports.

By SOUTH STAFFORDSHIRE: That subpara. (3) of the recommendation contained in para. 117 of the Annual Report of Council be amended by the addition of the words "and where no hospital facilities exist for the provision of pathological investigations for such patients" after the words "pay a fee."

## VACANCIES.

ASHTON-UNDER-LYNE: DISTRICT INFIRMARY.—Third House-Surgeon. Salary at the rate of £150 per annum.

BOMBY: CALA AND ALBLES HOSPITAL FOR WOMEN AND CHILDREN.—Medical Officer in Charge (lady). Remuneration Rs.800—50—1,000 per mensem for officer of Asiatic domicile, and Rs.600—50—800, plus £20 per mensem as overseas pay for officer of non-Asiatic domicile.

BRAFDORD CITY: Assistant School Medical Officer (male). Salary £600 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Surgeon (male). Salary £150 per annum.

BURTON-ON-TRENT GENERAL INFIRMARY.—Senior Resident House-Surgeon. Salary £200 per annum.

CARDIFF ROYAL INFIRMARY.—Honorary Surgeon to the Ear, Nose, and Throat Department.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—(1) Pathologist; honorarium £75 per annum. (2) Junior House-Surgeon; salary at the rate of £50 per annum.

CITY AND CORPORATION OF KINGSTON-UPON-HULL AND HULL AND GOOLE PORT SANITARY AUTHORITY.—Assistant Medical Officer of Health. Salary £600 per annum, rising to £700.

DEVON MENTAL HOSPITAL, Exminster.—Junior Assistant Medical Officer (male, unmarried). Salary £300 per annum, rising to £350.

EDINBURGH: ELISIE INGLIS MEMORIAL MATERNITY HOSPITAL.—Two House-Surgeons (women).

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) House-Surgeon. (2) House-Physician. (3) Junior House-Surgeon (non-resident). Women.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers

ESSEX COUNTY HOSPITAL, Colchester.—Assistant House-Surgeon and Registrar (male). Salary £120.

GRAYSHEAD AND NORTH KENT HOSPITAL.—Junior House-Surgeon. Salary £100 per annum for nine months, rising to £200 on appointment as Senior.

HARTLEPOOL HOSPITAL.—House-Surgeon (male). Salary £150 per annum, rising to £200.

HICKMAN AND STOKES NEWINGTON TUBERCULOSIS DISPENSARY, Metropolitan Hospital, Kingsland Road, E.8.—Tuberculosis Officer. Salary £750 per annum, rising to £850.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—House-Physician. Honorarium £50 for six months.

HOVE: LADY CHICHESTER HOSPITAL.—(1) House-Physician. (2) Junior. Women. Salary at the rate of £100 and £50 per annum respectively.

KEYINGTON BOROUGH.—Temporary Tuberculosis Officer at the Kensington Tuberculosis Dispensary, 119, Ladbroke Grove, W.11. Honorarium 35 guineas.

LAKESHIRE COUNTY COUNCIL.—Junior House-Surgeon (woman) at the Biddulph Grange Orthopaedic Hospital. Salary £150 per annum.

LEADS PUBLIC DISPENSARY.—(1) Honorary Physician. (2) Senior Resident Medical Officer (male); salary £200 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Honorary Radiologist.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.—Research Studentship in Helminthology. Value £250 per annum.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House-Surgeon (male). Salary £120 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—Two House-Surgeons for Whitworth Street West Hospital (Maternity) and two for the Whitworth Park Hospital (Children and Gynaecology). Salary at the rate of £50 per annum each.

MANCHESTER UNIVERSITY.—Reader in Materia Medica and Therapeutics. Stipend £800 per annum.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Honorary Surgical Assistant.

NEWARK HOSPITAL AND DISPENSARY.—Resident House-Surgeon (male). Salary at the rate of £150 per annum.

NOTTINGHAM: CITY MENTAL HOSPITAL.—Junior Assistant Medical Officer (male). Salary £350 per annum, rising to £400, with an additional £50 for D.P.M., and £10 for M.P.C.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Resident Surgical Officer (male). Salary at the rate of £100 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (3) Third House-Surgeon. Salaries £150 per annum.

RICHMOND, SURREY: ROYAL HOSPITAL.—Junior House-Surgeon (male). Salary £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Junior Clinical Assistants.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, etc., City Road, E.C.1.—Resident Surgical Officer (male). Salary £150 per annum.

ST. MARY'S HOSPITAL, W.2.—Dental Surgeon.

ST. VINCENT'S ORTHOPAEDIC HOSPITAL, Eastcote.—Resident Medical Officer (male). Salary at the rate of £150 per annum.

SALFORD ROYAL HOSPITAL.—House-Physician (male). Salary at the rate of £125 per annum.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—(1) Senior Resident Officer (male); salary £250 per annum. (2) Three Assistant House-Surgeons (male) for Gynaecological and Maternity Departments; salary at the rate of £100 per annum.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary £250 for first year, rising to £300 for second year.

SURREY COUNTY COUNCIL.—(1) Deputy County Medical Officer of Health. (2) Assistant Medical Officer. Salary for (1) £1,000 per annum; and for (2) £600 rising to £700.

TANTON AND SOMERSET HOSPITAL.—Junior House Medical Officer (male). Salary at the rate of £100 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, S.W.3.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £100 per annum each.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Resident Assistant Surgeon. Salary £200 per annum.

WORKING AND DISTRICT VICTORIA HOSPITAL.—Orthopaedic Surgeon.

WORTHING HOSPITAL.—House-Surgeon (male). Salary at the rate of £150 per annum.

WOOLWICH UNION.—Second Assistant Medical Officer at the Plumstead and District Hospital (male, unmarried). Salary £350, rising to £400.

WREXHAM AND EAST DENBIGHSHIRE WAR MEMORIAL HOSPITAL.—Two Resident House-Surgeons (male). Salary at the rate of £100 per annum each.

YORK: THE RETREAT.—Temporary Assistant Physician (male). Salary six guineas weekly.

MEDICAL REFERRITS UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for (1) the Inverness (Midland) District, and (2) the Wick District. Applications to the Private Secretary, Scottish Office, Whitehall, S.W.1. by July 10th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

## DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.  
Annual General Meeting.—Tues., 4 p.m.  
General Meeting of Fellows.—Tues., 5.20 p.m.

HARVEY SOCIETY, Guy's Hospital, S.E.—Thurs., 4.30 p.m., Demonstrations in the Cardiological, Bacteriological, and X-Ray Departments.  
MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Annual General Meeting, followed by ordinary meeting. Mr. Noel Middleton: Testamentary Capacity.

## POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Brookley Hill Country Orthopaedic Hospital*: Demonstration, Tues., 11.30 p.m., if ten post-graduates notify their intention to be present (telephone Mayfair 2246); no fee. *Royal Westminster Ophthalmic Hospital*, Broad Street, W.C.2: Demonstration, Thurs., 3 p.m.; no fee. *Charing Cross Hospital*, W.C.2: Demonstration, Fri., 2 p.m.; no fee. *West End Hospital for Nervous Diseases*, Welbeck Street, W.: Special Course of Lectures and Clinical Demonstrations upon selected cases at 5 p.m. daily. Tickets from the Fellowship of Medicine, 1, Wimpole Street, W.1.  
NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ST. PAUL'S HOSPITAL, Endell Street, W.C.2.—Thurs., 4.30 p.m., Hydro-nephrosis.

JOINT TUBERCULOSIS COUNCIL.—Special Course at Cambridge, Mon. to Sat.

LIVERPOOL UNIVERSITY CLINICAL SCHOOL. ANAT-OMICAL CLINICS.—Royal Infirmary: Mon. and Thurs., 10.30 a.m. Maternity Hospital: Mon. Tues., Wed., Thurs., and Fri., 11.30 a.m.

## British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE,  
TAVISTOCK SQUARE, W.C.1.

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SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager). Telegrams: Articulate Westcent, London.

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EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and *British Medical Journal*, Museum 9351, 9352, 9363, and 9364 (internal exchange four lines).

SCOTTISH MEDICAL SECRETARY: 7, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 2351 Edinburgh.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

## Diary of the Association.

## JULY.

- 3 Tues. Croydon Division: Croydon General Hospital, 8.30 p.m.  
North Lancashire and South Westmorland Branch: Annual Meeting, Ethel Hedley Hospital, Calgarth, 3.15 p.m.
- 4 Wed. Bedfordshire Division: Annual Meeting, Swan Hotel, Bedford.  
Sir Maurice Craig on Nerve Exhaustion, 3 p.m. Luncheon, 1.15 p.m. Executive Committee, 2.30 p.m.  
Dorset and West Hants Branch: Church House Hall, Wimborne, 3 p.m.
- 5 Thurs. Sheffield Division: Luncheon to welcome successful Students at Final M.B., Royal Victoria Hotel, Sheffield, 1.15 p.m.  
London: Psycho-Analysis Committee, 2 to 4 p.m.  
Norfolk Branch: Annual Meeting, Town Hall, Aylham, 3 p.m.
- 6 Fri. London: National Formulary Subcommittee, 11.30 a.m.  
North Wales Branch: Annual Meeting, North Wales Sanatorium, Llangwyfan, Denbigh.  
Sheffield Division: Church House, St. James Street, Sheffield, 8.30 p.m.
- 10 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. W. Canale Wilkinson on the Home Treatment of Tuberculosis by the General Practitioner, 9 p.m.
- 14 Sat. Bournemouth Division: Social Meeting, Pitt Rivers Museum, Farnham, Blandford.

## BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 2s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

## MARRIAGES.

MONCRIEFF-WEDMORE.—On June 20th, at All Saints, Clevedon, Somerset, Alan Moncrieff, M.D., M.R.C.P., to Honor, only child of Mr. and Mrs. Cecil Wedmore.

WALKER-DARNTON.—At St. Michael's and All Angels, Carleton, near Pontefract, on June 19th, 1928, George Frederick Walker, M.D., M.R.C.P., late Resident Medical Officer, the General Infirmary at Leeds, to Alma, elder daughter of Mr. and Mrs. Herbert Darnton of Carleton.

## DEATH.

WILLIAMS.—At Villerville, on June 18th, Richard Tudor Williams, M.B., B.S. Lond., of Llandfairfechan and of Plas-y-Ward, Ruthin.



THE  
**British Medical Journal.**

THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

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JANUARY TO JUNE, 1928.

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F. W. W. GRIFFIN, M.D.,  
SUB-EDITOR.

London :

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# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 1. Etiology of Migraine.

J. S. DIAMOND (*Amer. Journ. Med. Sci.*, November, 1927, p. 695) enumerates the various views that have been held as to the causation of migraine, and states that no scientific data have ever been collected to indicate a definite lesion or cause. The belief that the liver is responsible for this ailment has been long held, and the introduction and established utility of liver function tests have enabled the testing of its validity. Diamond performed a series of tests on 35 carefully chosen patients, cases in which other pathological processes were found and cases of symptomatic migraine being excluded. Of these patients 21 were female and 14 male; their ages ranged from 19 to 46. In over two-thirds there was a history of onset in the first and second decade, the remainder being in the third. Nearly all gave a familial history, the transmission being usually through the mother. The frequency of attacks varied from four to six weeks to once or twice a week. Headache of hemispherical type was present in all the cases, which were placed in three groups: in Group A (12 cases) the headache was of purely cephalic type without digestion upset; in Group B (15 cases) it was associated with nausea and vomiting, the so-called bilious attack; and in Group C (8 cases) the gastric and abdominal symptoms predominated. Complete examinations were made in each case, the tests including the estimation of bilirubin in the serum and of urobilinogen in the urine. The results indicated a definite liver disturbance; in 91 per cent. of the cases there was a bilirubin retention of 1 to 5 units (normal 0.4 to 0.8 unit). The urobilinogen was also increased from 1 to 35 up to 1 to 200 (normal about 1 to 20). The reactions were lowest in Group A and highest in Group C. Constipation of the spastic type, fatigue, strain, emotional factors, and sexual excesses were found to precipitate an attack. The development of an attack following the ingestion of animal protein during a period of constipation leads to a theory of intestinal toxæmia, and Diamond advances the hypothesis that migraine is due to the inability of the liver to detoxicate putrefactive substances derived from animal protein in the intestinal canal. Weight is added to this view by the marked beneficial results following the addition to the intestinal flora of *B. acidophilus*, and avoiding intestinal putrefaction. This was accomplished by withdrawing all forms of animal protein from the food, by placing the patient on a strict lacto-vegetarian diet, and by overcoming the spastic constipation so as to secure copious daily evacuations.

### 2. Injection of Veins in Arthritis Deformans.

In a series of 5,000 joint lesions of various kinds A. ZIMMER (*Med. Welt*, October 1st, 1927, p. 1310) found that a large number of patients suffered from arthritis deformans of the knee-joint with crepitation on movement, and marginal proliferation of the joint surfaces shown in the skiagram; effusion, however, was rare. When this condition was associated with varicose veins in the neighbourhood of the affected joint marked relief of such symptoms as difficulty in walking or standing up after sitting, rapid fatigue in the joints, and increased pain at night and during changeable weather, was obtained when the varicose veins were treated by injection, even though other forms of treatment had previously been without effect. One of the larger veins below the knee and as near as possible to it was chosen for injection; the veins draining away from it were compressed, the site of injection frozen with ethyl chloride, and 3 to 4 c.cm. of a 20 per cent. saline solution (varicophlin) were injected slowly into the vein from a record syringe. The pressure on the veins central to the site of injection was then released and after ten further minutes in the recumbent position the patient was allowed to return home. When pain developed in the veins during the first few days wet compresses were found useful. If necessary other veins were injected later. The possibility of an etiological connexion between the varicose veins and the joint lesion is being investigated. In another group of cases, in which a chronic arthritis of one or both knees was associated with obesity in women at about the menopause, Zimmer found that considerable improvement in the joint symptoms was produced by pluri-glandular endocrine therapy and dieting without local treatment even before any appreciable reduction in weight had occurred. Estimations of endocrine activity on the lines of Abderhalden's reactions were performed on these patients before and after treatment independently of the clinical findings, and the

curves compared with the "normal" deduced from a series of 1,400 observations. The relative value obtained for the various endocrine glands was considered of more importance than the absolute value of each. The majority of the curves were abnormal at the beginning of treatment and approached the normal as the joint symptoms subsided under endocrine treatment. Though the value of the estimations of endocrine activity is disputed by some workers Zimmer considers that they are distinctly useful, if due precautions are taken, and his observations demonstrate that endocrine disturbance may be an important etiological factor in one type of arthritis.

### 3. Sandfly Fever.

ACCORDING to S. V. VISKOVSKY and V. P. PETROV (*Meditsinskaya Mysl Uzbekistana*, September, 1927, p. 5), phlebotomus, or sandfly fever, which assumes epidemic form in Central Asia in the summer months, is due to a virus which is neurotropical and affects mainly the sympathetic nervous system. At first it circulates freely in the blood and is only subsequently fixed in the nervous tissue. The fever is transmitted by mosquitoes of the genus phlebotomus (*P. papatassii*, *perniciosus*, *caucasicus*, *li. minutus*). Systematic investigations of the cerebro-spinal fluid and of the blood pressure, as well as clinical observations, show that the actual duration of the fever is not less than two to three weeks, but the disease presents two periods—a short one characterized by an acute febrile attack, and a long afebrile period accompanied by general weakness, bradycardia, disorders of the vegetative nervous system, and increase of the intracranial pressure.

### 4. Transient Hemiplegia.

H. W. FLANNING and H. C. NAFFZIGER (*Journ. Amer. Med. Assoc.*, October 29th, 1927, p. 1484) state that transient hemiplegia is most often encountered in the aged whose vessels are sclerosed, and is rare in younger individuals whose vascular system has retained its maximum elasticity. The usual explanation, therefore, of transient hemiplegia by a vascular spasm causing a temporary localized cerebral anaemia is improbable, since spasm is unlikely to occur in thickened and hard vessels. A more probable explanation of transitory hemiplegia is cerebral anaemia due to a fall of the general blood pressure or of the venous pressure below the patient's optimum. This view is supported by the frequency of transient hemiplegia or aphasia during a meal when splanchnic dilatation with a drop of venous pressure causes a cerebral anaemia. Lowering of the blood pressure, therefore, in cases of transient hemiplegia is a dangerous measure, and should be avoided.

## Surgery.

### 5. Prognosis and Treatment of Giant-cell Sarcoma.

W. B. COLEY (*Annals of Surgery*, November, 1927, p. 641) considers that giant-cell sarcomas are usually benign and only locally malignant, but in a few cases they have the clinical features of a malignant tumour, causing death by metastases, and so should be classed as ordinary sarcoma. In the majority of cases the clinical and x-ray evidence permits a correct diagnosis to be made, but this is not always possible. Most of these tumours can be cured by enucleating and carbolic acid or zinc chloride. If the disease recurs repeated enucleating may be necessary. When a pathological fracture develops amputation is often obligatory. Giant-cell sarcoma can definitely be destroyed by radiation; the time required, however, is longer than in the case of operation, and so the period of disability is prolonged. It is possible to cure benign giant-cell sarcoma, and even advanced borderline cases, by injection of the mixed toxins of erysipelas and *B. prodigiosus* without other treatment; also it is possible to cure these cases by a combination of toxins and radiations or toxins and enucleating. The most rapid and certain method is by enucleating, followed by toxins; this requires a much shorter time, is not associated with greater risk, and so is the method of choice.

### 6. Pulmonary Abscess following Tonsillectomy.

A. OCHSNER and W. NESBIT (*Arch. of Otolaryngol.*, October, 1927, p. 330) discuss the mode of infection of the lungs when tonsillectomy is followed by pulmonary abscess. Moore had collected over 200 cases, and it was found that in nearly one-fifth the operation had been performed under local anaesthesia. The transfer of the infection must be by the

lymphatics, the cardio-vascular system, or by the tracheo-bronchial tree. Since the lymphatic drainage of the tonsillar region passes directly into the venous stream at the junction of the subclavian and internal jugular veins, infection could not travel from the tonsil by the lymph stream to the lungs. It has been shown that if infected emboli are placed in the internal jugular vein a pulmonary abscess inevitably results; attempts to produce the same result by deliberately infecting the tonsillectomy wounds in dogs have been unsuccessful. These experiments have indicated that the cardio-vascular system is not the line of infection of the lung. The aspiration theory of transference of septic material by the tracheo-bronchial tree is supported by the fact that every abscess following tonsillectomy is in open communication with a bronchus, and the cavity is lined with epithelium in part at least. The problem how the infected material passes the defences of the lung at the glottis appears to be elucidated by the fact that when the anterior pillars of the fauces or the peritonsillar region is anaesthetized by cocaine the act of deglutition is so deranged that the larynx is not raised up behind the back of the tongue, and material tends to pass through the larynx into the trachea. This has been watched in the human subject by anaesthetizing this region and using iodized oil. The authors are convinced that post-operative pulmonary abscesses are due to aspiration of septic particles.

7.

#### Gastric Linitis.

P. OURY (*Journ. de Méd. et de Chir. Prat.*, November 10th, 1927, p. 772) reports three cases of this rare form of gastric carcinoma and discusses its etiology and development. The symptoms as a rule are slow in appearing and at first do not suggest any serious gastric condition; later wasting, pain, or vomiting may arouse suspicion of malignant disease. As a rule no lump is felt and there is never any haematemesis or melæna. The diagnosis is made by radiology, when it is seen that the stomach is small and retracted, shows no peristalsis, has rigid walls, and empties itself with great rapidity, often in ten minutes. It contains little or no residual fluid, so that test meal examinations are difficult; anachlorhydria is constant. The stomach walls become almost cartilaginous, but the mucous layer is not affected. The disease may affect the whole stomach or part of it, and it sometimes attacks the intestines. Metastases seldom occur in the liver, but may appear in the rectum, especially on the anterior wall; the peritoneum may be affected by the disease spreading along the lymphatics. The metastases may be nodular or annular, constricting the bowel, and ascites is not uncommon. Since these metastatic growths do not always conform histologically to the primary growth they may be mistaken for primary multiple cancers. Diagnosis, as a rule, can only be made by radiology, and the prognosis is uniformly hopeless.

### Therapeutics.

8.

#### Gold Salts in Pulmonary Tuberculosis.

HERMANS (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, November 10th, 1927, p. 812) describes the use in tuberculosis of a combination of the salts of gold, iodine, and cadmium, the two latter adding an antibacterial action to that of the gold. In the preparation used (crystalline) the action of each of its elements is said to be increased by the others. Hübl has shown that the fixation of iodine by the non-saturated fatty acids is much accelerated by a mercury salt, and Margosches and Himmer and other investigators have stated that many metals, including cadmium, possess this same property. Since tubercle bacilli, at least at their periphery, contain non-saturated acids, it is reasonable to believe that a salt composed of gold, iodine, and cadmium would be efficacious in the treatment of tuberculosis. For some two years Hermans has used crysiodal in thirty cases of pulmonary tuberculosis, and reports five of these in detail, the drug having been administered either intravenously or intramuscularly. Some of these patients appear to have been cured, the others showing very marked improvement; only one failed to respond to the treatment. No serious ill effects followed any of the injections, and any slight symptoms that did arise occurred only during the same evening; after the sixth injection the patients declared that they felt much better. Under treatment the appetite improved, sleep was more regular and tranquil, and oppression and breathlessness diminished. The temperature progressively dropped to normal, night sweats lessened by degrees, and the weight slowly but steadily increased. Radiograms showed a diminished opacity, the shadows finally disappearing. The thorax became more mobile with increased pulmonary ventilation; the dullness gradually lessened, vocal vibrations lost their intensity, and the râles decreased. The cough improved very rapidly, and the sputum, increased at

first and after each injection, lessened as treatment progressed, became less purulent, and finally ceased. Hermans has also used crysiodal with marked benefit in cases of adenitis, and also in one of tibio-tarsal osteitis with peritonitis and discrete pulmonary lesions.

9.

#### Strophanthin in Heart Failure.

R. F. WEISZ (*Med. Welt*, October 22nd, 1927, p. 1440) states that the strophanthin prepared from different species of strophanthus differ considerably in their action: crystalline strophanthin-g (ouabain), prepared from *Strophanthus gratus*, is much more powerful in its action on the human heart than amorphous strophanthin-k, prepared from *Strophanthus kombe*; with the former the therapeutic and toxic doses are very close together and the risk of overdose is considerable. It is therefore important to distinguish between the two when estimating the effect of a given dose. The best results are obtained by intravenous injection, but special precautions are necessary; thus the author considers it advisable to use a fresh needle for injecting the solution after removing the one through which it was withdrawn from the ampoule into the syringe, so that the irritant action on the tissues of traces of the drug adhering to the outside of the needle may be avoided. Strophanthin closely resembles digitalis in its effect on the heart, but its action is much more rapid. It is also much more rapidly excreted, but, though the risk of a cumulative effect is negligible, injections should in general not be given more frequently than once in twenty-four hours, and they should not be started until two to three days after cessation of a course of digitalis. In sensitive persons vomiting from central irritation may be produced. The usual dose of strophanthin-g is 0.5 mg.; sometimes 0.3 to 0.4 mg. is sufficient, though it is considered advisable to start with an adequate dose, while 0.8 to 1.2 mg. should be the maximum. The dose may have to be increased gradually during a course of treatment, because increasing weakness of the cardiac muscle can only be postponed but not prevented. Though the blood pressure rises after the injections a moderate degree of hypotonia is considered no contraindication to their use. The main indications are myocardial weakness, especially if acute or associated with pulmonary, hepatic, or peripheral congestion, pulmonary oedema, or cardiac asthma, and disturbances of rhythm when these are due to myocardial degeneration. For these one or a small number of injections generally suffice. In more chronic cases a course of injections is required, starting daily or on alternate days and with a gradually increasing interval, until the desired effect on oedema or congestion is produced; these are followed by a course of oral or rectal doses of digitalis. In the worst cases the injections may have to be continued indefinitely. Acute circulatory failure in infective diseases, due largely to toxic damage of the peripheral vessels, is hardly affected by strophanthin.

10.

#### Treatment of Leprosy.

R. G. MEDINA (*Arch. de méd., cir. y esp.*, November 26th, 1927, p. 610) remarks that though leprosy is not so prevalent in Spain as in some other countries it occurs in most of the Spanish provinces, the foci of greatest intensity being Galicia, Levante, Andalusia, Extremadura, and the Canary Islands. Murillo reckons that the number of lepers in Spain is 800, but this figure is too low an estimate. Medina, who records fourteen illustrative cases in patients aged from 13 to 52, has obtained the best results from treatment with antileprol, a preparation consisting of a mixture of ethyl esters of all the non-saturated fatty acids contained in chaulmoogra oil. Intravenous injections were given twice a week in doses of 0.2 c.cm. at first, which were gradually increased up to 2 c.cm. Apart from slight attacks of coughing no bad effects were observed. After a hundred injections on an average the Wassermann reaction, which is constantly positive in leprosy, as well as the Hecht and Moincke reactions, became negative. A clinical cure was obtained in many cases as well as disappearance of *B. leprae* from the nasal mucus, a result which Medina had been unable to obtain with any other drug.

### 'Anaesthetics.

#### 11. The Anaesthetist in Certain Surgical Emergencies.

E. I. MCKESSON (*Canadian Med. Assoc. Journ.*, November, 1927, p. 1314) describes certain emergencies in which the anaesthetist may render exceptional assistance to the surgeon. After the relief of strangulation of the bowel the doubt whether the mesentery and gut should be returned to the abdomen or be resected may be resolved by the administration of pure oxygen to the patient for two or three minutes. If the colour of the gut definitely changes to a lighter red and

no areas retain a black or greyish-purple appearance the circulation is present and recovery of the bowel may be expected. McKesson gives examples of the value of raising for a short time the pressure under which the anaesthetic is given. In such cases as the locating of a small broncho-pneumal fistula and collapse or apnoea in a patient when pus is released from the pleural cavity by rib resection, if the anaesthetic is continued under sufficient pressure so as to obliterate the pleural cavity and force loose masses of exudate into the incision, the surgeon can clean the cavity more effectively and reduce the period of convalescence. McKesson emphasizes the importance of artificial respiration with pure oxygen under pressure in certain emergencies, and describes a method of distinguishing between the lowering of blood pressure due to the anaesthetic and that caused by surgical conditions.

#### 12. Rectal Anaesthesia.

J. MOUZON (*Presse Méd.*, November 16th, 1927, p. 1396) describes the employment of a rectal anaesthetic termed "avertine," which has the formula  $\text{CBr}_2\text{CH}_2\text{OH}$ , and was originally prepared by the fermentative reduction of bromal, but is now made by a simple synthetic process. It is a white crystalline powder melting at  $79^\circ$  to  $80^\circ\text{C}$ ., soluble in water up to 2.5 per cent. at  $20^\circ\text{C}$ . and 3.5 per cent. at  $40^\circ\text{C}$ .; at higher temperatures it is decomposed with liberation of  $\text{HBr}$ , which has a highly irritant effect on mucous membranes. After experiments on mice and rabbits, the first clinical trial was made by Butzongeliger in March, 1926, and the first publication of cases treated by Unger and Heusz to the Medical Society of Berlin in March, 1927. The chief advantages claimed for avertine over ether for rectal administration are that it can be administered with less risk of toxic concentration in the blood; that it is non-irritant to the respiratory passages, being excreted in the urine; that there are no disagreeable post-anaesthetic effects; and that, properly administered, it does not give rise to irritation of the rectal mucous membrane. Later reports have been less favourable, and doubts have been thrown on its supposed non-toxicity as regards hepatic, renal, and cardiac tissue; it is stated that only in 40 to 50 per cent. of subjects can full anaesthesia be assured by its use alone. Liquid diet only is given the night before operation; some surgeons administer morphine or pantopon one to two hours before the operation. A solution of about 1 in 40 of freshly prepared avertine in distilled water or normal saline solution at  $40^\circ\text{C}$ . is run in through a rectal tube slowly, about 0.08 to 0.15 gram being given for each kilo of body weight. The patient should go into quiet sleep in about seven minutes, and full surgical anaesthesia should be attained in a quarter to half an hour. Pallor and shallow respiration, with a slight drop in the blood pressure, supervene. Pupil and corneal reactions are somewhat variable, but may be entirely abolished without being a sign of danger. Nausea lasts two to four hours, after which time a state resembling normal sleep often ensues, with persistence of the pallor and superficial respirations. In spite of some unfavourable reports, Mouzon considers the drug worthy of a more extensive trial, and emphasizes its value in operations on the thorax and upper respiratory tract, and in cranial surgery.

#### 13. Anaesthesia in Gall-Bladder Surgery.

W. BOURNE (*Canadian Med. Assoc. Journ.*, September, 1927, p. 1031) discusses the choice of anaesthetics in gall-bladder surgery; he prefers procaine, on the ground of its being the least harmful to the liver, while lung complications are less frequent, and local infiltration under the peritoneum of the anterior wall of the abdomen after this has been opened, and anterior splanchnic injection. He thinks the method should be combined with the use of one of the gaseous anaesthetics, as much oxygen being added as is required to prevent any danger of anoxaemia. Nitrous oxide, he adds, does not produce sufficient relaxation in this type of case, and therefore requires the addition of a little ether. Ethylene, however, abolishes rigidity more readily and does not, as a rule, need augmentation by ether. The author adds that if the clotting time of the blood is known to be increased it should be shortened by giving calcium chloride in intravenous injections of 5 c.c.m. of a 10 per cent. solution in redistilled water for three successive days prior to the operation. Glucose with a large quantity of water should also be injected, since it seems to lessen the damage which some anaesthetics cause to the liver. Morphine, with atropine or scopolamine, may also be given in suitable doses, which should be so small that no ill effects are produced, such as hyperglycaemia, increased acidosis, and depression of peristaltic activity and of the respiratory centre. During anaesthesia the state of the circulation requires watching, so that with an increased pulse rate and a fall in blood pressure lasting more than five minutes shock can be prevented by intravenous injections. For the remedy of acidosis, sodium

and potassium phosphates in alkaline form should be administered in approximately the same proportions and quantities as those in which they are being excreted; they are given by the rectum in dilute solution. Care must be taken to avoid cyanosis, in view of the severe damage to the liver which follows anoxaemia.

#### 14. Regional Anaesthesia for Operations on the Spinal Column.

G. LABAT (*Brit. Journ. Anaesthetics*, October, 1927, p. 81) states that the principles involved in regional anaesthesia for orthopaedic operations upon the spinal column differ somewhat from those for other operations, since the normal landmarks have become altered by trauma or disease. He gives notes of six cases to illustrate the technique, and remarks that the anaesthetist must have a thorough anatomical knowledge in order that his procedure may be modified to suit individual distortions. Labat considers that the following practical inferences are justified. The supine position of the patient is the best because it facilitates paravertebral injection technique, affords the greatest relaxation of the back muscles, and avoids lateral distortions. In advanced tuberculous conditions the use of a 0.5 per cent. novocaine solution is advisable, even in paravertebral block, with a limit of 250 c.c.m.; it should be introduced very slowly, and with the addition of 5 drops of 1 in 1,000 adrenaline solution to each 100 c.c.m. of anaesthetic solution injected. A modified technique of paravertebral block is advocated by which the nerves are approached from a point overlying the transverse process, the same wheals being used for the field-block; the resulting ischaemia of the operative field facilitates dissection. This method of regional anaesthesia renders decompression of the cord at the level of the first and second cervical vertebrae less difficult and hazardous, and its use at lower levels of the spine is greatly to the advantage of both surgeon and patient. By its means extensive spinal fusions are possible with but little post-anaesthetic disturbance and with considerably improved prognosis, especially in the presence of active pulmonary tuberculosis. The method was not attempted in operations on children.

### Obstetrics and Gynaecology.

#### 15. Uterine Cancer and Radiotherapy.

D. DEN HOED (*Nederl. Tijdschr. v. Geneesk.*, November 19th, 1927, p. 2132) remarks that cancer of the uterus is very often infected, especially in an advanced stage. This complication may assume various forms, such as infection of the tumour, pyometra, salpingitis, parametritis, and pelvic peritonitis. Any gynaecological operation or radiotherapeutic application may aggravate this condition or rouse a dormant infection into activity. The complication may occur during treatment and assume any of the following types: fever without localization, infection of the pelvic connective tissue, pelvic peritonitis, general peritonitis, pyaemia, or septicæmia. The infection may be one of the reasons for a failure of treatment. The author concludes, therefore, that a careful clinical examination should be made of every patient with cancer of the uterus before radiotherapy; a bacteriological examination of the vaginal flora is also said to be of value. When haemolytic streptococci are present an attempt should be made to destroy them or at least to reduce their virulence, as the author succeeded in doing in some of his cases. Special care must be taken in the use of radium therapy in such patients. In every infected case local disinfectants, such as Dakin's fluid, and specific vaccine and serum treatment should be used before radiotherapy is commenced.

#### 16. Low Caesarean Section.

L. E. PHANEUF (*Boston Med. and Surg. Journ.*, November 10th, 1927, p. 825) claims that when the transverse cervical incision is used in the low Caesarean section, dividing only non-contraction tissue, the percentage of rupture of the cicatrix is reduced, convalescence is better, and post-operative complications are lessened. His technique differs from that usually adopted in that the bladder is completely separated from the cervix down to the vagina and as far as possible laterally, the incision being placed at a lower level and entirely in the cervix, so that it is retrovesical or subperitoneal at the completion of the operation. With the patient in the Trendelenburg position a six-inch median abdominal incision, starting at the symphysis, is made and the lower uterine segment wallcd off with a long strip of gauze. The uterine peritoneum is incised transversely, and the lower flap, together with the bladder, is pushed downward and protected by a Doyen retractor. A transverse incision with its concavity towards the symphysis is made as low as possible in the cervix and the child is delivered through



it. The placenta and membranes are removed through the incision unless the os is fully dilated, when they are expressed through the vagina after closure of the cervical incision and suture of the peritoneal flaps. Phaeuut has performed 35 operations by this method, with only one maternal death and a foetal mortality of 8 per cent. He adds that while there is but little bleeding, the curved incision with the concavity towards the symphysis affords plenty of room, and the procedure can be used for patients in whom a classical Caesarean section is contraindicated.

#### 17. Etiology of Stillbirth.

E. C. LYON (*Amer. Journ. of Obstet. and Gynecol.*, October, 1927, p. 548) has examined the statistics of stillbirth in 4,000 consecutive ward deliveries at the Women's Hospital, New York. He finds that 104 patients had 105 stillborn infants (25 stillbirths per 1,000 deliveries); 85 of these patients had been attending the pre-natal clinic (21 stillbirths per 1,000 deliveries); 25 patients showed evidence of toxæmia, and 4 of these had convulsions. Of 79 patients on whom the Wassermann test was performed, 9 were "four plus," but only two infants were born with evidence of syphilis. There were 61 abnormal deliveries, 22 being by forceps and 39 by breech presentations; 90 patients had normal pelvic measurements. There were 37 premature infants and 44 were macerated; 11 cases of prolapsed cord occurred, and in 10 of these it was a contributory or actual cause of stillbirth. Of 53 infants on whom an autopsy was performed, 12 showed cerebral injury. In 55 patients no foetal heart was heard on admission to hospital, and in 41 of these it was inaudible subsequently during labour. Lyon thinks that 20 of these 41 stillbirths might have been avoided if a different method of delivery had been chosen in 8 cases, and earlier operative intervention had occurred in 12.

#### 18. After-History of Pyelitis in Pregnancy.

B. C. CORBUS and W. C. DANFORTH (*Amer. Journ. of Obstet. and Gynecol.*, October, 1927, p. 544) report pyelographic studies in thirteen consecutive patients who, during pregnancy, had suffered from "pyelitis" accompanied by pyrexia. Except in two instances the observations were made from four to forty-eight months after termination of pregnancy by labour (usually) or abortion; the average time was ten months. In every instance abnormality of the urinary tract was detected; all the patients had a stricture of the ureter, ten had hydronephrosis, twelve a dilated ureter, and seven a ureteral kink. The authors' studies were occasioned by their finding that whereas cases of pyelitis in pregnancy usually yielded to treatment by posture, free ingestion of water, urinary antiseptics, and, occasionally, etherization of the ureter, the patients were frequently found to be not entirely well after delivery. They conclude that it is reasonable to infer that patients suffering from pyelitis during pregnancy have had, before conception, some morbid condition in the ureter; and they point to Hunner's reports of the frequency of ureteral stricture as a cause of upper urinary tract infections. The practical conclusion drawn is that since termination of pregnancy does not cure urinary infection patients should be treated subsequently in order to restore adequate urinary drainage, if possible.

## Pathology.

#### 19. Culture of Filterable Forms of Common Bacteria.

P. HAUDUROY (*C. R. Soc. de Biologie*, November 25th, 1927, p. 1392) has devised a method of cultivating bacteria from filtrates which by ordinary methods appear sterile. A culture of a given organism—typhoid, dysentery, colon bacilli, diphtheria bacilli, staphylococci, or streptococci—is filtered rapidly under a low pressure. The filtrate is transferred to a sterile tube and incubated. After about a week, though sometimes not for several months, a small granular sediment appears, or less often a very slight opalescence, which may later be replaced by a granular sediment. No further change occurs, even after prolonged incubation. Subculture into ordinary media is followed after a long time by reproduction of the same appearances as in the original filtrate. After numerous trials Hauduroy has succeeded in cultivating bacteria from these apparently sterile filtrates. A few cubic centimetres of a granular or opalescent filtrate are planted on the surface of a nutrient lactose agar plate. After twenty-four or forty-eight hours in the incubator the surface appears slightly dull and as though covered with a very thin deposit. The surface is scraped carefully, the material suspended in broth, and planted again on to another plate. This operation is repeated half a dozen times or so, when very tiny colonies appear just visible with a magnifying glass; these gradually increase

in size, and finally resemble the ordinary colonies of the organism from which one started. These colonies can be subcultured in the usual media. By no other method has Hauduroy been able to reproduce the ordinary forms of bacteria from filtrates.

#### 20. The Histology of Nasal Polypi.

O. BARTOLI and L. BIANCHI (*Arch. Ital. di Otol.*, October, 1927, p. 609) have made an extensive study of polypi from twenty patients. They have found that the covering epithelium varies from columnar through cuboidal to squamous epithelium. In polypi of recent formation, and especially in single polypi, the epithelium retained the typical nasal columnar formation, but as the polypi increased in age these cells became flatter until in very old polypi a single layer of flattened cells covered the polypus. The connective tissue appeared normal except that plasmocytes were found near the periphery and especially near the glands. The vessels often showed thickening of the walls with hyaline degeneration. Glands were certainly present in young polypi, but tended to degenerate in polypi of older standing. Elastic fibres were limited to the walls of the vessels. The pedicles of the polypi consisted of bundles of fibres with vessels which did not show any hyaline degeneration; there were no traces of glands in the pedicles. The authors found no excess of leucocytes in the polypi, but considered that a number of them passed through the covering epithelium to enter the mucus which covers the polypi and bathes the interior of the nose. They do not consider that there is any evidence that these polypi are neoplastic, but are convinced that they are entirely inflammatory. Recurrences are believed to be due to incomplete treatment originally, and the absence of metastases or of cachexia confirms this opinion. The authors think that the bleeding polypus of the septum, the nasopharyngeal fibroma, and choanal cystic polypus may be neoplastic, but that all other nasal polypi are inflammatory.

#### 21. Distribution of the Herpes Virus in the Tissues.

A. URBAIN and W. SCHAEFER (*C. R. Soc. de Biologie*, November 11th, 1927, p. 1279) have studied the distribution of the virus in the tissues of rabbits suffering from experimental herpes. They removed the tissues from the affected animal at or immediately before death, make a thick suspension in saline solution, and inoculated this either by the cutaneous or the cerebral route into fresh animals. The brain of each animal which died after inoculation with these tissue suspensions was tested for virulence. The authors found that the virus was always present in the brain and spinal cord, frequently in the cerebro-spinal fluid, occasionally in the saliva and the suprarenal glands, and never in the lungs, kidneys, spleen, liver, salivary glands, or striated muscles. It was detected in one specimen of urine examined immediately after passage, but not in another specimen collected twenty-four hours previously. It was also demonstrated twice out of five times in rabbits which had been inoculated with 5 c.cm. of a faecal suspension.

#### 22. The Action of Endocrine Glands on Gastric Secretion.

A. FRAGOMELE (*Il Morgagni*, October 30th, 1927, p. 1721) reviews the literature and comes to the following conclusions as the result of experiments on a dog in which he had made a small Pavlov stomach: (1) Adrenaline, thyroïdin, and pituit gland, injected subcutaneously, have a well marked inhibitory action on the gastric secretion, causing a diminution in the amount of secretion of hydrochloric acid. (2) The inhibitory action is most intense after injection of pituit gland. (3) Adrenaline, even when given in the dose of 1 mg., as was done by Loëper, does not stimulate the secretion of hydrochloric acid, as that author maintained. Frangomele adds that the investigations not only show the remarkable influence on the gastric secretion of the active principles of the suprarenals, thyroid, and hypophysis, but also help to explain the causes of gastric dyspepsia found in various affections of the endocrine glands according as they are in a condition of excessive or reduced activity.

#### 23. The Antiseptic Property of the Bile.

G. BALICE (*Il Policlinico*, Sez. Chir., November 15th, 1927, p. 501) has performed a series of experiments on dogs to ascertain the effect of cholecystectomy on the antiseptic property of the bile. He finds that the portion contained in the gall bladder plays a very important part in the antiseptic property of the total bile, and that when this is not poured into the intestine there is a notable increase in the intestinal bacterial flora. The enhanced antibacterial power of the bile in the gall bladder as compared with the hepatic bile is attributed to the greater content in the former of sodium glycocholate and taurocholate.

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E. MARTIN and COSTEDOAT (*Journ. de Méd. de Lyon*, November 20th, 1927, p. 589) agree that in cases of accidental drowning or suicidal death can be caused (1) by syncope, when the aspect of the person is pallid, or (2) by asphyxia due to the penetration of the lungs by water, when the aspect is blue. If restorative efforts are started early the pallid type of drowned person can usually be revived without difficulty, but in the second type the pulmonary lesions are such that in many cases treatment is without effect. The respiratory syncope is produced with a complete loss of consciousness at the moment of the fall into the water by terror, emotion, sudden chilling of the body, and the inhalation of vomited matter in the case of those who bathe too soon after meals. The sudden cessation of respiration is of benefit in that water is not drawn into the lungs, which therefore remain uninjured. The authors deal fully with the second or cyanosed type, and show that submersion is really a traumatic asphyxia, the water acting not only as an inert medium by suffocation but also by destroying the pulmonary parenchyma. Experimental evidence is given and the pathology of animals drowned is detailed. In the microscopic examination special attention is drawn to the vegetable and mineral plankton, algae, diatoms, coal dust, and siliceous shells found scattered throughout the lungs. The authors raise the important question whether simple post-mortem immersion of a corpse can cause these same changes in the lung. The most valuable sign is hypoaeration (or dry ballooning), or even emphysematous hydroaeration. The value of this sign is unfortunately destroyed by putrefactive changes. When the living membranes of the alveoli are destroyed water containing crystalline particles can enter the left auricle by the pulmonary veins. The microscopic examination, therefore, with chemical cleanliness of the fluid from the left auricle is of great value, and the authors describe the technique of this investigation as modified by themselves, using antiformin and a microscope with lateral illumination. The siliceous particles after calcination can be weighed for comparison. The practical conclusions are that syncope is a means of preservation of life, and an apparently drowned person who is pallid may often be revived by persevering with artificial respiration and rhythmic traction on the tongue over after submersion for forty minutes. In a person who is cyanosed recovery will not follow if the lungs have been invaded by water for only a few minutes. For treatment bleeding and artificial respiration in the prone or ventral decubitus should be tried, and both these methods should be used in cases of doubtful diagnosis.

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J. SABRAZÈS, P. BROUSTET, and R. BEAUDIMENT (*Gaz. hebdomadaire de Sci. Méd. de Bordeaux*, November, 6th, 1927, p. 705) report a case of death almost certainly due to necrosis of the pancreas caused by the virus of mumps. A lad, aged 19, suffering from mumps, escaped from hospital during the fifth night of illness. He walked about four miles and returned in an exhausted state the following morning. He died two days later, with a syndrome of acute nephritis, pulmonary embolism, pains, and vomiting. There was no fever, and the pulse was rapid and feeble. The clinical participation of the pancreas in mumps is said by the authors to be demonstrable in one in every 250 cases. At the necropsy the pancreas was found to be greatly increased in volume; there was generalized conglutinate necrosis, both cytoplasmic and nuclear. The necrosed tissue was oedematous, but without leucocytic infiltration. Here and there were occasional signs of thickening. It was difficult to find the islets of Langerhans; in one segment there was only one islet, which was necrosed and compressed. Fibroblasts had suffered less than the parenchyma and the smooth muscular fibres. There was no haemorrhagic effusion and no thrombosis. Fat necrosis in and around the organ was evident, together with small collections of fatty acid crystals; minute hyperplastic ganglia of lymphatic material were seen round the organ. No infective organisms were found. There were no changes in the stomach, intestine, bile and pancreatic ducts, gall bladder, suprarenals, lacrymals, and thyroid gland. The infective condition of the liver, the acute nephritis, the congestion of the lungs, and the slight meningitis

goal lymphocytosis led the authors to conclude that mumps was the sole causative agent in this case, aggravated by conditions operating at the onset. The necrotic condition of the pancreas showed that it was definitely attributable to the virus of mumps. Death due to pancreatitis caused by mumps is rare. Records of such cases show that there have usually been other complications, which have made it difficult to attribute death to the condition of the pancreas.

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M. TAPIA and J. TORRES (*Arch. de med., cir. y esp.*, November 12th, 1927, p. 569) had previously shown that the sedimentation rate of the red corpuscles did not possess any prognostic value in pneumonia, as there was an absence of any relation between the acceleration rate, which was constantly increased, and the pneumonic process. In the present paper, however, they maintain that the sedimentation rate has an undoubted diagnostic value, at least in the first few days of the disease, especially in conjunction with morphological examination of the blood in cases of pneumonia in which physical signs are insufficient or completely absent. They record a case of a slow sedimentation rate in which lobar pneumonia could be excluded, while the clinical and bacteriological evidence indicated the presence of a pneumo-typhoid infection.

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AURICCHIO (*Il Morgagni*, November 6th, 1927, p. 1787), as the result of observations carried out on 65 children, a large number of whom were living in a community in which scarlet fever was prevalent, came to the following conclusions. (1) The Dick reaction is positive in a much larger percentage of children than that usually affected by scarlet fever. (2) Children who have recovered from scarlet fever may show a positive Dick reaction. (3) Children with a negative reaction may contract scarlet fever, and, *vice versa*, children with a positive reaction, although exposed to infection, may remain immune. (4) The Dick reaction is specially liable to be positive in children in whom the tuberculin reaction is positive. Auricchio, therefore, does not regard the Dick reaction as a specific indication of susceptibility to scarlet fever.

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L. CARP (*Annals of Surgery*, November, 1927, p. 702) discusses the various methods of treating carbuncles, and concludes that, while each case is a problem in itself and requires special treatment, yet certain main generalizations are possible. In large carbuncles, whether diabetic or not, the treatment of choice is said to be radical surgery. In small superficial carbuncles and some large ones, including those of the face, x-ray therapy, as an aid to pontices and carbolic acid, has given good results; if improvement does not occur in three or four days other measures, such as surgery and the circuminjection of antogenous blood, are indicated. In diabetic carbuncles the prompt establishment of free drainage is essential to prevent spread of infection; x-ray therapy without surgery is contraindicated. Carp advises the circuminjection of antogenous blood in selected cases, and thinks it is also a valuable procedure in accessible spreading infections, even though they are receiving other treatment. In his series of 153 carbuncle cases treated during the last ten years no evidence was obtained that x-ray therapy alone could bring about cure.

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SINCE several autopsies after the Weber-Rammstedt operation for pyloric stenosis in infants have shown that death was due to haemorrhage from the pyloric incision or peritonitis, presumably from the migration of organisms through the exposed pyloric mucosa, C. FORANITTI (*Wien. klin. Woch.*, November 3rd, 1927, p. 1380) has revived the method devised by Loreta and first performed by Nicoli in 1900. His technique is as follows: a longitudinal incision barely 1 cm. long is made in the anterior wall of the stomach through a small incision above the umbilicus; through this curved forceps are inserted into the pylorus, and the blades are slowly and carefully separated until a small Hegar's dilator can be passed, followed by two or three larger sizes in succession. The gastrostomy incision is sutured in three layers, and if

the peritonium covering the pylorus ruptures during the manœuvre, which occurred in seven out of thirteen cases, all belonging to the second group described below, this is also carefully sutured before closure of the abdominal wound. An injection of saline solution or glucose was given on the operating table, with spoonfuls of tea some hours later, breast milk in small quantities being allowed the next day. Two deaths were recorded in the series of thirteen cases—one from pneumonia and enteritis sixteen days later, and one from pneumonia following the anastomosis. In both the necropsy showed the site of operation to be intact. The types of pyloric stenosis found at operation fell roughly into two groups: in the first the pylorus was large, pale, and hard, and the pre-pyloric part of the gastric musculature also appeared hypertrophied; in the second the pylorus seemed to be more rigid, and the stomach was not hypertrophied, but dilated and full of air, which escaped on incision. Though the author considers it possible that both conditions were temporary phases, it was noted that the first type was much more easily dilated than the second, in which increase of connective tissue appeared to play a part. He emphasizes the point that he does not advocate the dilatation method as being superior to Rammstedt's procedure, but that he considers it to be of equal value, since it eliminates some of the risks of the latter.

### 30. Osteomyelitis of the Fibula.

ACCORDING to J. PIQUET (*Rev. de Chir.*, No. 7, 1927, p. 529) acute osteomyelitis of the fibula is not so frequently described in the literature as osteomyelitis of the tibia and femur. He records eight cases affecting the fibula alone and eleven involving both the tibia and the fibula. The condition appears to be relatively rare; this may possibly be due to faulty diagnosis, the heavy origin of the disease not being recognized. The origin is usually insidious and its course subacute; the suppuration persists until the discharge of sequestra draws attention to the real nature of the condition. The disease usually starts in the lower end of the bone and extends rapidly both upwards and downwards towards the epiphysis, the rate of spread depending upon the virulence of the infection. The clinical course is characterized by the absence of general toxic symptoms and the presence of chronic suppuration of which the origin is not recognized. Rarely the ankle-joint may become involved and infection of the knee-joint is an uncommon event. Treatment by removal of the whole diaphysis has been tried successfully, but such drastic measures do not appear to be necessary. The method of choice consists in simple incision of the periosteal abscess without opening the bone, followed later by removal of the sequestra that form. Where both bones are involved the treatment is that of osteomyelitis of the tibia and opening of the abscess between the two bones of the leg.

### 31. Multiple Ulcers of the Stomach and Duodenum.

E. HOLM (*Ugeskrift for Læger*, November 3rd, 1927, p. 999) draws attention to the disparity in the figures of surgeons and pathologists with regard to the frequency with which ulceration of the stomach and duodenum is multiple. The cause of this disparity is to be explained by the fact that the surgeon is apt to overlook many an ulcer, whereas the pathologist has a much better opportunity in the post-mortem room to investigate the frequency with which multiple ulcers occur. Thus, while statistics from the Mayo Clinic published by Starr Judd and Proctor in 1925 showed that multiple ulceration was found only in 6 per cent. of 1,475 patients, this ratio is approximately 20 per cent. as found by the pathologists cited by the author; and this ratio of 20 per cent. concerns every class of ulcer of the stomach and duodenum coming to the post-mortem room. The incidence of multiple ulceration is still higher when only those cases are considered which terminate fatally as the result of perforation. After quoting various statistics bearing out this contention, the author records the observations made on 26 cases of perforation coming to necropsy at the Bispebjerg Hospital in Denmark between 1914 and the present time. In 15 of these cases the stomach was affected alone, and in 9 the duodenum alone. In the remaining 2 cases a perforated duodenal ulcer was associated with ulceration of the stomach. In 8 of the 15 cases of ulcer of the stomach the ulcers were multiple, and this was the case with 2 of the patients suffering from ulceration of the duodenum. Thus, in 12 of the 26 cases, or approximately half of the total, the ulcers were multiple. The author suggests that findings such as these should be taken to heart by the surgeon who, as soon as he has found a perforated ulcer, usually on the anterior surface of the stomach or duodenum, has closed it in some way or other, and neglects to search for signs of a second perforation elsewhere in these organs.

## Therapeutics.

### 32. Intrabronchial Medication in Asthma and Bronchitis.

E. J. KUH (*Med. Journ. and Record*, November, 1927, p. 595) describes a method of treatment for asthma, bronchitis, and similar conditions which has been used by him for over thirty years with much success. The curved tip of an atomizer is introduced over and behind the relaxed tongue—no depressor is necessary—and the patient is instructed to exhale, pause, and then inhale deeply through half parted lips. All the vapour should disappear from the mouth. The author admits that many patients cannot relax themselves sufficiently for satisfactory treatment. The solution used consists of menthol 1 to 2 per cent., creosote 1 per cent., oil of pine needles 2 per cent. in alcohol or some other mineral oil of similar density. Heavier oils clog the atomizer. Formerly this treatment was used for children, but has apparently been discarded, although both in them and in adults pertussis cleared up within ten days. The results in some cases of bronchitis and bronchial asthma were particularly good—the spray assisting the dislodgement of hitherto removable phlegm, so that within a week the patients regained restful sleep. The best results were obtained in patients with asthma, many of whom had had tonsillectomy, skin tests, or sinus operations without benefit. The author suggests that the bronchial mucous membrane is desensitized by the vapour. Cases of hay fever also responded well when the spray was directed into the post-nasal space. Acute bronchitis is said to be sometimes aborted and always relieved, but the results in bronchiectasis were only rarely satisfactory.

### 33. Treatment of Arthritis with Salts of Ortho-Iodoxybenzoic Acid.

J. E. COTTRELL (*Amer. Journ. Med. Sci.*, November, 1927, p. 623) describes ortho-iodoxybenzoic acid as a white powder (when pure) which turns reddish brown on exposure to light, definitely acid, and soluble with difficulty in water. The sodium and ammonium salts are readily soluble in water, and the iodine content of the latter is between 40 and 45 per cent. Loevenhart and Grovø have described improved methods for preparing this acid, and state that it is a physiological, oxidizing agent; when administered intravenously it is not haemolytic; it depresses the vasomotor centre, causing a fall in blood pressure, and also depresses the respiratory centre, causing apnoea in repose with spontaneous resumption of respiration. Arkia has found that the sodium salt possesses marked bactericidal action, and Hockett noted that in dogs intravenous injection of this salt stimulated the production of antibodies. Its properties are due to the oxygen in its molecule. The use of this acid in the treatment of arthritis, especially of the infectious type, is based on its germicidal power for staphylococci and streptococci, and on its power of stimulating bodily defence mechanisms. Cottrell has used it in twenty-one cases, six of which he reports, and in only one was there no response to the treatment. Improvement was shown by diminution in pain and swelling, a subjective sense of greater motility, an actual objective improvement in joint function, and an increased sense of general well-being. Intravenous injection of the ammonium salt is the best method of administration. The standard dosage is 1 gram dissolved in 1 c.c.m. of sterile distilled water given approximately twice weekly. This is introduced slowly by the gravity method, allowing ten to twenty minutes for the injection. Burning and smarting of the eyes, tongue, mouth, and nostrils, which subside in a few minutes, are felt during the injection, and after it slight malaise and perhaps nausea are experienced. More severe reactions take the form of a chill, vomiting, and purging. If intravenous injection is impracticable, or as a supplement to it, the drug may be given by the mouth or rectum. If given by the mouth the calcium salt is preferable as it causes less gastric irritation. A larger dose of 1.5 grams is given in half-grain capsules and repeated twice weekly. For rectal administration 1 or 1.5 grams of the ammonium salt are introduced in a 2 per cent. solution after a cleansing enema. Treatment is best arranged in courses of six or eight doses at semi-weekly intervals with a rest of three to six weeks between courses. Concomitant physiotherapy should be persistently used in chronic cases and deformities treated by orthopaedic measures.

34. OWING to the unsatisfactory results obtained in chronic arthritis by Loevenhart's method of sodium ortho-iodoxybenzoate administration, N. C. TRAUB (*Journ. Amer. Med. Assoc.*, October 1st, 1927, p. 1124) tried a 1 per cent. solution of the ammonium salt, 100 c.c.m. being slowly injected intravenously by the gravity method within one hour after preparation. Eight injections were given, but,

owing to the discomfort caused, oral and rectal administration was tried. When given by the mouth 0.5 gram capsules of the salt, coated with phenyl salicylate, were used, one capsule being given the first day and two on each of the succeeding thirteen days; in rectal administration 1 gram of the salt dissolved in water was given thrice weekly after preliminary cleansing enemas. Smarting of the tongue, nose, conjunctivae, and forehead, an epigastric burning sensation, and nausea followed the intravenous injections, while oral administrations caused only slight epigastric discomfort and nausea. The rectal method proved as bearable as the oral, and is said to be the method of choice when intravenous injection is impossible. Other forms of therapy, such as diathermy, peptone injections, and orthopaedic manipulations, were used concurrently in all the cases. A tabulated summary of thirty-one chronic arthritic patients treated with salts of ortho-iodoxy-benzoic acid is given, and this shows that 16 per cent. were markedly improved, 16 per cent. moderately, and 32 per cent. slightly so; 20 per cent. were no better, while in 7 per cent. the benefit was due to other therapeutic measures. While these results are not so favourable as those obtained by other investigators, Traub considers them encouraging. He adds that further study is necessary to determine the most efficacious form of the drug, the best method of administration, the size and frequency of dosage, and the mode of action.

### 35. Control of Hiccup by CO<sub>2</sub> Inhalations.

R. F. SHELDON (*Journ. Amer. Med. Assoc.*, October 1st, 1927, p. 1118) believes that hiccup as a rule is merely a symptom of some underlying condition, though it may be a disease itself. It is often part of a vicious circle which, without control, may directly lead to death. The spasmodic contraction of the diaphragm is due to an abnormal stimulation of the respiratory centre. It is known that carbon dioxide in the strength of 5 to 5.6 per cent., with either oxygen or air, increases the activity of this centre, and overcomes the lesser stimulation of hiccup, restoring normal respiration. Sheldon records eleven cases of hiccup effectively treated in this way, and believes that the results justify the statement that carbon dioxide, in proper strength, will control hiccup during its administration and for a varying period thereafter; in some cases there will be no recurrence. Since it increases the blood pressure and entails muscular effort it is exhausting, and should, therefore, not be employed for prolonged periods in the extremely debilitated or in those to whom the marked respiratory effort would be more detrimental than the continuing hiccup. There is said to be no more danger of haemorrhage in post-operative cases or of the dissemination of infection following the use of the gas than from the sudden convulsive hiccup. In most cases the carbon dioxide administration has produced no discomfort, and has stopped the hiccup at the second to the eighth breath.

## Disease in Childhood.

### 36. Asthma in Children.

T. D. CUNNINGHAM (*Radiology*, October, 1927, p. 280) states that in spite of the generally accepted belief that in small children the accessory nasal sinuses are non-existent or rudimentary, several competent observers have proved the existence of sinusitis in children. The study of clinical histories shows that the majority of cases of bronchial infection in adults started with nasal trouble and cough in childhood, and surgical intervention is far more likely to cure, or at least to produce greater relief, in childhood than in the adult. Persistent nocturnal cough and asthmatic attacks in children always suggest sinus infection. In asthma, protein sensitization has been a great help, but a large number of asthmatics are not relieved by changing foods or by desensitization, and the bronchial asthmatic case is not benefited at all. Cunningham thinks that the value of desensitization has been exaggerated. He adds that most writers on asthma and sensitization in childhood have disregarded sinusitis. The cause of improvement by change of climate is unknown. Most patients require to live at a higher altitude; if they remove to a lower altitude it must have a drier and warmer atmosphere. When convalescent, some may return to their original climate, but the majority must remain in a relatively high, dry atmosphere. Cases of bronchial asthma or chronic bronchitis in children usually showed sinus infection when examined radiographically, and also pulmonary hilum infection, with diffuse matting and lymphadenitis, less discrete than that of tuberculosis, but local treatment to ensure drainage is essential, and general hygienic measures are very important. Ultraviolet rays supply the place of much-needed sunshine. A diet rich in vitamins is beneficial, and autogenous vaccines

are sometimes useful. The only drug which assists recovery is iodine, given in small doses for a long period. Asthmatic bronchitis cannot be cured during an acute attack of asthma; the greatest relief follows treatment between attacks. When this fails, a change to a high, warm, dry climate benefits a child much more than an adult.

### 37. Nasopharyngeal Infections as a Cause of Various Infantile Diseases.

In earlier investigations H. ERNBERG (*Acta Paediatrica*, November 11th, 1927, p. 87) observed that hospital epidemics among infants were more severe in winter than in summer, that this increased sickness in winter was chiefly due to an increased number of dyspepsias, nutritive disturbances, and other allied conditions, and that these conditions were mainly caused by pharyngeal infections. Investigations have since been continued in Stockholm, and a summary is given of all cases of acute dyspepsia, cholera infantum, and septicæmia admitted to hospital during the period 1922-24. This shows that in far the greatest number of these cases pharyngeal infection, perhaps with aural and sinus complications, was one of the primary causes in the pathogenesis. Ernberg emphasizes the importance of obtaining a full history and of making a careful examination in each case; information as to antecedent colds or similar conditions in the home immediately before or when the child was taken ill should be elicited. As good and rapid a view of the pharynx, and particularly of the posterior fauces and retropharynx, as is practicable should be obtained, the sides of the neck should be examined for possible lymphadenitis, and attention paid to any aural symptoms that might indicate a previous or present nasopharyngeal infection. The author suggests that pharyngeal infection with its complications is far the most important cause of hospital epidemics among infants as well as of similar conditions in homes, such as dyspepsias, other acute nutritive disturbances, and septicæmias, and emphasizes the importance of advising mothers as to hygienic and alimentary measures.

## Obstetrics and Gynaecology.

### 38. Sacral Hernia of the Uterus.

E. FISCHER (*Zentralbl. f. Gynäk.*, November 19th, 1927, p. 2386) records the case of a woman who, at the age of 36, was found to have carcinoma of the rectum and to be five months pregnant. The pregnancy was stopped, and after left iliac colostomy the rectum was excised by the sacral route, with removal of the coccyx and the second to fifth sacral vertebrae. There was no recurrence; the patient declined further operation for closure of the artificial iliac anus, and controlled by a belt and pad a hernia which developed at the site of the sacral incision. A year later abortion was induced for a four months' pregnancy. Five years after this she again became pregnant; no subjective symptoms accompanied the first three months' amenorrhoea, but from the beginning of the fourth month she was unable to replace the sacral hernia, which progressively increased in size. On these accounts, and because also of irregular vaginal bleeding and a protrusion of the colostomy opening, admission was sought to hospital. A living child was found in the six months' pregnant uterus, which was acutely retroflected and incarcerated within the hernial sac; the cervix was tightly pressed against the back of the pubic symphysis. The pregnancy was terminated and the empty uterus was still irreplaceable; destruction of ovarian function by x rays, to avoid the danger of subsequent pregnancy, was advised, but was refused.

### 39. Parametritis and Renal Disease.

H. WARNER (*Deut. Zeit. f. Chir.*, November, 1927, p. 350) illustrates the close association between renal disease and affections of the connective tissue in the female pelvis by the following figures. Dannreuther found well marked lesions of the urinary tract in 15 per cent. of his gynaecological cases, and Schmiedeu noted the occurrence of surgical disease of the kidneys in 62.9 per cent. in women as compared with 37.1 per cent. in men. Similarly, in a study of the records of the University Surgical Clinic of the Charité Hospital at Berlin during the last five years Warner found that 55.8 per cent. of the renal cases occurred in women, as compared with 44.2 per cent. in men. He records eight illustrative cases in women aged from 25 to 51, in whom renal disease in the form of pyonephrosis, hydronephrosis, calculus, or wandering kidney was associated with parametritis. In advanced cases treatment consists only in unilateral nephrectomy, which was performed in seven of Warner's cases, and with one exception was successful.



## 40. Mode of Spread of Ectopic Endometrium.

W. MESTITZ (*Arch. f. Gynäk.*, September 1st, 1927, p. 667) strongly supports the theory recently put forward by Halban with regard to the mode of spread of extrauterine endometrioma. With Halban he regards this tissue, which resembles the glands of the corporal endometrium, as aberrant uterine mucosa which has been taken up into the lymphatic spaces lying between the musculo fibres in the myometrium, and conveyed along lymphatic vessels to the parametrium, ovary, uterine ligaments, recto-vaginal septum, parietal or visceral peritoneum, umbilicus, or occasionally to the scar of an abdominal wound, the vaginal wall, or perineum. It is a merit of the theory of lymphatic propagation that it satisfactorily explains the recurrence of endometriomata in extra-peritoneal situations, as, for example, in the perineum, or extraperitoneally at the navel. This is not explained by either of the rival theories—namely, (1) Sampson's implantation theory, according to which endometriomata arise from menstrually detached fragments of uterine mucosa which are implanted after reaching the peritoneal cavity by retrograde passage through the Fallopian tubes, and (2) the older view that endometrioma is derived from the serous endothelium of the peritoneum or surface layer of the ovary. Among the evidence adduced for Halban's theory is the frequent detection of endometrial glands deep within the myometrium and the nearness of such glands to the lymph spaces, which they sometimes invaginate; another suggestive fact is the occurrence in the regional lymph glands of the uterus of microscopical inclusions of epithelium which resembles the endometrium in form and arrangement. Such inclusions have long been known, but have not hitherto been regarded as derived from endometrium; they have been found in cases of malignant and benign uterine tumours, adnexal inflammation, intestinal neoplasm, and ulcerative colitis, but never apparently in males. An endometrial fragment, it is admitted, has not yet been detected within a lymph vessel. Sampson's implantation theory has recently found much support, but its adherents admit that it fails to explain all the localizations of the tumour in question, and Sampson himself has recently suggested that in certain cases this is spread not by implantation but by conveyance along small veins.

## 41. Prevention of Post-operative Peritonitis and Abdominal Adhesions.

H. L. JOHNSON (*Surg., Gynecol. and Obstet.*, November, 1927, p. 612) recommends the introduction of amniotic fluid into the abdomen in cases of Caesarean section to prevent adhesions. As the result of experimental and clinical observations he finds that this fluid prevents peritonitis by setting up a fibrinous wall of defence and inducing a moderate local leucocytosis. Adhesions did not form because the proteolytic ferments in the fluid, due to the local leucocytosis, stimulated rapid resolution of the plastic exudate. The amniotic fluid is sterilized by passage through a Berkefeld filter. Johnson has tried the method with success in fifty-three cases of abdominal Caesarean section, in eighteen of which a second operation was performed, enabling the author to examine the remote results of this procedure. In one patient the uterus had ruptured twenty-four hours before the operation, and in another an infection of the abdominal cavity seemed certain, but in neither case did peritonitis develop.

## Pathology.

## 42. The Exhaustion of Media in Bacterial Cultivation.

M. S. PALEVICI (*Giornale di Batteriologia e Immunologia*, November, 1927, p. 721) brings evidence to show that the main factor in the cessation of growth on artificial media is not the development of toxic substances, but the rapid exhaustion of certain accessory food substances. In his first series of experiments he cultivated a strain of staphylococcus on a number of agar slopes; after three days at 37° C. he washed off the growth with sterile distilled water, and reinoculated the tubes with the same strain. No growth occurred. After twenty-four hours he again washed the slopes, and then divided them into two lots: to one lot he added two to three drops of fresh sterile lemon juice, allowing the juice to flow over the surface of the agar; the other lot were boiled, and the same quantity of lemon juice was added to each before the agar set again. The tubes of both series were then reinoculated with the same strain of staphylococcus and incubated; growth occurred regularly in every tube to which lemon juice had been added, but did not occur in control tubes to which no juice had been added. Control tubes to which lemon juice had been added, but which were not inoculated, remained sterile. The experiment was repeated with various modifications. It was found that the

lemon juice exerted the same growth-promoting action even after it had been autoclaved at 134° C. for half an hour. Similar results were obtained when grape, apple, or pear juice was substituted for lemon juice, and when *B. coli* and paratyphoid bacilli were substituted for staphylococci. In a third series of experiments he showed that lemon juice had a stimulating effect on the growth of tubercle bacilli on egg medium. The author concludes that fruit juices owe their growth-promoting properties to the presence in them of accessory food substances or of thermostable vitamins.

## 43. Typhoid and Dysentery Antibodies in Mental Patients.

ACCORDING to F. A. PICKWORTH (*Journ. Path. and Bact.*, October, 1927, p. 627) diseases of the typhoid and dysentery groups have been in the past specially common in mental hospitals. Mott and Durham, in their study of asylum dysentery in 1900, showed the lesions to be of the bacillary type, although a specific dysentery organism was not generally found. During the period 1925-27 the agglutination results of 2,533 serums of patients in the Birmingham Mental Hospital to nine standard organisms were examined (*B. typhosus*, *B. paratyphosus* A, *B. paratyphosus* B, *B. paratyphosus* C, Gärtner's bacillus, *B. aertrycke* (Minton), *B. aertrycke* (Newport), *B. dysenteriae* Shiga, and the Y bacillus), and no fewer than 619, or 24.7 per cent., gave positive results. It is noteworthy, however, that positive results were found in 107 out of 464 new admissions, or 23 per cent. These figures, therefore, to a considerable extent exonerate the institutions (apart from epidemics) from at least part of the blame of spreading intestinal diseases, and support the view that intestinal infections may have an important bearing on the etiology of mental disorders. Over two thousand specimens of faeces were examined, but only a few pathogenic organisms were found.

## 44. Resistance of Acid-fast Bacilli to Oil Emulsion.

T. TODA (*Journ. Orient. Med.*, November, 1927, p. 91) believes that acid-fast bacilli, such as those of tuberculosis and leprosy, are enabled to resist antibacterial agents by the presence of much lipid in their bodies, and that, if this acid-fastness could be removed by utilizing oil, therapeutic substances might act on the bacilli and tuberculosis and leprosy be easily cured. Toda conducted a series of experiments with tubercle and other acid-fast bacilli. He used a variety of oils, and emulsions of these oils were prepared with Arabian gum as sterile as possible, and mixed in various dilutions with 10 c.cm. of 3 per cent. glycerin bouillon. The bacilli were transplanted into these media and incubated at 37° C. for several weeks. Toda found that oil emulsion has a growth-inhibiting action, the most effective oils in this respect being hydriocarpus, rosvet, sabina, lavender, and thyme. The gum contained in the emulsions did not hinder the growth of bacilli. Human and bovine tubercle bacilli were found to be less resistant to the oil than avian bacilli and other saprophytic acid-fast bacilli, and the lipid substances were removed from them.

## 45. The Serum Calcium in Urticaria.

S. S. GREENBAUM (*Arch. Derm. and Syph.*, November, 1927, p. 553) estimated the blood serum calcium content in sixty-three cases of urticaria, and in all except one found it normal or increased. The coagulability of the blood was tested in about half these cases, and a tendency towards shortening of the clotting time was detected. Several cases grouped as allergic showed increased or normal coagulability, with no decrease in the serum calcium content. The author concludes, therefore, that the exhibition of calcium salts in the majority of urticaria cases has no scientific basis. The undiminished coagulability of the blood in urticaria contrasts with the findings in experimental allergic shock in animals. He suggests that in subacute cases of urticaria ephedrine may be of value as an adjunct to adrenaline, and may also be used when the patient's tolerance to the latter is low.

46. *B. aertrycke* Infection of Animals Killed in Slaughterhouses.

I. GHEORGHIU and G. COSTIN (*C. R. Soc. de Biologie*, October 13th, 1927, p. 1025), working at Jassy in Rumania, encountered a case of human infection with *B. aertrycke*, and decided to investigate the frequency of this organism in animals met with at the abattoir. They examined the blood and gall bladder of 385 animals, cultures being made directly after the animals had been killed. *B. aertrycke*, which was identified by the fermentation, agglutination, and complement fixation reactions, was isolated nineteen times—that is, from 4.9 per cent. of animals. The authors think that the presence in the blood of organisms which are primarily inhabitants of the intestine may be explained by the circumstance that the animals were driven twelve to eighteen miles to the abattoir, and were not killed until some hours later.



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47. **Late Results of Treatment by Artificial Pneumothorax.**

H. BJELKE (*Tidsskrift f. d. Norske Lægefor.*, November 1st, 1927, p. 1278) has investigated the after-histories of the 111 patients given artificial pneumothorax treatment at the Vensmoen public sanatorium during the past ten years. In 41 cases the disease was mainly of an exudative, progressive character, 5 of the patients belonging to the second and 36 to the third stage of the disease as classified by the Turban-Gerhardt system. Cavities were demonstrable in 31 of these 41 cases, and whereas 40 were sputum-positive on admission, only 29 were so on discharge. As many as 23 of these 41 were discharged as improved. On investigation, however, 36 were found to be dead, and among the 5 survivors there was only one who could claim as long an interval as three years between the treatment and the present investigation. The results were very different in the case of the remaining 70 patients, whose disease was mainly of a productive, chronic character. There were 36 in the second and 34 in the third stage of the disease. Cavities were demonstrable in 56, and tubercle bacilli were found in the sputum in 69 of these 70 cases. On discharge, only 18 of these 70 patients were still sputum-positive, and 65 were discharged as improved. The investigation of their after-histories showed that 58 were still alive, only 12 having died. During the ten years under review the choice of patients for this treatment underwent considerable modifications. During the first five years—that is, up to 1922—most of the patients suffered from severe disease of the exudative, progressive type. During the last five years the patients selected for treatment suffered as a class rather from the productive than from the exudative type of the disease; and of the 63 patients treated during this last five-year period as many as 53 were found to be fit for work when the present investigation was made, only one patient being unfit for work, and 9 having died. The author emphasizes the importance to their surroundings of patients being discharged from the sanatorium sputum-negative, and in this connexion he notes that, though as many as 109 of the 111 patients had tubercle bacilli in the sputum before a pneumothorax was induced, 62 left the sanatorium sputum-negative. There was no case of gas embolism in this series.

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48. **Watch-strap Dermatitis.**

H. GOODMAN (*Urol. and Cutan. Rev.*, October, 1927, p. 648), who records an illustrative case, suggests that this condition is commoner than his experience or the reports he has seen would indicate, since cases of dermatitis among leather writers and tanners have been frequent. His patient was a woman, aged 24, who complained that for ten days she had been annoyed by a reddened area about the left wrist where she carried her watch. Although she had worn the strap for several months she had never been troubled before, and thought that the perspiration of a recent hot spell had caused the eruption. She removed the strap to the right wrist, on which she noted a similar redness and itching forty-eight hours later. On examination it was found that the lesions were limited to the forearm. Surrounding the left wrist was an area of erythema surmounted by closely crowded small vesicles. The part of the surface upon which the watch rested was least affected. Although the strap was only half an inch wide, the left forearm was erythematous half-way up to the elbow. The more recently exposed right wrist showed an area of erythema and vesicles more nearly that of the strap.

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49. **Causes of Blepharospasm.**

O. ORLANDINI (*Giorn. med. d. Osp. Civ. di Venezia*, September-October, 1927, p. 140), who records two illustrative cases in sisters aged 22 and 16, states that the causes of blepharospasm consist in a direct or reflex irritation or stimulation of the facial nerve in its peripheral portion, in its passage to its nuclei of origin, or, lastly, in its cortical motor centre. The reflex causes of blepharospasm are chiefly irritation of the trigeminal nerve, and consist in ocular or periorbital trauma or inflammation of the eyeball and its adnexa (keratitis, conjunctivitis, ulcers, iritis, blepharitis, dacryocystitis, and so on), or in pathological excitability of the sensory tracts, and in the case of the latter, blepharospasm is found to be due to disturbance of accommodation and errors of refraction. Lastly, the irritation may originate in a distant region, as in the case of children suffering from intestinal worms and in uterine disease.

Blepharospasm may be due to a direct cause, such as trauma in the region of the facial nerve, compression by tumours, caries of the petrous bone from otitis, and parotid abscess. Infectious diseases and intoxications, such as syphilis, alcoholism, and malaria, may also give rise to motor disturbances in the orbicularis. The etiological factor may be found in tuberculous meningitis and diseases of the brain with irritation of the facial nerve by compression or a meningeal exudate. In other cases the origin of the blepharospasm cannot be determined, and therefore the motor disturbance is regarded as functional or dynamic. Blepharospasm is, in fact, ranked among the motor anomalies of neuroses and psychoses, such as epilepsy, chorea, and especially hysteria, in which it is usually found on both sides.

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50. **Chronic Visceral Polysteatosi.**

M. COUTO (*Ann. de Méd.*, November, 1927, p. 449) describes a clinical complex, at first sight seemingly due to arteriosclerosis, but differing from it in that it is not a sclerosis but a steatosis of the affected viscera. The condition is comparable with that found in yellow fever, which is an acute infectious polysteatosi, and in which the cells of all the organs are filled with fat droplets, their nuclei also being more or less attacked. The sole etiological factor in chronic polysteatosi is alcohol. The differential diagnosis between arterio-sclerosis and steatosis can be made by a careful examination. In both the heart is enlarged, but in the former the left side is chiefly involved, the precordial shock is strong and diffuse, the bruits are accentuated and the gallop bruit is frequently present, hypertension occurs, and the pulse is hard. In steatosis the right side is principally affected, the precordial shock is weak or absent, the cardiac sounds progressively lessen even to the extinction of one or the other, hypotension is present, and the pulse is soft. At the end of the disease the precordial shock becomes strong and diffuse and the bruits clearly perceptible, uramic symptoms develop, and death occurs from cardiac insufficiency. In steatosis, emaciation due to pancreatic insufficiency and other causes, asthenia resulting from suprarenal insufficiency, delirium, vertigo, vomiting, oliguria, albuminuria, and cylindruria are present. The liver is always enlarged and palpable, and lutenus is seen. An ophthalmic complex, the buphthalmus of Lelaidre, always occurs; this consists of a slight oedema of the eyelids, dull yellow sclerotics, and the areolæ senilis. The lesions and symptoms may be more marked in some organs only; they are sometimes isolated, and occasionally combined, forming the various clinical types—cardiac, renal, and cardio-renal. While death usually ensues, recovery may occur, as in a case noted by Couto. Opinions differ as to whether the condition is a fatty infiltration or degeneration of the cells.

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51. **Oedematous Influenzal Laryngitis.**

A. RIGAUD (*Thèse de Paris*, 1927, No. 167), who records five cases in patients aged from 23 to 36, including three hitherto unpublished, states that acute oedematous laryngitis in influenza, which was first described by Wolfenden (*JOURNAL*, 1890, vol. i, p. 541), may present all degrees of severity, its intensity ranging from a slight interference with respiration to asphyxia requiring tracheotomy. The general symptoms are very variable, the sole constant one being a high temperature. The diagnosis can only be made by exclusion of all other causes of laryngeal dyspnoea. Thus, in children, cases of acute dyspnoea must be excluded, such as laryngeal diphtheria, laryngismus stridulus, foreign bodies, and causes of chronic dyspnoea, such as congenital laryngeal stridor, papilloma of the larynx, cicatricial laryngeal stenosis, and hereditary syphilis of the larynx. In the adult it is necessary to eliminate acute causes such as Bright's disease, angioneurotic oedema, iodine inflammation, acute infectious diseases, cancer, gout, laryngeal paralysis, and erico-arytenoid arthritis, and chronic causes such as tumours and sclerema. There is no specific treatment, but palliative measures and intubation or tracheotomy must be employed as required.

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52. **Sex Differences in Pulmonary Tuberculosis Deaths.**

P. PUTNAM (*Amer. Journ. of Hyg.*, November, 1927, p. 663) has made a statistical analysis of the mortality and population data of the U.S. Registration States of 1900 and the District of Columbia during the period 1870-1920, in order to determine the influence of sex on the death rate from pulmonary tuberculosis. For the first five years of life he finds a slight excess of male over female deaths. This is reversed at the

ages of 5 to 24 by a female excess, with the maximum between 10 and 14, when the proportion of female to male deaths is 100 to 39. The ratios swing back between the ages of 25 and 44, after which there is a marked excess in male deaths, reaching its maximum at the ages 45 to 54. The male prevalence persists till the age group 75 and over is reached, when the male and female death rates are approximately equal. The two most striking observations are the constant excess of female deaths during the 5 to 24 age groups throughout the fifty years examined, and the excess of male deaths during the 35 to 75 age groups. This excess has become far more evident during the last thirty years; for example, in 1880 the ratio of male to female deaths at ages 45 to 54 was 110 to 100, but in 1920 it had risen to 230 to 100. From a critical analysis of his data the author comes to the conclusion that sex differences at ages under 25 are due primarily to biological causes, related chiefly to physiological changes occurring during puberty and adolescence. The differences at ages 35 to 75, on the other hand, he ascribes to environmental causes, related to the greater wear and tear on the physiological resistance of men.

53.

#### Syphilis and Marriage.

F. PINKUS (*Méd. Klinik*, November 18th, 1927, p. 1767) reports the case of a man infecting his young wife six years after he had contracted syphilis; he had no symptoms, nor had he received treatment, but nineteen years later he died from aortic and cardiac syphilis. Syphilis may remain dormant for years and then suddenly become active. Pinkus also reports the case of a man who was apparently cured by treatment but yet infected his wife, and subsequently, when actually cured, was reinfected by her. The author believes that these patients should not marry within five or six years after the date of infection, and in the meanwhile should have frequent Wassermann tests of both the blood and the cerebro-spinal fluid. Organic disease of the central nervous system is said to occur most frequently within six years of the date of infection. He adds that an untreated syphilitic woman may give birth to a congenitally syphilitic child twenty years after she was infected, and that it is probable that there is a larger percentage of untreated cases among women. When a woman has received adequate treatment she should not marry for seven years, and be kept under observation during that period. E. FINGER (*ibid.*, p. 1769) states that even after ten or twenty years a syphilitic patient may still be infectious, but he thinks that these patients may marry when four or five years have elapsed since infection, provided that they have had prolonged and energetic treatment every six months and that they have been entirely free from symptoms for two or three years. In women the period of observation should be extended to six or seven years. J. JADASSOHN (*ibid.*, p. 1770) thinks that a syphilitic man, in selected cases, may marry four years after infection, provided that he has been treated on the most modern lines, and that repeated examinations of the blood and cerebro-spinal fluid have been invariably negative for at least two years.

## Surgery.

54.

#### Wound Infection and Catgut.

F. L. MELENEX, F. B. HUMPHREYS, and L. CARP (*Surg., Gynecol. and Obstet.*, December, 1927, p. 775) report an unusual fatal operative wound infection yielding a pathogenic anaerobe of the gas gangrene group not hitherto described, and referable to catgut. A clostridium was obtained which differed culturally from the other known species associated with human gas gangrene—such as *C. welchii*, *C. oedematis maligni*, *C. novyi*, and *C. histolyticum*; it produced a true exotoxin not neutralizable by the antitoxins for any of the others, and the specific antitoxin was ineffective against any of their toxins. The occurrence within four days of four other fatal wound infections of the gas gangrene type in the same hospital led to an investigation of the theatre technique, and it was found that the chronic catgut in use at the time yielded on culture *C. novyi*, two strains of this newly described species, two different strains of haemolytic *C. welchii*, and two other non-pathogenic spore-forming organisms. Clinically the organism recovered produced a painful, brawny, red, oedematous swelling around the wound, with fever, leucocytosis, feeble rapid pulse, nausea, and profuse perspiration, and terminating in somnolence, prostration, and circulatory failure; it was highly pathogenic for the eight different species of laboratory animals tested. The authors point out that these findings call for the establishment by manufacturers of adequate aerobic and anaerobic methods for the absolute demonstration of sterility of all catgut put upon the market.

55.

#### Primary Carcinoma of the Bronchi.

T. MCGRAE, E. H. FUNK, and C. JACKSON (*Journ. Amer. Med. Assoc.*, October 1st, 1927, p. 1140) state that statistics show that malignant disease of the lung is increasing in frequency, though neoplasms originating in the lung parenchyma comprise only 10 to 15 per cent. of all lung tumours. The great majority start in the bronchi and subsequently invade the lung tissue. From an analysis of 90 cases reported by Weller, 128 cases collected from the literature, and 14 observed by themselves, the authors deduce certain clinical features of primary bronchial carcinoma. Approximately 91 per cent. of the patients were past the age of 35, and males predominated in the proportion of 4 to 1. In 40 per cent. the right side was involved, in 47 per cent. the left, in 9 per cent. both sides, while in 4 per cent. the site was undeterminable. The onset, usually insidious, may be sudden, with pulmonary haemorrhage, pain in the chest, or symptoms of acute bronchitis. Cough, presenting no special characteristic, was present in all the cases. The expectoration varied from a scanty mucoid fluid to a profuse, mucopurulent, fetid discharge. In some instances the sputum revealed fragments of tumour tissue, but the "currant jelly" sputum, said to be characteristic, was rarely encountered. Tubercle bacilli were never found unless tuberculosis was also present, and the absence of these has some diagnostic importance. Haemoptysis, a frequent and important symptom, usually appeared early in the disease, and varied from mere streaking of the sputum to default haemorrhage. Dyspnoea was common, and pain in the chest occurred frequently. In general, the early physical signs were those of bronchial obstruction; they became more intense as the obstruction increased. Weakness, loss of weight, and pyrexia were usually present, though the fever was largely dependent on the presence of an associated infection. The blood showed either a normal count or varying degrees of anaemia and leucocytosis. Metastases were found after death in about 66 per cent. of the cases, and the authors believe that bronchial carcinoma metastasizes occurs late in the course of the disease. The malady must be distinguished from tuberculosis, foreign body in a bronchus, abscess, pressure on a bronchus from without, changes peripheral to the new growth, and cancer of the trachea. The surest and most essential method of diagnosis is bronchoscopy. These bronchial tumours appear to have a relatively low malignancy, and early diagnosis, followed by intensive x-ray therapy, may at least prolong life. The authors maintain that by bronchoscopy a positive diagnosis can almost always be made promptly, and that patients with obscure pulmonary and bronchial symptoms have a right to the benefits of this procedure.

56.

#### Technique in Prostatectomy.

M. CHEVASSU (*Bull. et Mém. Soc. Nat. de Chir.*, November 26th, 1927, p. 1256) describes the methods he has adopted with considerable success in the operation of suprapubic prostatectomy; in a series of 27 cases he had uniformly successful results. He performs the operation in one stage whenever possible, and only uses the two-stage method in exceptional circumstances, for he considers it unnecessary to inflict two operations on any patient who is not in very poor condition. Moreover, removal of the prostate is much more difficult when the operation is performed in two stages. Chevassu states that the operation can be extremely rapidly performed, often in less than a minute. He uses ethyl chloride anaesthesia on a mask, which lasts for three minutes and is devoid of any risk. He never packs the cavity left after removal of the gland. Haemorrhage is controlled by flushing with hot water, but it is important that the cavity itself should be actually flushed; for this purpose he uses a special type of irrigator. The absence of packing is said to give the patient a better and more comfortable convalescence.

57.

#### Peritonsillar Abscess.

KOWLER (*Rev. de Laryngol., d'Otol. et de Rhinol.*, November 15th, 1927, p. 662) considers that the collection of pus known as a peritonsillar abscess is wrongly named. He says that the abscess that occurs is always in the palato above the supratonsillar fossa. It forms in the space between the palatal ends of the palato-glossus and the palato-pharyngeus muscles which is normally filled with loose areolar tissue. The reason why the abscess is sometimes not discovered is that the knife is caused to enter the anterior pillar and explore the region behind. Although the anterior pillar is often red and bulging the pus is rarely found behind it, and it is significant that a collection of pus between the tonsil and the posterior pillar is of the rarest occurrence. In support of this the author cites two cases of Menzel where an abscess occurred more than a year after the complete removal of the tonsil, and on incision revealed no trace of tonsillar tissue. In another case an abscess of the palato occurred in two successive years, and after the second attack

the tonsils were completely removed. In the following year another abscess appeared and was incised; in the fourth year this was repeated. The author states that in cases of abscess in association with the tonsil the pus is always in the thickness of the palate, no matter where the swelling appears most prominent, and he advises that it should always be sought there.

#### 58. Rectal Fistula in Tuberculosis.

W. A. FANSLER and C. K. PITTER (*Minnesota Med.*, November, 1927, p. 699) believe that tuberculous patients have a tendency to rectal fistulae, which occur in 3 per cent. of all cases of this infection. Clinical examination alone will often be sufficient to establish the tuberculous nature of a fistula, but a number of apparently simple lesions are on closer study found to be tuberculous. The finding of tubercle bacilli in smears of pus from an unruptured abscess, or as the result of animal inoculation, and in sections of the diseased tissue, will confirm a diagnosis made on clinical grounds, but repeated sections may have to be cut in order to demonstrate the character of the lesions. The authors doubt whether a fistula is ever primarily tuberculous. The form of operative treatment recommended is the cauterization alone or combined with dissection, depending on the needs of the case. The authors consider that operative intervention should be seriously considered in all cases of tuberculous fistulae.

#### 59. Treatment of Liver Abscess.

E. BRESSOT (*Bull. et Mém. Soc. Chir. de Paris*, October 21st, 1927, p. 620) records his experiences in treating amoebic abscess of the liver by evacuation without drainage in a series of five cases. Local anaesthesia was used in four cases. The liver was exposed by one of the ordinary incisions and the abscess opened under full vision. The pus was examined at once, and during this time the abscess was evacuated by using a Potain's aspirator. The cavity, when emptied by the aspirator, was freely opened and swabbed; the walls were never curetted. The liver opening was then obliterated by careful suturing. In the pus did not influence the line of treatment, but emetine was given subsequently. The post-operative course in all cases was straightforward and the temperature fell quickly to normal; sometimes the temperature was raised the day after operation, but this was of no significance. In eight to fifteen days the wound was healed, contrasting favourably with the fifty to 120 days required for cases that were drained. The rapidity of the recovery and the excellent results obtained are thought to render this method superior to any other that may be employed.

#### 60. Carcinomatous Degeneration of Rectal Adenomas.

F. C. YEOMANS (*Journ. Amer. Med. Assoc.*, September, 1927, p. 852) reports seven cases of rectal adenomata, in six of which adenocarcinoma developed. He concludes that although a solitary adenoma may exist for many years without becoming malignant, yet that it ought to be considered precancerous and be removed. The more sessile is the growth the greater is the tendency to malignant metamorphosis, and Yeomans thinks that the more frequent use of the proctosigmoidoscope would enable such tumours to be dealt with early and successfully. An accessible polypoid adenoma can usually be snared and cut off safely, but the more sessile growth requires wide excision of the base and cauterization or coagulation of the site of attachment. Solitary high pedunculated growths may sometimes be safely snared. When the tumour is sessile but removable it may already be malignant. Electric coagulation or radon implantation should be used as a safeguard against dissemination. High-lying sessile growths may have to be removed through an abdominal incision—a more dangerous procedure owing to the risk of peritoneal infection.

## Therapeutics.

#### 61. Treatment of Excessive Sweating.

W. CURTH (*Med. Welt*, November 12th, 1927, p. 1518) discusses the treatment of general and local hyperhidrosis; the general type occurs in pneumonia, typhus fever, tuberculosis of the lung, Basedow's disease, brain tumours, and cachexia. Atropine, though very useful, has the disadvantage of arresting the salivary secretion, causing dryness of the mouth, and inciting cough in a very distressing way to the patient. Curth thinks it better, therefore, to employ agaricin, 130 gram, in pill form, every evening, or fluid extract of hydrastis, 25 to 30 drops three times a day. Arsenic given

for a long time in small doses is strongly recommended; an infusion of sage leaves, or a tincture of sage leaves, 20 drops three or four times a day, is also useful. All these remedies, with the exception of sage, seem to influence the sweat glands through their nerve supply. Daily baths at a temperature of 80°F. are advised, and friction with some alcoholic solution, eau-de-Cologne, lavender or thyme or menthol solutions 1/2 per cent. Adipose persons require some dusting powder; but a powder containing salicylic acid is contraindicated in lung diseases, since it irritates the organs of breathing. The powder most employed is salicylic acid 2 per cent., iris root 10 per cent., zinc oxide and bismuth subnitrate each 20 per cent., with talc powder to 100. For sweating and malodorous feet Curth recommends horsehair or straw movable inner soles to the shoes dusted with a 30 per cent. sodium borate powder, as are the stockings or socks. The toes should be separated with cotton-wool, and the feet washed each evening with spirits of wine, eau-de-Cologne, or 2 per cent. salicylic acid in alcohol; afterwards they should be dusted with 3 per cent. salicylic acid mixed with equal parts of bismuth subnitrate and talc powder to 100. Painful fissures on the feet should be painted with 1 to 2 per cent. of silver nitrate before applying an ointment. For sweating in the axilla Curth recommends concentrated acetic acid 60 per cent., spirits of lavender and spirits of rosemary each 1 per cent., spirits of cloves 1/2 per cent., camphor 8 per cent., aromatic spirits of vinegar to 100. For clammy hands he also recommends a spirit solution, either 5 per cent. salicylic acid or the following: formic acid and chloral hydrate each 5 per cent., Peruvian balsam 1 per cent., dilute spirit to 100. For sweating of the head he recommends cold water douches and subsequent friction with spirits of ether 50 per cent., tincture of benzoin 7 1/2 per cent., and a few drops of vanilla, heliotrope, or oil of geranium; at night a salicylic powder may be used.

#### 62. Indications for Synthalin in Diabetes.

A. H. A. MARTENS, C. H. KOERS, and C. DE JONG (*Nederl. Tijdschr. v. Geneesk.*, November 5th, 1927, p. 1918), who record 11 cases of diabetes in patients, aged from 14 to 71, treated with synthalin, summarize their conclusions as follows: (1) Synthalin reduces the amount of sugar in the blood as well as in the urine. (2) The use of synthalin may be of service not only in mild and moderate cases of diabetes but also in acidosis after or in association with a course of insulin treatment. (3) It is desirable to test the hepatic function before commencing synthalin treatment. (4) Increase of urobilin or urobilinogen hardly ever occurs after administration of synthalin. It cannot, therefore, be regarded as a contraindication for synthalin treatment. (5) A sequel of synthalin treatment to which no attention has been drawn is the frequent occurrence of loss of flesh. (6) The complications of synthalin treatment are usually of short duration and are no indication for the suspension of the treatment. The administration of fractional doses usually causes the symptoms to disappear. (7) Any cholinergic has a good effect in causing disappearance of the symptoms. This supports the view that an efficiently functioning liver is the principal requisite for synthalin treatment. (8) The success of synthalin is not dependent on good gastric function, since synthalin treatment had a favourable effect in several patients with achlorhydria. (9) Treatment with synthalin requires special attention to each individual patient even more than insulin does.

#### 63. Chemotherapy in Septicæmias.

E. VAUCHER and Mlle UHRIG (*Paris méd.*, December 3rd, 1927, p. 454) assert that some chemical products have given very good results in the treatment of infections, and they describe four in particular—trypaflavine, mercurochrome, septicemine, and optochine—and the conditions in which they have proved of benefit. Trypaflavine is a brownish-red powder, soluble in water, forming a yellow solution. This should be sterilized for one hour at 70°, and, as it is sensitive to light, should be kept in dark bottles or ampoules. It possesses a marked bactericidal action, and acts as a powerful disinfectant in the blood, serum not modifying its action. Trypaflavine is said to be only slightly toxic, and is usually administered in 2 per cent. solutions. Slight reactions, including a yellow coloration of the skin, without shock, follow the injections. Normally it is excreted in the urine in thirty-six to forty-eight hours. Indications for its use are septicæmias in general, septic endocarditis, all infections, and typhoid fever; it is contraindicated in acute hæmorrhagic or chronic nephritis. Mercurochrome, the sodium salt of dibromoxy-mercury-fluorescein, contains 26 per cent. of mercury, and is soluble in water, forming a cherry-red solution. It possesses great penetrating and bactericidal powers, and causes only slight irritation of the tissues. A 1 per cent. solution is usually injected intra-

venously, the dose being 5 mg. for each kilo of body weight; it causes rather marked reactions. The drug is eliminated in the urine and faeces. Mercurochrome has been used with benefit in many infections, as septicaemia, pneumonia, and scarlet fever, and as a wet dressing in cutaneous infections. Optochine or ethylhydrocupreine, a quinine derivative, is liable to cause aural and ophthalmic troubles, and its use needs careful supervision, but it has given good results in pneumococcal infections owing to its selective action on the pneumococcus. Sopticeimine contains 33 per cent. of iodine and 45 per cent. of formine; it is extremely diffusible, non-toxic, and strongly germicidal. The drug causes no reactions, and is eliminated by the kidneys. It is said to be indicated in all general infections, particularly the puerperal, in septicaemias, and in pyaemias. The authors discuss the combining of these drugs with vaccines and serums in the septicaemias due to streptococci, staphylococci, colon bacilli, pneumococci, and gonococci.

#### 64. Treatment of Typhoid and Paratyphoid Fever with a Staphylococcal Vaccine.

V. BIE (*Ugeskrift for Læger*, November 24th, 1927, p. 1072) has, since 1921, been treating typhoid and paratyphoid fever with vaccines. During the first two years a typhoid vaccine was given. Later a staphylococcal vaccine was used, as its action was equally effective and the treatment could be started at once on the strength of a clinical diagnosis without the subsequent serological diagnosis being rendered difficult by artificial changes in the Vidal reaction. On five successive days intramuscular injections were given, the doses being 100, 200, 400, 700, and 1,000 million organisms. In the few cases in which this series of injections proved ineffective it was repeated after an interval of a few days. There was no more than a slight rise of temperature, and a rigor was observed in only one case. No patient collapsed under this treatment. The result was usually a fall of temperature by lysis during or directly after the injections. All the 51 cases of paratyphoid fever thus treated were severe. In 39 the result was good, the temperature falling during or directly after the injections; in 4 cases the fall of the temperature was slow, or the effect of the injections was doubtful, and in 8 cases the treatment seemed to have no effect. None of those 51 patients died. Of the 54 patients suffering from moderately severe, or severe, typhoid fever 35 responded satisfactorily to the treatment; its action was doubtful in 3 cases, and ineffective in 9; 7 of the patients died. Among the 47 who recovered there were as many as 13 who suffered from pneumonia. The author concludes that the pneumonia complicating typhoid fever is seldom affected by vaccine treatment, and that when this treatment fails to benefit a case of typhoid fever it is usually because the patient is also suffering from pneumonia. Uncomplicated typhoid fever usually reacts satisfactorily to intramuscular injections of a staphylococcal vaccine, and the disappointing results obtained by other workers may in many cases be traced to the fact that they gave the vaccine by the intravenous, and not by the intramuscular route.

#### 65. Pepsin Solutions in Inoperable Prostatic Hypertrophy.

E. GRUNERT (*Zentralbl. f. Chir.*, December 3rd, 1927, p. 3088) confirms Payr's observations on the efficacy of injections of pepsin solutions in this condition, and he describes the case of a man in whom the pelvic floor was occupied by a non-inflammatory apparently malignant tumour. He gave three injections into the prostate of 10 c.cm. of a 2 per cent. pepsin solution, employing Payr's technique and allowing an interval of five days between each dose. The tumour contracted, and urination became normal. The patient, however, lost weight and died two years later. No necropsy was performed. Grunert suggests that this treatment might be of great value in affording relief in inoperable cases of prostatic hypertrophy or of malignant prostatic tumours.

#### 66. Somnifen in States of Agitation.

W. MARTINEZ and F. J. RODRIGUEZ (*Rev. de neurol., psiquiat., y med. leg. de Uruguay*, September, 1927, p. 2), who record ten illustrative cases of various forms of motor agitation treated by the soluble hypnotic somnifen (diethylallyl-barbiturate of diethylamine, came to the following conclusions. This drug, given intravenously in doses of 2½ to 4 c.cm., proved a powerful hypnotic in all cases of insomnia; it was also an effective sedative in motor irritability of alcoholic origin. It had absolutely no action on restlessness due to other causes such as manic-depressive psychosis, and it did not soothe post-oncetric states of depression or delirium even in alcoholic subjects. When given in the ordinary doses it was harmless provided that the blood urea did not exceed 50 cg. per litre and the cardiovascular system was healthy.

## Ophthalmology.

#### 67. Hereditary and Familial Optic Atrophy.

R. FAVIER (*Thèse de Paris*, 1927, No. 439), who records two illustrative cases in brothers, maintains that this condition—first described in 1871 by Leher, who collected 55 cases—is not so rare as is supposed. Hornum in 1900 obtained information about 74 families, which included 300 patients, of whom 131 submitted to medical examination. Other cases have since been reported by Klopfer, Buisson, Mathlon, and Helmsborger. In the great majority of cases the condition develops as retrobulbar neuritis, and appears to have no other cause but a familial and hereditary predisposition, being characterized not by its symptoms or ophthalmoscopic appearance, which resemble those of toxic amblyopia, but by its peculiar course. It rarely appears before the age of 12 or 13, nor after 30, except in women, in whom it develops between 41 and 49, about the time of the menopause. The youngest patient hitherto seen was a child aged 6 years, and the oldest were aged 52 and 67. Prodromal symptoms are exceptional. Visual disturbance occurs suddenly and develops rapidly in the course of the following four or five weeks, when it becomes more or less stationary. Sometimes the course of the disease is slower, lasting six to twelve months, or it may be rapid, producing almost complete blindness in a few days. Such cases, however, are exceptional. The affection is always bilateral, although both eyes are not always affected to the same extent or at the same time. The results of ophthalmoscopic examination vary according to the stage of the disease when it is made. During the progressive period comparatively little is to be seen; later, however, signs of partial atrophy develop. General disturbance may occur in the form of migraine, vertigo, vomiting, and sometimes epileptic attacks. The prognosis should be guarded, though it is not invariably hopeless. All treatment has hitherto proved ineffective.

#### 68. Arterial Spasm and Occlusion of Branches of the Retinal Artery.

H. P. WAGENER and J. F. GIPNER (*Amer. Journ. Ophthalmol.*, September, 1927, p. 650) describe five cases of spasm of a branch of the retinal artery. In two of the cases the affected branch was completely obliterated beyond a certain point and quite invisible. While under observation the artery opened up, refilled with three progressive pulses, and became normal, vision being completely restored. In both patients early signs of hypertension were noted, and in one symptoms of the Raynaud type had been detected. This patient complained of occasional short periods of blindness on various occasions over a period of years and involving part of the visual field. In the other cases there was permanent loss of vision, and on examination the affected artery appeared as a white cord. The authors consider that in these cases thrombosis of the blood occurred at the time of the arterial spasm or immediately following it.

#### 69. Bilateral Pre-papillary Vascular Loop.

A. M. YUDKIN (*Arch. Ophthalmol.*, September, 1927, p. 474) describes a case of bilateral pre-papillary loop of the retinal artery. In both eyes the central artery of the retina divided on the disc into two main branches. From the lower a spiral loop protruded into the vitreous, took a sharp turn, and returned to the upper temporal edge of the disc after making three spiral coils. The other vessels were normal. The slit-lamp examination revealed no remnants of the hyaloid arterial system. These phenomena have been reported from time to time, but it is very rare for the condition to be identical or even present in both eyes. With regard to the etiology, it is now held that the condition has nothing to do with either an inflammatory process or with the embryonic remains of the hyaloid artery, but is rather an excessive development with exaggerated tortuosity of the normal arterial system.

## Obstetrics and Gynaecology.

#### 70. Blood Transfusion in Obstetrics.

IN order to obviate the use of stabilized blood in bulk with its contained anticoagulants (such as sodium citrate), which are toxic in large doses, LÉVY-SOLAL and A. TZANCK (*Presse Méd.*, December 10th, 1927, p. 1505) have designed a simple apparatus by means of which a number of donors may be successively utilized at the one operation. The authors report twenty-six obstetrical and gynaecological cases in which this procedure was most beneficial and no fatalities occurred. These cases included post-partum haemorrhages, abortions complicated with haemorrhage, obstetrical shock, placenta praevia, acute



anemias of the pernicious type, and extrauterine pregnancies; in some of them artificial serum had been employed without benefit. The authors emphasize the importance of choosing the right moment for transfusion, and state that in all varieties of severe haemorrhage there are three distinct phases: (1) the stage of tolerance, in which the symptoms are not very apparent; (2) the phase of critical threshold, marked by an abrupt or progressive falling of the general state; and (3) the phase of asthenia or collapse, characterized by an imperceptible pulse and an absence of arterial tension. Preparations for the transfusion should be made on the first appearance of disquieting symptoms, and the operation be performed when progressive acceleration of the pulse and respiration occur. A description of the technique is given, whereby large amounts of pure blood can be transfused with the maximum of control and safety. As much as two litres may be necessary, and the authors' rule is to inject as much blood as has been lost. Their twenty-six cases included six of profuse bleeding during labour, seven of haemorrhage after abortion, three of shock following loss of a moderate amount of blood, three of placenta praevia, two of severe anaemia in pregnancy, and five of extrauterine gestation.

#### 71. Insulin in Gynaecological Conditions.

ACCORDING TO E. VOGT (*Zentralbl. f. Gynak.*, November 25th, 1927, p. 3034) insulin exerts important influences on the activity of the endocrine glands, especially the ovaries. Injections of insulin have been found by Vogt to be effective in treatment of certain cases of "ovarogenous bleeding"—that is, cases of menorrhagia or metrorrhagia attributable, in the absence of morbid uterine conditions, to ovarian dysfunction. Moderate doses given twice daily before the morning and evening meals are recommended, and are said to be effective usually within two or three days. In two cases of wasting without discoverable organic disease a course of insulin injections in small doses led not only to a large gain in weight but also to a return of the menses. The first patient, a nullipara aged 35, had lost 40 lb. in weight and had had amenorrhoea during six months; she regained her lost weight with seventy-two days' insulin treatment and began to menstruate regularly. The second patient, an unmarried woman aged 23, in seven weeks regained 11 lb. in weight and menstruated for the first time for two years. Further evidence pointing to a connexion between insulin and the ovary is perhaps found in successful insulin therapy of hyperemesis gravidarum, which has been regarded as a consequence of ovarian hypofunction, and which in the experience of certain observers has been favourably influenced by injection of ovarian extract. Sterilization of female animals by injections of insulin has been accomplished by Vogt and others; injections or implantations of ovarian extract or substance from gravid animals had the same effect. Vogt finds that the effect of insulin given to non-diabetic females shows a constant variation with the menstrual cycle. The maximum diminution of the blood sugar was obtained during the last eight days before menstruation and during menstruation; after this period the effect of insulin became rapidly less, and remained at a minimum level throughout the first half of the intermenstruum. These findings, which have an obvious practical importance in the treatment of female non-diabetics by insulin, are compared with those of Frank and of Fels, who determined that the concentration of ovarian hormone in the blood was at its highest ten days before menstruation and remained at a very low level during the first ten days of the intermenstruum: apparently the ovarian hormone content of the blood and insulin sensibility take parallel courses in the menstrual cycle. During the latter half of pregnancy Vogt has found that the insulin sensibility remains high but constant; Frank found that the ovarian hormone in the blood from the fourth month of pregnancy onwards remained permanently at the level of twice the amount present before menstruation. He adds that with increasing knowledge of the action of insulin it becomes more evident that its action is not specific, but is complex, pluripotent, and related to that of ductless glands other than the pancreas.

#### 72. Puerperal Septicaemia caused by *E. perfringens*.

R. PALAZZO (*Rev. Sud-Am. de endocrinol., immunol. y quimioter.*, October, 1927, p. 775), who records an illustrative case following criminal abortion, states that though puerperal septicaemia has formed the subject of numerous communications, especially in France and Germany, it has not received the attention it deserves, as it is much more frequent than is supposed. Puerperal infection with development of gas in the uterine wall during life was described by Dohrn in 1872 before the anaerobic flora were known, but the nature of the process remained obscure, and it was not until 1900 that Halban in Vienna made the first bacteriological study of gangrene of the uterus, in which he found Fraenkel's bacillus during life and gave the name of "septic emphysema of the uterus" to the condition. The most important studies have

since been made by Schottmüller (1910), Fraenkel (1924), Nürnberger (1925), and Lehmann (1926) in Germany, Brindeau and Macé (1900), Ballard (1918), and Telsier, Rivaller, and Theiral (1926) in France, and H. Thorn in England. According to Nürnberger this infection is commonest in cases of criminal abortion. The characteristic symptomatic triad due to an intense destruction of the red corpuscles consists in a yellowish-green coloration of the skin and sclerotics, changes in colour of the urine, which is at first yellowish red, then dark, and finally black, and dark red coloration of the blood serum. Spectroscopic examination shows the presence of methaemoglobin. The prognosis is bad, death being due to destruction of haemoglobin and endogenous asphyxia. The absorption of toxic products due to disintegration of the tissues may hasten the fatal termination.

#### 73. Surgical Intervention in Pelvic Infections.

A. H. CURTIS (*Journ. Amer. Med. Assoc.*, October 8th, 1927, p. 1191) discusses gynaecological problems and their treatment. He finds that in chronic leucorrhoea Skene's duct is as important a source of discharge as the uterine cervix and needs as much treatment. In chronic endocervicitis the establishment of thorough drainage is of great importance. He stresses the danger of repeated instrumentation of the uterus and also maintains that supravaginal hysterectomy performed even several days after diagnostic curetting is not an aseptic surgical procedure. In acute inflammation of the tubes operative treatment should be avoided. Curtis holds that a quiescent tubal infection is a self-limited disease, and that an operation is to be avoided except in the case of sequelae. With regard to diseased ovaries he thinks that less radical surgery is required in gonococcal cases than in those of tuberculous or streptococcal origin.

#### 74. Serological Diagnosis of the Puerperium.

C. LIPPERA (*Il Policlinico, Sez. Prat.*, November 14th, 1927, p. 1655) has tested the medico-legal value of serological examination in a number of puerperal women. It has been suggested that in the puerperium some milk passes into the blood and, acting as a heterogeneous protein, excites the formation of agglutinins, which in their turn will cause agglutination when mixed with prepared serum. The author found that with two exceptions the test was positive up to eleven months after parturition. It was found positive in a woman who brought forth a macerated foetus at seven months and in a woman eight months pregnant.

#### 75. Vertebral Deformity and Cardiopathy during Pregnancy.

P. KLEIN (*Arch. f. Gynak.*, September 1st, 1927, p. 653) draws attention to the need of surveillance during pregnancy of women with severe kyphosis and scoliosis; in addition to pelvic deformity morbid conditions of the heart are present which may have serious or even (as in two cases here described) fatal consequences. The "cor kyphoscolioticum" is associated with typical post-mortem findings of muscular degeneration, well marked hypertrophy of the right ventricle, and little or no alteration of the valves. Strain is thrown on the heart by (1) the compression of one lung by vertebral deformity and compensatory emphysema of the other, (2) impediment of thoracic breathing by ankylosis of the ribs, (3) difficulty of cardiac expansion owing to narrowing of the thorax. Women with advanced kyphosis and scoliosis are subjected to increased cardio-vascular strain from the earliest months of pregnancy and during each of the stages of labour. Klein describes sixteen cases and alludes to 103 others, in the majority of which grave signs of cardiac embarrassment occurred in the earliest stages of pregnancy. He thinks that when signs of decompensation have appeared before pregnancy, or when medical treatment is not speedily effective in cases in which cardiopathy is noted during the early months, induction of abortion is indicated. When the patient is first seen with marked signs of cardiac trouble during labour it is probably wisest to perform Caesarean section; this is the best means of eliminating the muscular labour of parturition, and has the advantage that by a simultaneous Porro's operation the patient may be spared the dangers of the puerperium and protected from the risks of subsequent conception.

#### 76. Respiratory Emphysema in Labour.

G. A. GORDON (*Amer. Journ. Obstet. and Gynecol.*, November, 1927, p. 633) reports two cases of respiratory emphysema as an unusual complication of labour, and reviews 130 previously recorded. Both his patients were healthy young primiparae in whom labour was somewhat prolonged, but the pains and straining were no worse than usual. In the first air crepitation with slight tenderness developed subcutaneously over the face, neck, and chest to the nipple level, eventually spreading to the parietal scalp, with entire disappearance by



the fifth day. In the second an area of emphysema extended from the infraclavicular space to the zygomatic arch on the right and to the lower jaw and trapezius on the left; by the fifth day it was present only just above the right clavicle, and had entirely disappeared by the tenth day. No predisposing cause could be discovered in the first case, while in the second the fact that the patient had had resection of two ribs for empyema in childhood may have been a determining factor. The clinical course of both was uneventful. The condition usually occurs during the second stage, but may arise in the first; frequently it is not noticed until after delivery, and may originate in any part of the air passages. Its etiology and pathology are not known. The prognosis is good and treatment is expectant, rapid delivery being indicated for steadily increasing emphysema or for symptoms of respiratory distress.

## Pathology.

### 77. Inheritance of Susceptibility to Malignant Tumours.

CLARA J. LYNCH (*Journ. Exper. Med.*, December, 1927, p. 917) has already adduced evidence that susceptibility to spontaneous tumours in mice is inherited. She has now performed a series of experiments to determine whether susceptibility to tumours induced by tar is also inherited. Two strains of mice were chosen: (1) an agouti strain having an incidence of spontaneous lung tumours of 6.73 per cent., and (2) an albino strain having an incidence of spontaneous lung tumours of 37.04 per cent. Thirty mice of each group were painted on twelve different regions of the body with tar extract; each region was painted four times, the total treatment lasting four months. The incidence of lung tumours in the agoutis was 22 per cent., in the albinos 85 per cent. The effect of the tarring had therefore been to raise the incidence of lung tumours considerably in both groups of mice. The agoutis had been crossed with the albinos, and 35 of the F1 generation were tared; after six months, when the surviving animals were killed, the incidence of lung tumours was 79 per cent.—that is, nearly as high as in the pure albino mice. Males of the F1 generation were then back-crossed with females of the albino strain, and the offspring tared; the incidence of lung tumours in these mice was 81 per cent., or about the same as in the pure albinos. The same males of the F1 generation were also mated with females of the agouti group; 39 offspring, all agoutis, resulted and were tared, the incidence of lung tumours being 39 per cent.—that is, greater than in the pure agoutis, but considerably less than in the albinos. The author concludes that there is little doubt that susceptibility to tumours induced by tar is inherited. It would appear that at least one factor governing susceptibility is dominant, for the F1 generation when back-crossed with the albinos gave approximately the same rate of tumour incidence as the pure albinos; on the other hand, the back-cross with the agoutis gave an intermediate result, indicating that probably more than one factor is involved.

### 78. The Etiology of Localized Oedemas.

J. CARLES (*Journ. de Méd. de Bordeaux*, November 25th, 1927, p. 847) draws attention to the fact that a localized oedema of cardiac or nephritic origin is usually related to a previous trauma. He mentions one case in which a previous fracture determined the site of oedema in a nephritic. In another case erysipelas was the factor which started an oedema of the face only. In cases of unilateral hydrothorax a previous pulmonary lesion, such as pleurisy or tuberculosis, is nearly always to be found. As an explanation the author suggests that in accordance with a general law by which microbes and poisons are attracted to the seat of a lesion a special aptitude is conferred on the tissues to detain locally such substances as chlorides and sodium. Or it may be that trauma has the effect of damaging the osmotic power of the capillaries or modifying their vasomotor functions.

### 79. Modification of Tuberculous Lesions by the B.C.G. Vaccine.

P. P. DWIKOFF and L. P. MASOUROWSKI (*Ann. de l'Inst. Pasteur*, November, 1927, p. 1194) vaccinated 17 guinea-pigs with the B.C.G. vaccine. The doses used were very small and were administered by the mouth, subcutaneously, or by intraperitoneal injection. The animals were subsequently inoculated with a very small dose of virulent tubercle bacilli, apparently by the same route as that used for vaccination. All the guinea-pigs except four died in from three weeks to three months; the four exceptions lived from four to seven and a half months. At necropsy the lesions in the guinea-pigs were found to be distributed throughout the usual organs,

but histological examination revealed that the tuberculous process was often advancing only slowly or was actually retrogressing. Fibrous tissue was abundant, caseation was not very marked, and in some animals actual calcification was seen. The guinea-pigs that survived for some months showed actual cavities in the lungs, together with calcareous masses. The authors conclude that in animals vaccinated with the B.C.G. strain and subsequently infected with virulent tubercle bacilli the lesions tend to be sclerotic, particularly those in the lymphatic glands and liver. The alteration in the course of the disease, however, is not sufficient to prevent death.

### 80. Effect of Sodium Salicylate on the Heart.

A. M. MASTER (*American Heart Journal*, December, 1927, p. 180) has studied the effect of sodium salicylate on normal individuals in order to determine whether the use of this drug in rheumatic fever produces some of the electro-cardiographic changes observed in that disease. These include prolongation of the P-R interval, from an almost imperceptible depression of conduction to dropped beats; partial or complete heart-block; alteration in rhythm (sinus arrhythmia, sino-aortic block, nodal rhythm, premature beats, paroxysmal tachycardia, auricular fibrillation, and flutter) and changes in the QRS group and S-T transition interval. Master gave full medicinal doses (that is, 60 to 120 grains of sodium salicylate in the twenty-four hours) to thirteen patients in hospital, until toxic symptoms occurred. The patients' hearts and lungs and blood pressures were previously normal. Electro-cardiograms were taken before and after the salicylate administration. The drug had no effect on the pulse rate, the electro-cardiographic tracing showed no abnormality, and no evidence was obtained that the drug affected normal heart muscle. The author concludes that since in rheumatic fever electro-cardiographic changes are almost invariably present, and sodium salicylate has been shown to be incapable of causing such alterations, they must be due to the disease alone.

### 81. Transmissible Toxicogenicity of Streptococci.

M. FROBISHER, jun., and J. H. BROWN (*Bull. Johns Hopkins Hosp.*, September, 1927, p. 167) cultivated non-toxicogenic, non-scarlatinal streptococci, and strains of *B. coli*, *B. prodigiosus*, *B. subtilis*, and *S. albus* in mixed culture with toxicogenic scarlatinal streptococci, and recovered them in pure culture. Two non-scarlatinal streptococci were then found to have acquired temporarily a definite toxicogenicity giving rise to a toxin which was neutralized by antiscarlatinal serum. The other organisms did not acquire any toxicogenicity. The authors also found that non-toxicogenic streptococci might acquire a toxicogenicity from sterile Berkeley filtrates of the scarlatinal type, although the toxicogenic powers so acquired were in general less marked than those acquired from the mixed cultures. This is taken to suggest the existence of a filterable second factor associated with the scarlatinal streptococci.

### 82. Pathogenesis of Tuberculosis in Adults.

F. HARBIZZ (*Norsk Mag. f. Lægevidensk.*, November-December, 1927, p. 892) publishes post-mortem findings during the ten-year period (1916-25) at the Rikshospital in Oslo, where 1,882 complete examinations were made of persons over the age of 15. Among them there were 239 cases in which death was due to tuberculosis, pulmonary tuberculosis being responsible for 141 deaths, and other forms of this disease for 98 deaths. Among the 141 cases of fatal pulmonary tuberculosis there were 35 in which the necropsy findings proved, or suggested, that the disease was caused by infection in childhood. Among the 98 cases of other forms of tuberculosis there were as many as 65 in which the disease could be traced to infection in childhood. Thus 100 of a total of 239 fatal cases of tuberculosis could be regarded as auto-reinfectious. This proportion (42 per cent.) of auto-reinfections was probably an underestimate, as some cases of old infections in childhood may have been overlooked. When the persons dying between the ages of 16 and 30 were considered by themselves it was found that among the 478 necropsies made on persons of this age there were as many as 143 (30 per cent.) whose deaths were caused by tuberculosis. At the necropsies of these 143 cases signs were found of an old infection in childhood in as many as 79 (55 per cent.). The author concludes that with regard to tuberculosis in structures other than the lungs the disease in adult life is usually the result of spread of infection from a focus which developed in childhood. He is more cautious in his judgement with regard to fatal cases of pulmonary tuberculosis in adults, as it is comparatively difficult to judge from the clinical history and the post-mortem findings between the possibilities of a new, an exogenous, and an endogenous infection from an old focus.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 83. Pulmonary Tuberculosi as a Sequel to Pleurisy.

O. SCHJEL (Norsk Mag. f. Lægevidensk., November-December, 1927, p. 913) has investigated the subsequent fate of patients suffering from pleurisy, with special reference to the development of tuberculosi. For the sake of comparison he quotes the Swedish statistics of Köster and Allard, whose 514 cases of primary pleurisy were observed for one to twenty-eight years after the pleurisy. They found that 47.7 per cent. subsequently developed tuberculosi, and that 22.4 per cent. died of it, most of the cases of tuberculosi developing within the first five years after the pleurisy. Schjel's cases of pleurisy were treated at the Ullevaal Hospital in Oslo in the ten-year period (1916-25). More than two-thirds of the total of 956 patients were between the ages of 11 and 30, the period between 16 and 25 being that at which the pleurisy was most common. In the spring of 1927 information was obtained as to the subsequent fate of 812 of these 956 patients, and it was found that 22.4 per cent. had developed tuberculosi, mostly of the pulmonary form, and the mortality was 9.9 per cent. Commenting on the fact that the proportion of post-pleurisy cases of tuberculosi was much lower in his own material than in Köster's, Schjel suggests that the after-treatment which his patients received was better. He found that the most dangerous years after an attack of pleurisy were the first three or four.

### 84. Diminished Secretion of Sweat in Heart Failure.

It has been observed that when cardiac patients with oedema are confined to bed and given appropriate treatment increases in the secretion of sweat and of urine often run parallel; the fact that these patients stand heat, whether climatic or in the form of physical treatment, badly has also been ascribed to imperfect regulation of body temperature due to defective sweat secretion. E. KAUF and E. ZAR (Wien. klin. Woch., November 10th, 1927, p. 1405) found by microscope observation that in normal persons perceptible droplet secretion of sweat is confined during mental and physical rest to a few areas, including the finger-pads of the terminal phalanges, where it is continuous. In the other method employed in studying the secretion of sweat the fingers were pressed for two minutes on to filter paper which had previously been impregnated with 1 per cent. silver nitrate solution and dried; the sodium chloride in the sweat droplets converted the silver salt into the chloride and showed on exposure to light as a series of black spots. Repeated observations on a number of patients with cardiac disease gave the following results. In 15 out of 17 cases with compensated valvular lesions the secretion of sweat was normal, while in all 27 cases of valvular lesions with failure of compensation, myocardial degeneration, and enlargement of the liver the secretion of sweat was much diminished or absent; in most cases this persisted even when other symptoms had improved. The authors do not consider that the failure of secretion is initiated by local peripheral conditions, such as lack of oxygen or accumulation of carbon dioxide, or local anaemia, since the secretion was normal in three cases of congenital heart disease with marked cyanosis, and sweating occurs under hot-air treatment in an arm made anaemic by Esmarch's method. They conclude that the phenomenon of deficient sweat secretion in cases of the type described is closely connected with the stagnation of fluids in the tissues by some mechanism which has not yet been explained.

### 85. Malignant Granulomatosis.

C. LAUBRY, G. MARCHAL, and R. LIÈGE (Rev. de Méd., 1927, No. 6, p. 695) think that "Hodgkin's disease" is a misnomer for this condition. They report the case of a man, aged 23, who had marked emaciation, extreme pallor, profound cachexia, and exophthalmos. Multiple adenitis was noted in both axillae, on both sides of the neck, in the left supraclavicular region, and in the groins. He exhibited a mediastinal syndrome of presternal and intercostal pain and bilateral phrenic neuralgia, percussion over the entire thorax, and especially over the sternum, being very painful. The spleen and liver were enlarged, but the other organs were normal. Diffuse and lancinating headache, most marked in the supraorbital regions, was present. The blood showed a leucocytosis and a complete absence of eosinophils, the pleural and cerebro-spinal fluids a lymphocytosis, while the second of three Wassermann tests was positive. Pruritus and syphilitic stigmata were absent. In spite of treatment

the patient died two months later, and at the necropsy a soft white mass, which had eroded the first cartilage and the second rib, was found at the first right intercostal space. The liver, spleen, and ganglia were enlarged. Microscopically the ganglia showed a marked development of fibrous connective tissue in which were numerous new blood vessels. Eosinophils were very rare, but many giant cells of Sternberg, a histological characteristic of this disease, were seen, some showing karyokinesis. The liver revealed a cirrhosis marked by a very rich vascularization, and a lymphocytic granulomatous infiltration. The new blood vessels were gorged with red cells, causing minute haemorrhages. In an abdominal metastatic nodulo many cells of Sternberg were seen. The authors remark that the absence of pruritus, and of eosinophils in the blood, two symptoms of great diagnostic value, is not exceptional, and that variations in the Wassermann reaction are found also in other diseases. They believe that inflammation plays an important part in the genesis of this malady, but that its malignant character is necessarily due to the development of malignancy of the sarcomatous order. The erosion of the sternum, the great formation of new blood vessels, the karyokinesis in the Sternberg's cells, and the microscopic embolisms, are strong arguments in favour of this theory, which is widely held.

### 86. Diphtheria in Chicago.

H. N. BUNDESEN (Public Health Reports, October 7th, 1927, p. 2447) states that during the first seven months of 1927 the number of cases of diphtheria in Chicago was greater by 50 per cent. than that recorded for the corresponding months of 1926; the death rate also was nearly doubled, partly in consequence of a corresponding increase in morbidity, but the major factor was a marked rise in the case fatality rate of the disease—namely, 12.8 per cent. during the first seven months, as compared with 7.4 per cent. in 1926 and 8 per cent. in 1925. Clinically the type of diphtheria in Chicago, as in Germany, was more malignant than for several years past. The severe toxic and septic cases often failed to respond to treatment, even when antitoxin was given early and in usually adequate doses. The greater prevalence of diphtheria in Chicago during 1927 was not due to infection by milk, food, or epidemic foci, but represented a generalized increase in the endemic rise.

## Surgery.

### 87. Spontaneous Amputation of Appendix.

R. J. KIRKWOOD (Boston Med. and Surg. Journ., November 24th, 1927, p. 982) describes a case of spontaneous amputation of the appendix in a woman, aged 38, who was admitted to hospital with a diagnosis of chronic appendicitis. For some years she had had pain in the right iliac region of a mild character, with some nausea; about four weeks before admission there had been a more severe attack. Deep palpation showed some tenderness but no spasm; and the patient was constipated; while under observation for four days the temperature never rose above 99.5°, and the blood and urine showed no abnormality. At the patient's request an operation was undertaken. The caecum was found free and there were no adhesions. The appendix, which was 2 cm. long, was found lying entirely free from any connexion with the caecum. It was slightly injected, closed at both ends, and attached by a mesentery. The pathological report showed a chronic and healing appendicitis. Convalescence was rapid and without incident.

### 88. Surgical Treatment of Pruritus Ani.

C. E. CORLETTE (Med. Journ. of Australia, October 22nd, 1927, p. 580), reasoning from the success following division of the nerve supply in irritable ulcer of the leg, adopted a similar procedure in cases of pruritus ani, with resulting cure of the condition. Under local anaesthesia by infiltration with novocain and adrenaline of the anus and surrounding skin for two and a half inches a straight bistoury is inserted painlessly at four spots far enough from the anus to avoid infection; two of these are lateral, one is behind, and one in front of the anus; the point of the knife is directed up to and beneath the anal margin, undercutting without perforating the skin around the anus so as to sever the nerve filaments passing towards the skin from the subcutaneous tissue. By inserting the knife at all four points it is possible by a

sweeping movement to separate completely the skin near the anus from the underlying fat. It is not necessary or advisable to separate the skin out to the circumference in which the points of insertion lie; all that is needed is that the anal margin shall be undercut, the punctures being effectively sealed with collodionized gauze. Corlette claims that this method is less severe than the other open operations described and which are more liable to infection. Where the area of pruritus is extensive he advises a series of operations so that the field should be undercut piecemeal, area after area being treated at intervals of about a fortnight. He emphasizes the importance of getting the knife beneath the area at the orifice of the anus, and advocates a second attempt if the first is not completely successful.

#### 89. Closure of Bladder following Prostatectomy.

W. E. LOWER (*Journ. Amer. Med. Assoc.*, September 3rd, 1927, p. 743) gives a preliminary report of his experience of fifty prostatectomies, in most of which the bladder was closed at the time of operation, a rubber tube being inserted suprapubically for a few days in the remainder. With a catheter in the urethra a dot-and-dash catgut (No. 0) suture is passed from the bottom of the cavity from which the prostate has been removed and along its walls on each side up through and including a small margin of mucous membrane, bringing the walls into apposition, the suture being inserted above and below the catheter. The catgut is cut short and the mucous membrane trimmed to facilitate healing. A good sized catheter with two eyes should be used, and any spurting vessels are tied before the sutures are closed. By this means, it is claimed, haemorrhage can be absolutely controlled. The cut edges of the bladder are sutured, care being taken that there is no protrusion of the mucous membrane, and a rubber cigarette drain is placed in the space of Retzius. The danger of stricture at the vesical neck may be obviated by dilations for a short time, and the use of too heavy catgut, especially chromic, should be avoided, since the knots may form a nucleus for the formation of stones. Lower claims that with this technique convalescence is shortened and the incidence of fistula reduced to a minimum.

#### 90. Cancer in the Young.

G. GULDBERG (*Norsk Mag. f. Laegevidensk.*, November-December, 1927, p. 1131) states that during the period of twelve years specimens of 4,612 cases of cancer have been collected at the pathological institute attached to Oslo University; 157 of those specimens were taken from persons between birth and the age of 30, 112 being female and 45 male, and 11 children under 15 years of age. The disease occurred most frequently in the female genitalia, which supplied 53 cases; next came the digestive organs (24 cases), the skin (19), testis (9), nose and its accessory sinuses, larynx, and ear (9), buccal cavity (6), appendix (10), and other situations, as well as recurrences and metastases (25 cases). There were two cases of carcinoma of the oesophagus, in men aged 20 and 28 respectively; as the second patient had drunk lye at the age of 5 or 6 his case was probably one of cancer developing in scar tissue caused by the lye twenty-two years previously. The ten cases of gastric cancer included one of adenocarcinoma in a man, aged 21, in whom the disease had a rapid course terminating fatally in twelve weeks. The necropsy showed cancer of the pylorus with extensive metastases in peritoneum and liver. The eleven cases of intestinal cancer included one of carcinoma of the ileum in a girl aged 18, and three cases of carcinoma of the caecum associated with caecal tuberculosis. The cutaneous cases, which included one of carcinoma of the leg in a boy aged 12, following neurodermatitis of many years' duration, showed that the skin in childhood and youth does not remain unaffected by irritants which have a carcinogenic effect in later life.

#### 91. Sympathectomy in Angina Pectoris.

D. DANIELOPOLU (*Bruxelles-Médical*, November 13th, 1927, p. 33) asks why permanent lesions such as disease of the coronary arteries should give rise at times, though not invariably, to spasmodic anginal attacks, which may occur in the absence of coronary disease. Huchard collected no fewer than eighty hypotheses to account for the pain which Daniélopou attributes to myocardial fatigue and pressor reflex. Elimination of the pressor reflex by section of the sympathetic cures the angina. The operation recommended by Daniélopou has now been employed several times successfully, and, unlike other surgical procedures for the cure of this complaint, is not fatal. Usually it is performed on the left side of the neck, and in two stages if required; but often a further operation is not necessary. Under the term "pressor reflex" the author includes raised blood pressure, increased cardiac force and pulse rate, and probable vasoconstriction of the coronary arteries. The aim of the opera-

tion is not so much the relief of the pain as the prevention of the conduction of the pressor reflexes along the cardio-aortic nerve fibres; the contrifugal nerve fibres of the heart are untouched. In the first operation the cervical sympathetic is cut above the inferior cervical ganglion, the vertebral nerve, and the branches of the cervical vagues entering the thorax. After the operation the attacks cease, recur a little later owing to cicatricial irritation, and then gradually diminish. So far death has not followed this operation.

#### 92.

#### Diverticulitis.

A. CANNON (*The Caduceus*, July, 1927) cites a reference to Telling's disease (*JOURNAL*, 1927, vol. i, p. 344) and suggests a scheme to link the anatomy of the condition with the pathology and clinical manifestations. He describes four clinical groups—namely, inflammatory, obstructive, fistulous, and pelvic—and emphasizes the importance of a radiological examination to distinguish it from such conditions as carcinoma, sigmoiditis, hyperplastic tuberculous, syphilis, and pelvic conditions, particularly in the female. He appends notes on twelve clinical cases collected from the literature and supplies a bibliography of 349 references.

## Therapeutics.

#### 93.

#### The Use of Iodine in Thyroid Disease.

C. G. HEYD (*Boston Med. and Surg. Journ.*, December 8th, 1927, p. 1075) distinguishes three types of thyroid disease: one characterized by an increase of secretion with varying clinical reactions, the so-called toxic adenoma; one by a change in the character of the secretion and representing a dysfunction with hyperthyroidism, the so-called Graves's disease; and the third by a decrease of secretion, the so-called colloid goitre or myxoedema. Thyroxine, discovered and isolated by Kendall, contains 65 per cent. of iodine, and every cell in the body requires it in order to function properly. The thyroid gland must obtain 22/100 mg. of iodine per day, and all thyroid activity is dependent upon the amount of iodine present in the gland, the blood stream, and in the body tissues. Thyroxine is manufactured in the cells of the acini, and any excess over the physiological requirement is stored in the colloid material. If the cells fail to elaborate this substance in sufficient amount, the colloid begins to lose its thyroxine and to contain less and less iodine. If more thyroxine is elaborated than is necessary, the excess passes into the blood stream and the colloid material is partially or wholly unable to store iodine. After discussing the various conditions of hyper- and hypo-thyroidism, Heyd asserts that iodine is pre-eminently useful in goitre prophylaxis, and that it is immaterial how it is administered or in what form, providing that the dose is small and the treatment intermittent. It is useful in stabilizing function in colloid goitre, but care should be taken to eliminate adenoma, which is infrequent before the age of 20. It is distinctly indicated as a preventive measure, either in or out of regions of high goitre incidence, during pregnancy and lactation, and the menopause; for a short period of time, but without a gap, as a pre-operative measure in Graves's disease; and as a post-operative measure after all types of goitre operations. Its value in adenomata is variable, but there is the definite danger of causing hyperthyroidism in non-toxic adenomatous goitres. When used outside of these restricted indications, there is a risk of producing an iodine hyperthyroidism which is fixed, progressive, and dangerous.

#### 94.

F. SCHÜRER-WALDHEIM and F. WINDHOLZ (*Deut. Zeit. f. Chir.*, December, 1927, p. 111) record their observations on 18 cases of Graves's disease, 17 of which were in women and one in a man, who were treated with iodine in the form of Lugol's solution in doses of 10 drops two or three times a day. In every case a remission of the symptoms occurred, as shown by disappearance of palpitation, restlessness, sweating, tremors, and diarrhoea. The goitre became harder and the pulse slower. Operation, which consisted in extensive bilateral resection of the thyroid, was well borne, and there was no post-operative shock when administration of Lugol's solution was continued for six or seven days. Histological examination also showed that the morphological appearance of the thyroid was affected by administration of iodine. The state of the goitre after iodine treatment was found to depend principally on its original condition; the change was first shown by hyperplastic forms being replaced by an inactive parenchymatous or colloid goitre. Atrophy and severe degenerative changes in the epithellium also occurred. In place of the watery colloid a thick colloid appeared, indicating a drying up of secretion. Infiltration of lymphocytes was

not with in connexion with the atrophic and degenerated cells. No direct relation, however, could be found between the degree of morphological changes and the clinical condition in the glands treated with iodine.

#### 95. Synthalin Treatment of Diabetes in Children.

H. HIRSCH-KAUFFMANN and A. HERMANN-TROSIEN (*Jahrb. f. Kinderheilk.*, November, 1927, p. 47), as the result of their observations on diabetes in children treated with synthalin, come to the following conclusions. (1) A course of synthalin must be started with the smallest doses possible; cholagogue drugs should be given at the same time as synthalin so as to prevent occurrence of unpleasant symptoms such as abdominal pain, vomiting, and diarrhoea. (2) The interval of twenty-four to thirty-six hours between the doses required by Frank may be reduced to sixteen hours without any bad effects. (3) There is no hard-and-fast line between an effective and a toxic dose, but not more than 1.5 mg. of synthalin per kilo of body weight should be given. (4) The effect of synthalin treatment is much slower in children than in adults. The omission of insulin treatment, therefore, should not begin until the second course. (5) Glycosuria and glycaemia are distinctly diminished by the treatment. (6) A combination of insulin and synthalin treatment leads to a considerable reduction in the amount of insulin required. (7) Synthalin treatment is contraindicated in coma and the precomatose stage, as well as in very young children and those considerably under weight.

#### 96. Calcium Therapy in Functional Nervous Disorders.

C. C. GAULT (*Minnesota Med.*, December, 1927, p. 759), recognizing the similarity between animals during calcium starvation and patients suffering from the less severe functional nervous disorders, and arguing that such symptoms might be the expression of a disturbed calcium ratio resulting in general cellular irritability, and a lowered calcium retention, treated eighteen patients with calcium for from three to six months. After a thorough physical examination to exclude the presence of organic disease each patient was given orally the equivalent of 20 grains of calcium lactate four times daily, an intravenous injection of calcium chloride to one patient being discontinued as being no more beneficial than when the calcium was given by the mouth. The results were quite uniform, as within twenty-four to forty-eight hours a sensation of mental and physical well-being was experienced, and all feelings of fatigue, nervousness, and apprehension disappeared. Appetite and sleep also improved, and four patients had no recurrence of the dull occipital headaches from which they had frequently suffered. Gault considers that this series of cases shows the probability of a direct relationship between functional nervous disorders and calcium metabolism, which may be of value in dealing with the milder neuroses.

## Neurology and Psychology.

#### 97. Syndrome of the Corpora Quadrigemina.

M. R. CASTEX and A. F. CAMAUER (*Rev. oto-neuro-ophthalmol. y de cir. neurol.*, September, 1927, p. 121), who record four illustrative cases—in a man aged 53, a girl aged 12, a woman aged 33, and a man aged 24 respectively—state that this is an extremely rare condition, as Valobra in 1909 could find only 55 cases on record. The symptoms are as follows: paralysis of upward movement of the eyes; amblyopia; ocular palsies, which are usually symmetrical but may be asymmetrical; pupillary changes, of which absolute lack of response to all stimuli is the most frequent; auditory disturbance; cerebellar changes, shown by disturbance of co-ordination; bradyphasia; and, lastly, headache, vomiting, and psychical symptoms due to cranial hypertension. In the first of the authors' cases the necropsy showed an area of cerebral softening in the region of the corpora quadrigemina and grey substance surrounding the aqueduct of Sylvius, and in the second and third cases a small round-celled glioma was found in this situation. The fourth case did not come to necropsy.

98.

#### Cerebellar Localization.

J. A. BARRÉ (*Paris méd.*, October 8th, 1927, p. 265) discusses the value of Bárány's index-finger test in suspected cerebellar disease. The test is performed by placing the patient with his arm and forefinger extended on a level with his shoulder; his forefinger is placed against that of the observer, and he is then asked, with his eyes closed, to raise and lower his arm to the knee several times, coming back each time to the original position. In cerebellar lesions certain effects are observed. Thus, assuming that the cerebellar cortex has, for each segment of a limb, four centres, representing the four chief directions of movement, an irritative lesion

of one of these centres will result in the limb performing the opposite action. Thus in the case of irritation of the adductor centre of the forearm, the forefinger will be brought back abducted from the elbow; if the lesion is a paralytic one—for example, of the adductor centre—the patient is unable voluntarily to adduct his forearm, even when electrical stimulation is applied to the muscles. Barré, without impugning these results, nevertheless considers the test unreliable. He states that it is often found positive in vestibular disease, and, as many cerebellar affections exhibit only vestibular symptoms, the test may fail just when it is most needed. In cases, therefore, when the labyrinthine syndrome (nystagmus towards the side opposite to that in which deviation of the trunk and limbs is observed) is altered in any way—as, for example, by the direction of deviation of the limbs—cerebellar disease may be at once suspected, but a positive Bárány's sign should not be allowed to exclude the possibility of a pure vestibular condition.

#### 99. Hemiplegia Associated with Extensive Naevus and Mental Defect.

T. BRUSHFIELD and W. WYATT (*Brit. Journ. Child. Dis.*, July-September, 1927, p. 209), who had previously reported three cases of a syndrome comprising hemiplegia, extensive cutaneous naevus, and mental defect (see *Epitome*, August 27th, 1927, para. 178), report a fourth case in a male patient aged 17 years 8 months. The patient was a low-grade imbecile who from birth had presented naevus markings involving the right side of the face, right arm, chest and back, both legs and penis, leaving the abdomen free. The buccal mucous membrane was also involved. He could walk and run, but the left leg had a tendency to drag, and the right arm was paralysed and spastic. Only three similar cases, reported by E. A. Cockayne, F. Parkes Weber, and D. M. Greig respectively, are on record.

#### 100. Shyness and Schizophrenia.

F. A. HAMPTON (*Journ. Neurol. and Psychopath.*, October, 1927, p. 124) discusses the similarities and differences between shyness and schizophrenia, and suggests that in the former a normal instinct of self-assertion is inhibited by an abnormally active instinct of submission. In the schizophrenic the morbidly active instinct of self-assertion dominates the personality, but is inhibited, except in the later stages, by a normal instinct of submission. Hampton regards the shy person in general as suffering from a conflict between an urge to reach upwards to the normal level from the position of imagined inferiority and a deterrent fear of failure. He discusses this feeling of inferiority and also the general phenomena of shyness, and adds that here, as in other neuroses, the symptoms may represent the deformed fulfilment of a repressed wish. He agrees that suggestion, if carefully used, may benefit a shy patient, but insists that a more satisfactory method of treatment is to help him to recognize the source of the feeling of inferiority, and so to deal with it effectively.

## Obstetrics and Gynaecology.

#### 101. Pregnancy Complicated by Diabetes.

ACCORDING to H. P. A. SMIT (*Nederl. Tijdschr. v. Geneesk.*, November 26th, 1927, p. 2226) the association of diabetes mellitus with pregnancy is so rare that the earlier writers thought that conception could not occur in women suffering from diabetes mellitus. This view was subsequently shown to be incorrect, as about 5 per cent. of diabetic women become pregnant. The chance of fertilization is only slight, inasmuch as diabetes does not usually occur in young persons, and women with diabetes usually suffer from genital atrophy and inflammatory processes, such as vulvitis, vaginitis, cervical catarrh, and endometritis. There is only a comparatively small number of cases of pregnancy in diabetes on record. Offergeld, in 1908, was able to collect only fifty-eight examples, some of which did not have true diabetes. Von Noorden saw 9 cases of pregnancy among 240 women between 20 and 40, and Rosenberg had 7 cases among 111 patients. According to Offergeld, 50 per cent. of diabetic women who become pregnant die within two years of delivery. It is important, however, in the case of pregnant women with glycosuria to determine whether diabetes is really the cause, and an estimation of the blood sugar content is indispensable for this purpose. Smit regards it as reasonable to suppose that the prognosis is not so unfavourable under an appropriate treatment including insulin. Induction of abortion, therefore, is not justified, especially as the dangers of this procedure are much greater in a diabetic than in a normal woman. It is also possible that the current views regarding the prohibition of breast-feeding for diabetic women should be changed.



## 102. Detachment of the Normally Situated Placenta.

G. GUICCIARDI (*Riv. d'Ostet. e Ginecol. Prat.*, November, 1927, p. 421) describes a series of 22 cases of detachment of the normally situated placenta (accidental haemorrhage), in all but three of which the urine contained albumin. Of the three exceptional cases, in one there was a clear history of accident preceding the haemorrhage, and in one grave bleeding followed immediately spontaneous rupture of a hydramniotic membrane-sac. The series contained two primiparae only, and no more than five patients were less than 30 years old. There were four maternal deaths, one before and three within a few hours after delivery; in all the necropsy showed unusual softness of the uterine wall and an infiltration of the myometrium with blood, which extended as far as the peritoneum, and was most marked in the zone of placental attachment. Seven foetuses survived. Labour was completed eight times by accouchement forcé, twice by forceps delivery, eight times by podalic version and extraction, and three times by craniotomy of a dead foetus; one patient died undelivered. Guicciardi thinks, nevertheless, that in the grave cases coeliotomy with subtotal hysterectomy or Porro's operation is the only means of saving the mother's life; careful routine examination of the urine during pregnancy, early diagnosis, and early admission to hospital will improve the prognosis. The loss of life is ultimately caused less by the haemorrhage than by the underlying pregnancy toxæmia. In treatment it is wrong, except where the os is fully dilated, to rupture the membranes, which, by diminishing the intra-amniotic pressure, may increase the tendency to bleeding. Injections of pituitary extract or ergot, or gauze plugging before delivery, also favour haemorrhage, and are contra-indicated; morphine and chloral hydrate, on the contrary, are called for in some cases. It is recommended that the uterus and vagina be plugged with gauze after delivery, however effected.

## 103. Treatment of Retained Products of Conception.

J. L. WODON (*Strasbourg-Medical*, November 27th, 1927, p. 103) bases his treatment of retention of placental or membranous fragments on the three following assumptions, which he regards as proved. (1) From the fifth day of the puerperium the uterine cavity is invaded by vaginal organisms, including, in 38 per cent. of cases, streptococci. (2) The presence of placental remains is, even *in vitro*, an encouragement to bacterial growth. (3) So long as any part of the uteroplacental circulation remains behind, direct invasion of the maternal blood by intrauterine organisms is possible. Having emphasized the importance of careful examination of the placenta after delivery, the author recommends the following procedures. When fragments of membranes are retained immediate injections of ergotine or pituitrin (preferably the latter) should in most cases cause expulsion in two or three days. If they are not extruded, curetting should be performed before the fifth day in afebrile cases, but in febrile cases intrauterine douches should be begun early and continued till the sixth day. With retention of a cotyledon after instrumental delivery, manual removal should be performed at once under strict conditions of asepsis. If the delivery has been natural, the uterus should be curetted between the third and fifth day if expulsion has not occurred. If there is elevation of temperature or pulse, curetting should be performed at once. The author recommends the use of a cutting curette of large diameter, always gently manipulated so that no intrauterine grating sound is produced. He considers that the blunt curette commonly used cannot be relied on for the removal of small fragments, especially if there has been any endometrial inflammation.

## Pathology.

104. *B. paratyphosus* A Isolated from a Pig.

L. BROUDIN (*C. R. Soc. de Biologie*, December 16th, 1927, p. 1589) examined a pig that had died after an illness lasting one week and characterized by haemorrhagic diarrhoea. The main features at necropsy were broncho-pneumonia, necrosis of the liver, congestion of the intestine, and small ulcers in the caecum. Cultures from the bone marrow produced a coliform organism which gave the cultural, biochemical, and serological reactions of *B. paratyphosus* A. Injected subcutaneously in a dose of 4 c.cm. of a twenty-four-hours' broth culture it killed a wild boar in six days, after an illness marked by severe fever. In a dose of 1 c.cm. it killed a young pig in eleven days; this animal likewise developed high fever. From the bone marrow of both animals an organism was recovered similar to that injected, except that the agglutination titre was lower. Six months after its isolation it had become avirulent for young pigs, except in a dose of 20 c.cm., and its agglutination titre with a specific *B. paratyphosus* A serum had sunk even lower.

## 105. The Comparative Value of Renal Function Tests.

To determine the most reliable of the renal function tests in common use B. D. BOWEN (*Amer. Journ. Med. Sci.*, December, 1927, p. 769) made a study of fifty-two mild or suspected nephritics, employing in each the following determinations: the relation of the day and night urine volume and specific gravity, the blood urea nitrogen content, the phenolsulphonephthalein excretion, the urea concentration test (Maclean), the urea concentration index (J. F. McIntosh), and a modification of the urea concentration factor (Harrison). Patients having albuminuria, with or without casts, arterial hypertension, or oedema, were chosen; many suffered from diabetes also. Cases of renal lesions with functional impairment were purposely avoided. Bowen discusses the work and conclusions of many experimenters, and describes his own technique. His experiments showed that all tests were satisfactory, though some were more delicate and uniformly reliable than others. He believes that tests to determine the concentrating power of the kidney should be employed in all routine work. The urea tests corresponded better with the day-night urine volume ratio and specific gravity than with the phenolsulphonephthalein test or determination of the blood urea nitrogen, though the last two are useful for rapid diagnosis. Phenolsulphonephthalein tests are seemingly normal in about 50 per cent., and too low in 40 per cent. The urea concentration index (McIntosh) is a fairly dependable criterion. The author agrees with Maclean that any concentration of urea in the urine (second hour) that is below 2 per cent. is evidence of kidney insufficiency, and if the concentration exceeds 2.5 per cent. renal function is fairly efficient. The day-night urine volume ratio and the urea concentration test (Maclean) give a satisfactory estimation of renal function, but the blood uric acid test is valueless.

## 106. Serological Classification of Bacilli Isolated from Rhinoscleroma.

H. MEISEL and E. MIKULASZEK (*C. R. Soc. de Biologie*, December 2nd, 1927, p. 1495) have isolated bacilli of the Friedländer type from 77 per cent. of patients suffering from rhinoscleroma. High-titre agglutinating serums were prepared by the injection of rabbits with strains which had lost their capsules as the result of prolonged cultivation. Cross-agglutination and absorption tests were made, using non-capsulated bacilli as antigens. By this means it was found possible to classify the organisms into three types; other strains of Friedländer's bacillus isolated from non-rhinoscleromatous conditions provided four further types. Those results were confirmed by the complement fixation test (*ibid.*, p. 1498), which apparently can be used with both capsulated and non-capsulated strains. Of the strains isolated from patients with rhinoscleroma 64 per cent. fell into Type A, and gave similar biochemical reactions.

## 107. The Surface Tension of the Blood Plasma in Scarlet Fever.

ACCORDING to P. V. KISS (*Jahrb. f. Kinderheilk.*, January, 1928, p. 381), Traube and his collaborators, followed by Ehrlich and Bechold and Berczeller and Hetényi, have shown that an increase in the activity of toxins and bactericidal substances was usually accompanied by a diminution in the surface tension of their solutions. These results prompted the present author to investigate whether and in what degree the surface tension of the blood plasma was affected in scarlet fever. As the result of the examination of fifteen cases of scarlet fever in children, ten of which were uncomplicated while five had various complications, he came to the following conclusions: (1) In childhood the surface tension of the plasma shows more or less of a fall in the first week of scarlet fever. (2) In cases in which there is an uncomplicated recovery this fall of tension gradually disappears, and in a large percentage of the cases the normal value is restored on complete recovery from the attack. (3) If a complication occurs, and often before it has actually appeared, there is a fresh fall in the surface tension. (4) The fall of tension occurs at the same time as the rise in the fibrinogen value.

## 108. The Existence of Melioidosis in Cochín China.

R. PONS (*Ann. de l'Inst. Pasteur*, December, 1927, p. 1338) records two cases of melioidosis in Cochín China. From the first case he succeeded in obtaining a positive blood culture. The causative organism of the disease, first described by Whitmore, and later named *B. whitmori* by Stanton and Fletcher, is a slightly motile bacillus closely resembling the glanders bacillus. In man it gives rise to a disease which may simulate either cholera or typhoid fever, or may assume a chronic suppurating type. It is probable that the disease is endemic in rats, and that man contracts infection by oral or cutaneous contamination with the faeces of these animals. The author draws attention to the resemblance of *B. whitmori* to *B. pyocyaneus*, and suggests that it is intermediate between this organism and *B. mallei*.



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109.

#### Epidemic Encephalitis.

T. P. SPRUNT (*Amer. Journ. Med. Sci.*, November, 1927, p. 660) discusses a series of 50 cases of epidemic encephalitis. There was no definite evidence of a constitutional predisposition to nervous disease, as in only seven cases was there a history of nervous talent in the family. The ages of the patients ranged from 12 to 69, the great majority falling within the third, fourth, and fifth decades. In the early stage the diagnosis was often difficult or impossible. The symptoms of onset were, in order of frequency, fever, diplopia, somnolence, insomnia, delirium, and ptosis. There was a great predominance of motor over sensory symptoms, as shown by the fact that 48 had some form of motor disturbance, as compared with only 15 with any evidence of sensory disturbance. Examination of the cerebro-spinal fluid was useful in excluding other disease of the nervous system. The pressure was normal in 18, increased in 6, and diminished in 5. There was a pleocytosis of ten cells or more per cubic millimetre in only 4 cases. The amount of globulin was more or less increased in 13, and in 10 out of 11 cases examined the sugar values were 70 mg. or more per 100 c.c.m. There were few marked disturbances of the autonomic nervous system. Mydriasis was noted in 19 and miosis in 10. The basal metabolic rate was not significantly changed, and the blood as a rule was normal. As regards prognosis, the probability of the development of Parkinsonism varies with the severity of the symptoms of onset; in the case of those with a severe onset 77 per cent. developed this syndrome, with a moderate onset 57 per cent., and with a mild onset only 28 per cent. Of 35 patients who were followed up 12 were able to work, 22 became chronic invalids, and one committed suicide. Treatment consisted in rest, freedom from too much responsibility, psychotherapy, dietetic and hygienic regimen, mechanotherapy and hydrotherapy, and sedative drugs, especially hyosclue hydrobromide in the Parkinsonian cases.

#### 110. Revaccination after Subcutaneous Injection.

W. KNOEFFELMACHER (*Wien. Klin. Woch.*, December 8th, 1927, p. 1541) records his observations on the revaccination of six children who had been vaccinated subcutaneously against small-pox from two to five years previously. Two children who had been given a 1 in 1,000 dilution of lymph two and three years previously showed typical vaccine lesions after cutaneous revaccination. Another three who had had the characteristic infiltration after subcutaneous injection of 1 c.c.m. of 1 in 100 dilution did not show any pustule formation on cutaneous revaccination four years later. The sixth child, who was given a subcutaneous injection of 1 c.c.m. of 1 in 200 dilution of vaccine lymph in 1919, also proved immune to cutaneous inoculation in 1924. The author concludes, therefore, that subcutaneous inoculation of diluted virulent vaccine lymph in dilutions of 1 in 100, 1 in 200, but not 1 in 1,000, confers immunity on children for some years.

111.

#### The Heart after Severe Diphtheria.

T. D. JONES and P. D. WHITE (*Amer. Heart Journ.*, December, 1927, p. 190) report the case of a woman, aged 22, who had had complete heart-block for nineteen years after diphtheria, and of a man, aged 22, who, three weeks after pharyngeal diphtheria, developed complete heart-block, followed by auricular fibrillation which persisted for at least six months. In view of the rather contradictory conclusions as regards the effect of diphtheria on the heart the authors investigated 100 patients who had had severe diphtheria at least five years previously; 70 were classified as "severe," and 30 as "moderately severe" diphtheria. All had been bacteriologically positive, and five to eight years had elapsed since the infection. The great majority of the severe cases had received 36,000 or more units of antitoxin. They had been diagnosed as having "myocarditis," some cardiac abnormality, or severe toxic diphtheria. In the subsequent investigation electro-cardiograms were taken in all cases, and skiagrams when the heart appeared to be enlarged. No patient gave an interval history suggestive of organic heart disease, nor were there any symptoms at the time of examination. No cardiac enlargement was found; only two patients showed ventricular premature beats, but 52 patients had slight to moderate sinus arrhythmia. No heart-block or other type of irregularity other than the above was detected, and no murmurs indicative of organic valvular disease were heard. The blood pressures were within the normal limits.

One electro-cardiogram showed a doubtful A-V nodal premature beat and ventricular escape. Two records showed slight (postural) right axis deviation. The authors conclude that there is no evidence that diphtheria has any appreciable and lasting effect on the heart.

112.

#### Parkinsonism Following Typhoid Fever.

C. G. NAGTEGAAL (*Nederl. Tijds. v. Geneesk.*, November 12th, 1927, p. 2079), who records an illustrative case, remarks that, with the exception of encephalitis, all forms of nervous sequelae have been described in typhoid fever, including meningitis and neuritis. On the other hand, most infectious diseases have been mentioned in the etiology of encephalitis, though typhoid fever has not. Nagtegaal now records the case of a girl, aged 15, who, directly after an attack of typhoid fever, the clinical diagnosis of which was confirmed by the Widal test, developed symptoms of Parkinsonism, including the mask-like facies, rigidity of the muscles, and change of character such as is met with after lethargic encephalitis.

113.

#### Mumps and Diabetes.

P. COURONNI (*Thèse de Paris*, 1927, No. 313), who records nine cases, four of which were fatal, in patients aged from 6 to 42, including those reported by Gillespy and Holden (*Journal*, 1917, ii, 115) and Patrick (*ibid.*, 1924, ii, 802), states that mumps is the only infectious disease besides syphilis which can give rise to a diabetic syndrome. Moreover, an attack of mumps in a diabetic subject may cause grave symptoms of acidosis. It is therefore indispensable, during the course of mumps and in convalescence from the disease, especially when there are signs of involvement of the pancreas, to make a careful examination of the urine, so as to employ an appropriate diet and insulin treatment at the very onset of the attack of diabetes.

114.

#### Intra-urethral Chancre.

B. BERNSTEIN (*Urol. and Uetan. Rev.*, November, 1927, p. 715) states that this term is applied to chancres whether occurring in whole or in part in the last half to three-quarters of an inch of the lumen of the urethra. The chancres may involve the whole orifice or only a portion of it; they are rarely met with below the fossa navicularis. They may be seen in full, in part, or be entirely hidden from external view. The features of an intra-urethral chancre are as follows: (1) a dirty white sloughing or necrotic centre bordered by the red ring seen in external chancres; (2) induration occurs early and is characteristic; (3) a sanious urethral discharge in which *Treponema pallidum* is found; (4) the urethroscope, when it can be passed—a matter of difficulty as a rule on account of the pain and obstruction—assists in the diagnosis; (5) inguinal lymphangitis and lymphadenitis. A pure treponemal infection is rare, and in all Bernstein's cases infection with the gonococcus was present also. The usual remedies are employed—namely, derivatives of arsenic, mercury, and bismuth. Healing of the chancre may be facilitated by injecting and washing the sore with a little of the salvarsan solution used for intravenous injection. Dilatation of the urethra should be started early to prevent stricture. Bernstein adds that many patients with tabes or general paralysis, who deny having had syphilis but admit gonorrhoea, have in all probability had an intra-urethral chancre.

### Surgery.

#### 115. The Radical Operation for Gastric and Duodenal Ulceration.

ACCORDING to M. FRIEDEMANN (*Zentralbl. f. Chir.*, November 26th, 1927, p. 3015) extensive gastro-duodenal resection for ulceration is less popular now owing to the pain, the diminished capacity of the stomach, and the larger percentage of post-operative complications than was anticipated. Friedemann finds that the number of definite recurrences is not excessive. Taking the statistics of various authorities who have kept their patients under observation for three years, the number of patients who were cured completely varies from 94 to 98 per cent. After short-circuiting, the number of successes was only 83.8 per cent. Another author reports that among over 300 patients who were submitted to the Billroth I operation there were only two

relapses, possibly due to old ulcers, undetected at the operation. In 70 cases of the Billroth II operation, only one doubtful jejunal peptic ulcer occurred subsequently. Another writer records one case of jejunal peptic ulcer among nearly 400 cases of Billroth II operation, although these patients were under observation for a shorter period. Friedemann received 374 replies from 450 patients, and found that 95.2 per cent. were either entirely or partially relieved, although 16.3 per cent. still complained of pain; 4.8 per cent. of the patients were unrelieved. Five patients had large or moderately large scar-herniae, and sixteen had small herniae. Friedemann concludes that after three to six years' observation of a large number of gastro-duodenal resections for ulceration the results are generally satisfactory and superior to those following any other operation. He dismisses the adverse criticisms as not justified by the results.

## 116.

## Fractures of the Sacrum.

A. SALOTTI (*Arch. Ital. di Chir.*, October, 1927, p. 633), who states that fractures of the sacrum were first described by Paul Barthele of Amsterdam in 1680, records two personal cases, and has collected twenty-three cases from the literature since 1826 in which there was an isolated fracture of the sacrum. His conclusions are as follows: Isolated fractures of the sacrum are most frequently horizontal, less frequently oblique as in the author's two cases, rarely vertical, and only exceptionally comminuted. Horizontal fractures are due either to direct trauma, such as the kick of a horse or a fall on the sacrum, or, more frequently, indirect trauma transmitted from the coccyx from below upwards. Oblique fractures may be due to the same causes as horizontal, and it is only the direction of the trauma transmitted from the coccyx that is to a certain extent oblique. Isolated vertical fractures are caused only by traction in the combined action of a fall on the feet or knees and the pull exercised by the trunk through the lumbar vertebrae, and are usually situated on one wing of the sacrum near the sacro-iliac joint. In some cases lateral trauma applied to the pelvis may give rise to subluxation of the lumbosacral joint, thus causing an increase of the lumbosacral angle, the diagnosis of which can be demonstrated radiologically.

## 117.

## Treatment of Mammary Carcinoma.

In mammary carcinoma, J. GUYOT (*Gynéc. et Obstét.*, November, 1927, p. 401) strongly advocates radiotherapy as a sequel to the surgical treatment of cancer of the breast. Following the Willy Mayer-Halsted method, he makes an extensive excision of the breast, apouerores, and axillary contents. Both pectoral muscles are removed, the removal of the pectoralis minor being particularly useful, as this discloses a subclavicular cellular space which contains the last axillary ganglion. The wound is closed with three silk sutures according to Mayo's technique. When the wound has cicatrized, x-ray treatment is started, doses of 3 to 5 Hönigknecht units per field under a filtration of 3 to 5 mm. of aluminium, a spark equivalent of 25 cm., and a skin anticathode distance of 25 cm. being repeated once a week for the first month, twice at fifteen days' interval during the second month, and then once a month for a year. At the end of this time further irradiation may be given every three months. Cases which do not benefit from this treatment, and in which recurrences and metastases are frequent, are those of advanced growths, and cancers in young and in syphilitic women. Guyot has obtained remarkable results by this method, many of his patients surviving for years (two for seventeen) after the operation. He adds that the irradiations must be non-penetrating and repeated at intervals; they will then cause no ill effects even if the treatment is continued for a long period. Pre-operative irradiation is said to be useless and to aggravate the conditions; post-operative high tension treatment should also be absolutely rejected.

## 118. Tumour of the Pancreas Cured by Operation.

P. MORNARD (*Bull. et Mém. Soc. Chir. de Paris*, November 4th, 1927, p. 661) records two cases showing identical conditions and diagnosed as tumours of the pancreas at the operation, but both of which were cured by a simple cholecyst-enterostomy. Twenty-two months had elapsed since operation in one case and thirteen months in the other. In these cases the symptoms prior to operation were typical of carcinoma, and during several months in which the patients were under observation they showed very marked cachexia. The usual course in cases of cancer of the pancreas is very rapid, and after laparotomy death follows in two or three months. In Mornard's cases the exact nature of the growth is unknown, since it was not possible to remove a portion for examination owing to the difficulty of dealing with haemorrhage. It is probable that the tumour was an adenoma or a fibro-adenoma. It is unlikely that it was a chronic pancreatitis, since this disease affects the whole gland, while in

these cases the morbid process was localized. It therefore appears justifiable, as these cases show, to perform cholecyst-enterostomy in cases of pancreatic tumour in the absence of enlarged glands and metastases when the nature of the growth is not known. Even if the growth should prove to be malignant the patient would be benefited and relieved of the jaundice.

## Therapeutics.

## 119.

## Synthalin Treatment of Diabetes.

N. PARISE (*Il Morgagni*, December 4th, 1927, p. 1921) records his observations on sixteen cases of diabetes in out-patient practice treated by synthalin; ten of them were mild and six of moderate severity. Two of the latter had previously been treated with insulin. The results of treatment were as follows. All the patients showed a considerable diminution of polyuria, but no outstanding changes were found in the chemical composition of the urine. Thirst was much reduced and in some patients entirely disappeared; hunger was also considerably modified by the synthalin treatment, and the general symptoms, including a sense of fatigue, underwent improvement. Symptoms of intolerance were not infrequently observed, especially at the commencement of treatment, in the form of loss of appetite, a feeling of oppression in the epigastrium, diarrhoea, and vomiting. Parise, like most writers, thinks that synthalin can be of benefit only in mild forms of diabetes, and only exceptionally in cases of moderate severity. It is contraindicated in severe cases because the large doses required cannot be tolerated. In moderate cases it can only be given when the patient can take sufficiently large doses. Parise has obtained good results by the alternate use of synthalin and insulin, the latter being substituted for a period of ten to fifteen days every thirty to forty days. Synthalin is chiefly indicated in mild cases, as it allows the patient to take a more liberal diet. Lastly, he regards it as specially suited for out-patient practice, because it does not require medical supervision, except at the start.

## 120.

## Parathyroid Extract in Infantile Tetany.

D. B. LEITCH (*Canadian Med. Assoc. Journ.*, November, 1927, p. 1321) discusses the use of para-thor-mono (a standardized parathyroid extract) in the treatment of infantile tetany as a means of raising the serum calcium content, which in such cases ranges from 5 to 8 mg. per 100 c.cm., as compared with 10 to 11 mg. per 100 c.cm. in normal blood. The potency of this preparation is indicated in units as 1/100 of the amount of extract which will produce an average increase of 5 mg. in the blood serum calcium of normal dogs of approximately 20 kg. weight over a period of fifteen hours. Notes of eight cases show that para-thor-mono, given subcutaneously at daily intervals, increases the serum calcium and acts beneficially in infantile tetany. As these were ambulant patients they were given 2 c.cm. or 40 units subcutaneously each day instead of the more rapid method of 5 units every two or four hours. Four injections as a rule sufficed to cause cessation of symptoms, although the serum calcium had not quite reached the normal by that time. In only one case was any other medication used, the para-thor-mono being given alone in order to demonstrate its value in increasing the serum calcium, though probably the improvement in symptoms and return of serum calcium to normal levels would have been further hastened if some form of calcium and cod-liver oil had been simultaneously administered from the beginning. In all the cases the diet was modified, the total quantity of milk being reduced, and more cereals, vegetables, and meat juices being added.

## 121.

## Indications for Digitalis.

C. C. WOLFERTH (*Amer. Journ. Med. Sci.*, December, 1927, p. 760) believes that success in the digitalis treatment of cardiac affections depends on the correct recognition of indications for its administration and on proper dosage; he discusses its uses in the treatment of abnormal rates and rhythms, and in heart failure with normal cardiac mechanism. In adults digitalis only slightly slows the normal heart, but in children and adolescents the effect may be much more marked. The drug usually fails to control simple tachycardia in adults with compensation, but in decompensated hearts it sometimes lessens the rapidity coincident on restored compensation. Digitalis can cause various forms of arrhythmia, may convert auricular flutter to fibrillation, and may even precipitate fibrillation in normal hearts. In sinus arrhythmia, ventricular escape, auriculo-ventricular rhythm, and sino-auricular block its use is contraindicated. Though not recommended it is not contraindicated in extra-systoles. The most useful field for digitalis therapy is in auricular fibrillation, due to a depressing rather than a stimulating action on the transmission of impulses through the junctional

tissues. Given according to Eggleston's principles rather than in small doses digitalis may be life-saving. The optimum ventricular rate at rest should be maintained, and if compensation has not been restored by this measure, or if it falls while the rate is maintained, the cardiac work should be lessened by rest in bed rather than by larger doses of digitalis. If treated vigorously with digitalis auricular flutter will be converted into fibrillation; if treatment be then abruptly stopped many cases will revert to normal rhythm. The drug is useless in paroxysmal flutter, and it should also be avoided in incomplete heart-block, but permanent complete block is not a contraindication to its employment. It is useful also in preventing the Adams-Stokes syndrome, in severe congestive heart failure, and in elderly patients with myocardial weakness. Digitalis is more valuable in mitral than in aortic lesions, though not contraindicated in the latter, nor in coronary disease. Its action on the blood pressure depends on the presence or absence of heart failure, and blood pressure levels are not important indications as to its use. Its administration is sometimes necessary in the cardiac failure of hyperthyroidism in order to support or stimulate the circulation, but its value in infectious such as pneumonia is still doubtful. The principles of digitalis therapy are the same in surgical as in medical cases.

## Dermatology.

### 122. Etiology and Treatment of Porokeratosis.

H. W. ACTON (*Indian Journ. Med. Res.*, October, 1927, p. 349) defines porokeratosis as a type of hyperkeratosis, which spreads in an irregular, centrifugal manner. This rare skin condition was first described in 1893 by Milcheli, who named it porokeratosis, since he considered that it occurred essentially round the sweat pores. During the past few years Acton has seen eight cases of this disease, and he gives short notes on each. The lesions are commonest on the hands, especially on the dorsal aspect, and may be present on the feet as well. They appear first as small, horny elevations resembling corns, which slowly enlarge, taking months or years to reach any conspicuous size, and may occur at any period of life. Etiologically the disease appears to be associated with some hereditary factor closely related to endocrine function. In two of the cases the basal metabolic rate was very low, indicating some deficiency in the action of the thyroid gland. Clinically the condition is characterized by the raised corn-like lesions; as they enlarge they form an irregular raised wall, which surrounds an atrophic depressed centre.

and hyperkeratosis. The endothelial cells and fibroblasts multiply in the corium, constrict the vessels by pressure, and atrophy sets in, causing the depressed, pigmented, wrinkled centre. The association of a familial tendency and the lowered basal metabolic rate suggests a partial correlation with hypofunction of the thyroid gland. The lesions can be cured in two or three weeks by thyroid medication. The dose of thyroid extract is regulated by the degree of deficiency of the metabolic rate. If this is diminished between 15 and 20 per cent, a dose of 2 grains of the dried glands is given twice a day, and if the diminution is more than 20 per cent, 3 grains twice a day. The dose is increased or diminished so as to keep the pulse rate between 90 and 100. Acton considers that porokeratosis is a localized keratosis with central atrophy (morphoea), and that it falls into the large group of so-called skin diseases—xeroderma, scleroderma, folliculitis, and morphoea—which are all partially associated with thyroid hypofunction.

### 123. Skin Affections in Asthma.

ACCORDING to K. H. BAAGÖE (*Acta Med. Scand.*, November 22nd, 1927, p. 189) the occurrence of cutaneous symptoms in asthma may have an etiological significance. The asthmatic attack has been attributed by some to an infection of the mucous membrane similar to that observed in the skin. In an examination of 124 asthmatics (92 children and 32 adults) the author noted skin diseases in 74 (57 children and 17 adults). Prurigo occurred in 36, strophulus or urticaria in 34, pruritis in 14, paraesthesia in 2, local oedema in 6, and other skin diseases (erythema of the face, herpes, hives) in 4 patients. In some cases only one skin affection was present; in others two occurred at the same time. Cutaneous tests with feathers, hair, foodstuffs, and pollen were performed on 70 of these patients, 57 giving positive reactions and 13 doubtful or negative ones. Baagöe asserts that in the patients in whom the skin disease broke out in connexion with the asthmatic attack there is no reasonable doubt as to the relationship between the cutaneous affection and the asthma. He emphasizes the facts that the skin lesions

occurred in paroxysms, were characterized by hypuraemia, oedema, and itching, and were frequently, if not always, due to idiosyncrasy. He agrees with the American authors that these skin diseases should be included in a common group under the name of allergic or idiosyncratic diseases of the skin.

### 124. Extensive Pigmentation of the Skin Associated with Amenorrhoea.

ACCORDING to A. F. SLATMANN (*Dermatol. Woch.*, December 10th, 1927, p. 1703) the female sexual organs, from puberty to the menopause, produce very definite metabolic and pathological changes in the skin, chiefly through the ovarian hormone; any derangement of this endocrine system may produce changes in the pigmentation of the skin. He describes the case of a girl, aged 19, with amenorrhoea and a skin eruption, both of a year's duration; the eruption had commenced on the limbs and spread over the entire trunk. She had had typhus fever at the age of 13. Menstruation commenced normally at 17, but a year later it became irregular and scanty, and it ceased entirely four months before admission to hospital. As the menstruation became irregular a red papular eruption appeared; the papules were as large as peas and caused no discomfort, but became more numerous and pigmented when menstruation ceased entirely. The nose, hands, feet, and legs were cyanosed and cold, but there was no other abnormality. Arsenic and other drugs, with local applications of Lassar's paste, autohaemotherapy, and terpene treatment, had no effect. On the limbs, especially on the extensor surfaces, there was a papular, coffee-brown eruption below the skin surface, which persisted on pressure. Between the papules the skin was normal. Histological examination of a papule showed piling up of the superficial epithelium, an atrophic stratum corneum, and many fresh haemorrhages into the stratum corneum. The papillary layer was relatively thinned; the capillaries were dilated and engorged, and there was much subepithelial small-celled infiltration. The sweat glands and roots of the hair were normal. An ovarian extract was administered, and in sixteen days definite improvement followed with free desquamation; the pigmented areas became smaller and paler. In three weeks normal menstruation was restored. There was no recurrence of the eruption, although, a year later, very pale isolated areas of pigmentation persisted, and the hands, feet, and legs were distinctly red and slightly cyanosed.

## Obstetrics and Gynaecology.

### 125. Prognosis in Abdominal Pregnancy.

JEANNENEY, BONNIN, FAYREAU, and BAUVALLÉ (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, November, 1927, p. 664) advocate speedy operation when the diagnosis of abdominal pregnancy is made before term. The maternal mortality after operation, according to Gneruer, is 6 per cent. in patients operated on at the fifth to seventh month, 22 per cent. at term, and 32 per cent. afterwards. The majority of the foetuses are malformed and non-viable, and, according to Baronnet, who summarized 300 cases, the foetal mortality is 83 per cent., while one-third of the surviving foetuses are malformed. The chance of securing a healthy infant is therefore so slight that it is unjustifiable to increase the maternal risk by deferring operation. J. LACOUTURE and L. MASSÉ (*ibid.*, p. 666) found that an infant born after abdominal pregnancy showed at the age of 2½ years normal mentality and no morbid physical characters except slight cranial and facial asymmetry. J. ANDERODIAS and DENIS (*ibid.*, p. 675) operated fifteen days before term for secondary abdominal pregnancy; a living, well formed infant was delivered, but died within a few days, and the mother died from embolus on the twenty-third day.

### 126. Placenta Praevia.

F. C. IRVING (*Surg., Gynecol. and Obstet.*, December, 1927, p. 834) discusses some of the problems of placenta praevia, based upon his own experience in 57 consecutive cases. There were no deaths from haemorrhage, but two mothers died from sepsis—a maternal mortality of 3.5 per cent.; the infantile mortality among viable infants was 45 per cent. The morbidity rate was 21 per cent. Delivery was effected mostly by dilatation of the cervix by a bag and Braxton Hicks version, and forcible dilatation of the cervix either manually or by traction on the foetus was never adopted. Two Caesarean sections were performed, one being followed by hysterectomy, and the placenta was generally removed by expression. Since sepsis is responsible for a considerable number of deaths Caesarean section, followed by hysterectomy, regardless of the state of the child, is indicated if there is a possibility that the patient has been infected, blood

transfusion being performed prior to operation. Irving summarizes the ideal treatment as: (1) an uninfected patient in poor condition from loss of blood should be given a preliminary blood transfusion, followed immediately, regardless of the infant, by a Braxton Hicks version as being the quickest way to stop the haemorrhage; (2) an uninfected patient in good condition, with the foetus dead, non-viable, or a monster, should have a Braxton Hicks version as affording the lowest maternal mortality; and (3) in an uninfected patient in good condition with a normal live child of sufficient size to warrant the assurance of survival Caesarean section affords the best means of saving the infant without unduly jeopardizing the life of the mother. In marginal placenta praevia simple rupture of the membranes is safe for the mother, but has no advantages over metemecrystis for the child.

#### 127. Acetone Treatment of Cancer of the Cervix.

G. GELBHORN (*Zentralbl. f. Gynak.*, December 3rd, 1927, p. 3114) views with satisfaction his twenty years' experience with acetone in treatment of cancer of the cervix uteri, and believes that this substance is in certain respects superior to radium in both inoperable and operable cases. The indications for acetone applications in inoperable cases are: (1) where radium is not procurable; (2) in patients whose general condition is so bad that absorption of the products of tissue degeneration due to radium application is likely to accelerate death—such cases account for the greater part of the 1 to 3 per cent. mortality associated with radium therapy in those cases; (3) where there is deep ulceration near the bowel or bladder, and radium would cause fistula formation; and (4) where the vaginal wall is the site of multiple or superficial nodules of neoplasm. With regard to operative preparation in operable cases, Gellhorn remarks that cauterization quickly arrests the bleeding, but is followed by a prolonged and copious watery discharge which weakens the patient. Radium applications before hysterectomy are said to be of doubtful value in the prevention of recurrences, and in the author's experience of operations performed from three days to three months later have been found to cause the pelvic cellular tissue to be congested and oedematous or densely cicatricial; in either case the operation is rendered difficult. Acetone stops the bleeding at once and causes the discharge to cease within a few days. Gellhorn's technique is as follows: One hour after an injection of scopolamine and morphine, without general anaesthesia as a rule, or after a few drops of ether have been given, projecting ulcerated parts of the tumour are removed with a large sharp spoon; subsequently, with the pelvis elevated, a well greased cylindrical speculum is placed in the vagina, and filled with one or two teaspoonfuls of pure acetone, which is allowed to remain for ten minutes. The pelvis is lowered and the vagina emptied, and mere acetone is now similarly applied for twenty minutes. This is repeated daily for one or two weeks, and then on every other day; after the first application morphine or an anaesthetic is unnecessary. Care must be taken that the vulva is not burnt by contact with the acetone. In certain cases acetone bisulphide is applied in powder form.

## Pathology.

#### 128. The Virus of Measles.

R. DEGWITZ (*Journ. Infect. Dis.*, October, 1927, p. 304) has found that the virus causing measles can be kept alive for several weeks outside the human body if the blood is taken from the patient just at the beginning of the eruption and diluted in the proportion of 1 in 7 to 1 in 10 with buffered salt solution containing the same number of anions and cations and showing the same pH as blood. The mixture must be kept at a temperature of 0° C. Measles produced by subcutaneous inoculation begins earlier than when it starts naturally or follows artificial inoculation of the respiratory mucous membrane; the symptoms are milder and of shorter duration. There seems thus to be an analogy between morbillization against measles and varioration against smallpox. Measles can be produced in human beings with the sterile blood of a measles patient or with dilutions of such blood which has passed through a Berkefeld filter. Sterile filtrates of nasal secretions collected in the pre-eruptive stage and diluted with normal saline are also capable of producing the disease. Measles virus can be grown in culture media containing plasma derived from susceptible or immune persons and diluted in a proportion of 1 in 6 or 1 in 7 with buffered normal saline. To keep the virus alive it must be associated with living cells such as the slowly growing bacteria regularly found in measles. Injection of sterile filtrates of cultures into human beings can produce reactions similar to measles, the specificity of which can be proved by the fact that such persons are later immune against large amounts of infectious blood. Monkeys (*Macacus rhesus*) can

be infected by injections of such material, and the specificity of the reactions can be proved by the fact that their serum collected after the reaction can protect infected human beings against measles, while the serum of normal measles has no such protective power.

#### 129. An Epidemic Due to Type IV Pneumococci.

G. H. ROBINSON (*Journ. Infect. Dis.*, December, 1927, p. 417) describes an epidemic of pneumonia during the first six months of 1927 in Pittsburgh, Pa., due apparently to Type IV pneumococci. The organisms were recovered from the sputum by the usual monso technique, tested for bile solubility and inulin fermentation, and used to prepare agglutinating serums in rabbits. Altogether 65 strains of Type IV pneumococci were studied; these fell into eight serological groups, though it is stated that not all strains were grouped. Twenty-eight of the strains fell into four groups, labelled A to D. These four groups were prevalent during the first three or four months of the epidemic; during the later stages members of the other groups appeared, possessing far greater heterogeneity. A study of the mortality of the different groups showed that 56 per cent. of patients infected with Group O died, whereas the mortality due to Groups A, B, and D varied from 14 to 33 per cent. The mortality in the whole epidemic was 37.3 per cent.; this was considerably higher than in the previous year, when the mortality due to Type IV strains was only 18.5 per cent.; the increase in death rate could be ascribed very largely to the high virulence of the Group O strains. It would appear, therefore, that in this epidemic a few dominant types of the usually heterogeneous Type IV pneumococci emerged, and that one of these assumed a much higher pathogenicity than usual. As the epidemic died away, the more homogeneous strains were replaced by more heterogeneous strains, similar to those encountered in non-epidemic times.

#### 130. Amato Bodies in Scarlet Fever.

J. A. TOOMEY and J. A. GAMMEL (*Amer. Journ. Dis. Child.*, November, 1927, p. 841) state that Amato in 1913 described small bodies—roundish, oval, elliptical, triangular, quadrangular, or crescent-shaped—in the cytoplasm of the ungranulated polymorphonuclear leucocytes of scarlet fever cases. As they were present from the first day of the invasion to the second and third day of desquamation he ascribed to them a differential value in the diagnosis of scarlet fever. The present authors, who regard the Amato bodies as nothing else than the inclusion bodies described by Döhle, examined 100 cases, consisting of 50 scarlet fever patients and 50 controls, and found that these bodies were not always present in scarlet fever, but occurred in other diseases, although they were present more frequently in scarlet fever than in any other acute infection.

#### 131. Composition of Human Milk.

B. MYERS (*Brit. Journ. Child. Dis.*, October–December, 1927, p. 249) reports on 184 separate analyses made of the milk of 84 nursing mothers, whose ages ranged from 16 to 30, the average age being 22. The results were as follows. The average analysis showed protein 1.53 per cent., fat 3.85 per cent., lactose 6 per cent., and the caloric value per ounce 18.95. The last third of the milk contained the highest percentage of fat. Although a large number of analyses showed fairly similar results, there was in many instances a distinct variation, especially as regards the fat content and the protein, which within certain moderately wide limits remained normal. The milk of a nursing mother was apt to vary to some extent even from day to day, but unless this variation was excessive it did not affect the infant. In conclusion, Myers maintains that for the purpose of an analysis or caloric value concentration the middle third or the whole of the milk in the breast should be used.

#### 132. Faecal Fat Analyses in Children.

G. A. HARRISON and W. P. H. SHELDON (*Arch. Dis. in Child.*, December, 1927, p. 338) recommend that the method of Holt, Courtney, and Fales should be used for the routine clinical examination of fat in the faeces of children. They state that normally not more than one-third of the dried faeces should be fat, and that of that fat not more than one-third should be unsplit, it being borne in mind that in infants as much as one-half of the dried faeces may consist of fat. They add that faecal fat percentages give a rough indication of the efficiency of the digestion and absorption of fat, though, by themselves, such estimations are seldom, if ever, pathognomonic of any one disease. The total fat gives a measure of the efficiency of absorption, while the ratio of unsplit to split fat indicates the efficiency of fat digestion. Separate estimations of free fatty acids and soaps are said to afford little or no useful clinical information. The ratio of free to combined fatty acids depends largely on the reaction of the intestinal contents.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 133. Auricular Fibrillation in an Apparently Normal Heart.

W. D. REID (*Boston Med. and Surg. Journ.*, December 29th, 1927, p. 1213) describes a case of auricular fibrillation in an apparently normal heart to show the importance of recognizing this condition, since normal rhythm and perfect health may be restored by appropriate treatment. Irregularity had first been noticed by the patient four years previously, following over-exertion on one occasion; no further symptoms were noticed until eleven months later, when, after an attack of influenza, the patient became unable to work for more than two hours a day on account of dyspnoea and palpitation. There was nothing in the history to suggest rheumatic infection, and with the exception of a completely irregular rhythm at a rate of about 100 no abnormality was discovered on clinical examination. A diagnosis of auricular fibrillation was confirmed by the electro-cardiogram. Two doses of digitalis leaf (6 grains each) were given, and on the next day the patient discovered that he had less breathlessness on exertion than at any time since the onset of his illness. Two days later quinidine sulphate was administered (36 grains spaced over eight hours), and four hours afterwards the rhythm was observed to be normal, this being demonstrated by the electro-cardiogram. X-ray examination before and after treatment showed that some dilatation of the right side of the heart, which had been present during the illness, had disappeared on the restoration of normal rhythm. The author emphasizes the futility of inadequate digitalis therapy. During the illness tincture of digitalis, half a drachm daily, had been given without benefit, but it was found that considerable increase in the dose for one day produced marked amelioration of symptoms. Since the case was considered to be suitable for treatment with quinidine sulphate it was decided to make, if necessary, vigorous use of this drug in the attempt to restore normal rhythm, continuing its administration either until regularity was established or toxic symptoms made their appearance. As it happened, the effort was successful before this limit was reached. No recurrence of irregularity has been noticed during the ten months following its disappearance.

### 134. The Heart in Typhus.

D. DANIELOPOLU, N. LUPU, C. NICOLAU, and PETRESCO (*Presse Méd.*, October 15th, 1927, p. 1257) state that typhus fever is one of the infections in which the heart is most frequently affected. The lesions are localized exclusively in the myocardium. The cardiac phenomena which occur in the course of the disease, usually during the second week, are more intense in the hypertoxic than in the mild forms, and in old persons than in the young. In the hypertoxic forms they become progressively worse and continue until death, even after the temperature has reached normal. The cardiac symptoms, therefore, follow the same course as the other symptoms of typhus. In the hypertoxic forms the low arterial tension, morphological changes in the blood and cerebro-spinal fluid, and the nervous symptoms disappear in the mild forms as soon as defervescence occurs, but become progressively more pronounced until death in apyrexia in the hypertoxic forms. Myocardial insufficiency in typhus is usually manifested by a pulse rate of over 120, sometimes exceeding 140 to 150, and occasionally accompanied by extrasystoles. As in all acute infections it is favourably affected by strophanthin in fractional doses. On histological examination the myocardium shows inflammatory and degenerative lesions. The stellate ganglion presents an intense diffuse or nodular infiltration of lymphocytes, polymorphonuclear and plasma cells, with often intense degenerative lesions in the nerve cells. Similar lesions are found in the vagus nucleus.

### 135. Modification of the Schick Test.

W. H. PARK (*The Nation's Health*, November, 1927, p. 50) states that he found in 1922 that if toxin-antitoxin of the standard degree of incomplete neutralization was given immediately under the skin it acted both as an immunizing agent and as a method of determining immunity. At the present time, he says, all the first injections of toxin-antitoxin by the New York City Health Department medical inspectors are given in this way, i.e. being injected directly under the skin at the interior lower part of the arm just above the end of the elbow. On the sixth or seventh day the arms are inspected and those patients who show no skin reaction

are given no further injections. Those with a very slight reaction are given a second injection, and those who have definite reactions receive two more injections. The time and labour of the extra Schick injection are thus saved and only the susceptible children receive the three injections. In children under six years old the reactions are practically the same as with the Schick test. In older children the reactions are somewhat increased owing to a few persisting pseudo-reactions. This immunizing injection has now been used as a modified Schick test in more than 100,000 children. Park thinks that the use of the Schick test after injections of toxin-antitoxin, though of great value to individual children, is not necessary as a general public health procedure.

### 136. Tularaemic Peritonitis.

S. C. FULMER and M. J. KILBURY (*Journ. Amer. Med. Assoc.*, November 12th, 1927, p. 1661), who report an illustrative case, state that there have been no previous examples on record of abdominal complications in tularaemia. Their case, which occurred in a man aged 40, was apparently an ordinary attack of tularaemia until abdominal symptoms developed three months after the initial infection. The abdominal condition resembled a low-grade peritonitis with ascites and gaseous distension. About 20 c.cm. of greenish-tinged, cloudy ascitic fluid was withdrawn. Cultures on ordinary media and smears from the ascitic fluid failed to show the presence of organisms. The fluid was then centrifuged, the sediment was mixed with 5 c.cm. of normal saline, and injected into a guinea-pig, which died of tularaemia in four days. The organism was isolated from the spleen and grown on glucose cystine meat infusion agar of pH 7.3, as recommended by Francis, who first described tularaemia.

### 137. Oesophagectasia in a Child.

J. A. M. CAMERON (*Arch. Dis. in Child.*, December, 1927, p. 353) reports the case of a male child who suffered from dilatation of the oesophagus due to cardiospasm, and died when 6 years old. He discusses the pathological findings in a series of eight cases of recurrent attacks of vomiting, chronic in nature; in all an infiltration in the intermuscular layer was found which had invaded Auerbach's plexus in the lower end of the oesophagus. The present case afforded evidence of bacterial invasion and supports the theory of a toxic basis of the condition. The ganglionic changes result in the stimulus of food being followed by contraction only; the retention of the food causes the stomach to dilate, and the circular muscle hypertrophies.

## Surgery.

### 138. Abscess of the Spleen in Typhoid Fever.

L. MONTEL (*Ann. de Méd.*, November, 1927, p. 489), who reports a case of abscess of the spleen in typhoid fever, alludes to the one reported by Morel, Dambrin, and Tapie (*Epitome*, April 24th, 1926, para. 447), and remarks that the abscess is usually single and situated at the upper pole of the organ, as in thirteen of the fourteen cases where the localization was noted. Occasionally multiple abscesses have been observed, ranging in number from two to eight. The pus is greyish or yellowish in colour and often haemorrhagic. The organism most frequently present is the typhoid bacillus. The symptoms are unobtrusive, being usually disguised by the other manifestations of typhoid fever; pain is the most constant one. No definite information is provided by palpation, percussion generally shows a definite splenomegaly, and the fever varies in character. The general condition is grave and the face is pinched. In view of these vague signs Montel thinks it is not surprising that the condition is as a rule not discovered until the necropsy. If left to itself, splenic abscess either causes death at once or gives rise to a series of complications in the abdomen, such as peritonitis and perforation of the colon; or more often in the thorax, such as adhesive, serous, haemorrhagic, or purulent pleurisy. Montel's case, which occurred in a man who had been twice inoculated against typhoid with a heated polyvalent vaccine, five months and seventeen months previously, was remarkable in that abscess of the spleen was complicated by purulent pleurisy on the left side and perforation of the diaphragm. The organism isolated from the blood was probably of a typho-paratyphoid nature, but distinctly atypical. The Widal reaction did not give any definite result with *B. typhosus* or *B. paratyphosus* A or B.



## 139. Isolated Polyposis of the Small Intestine.

R. GEHRIG (*Deut. Zeit. f. Chir.*, December, 1927, p. 286), who records an illustrative case, remarks that in comparison with polyposis formation in the large intestine polyposis in the small intestine, especially the duodenum, is rare. Many observers have drawn attention to the hereditary factor in intestinal polyposis, but opinion differs considerably as to the importance of age. While Staemmler regards intestinal polyposis mainly as a disease of advanced life Doering states that it is chiefly found in youth and middle age. The condition is essentially chronic. Attacks of intestinal obstruction which recur frequently for years and subside spontaneously should suggest intestinal polyposis. Treatment, which was formerly limited merely to extirpation of the polypi, should consist of resection of the affected intestinal segment. Gehrig's patient was a girl, whose mother had died at the age of 34 from ileo-caecal intussusception, probably connected with polyposis, but no autopsy was performed. The daughter had her first attack of intestinal obstruction at the age of 7. Operation revealed intussusception of the small intestine associated with four polypi, which were excised. The patient subsequently had attacks of colicky pain almost every year in the autumn, when the diagnosis of duodenal ulcer was often made. At the age of 18, when she had an unusually violent attack, laparotomy was performed, when an enteric intussusception was found associated with numerous large and small polypi of the duodenum and upper part of the small intestine. Resection of the affected part was performed, but death followed fourteen hours after the operation. At the necropsy the lower part of the small intestine and the whole of the large intestine were found to be normal.

## 140. Incidence of Hernia in Children.

D. PATERSON and G. M. GRAY (*Arch. Dis. in Child.*, December, 1927, p. 328) investigated 1,018 cases of hernia in children and noted that among patients attending the out-patient department of a children's hospital the incidence of hernia was less than 1 per cent. The sex incidence of hernia in children was found to be four males to each female. The authors report that inguinal hernia is about four times as common as umbilical hernia, and that the sex incidence in this variety was nine males to each female. Spontaneous cures of hernia have been claimed by some writers, though others hold that such do not exist. Paterson and Gray state that there was an apparently spontaneous cure of inguinal hernia in one-fourth of all their cases, the tendency being higher in females than in males. A right inguinal hernia was present in 62 per cent. of their cases, a left in 20 per cent. only, and a double hernia in 18 per cent. In umbilical hernia the sex incidence was equal, and in half the patients under the age of 12 an apparently spontaneous cure occurred. The routine treatment of inguinal hernia at the hospital where these observations were made is to postpone the operation until after the first year, except in special circumstances. The authors mention that there is a wide discrepancy in the statistics on a number of the above-mentioned details, and quote those of various English and American authorities to illustrate this point.

## 141. The Thymus Gland in Graves's Disease.

As a result of his own observations and those of other workers H. HABERER (*Wien. Klin. Woch.*, December 1st, 1927, p. 1501) concludes that the thymus, like the thyroid gland, plays an important part in the endocrine dysfunction associated with Graves's disease, especially in the more severe cases. A large thymus has been found in nearly 100 per cent. of patients dying of heart failure after thyroidectomy operations, while this was present in only 82 per cent. of those who succumbed to the disease without operation, and in 44 per cent. of those dying of intercurrent affections. When performing thyroidectomy for this disease he has, therefore, in a series of 61 cases, of which 45 were classified as severe or very severe, removed as much as possible of the thymus as well, generally at the same time. Occasionally, though only a small thymus was found, microscopic examination showed delayed involution of the glandular tissue. The results in the majority of the cases were very satisfactory; many of the patients were operated on more than seven years ago and some more than fourteen, and, in spite of considerable emotional stress and worry, in some instances there was no recurrence of symptoms, though in a few the thyroid gland enlarged again subsequently. In three out of the four deaths which occurred in the series there was marked post-operative restlessness and tachycardia, and large residual portions of the thymus were found at necropsy. Haberer thinks that failure in these cases was probably due to the technical difficulties of removing sufficient of the thymus. The fourth fatal case was that of a patient five months pregnant with advanced Graves's disease, aortic stenosis, and hypertrophy of the right ventricle and dilatation of the left. He concludes that

for the successful surgical treatment of a large proportion of cases of Graves's disease reduction of the activity of the thymus is necessary; until this can be accomplished medically, operative removal of as large a portion of this gland as possible is advisable.

## Therapeutics.

## 142. The Treatment of Hodgkin's Disease.

L. LORTAT-JACOB and P. SCHMITE (*Paris Méd.*, December 3rd, 1927, p. 452) draw attention to the honours produced by the combined use of x-ray and biological therapy in Hodgkin's disease, and report a case in which this method proved most efficacious. Carefully filtered rays were used two or three times a week, and always caused great amelioration of the symptoms; the ganglionic masses disappeared, functional signs lessened, the pruritus became less troublesome, and the general state improved. At the same time the leucocytes diminished in number and the erythrocytes rapidly increased. The authors agree that this improvement is only transitory, and sooner or later the symptoms recur with a fatal termination. In biological treatment, Lindstroem, having obtained only inconstant results with injections of human rabbit's and sheep's serum, the authors advocate the use of homologous serum. In the present case the serum employed was obtained from another patient suffering from Hodgkin's disease who had been treated with x-rays. This was given in two courses, 93 c.c.m. being injected subcutaneously in ten days during the first, and 11 c.c.m. in the same time during the second course. The first injection caused a slight febrile reaction, but no general disturbances. During this stage of the treatment the red cells increased from 2,800,000 to 4,300,000 per c.mm. and the white cells decreased from 22,800 to 7,800. Following these injections x-rays were administered, and in twenty-eight days the patient was apparently cured. The result of the blood examination showed that the serum treatment was an undoubted factor in the apparent cure; its action may be due to protein shock, a veritable vaccination reaction, or to the liberation in the blood of leucolytic products of disintegration. The authors are inclined to favour the last theory, since many experimenters have shown that the serum of irradiated leukaemic patients causes *in vitro* a partial leucolysis in normal or other leukaemic blood. Deep radiotherapy and radium have given no better results than superficial irradiation.

## 143. Treatment of Typhoid Fever by Anti-gangrene Serum.

M. WEINBERG and G. THIBAUT (*C. R. Soc. de Biologie*, December 2nd, 1927, p. 1476) record a severe case of typhoid fever treated successfully with a serum prepared against the causative organisms of gas gangrene. During the first three weeks of illness antityphoid and anti-coli vaccine by the mouth, Redet's antityphoid serum, and, later, the antityphoid bacteriophage, were all tried, but without avail. The patient had a severe intestinal haemorrhage, and his red cells sank to 2,900,000 per c.c.m. As his stools were very fetid and showed microscopically a mixture of typhoid bacilli and *B. perfringens*, it was decided to administer anti-gangrene serum. Grassot and Gory's antityphoid serum was given subcutaneously and a mixture of anti-*perfringens* and polyvalent anti-gangrene serum by the rectum. The patient's condition rapidly improved; a second injection was given therefore on the next day, and an injection of antityphoid serum alone on the third day. After the second injection the temperature commenced to fall, and the stools became inodorous; the red cells rapidly rose to 4,200,000. The patient apparently recovered quickly. The authors conclude that the anti-gangrene serum was largely responsible for this result, and recommend its administration in all severe cases of typhoid fever.

## 144. Liver Feeding in Pernicious Anaemia.

From the results obtained in fourteen cases of pernicious anaemia C. A. ELLIOTT (*Med. Journ. of Australia*, November 12th, 1927, p. 672) concludes that the addition of sufficient liver daily to an adequate well balanced diet will produce a prompt remission in most cases of pernicious anaemia, the response by the reticulocytes apparently being characteristic of this disease. He finds that the liver may be cooked or raw, while some patients prefer to take it well ground and diluted with orange juice. In some cases administration by means of a stomach tube is advisable, and hydrochloric acid may be given also. Under the liver diet, the red blood cell count and haemoglobin increased, the colour index fell below one, and the megalocytes and irregular forms diminished. General improvement occurred, the bilirubinaemia became normal, and the glossitis and gastro-intestinal symptoms

quickly cleared up. Gastric anacidity, however, and symptoms referable to the spinal cord persisted, although numbness and tingling decreased or disappeared. Of the fourteen patients, eleven had complete remissions of their anaemia and a corresponding general clinical improvement. One of the remaining three received the liver for only one month, and the two others, elderly and extremely debilitated, who were given raw liver purée by the stomach tube, developed suppurative broncho-pneumonia and died, this being possibly attributable to the method of administration. In other types of severe anaemia there was no such marked response to liver feeding as was seen in the pernicious form.

## Laryngology and Otology.

### 135. Misleading Symptoms of Laryngeal Obstruction.

G. PANSINI (*Rev. de Laryngol., d'Otol. et de Rhinol.*, October 31st, p. 611) describes two cases where the unsuspected inhalation of a foreign body gave rise to symptoms of croup and for which antidiphtherial serum was given. The first patient was a child aged 6 months, who was brought to hospital with signs of laryngeal obstruction. It had had dyspnoea, cough, and loss of voice for three days with some fever, and antidiphtherial serum had been administered without improvement. Respiration continued difficult, with intermittent periods of normal breathing. The pharynx and larynx were reddened and swollen, without any exudate. After two days in hospital the child had a violent attack of coughing and expelled a melon seed, with a considerable amount of mucous secretion. It was then ascertained that the child had had a fall while eating a slice of melon and had cried loudly for a few moments; the symptoms had not appeared for several hours afterwards. In the second case a similar series of symptoms was related. This child was 10 months old, and had signs of laryngeal obstruction, with cough and loss of voice, but there were no intermittent periods of normal breathing. Tracheotomy was performed and the vertebra of a fish was found in the subglottic space. The child had been present at a meal several hours before the symptoms appeared, and must have secreted and swallowed a morsel of fish then. These cases demonstrate how in a small child a foreign body may be present in the most unsuspected cases, and may give rise to symptoms which do not suggest a foreign body, but rather an acute infection or spasm; the foreign body may have been inhaled some considerable time before any symptoms are noticed.

### 136. Malignant Tumours of the Nasal Sinuses.

H. A. BARNES (*Arch. of Otolaryngol.*, August, 1927, p. 123) reports a series of twenty-five cases of malignant disease of the accessory sinuses of the nose. He considers that the majority of the cases begin in either the maxillary antrum or the ethmoid cells. In those cases where the first symptom is pain about the molar teeth, the site of origin is usually in the antrum; when the earlier symptoms are nasal haemorrhage and obstruction the growth probably began in the ethmoidal labyrinth. The sphenoidal sinus rarely appears to be the primary site, although affected by extensions. The frontal sinus is rarely involved by growth, though usually badly infected and full of granulation tissue. The majority of the cases are carcinomata, usually epithelial in type. The author's method of treatment consists in a very free removal of the tumour, with a margin of healthy tissue. His incision starts at the outer angle of the eyebrow, follows the brow and the naso-maxillary suture, and then makes a wide sweep under the eye, finishing up just below the outer angle of the orbit. This gives a very wide approach to the area of the growth. A Moore's lateral rhinotomy is then practised, with extensions until all the malignant tissue is removed. The soft tissues of the cheek are removed so as to leave the cavity wide open for inspection and treatment. At the end of the operation the cavity is plugged with gauze with which are incorporated tubes of radium of from 100 to 200 mg. strength, which are left in from twenty-four to forty-eight hours. The patients are examined carefully once a week and any suspicious area of granulation tissue at once treated with radium. This is very easily done by means of the open cavity in the cheek, and such inspection is continued, at gradually increasing intervals, for several years.

### 137. Ocular Signs of Labyrinthine Disease.

L. BALDENWECK (*Arch. Internat. de Laryngol.*, September-October, 1927, p. 897) has carefully investigated the ocular reaction of diseases of the labyrinth. Spontaneous vestibular nystagmus has certain definite characteristics, and, especially when unilateral, is readily distinguished from central. Horizontal nystagmus to the healthy side indicates complete

loss of function of the labyrinth. Past-pointing and falling are always to the same side as the slow component of the nystagmus. If this rule is not followed an extra-labyrinthine lesion, usually a cerebellar abscess or tumour, is indicated. Nystagmus due to movement of the head varies as to whether the movement is rapid or slow. In the former the semi-circular canal system and in the latter the otolith apparatus is brought into action. Hyper-excitability of the labyrinth does not indicate a pathological process, but is part of a general nervous irritability; hypo-excitability in itself is insufficient to indicate the site of the lesion. Caloric tests have the advantage that only one side is examined at a time. The technique of Bárány is said to be rather more reliable than the minimal stimulation of Kobrak. In the caloric tests the latency of the nystagmus indicates the state of the labyrinth, the duration indicates the condition of the central mechanism. The electrical reaction is not very conclusive, but if it gives results different from the normal a central lesion is to be suspected. If other tests show the central region to be normal the lesion must be in the vestibular nerve.

### 138. Tuberculosis of the Middle Ear.

F. R. SPENCER (*Arch. of Otolaryngol.*, September, 1927, p. 242) thinks that tuberculosis of the middle ear in adults is more common than is generally supposed, though it is difficult to isolate the bacillus from the discharge. In the child it is a very serious disease and extends to all parts of the temporal bone; it is acute, and causes widespread necrosis. In adults the disease is more chronic and tends to be restricted to the middle ear. In tuberculous otitis there is frequent caries of the ossicles, and paralysis of the facial nerve is a common complication, especially in children. As in the lungs, the blood vessels are eroded and haemorrhages occur, but they are very small and are often unnoticed. The auditory meatus contains mucus and pus, and there are usually multiple perforations of the tympanic membrane which tend to coalesce in time until almost the whole membrane has disappeared and the middle ear becomes filled with pale, flabby granulations. Mastoiditis is frequent in children, but rare in adults, though in some chronic cases an attack of influenza may light up the whole condition. Intracranial complications consist mainly of meningitis, which is rapidly fatal. In chronic adult cases the prognosis is good, but in children the course of the disease is likely to end in meningitis. Heliotherapy is the best conservative form of treatment, but operation is necessary in cases of necrosis.

## Obstetrics and Gynaecology.

### 139. Climacteric Disturbances.

H. CURSCHMANN (*Med. Klinik*, November 18th, 1927, p. 1759) believes that the differential diagnosis of climacteric pathology is an important subject for study. He finds that the symptoms vary greatly according to the racial type and the psycho-physical constitution. The "pyknic" (thick-set, muscular) woman is said to suffer much less at the menopause than the patient of the "asthenic-plectic" type. The intelligent, sensible, busy woman seldom becomes the depressed, unhappy neurasthenic at the menopause. Curschmann doubts the wisdom of regarding these climacteric disturbances as largely functional and relatively unimportant. While menopausal hot flashes, morbid blushing, and dermatographia are common, yet migraine, acroasphyxia, and anaphylactic asthma diminish or disappear. Obesity very commonly follows the menopause; less frequently the patient becomes thin. Rarer forms of endocrine disturbance are "late" osteomalacia, psychoses of the depressive, melancholic, or manic-depressive type, changes of character, sexual excitement, unreasoning jealousy, hysteria, and neurasthenia. Again, hyperaemia and swelling of the thyroid, thymus, and adrenal cortex, analogous to those conditions occurring in pregnancy, are common. All these symptoms indicate profound disturbances of the hormone and endocrine balance. The author thinks that the absence of the ovarian hormone alone will not account for this, and he advises that the patient's general health should be investigated thoroughly, rather from the physician's than from the gynaecologist's standpoint. For instance, emaciation, debility, and pruritus are sometimes attributed to the climacteric, when an examination of the urine shows that the patient has diabetes. He adds that there may be commencing or definite arteriosclerotic changes in the heart, kidneys, brain, and abdominal viscera, or carcinoma may appear; careful diagnosis is required to exclude these and to determine the right lines of treatment, which include organotherapy, spa and electric treatment, psychotherapy, and the administration of sedatives.

**150. Diagnosis of Sterility in Women.**

DISCUSSING the diagnosis and treatment of uterine and tubal sterility, G. COTTE and F. J. MARTIN (*Gynéc. et Obstét.*, October, 1927, p. 299) state that when Ipiodol is introduced into the uterus and the Fallopian tubes are patent the fluid escapes into the peritoneal cavity, where, in normal cases, it disappears without there being any evidence of injury. When, however, the tube is occluded or otherwise unhealthy, the Ipiodol cannot be evacuated, but is taken up by macrophages, or an interstitial rupture of the tube may occur. The authors have never seen any serious consequences following injection of Ipiodol when the apparatus is fitted with a pressure gauge. E. EXCHAQUET (*ibid.*, p. 305) recommends insufflation at low manometric pressure (22 cm.). He has employed this method fourteen times in 10 cases of sterility without any ill effects. In cervical stenosis, with or without endocervicitis, he recommends diathermy in preference to Pozzi's operation. He agrees that endocervicitis is an important cause of sterility, and that either of these operations secures free drainage, often curing the endocervicitis and obviating subsequent treatment. R. PROUST and C. BÉCLÈRE (*ibid.*, p. 317) claim that radiological examination after the injection of Ipiodol gives more valuable information regarding the condition of the uterus and Fallopian tubes than simple insufflation. They do not think that intrauterine injection of Ipiodol prevents subsequent pregnancy, and cite four cases reported by Hensler in which tubal permeability was restored after repeated injections of Ipiodol, and two patients subsequently became pregnant. For those reasons Proust and Béclère hold that Ipiodol injections are not only harmless, but may have a definite therapeutic action, and are therefore the best procedure in the diagnosis of sterility. BEÜTZNER (*ibid.*, p. 327) confirms Douay's enumeration of the dangers of insufflation—namely, rupture, infection, embolism, and syncope. He reports a case in which the patient, shortly after insufflation with Douay's apparatus, had a tubal pregnancy.

**151.****Symphysiotomy.**

J. ORTIZ-PEREZ (*Bull. Soc. d'Obstét. et de Gynéc. de Paris*, November, 1927, p. 623) describes the experience of a Cuban obstetrical clinic with regard to labour in moderately contracted pelvis, with a conjugate of not less than 8 cm. He states that 60 per cent. of patients with such contraction are delivered spontaneously, and that during five years approximately fifty-four symphysiotomies to each Caesarean section have been performed. The routine practice is to allow labour to proceed and to employ symphysiotomy when it has been proved that normal delivery is impossible. The series included only two foetal deaths, and the last forty-one cases were without foetal mortality; there was no maternal death. In cases in which the foetus is already dead not only is symphysiotomy less dangerous than Caesarean section, but, on account of the pelvic enlargement which is produced, the mother is left in a more favourable position for subsequent confinements. At the same time as the symphysis is divided from above downwards by a tenotome, separation of the pubes by two or three fingerbreadths is effected slowly. Careful observation of the uterine tonicity is necessary, and valuable assistance is derived from the administration of morphine in some cases, and in others of pituitary extract. Application of forceps is occasionally required. It is admitted that in cases of symphysiotomy perineal tears are frequent, especially in the first and second labours, and that extensive episiotomies are not infrequently necessary.

**152.****The Endocrine Glands in Gynaecology.**

ACCORDING to SERDJUKOFF (*La Gynéc.*, September, 1927, p. 513) a certain amount of physiological enlargement of the thyroid glands commonly occurs at puberty, and periodical changes in its size are often associated with menstruation. Graves's disease also frequently manifests itself at or soon after puberty, when it is due to pronounced modification of the functions of this gland. Either deficiency of the menses or excess may be produced by hyperthyroidism. At puberty the parathyroid and the suprarenal glands also become more active, while the development of the mammary glands is also closely correlated with that of the ovaries. The influence of gestation and lactation on the endocrine glands is established both clinically and experimentally. During pregnancy there is a progressively increasing hyperactivity of the thyroid, and it has been suggested that eclampsia and the chorea of pregnancy may be due to, or associated with, parathyroid disorders. During this time also the anterior pituitary lobe undergoes hyperplasia, and may be indicated by a change in the facial aspect of the patient. No morphological changes can be found in the posterior pituitary lobe, notwithstanding the marked action of its secretion on the parturient uterus. Serdjukoff concludes that hormones produced by the foetus

and the placenta stimulate the development of the mammary glands, though there is as yet no satisfactory explanation of the onset of lactation after delivery. Since the work of the liver in the detoxication of poisonous substances is greatly increased during pregnancy, hepatic disorders are likely to occur. At and after the menopause there is atrophy of the endocrine glands and of the uterus, ovaries, and glandular tissue of the mammary glands; the whole endocrine system becomes reorganized, and ill balanced action often results, leading to such manifestations as goitre, myxoedema, Graves's disease, acromegaly, and obesity.

**Pathology.****153. Interstitial Neuritis Caused by the Virus of Rabies.**

ACCORDING to S. NICOLAU and I. A. GALLOWAY (*C. R. Soc. de Biologie*, January 13th, 1928, p. 31) the virus of rabies is able to spread along the nerves in both a centripetal and a centrifugal direction. Roux demonstrated the presence of the virus in the nerves of the healthy arm of a man who had been bitten on the opposite arm. Roux and Nocard brought evidence to show that after intracerebral infection of dogs the virus reached the saliva by passing down the nerves. The present authors have performed a series of experiments to determine whether the virus is demonstrable in the peripheral nerves of rabbits after intracerebral injection with the rabies virus. A street virus was used, producing death in ten to thirteen days after inoculation, and giving rise to very obvious Negri bodies, which rendered diagnosis very simple. The brachial or sciatic nerves of rabbits inoculated intracerebrally were themselves inoculated into the brains of fresh animals. Altogether these nerves were injected fifteen times into the brain of twelve rabbits, and each time the inoculated animal developed rabies. Histological examination of the peripheral nerves of animals inoculated by the corobral route showed a mild degree of interstitial neuritis. The sheaths of the nerves were intact, but in between them was an infiltration with mononuclear cells. Perivascular cuffing was observable, the chief cells being lymphocytes, plasma cells, and large mononuclears. No degenerative lesions were found in the nerves. The authors conclude that the street virus of rabies, when introduced into the brain, is able to travel centrifugally and to reach the peripheral nerves, in which it sets up a mild degree of interstitial neuritis.

**154.****Mode of Action of Ingested Urea.**

L. ROHÁČEK (*Bratislavské Lekárske Listy*, December, 1927, p. 598) states that although urea is no more considered a toxic substance, it may still in certain circumstances bring about a condition which, by its symptoms, resembles nephritic uraemia. Thus symptoms of intoxication were observed after the ingestion of small quantities of urea in two patients with oedema and cardio-hepatic oliguria. He adds that the variation of the diuretic action of urea is most remarkable. In an advanced case of cirrhosis of the liver, urea therapy not only prevented the renewal of the ascites, but arrested the further advance of the disease. Many other successes in cirrhotic conditions are reported, but failures have been met with just as frequently. After the ingestion of urea (in the successful cases) there results not only an increased elimination of urea, but also of water. In refractory cases the concentration of urea in the urine becomes unusually high, this disturbance being caused not by disease of the renal epithelium, but by failure of the ingested urea to release the water assembled in the tissues. The diuretic qualities of urea depend upon the liver function in two ways. (1) The production of urea has its chief site in the liver. An inadequate production may cause disturbances in the elimination of water and salt, and in the same way lead to the appearance of oedema and ascites. (2) The liver influences the water and salt metabolism, possibly through the hormones or diastases, and preserves the balance between the concentration of sodium chloride in the blood and in the urine.

**155. Bony and Cartilaginous Deposits in the Tonsils.**

C. HIRSCH and M. H. CORTEN (*Zeit. f. Hals-Nasen- und Ohrenheilk.*, December 22nd, 1927, p. 397) record the case of a diphtheria carrier, a woman aged 22, on whom tonsillectomy was performed without any difficulty, with the result that no more diphtheria bacilli were found in the swabs. On examination of the capsule of the excised tonsils islands of cartilage and bone were discovered, a rare condition of which only about thirty cases have been recorded, the first having been reported by Orth in 1893. There did not appear to be any connexion between the carrier state and the cartilaginous and bony deposits.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

156.

### Unrecognized Mycoses.

ACCORDING TO G. DURANTE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 17th, 1927, p. 1513), mycoses in the tissues of man are exceptional, apart from well marked infections such as actinomycosis, oidium, and aspergillus. He records the case of a woman who died from eclampsia. Near the vessels in the stroma of the kidney were long mycelial filaments which had not caused any reaction in the surrounding tissues. This represented a type of saprophytic mycosis perfectly tolerated. A second case was that of a young woman who had had attacks of appendicitis sufficiently abnormal to obscure the diagnosis. Histological examination of the appendix revealed several superficial ulcerations of the mucous membrane with numerous ramifying mycelia. The region of the operation remained tender for two months, but six months afterwards the patient had put on weight and was in perfect health. Durante also encountered a case of true mycelial septicaemia in a woman who, before parturition, was slightly pyrexial; the fever persisted for five days after labour and then disappeared by lysis, and the patient was discharged. Twelve days later she became comatose and died. At the necropsy were found numerous mycelia in the aortic and pulmonary vessels. Threads 4 to 5  $\mu$  in diameter were found lying between the red cells in the vessels, but had not caused thrombosis. On several occasions during the past fifteen years the author has found that neoplasms which had been diagnosed as sarcomata were really due to mycoses. The fungi had a very low virulence, as evidenced by the fact that there was no reaction in the surrounding tissues. He thinks that these infections are probably frequent in their latent form. The septicaemic type in which the mycelium invaded the general circulation appeared to determine accidents rather by their presence than by their virulence. The fact that certain haemophilic mycoses appeared to develop in the general circulation rendered it advisable to make blood cultures on media suitable for mycelia in doubtful cases.

157.

### Pirquet Tests with Different Tuberculins.

A. BRINCHMANN (*Norsk Mag. f. Lægevidensk.*, January, 1928, p. 36) has performed comparative Pirquet tests simultaneously with four different kinds of tuberculin—the official Norwegian preparation, a tuberculin from the Serum Institute in Copenhagen, a German tuberculin (Hoechst's), and a French tuberculin from the Pasteur Institute. Each child examined received five scratches, one serving as a control, and the remainder being used for one each of the four tuberculins. Altogether 89 children were examined, and 342 tests were performed, the reaction being repeated several times in some cases. Variations in the intensity of the reaction provoked by the different tuberculins were observed in several cases, but there were no uniform differences enabling the author to decide that any one tuberculin was superior to the others. There were 68 children who gave a negative or doubtful response, only 21 giving a positive one. With but two exceptions, these 21 children gave a positive reaction to all four tuberculins. But there were only 5 children whose response to the four tuberculins was identical; all the other Pirquet-positive children showed reactions of different severity to the various tuberculins, this difference being in some cases very marked. The author notes that while in hospital practice it is the custom to observe the reaction twenty-four and forty-eight hours after the inoculation, there is usually a delay of two days in general practice before the site of inoculation is examined. In two of his cases a reaction which was positive after twenty-four hours was negative after forty-eight hours, and it would therefore seem that the result of this test should be controlled earlier than is often the case in general practice. The author has failed to find that any one tuberculin is better than others for carrying out the Pirquet test.

158.

### The Spleen in Measles.

E. FRIEDMAN (*Amer. Jour. Dis. Child.*, November, 1927, p. 854) alludes to the paper on this subject by A. Bleyer (*Epitome*, July 3rd, 1926, para. 4), who found the spleen enlarged in the majority of 400 cases of measles at all ages; he records his own observations on 116 cases. In only fourteen patients, or 12 per cent., was any enlargement found. In four cases the enlargement was so slight as to have easily escaped detection under normal circumstances.

It was noteworthy that not a single example of enlarged spleen was found in the severest attacks or in patients with the ordinary complications of measles. The enlargement was most pronounced in the younger children, its degree was independent of the stage of eruption, and the frequency of splenomegaly was almost as great during the early stage as at the height of the eruption. Friedman concludes that an enlarged spleen is not a prominent or frequent occurrence in measles at any stage of its development.

159.

### Otological Complications of Mumps.

O. VOSS (*Deut. med. Woch.*, November 25th, p. 2023, December 2nd, 1927, p. 2074) reviews the literature relating to impairment of hearing or actual deafness on one or both sides and disturbances of equilibrium which occur chiefly in children after the age of 11, but principally in adults suffering from mumps, and records eight cases which came under his own observation in patients aged from 6 to 32. Unlike other writers, who attribute the symptoms to a metastatic labyrinthitis or neuritis, Voss regards these symptoms as due to a serofibrinous meningitis which not infrequently occurs in mumps. Support for this view is to be found in the successful experiments by Kermorgant in producing parotitis in monkeys. In view of the discovery by Kermorgant of spirochaetes, treatment of these complications should consist in injection of arsenical salts.

160.

### Severe Cases of Mumps.

DELCOURT (*Bruxelles-Médical*, November 20th, 1927, p. 89) reports a series of three remarkably severe cases of mumps, one of which terminated fatally. The first was in a boy, aged 13, who developed orchitis; the second was in a woman, aged 22, in whom the attack was complicated by bilateral oophoritis or pancreatitis, as indicated by generalized abdominal pain. Recovery ensued, though the hardness of the parotid persisted. The third case was that of a girl, aged 17, in whom persistent hardness of the parotid was accompanied by high fever. Incision of the gland gave issue to a sanious fluid; gangrene of the parotid followed, and finally myocarditis and death.

161.

### Sewer Gas and Typhoid Fever.

N. SETTE (*Il Policlinico*, Sez. Prat., December 12th, 1927, p. 1813) reports the case of a man, aged 29, who as mechanic in the pneumatic post service was much exposed to inhalation of sewer gas. In the period June-October he had four attacks of continued fever. In the first two attacks the serum tests for typhoid, paratyphoid, and nodulant fever, and the blood culture for the malarial parasite were negative, and the only evidence of typhoid was a dirotic pulse and enlarged spleen. In the third attack rose spots appeared and the fever subsided after injection of Brusebettini's typhoid vaccine. In the fourth attack the typhoid bacillus was recovered from the blood and the infection was apparently cured by an auto-vaccine. Sette maintains that inhalation of sewer gas simultaneously irritates the respiratory and intestinal system, thereby causing a change in the tissue fluids, and so inhibiting the serological reactions.

## Surgery.

### 162. Appendicitis Simulated by Ovarian Haemorrhage.

A. LURJE (*Zentralbl. f. Chir.*, January 7th, 1928, p. 22) refers to several recorded instances of ovarian haemorrhage simulating acute appendicitis, and reports the case of an anaemic unmarried woman, aged 23, who had suffered for a year from moderate pain in the right iliac fossa. She had typical pressure pain at McBurney's point, and dysmenorrhoea. Chronic appendicitis was diagnosed and appendicectomy was performed. The appendix was over four and a half inches long, and the middle third was loosely adherent; no macroscopic changes were seen. Although a little blood was oozing from the lower end of the wound, its source was not evident, and, after removal of the appendix, the abdomen was closed. The patient's temperature fluctuated and her condition caused considerable anxiety for four days, when, on account of symptoms of localized peritonitis in the left flank, the abdomen was reopened. A dirty green exudate was found beneath the caecum and covering the uterus and right tube; the right ovary was normal. The left ovary was as large as a plum; it was dark blue and nodular, and blood



oozed from a pin-head orifice. This ovary was removed, many foul-smelling blood-clots in the pelvis were swabbed out, and the abdomen was closed. Convalescence was tardy, but the patient was discharged eventually in good health. Lurie remarks that the operation for chronic appendicitis coincided accidentally with the rupture of a Graafian follicle. The usual intra-abdominal haemorrhage followed, but appeared so slight that it was disregarded. He adds that the incision was lengthened in order to find the bleeding point, and advises that the incision in appendectomy should be long enough to permit of the examination of adjacent organs, especially of the adnexa.

#### 163. Injury to the Trochanter Minor and Ludloff's Phenomenon.

W. STREBEL (*Klin. Woch.*, January 15th, 1928, p. 123) finds this sign valuable in diagnosis. It is found with avulsion of the small trochanter, and consists in loss of function of the psoas and iliacus. If the affected leg cannot be raised when the patient is in the sitting position, and at the same time the two muscles remain lax, a diagnosis of avulsion of the small trochanter is certain. In one of the author's cases, a boy aged 12, this sign was absent, and the x-ray examination revealed no avulsion but a tear in the small trochanter. In two other patients, aged 15 and 11 respectively, Ludloff's sign was present, and x-ray examinations proved the correctness of the diagnosis. Treatment consists in rest in bed with the leg flexed and rotated outwards. The patients were cured in nineteen days and there were no after-effects.

#### 164. Myeloplax Tumours of the Spino.

M. CAMURATI (*La Chirurgia degli Organi di Movimento*, November, 1927, p. 581) reports a case of myeloplax tumour of the cervical spine, and gives brief details of 18 cases collected by him. In the author's case the tumour contained the usual giant cells. Of the 18 cases the youngest patient was 7 years of age and the oldest 40. In 2 cases the cervical vertebrae were affected, in 6 the dorsal, in 7 the lumbar, in 1 the sacrum, and in 2 the site was not given. Metastases were never noted, but local recurrence was not uncommon. Ossification occurred in 4 cases, and in 3 cases paraplegia persisted in spite of operation. In 14 cases improvement or cure followed removal of the growth. Camurati adds that the exact etiology of these tumours is uncertain; they may represent irregular attempts at repair after injury and correspond with the granular tissue containing giant cells which is sometimes seen in psoudarthrosis.

#### 165. Primary Meningeal Sarcoma.

M. R. CASTEX, J. J. LLAMBIAS and S. BALESTRA (*Rev. Oto-neuro-oftalmol. y de cir. neurol.*, October, 1927, p. 235), who record an illustrative case with a review of the literature, state that in the immense majority of reported cases of meningeal sarcoma the growth is secondary to a central lesion. They have been able to find only five cases, reported by Fox (1883), Hadden (1885), Schrader (1899), and Cassirer-Levy (two cases, 1920), in which, as in their own case, the sarcomatosis was confined to the pia mater. The present case is that of a man, aged 24, who died after an illness of five months' duration, characterized by symptoms of meningitis and terminating with a condition of status epilepticus. The necropsy showed a diffuse thickening of the pia mater of the spinal cord, especially in the dorsal region, and base of the brain. Histologically the condition was found to be a sarcomatous process which had developed in the perivascular connective tissue of the pia. The underlying cord and brain tissue were not affected.

### Therapeutics.

#### 166. Ephedrine Hydrochloride in Whooping-cough.

HAVING noted the relief obtained in five cases of asthma in the young following the administration of ephedrine hydrochloride, W. D. ANDERSON and C. E. HOMAN, jun. (*Amer. Journ. Med. Sci.*, December, 1927, p. 738), concluded that this drug might also give relief in whooping-cough, and they report twenty cases in which it was tried. No cultural or agglutination tests were made, and the cases were diagnosed from the symptoms and general history. Vaccine treatment had been tried without effect in eight of the cases, and five children had received rectal injections of ether in olive oil, with but slight improvement in only two. The ephedrine salt was given orally in a watery solution, the doses being 1/4 grain for children one year old, and 1/8 grain for those younger. In six cases the medication was given at bedtime only, the remaining patients receiving it night and morning and occasionally three times a day. No other treatment was used. The following slightly toxic symptoms were noted in

some of the cases following the administration of the drug: marked abdominal distension, apparent suppression of urine for twelve hours, abdominal pain and discomfort, marked sweating, profuse nasal discharge, epistaxis, and subconjunctival haemorrhage. The authors found that the ephedrine hydrochloride gave relief from spasmodic cough and vomiting in eighteen cases; they attribute it either to the abolition of laryngospasm by the inhibition of a pathological reflex or to direct action on the sympathetic. Some cough persisted, but it was mild and without the characteristics of whooping-cough. No serious toxic symptoms or complications were noted. The authors believe that the drug is most useful during the second stage, and that smaller doses would give relief without any toxic symptoms. The blood pressure showed a slight rise in six out of nine healthy children after ephedrine administration.

#### 167. The Danger of Injections of Saccharated Iron Carbonate Solutions.

R. KRAFT (*Zentralbl. f. Chir.*, December 3rd, 1927, p. 3092) has found that colloidal saccharated iron carbonate solutions, administered intravenously, are of definite value in the treatment of various infections and septic conditions. The injections are often followed by a rapid subsidence of pathological symptoms and a distinct improvement in haematopoiesis. Seventy patients so treated recovered, while in 250 other cases no untoward effects followed the injections. The only adverse signs were sudden transient rigors and pyrexia. Recently, however, Kraft has had two fatal cases, showing that this treatment is not free from danger. The first patient, aged 18, had appendix perforation, followed by peritonitis and phlegmonous changes in the caecum. Abscesses followed in the abdominal and pelvic cavities, and, as bronchopneumonia ensued, 80 c.cm. of saccharated iron carbonate solution was injected. This was followed by a severe rigor and signs of circulatory failure, and four hours later the patient died from heart failure. The second patient, a man aged 56, had undergone gastro-jejunostomy for gastric carcinoma; this was followed by symptoms of commencing pneumonia. An injection of 100 c.cm. of saccharated iron carbonate solution was given, and fifteen minutes later there was a severe rigor lasting twelve minutes. Two hours later the patient lost consciousness, became dyspnoeic, the circulation gradually failed, and he died in ten hours. Kraft states that the saccharated iron solution ought to be perfectly clear reddish brown in colour, and he recommends a 4 per cent. colloidal solution in twice-distilled water.

#### 168. Treatment of Ringworm by Thallium Acetate.

D. M. LEVY (*Nederl. Tijdschr. v. Geneesk.*, December 17th, 1927, p. 2611) states that this method was first introduced by Cicero, and later employed by Buschke, Peter (354 cases), and Trokno (104 cases) with invariable success. The present author records his own experiences of this method in twenty-six cases of ringworm in patients aged from 3 to 16 years. The drug was given by the mouth, according to Buschke's recommendation, in doses of 8 mg. for each kilo of body weight. The hairs began to fall out in from two to three weeks; in a month's time the whole scalp became bald, and after another four weeks a fresh growth of hair appeared. The hair of the scalp only was affected. No complications occurred except in one child who developed a generalized eruption of large and small macules accompanied by nephritis; recovery followed in three weeks' time.

169. W. G. BRONSTEIN (*Med. Klinik.*, December 2nd, 1927, p. 1854) reports 94 cases of ringworm treated in one year by thallium acetate, and describes experiments on animals. He finds that young children stand the treatment better than older ones, and that severe albuminuria only occurs through a miscalculation of dosage. He states that no departure from the normal is discernible in children a year later. His method is the administration of 0.008 gram of thallium acetate for each kilo of body weight in water before food in the morning; he only treats children between the ages of 1 and 14. The hair comes out fourteen to sixteen days later, and growth begins again in four to six weeks. Comparing this treatment with x-rays the author finds it to be more often successful, shorter, less unpleasant, and followed by fewer complications.

#### 170. Liver Diet in Nephrosis.

O. FORGES (*Wien. klin. Woch.*, December 29th, 1927, p. 1640) reports a case of pernicious anaemia with extensive oedema which demonstrates the diuretic action of liver diet. The patient, who had had a course of arsenic a month previously, had a severe relapse; she was very anaemic and had extensive oedema. Arsenic injections produced an improvement in the blood state and also in the general health, but without reduction of the oedema. Enphyllin and theocin produced



distinct diuresis, the weight being reduced by 4 lb., when it became stationary. Liver diet was then commenced, and after three days considerable diuresis occurred, the amount of urine passed daily rising to 4 litres. At the end of a fortnight the patient's weight had been reduced by 1½ st., while the erythrocyte count and the haemoglobin index improved but slowly, so that the diuresis could not be attributed to blood regeneration. When the oedema had disappeared entirely a rapid restitution of the blood occurred. These observations suggest that the diuretic action of liver diet in dropsy might have other origins. In two cases of heart failure with hepatic cirrhosis, generalized oedema, and severe ascites, the liver diet prevented recurrence of ascites after paracentesis, when all diuretics had failed. In a case of moderate calcific oedema, associated with secondary anaemia following ulcerative colitis, the weight was reduced by 6½ lb. in eight days, oedema disappeared, and continuous improvement in the blood condition followed. A case of diabetes complicating alcoholic hepatic cirrhosis with slight ascites was cured by liver diet. In four days the weight was reduced by 6½ lb.; after five days' treatment the liver diet was discontinued, and six days later the patient's weight had increased by 6½ lb. The patient's general condition improved rapidly; appetite returned and the glycosuria was inhibited. Porges agrees that the liver produces a hormone that regulates the excretion of water; this substance is not destroyed by cooking, and is active when administered orally.

#### 171. Glucose Medication.

ADMITTING the great value of intravenous glucose injections in anaemia and toxæmia in consequence of the supply of calories, the relief of nausea, the economizing of proteins, and the completing of the combustion of fats, W. E. ROBERTSON, A. E. OLIENSIS, and D. STEIN (*Med. Journ. and Record*, December 7th, 1927, p. 654) have tried to determine the factors responsible for the untoward reactions and deaths which occasionally follow this treatment. They find that a concentrated solution affords greater safety and freedom from reactions than weaker concentrations with larger volumes; the rate of injection and the temperature of the solution are also important factors. They advocate the injection by gravity at body temperature of 108 grams of dextrose in 180 c.c.m. of freshly prepared sterile salt solution, the time taken being never less than thirty minutes. With this technique no reactions occurred in fourteen consecutive cases, although the patients were seriously ill, and it was found that a severely damaged cardio-vascular system was no contraindication. The authors conclude that untoward results are due to too rapid a rate of injection, too large a volume of fluid, and an improper temperature of the solution. The use of distilled water is deprecated, since it has been shown to produce haemolysis and occlusion of the coronary arteries and peripheral vessels.

### Radiology.

#### 172. Radium Implantation in Oesophageal Cancer.

J. MUIR (*Laryngoscope*, September, 1927, p. 660) recognizes three drawbacks to the use of radium in oesophageal cancer: (1) the difficulty of placing it accurately; (2) the practical impossibility of maintaining it in position long enough to be effective; and (3) the great danger of burning the tissues, which will induce sloughing and fistula into the mediastinum, invariably a fatal accident. He has elaborated a technique of radium implantation through a specially designed oesophagoscope. The field of operation is illuminated and an implanter passed through the tube. The radioactive source employed is a removable platinum radon seed, which offers the double advantage of being so secured that it will not undergo necrosis, and the possibility of removal by means of an attached thread. The entire procedure is facilitated by the use of the fluoroscope, though this is not essential. The results in a small series of cases so far treated by this method have been gratifying.

#### 173. Radiotherapy of Asthma and Spasmodic Coryza.

P. VALLÉRY-RADOT, P. GIBERT, P. BLAMOUTIER, and F. CLAUDE (*Presse Méd.*, October 5th, 1927, p. 1201) have employed x-ray treatment in cases of asthma and spasmodic coryza with some good results, and cite supporting evidence from the literature. The methods include irradiation of the thorax and spleen, singly or combined, and applications have been made to the thyroid in asthma associated with exophthalmic goitre. The results have been very variable; there is often a more or less transient improvement. The authors quote statistics of six investigators who used thoracic irradiation; these show approximately 30 per cent. of cures, 43 per cent. of cases more or less relieved, and 27 per cent. of failures. On the other hand, splenic x-ray treatment appears

to have given approximately 82 per cent. of cases cured or improved and 16 per cent. of failures. Reference is made to the paper by S. Gilbert Scott (*BRITISH MEDICAL JOURNAL*, June 5th, 1926, p. 939), who, in 21 cases treated by combined thoracic and splenic irradiation, obtained very good results in all but one. The present authors treated 64 patients of both sexes, of whom 31 had asthma only, 8 spasmodic coryza alone, and 25 had both affections. Almost all the patients were adults, and the cases were not selected. They report 30 per cent. cured, 25 per cent. improved, and 45 per cent. were failures, or showed only temporary improvement; 26.5 per cent. of these were total failures. Some patients remained cured or greatly improved for fifteen or eighteen months. The authors believe that their best results followed combined thoracic and splenic irradiation. Twelve treatments may be necessary before a case can be regarded as a success or a failure, and many patients have improved only after 6, 8, or 10 irradiations. In apparently similar cases the treatment succeeded in one patient and failed in another.

#### 174. Radiological Examination of the Trachea.

M. SGALTZER (*Wien. klin. Woch.*, September 15th, 1927, p. 1181) states that accurate information regarding alterations in the position of the trachea may be obtained radiographically if the patient is examined in the lateral position, with the shoulders thrown well back, as well as in the antero-posterior position. The information thus obtained is very useful in cases of enlarged thyroid when surgical treatment is under consideration; it will assist in differentiating dyspnoea directly due to pressure on the trachea from that due to cardiac weakness, so that operation on an enlarged thyroid which is not really affecting the trachea may be avoided when the heart is embarrassed from toxic or other causes. In some cases goitres of very slow growth may compress the trachea to a considerable extent without producing respiratory symptoms; in these an x-ray examination will demonstrate the need for an operation if the risk is to be eliminated of sudden acute dyspnoea or even suffocation from obliteration of the lumen of the trachea, which such conditions as mild tracheitis might produce. Sgaltzer adds that screening will also show the size and position of a substernal goitre, as well as the range of mobility of the trachea on coughing and deglutition; this information is valuable, since the presence of extensive adhesions considerably increases the difficulty of thyroidectomy. The extent to which pressure has produced atrophy of the rings of the trachea, with consequent weakness of the tracheal wall, may be seen from the amount of bulging or retraction of the tracheal wall produced when forcible expiration or inspiration is attempted while the external respiratory passages are closed. This atrophy is an important indication for surgical treatment.

#### 175. Intravenous and Peroral Methods in Cholecystography.

T. SENDTNER-VOELDERNDORFF (*Med. Klinik*, September 9th, 1927, p. 1374) contrasts the two methods of filling the gall bladder in cholecystography, and emphasizes the value of the peroral method. In this he maintains there is less danger to the patient; it is easier, and gives equally good results. He uses a preparation called "videofol," either in the form of pills or of capsules containing 0.5 gram each, the dose being one pill per 10 kilograms of body weight. These pills, in common with all tetraloid preparations, do not keep well. The patient should have a light meal and an enema in the evening, after which the pills should be given with cream. This not only disguises the pills, but, as an emulsion of fat, assists in emptying the gall bladder. The patient then fasts for twelve hours, after which the x-ray examination takes place. The author adds that he has never observed any ill effects to the patient result from this method, and in 36 out of 50 cases the gall bladder was made distinctly visible.

### Obstetrics and Gynaecology.

#### 176. Physiotherapy in the Treatment of Salpingo-oöphoritis.

H. DAUSSET and A. CHENILLEAU (*Paris Méd.*, December 17th, 1927, p. 499) describe the treatment of salpingo-oöphoritis in the physiotherapeutic department of the Hôtel-Dieu in Paris. The treatment of choice in tuberculous cases is heliotherapy and ultra-violet irradiation. Hydrotherapy, diathermy, and vaccines are recommended for all other cases, irrespective of etiology, though vaccines are said to be particularly valuable in the gonococcal group, which is otherwise very resistant to treatment. The hydrotherapeutic procedures include vaginal irrigation at minimal pressure with 100 litres of water at 104° to 112° F., continued for at least half an hour, spraying of the abdomen and loins with water at a temperature of 112° F.,

a quick shower lasting half a minute to a minute, commencing with a temperature of 100° F. and cooling down to 86°. Another method is the administration of a hot vaginal douche, 194° to 108° F., under water in a bath at blood heat; about 100 litres of water are given in ten minutes, and a shower bath concludes the treatment. For diathermy an apparatus yielding 3.5 to 4 amperes is used. The electrodes are placed over the abdomen and lumbosacral regions, with or without another in the vagina, or one may be introduced into the rectum and the other placed over the abdominal wall. Bipolar electrocoagulation with Walter's apparatus and a current of 200 to 400 milliamperes is said to be of particular value in subcutaneous cases. Heliotherapy may be general or localized over the abdomen. Ultra-violet irradiation is applied by means of a mercury vapour or an arc lamp; for local treatment alone a 20-ampere Bénard lamp is used, while intravaginal application is effected by an arc lamp and a vaginal speculum. Local irradiation with infra-red rays is also used, and with the total rays of a metal filament lamp of 2,000 to 3,000 candle power. Gynecological massage, direct or indirect, and active movements, such as abduction and adduction at the hips, complete the course.

#### 177. Large Ovarian Cyst.

C. R. BALTAR (*Revista Clinica de Bilbao*, September, 1927, p. 419) records the case of a woman, aged 42, who had passed the menopause nine months previously. For a year she had had pain in the lower abdomen and a feeling of weight in the gastric region. Gradual increase in the size of the abdomen occurred, and later became rapid. The circumference of the abdomen was 44 inches; it was wholly occupied by a tumour, which also invaded the base of the chest, pushing forward the xiphisternum. Through the posterior vaginal fornix a cystic swelling could be felt. The diagnosis of ovarian cyst was made. In order to reduce the pressure effects paracentesis of the cyst was performed under local anaesthesia and a large quantity of blackish pseudo-mucinous fluid, typical of ovarian cyst, was evacuated. The patient experienced much relief from the evacuation of this fluid. The abdomen was later opened through a median subumbilical incision, which had to be lengthened to deliver the tumour, the pedicle being ligatured with catgut. The post-operative course was uneventful. The weight of the extirpated tumour was 48 lb., which with that of the 25 pints of fluid evacuated made a total weight of 92 lb.

#### 178. Trial Labour.

H. BAILEY and H. C. WILLIAMSON (*Journ. Amer. Med. Assoc.*, December 17th, 1927, p. 2085) recall that the primary indication for Caesarean section is pelvic contraction, or disproportion between the size of the child and the mother's pelvis. The mortality from Caesarean section performed after protracted labour has been from 10 to 15 per cent., so that a trial labour in cases of pelvic contraction has not been justified; with the recent development of the low cervical Caesarean section, which decreases the danger to the mother, a primary test of labour is, however, permissible. As regards contraction, they recognize three types: (1) The normal pelvis, with an estimated true conjugate of more than 9.5 cm. or with a bischiatric diameter of more than 7 cm. (2) The relatively contracted pelvis, with a true conjugate of from 7.5 to 9.5 cm. in the generally contracted pelvis, from 7 to 9 cm. in the flat pelvis, and from 6 to 7 cm. as an outlet measurement in the funnel-shaped pelvis. (3) The absolutely contracted pelvis, where there is a true conjugate of under 7.5 cm. in the generally contracted, under 7 cm. in the flat, and under 6 cm. for the bischiatric diameter in the funnel-shaped pelvis. Of 11,491 deliveries under their control during a period of five years there were only five cases of absolute contraction and 671 cases of relative contraction, as estimated by these measurements. With the exception of the five cases of absolute contraction and twenty-four elective Caesarean sections, the women were given a trial labour. In 65 per cent. of these delivery was spontaneous. The remainder were delivered by operation, and of these 9.9 per cent. required Caesarean section. No maternal deaths followed the sections, and in the entire series there were only three deaths. The authors conclude, therefore, that it is advisable to give all patients with relatively contracted pelvis a trial labour. The unknown factor in every labour is the malleability and compressibility of the foetal head and the force of the labour pains. Many foetal heads which are unengaged before labour rapidly mould and enter the pelvis at the onset of good contractions. The patient should be permitted to have a trial labour of at least twelve hours of hard pains, and this should be conducted without vaginal or rectal examinations, in order that the vaginal tract may be free from infection should operative delivery become necessary. If, at the end of this time, the foetal head has not entered the pelvic canal, as can be ascertained by means of the Pawlik grip, a low Caesarean section should be performed: if the head has

entered the canal the patient will either deliver herself spontaneously or should be delivered by forceps. The authors believe that a trial labour is more complete if it is permitted to continue after the rupture of the membranes. Even if the foetal head becomes engaged after strong pains labour is not allowed to continue until the patient is exhausted or until harmful pressure on the soft parts may occur. Spontaneous delivery, they add, in relatively contracted pelvis can be accomplished in a labour that is no longer than normal. Trial labour reduced the incidence of Caesarean section in their 676 cases to 14 per cent., and there were no deaths; the gross foetal mortality was 6.2 per cent.

## Pathology.

#### 179. Precipitable Substances derived from Typhoid Bacilli.

J. FURTH and K. LANDSTEINER (*Journ. Exper. Med.*, January, 1928, p. 171) have isolated two serologically active protein substances from *B. typhosus*, and another substance, chiefly of carbohydrate nature, that reacts as a specific precipitable body. The first protein substance was extracted from the bacilli with 75 per cent. alcohol; the second protein substance was obtained by saline extraction of the bacilli remaining over from the first process. The carbohydrate substance was obtained by digesting with trypsin bacilli which had been extracted with alcohol; the material resulting from digestion was made strongly alkaline and precipitated with alcohol. The protein substances were destroyed by tryptic digestion and by treatment with antiferritin; the carbohydrate substance, on the other hand, resisted both these methods of digestion. Serologically, it appears that the carbohydrate substance is responsible for the specific precipitation obtained with an immune typhoid serum. Similar specific precipitable substances were obtained from *B. paratyphosus* B, *B. enteritidis*, and *B. proteus*.

#### 180. Bactericidal Power of the Blood after Ultra-violet Irradiation.

L. COLEBROOK, A. EIDINOW, and L. HILL concluded from experiments that the blood of animals submitted to irradiation with ultra-violet light has an increased bactericidal power, the increase reaching a maximum one hour after exposure and being followed by a return to normal in three hours. I. TATARANU (*C. R. Soc. de Biologie*, January 4th, 1928, p. 1737) has repeated these experiments. Rabbits were exposed to rays from a quartz lamp (4 amperes, 110 volts) for thirty minutes at a distance of 40 cm.; the part of the body exposed was shaved twenty-four hours previously. Blood was withdrawn from the auricular or saphenous vein before every exposure, and half an hour, three-quarters of an hour, one, two, six, and twenty-four hours after it. The blood was defibrinated, and tested immediately for its bactericidal action on *Staphylococcus aureus*. The technique employed differed from Wright's only in that the organisms were suspended in Ringer's solution instead of in saline, the latter having, as has been shown by numerous workers, a disinfectant action on bacteria. Tataranu made experiments on ten rabbits, but failed to detect any difference in the bactericidal power of the blood after exposure to the ultra-violet rays.

#### 181. Varieties of Immunization.

E. SARGENT, L. PARROT, A. DONATIEN, and F. LESTOQUARD (*Arch. Inst. Pasteur d'Algérie*, vol. v, No. 4, 1927, p. 469) observe that from the standpoint of immunity infectious diseases can be divided into two groups. In one, acute and cyclic, a true immunity is conferred on the organism; this is characterized by a complete disappearance of the causal microbes and by a resistance of the cured subjects to all reinfection. Such diseases include small-pox, scarlet fever, and measles. In the other group, after an initial period of invasion marked by reactions, an equilibrium is established between the organic defence and the microbic attack, the patient becoming to all appearance cured, though the aggressive micro-organisms still persist. Syphilis, tuberculosis, and malaria are examples of such infections. The authors assert that the terms "relative immunity" and "immunity tolerance" are really incorrect, as they express a part only of the phenomenon of immunity—namely, the lauring of the organism to infection—and omit the other essential characteristic of resistance to reinfection. The term "premunition" is suggested as being more appropriate, its definition indicating "guarding by precaution." Premunitive vaccination would be descriptive of such measures as antituberculous vaccination with bacillus Calmette-Guérin vaccine. Five methods of premunizing are described. The authors maintain that, though still theoretical, premunition can be a useful therapeutic measure, and that further work is necessary to perfect the present methods and to discover new ones.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 162. Sodium Salicylate Poisoning following Injections.

E. G. JORGENSEN (*Ugeskrift for Læger*, January 12th, 1928, p. 31) records the case of a woman, aged 45, who received three intravenous injections of sodium salicylate (5 c.cm. of a 20 per cent. solution at each injection, without any abnormal local or general reaction). A week after the third injection the fourth and last injection of 5 c.cm. of a 20 per cent. solution was given one morning without any difficulty, but two or three hours later the patient complained of headache, tinnitus, shivering, and severe perspiration. Her face, hands, and feet rapidly became oedematous; she was hardly recognizable, and her hands were bloated and shapeless. During the afternoon of the same day an urticarial erythema broke out, being most marked on the face and lower limbs; some petechiae appeared on the inner side of both thighs. In the evening she suffered from nausea and repeated vomiting, but there was no diarrhoea or disturbance of micturition. Respiration was somewhat laboured and rapid, but there was no hoarseness or cough. She was very frightened and restless, and complained of severe palpitation of the heart; the pulse was quick, soft, and regular; the temperature was normal and the urine contained no albumin, blood, or sugar. The oedema, rash, and headache disappeared after about twenty-four hours. The patient had previously taken large doses of aspirin without ill effects, and the first three injections of sodium salicylate had been well tolerated. So far as the treatment of the varicose veins was concerned, the four injections were successful. Discussing the possibility of this form of poisoning, the author remarks that this is probably the first case to be recorded in Denmark, and he notes that Sicard and Gaugler have observed only two cases among several thousands of patients given intravenous injections of sodium salicylate. In one case urticaria developed directly after the injection, in the other twenty-four hours subsequently.

### 163. Diphtheria Without Membrane.

M. NATHAN (*Presse Med.*, December 3rd, 1927, p. 1476) states that diphtheria without definite membrane is most frequently met with in infants below the age of 6 months, when it appears in the form of otitis, inflammation of the umbilicus, and ulcers behind the ears, but chiefly as rhinorrhoea. Although the nasal localization of diphtheria was recognized by Bretonneau, who gave his name to the disease, the only form of nasal diphtheria recognized for a long period was that associated with a blood-stained membranous discharge. It was not until 1898 that Huthnel drew attention to the onset of diphtheria bacilli in the purulent nasal discharge of young children. Later Marfan, Ribadeau-Dumas, and pupils showed that even the mildest form of nasal large might contain diphtheria bacilli. The apparently cases, however, may develop croup, broncho-pneumonia, more frequently, a severe form of infantile diarrhoea, the nature of which may escape recognition. The clinical signs of this form of nasal diphtheria are not distinctive, the diagnosis can only be made by bacteriological examination.

### Pulse Wave Velocity.

EYERHOLM (*Acta Med. Scand.*, December 12th, 1927, p. 323) uses the pulse wave velocity in certain pathological conditions, and remarks that both the blood pressure and pulse velocity show individual variations, particularly as regards age and sex. Difficulty has been experienced in getting normal values for these, but a study of 90 healthy persons showed that the normal blood pressure should not be over than 130 mm. of mercury or lower than 80 mm., the normal pulse velocity being 7 to 8 metres a second. Chronic arthritis and arterio-sclerosis are the principal causes of hypertension. Tests of 5 cases (4 men and 1 woman) of chronic arthritis with hypertension showed that in this condition the pulse velocity is increased, but that the pressure and velocity are not proportionate. In 20 cases (9 male and 11 female) arterio-sclerosis with hypertension the pulse velocity was raised, and, as a rule, corresponded to a high blood pressure. In 26 individuals (18 men and 8 women) with arterio-sclerosis without hypertension the pulse velocity was greater than in individuals of the same age class without arterio-sclerosis. In Basedow's disease, neurosis cordis, and compensated valvular disorders the velocity of the pulse showed no pronounced pathological changes. The

results in arrhythmias were inconclusive, as many of the patients had other complications. Eyerholm asserts that the clinician may be assisted by ascertaining the pulse wave velocity, when, after ordinary blood pressure measurement, there is a doubt as to the presence of hypertension. If, for instance, in chronic nephritis or supposed arterio-sclerosis a systolic blood pressure is found which varies between 130 and 150 mm. of mercury, a pulse wave velocity of  $9\frac{1}{2}$  to 10 metres a second, or more, will practically be evidence of the presence of hypertension, and at any rate provide certainty that the circulation conditions are pathologically altered. In over a thousand examinations of about 200 cases such a velocity occurred only in patients with hypertension.

### 185. The Ocular Manifestations of Epidemic Encephalitis.

ACCORDING to G. W. VANDEGRIFF (*Med. Journ. and Record*, December 21st, 1927, p. 723) paralysis of convergence is a very common prodromal symptom of epidemic encephalitis; the patient complains of double vision, especially on reading. Instead of paralysis of convergence there may be a paralysis of a lateral muscle, usually the external rectus, with homonymous diplopia, or a paralysis of divergence with the same diplopia without paralysis of either external rectus. While ptosis may accompany any of these paralyzes it is more likely to be a later development. Fundus examination reveals marked fullness of the central vein and its branches. Optic neuritis is rare and choked disc develops only as a result of very high intracranial pressure. As the severity of the disease increases, photophobia and visual irritability appear. The usual ocular paralysis is of the third and sixth nerves, separately or in various combinations; abducens and levator palsies are common. Fourth nerve paralysis is rare. Associated with the ocular palsies may be disturbance of other cranial nerves, especially the fifth, seventh, ninth, and tenth, and any or all of these may be accompanied by sympathetic disturbance. The pupillary reactions show a great variety; one or both eyes may be involved, and, when binocular, the phenomena may be similar or dissimilar. In 35 per cent. there was defective pupillary light react on with irregularity and inequality. The Argyll Robertson pupil may be present, though more frequently the convergence is absent as well as the light reaction. As the acute encephalitis subsides the ocular symptom may disappear or persist, or there may be a recurrence of ocular symptoms after periods of absence or quiescence. The value of treatment is doubtful, but bismuth salicylate intramuscularly and sodium iodide internally may be of benefit in some cases. In the later stage a cosmetic operation may be needed.

## Surgery.

### 186. Etiology of Congenital Torticollis.

A. HELLSTADIUS (*Acta Chir. Scand.*, December 24th, 1927, p. 586) has collected the 23 cases of congenital torticollis observed in the period 1915-25 in a children's hospital in Gothenburg. Among these there were two with a family history of torticollis, the younger sister of one patient and the uncle of another having also suffered from it. It was significant that in as many as 15 of these cases the confinements had been abnormal; there had been a breech presentation in 13 cases, and forceps had been required in 2 other cases. With the exception of 2 out of the 23 cases, fairly accurate data were obtainable as to the time at which the torticollis had begun to develop. Only in 5 cases was this condition present at birth; in 5 other cases it appeared during the first year of life, and in the remaining cases after an interval ranging from one to twelve years. The facts that in several cases the disease appeared many years after birth and developed gradually are, in the author's opinion, opposed to the theory that torticollis is of foetal origin. There were 16 cases in which the torticollis was associated with asymmetry of the face, but the degree of the one condition was not proportional to that of the other, and the author adds that the type of asymmetry of the face most often found in association with torticollis may also exist in the absence of this condition. He concludes that, although the frequency of abnormal confinements (notably breech presentations) is exceptionally high in association with torticollis, the most favoured theory as to its origin hinges on hereditary factors.

## 187. Empyema in Children.

C. E. FARR and M. I. LEVINE (*Surg., Gynecol. and Obstet.*, January, 1928, p. 79) review a series of 371 cases of empyema in children especially with regard to age, incidence, and organisms. All were treated surgically, and definitely diagnosed by aspiration and  $x$  rays. At least 92 per cent. were secondary to an attack of pneumonia, the highest incidence occurring in the second year of life. The death rate reached its highest point during the first year of life, and steadily declined after the second year until the age of 6; after this death seldom occurred save as the result of some complication, and it was not directly due to the empyema itself. In the first year the pneumococcus was responsible for 22 per cent. of the cases, whereas it subsequently averaged about 60 per cent. During the first year streptococcal and mixed infections showed a higher percentage. Treatment consisted chiefly in a primary aspiration to ascertain the nature of the pus, followed by open draining by resection or intercostal incision with open tube. The best time for operation depends entirely upon the general condition of each individual case, since the gravity of the prognosis is increased if an operation is undertaken before the pus has become thick and the cavity well walled off. Recurrence seldom results if free drainage is established and maintained until the wound closes.

## 188. Renal Distortion.

G. W. BELCHER (*Journ. Amer. Med. Assoc.*, December 24th, 1927, p. 2166) considers the relation of renal distortion to nephralgia, a distorted kidney being one in which a part or the whole of the pelvis is twisted, tilted, or bent from the normal position. When such a condition, as shown by the pyelogram, is associated with nephralgia and the pain is induced by distension of the renal pelvis or rotor the distortion of the kidney has to be considered as a possible factor in its production unless some other pathological condition of the urinary tract is present. Renal distortion may only be discovered by chance, since it does not usually cause any symptoms; in some cases nephralgia results, which may be intermittent and postural or be caused by the encroachment of neighbouring viscera, commencing hydronephrosis, post-operative cicatrization, or arterio-sclerosis. Belcher states that care must be exercised in interpreting the pyelograms, especially if there has been previous nephrotomy or nephropexy; if there are any other associated disturbing conditions they should be treated before operating for the relief of the pain. In any event the patient should be under observation for a considerable time and other measures tried. If an operation is to be performed the author advises decapsulation and section of the nerves of the renal pedicle should the kidney function be fairly normal; but in the presence of severe symptoms and marked atrophy nephrectomy with removal of the capsule is recommended.

## 189. Diagnosis of Congenital Dislocation of the Hip.

In a number of cases of congenital dislocation of the hip-joint Lorenz's bloodless method of treatment fails to effect a cure because of a constriction in the capsule, which may be hour-glass in shape or due to bands or the ilio-psoas muscle, and which it may be impossible to diagnose clinically or by ordinary radiological methods. H. BRONNER (*Zentralbl. f. Chir.*, December 10th, 1927, p. 3237) has found the injection of air into the capsule of considerable diagnostic value, especially in older patients. The position of the acetabulum is ascertained by an  $x$ -ray examination and the thigh anaesthetized locally with novocain at this level at the border of the tensor fasciae femoris and sartorius. A 15 cm. needle is introduced at an angle of about 45 degrees to the vertical, pointing towards the centre of the acetabulum, the direction being, if necessary, controlled by screening. When the resistance of the floor of the acetabulum is reached the needle is pressed firmly home to ensure piercing the anterior part of the capsule, and then withdrawn slightly, before filtered air is slowly and carefully injected; the quantity and pressure are controlled by the subjective sensations of the patient as in pyelography. A series of skiagrams is taken at different stages of the injection and with the pelvis and leg in various positions, so as to obtain even distribution of the air and the best image of the acetabulum. Bronner maintains that by this method, found to be free from danger, it is possible to estimate the extensibility of the capsule and the relations of the surrounding soft parts to it, which is of considerable prognostic value. The results compare favourably with those obtained by the iodipin injection method recently advocated by Slevens, certain disadvantages of the latter method being avoided—such as the need for using a wide-bore needle or cannula, the risk of obscuring the skiagrams by spilling an opaque fluid into the surrounding tissues, and the slow absorption of the injected fluid which may interfere with subsequent skiagrams.

## Therapeutics.

## 190. Sodium Chloride Injections in Acute Intestinal Obstruction.

A. GOSSET, L. BINET, and D. PETIT-DUTAILLIS (*Presse Méd.*, January 7th, 1928, p. 17) conclude, from a study of the evidence obtained by French, British, and American research workers, that the increasing toxæmia from the moment when obstruction occurs is due to the using up of the sodium chloride in the blood in the course of the conversion of toxins into some innocuous compound. They give experimental figures to show the decrease of sodium chloride in the blood after experimental tying of the intestine in dogs, and record how, in other experimental cases where the intravenous administration of hypertonic saline solution has kept the sodium chloride content of the blood at the normal level, the life of the animal has been prolonged beyond the usual three or four days after operation to as much as twenty-eight to thirty days. The authors think that the diminution of the sodium chloride content of the blood is a far more important factor in cases of intestinal obstruction than the mere loss of fluid by vomiting; moreover, they show how the urea and residual nitrogen content of the blood constantly rises as that of the sodium chloride falls. They describe cases of acute intestinal obstruction in human beings where severe toxic symptoms had supervened in spite of surgical relief of the condition, and in which the administration of hypertonic sodium chloride intravenously had brought the patients from a moribund to a convalescent state. In one series of cases reported in America there was an operative mortality of only 11.1 per cent., as compared with 50 per cent. in another series not treated by this method. The authors consider that intravenous medication should be begun immediately after operation; the longer the delay the less is the likelihood of success. The maximum dose is given as 1 gram per kilo of body weight during forty-eight hours (that is, about 70 grams for a man of average weight), but a total quantity of about 20 grams is said to be sufficient to make good the loss of body fluid. Subcutaneous administration of 1 litre of physiological serum should be given during the same forty-eight hours. Although stronger concentrations have been used without mishap it is recommended that a 10 per cent. hypertonic saline solution should be employed, and that not more than 30 c.cm. should be given at a time.

## 191. Epidural Administration of Drugs.

W. SCHOENFELD (*Urol. and Cut. Rev.*, November, 1927, p. 710) states that the epidural method of injecting drugs was introduced into medical practice by Cathelin more than twenty-five years ago, since when it has been used extensively for the introduction of anaesthetics, especially cocaine and novocain, of normal saline solution in the treatment of nocturnal oncosis, and of yohimbine in the treatment of impotence. Schoenfeld now discusses the question whether the epidural administration of bromides, iodides, and salvarsan is useful in practice, and comes to the following conclusions. Solutions of 3 to 10 per cent. of sodium bromide or iodide when introduced epidurally in doses of 30 c.cm. pass into the spinal fluid. Therapeutic results therefore may be expected in those diseases in which large quantities of bromides or iodides are required. Little is to be expected from the epidural administration of salvarsan, since the passage of this drug into the spinal fluid cannot be detected after epidural injection.

## 192. Insulin Treatment of Diabetes.

M. LABBÉ (*Ann. de Méd.*, December, 1927, p. 563) discusses the insulin treatment of diabetes as regards the indications, technique, and results. In grave diabetes with nitrogenous denutrition and acidosis two methods of procedure may be followed. By a calculation of the weight and height of the patient a diet is instituted which provides the necessary calories, and insulin is given in doses approximately calculated on the tolerance for carbohydrates and on the hypothesis that one clinical unit of insulin utilizes about 1 gram of carbohydrate. Labbé prefers to follow another method. Commencing with a diet of green vegetables, insulin is given in small doses of 10 to 20 units a day. At the end of three or four days the diet is gradually augmented, and, if the glycosuria reappears or increases, the insulin dosage is progressively increased from 30 to even 100 units daily. When the nutritive equilibrium has been established this should be maintained and the patient kept without hyperglycaemia and acidosis by a suitable diet and insulin dosage. In diabetic coma, which is preventable by a careful adherence to treatment, heroic measures are necessary, and 20 units of insulin should be injected every half-hour. When improvement results the time interval is gradually increased until only 60 units a day are given. In order to ensure rapidity of



action the first injections should be intravenous, and the subsequent ones intramuscular or subcutaneous. Owing to the excess of insulin hypoglycaemic coma may supervene, in which case injections of 5 per cent. glucose are required. As a rule, insulin is not necessary in diabetes without denuitrition, and should only be given in severe cases in moderate doses of 10 to 20 units daily; there are no specific contraindications to its use. The injections are usually given subcutaneously as a slow absorption is desirable, or intramuscularly; the intravenous route is employed only in urgent cases. Other methods, as by the mouth or nares, in suppositories, enemata, or injections, are inefficacious. Abscess formation and dermatitis may occur during treatment, but the serious complications are the consequence of hypoglycaemia due to too strong a dosage. Though the favourable results following a persevering and energetic treatment are encouraging no authentic case of cure has yet been reported. Labbé believes that no case of true diabetes is refractory to insulin treatment.

#### 193. Therapeutic Uses of Carbon Dioxide.

J. C. WHITE and L. M. HURNTAL (*Boston Med. and Surg. Journ.*, December 15th, 1927, p. 1117) review the present therapeutic status of carbon dioxide, especially with regard to research during the past seven years in its use as a respiratory stimulant. In concentrations varying from 5 to 7 per cent. its use is recommended for all purposes where a respiratory stimulant is needed, but in cases of carbon monoxide poisoning it should be given in oxygen rather than in atmospheric air, since by this means the dissociation of carbon monoxide haemoglobin is more rapidly brought about. The authors mention its value in the elimination of volatile drugs—as, for example, in de-etherization after anaesthesia by the closed method and in alcoholic intoxication—and as a means of producing smooth and rapid induction in a struggling patient or in one who persistently holds his breath. In combating respiratory failure after overdoses of depressant drugs—for example, morphine or veronal—it has been used with success, as also in the treatment of prolonged ileus and in the resuscitation of the newborn. Owing to its action in increasing respiratory effort it aids expansion of the atelectatic lung, and its use in the obliteration of large empyema cavities is recommended as an accessory to the usual breathing exercises. The authors consider that there is practically no contraindication to its use in sufficient quantities to produce moderate degrees of hyperpnoea and to supplement without replacing other therapeutic measures.

### Disease in Childhood.

#### 194. Treatment of Diabetes in Children.

K. U. TOVERUD (*Brit. Journ. Child. Dis.*, July-September, p. 185, and October-December, 1927, p. 157) records his observations on 47 children suffering from diabetes mellitus, who had been treated with insulin at the pediatric clinic of the State Hospital of Norway during the period April, 1923, to April, 1926, and had been kept under observation ever since. As regards the etiology the hereditary factor did not appear to be of importance, since it was present in only 8 cases (17 per cent.), whereas acute infections immediately preceding the diabetes were present in 12 cases (26 per cent.). All the children under insulin treatment developed quite normally both mentally and physically, provided they were kept under strict control. In 7 cases the carbohydrate tolerance was stationary or even increased with insulin. In all these cases the control of the diet was invariably very strict and there were very few recurrent infections. In the other patients, however, the carbohydrate tolerance decreased owing to lack of control over the diet and acute recurrent infections—the two main factors in the series which were of greatest importance in decreasing the child's carbohydrate tolerance. Of the 47 children, 17 (36 per cent.) died, 5 in coma closely connected with an infection, and one in coma just after fracture of the femur. In 4 cases the children refused insulin treatment at home, and in the remaining 7 cases little attention was paid to the diet, and insulin treatment was never given regularly.

#### 195. Goitre in the English School Child.

P. STOKES (*Quart. Journ. Med.*, January, 1928, p. 223) makes a critical analysis of the returns from the survey in 1924 of the incidence of thyroid enlargement among children aged 11 to 13. No reliable conclusions could be drawn directly from these statistics on account of the varying personal equations of the medical officers making returns. The first part of the paper deals with the computation of this factor by means of a sampling survey of 3,000 children made by the author in company with twenty of the observers con-

cerned. Study of the corrected returns shows that all degrees of thyroid enlargement are proportionately more frequent in goitrous than in non-goitrous districts, a finding which suggests that endemic goitre differs from "physiological goitre" merely in degree. Sex distribution is found to depend upon general prevalence; where this is low girls are affected five times as often as boys, while if the incidence in a district is high the sexes are affected equally. In regions where goitre is prevalent towns are less affected than rural districts, and coast towns generally are less affected than those inland. Incidence was found to be high principally in the West of England, and more especially in Cornwall, Devon, and Somerset, whence the belt of greatest prevalence passes northward into Northamptonshire, and Derbyshire, and up the Pennine Chale. Areas of moderate prevalence include Cheshire and Herefordshire and parts of North and South Wales. Geological formation is shown to influence goitre incidence, this being highest in country areas underlain by the trias, carboniferous limestone, and old red sandstone; evidence is submitted that this is the result of poor iodine content in these formations. In view of this probability it is thought that beneficial results might follow the administration of iodine to girls in those districts where goitre is most prevalent.

#### 196. Pre-scorbutic Myopathy and "Growing Pains."

C. FRIDERICHSEN (*Ugeskrift for Læger*, November 24th, 1927, p. 1069) gives evidence in support of his hypothesis that in early childhood pain in, and flabbiness of, certain muscles may be due to latent scurvy. In the records of two hospitals during the past fifteen years he has found 30 cases of infantile scurvy, in all of which, with only one exception, a rapid recovery was effected under an antiscorbutic diet. Though all these children suffered from pain in the limbs, and many of them from swelling of the limbs, there were only 16 in whom x-ray changes in the bones were demonstrable with certainty. In 4 cases there were doubtful changes and in 10 there were no changes in the bones demonstrable by the x rays. In 12 cases there was no bleeding from the gums, and in 11 no haemorrhages into the skin; haematuria was found in 19 cases. Only in 7 cases were periosteal changes detected. It was thus shown that in a large proportion of cases the x-ray examination of the bones and periosteum failed to explain why the pains were found in the limbs. In further support of his hypothesis that pain in the muscles occurs early in infantile scurvy, at a stage when other well-known signs have not yet developed, the author records the case of a child aged 3, admitted with the diagnosis of myelitis. After an attack of measles three months earlier he had lost his appetite and had become irritable. Pains in the muscles of the calf and thigh were regarded as growing pains. He began to limp and to develop flat-foot. Rickets was diagnosed, but antirachitic treatment proved ineffective. He became unable to stand or walk. The skin over the tender muscles was shiny and slightly oedematous, but showed no haemorrhages or bruises. The gums were slightly swollen, but did not bleed until pressed on with a spatula. Infantile scurvy being suspected an antiscorbutic diet, which included lemons, was prescribed, and after ten days the pain in the muscles had vanished, the child could walk, and his appearance had completely changed. The food at home had to be overcooked as the father's teeth were defective, and as the child never ate fruit or drank unboiled milk the attack of measles had evidently precipitated the scurvy.

#### 197. Four-hourly Breast-feeding.

MARGARET EMSLIE (*Arch. Dis. Child.*, October, 1927, p. 302) advocates that infants be breast-fed at four-hourly intervals—namely, at 8 a.m., 12 noon, 4 p.m., and 8 p.m. She thinks that these times interfere least with the many duties of a mother who has a baby, school children, and a husband to look after. The author stresses the importance of breast-feeding being made as easy as possible for a mother within the limits of a lactatory "zone of efficiency." Too often it is the intelligent, conscientious, and eager mother who becomes inhibited through overcrowding of her daily time-table, and has to fall back on supplementary feeds. A report is given of a series of 103 infants fed on this plan from early infancy, frequently from one month onwards, never later than from the sixth month. The transition from more frequent feeds to four feeds a day is now made in from four to six weeks. One breast only is used at each feed, which does not last more than twenty minutes. The average weight curve of the cases reported is slightly above and approximately parallel with the normal. Judged on the following points—a regular weekly gain of 6 to 8 oz., normal development, and comfort of mother and child—this method of feeding has, the author believes, been entirely satisfactory. A further series of ten cases is reported where, for reasons as a rule maternal, only three feeds a day were given—at 8 a.m., 1 p.m., and 6 p.m. The progress made by these children was also satisfactory.



## Obstetrics and Gynaecology.

## 193. Operation in two Stages for Large Ovarian Cysts.

THOUGH excision *en masse* of ovarian cysts without preliminary puncture constitutes the best procedure G. COTTE (*La Gynéc.*, November, 1927, p. 681) states that this is impossible in very large cysts. The danger of puncture lies in a too rapid and abrupt decompression of the abdomen, causing cardiac arrhythmia and intestinal paresis with abdominal distension, the latter being due neither to infection nor to peritonitis. The author excises the cyst a day or two after puncturing it, and advises that the puncture should be open to the surface rather than, as formerly, made blindly across the soft parts. He reports a case in which he incised the skin under novocain, punctured the cyst without opening the peritoneal cavity, and withdrew 10 litres of muco-purulent fluid; the abdominal wall was closed with three sutures. Next day the cyst (of the vegetating type without any signs of malignancy) was excised under spinal anaesthesia. Cotte insists upon the advantages of preliminary puncture and complementary appendicectomy in all cases of very large ovarian cysts.

## 199. Genito-peritoneal Tuberculosis following Abortion.

V. AZA (*La Med. Ibera*, October, 22nd, 1927, p. 338) reports the case of a married woman, aged 23, who began to menstruate regularly at the age of 12; she had had no children, but two miscarriages had occurred, the first, at four months, a year previously, being attributed to a fall, while the second had no apparent cause. She was emaciated and slender with pallor of skin and mucous membranes, and raised temperature and pulse rate; she presented symptoms suggesting an acute inflammatory process in the pelvic cellular tissue and uterine appendages. A blood count, however, showed a relative lymphocytosis suggesting a tuberculous affection. Anterior colpomy was performed and a large amount of foul faeculent material was evacuated. The patient's condition became gradually worse and death ensued. The necropsy revealed a stercoreal peritonitis in the left flank, with perforation of the ascending colon from three tuberculous ulcers. There was also generalized military tuberculosis of the peritoneum with the intestinal loops universally adherent.

## 200. The Use of Alcohol in Puerperal Sepsis.

J. BROCK (*Monats. f. Geburt. und Gynäk.*, August, 1927, p. 3) recommends uterine irrigation with alcohol as soon as symptoms of puerperal sepsis appear. He uses for this purpose about 1 litre of a table brandy containing about 40 per cent. of alcohol. He claims to have obtained very good results in this way, which he attributes partly to the local action of the alcohol and partly to its absorption into the system. Brock recalls Küstner's advocacy, in cases of puerperal sepsis, of alcohol given by the mouth in quantities sufficiently large to bring about a condition of deep intoxication at the time of the expected rigor; no bad results were noticed. It was suggested by Küstner that alcohol might produce its good effects by slowing the rate of metabolism and so conserving the strength of patients with lowered nutrition, but he believed rather that the inhibitory action of the alcohol on the bacteria was the prime factor.

## 201. Spinal Anaesthesia in Obstetrics.

S. A. COSGROVE (*Amer. Journ. Obstet. and Gynecol.*, December, 1927, p. 751); as the result of an experience of 54 cases, concludes that spinal anaesthesia has an important place in obstetrics, since theoretically it appears to be ideal for use in pre-eclamptic or eclamptic operative procedures. In practice he has found it free from danger, except in hypotension, the safe systolic minimum being 110 mm. Hg; it is suited for first-stage analgesia on account of its short duration. Working with a dosage of 50 mg. in the fourth lumbar interspace for vaginal and perineal operations and 75 mg. at the third interspace for laparotomies, he uses needles of small calibre, 22 to 20 gauge, dissolving weighed quantities of sterilized novocain crystals from sealed ampoules in 2 to 2½ c.cm. of spinal fluid, and injecting as slowly as possible with the patient on her side. At the end of the second stage there is entire soft-tissue relaxation which may obviate lacerations or the necessity for epiotomy. Its chief usefulness should be in conditions for which a general anaesthetic is contraindicated, and it appears to be directly conservative of both maternal and foetal life. Cosgrove claims that in obstetric laparotomies it has the same advantages as in general surgery, giving complete anaesthesia and muscular and visceral relaxation, with relatively slight bleeding, minimal post-operative discomfort, and a smooth convalescence. For operative procedures in pregnancy toxæmia and eclampsia this method is especially indicated.

## Pathology.

## 202. Laboratory Diagnosis of Small-pox Virus.

R. D. DEFRIES and N. E. MCKINNON (*Amer. Journ. of Hygiene*, January, 1928, p. 107) have devised a laboratory test for the recognition of small-pox virus. Hitherto use has been made of the allergic reaction observed in the skin of a rabbit previously immunized with vaccinia virus and the corneal reaction which follows the application of small-pox virus to the eye of a normal rabbit. The authors find neither of these tests to be reliable. The former reaction is so variable, both in occurrence and character, that accurate interpretation is often impossible; the latter reaction occurs in only about 50 per cent. of cases. They now draw attention to the reaction that follows the intradermal injection of small-pox material into the normal rabbit. In the course of fifty injections they obtained a definite reaction each time. A red palpable lesion, varying from about 10 to 20 mm. in diameter, appears on the first or second day, and reaches its maximum development about the fourth day, when it resembles a firm elevated plateau; subsequently the central redness gives place to a straw colour, and desquamation or crust formation often occurs; the lesion disappears by the twelfth day and leaves no scar. Chicken-pox material gives no skin reaction in the normal rabbit. For laboratory diagnosis the authors recommend that the suspected material should be inoculated intradermally into normal rabbits and into vaccinated rabbits; a typical lesion in the normal contrasted with a modified lesion in the vaccinated animals is diagnostic of small-pox.

## 203. Experimental Culture of Endometrium.

P. CAFFIER (*Zentralbl. f. Gynäk.*, January 7th, 1928, p. 63) has tried to cultivate fragments of human endometrium *in vitro*. Using human or animal plasma as a medium, to which in some cases ovarian or other organ extracts had been added, he found that in many cases a villi-like membrane grew out from an implanted endometrial fragment, whatever its cyclical phase. Decidual tissue up to, but not beyond, the third month of pregnancy gave similar results, but no growth occurred in the case of spontaneously discharged menstrual fragments. These experiments, like those of Helia, were inconclusive as a test of the validity of Sampson's theory of production of "endometrioma," for microscopical examination of the villi-like outgrowths failed to show whether the cells which they contained originated from epithelial cells or from stroma cells, which in the endometrium are known to possess special characters.

## 204. The Function of Cholesterolin.

As illustrating various properties of cholesterolin, GUGEROT (*Paris Méd.*, January 21st, 1928, p. 64) reports a case of tuberculides which was apparently cured by a subsequent attack of xanthoma. Following two attacks of sero-fibrinous pleurisy those tuberculides appeared in a young man with latent tuberculosis, and persisted without any change for about ten months. At this date xanthomatous deposits commenced to infiltrate the tuberculides, and were confirmed by histological and chemical examination. The xanthoma slowly increased in size, at the same time the tuberculous lesions gradually regressed. Finally, five years later, both conditions cleared up, only a slightly red, fibro-elastical atrophy persisting. The patient had no antecedents of hereditary or acquired syphilis, and repeated Wassermann tests were negative. During the xanthomatous period he developed signs of aortic insufficiency, and, as he presented no cardiac lesions when first seen, Gugerot attributes this to aortic xanthoma. Gugerot adds that xanthomata are characterized by the presence in the skin of masses of large lymphoid connective tissue cells with a reticular vacuolated protoplasm. These vacuoles contain the ethereal salts of cholesterolin or lipids, and those of glycerin or neutral fats. The author maintains that xanthoma is a hypercholesterinaemia, and fixes the cholesterolin in the tissues, especially the skin, just as gout fixes uric acid in the form of tophi. The process is an active, not a passive, one, and is therefore a defensive reaction. Many workers have demonstrated that the lipoids, of which cholesterolin is the type, possess antibaemolytic, antitoxic, and bacteriolytic powers. Gorard and Lemoine have stated that the amount of blood cholesterolin is below normal in tuberculosis, and that the low resistance noted in this disease is due to a lack of cholesterolin reserve. They insist on the auto-protection conferred by the lipoids in tuberculosis, and advise the treatment of this infection by biliary lipoids. Gugerot believes that the appearance of xanthoma in tuberculosis is a favourable sign, and that an endeavour should be made to create such a condition by a suitable diet, with the ingestion and injection of cholesterolin and other lipoids. Care should be taken in pursuing this treatment, as in many cases the action of cholesterolin may become injurious if the substance is present in excessive amounts.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 205. Active Immunization against Scarlet Fever.

D. VAN DORP-BEUCKER-ANDRIJAE and N. SPEELMAN (*Nederl. Tijdschr. v. Geneesk.*, December 24th, 1927, p. 2692) record their observations on 233 persons who were actively immunized against scarlet fever at the Marine Hospital at Katwijk. No severe reactions were seen except in a nurse, who had a high temperature and nausea for a few days after the first injection. Three injections were given, with a week between each, the doses being as follows: Up to 6 years of age inclusive, 200, 300, and 400 skin test doses; for children aged from 6 to 12 years, 300, 450, and 950 skin test doses; and for persons over 12 years, 400, 600, and 1,200 skin test doses. The authors find the Dick test less reliable than might be expected. A reaction which is at first negative may become positive because the first test was not performed properly, or it may happen that after an attack of scarlet fever or active immunization the reaction slowly becomes positive again. It is probable that in a large number of these cases which become negative again the immunity is only lost in the body fluids, it having been converted into a latent cellular immunity; there is thus no longer any free antitoxin present in the body fluids, but a small quantity of toxin is sufficient to stimulate the allergic cells to the rapid production of antitoxin, so that the Dick reaction becomes negative again.

216. L. S. L. MEYER (*Nederl. Tijdschr. v. Geneesk.*, January 7th, 1928, p. 25) records the results of active immunization against scarlet fever among the school children at Velsen in Holland. The Dick test was performed on 3,159 out of a population of 6,234 school children, with the following results. In 835 the reaction was negative, in 1,903 positive, and in 420 doubtful—a proportion of 27, 60, and 13 per cent. respectively. There was little difference in the results in boys and girls. Of 39 children who had previously had scarlet fever 27 gave a negative, 6 a positive, and 6 a doubtful reaction. The test was also performed on 63 children in whose families there had been a case of scarlet fever, the results being as follows: positive 25 cases (45 per cent.), negative 17 cases (31 per cent.), and doubtful 13 cases (24 per cent.). All the children with a positive reaction were inoculated, 3 injections being given of 3/4 c.c.m., 3/4 c.c.m., and 1 c.c.m. respectively. The result of control examinations which were carried out in 453 children three to four months after the inoculation was disappointing. Whereas on control examination after active immunization against diphtheria all the inoculated children gave a positive Dick reaction, many gave a negative reaction, the rest were negative. The success was thus not so great in scarlet fever as it was suggested that a larger quantity of scarlatinal toxin should be inoculated.

217. W. W. MURPHY (*Arch. of Ped.*, November, 1927, p. 727) performed the Dick test in 404 school children, of whom 304 (75 per cent.) were positive and 100 were negative. Of the 304 susceptible children who were inoculated with scarlatinal toxin 232 (76 per cent.) became Dick-negative, 31 (10 per cent.) remained positive, and 41 (13 per cent.) were lost sight of. There were thus 232, or about 17 per cent., immune to scarlet fever out of a total school population of 1,927. The reaction to the injection of toxin was moderately severe, consisting of marked local swelling, redness, tenderness, and pain, accompanied by a temperature of 103° to 105°, violent headache, vertigo, vomiting, and prostration. All the patients who had systemic symptoms showed a mild scarlatinal rash followed by slight desquamation. In no case was there any permanent or serious result. The dosage consisted of 500, 1,500, 5,000, 15,000, and 20,000 skin test doses. No definite relation was found between different age groups and either susceptibility to scarlet fever or the degree of active immunity obtainable.

### 208. Angina Pectoris.

K. F. WENCKEBACH (*Wien. klin. Woch.*, January 5th, 1928, p. 1) draws attention to various points in the symptomatology of angina pectoris which are not adequately explained by the prevailing theories of its pathology. Though in ambulatory cases the attack may be induced by quite slight exertion, more vigorous exercise may merely produce dyspnoea without pain; moreover, though the patient may have to stop several times when he first goes out, after a while he can continue walking without discomfort. Wenckebach considers

that the symptoms of angina are closely related physiologically to the distress experienced by normal persons during severe exercise (especially running and rowing) before they get their "second wind." The physiological process is explained by an increased supply of blood from the viscera to the heart and larger arteries, an acceleration of the pulse rate producing a rise in blood pressure, and congestion in the aorta before this head of pressure finds relief in the dilatation of peripheral arteries and veins. In the anginal attack of the ambulatory type (the status anginosus differs in many respects) the "second wind" stage is not reached, though the dilatation produced by nitrites is said to be somewhat analogous. Wenckebach believes that, just as the pain in Raynaud's disease occurs as the circulation is restored, and the femoral artery is often very tender to pressure just below Poupart's ligament during an attack of intermittent claudication, so the pain of an anginal attack is due not to ischaemia of the peripheral, but to distension of the proximal, parts of diseased coronary arteries, which are somehow more sensitive to alteration in tension. Since the coronary arteries are developed from the proximal section of the aorta their motor and sensory innervations are the same; therefore either or both together can produce the typical anginal syndrome, and there is no need to attempt to distinguish aortic from coronary angina. Contraction of vessels at any part of the periphery, or several parts simultaneously, may initiate an anginal attack by increasing the pressure in the aorta and coronary vessels, and may be relieved or prevented by such medicaments as nitrites, which produce peripheral dilatation. It follows from this that when the left side of the heart fails there will be insufficient pressure to produce the necessary tension, and the painful anginal attacks will often diminish as the signs of heart failure increase. It has been observed also that digitalis, by restoring the powers of the heart, may produce a recurrence of anginal attacks, which had temporarily ceased. Wenckebach disputes the originator's explanation of the rationale of Jonnesco's sympathectomy (and Lericho's operation on the femoral artery) on anatomical grounds, and considers that the beneficial effects are due to interruption of afferent sensory paths, whereby a break is made in a vicious circle of pain and raised pressure.

### 209. Encephalitis in Measles.

J. BOISSERIE-LACROIX and J. MALAPLATE (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, December 25th, 1927, p. 946), who record an illustrative case, remark that, apart from convulsions at the onset, nervous complications in measles are very rare. The age at which they are most frequently observed is from 2 to 7, but Bourne has reported a case in an infant of 14 months, and Dienlaffoy, Lagare, and Lemièrre have seen cases in adults. It is chiefly in severe attacks of the haemorrhagic form that nervous complications occur; they are frequently accompanied by pulmonary congestions or broncho-pneumonia, and may develop in the eruptive stage or later in convalescence. The present case is said to be the first example on record of meningo-encephalitis occurring during the period of invasion. The authors adopt the following classification of the nervous complications of measles. (1) The upper or cerebral form, which chiefly occurs in severe measles and is characterized by stupor, coma, and convulsions, which are bilateral or predominant on one side of the body. (2) The intermediate form, in which there is a predominance of ocular disturbance, ataxia, and bulbo-pontine symptoms. (3) The low or spinal form. A mental and meningeal form may also be described. The encephalitis of measles in cases which have come to necropsy does not differ from acute encephalitis due to other causes.

### 210. Paratyphoid C Fever.

A. N. KINGSBURY, J. A. LESSLAR, and M. KANDICH (*Malayan Med. Journ.*, December, 1927, p. 127), who record two illustrative cases, state that in paratyphoid C fever the onset is usually sudden; the duration depends on the severity of the infection and the degree of involvement of the respiratory system. Bronchitis and patches of broncho-pneumonia are not uncommon, and the causal organism may sometimes be isolated from the sputum. The course does not exceed five to six days in mild cases, and since the mortality rate is low, few descriptions of post-mortem findings have been published. Usually some congestion of the upper part of the small intestine has been noted as well as congestion, and small superficial erosions of the mucous membrane of the colon. The authors' first case occurred in a Chinese male, in whom the only symptoms were fever, loose stools, and an icteric

tint of the skin; death followed a twelve days' illness. At the necropsy no abnormality of the heart, lungs, or kidneys was noted. The spleen was enlarged and the liver congested, but no ulceration or inflammation was noted in the intestinal canal. The serum failed to agglutinate ommisions of *B. typhosus* or of the paratyphoids B and C, but it agglutinated the paratyphoid C strain to a titre of 1 in 6,400. The second case occurred in a Tamil woman, aged 26, who had a remittent fever for twelve days, which was not affected by quinine, although malignant tertian parasites were found in the blood. *B. paratyphosus* C was isolated from the urine and was agglutinated by the specific serum in high dilutions. Owing to the concurrent malarial infection the characteristic slow pulse of enteric fever was not present. Subcutaneous inoculation of the strain into a guinea-pig caused death in thirty hours, and the necropsy showed extensive subcutaneous haemorrhage, splenic enlargement, and a blood-stained peritoneal exudate. The bacillus was recovered from the heart, blood, spleen, and peritoneal fluid in pure culture.

#### 211. Tularaemia.

L. J. MERRIMAN (*Minnesota Med.*, December, 1927, p. 719), who records four cases originating in Minnesota, remarks that tularaemia, which in nature occurs in wild rats, ground squirrels, and wild rabbits, may be transmitted to man by (1) handling diseased animals; (2) contamination of the hands or conjunctiva with the tissues or body fluids of diseased animals; (3) the bite of diseased animals; (4) contamination of the hands or bites of flies, ticks, bed-bugs, or lice which have bitten diseased animals; (5) the bite of any animal that has eaten diseased rodents. The causal organism, *B. tularensis*, can penetrate the unbroken skin or conjunctiva, but a frequent portal of entry is a wound. Laboratory workers are very prone to contract the disease. The organism is Gram-negative, non-motile, and non-spore-bearing; it occurs in both bacillary and coccoidal forms, and appears early in the blood of the lower animals as well as in man. It grows well on coagulated egg yolk and blood glucose, and on cystine agar, but not on ordinary media. Four types of the disease are described: the ulcero-glandular, oculo-glandular, glandular, and typhoidal. The period of disability is rarely less than a month. The mortality is not high, but occasionally a fatal case occurs. Tularaemia must be distinguished from typhoid fever, septicaemia, tuberculosis, and Malta fever. The following points are of diagnostic value: a history of contact with rabbits or rodents or of bites; a primary papule or wound; persistent local glandular enlargement; fever of two to four weeks' duration; a negative Widal reaction; and a relatively low leucocyte count. The diagnosis is proved by agglutination of *B. tularensis* with the patient's serum. The treatment is entirely symptomatic.

#### 212. The Heart in Fungus Poisoning.

A. S. HYMAN (*Bull. Johns Hopkins Hosp.*, January, 1928, p. 8) describes an investigation of the cardio-vascular disturbances in a case of mushroom (*Amantia phalloides*) poisoning. This fungus was consumed in error by a party of four persons, three of whom recovered completely after gastric lavage. The fourth patient complained of severe headache and giddiness, and ten hours after the ingestion of the poison there was observed some irregularity of the pulse, which became more marked on the following day. Two days after the onset all symptoms except weakness had disappeared, while examination showed the rhythm of the heart to be mainly regular with frequent irregularities. There was no loss of conductivity to the radial pulse; apart from a soft systolic murmur at the apex and a trace of albumin in the urine no further signs of disease were found. Electro-cardiograms taken at this time showed delay in conduction of the normal stimulus through the heart, the P-R interval being slightly prolonged, and the QRS complex split and grossly delayed. Diphasic T-waves in conjunction with the above signs led to a diagnosis of right bundle-branch block, while the electrical record further showed the irregularity to be due to right ventricular extra-systoles. Eighteen days after the onset the electro-cardiogram showed improvement in the condition of the heart, but there were still signs of severe myocardial damage. Four months from the beginning of the illness a third examination was made, this showing almost unimpaired conduction, while five months later the electro-cardiogram was normal. The author reviews the literature on the pathology of mushroom (muscarine) poisoning, the changes generally found being fatty or lipid degeneration of the myocardium, sometimes with fragmentation. In the case described such damage probably occurred in the neighbourhood of the anterior papillary muscle of the right ventricle, the close anatomical relation of this region to the right branch of the bundle of His explaining the abnormalities found in the electrical changes of the heart.

## Surgery.

### 213. Primary Carcinoma of the Ureter.

F. VOLANTE (*Arch. Ital. di Urol.*, December, 1927, p. 105) has collected and discusses 38 cases, including a personal one in a man aged 49, of primary carcinoma of the ureter, the first of which was reported by Wising and Blin in 1878. Volante comes to the following conclusions: (1) The ureter may be the primary site of various malignant epithelial tumours. (2) Not all the recorded cases are to be regarded as genuine primary tumours of the ureter; the large number of organs affected and the development of the tumour in persons who had already been operated on for tumours elsewhere throw a doubt on the diagnosis. (3) Papillary carcinomata are by far the most frequent, and are usually to be regarded as the malignant transformation of benign papillomata. (4) Lithiasis has been regarded as responsible for the condition, and has actually been found in a certain number of cases, the chronic irritation produced by the concretion and the concomitant irritation being an explanation of the origin of the tumour. (5) Leucoplakia and the cell nests of von Brunn, both of which are the result of chronic inflammation, are of considerable importance in the pathogenesis of epithelial tumours of the ureter. (6) Embryonic malformations and trauma are also of importance in the pathogenesis. (7) The site of predilection for the tumour is immediately below the normally constricted parts of the ureter. (8) The tumour may develop concentrically or eccentrically, or both forms may be combined. (9) Hydronephrosis is the most frequent result and often the first obvious sign of ureteral tumour; other symptoms which are inconstant are haematuria and pain. The latter is most frequent in the papillomatous growths. (10) The presence of tumour elements in the urine is a good diagnostic sign, but is rarely found.

### 214. Tuberculosis of the Breast.

V. ALOI (*Rif. med.*, January 9th, 1928, p. 33), who records an illustrative case, remarks that tuberculosis of the breast is a rare condition, of which only 200 cases have hitherto been reported in women and 11 in men. The earliest cases in which the diagnosis was based on the naked-eye appearances were reported by Cooper (1829), Nélaton, Velpeau, and Billroth. Dubar, in 1881, was the first to describe the morbid anatomy, and the following year Olmacker demonstrated the etiology experimentally. It is probable that many cases have been mistaken for cancer of the breast. Very few cases have developed during lactation (Häbermass, Piskacek, and Plujette). Aloï's case was in a woman, aged 27, who had noticed a swelling on the outer side of her right breast three years previously during the sixth month of lactation. Since then it had gradually increased in size. The Pirquet reaction was positive, and x-ray examination showed caries of the sixth rib. The upper and outer quadrant of the breast was removed, leaving the nipple and areola. Complete recovery followed. Examination of the excised tissue showed numerous cavities filled with caseous tissue, giant cells, and a few tubercle bacilli.

### 215. Treatment of Fistula in Ano.

LOP (*Bull. Soc. de Théor.*, December 14th, 1927, p. 276) states that he is now less inclined than formerly to operate on fistula in ano. It often happens that a primary localization of tuberculosis may simulate an ordinary acute abscess of the margin of the anus, giving rise to violent pain, interference with defaecation, and a high temperature; in such cases an operation is inevitable. In at least six-tenths of the patients a blind external or complete fistula communicating with the rectum is left, and in such cases Lop considers it advisable not to interfere, even when clinical examination, radiocopy, and laboratory tests show that the lungs are normal. He has found that a localization of anal tuberculosis due to passage through the bowel of infected broncho-pulmonary secretion is much less frequent than a primary localization, if, indeed, it really exists. Lop therefore only operates on cases of anal fistula after carefully examining the lungs and sputum, and investigating the discharge from the wound for the tubercle bacillus. He refuses to operate whenever the bacillus is found in the discharge, even when it is absent in the sputum and nothing abnormal is found in the lungs, nor does he operate on any individual in good health in whom the fistula has been in existence for some time and has not been painful. He has recently seen ten cases in which a radical operation was successfully performed; six of the patients subsequently died of pulmonary tuberculosis. Abstinence from operation applies only to the so-called spontaneous fistulae, since it is required for those which result from trauma of any kind.

**216. Post-operative Complications of Appendicitis.**

According to C. W. CUTLER, jun. (*Amer. Journ. Surg.*, December, 1927, p. 602), success or failure in the treatment of suppurative appendicitis depends largely on the post-operative events. In a series of 394 cases 41 patients died, giving a mortality of 10.5 per cent. It becomes apparent that in the vast majority of cases prostration is more dangerous than operation. Peritonitis was the most serious complication, and in these cases the injection of saline solutions and morphine with the Fowler position was the chief line of treatment. Gastric lavage and plintrin were also employed. High enterostomy was performed for paralytic ileus in five cases, and one patient recovered. Cutler insists that enterostomy to be of any use must be performed early. Secondary abscess was also a serious complication in 18 cases; 5 patients died, including 2 with subphrenic abscesses. In these cases drainage was employed as soon as the abscess had become localized. There were 5 cases of faecal fistula and 2 required further operation to close them. To prevent this Cutler advises that the drains should be moved daily. Mechanical ileus occurred in 5 cases and necessitated operation. Post-operative hernia was found in 6 cases (1.5 per cent.); to prevent this the wearing of a belt is advised for six months after operation. Pulmonary complications were not frequent, but one patient died from embolism on the fifth day.

**217. Recurrence after Operation for Carcinoma of the Breast.**

E. DAHL-YVERSEN (*Lyon Chir.*, November-December, 1927, p. 648) refers to the numerous attempts to determine the frequency of recurrence of carcinoma of the breast after operation, and adds that the relation between the histological appearances of the growth and the prognosis after operation has not been settled. Statistics show that after the radical operation 45 per cent. of the patients remain for three years without sign of recurrence. In a series of 126 cases he finds that 33 per cent. showed no sign of reappearance of the condition at the end of three years. He concludes that a point on which a prognosis can be given is the size of the tumour; when this was small, the size of a plum, only 17 per cent. showed recurrence, but in large growths, the size of an egg, 87 per cent. showed recurrence within three years. Cases of medullary carcinoma all recurred within this period, as did 57 per cent. of cases of scirrhus. When the axillary glands were involved there was recurrence in 80 per cent., but if the glands were not affected only in 41 per cent. within three years. Involvement of these glands was found in 65 per cent. of the cases. The clavicular glands appear to be affected in 27 per cent. of cases. As experience shows that the clavicular glands may be affected, even when the axillary glands are clear, they should, according to the author, be removed in all cases.

**218. Osteomyelitis of the Os Pubis after Measles.**

RAESCHKE (*Klin. Woch.*, January 8th, 1928, p. 72) describes the case of a boy, aged 7, who suffered from measles four weeks previously. After the rash had disappeared the fever still remained, and the patient did not improve. Suddenly the temperature rose still higher and severe pain was felt in the left inguinal region, so that the leg could not be moved; a puncture later removed some serous fluid, which was sterile. About a week afterwards the hip-joint was free from pain, but the perineum became swollen; after removal of the swelling by poultices a hard painful infiltration remained on the ascending ramus of the pubis, and an x-ray examination showed distinct periosteal thickening. The infiltration increased in size and became soft; sterile fluid was removed by puncture. Another x-ray examination showed softening of nearly the whole of the ascending ramus of the pubis. On operation a cavity the size of a walnut was found; its contents were removed and the cavity was drained. Recovery was uneventful.

**219. Separation of Lower Femoral Epiphysis.**

A. S. GRISWOLD (*Journ. of Bone and Joint Surg.*, January, 1928, p. 75) records a case of separation of the lower femoral epiphysis—not a very common type of femoral fracture, but often associated with nerve or vessel injury. It frequently leaves the knee-joint with considerable impairment of function. Acute flexion has usually been adopted in the treatment of those cases, and plaster-of-Paris has been used to maintain this position. Griswold's case occurred in a boy aged 8. The fracture was reduced under anaesthesia, and acute flexion was maintained for the first day. Each day the knee was moved through a few degrees and extension increased. Twenty-six days later complete extension was possible and the child could walk with a stick. At the end of one year it was impossible to tell which leg had been injured.

**Therapeutics.****220. Treatment of Small-pox by Red Light.**

J. H. THIERRY (*Ugeskrift for Læger*, January 12th, 1928, p. 29) refers to Niels Finsen's earliest work on the action of light on the human body, in which he suggested that suppuration in small-pox vesicles was caused by the action of the light rays of the sun on the skin. If such rays could be excluded before suppuration had begun it could be prevented, the danger of death from suppuration fever would be eliminated, and disfiguring scars avoided. Thierry remarks that in Denmark there has been but little opportunity to test the accuracy of this theory, the small epidemic in 1894, during which a "red ward" was provided for some cases, yielding insufficient evidence. In the Hôpital del Salvador in Valparaiso, in the beginning of 1921, he was able to obtain a 16-bed pavilion with only red light. The one doorway was provided with three doors, only one of which could be opened at a time, and the double windows provided with red glass were screwed fast so that they could not be opened. Ventilation and light were supplied by three petroleum lamps protected with red glass, having chimneys which passed up through the roof; holes in the floor were connected with bent tubes through which plenty of air, but no light, could pass. The lamps were kept burning day and night, and the ventilation they provided was as effective as that of the pavilions with open floors and windows. The completeness with which daylight was excluded may be gauged from the fact that photographic paper exposed in the pavilion for three months was scarcely discoloured. Only patients in the first stage of the disease were admitted to this pavilion, and none in whom pustules had already formed. While the death rate was 41.66 per cent. (192 patients, 80 deaths) among these "red-light" patients, it was 41.96 per cent. (1,582 patients, 664 deaths) among all the patients admitted to hospital. It should be noted that the 23 patients who died in the primary stage of the disease were in the red room. When these cases were subtracted, as well as those in which haemorrhages into the vesicles obscured the diagnosis of suppuration, there remained 159 "red-light" patients, of whom only 9, or 5.66 per cent., showed no suppuration. There were 40 who suffered from very severe suppuration and scarring. Though exact data were not available as to the proportion of patients who were treated in daylight, and whose vesicles did not suppurate, the author thinks that the percentage of "daylight" patients free from suppuration was no less than that of the "red-light" patients. But although the death rate, and the frequency and severity of suppuration and scarring seemed to be uninfluenced by red light, it evidently had a beneficial effect so far as the eyes were concerned, for, with only one exception, the "red-light" patients were free from any serious complaints of the eyes, while about 10 per cent. of the "daylight" patients developed pustules of the cornea, about 3 per cent. losing one eye, and about 1 per cent. both eyes. With regard to the frequency of haemorrhagic cases, and of abscesses in or under the skin, no distinctions could be drawn between the "red-light" and the "daylight" patients.

**221. Late Treatment of Infantile Paralysis.**

E. DELCROIX (*Bruxelles-Médical*, January 15th, 1928, p. 360) describes his method of dealing with limbs affected by infantile paralysis. Hitherto the treatment of poliomyelitis at the stage when the paralyses are determined has chiefly consisted in endeavouring to correct muscular weakness and deformities. Attention is now being directed primarily towards the nutrition of the affected part. Delcroix bathes the paralysed limbs in warm sea-water irradiated by ultra-violet rays; the name he gives to this type of bath is "actinotmarine." It is found that the combined action of the thermic element and the variations in the difference of potential in the osmotic exchanges increases the nutrition of the tissues. Encouraging results had previously been obtained from hot sea-water baths. Sea-water, containing as it does a large number of electrolytes, constitutes a highly ionized medium, and when it is reinforced by ultra-violet radiation the results have been very promising. The study of the oscillographic index, which is the visible expression of the total pulse of a limb, gives a direct indication of the peripheral circulation. In order to gauge the possible variations of this index the same children were submitted to the following tests: (1) warm water bath, (2) irradiated warm water, (3) warm sea-water, and (4) irradiated warm sea-water. The other factors of the different tests were identical in all. When the rate of circulation after each test was observed it was found that the maximum oscillatory amplitude occurred after the fourth test, the actinotmarine bath. Delcroix reports eleven cases in which the attack of poliomyelitis preceded the initial treatment at periods ranging from six weeks to nine years. All except two of these patients had been submitted to the



usual therapeutic procedures without success. Before complete recovery was obtained the number of treatments needed varied, but in the series quoted the previously paralysed child was able, after twelve to twenty-four baths, to stand alone, to walk, and to ascend and to descend stairs. The results have been constant and were maintained. The patients treated in 1926 were seen in 1927, and were found to be as well as, and in some cases better than, at the end of the course. Delcroix adds that this method synthesizes two important elements in therapeutics—the electric and the thermic; to the judicious association of these two are attributed the encouraging results which have been obtained.

## 222. Treatment of Syphilitic Cardio-vascular Diseases.

A. SÉZARY (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, December 1st, 1927, p. 1547) agrees that antisyphilitic treatment should be modified in the case of patients suffering from any grave cardiac, hepatic, or renal complications which are not of syphilitic origin. Advancing age is not a contraindication to the use of the arsenobenzols, but only necessitates their careful administration. He doubts whether there is any real danger of aggravating the arterial hypertension in the case of aged syphilitic patients by specific medicaments, even when the hypertension is non-syphilitic, and thinks that the treatment of cases of cardiac syphilis, as of syphilitic skin diseases, should be governed by the individual circumstances. In ordinary cases bismuth and mercury are most often employed, but neosalvarsan remains the most powerful agent, and occasionally mixed arsenical and bismuth treatment is indicated. Patients under the age of 50 bear the treatment better and the clinical diagnosis of cardio-vascular syphilis is easier in such cases, since atheroma and arteriosclerosis are seldom present. Syphilis may play an important part in cardio-vascular disease in much older patients; a gyna pectoris and aortitis may yield to antisyphilitic treatment even though the clinical diagnosis of syphilis is not fully established. Such treatment should be neither brief nor insufficient, and arsenic, bismuth, or mercury should be used, as indicated clinically. Unsatisfactory results may be due to the presence of atheroma or to degeneration of the tissues. Three cases of aortic aneurysm treated with bismuth are reported. One patient was relieved, and skiagrams showed that the aneurysm had not increased in size. In the two other cases, however, the symptoms became worse, and in one of these, in spite of three courses of bismuth, the aneurysm increased to double its size in a few months. The results of specific treatment of angina pectoris are, however, so encouraging that it should be given in all cases where syphilis is suspected. Sézary quotes seven cases, in four of which the results were very good. One man, aged 61, contracted syphilis when 23; the slightest exertion caused an anginal attack. He was treated with bismuth for two years; the attacks gradually decreased and finally disappeared, and the patient was able to lead an active life. In three other cases, however, the patients were not relieved. The average age of those who were relieved was 56.5 years, while that of those who were not relieved was 51 years. Of the former two were treated with novarsenobenzol and two with bismuth; of the latter, one was treated with novarsenobenzol and the other two with bismuth. In aortitis the disappearance of bruits cannot be expected, but symptomatic improvement may follow specific treatment although the Wassermann reaction remains positive. Of twelve cases of aortitis five were greatly benefited. Sézary believes it possible to cure completely syphilitic cerebral arteritis, and advises that intensive treatment should be started immediately in all cases of hemiplegia in young subjects, unless contraindicated by grave visceral disease.

## 223.

### The Amino Bases of Ergot.

RAYMOND-HAMET (*Presse Méd.*, January 11th, 1928, p. 35) describes three amino bases of ergot, tyramine, histamine, and acetylcholine, and discusses the action of each on the uterus, circulation, heart, respiration, intestine, and sympathetic system. In a short note he states that the four alkaloids of ergot—ergotinine, ergotaminine, ergotamine, and hydro-ergotinine—possess a long, excitant uterine action, a profound vaso-constrictive effect, and a sympatholytic action, and that the last two are markedly powerful agents. The amino bases are present merely in minute quantities in fresh ergot, and are appreciable only after decomposition; when required, therefore, they should be prepared synthetically, since ergot is not administered for the effect produced by the amino bases. They have the same action on the uterus as the alkaloids, but this is very transitory, and even in therapeutic doses they possess highly injurious properties. The bases are devoid of all sympatholytic power, and the action of tyramine is partly explained by its stimulation of the sympathetic nervous system. This base is a vaso-constrictor, but histamine and acetylcholine are so power-

fully vaso-dilatative and hypotensive that their action is first manifested when injected with tyramine or even with the alkaloids. It has been shown both chemically and physiologically that the galeic preparations of ergot contain little or none of the alkaloids, but are rich in the amino bases. Hence they almost always produce vaso-dilatation and hypotension, and their use is contraindicated, vaso-constriction being the desired end for which ergot is administered.

## 224.

### Treatment of Erysipelas.

E. S. PLATOU, F. W. SCHLUTZ, and L. COLLINS (*Amer. Journ. Dis. Child.*, December, 1927, p. 1030) report a series of 155 cases of erysipelas, of which 80 were treated with x-ray irradiation, 30 with the antitoxin, and 35 with magnesium and glycerin packs. The return to normal temperature averaged 1.5, 2.2, and 3.4 days respectively in the three groups, while the subsidence of symptoms such as pain, toxæmia, and general malaise took 2, 3.8, and 8 days. The mortality was 6, 6, and 23 per cent. respectively. Extension of the disease occurred in 21, 46, and 68 per cent. of the cases in the three groups. In a further series of ten especially grave cases a combination of x-ray and antitoxin treatment was particularly successful, the erysipelas disappearing invariably, though one infant aged 3 months developed broncho-pneumonia and meningitis later and died.

## Ophthalmology.

## 225.

### Palpebral Cysts.

A. GABRIÉLIDÈS (*Ann. d'oculistique*, December, 1927, p. 926) states that what were described as hydatid cysts of the eyelids by the early Greek writers, such as Galen and Paulus Aegineta, were cysts with watery contents formed behind the suspensory ligament of the tarsus and below the anterior extremity of Tenon's capsule. These cysts occur both in children and in adults. Gabriélidès distinguished them from chalazions for the following reasons. (1) A chalazion is not contained in a membranous sac which can be seized by the fingers and extirpated. (2) A chalazion does not contain a clear fluid, but an amorphous material. (3) A chalazion is not situated at the upper part of the lid below the eyebrow, but on the tarsus itself. (4) A chalazion does not possess deep roots. The hydatid cysts of the lids described by the ancient Greeks are really the only cysts of modern ophthalmologists. They may be congenital like dermoids, occur in early life, and gradually increase in size so as to interfere with vision. They contain a fluid, which is either clear like glycerin or yellowish like ascitic fluid; and fats (stearates, glyceroleates, and palmitates). Treatment consists in their total extirpation or in removal of the most prominent part, followed by scraping out the bottom of the cyst. Gabriélidès describes five personal cases in patients aged from 49 to 60.

## 226. Detachment of the Anterior Layers of the Iris.

M. J. SCHOENBERG (*Arch. of Ophthalmol.*, November, 1927, p. 538) describes a case of this condition. The patient had lost his right eye from iridocyclitis many years previously. He was a high diver at a circus, and on one occasion, after his dive, as he came to the surface of the water, he found that he had become blind. After a week, however, his vision had returned to normal; for some time previous to the accident, however, it had not been good, and he presented himself at hospital on this account. On examination he was found to have advanced chronic glaucoma in the left eye; the cornea, pupil, and media were clear, but the optic disc was atrophic and deeply cupped. The anterior layers of the iris were stripped off and were floating as threads in the anterior chamber. There were cracks in the deeper layers and in the pigment layer. The sphincter papillae was intact and the angle of the chamber was not obviously obstructed. The most probable explanation was that the force of the high dive had driven the aqueous into the iris tissue, tearing the strands apart. The author adds that cases of a similar nature have been described, but in very old people and without a traumatic history.

## 227.

### Ocular Pemphigus.

G. M. CONSTANS (*Amer. Journ. of Ophthalmol.*, November, 1927, p. 810) describes three cases of ocular pemphigus and discusses this rare disease, which may occur in the eyes alone or associated with generalized skin pemphigus. The etiology is quite unknown; it has been attributed to toxic action upon the nerve centres. The condition in the eye starts with swelling and congestion of the conjunctiva and the formation of bullae which rupture. Later shrinking of the conjunctiva with the formation of adhesions occurs—the condition is sometimes called "essential shrinking of the conjunctiva"—



and, subsequently, the cornea becomes dry, dull, and atrophic. Treatment consists in removing all causes of sepsis, and keeping the eye as clean and moist as possible, repeated boric acid irrigations, a mild conjunctival antiseptic, such as zinc sulphate 1/4 grain to the ounce or 1 per cent. mercuriochrome, and the instillation of liquid paraffin at frequent intervals. Prognosis is ultimately bad.

#### 228. Sarcoma of the Uveal Tract.

R. C. DAVENPORT (*Brit. Journ. of Ophthalmol.*, December, 1927, p. 603) reviews all cases (35 in number) of sarcoma of the choroid seen at Moorfields Eye Hospital during the period 1918-23, the average being 7 a year. Previous records of past series (1871-1925) show almost exactly the same yearly occurrence. Davenport thinks the case incidence at Moorfields nowadays is about 2 in 10,000. He has been able to trace 22 patients out of the 35; of these, 10 are known to be alive and well. Out of the whole series 28.5 per cent. are known to have lived free from recurrence for more than three years after excision. Twelve patients (34.28 per cent. of the whole series) are known to have died, and 7 of these (20 per cent. of the whole series) died from recurrence of the sarcoma. Of the untraced cases, two were seen alive three years after operation.

## Obstetrics and Gynaecology.

#### 229. Uterine Rupture during Labour.

V. COCQ and J. J. SNOECK (*Bruxelles-Médical*, January 1st, 1928, p. 269) record three cases of uterine rupture during labour, and describe in detail a fourth personal one. In one case the rupture was evidently caused by manual or instrumental intervention, death ensuing during the confinement. In another case the rupture was apparently spontaneous, and a subtotal hysterectomy was performed. The patient, a multipara aged 35, progressed favourably after the operation, but broncho-pneumonia supervening on the fifth day she succumbed in six weeks. The authors classify uterine rupture as incomplete, complete, and complicated with involvement of neighbouring organs; it may be of traumatic origin or occur spontaneously. They agree with Bandl that certain spontaneous ruptures in multiparae are due to an exaggerated development of the uterus, the result of former pregnancies, which by too strong and too frequent contractions can cause a tear of the lower segment. Factors predisposing to rupture are multiparity (only 6 to 12 per cent. occur in primiparae), neoplasms, cicatrices (the result of previous operations), degeneration of the uterine muscular fibres, and any factors causing abnormal resistance to the uterine contractions, such as retracted pelvis and hydrocephalus. Two important traumatic causes are version and ill-judged forceps application. The prognosis is bad, the maternal mortality being 60 per cent. and the foetal 96. The treatment in these cases, as soon as a diagnosis is made, is abdominal section followed most frequently by subtotal hysterectomy, though in exceptional cases suturing of the uterine tear is sufficient. Extraction of the child through the natural passage is indicated only when the presenting part is deeply engaged in the pelvis. The authors strongly deprecate version and the application of forceps to a non-engaged head, or before dilatation is complete. Internal podalic version in a uterus void of liquor amnii, and especially if preceded by forcible dilatation, is fraught with grave risks to both mother and infant.

#### 230. Early Carcinoma of the Uterus.

ACCORDING to L. CATTANEO (*Ann. di Ostet. e Ginecol.*, December, 1927, p. 1001) early uterine carcinoma may elude detection owing to the paucity of symptoms, the neglect to make a biopsy, or to insufficient care to examine the deep, as well as the superficial, portions of the suspect tumour; the investigation should extend laterally into the apparently healthy regions. He alludes to a case recently described by Lettelle in which endometrial fragments, removed by curetting from a patient with menopausal bleeding, were reported to show fungous endometritis with no sign of malignant disease. Microscopical examination after hysterectomy a few days later produced clear evidence of carcinomatous infiltration of the fundus, and inquiry showed that in this region the scraping had been superficial for fear of causing perforation. Cattaneo describes the case of a married nullipara aged 50, who complained solely of leucorrhoea following the cessation of menses two years previously. The physical signs were normal except that to the left of the external os was a papillomatous tumour the size and shape of a small bean and covered with intact mucous membrane. The tumour did not bleed on manipulation, and infiltration in the neighbourhood

was absent. Microscopical examination after biopsy showed regular papillary formations consisting of a vascular core covered by regular squamous epithelium. In two places, however, cell nests were present and the epithelium in the neighbourhood showed a tendency to multiple stratification and the presence of mitosis. Early malignant disease of the cervix being therefore suspected vaginal hysterectomy was performed. Microscopical examination of the cervix in the region subjacent to the papilloma now showed invasions by squamous epithelium within the lumen of the glands of the cervix and penetration into the adjacent connective tissue and myometrium.

#### 231. Causes of Uterine Haemorrhage.

R. MAGAREY (*Med. Journ. of Australia*, October 8th, 1927, p. 504) agrees with Whitehouse's classification of excessive uterine bleeding into (1) epimenorrhoea, or too frequent menstruation; (2) menostaxis, or too prolonged menstruation; (3) true menorrhagia, or too great a loss at a period otherwise normal; and (4) metrostaxis, or irregular uterine bleeding. Under extra-genital causes of haemorrhage he refers first to excessive thyroid action, and attributes menorrhagia at the end of lactation to a continuance of the increased thyroid activity of pregnancy; the appropriate treatment is radiation of the thyroid and the exhibition of calcium salts. He next mentions influenza, when the menorrhagia is only temporary. As regards the uterine causes, the retention of the products of conception is common even when the confinement has been normal; in inevitable abortion the author does not advise immediate curettage, but advocates packing the vagina tightly for twenty-four to thirty-six hours, dilating the cervix and stimulating uterine contraction; this facilitates the subsequent curettage and lessens haemorrhage. Under malignant causes of haemorrhage endocervical carcinoma is important, because it may be easily missed before the tumour has reached the vaginal surface; even a diagnostic curettage may fail to detect it, the only indication of its existence being the fusiform shape of the cervix from the external to the internal os. Non-malignant causes most commonly overlooked are: (1) small sessile cervical polypi, which are easiest found by inspection; (2) intrauterine polyp, often associated with small fibroids, and frequently missed at a curettage—these may cause temporary amenorrhoea, followed by profuse loss; (3) enlarged, thickened, and possibly lacerated cervix; (4) previous operations on tubes or ovaries, because the infection which necessitated operation has caused a fibrosis uteri; in such cases complete hysterectomy is necessary. The author has found treatment by radiation particularly useful for menopausal haemorrhage, especially if due to subinvolution and to fibroids. He adds that it should be remembered that the full effect of radiation is frequently delayed for several months, during which time menstruation may be quite irregular, and that for six weeks or so the patient may have a rather profuse leucorrhoea.

#### 232. Injuries of the Bladder during Labour.

B. OTTOW (*Zentralbl. f. Gynäk.*, November 12th, 1927, p. 2924) classifies vesical injuries during labour as contusions, pressure erosions, and lacerations. Contusions may cause oedema, which may be confined to the sphincter or extend to the trigone; they may be accompanied by multiple haemorrhages into the mucous membrane. This oedema varies in extent, and is usually infiltrative, but may be hollow in patches. Haemorrhages are commonest at the trigone and fundus. Such contusions are caused more by delay in the pelvic canal than at the pelvic inlet, and alteration in the tissues due to pregnancy must not be overlooked as a contributory factor. As the head descends the bladder is pushed upwards and the trigone and sphincter region are compressed between the head and symphysis; they are also pushed up over the advancing part, thus squeezing the soft parts between two hard resistances. Similar contusions may arise from, or be increased by, operative measures. Such contusions are apparent shortly after birth; they cause no constant symptoms, although haematuria is common. The rate of recovery varies greatly, but this bruising rarely causes fistula formation. Pressure erosions arise during the overcoming of discrepancy between the foetal head and the pelvis; the critical moment is at the pelvic inlet. The characteristic sites are in the fundus-trigone region and on the anterior wall; these are seen in flat pelvis. In "justo minor" cases the above pressure points are joined by bands. Cystoscopically pressure erosions of the trigone and fundus show all degrees from oedema to deep necrosis of the bladder wall. On the anterior aspect they are usually more superficial; in the sphincter area necrosis and fissures may be found. These pressure erosions frequently lead to fistulae, but in their absence the erosions heal during the puerperium. If they are superficial no scar is left, but if they are deep and extensive then sloughing and a secondary fistula may result,

becoming manifest a week after delivery. Fistulae appearing immediately after operative delivery are due to rupture of parts already weakened by pressure. Lacerations may occur during operative procedures, and are characterized by their ragged outline and absence of oedema. Cystoscopy is the only accurate means of investigating any suspicious case, and the risk of infection is lessened if it is performed at once before the lochia have started. A permanent catheter is the best means of preventing fistula formation and other sequelae; it should be left in for ten to twelve days. Should a fistula develop the catheter should be retained and in many cases the fistula will heal. No urinary antiseptics are given by the month, but once daily a small quantity of a silver preparation is instilled and left for some time in the bladder to prevent an ascending infection.

## Pathology.

### 233. The Pathology of Ossification.

R. LERICHE (*Bruzelles-Médical*, January 29th, 1928, p. 439), referring to a paper by A. Policard on osseous physiology (*ibid.*, p. 433), shows that an increased knowledge of the laws governing ossification have added to the pathology and treatment of many bone conditions. Two new ideas have been evolved. The first is that pathological bone formation, a metaplastic, humoral, non-cellular phenomenon, involves two processes—congestion with oedema of the soft peri- and par-osseous tissues, and rarefaction of the bone. The calcareous reparative material does not come from the blood stream but from the injured bone itself by the action of the congested and oedematous surrounding connective tissue. Dry tissues will not cause ossification, but only those modified by hyperaemia and oedema. The second idea is that all increased circulatory activity and all hyperaemia round a bone cause absorption. Congestion of the periosteum and reabsorption of the bone are the physiological conditions necessary for bone formation. Leriche illustrates these points by describing the repair of fractures in long bones, and the conditions existing after injury. All traumatism produces an active vaso-dilatation which is usually of short duration, but may be prolonged by various causes for several weeks; the author finds that in many cases where pain over the bone with difficulty of articular movement is experienced after injury without any apparent bone lesion, radiograms will reveal a considerable decalcification. This has been caused by the vaso-dilatation, but will not be followed by repair unless the circulation be modified. Osteogenesis and osseous rarefaction are, therefore, vasomotor phenomena, and these can be surgically treated. Leriche maintains that in certain conditions the formation of lime and the subsequent healing can be much accelerated by sympathectomy. In slow consolidation, as in the pseudo-arthritis, where osteo-synthesis and grafts have failed, peri-arterial sympathectomy produces a great transformation and ossification in ten to twenty days. In osteoporoses, where the bone is being absorbed, sympathectomy (peri-arterial) if the trouble is very peripheral, ramification if it is diffuse) after a phase of increased rarefaction, will cause speedy repair. Two cases are reported which show the benefits from these methods.

### 234. The Effect of Splenectomy on Experimental Infection.

P. MORETTI (*Giorn. di Batteriol. e Immunol.*, December, 1927, p. 805) has investigated the effect of splenectomy on the course of bacterial and spirochaetal infections in animals. In one experiment he injected subcutaneously two mice, one of which had had its spleen removed thirty days previously, with 0.5 c.cm. of blood from a patient with staphylococcal septicaemia. The splenectomized mouse became ill and was killed on the sixth day, a pure culture of staphylococci being recovered from the heart blood and liver. The control mouse remained well; it was killed on the twelfth day, and cultures of the blood and spleen were negative. In a second experiment three pairs of mice, one of each pair having been splenectomized, were injected with blood from three patients in different stages of undulant fever. One of the splenectomized mice died on the fourth day, and *B. melitensis* was recovered from the blood and liver in pure culture. The other mice remained well. In a third experiment two splenectomized and two normal mice were injected with blood from a patient suffering from spirochaetosis (*Spirochaeta duttoni*). It was found that in the splenectomized animals the spirochaetes appeared on the fifth day, and were present in the blood in fairly large numbers, whereas in the controls they did not appear in the blood till the eighth day, and were then present in only small numbers. Moreover, the intermissions were short and incomplete in the experimental, but clear-cut

and complete in the control animals. Finally, two white rats, one splenectomized and one normal, were injected with blood from a mouse infected with *Spirochaeta duttoni*. In the blood of the splenectomized animal a very few spirochaetes were found on the seventh day; the animal died two days later. In the blood of the control rat spirochaetes were never found microscopically, even though the blood proved infective to mice; the animal survived. From these experiments the author concludes that the effect of splenectomy is to diminish the resistance of the animal to experimental infection. In his opinion one of the activities of the spleen is to prevent bacteria which have gained access to the circulation from giving rise to a general infection.

### 235. Dissociation of Toxin-antitoxin Mixtures.

B. BUSSON (*Centr. bl. f. Bakt.*, January 16th, 1928, p. 183) criticizes a recent article by Gorochnikowa of Moscow, who maintains that dissociation of a neutral diphtheria toxin-antitoxin mixture cannot be brought about either by physical or chemical influences, and who explains the fatalities that have occurred after its administration by assuming that pure toxin was given by mistake. Busson points out that several workers have now shown that such a mixture may undergo dissociation, and that a considerable excess of free toxin may result. Working with old batches of toxin, he has found that the colloidal solution may separate into different layers, and he believes that the same may occur in a toxin-antitoxin mixture. Normally the union of toxin and antitoxin is reversible, but the author draws attention to the change that would occur if a certain amount of dissociated toxin or antitoxin was removed from a flask containing an originally neutral mixture; instead of the remaining substances combining again to form a neutral mixture they would give rise to a quite different end-product. Busson has observed similar alterations in toxin-antitoxin mixtures as the result of change of temperature. In practice it is known that the injection of toxin-antitoxin mixtures may prove fatal in children; such fatalities have been reported in America, Austria, and Germany. The author describes the case of a man who was severely ill with a high temperature and severe local disturbance after injection of a supposedly neutral mixture. He concludes that there is no doubt about the dissociability of toxin-antitoxin mixture; this conclusion is supported both by laboratory work and by practical experience in the field.

### 236. The Filterable Elements of Tubercle Bacilli.

J. VALTIS (*Presse Méd.*, January 28th, 1928, p. 113) describes experiments on the filterable viruses of tubercle bacilli with reference to their pathogenicity, culturable properties, the sensitivity to tuberculin, the immunity conferred by their inoculation, and their transplacental infection of the foetus. Working with guinea-pigs, and using filtrates of bacilli obtained from tuberculous sputa, pus, and cultures, he found that, in addition to the typical acid-resisting Koch's bacilli, there undoubtedly existed an ultra-microscopic form capable of passing through  $L_2$  and  $L_3$  Chamberland filters. In the filtrates, even after long centrifuging, no visible elements were detected, and cultures on special media remained constantly sterile. Intraperitoneal and subcutaneous inoculations of the filtrates caused an infection, sometimes transitory, of a special type and of very slow evolution, characterized by the presence of very marked sclerosed ganglionic lesions, and discrete visceral nodules, which contained typical tubercle bacilli. Their virulence, however, was so slight that it could not be increased by successive passages through animals. Valtis believes that with the exception of Vaudremer and Mile Togouroff no experimenter has succeeded in cultivating these filterable elements. The filtrates caused sensitiveness to intradermic inoculations of tuberculin, and produced a certain amount of immunity against an infection of average intensity. Valtis also demonstrated that tuberculous infection could be carried through the placenta to the offspring by these filtrates, typical tubercle bacilli being recovered from the foetal lesions.

### 237. Bacteriology of Dried Milk.

G. F. DICK AND GLADYS H. DICK (*Amer. Journ. Dis. Child.*, December, 1927, p. 1040) investigated the bacterial content of two samples of preparations of dried milk, following on an epidemic of enteritis in an institution in which infants received artificial feeds composed largely of dried protein milk. Cultures were made from broth suspensions plated on sheep's blood agar. A feed prepared with one sample was found to contain 22,000 living bacteria per c.cm., of which 11,000 were green-producing streptococci. With another sample a feed contained 9,000 living bacteria in 1 c.cm. with 7,000 green-producing streptococci. The authors emphasize the necessity for the pasteurization or boiling of powdered milk feeds.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

238.

### Insulin Poisoning.

B. DAHL (Norsk Mag. f. Lægevid., January, 1928, p. 40) records the first fatal case of insulin poisoning to be reported in Scandinavia—a woman, aged 52, who was admitted to hospital for severe diabetes, in a state of incipient coma. Under treatment by insulin the glycosuria and acidosis disappeared and considerable general improvement followed. On the ninth day of treatment, however, she neglected to eat the regulation amount of bread at lunch; half an hour previously she had been given 15 units of insulin. After lunch she went to sleep as usual, so that the ineffectual hypoglycaemic reaction escaped notice; three hours after the injection she was found in deep coma with a blood sugar of 0.025 per cent. In spite of the administration of adrenalin and glucose, whereby hyperglycaemia was produced (seven hours after onset of coma 0.380 per cent. and two hours before death 0.089 per cent.), death ensued in nineteen hours without a return of consciousness. No convulsions were observed. No special pathological condition was found at the necropsy, so that an overdose of insulin must be regarded as the cause of death.

### 239. Spirochaetosis Icterohaemorrhagica in the Dutch Indies.

ACCORDING to G. BAERMANN and E. SMITS (*Nederl. Tijdschr. v. Geneesk.*), December 10th, 1927, p. 2478) special attention has been paid during the last five years in the Central Hospital at Sumatra to febrile diseases caused by spirochaetes, with the result that they have collected about 390 cases, all due to the same organism and mostly of a mild character; there were, however, some moderate and some very severe forms presenting typical symptoms of spirochaetosis ictero-haemorrhagica. Almost all the patients were Javaese workmen employed in the rubber works, and only a few women were represented. The incubation period ranged from four to ten days. Nearly all complained of feeling tired, and very many of pains in various muscles. Apart from the severe cases the average duration of the disease was ten days. Jaundice, which developed on the third and fourth day, and usually not later than the sixth, was found in only 17 per cent. In 33 per cent. there were no renal symptoms; 42 per cent. had only slight albuminuria, and 25 per cent. had casts or red cells in the sediment. Haemorrhages, to which the disease owes its name, were limited to a slight conjunctival haemorrhage, petechiae, and bleeding under the gums. Definite jaundice was not always present in these cases. Infection was always traced to water, without rats taking part in the dissemination of the disease. The prognosis was remarkably good, as only four deaths occurred among 340 cases. Treatment was mainly symptomatic, but a polyvalent serum was used in the severe cases.

240.

### Purpura Fulminans.

H. KNAUER (*Jahrb. f. Kinderheilk.*, November, 1927, p. 1), who records an illustrative case, states that this condition was first given its name in 1887 by Heuvel, who defined its characteristic features as the absence of haemorrhage from the mucous membrane, the occurrence of extensive ecchymoses, an extremely rapid course, absence of complications, and lack of post-mortem findings, apart from general anaemia. Knauer's patient was a previously healthy girl, aged 6, who on the eighth day of a mild attack of chicken-pox developed the lesions of purpura fulminans on the lower limbs, and shortly afterwards passed bright red blood from the urogenital tract and rectum. Recovery followed repeated large transfusions. Scoury could be excluded as well as thrombopenia, since the number of blood platelets was normal. Knauer attributes the extensive haemorrhage in his case to very marked diminution of fibrinogen. There was complete absence of coagulation *in vitro* with a normal bleeding time.

### 241. Tuberculous Typhobacillosis in Adolescents.

T. PONTANO (*Il Policlinico, Sez. Med.*, January 1st, 1928, p. 1) records three cases, in patients aged 14, 17, and 20 respectively, who presented a special form of tuberculosis corresponding to the typhobacillosis of Landouzy. The clinical features were an acute onset with constitutional disturbance without localizing signs, prolonged irregular fever with slight enlargement of the spleen, absence of signs in the chest on

clinical examination, and late development of pleurisy with effusion, followed by recovery. Radiological examination, however, in such cases showed considerable enlargement of the lymphatic glands at the hilum similar to that met with in childhood. The condition, therefore, does not represent a generalized infection, but rather an infection of the pulmonary hilum, in which the lymphoid tissue has retained the characteristics of the lymphoid tissue of early life.

242.

### Testicular Mumps without Parotitis.

R. W. DANIELSON (*Journ. Amer. Med. Assoc.*, December 10th, 1927, p. 2041), who records an illustrative case, remarks that very few examples of the condition have been reported, the most complete account of it being found in Bathait's Paris thesis of 1918. Danielson's case was that of a man, aged 44, who had recently been engaged in riding bronchos and wood-hauling, but had not to his knowledge injured his testes in the slightest degree. He had bilateral uncomplicated mumps at the age of 9. Thirty-three years later he developed bilateral orchitis, six weeks after his wife and six children had had mild uncomplicated mumps. The diagnosis was made by elimination of other causes, such as syphilis, gonorrhoea, tuberculosis, and trauma, and the history of exposure to mumps.

### 243. Second Attacks of Scarlet Fever and Mumps.

T. REH (*Arch. de Méd. des Enf.*, December, 1927, p. 724) reports a second attack of scarlet fever in a girl, aged 10, who had had a previous attack three years before. On both occasions infection occurred during an epidemic and was followed by typical desquamation. In the recurrent attack, however, the temperature was hardly at all raised. A second attack of mumps occurred in a boy, aged 8½, who had had a previous attack seven years before at the same time as his sister. On the second occasion, however, his sister escaped, although she had to live in the same room as her brother. The case is of interest both on account of the early age of the boy at the time of his first attack and the immunity enjoyed by the sister.

244.

### Renal Complications of Influenza.

Q. CELLI (*Il Morgagni*, January 9th, 1928, p. 41), who records an illustrative case, believes that the occurrence of slight albuminuria in influenza is the rule and its absence is exceptional. Severe renal lesions, on the other hand, though they do exist, are not at all frequent. The prognosis is generally good, and the lesions rarely become chronic in previously healthy subjects. As regards the pathogenesis of these renal changes Celli considers the toxic factor the most important, though in certain cases the microbial factor cannot be excluded. Influenzal nephritis and nephrosis do not present any special characteristics to distinguish them from renal lesions due to other causes.

## Surgery.

245.

### Diagnostic Errors in Secondary Sciatica.

A. FRENKEL (*Zentralbl. f. Chir.*, February 4th, 1928, p. 274) reports four cases of the fairly common condition of sciatica secondary to other diseases. One, a man, after being treated for three months for left sciatica and then discharged as a chronic invalid, developed shortly afterwards a phlegmonous inflammation of the left buttock. The history and clinical appearance suggested that there was a necrotic tumour in the sacral region. This was confirmed by an operation, which relieved the pain and saved the patient's life. A lad, aged 18, was treated in the neurological department of a hospital for sciatica apparently due to some spinal deformity, though extension of the vertebral column was easy and painless. There was a tender spot over the spinous process of the third lumbar vertebra. Spondylitis posttyphosa was diagnosed and confirmed by radiography. After two months' orthopaedic treatment the patient was cured and fit for work. A woman, aged 45, with uterine carcinoma was treated by radiotherapy; three months later she developed sciatica, and vaginal examination showed an extensive secondary growth involving the left sciatic nerve. The fourth patient, who had been treated for sciatica for two years, was subsequently thought to have tuberculous hip disease or malignant disease; an exploratory operation revealed an inoperable sarcoma.

## 243. Tuberculosis of the Os Pubis.

N. TAGLIAVACCHÉ and L. A. WEBER (*Boll. y Trab. Soc. de Cir. de Buenos Aires*, December 7th, 1927, p. 927), who record an illustrative case of twelve years' duration in a man aged 31, assert that tuberculosis of the pubic bone is an uncommon affection, only one example being found among every thousand cases of surgical tuberculosis (Pieromans). The onset generally occurs before the age of 30, rarely later. It is not more common in one sex than in the other; trauma does not appear to be of much significance, but pregnancy and parturition are more important since they are liable to reactivate a dormant tuberculous process. The localization depends on whether the osteitis develops before or after puberty. In the former case the body and ramus of the pubis are affected, and in the latter the angle, spine, or symphysis. The lesion may assume a circumscribed or cavernous form, which may give rise to sequestra and is comparatively frequent and diffuse, or, more rarely, it may be of a periosteal type; the former is manifested by a rarefying osteitis and the latter by an enlargement and caseous transformation of the periosteum. Abscesses usually develop, with the same characteristics as those of other tuberculous processes; they spread to neighbouring regions, giving rise to fistulae, which may open in the labia majora, adductors of the thigh, or Scarpa's triangle. The onset is usually insidious. The pain varies in degree, but is usually not intense, and may be situated either in the pubis itself or in adjacent regions, such as the groin, hips, or inner side of the thigh. The patient may show a certain degree of flexion and adduction of the thigh. The movements of the limb are usually preserved, apart from adduction, which is occasionally limited. Limping is rare and is most frequently found in children. A cold abscess, which often occurs and may be found in various situations, may be the only manifestation of the disease. The most important complications are involvement of the symphysis, hip-joint, and bladder. The diagnosis must be made from neuralgia, simple or traumatic periostitis, inguinal or crural adenitis, and osteomyelitis of the pubis. Treatment does not differ from that of other osseous localizations of tuberculosis.

## 247. Acute Dilatation of the Stomach treated by Gastrostomy.

MATRY (*Bull. et Mém. Soc. Nat. de Chir.*, January 21st, 1923, p. 10) records a case of acute gastric dilatation in a lad aged 15. After a large meal his abdomen became enormously distended, and he was brought to hospital in a serious condition. Under spinal anaesthesia gastrostomy was performed, but the patient died shortly afterwards. At the necropsy the duodeno-pyloric flexure was found fixed high up in contact with the liver, and the cause of the condition probably lay in this congenital anomaly. The condition of acute dilatation of the stomach has been seen in varying circumstances. It is best known as a complication following operation, or associated with acute febrile conditions such as typhoid fever, or following accidents. Eating a large meal too quickly is also given as a cause. An interesting feature in some of these cases is the absence of vomiting, which is difficult to explain unless it is due to atony of the stomach. The diagnosis is easily made by the enormous distension of the upper part of the abdomen. Treatment by surgical operation, or by the stomach tube, or by posturo, has not given good results as a rule.

## 248. Retained Ureteral Catheter.

D. N. EISENDRATH (*Journ. Amer. Med. Assoc.*, December 24th, 1927, p. 2170) advocates a more widespread use of the retained ureteral catheter in the treatment of acute and chronic (non-tuberculous) pyelonephritis; for the relief of obstructive anuria and the severe pain in acute ureteral block by calculus or kinking; in cases of ureteral injury following operations; and as a method of drainage of the kidney after the repair of a vesico-vaginal fistula. Illustrative cases are given from a relatively large number treated during the past four years. The author uses small (5 F.) opaque catheters, only one being inserted, since the use of two lying side by side or one large occluding catheter was not found to possess any advantage. Irrigation of the renal pelvis was seldom necessary because ample drainage was provided through the lumen or alongside the catheter. Such catheters have been left in position as long as two weeks, there being no time limit other than until the temperature has been normal and the urine clear for five days. Eisendrath adds that any tendency for the catheters to be expelled when the bladder becomes distended can be overcome by the insertion of a urethral catheter in order to avoid the accumulation of urine in the bladder. Results have been most gratifying, and the author considers that the method deserves to be better known.

## Therapeutics.

## 249. A Precaution in Blood Transfusions.

W. V. BREM, A. H. ZEILER, and R. W. HAMMACK (*Amer. Journ. Med. Sci.*, January, 1928, p. 96), from their experience with over 4,000 blood transfusions, recognize three types of reactions: the febrile, with or without chills; those due to use of a wrong group; and the anaphylactoid. The last two are rare, the common one being the first, but current theories as to its causation are still speculative and have no prophylactic value. A recent case, which is fully described, led the authors to believe that the use of fasting donors might help to prevent these febrile reactions. The patient suffered from recurrent haemorrhages due to duodenal ulcer, for the effects of which blood transfusions were administered. When these were given from non-fasting donors severe febrile reactions occurred, but when fasting donors were used there were no reactions in four transfusions and only a mild one in a fifth. On one occasion, when a transfusion was being given two hours after the donor had eaten a hearty protein meal, including beef steak, the patient had a severe chill and fever reaction, beginning two hours after the transfusion, and haemoglobinuria was noted three hours later. No grouping error could be discovered. The authors suggest, therefore, that some of these febrile reactions may be due to toxic products in the donor's blood, and that they may be avoided by requiring the donors to fast for a certain time before the transfusion. In the case recorded an overnight fast seemed to be sufficient.

## 250. Myosalvarsan in the Treatment of Syphilis.

J. FABRY (*Méd. Welt*, January 7th, 1928, p. 20) prefers myosalvarsan to the older arsenobenzol preparations for the reason that in many cases, especially among women and children, the veins are difficult to locate, and that intramuscular injections of the arsenobenzols are frequently painful and in a considerable number of cases have produced extensive necrosis of muscle and fascia. Myosalvarsan is, however, equally suitable for intravenous, intramuscular, and subfascial injection, but intramuscular or subcutaneous injections are less potent than are intravenous injections. Fabry has seen no case of necrosis of muscle or fibrous tissue after the injection of myosalvarsan, and he regards it as an important addition to the list of available drugs. The best site for intramuscular injections is in the gluteal region, as far as possible away from the sciatic nerve. He recommends its administration in distilled water or in lactose solutions. Intramuscular injection is contraindicated in recent infections, but intravenous injections offer a rapid cure. Intramuscular injections are said to be suitable for all cases of parasyphilis, aortic aneurysm, and cerebral or visceral syphilis, especially in the specific cachexia and the arsenic-resistant forms of the disease. In opisthical injections there is some cumulative action, since the deposit at the site of injection is but slowly absorbed; the injections should not be given, therefore, at shorter intervals than eight to ten days. A cannula of at least 3 cm. in length should be employed.

## 251. Treatment by Experimental Infection.

P. MORETTI (*Riv. med.*, January 2nd, 1928, p. 2) remarks that the therapeutic action of experimental infection has not yet been satisfactorily explained. It is at present impossible to say whether the beneficial effects are due to the fever, shock, focal reaction, or a special hypothetical antagonism between different viruses. He records a case of myeloid leukaemia in a woman aged 50, and of chronic articular rheumatism in a man aged 23, both treated by subcutaneous injections of *Spirochaeta duttoni*, the micro-organism of African relapsing fever. Transient improvement occurred in the first case and a complete cure in the second, after other methods of treatment had failed. Moretti emphasizes the importance of keeping in stock a strain of *Spirochaeta duttoni* or the special virulent mosquitoes which, under suitable conditions, retain their infectivity for a considerable period. Experimental relapsing fever is a much milder disease than malaria, does not give rise to complications or changes in the blood picture, and is readily cured by the oral administration of stovarsol.

## 252. Antitoxin Treatment of Scarlet Fever.

R. C. ELEY (*Amer. Journ. Dis. Child.*, January, 1928, p. 14) reports a series of 465 consecutive and unselected cases of scarlet fever; of these, 215 received either antitoxin or a combined antitoxin and bactericidal serum, the latter giving the better results. Moderately slight cases did not receive the treatment for fear of a serum rash, which would be worse than the disease. Adrenaline, ophedrine, and in some cases morphine, were given when a rash developed. The value of the treatment is said to be definite. The temperature falls to 100°F. or below within twenty-four to forty-eight hours, and



the entire clinical picture is strikingly changed for the better. Where no improvement is apparent after forty-eight hours it is advised that a second dose be given. Cases that do not respond to treatment are possibly due to strains of streptococci not represented in the preparation used. Eley recommends that severe cases should be given the antitoxin either intravenously, or intravenously and intramuscularly combined. The dose depends on the severity of the case and the age and size of the patient. In the cases detailed in this series the dose ranged from 2,500 to 10,000 units.

#### 253. An Analgesic Preparation.

H. V. DE LAGUERIE (*Med. Journ. and Record*, December 7th, 1927, p. 667) calls attention to the analgesic advantages of elbaine, a combination of dial and amidopyrine, and refers to its tolerability, duration of action, and ease of administration. He states that it can be given either orally in tablet form, each consisting of dial 0.03 gram and amidopyrine 0.22 gram, or in 2 c.cm. ampoules for hypodermic use, containing dial 0.06 gram and amidopyrine 0.44 gram. Experimentally it has been shown to be of distinct advantage in cases where it is desired to relieve pain by calming a peripheral nervous excitation without disturbing sensibility or consciousness. In many cases it is said to be preferable to morphine, since there is no risk of addiction or craving, and it may be administered frequently for an almost indefinite period. No nausea, headache, or stupor on awakening was observed, and constipation and other after-effects of morphine were avoided. Its calming effect upon morphine addicts enables the period of deprivation to be passed without suffering. The author recommends its use for the relief of pain in cases of tuberculosis with cavities and haemoptysis, in asthmatic attacks, hepatic and renal colic, and for the relief of epileptic attacks or the treatment of morphone addiction.

#### 254. Auto-haemotherapy in Spasmodic Coryza.

A. L. BENITO (*Arch. de med., cir. y esp.*, January 14th, 1928, p. 58), who records two illustrative cases in patients aged 29 and 35, considers spasmodic coryza to be a local manifestation of a general disturbance due to one or more various external irritants acting on the hypersensitive ocular, nasal, and bronchial mucous membranes of individuals who directly or by heredity are neuropathic or gouty. The predominant symptoms are nasal obstruction, sneezing, and rhorrhoea, which are accompanied by photophobia, epiphora, and asthmatic attacks, and are followed by the expectoration of frothy sputum. Benito's method of treatment consists in withdrawing 10 c.cm. of blood from the vein of the elbow and injecting it without any further manipulation into the external aspect of the thigh. The injections are given every two or three days, from three to five usually being sufficient to produce a cure. The treatment was combined with resection of the nasal spurs, not only to re-establish permeability of the nostrils, but also to modify the hypersensitiveness of the nasal mucous membrane. It was found that better results were obtained by this combined treatment than by resection or cauterization alone.

## Anaesthetics.

#### 255. Gas-Oxygen and Rectal Ether Anaesthesia.

J. F. L. KILLORAN (*St. Michael's Hosp. Med. Bull.* (Toronto), December, 1927, p. 76) recapitulates briefly Gwathmey's technique for rectal ether anaesthesia. In this technique preliminary cleansing enemas are given in the evening preceding and the morning of the operation, and premedication with morphine, chloroform, or paraldehyde one hour before the operation is advised. A 65 per cent. solution of ether in olive oil is administered one hour before the operation in a ratio of 1 oz. per 20 lb. of body weight. As in respiratory administration, the reactions to this drug vary greatly, the danger signs being cyanosis, diminution of reflex activity, and embarrassed respiration. The amount of detail in the method has rendered it unpopular. The employment of nitrous oxide and oxygen for surgical anaesthesia has much increased during recent years, and the improved appliances permit the synchronous administration of ether, gas, and oxygen vapours. In a number of cases, particularly where inflammation is present in the respiratory tract, the use of ether is not desirable. By the addition of nitrous oxide and oxygen, anaesthesia with muscular relaxation can be produced in any operation with a smaller rectal dose of ether. The technique has been somewhat changed. Mineral oil, instead of olive oil, is now used, and a 50 per cent. solution of ether in liquid paraffin is given in a ratio of 1 oz. per 50 lb. of body weight. In St. Michael's Hospital a mixture containing 1 oz. each of ether and paraffin with

1 drachm of paraldehyde is made up and given in the quantity prescribed an hour or so before the operation with a hypodermic injection of morphine, the latter being repeated half an hour later if desirable. By this method deep or light anaesthesia can be obtained, a greater percentage of oxygen can be given, and there are no dangerous periods of protracted cyanosis. It can be used wherever gas and oxygen is indicated, except in diseases of the lower bowel such as colitis.

#### 256. Anaesthetic Properties of Hedonal.

J. DONALD (*Brit. Journ. Anaesthesia*, January, 1928, p. 112) discusses the advantages, disadvantages, and physiological action in animals of hedonal, which is methyl-propyl-carbinol-urethane. Its advantages are as follows: (1) There is little or no excitement during the induction of anaesthesia by intravenous injection. (2) Great muscular relaxation is obtained. (3) It has a diuretic action without albumin, haemoglobin, or casts appearing in the urine. (4) Fatty degeneration does not occur in the liver, kidneys, or heart after its use. (5) There is no irritation of the respiratory tract because hedonal is not excreted by the lungs. (6) It has special advantages in cases of low tension or haemorrhage. (7) When used as a precursor to chloroform the quantity of the latter can be greatly reduced. The disadvantages, on the other hand, are that the apparatus for intravenous anaesthesia is cumbersome, the drug is unsuitable for conditions of high tension and for plethoric patients, and its use in very long operations is sometimes followed by oedema in pendulous parts.

#### 257. A Modified "A.C.E." Anaesthetic Mixture.

C. W. HARNED (*Anaesthesia and Analgesia*, December, 1927, p. 285) describes under the name of "alkoform" a mixture of one part of alcohol, two parts chloroform, and three parts ether, to which sufficient ether is added to make the specific gravity exactly the same as distilled water at 70° F. This definite proportion of ether is said to give better clinical results than is the case when either more or less ether is present in the solution; anaesthesia is produced more quickly and the sleep is more natural. There is also less mental and physical excitement, less perspiration, less bronchial irritation, and recovery is more rapid and much freer from nausea and vomiting. The destructive changes in the blood, kidneys, and liver by ether alone are markedly reduced, almost to a minimum, by the action of alkoform when given as a warm dry nebulized vapour. The alcohol seems to dilute the chloroform vapour, modifying its action. The average amount of alkoform required per hour is about 1½ ounces, and this small amount of anaesthetic, coupled with the masking of the objectionable ether odour, largely accounts for the lessened nausea and vomiting. The time of recovery ranges from three to twenty-five minutes, depending upon the depth and length of time of the anaesthesia. Alkoform is said also to possess greater analgesic properties than either chloroform or ether, and to be valuable therefore in obstetrics. Owing to the difference of volatility of the three agents in the solution, it is necessary that some means, other than evaporation, be devised to ensure that the gas or vapour will contain each in exactly the same proportions as in the liquid, and Harned recommends the Hinkle anaesthetic machine as being excellent for this purpose, owing to its nebulizing action.

## Obstetrics and Gynaecology.

#### 258. Labour in Contracted Pelves.

ALICE F. MAXWELL (*Journ. Amer. Med. Assoc.*, December 17th, 1927, p. 2088) classifies a pelvis as flat if the diagonal conjugate measures less than 10.9 cm., as generally contracted if the diagonal conjugate measures less than 11.4 cm., and as funnel-shaped if the distance between the tuberosities of the ischia measures less than 7.9 cm. Judged by these standards pelvic contractions occurred in 252 out of 6,500 deliveries under her control. She found that women with a generally contracted or funnel-shaped pelvis had smaller babies than women with flat pelvis. Her experience taught her that one out of every two women with a small pelvis was a potential candidate for operative delivery, and with this possibility in view she considered it imperative that every patient should be given detailed instructions as to proper hygiene of the birth canal during the last month of pregnancy. She emphasizes the point that trial labour has vaguely defined time limits, the real test commencing only when the cervix is completely dilated; it should not be prolonged beyond the limits of the patient's endurance. Cervical rigidity, feeble infrequent uterine contractions, and occipito-posterior presentations prolong labour, weaken the woman's power of resistance, and cause exhaustion before the value



of fetal labour can be determined. In view of the serious foetal and maternal mortality she is of opinion that high forceps delivery should be discarded; although until recently this was frequently the only method of delivery available when maternal exhaustion compelled delivery, her present policy in the management of contracted pelvis is conservative. The patient is allowed to go into natural labour; the progress is determined by rectal examination only, and in the event of it being unsatisfactory the child is delivered by a low cervical section.

#### 259. Bilateral Ovarian Aplasia.

W. BAER (*Zentralbl. f. Gynäk.*, December 17th, 1927, p. 3241) describes the case of a single woman, aged 23, who sought treatment for purulent vaginal discharge and abdominal pain. The body showed distinctly male characteristics: the shoulder girdle was broader than the pelvic girdle, the breasts were entirely undeveloped, hair was absent from the axillae and sparse on the pubes, the labia majora were small and the labia minora almost undeveloped. The hymen was intact and the vagina was narrow, but the infantile uterus admitted the sound for 3.3 cm. The symptoms were proved to be due to cervical gonorrhoea, probably contracted from a sister with whom she slept; the patient, who was sexually indifferent, had not had intercourse. On account of the difficulty experienced in dilating the infantile cervix the infection proved to be very resistant to local treatment. It was thought that abdominal operation was justified and the uterus and adnexa were extirpated. The specimen showed a uterus of the same size as that of a full-term foetus, and two nodules the size of peas occupied the position of the ovaries. Microscopically it was found that these nodules did not resemble ovarian tissue, but consisted of large cells like those of the glomerular zone of the suprarenal cortex. The endometrium showed only rudimentary gland formation, as well as an intense inflammatory infiltration.

#### 260. Ruptured Ectopic Gestation.

C. H. GORDON (*Amer. Journ. Surg.*, November, 1927, p. 456) states that neither the etiology nor the pathology of ruptured ectopic gestation is understood, and that treatment depends upon accurate diagnosis, which seems to present considerable difficulty. Most cases require operation, though a few patients recover without it. In a series of 120 consecutive cases collected by the author at two hospitals, 62 occurred on the right side and 58 on the left. In nearly all the cases there was vaginal bleeding; the average period of amenorrhoea was six weeks. Pain is constant, and with bleeding is the most important factor in diagnosis. A definite mass was palpable in 78 per cent. of the cases, while pain on moving the cervix was reported by nearly all the patients. Drawing the cervix forward caused intense pain and is a positive sign in diagnosis. Breast signs are occasionally present and help in the diagnosis of pregnancy. Pre-operative treatment consists in rest, the administration of morphine, and, in some cases, in transfusion of blood. The operative treatment consisted in removal of the tube alone in 75 cases, and of the tube and ovary in 36 cases. In 6 cases double salpingectomy was performed, and in 2 cases of interstitial rupture the uterus was removed. Gordon thinks that the mortality will be still further reduced by care before operation; in the present series there were two deaths.

### Pathology.

#### 261. The Nature of Herpes.

REMARKING that the theory of Bokay and Netter as to the identity of the virus of varicella and herpes is still undetermined, R. BOULIN (*Rev. de Méd.*, No. 8, 1927, p. 1029) reports a case of generalized herpes in illustration of his views. Between typical herpes, unilaterally confined to certain nerve areas, and these atypical types, many intermediate forms exist, from the hemiplegic herpes of Fournier to the aberrant ones described by Minet and Ledereq. Generalized herpes, of which 45 cases have been reported, including the present one, is characterized by two distinct eruptions: the one, atypical herpes, consisting of reddish, anaesthetic, painful patches with one or more nerve distributions, and studded with groups of vesicles; the other comprising isolated vesicles or papules on the normal skin and not on the erythematous patches, devoid of all pain and anaesthesia, and diffused over the whole body independently of any neural localization. The herpes patches always appear first, and the general eruption four to twelve days later. The latter may present various forms, such as erythematous macules, papules, vesicles, or bullae, but they always lie on the healthy skin, and dry up without any trace remaining, while

the herpetic areas become haemorrhagic and necrotic, and leave an anaesthetic cicatrix; nervous complications are, however, exceptional. Three theories are held as to the pathogenesis of this affection. According to the first one the herpes indicates a virulent infection of some ganglia by the virus, while the generalized eruption represents its dissemination along all the ganglionic chains and the infection of distant isolated cells. The ordinary theory, which Boulin supports, attributes to the herpes a ganglionic localization of the virus, and to the general eruption its dissemination by the blood stream. Herpes, then, is a trophic trouble due to the presence of the virus, and this theory explains its first appearance as vesicles and the absence of neural distribution and sensory complications in the general eruption. Netter holds that both eruptions are caused by the same virus, acting in the one case by ganglionic localization and in the other by septicaemic diffusion, that this common virus is varicellous, and that the general eruption is true varicella.

#### 262. Virulence of the Diphtheria Bacillus.

A. A. PINTO (*C. R. Soc. de Biologie*, January 20th, 1928, p. 159) gives an account of two diphtheria-like bacilli the virulence of which was altered by passage through the guinea-pig. The first came from the throat of a woman who was not suffering from, and who had not been in contact with, diphtheria; the second came from the throat of a woman who likewise was not suffering from diphtheria. Both strains on isolation appeared to be diphtheroids; they were arranged in palisades; they did not give Neisser's stain; they fermented no sugars; and they were avirulent to guinea-pigs in a dose of 3.5 c.cm. of a twenty-four-hour broth culture. Attempts were made to exalt the virulence of these strains. Growth from a serum culture was washed off in a little saline solution, mixed with 10 c.cm. of 35 per cent. gelatin, and injected intraperitoneally into guinea-pigs. Cultures were made from the heart blood or peritoneal exudate of the animals, which died, and injected into fresh animals. At the commencement of the passage experiments the lethal dose of these organisms was 16 serum slopes. After the first strain had been passed through twenty guinea-pigs it proved fatal in twenty-four to thirty-six hours when injected intraperitoneally with gelatin in a dose of one-tenth of a serum slope; injected without gelatin it was not virulent. The second strain, after being passed through eighteen guinea-pigs, likewise proved fatal in a dose of one-tenth of a serum slope; but it was also fatal when injected subcutaneously without gelatin. Examination showed that the first strain had not altered morphologically; it still fermented no sugars, was not agglutinated by an antidiphtherial serum, and was not neutralized by an antitoxin serum. The second strain, on the contrary, had become morphologically like the diphtheria bacillus; it fermented glucose, maltose, dextrin, and glycerol, was agglutinated to a titre of over 1 in 10,000, and was neutralized partly by an antitoxin serum. The author considers that his second strain was an avirulent diphtheria bacillus, and that its virulence was restored to normal by passage through the guinea-pig.

#### Local Immunization against Anthrax.

G. ROVIDA and E. SCHWARZ (*Lo Sperimentale*, January, 1928, p. 569) have investigated the truth of Besredka's views on local immunity to anthrax. The anthrax bacillus was grown for five to eight days in broth, filtered through a Chamberland candle, and tested for bactericidal power; experiments conducted *in vitro* and *in vivo* showed that such filtrates had only a slight inhibitory influence on the growth of the anthrax bacillus, and little or no effect on its virulence for guinea-pigs. A series of guinea-pigs was then vaccinated with filtrates of anthrax cultures. One group was injected subcutaneously, another group intracutaneously, and a third group was treated by rubbing the filtrate on to the shaved and scarified skin of the abdomen, three vaccinations being made at intervals of five days. All animals, together with uninoculated controls, were injected with a loopful of a twenty-four-hour culture of *B. anthracis* five days after the last of the injections being made by the various methods. The seven control animals died in 36 to 62 hours; the seven animals vaccinated subcutaneously died in 36 to 60 hours; of the fourteen animals vaccinated intracutaneously ten died in 36 to 72 hours; and of the six animals vaccinated percutaneously five died in 48 to 62 hours. Thus all the animals died except four of those vaccinated intracutaneously and one of those vaccinated percutaneously. To test whether these survivors were immune they were inoculated five days later in the same way as before with a living anthrax culture; all of them died in three days. It would appear, therefore, that if there is any immunity conferred by inoculation of the skin with broth filtrates it is very slight and transitory.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 264. Hemiplegia in Cerebro-spinal Fever.

F. BONNEL (*Journ. de Med. de Bordeaux et du Sud-Ouest*, February 10th, 1928, p. 99), who records an illustrative case, remarks that central paralyses are not very frequent in meningococcal infection. They generally appear at the commencement of the disease in the course of the first six days, and occasionally after convulsions or Jacksonian epilepsy. As a rule the paralysis takes the form of hemiplegia which closely resembles a hemiplegia of vascular origin. The hemiplegia, which generally affects the whole of one side, is flaccid at first, but soon becomes converted into a spastic form with Babinski's sign, exaggeration of the tendon reflexes, and ankle clonus. The facial paralysis involves chiefly the muscles supplied by the lower branch of the facial nerve, with comparative immunity of the orbicularis palpebrarum and frontalis muscles. Treatment, which is that of meningococcal septicaemia, should consist of injection of antimeningococcal serum by the intrathecal, intravenous, and subcutaneous routes. Bonnel's case occurred in a soldier, aged 21, who developed complete left hemiplegia on the fourth day of meningococcal meningitis which had been treated by antimeningococcal serum. The paralysis, which was at first flaccid, became spastic, but terminated in almost complete recovery.

### 265. The High Infantile Mortality of Large Families.

K. FRIEDJUNG (*Wien. klin. Woch.*, December 15th, 1927, p. 1578) reviews the literature illustrating the high infantile mortality characteristic of large families, and records his own observations, which are based on the study of 100 working-class women in Vienna, each of whom had given birth to six or more children in the course of the last four years. The fertility of many of them was extraordinarily high; five had been pregnant twenty to twenty-five times, and seven sixteen to nineteen times, and another twelve had had more than fifteen pregnancies each. The whole series had had 1,033 pregnancies, ending in the birth of 885 living children and 148 miscarriages, so that each mother had an average of 10.33 births. Of the 885 living children, however, 330 had died by September 30th, 1927, so that, including the 148 miscarriages, 46.27 per cent. of the pregnancies had been a dead loss to the State. Of the 100 mothers only 11 had not lost a child and 89 had lost one or more, as is shown by the following examples. One mother lost 16 out of 24 children born alive, and others lost 12 out of 19, 10 out of 13, 9 out of 11, 7 out of 9, 6 out of 8, 6 out of 7, and 3 out of 6. Of 115 living children born to nine mothers 81 died and only 34 survived. The causes of this high mortality are to be found in overcrowding, lack of cleanliness and ventilation, and greater liability of infection, especially tuberculosis. In a considerable proportion of cases the death of a child was due to an accident owing to lack of proper supervision.

### 266. Measles and Tuberculosis.

O. MARVEL (*Tidsskrift f. d. Norske Lægeforening*, February 1st, 1928, p. 105) has checked the old clinical dogma that measles is a frequent activator of tuberculosis, by means of certain statistical observations which do not bear out this teaching. He investigated the records of 208 children treated during the past ten years at the Rikshospital in Oslo. In all of them tuberculosis was diagnosed with more or less certainty. In 75 cases (36 per cent.) there was a history of measles, and in 12 there had been an interval of about a year between the outbreak of the measles and the admission to hospital. In 7 cases this interval was only two to four months, and in 4 the measles had broken out just before admission. In two cases there had been signs of tuberculosis before the outbreak of the measles. Thus, altogether there were only 9 out of the 208 (4.3 per cent.) in whom tuberculosis would seem to have been stirred into activity by the measles, whereas there were 66 children (31.7 per cent.) who contracted measles without immediate ill effects. The author has also investigated the notifications of measles and tuberculosis in Oslo with a view to ascertaining whether severe epidemics of measles were or were not followed by an increase in the number of cases of fatal tuberculosis, notably tuberculous meningitis. The notification of open tuberculosis was not compulsory in Norway before 1900, but for the past thirty-one years records were obtainable of the incidence of measles and tuberculous meningitis. As the graph prepared by the author shows, the incidence of measles varied greatly from year to

year in the period under review, but the incidence both of new cases of tuberculosis and of deaths from tuberculous meningitis during periods immediately following severe outbreaks of measles was not unusually high. In fact, while the incidence of measles showed wide fluctuations, ranging from 4 cases in 1918 to 2,650 cases in 1902, that of tuberculosis was highest about the end of last century, since when it has shown a tendency to decline. The author adds that Wilhelm Boisen (*Zeit. f. Kinderheilk.*, Bd. xl, 1926, p. 352), after reviewing 162 cases observed in his hospital in Düsseldorf in the period 1908-24, concludes that though measles, like other diseases, may weaken the body it does not stir tuberculosis into activity wholesale.

### 267. Encephalitis Following Diphtheria.

A. QUERIDO (*Nederl. Tijdschr. v. Geneesk.*, January 14th, 1928, p. 181), who records an illustrative case, remarks that the nervous disturbances following diphtheria are of four kinds: (1) paralysis of the peripheral nerves, (2) haemorrhages in the central nervous system owing to changes in the walls of the vessels, (3) emboli in the cerebral vessels, and (4) paraneuronal inflammation of the central nervous system. The last variety, according to the literature, appears to be the rarest. Querido's case occurred in a nurse, aged 20, who, on the eighth day of an attack of diphtheria, complained of severe headache, showed an inclination to vomit, and had slight twitching of the right hand. The knee and ankle jerks were brisk, and Babinski's sign was present in the right foot. Lumbar puncture gave issue to a clear and sterile cerebro-spinal fluid. The symptoms gradually subsided in the course of the next few days and complete recovery followed. Haemorrhage and embolism could be excluded by the short duration of the symptoms. Meningitis was put out of court by the absence of pain and Kernig's sign, and the condition of the cerebro-spinal fluid. Encephalitis therefore appeared to be the most likely explanation, the lesions being situated in the front part of the left internal capsule.

### 268. Acidosis in Athletes.

H. A. SALVESEN (*Norsk Mag. f. Lægevid.*, February, 1928, p. 121) made studies of the acidosis in young athletes after running various distances—namely, 100 metres, 400 metres, 1,500 metres, and 10,000 metres; it was found to be most pronounced after a 1,500 metre race. There was no relation between the degree of acidosis and previous training or the time taken by the race. From the body weight and lowering of the alkali reserve it was calculated that large amounts of organic acid (lactic acid) circulated in the organism after the race. Only a small part of this acid was excreted in the urine during and after the race; after a 10,000 metre race even less acid was excreted than during the control period.

## Surgery.

### 269. Extrapyrarnidal Symptoms following Accidents.

A. BARKMAN (*Acta Med. Scand.*, January 30th, 1928, p. 63) has observed that in many cases of accidents a most careful examination may be necessary in order to diagnose correctly the resulting lesion, and reports an instance of an incorrect diagnosis. The patient was a miner who, four years previously, had fallen down a mine shaft. When found he was semiconscious, but completely recovered his senses soon afterwards. During a three weeks' confinement to bed he complained only of soreness and stiffness of the back and upper extremities and of pain in the right knee. Later, on leaving bed, weakness in the left leg and sharp pains and trembling in the right arm were felt; paresis in both arms and the left leg, and trembling—most marked in the right arm but present over the entire body on exertion—were also noted. The patellar reflex, present on both sides, was exaggerated on the right. Since there was no evidence of any organic origin of this syndrome a diagnosis was made of traumatic neurosis. The patient continued incapable of heavy work, and on examination four years later showed trembling of the right arm, tonic contraction of the right hand on movement, stiffness of the arms and right leg, and pains in the right flank, along the inner sides of the thighs, and in the left half of the head. These symptoms were increased by exertion, and the muscular rigidity, myotony, and trembling indicated an extrapyramidal lesion. Further examination revealed that, on walking, the left leg remained stiff, causing a peculiar limping, and the left arm moved

normally, while the right was abducted at the shoulder and flexed at the elbow. The plantar reflex was normal on the left side but absent on the right. Many muscles of the right arm and lower extremities gave myotonic or myodystonic electrical reactions. After treatment by electricity and suggestion these symptoms abated, but they soon returned in an exaggerated form, thus showing that the condition was not, as in hysteria, of psychogenic origin, but was due to a lesion of the extrapyramidal motor area, possibly a tear of the cerebral substance or haemorrhage. Barkman discusses the paradoxical kinesia of Souques and Jarkowski, and concludes that the position of the extrapyramidal area, in equilibrium between the pyramidal tracts and the higher nervous, easily explains the fact that lesions of this area give rise to functional troubles of both organic and psychogenic origin.

#### 270. Abdominal Incisions.

ACCORDING to I. M. BOYKIN (*Annals of Surgery*, January, 1928, p. 74) the observation of a few simple rules renders it possible to leave the abdominal wall as strong and free from defects after an operation as it was previously. The incisions usually employed in the upper abdomen and in the pelvis are through the right or left rectus muscle or through the linea alba. An incision which splits the muscles produces a permanent defect. Mid-line incisions are said to be defective also, as they provide only one fascial plane to suture, which is not sufficient to ensure security. The paramedian incision is considered the most satisfactory. In gall-bladder operations a right paramedian oblique incision is useful; this begins across the mid-line and extends to beyond the linea semilunaris below the umbilicus. The muscle is reflected outwards and gives ample exposure. For the appendix a transversal incision is made at the level of the anterior superior spine of the ilium; the aponeuroses of the oblique muscles are split in the direction of the skin incision, the rectus drawn inwards, and the peritoneum is opened for the whole length of this incision. It is best to drain near the linea semilunaris. Secure and accurate suturing is necessary to leave the abdominal wall free from defects.

#### 271. Epithelioma of the Urethra.

ACCORDING to R. WURNISER (*Journ. d'Urol.*, December, 1927, p. 437) cancer of the urethra is a rare condition, and cases occurring in the posterior urethra are usually only recognized too late for treatment to be effective. It appears in patients between 50 and 60 years of age, and frequently follows some previous inflammatory condition of the urethra. The first sign may be a urethral discharge which is followed by a purulent fistula even before a swelling has been recognized. There may be difficulty of micturition and all the symptoms met with in a case of stricture. Later a perineal tumour may be detected, and also pain and haematuria, after which a fistula develops. Wurniser thinks that to diagnose the condition all painful strictures of the urethra should be examined with the urethroscope. He adds that the effective treatment of the condition depends on early diagnosis. In cancer of the penile urethra the urethra may be excised in early cases, or the penis be amputated. When the growth involves the perineal urethra extensive excision may be tried; where this is not possible local removal and cautery or radium applications should be employed. In some cases a cystostomy may be the best treatment to relieve pain and retention.

#### 272. Tuberculosis of the Stomach.

E. HJORT (*Norsk Mag. f. Lægevid.*, January, 1928, p. 20), who records a personal case, illustrates the rarity of tuberculosis of the stomach by the following statistics. Of 568 cases of gastric ulcers in Eiselberg's clinic at Vienna in the course of twenty-three years only 3 were of a tuberculous nature. Biernak found only 4 cases of gastric tuberculosis among 12,528 necropsies, and Simmonds only 8 cases among 2,000 necropsies. Hjort's case was that of a woman, aged 47, who suffered from dyspepsia for a year, with occult haemorrhage and normal acid values; resection of the stomach (Moynihan) was performed. No ulcer or tumour was found in the resected portion, but tubercles visible only on microscopic examination were found in the mucosa. The patient had otherwise no clinical symptoms of tuberculosis; the case was therefore an example of primary gastric infection. The incident was of special interest not only as presenting an early form of gastric tuberculosis, but also because this early stage was associated with pronounced dyspepsia without any obvious anatomical basis. The author adds that it is open to question whether the gastric tuberculosis in this case should be regarded as the cause of the dyspepsia, which in the absence of ulcer formation is doubtful, or whether the cause should be sought in an overlooked peptic ulcer in the duodenum or in an ulcer situated high up in the intestine. The presence of perijugal adhesions and the x-ray picture of a dilated stomach of the duodenum is in favour of the last suggestion.

## Therapeutics.

#### 273. Charcoal as a Medicinal Vehicle.

P. BLUM (*Bull. Acad. de Méd.*, January 24th, 1928, p. 119) states that the high adsorptive powers of charcoal, due to its porosity or the presence of impurities, such as traces of iron, lime, or nitrogen, vary so widely, according to its origin and manufacture, that it cannot be employed therapeutically without some degree of selection. It has been widely used, with favourable results, in cases of poisoning. Experiments, however, have shown that in certain conditions charcoal can give up the substances previously adsorbed and thus be utilized as a medicinal vehicle. Using animal charcoal, Blum obtained a preparation of iodine by triturating it with charcoal. Carbets containing 0.01 gram of iodine and 0.5 gram of charcoal were administered at first, but later the amount of iodine was increased to 0.08 gram. These were well tolerated and proved efficacious, the iodine being slowly liberated and exerting, therefore, a more prolonged action on the body. The mixture is now prepared by slightly heating 10 grams of iodine with 30 grams of animal charcoal. After some minutes no trace of free iodine remains; 70 grams of charcoal are then added and intimately mixed, the resulting mixture containing 0.1 gram of iodine per gram. Mercutrial preparations can be similarly made, and experiments are being conducted with bromine, sulphuretted hydrogen, and other substances. Hydrochloric charcoal can easily be prepared by bubbling hydrochloric acid gas through charcoal for ten minutes, stopping the operation for ten minutes, and then renewing it slowly for twenty-five minutes. The charcoal thus prepared should be kept in well-stoppered bottles and its acidity tested from time to time. The charcoal loses a great part of the adsorbed gas during the first five minutes, but then the de-adsorption becomes very slow and lasts for several days. Blum believes that this is a convenient method of administering many gaseous and solid medicaments; that it permits of a molecular therapy by substituting salts for metalloids and metals, and solutions for gases; and that it utilizes the catalysing properties of certain drugs usually given in infinitesimal doses. It is also of advantage in the administration of galenic preparations.

#### 274. Gentian Violet in Dermatology.

A. R. MCFARLAND (*Arch. Derm. and Syph.*, January, 1928, p. 16) records his experience of the clinical use of gentian violet locally in certain pyogenic skin infections and as a prophylactic. Using an approximately 5 per cent. solution in distilled water, with 20 per cent. ethyl alcohol as a solvent and to render the dye more penetrating, rapid improvement resulted in a child suffering from a severe pustular infection of the head and chest, and in an obstinate case of infectious eczematoid dermatitis which had failed to respond to other treatment. In folliculitis and boils improvement followed painting twice daily, but McFarland found the solution of most value in the post-operative treatment of lesions, which had been fulgurated or treated by diathermy, by painting the denuded areas after removal of the burned tissue with a curette. If the skin is kept dry for about twelve hours the dye becomes set and does not wash off; a dry crust forms, which drops off in about a week, the patient suffering but little discomfort or inconvenience. Similar results were obtained in the post-operative treatment of molluscum contagiosum, and one of mycotic infection of the mouth cleared up by its use. For epitheliomata which have been destroyed by diathermy the use of gentian violet is advisable until the granulations begin to form, when a mild stimulating ointment will hasten epithelial proliferation. Results were negative in patients with coecigenic syecosis barbae and epidermophytosis of the feet. The denuded surface to be treated should be as dry as possible, and this may be hastened by swabbing with 1 in 1,000 adrenaline solution. All crusts must first be removed, and no surface should be treated in the presence of an albuminous or mucoid deposit or if there is haemorrhage or oozing. The application should be made with a small applicator wrapped in cotton-wool, since a brush tends to splash the surrounding tissues. The only drawbacks are the colour and the liability to staining after frequent use.

#### 275. Arsenic in Syphilitic Aneurysms.

M. PINARD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 5th, 1928, p. 1711) agrees that specific treatment is useless in cases of non-syphilitic aneurysm, but since it is sometimes difficult to determine the aetiology of the lesion he believes that a test treatment is often successful, and that intensive arsenical treatment is always justifiable in definitely syphilitic cardio-vascular disease. He describes the case of a man, aged 53, who had a large retrosternal aneurysm following syphilis acquired at the age of 18 and untreated. Pinard gave without much benefit four subcutaneous injections of

tropoquinol and twelve of acetylarsan, the patient remaining dyspnoeic and exhausted, and suffering from severe dysphagia. The aneurysm was as large as an orange and had caused extensive absorption of the sternum. In six weeks 6.3 grams of novarsenobenzol were injected intravenously, and the patient improved rapidly. After an interval of three weeks it was decided to give a further series of two daily injections, each of 0.3 gram of novarsenobenzol, at intervals of four days. A second patient had an aneurysm of the right external carotid as large as a pigeon's egg; he had been under the intensive treatment, with intervals, for nearly six years. Over 130 grams of novarsenobenzol had been given. This was well tolerated, and maintained the patient in good health. When the intervals between the series of injections were prolonged, or when the doses were diminished, the serum reaction became positive. Pluad concludes that a less intensive treatment would have been useless. HALLÉ (ibid., p. 1715) doubts, however, whether this intensive treatment with arsenobenzol is necessary to obtain good results. He finds that all treatment often fails, but sometimes the long-continued administration of small doses of mercury and potassium iodide has produced astonishing results in aortic aneurysms. He describes the case of a woman, aged 65, who was treated thus and who survived for several years, dying eventually from heart disease. The aneurysm and peri-aortitis were cured by a very moderate mercurial and iodide treatment. Stead recommends repeated small subcutaneous or intramuscular injections of novarsenobenzol; he considers massive doses dangerous. G. Cansado mentions a case treated in 1898 by injections of 4 mg. of mercuric iodide in oily suspension. After two series, each consisting of ten injections, the symptoms were greatly relieved, but the tumour did not diminish.

#### 276. Treatment of Anorexia in Children.

W. M. BARTLETT (*Amer. Journ. Dis. Child.*, January, 1928, p. 25) has analyzed the consecutive records of 1,471 children presenting themselves during a period of eight months at the out-patient department of a hospital; 349 of them, 24 per cent., had loss of appetite, together with signs of malnutrition. No organic cause could be found in 121 cases; septic tonsils and adenoids were the commonest pathological conditions associated with anorexia and malnutrition, being present in 77 cases. Patients with functional anorexia were treated by one of three methods: (1) the administration of 5 grains of saccharated iron three times a day; (2) half an ounce of cod-liver oil given two or three times a day; (3) fresh calf's liver, broiled beef-steak, and lamb's kidneys as part of the diet at least three times a week. General improvement was noted in each of these groups, but the results were considerably better in the third than in the first and second groups. The author suggests that in fresh liver there is a specific stimulant to the appetite.

## Neurology and Psychology.

#### 277. Impediments of Speech.

DURING a study of fifteen cases of streptosymbolia, or reading disability. S. T. ORTON (*Arch. Neurol. and Psychiat.*, November, 1927, p. 671) noted that three patients stuttered and four others had a peculiar laboured hesitancy in speech. Numerous instances also are recorded of the onset of stuttering when a normally left-handed child is coerced into using the right hand for writing, and of recovery when the use of the left hand is permitted. These cases seem to support the theory that stuttering and streptosymbolia are expressions of confusion in cerebral dominance, and that therefore stuttering would be more closely related to the apraxias than to the ataxias. The act of stuttering is not unlike an ataxia, which has led to the suggestion that the cerebellum may be at fault. No demonstrable cerebellar lesions, however, have been observed in stutterers, and both speech and writing are probably essentially integrative functions of the higher cortical arcs of the dominant hemisphere. Emotional variants may be observed in many stutterers, and further work indicates a marked lack of integrative solidarity—a disintegration—in the stutterer's attempt at speech.

278. L. E. TRAVIS (ibid., p. 673) suggests that the complex peripheral structures serving speech fall into three main functional groups—those of breathing, voice, and articulation. Normal speech displays a harmony in the separate groups and their combinations, while stuttering shows a disharmony in their combination and also within each group. In the investigation six persons with severe forms of stuttering and several normal speakers were studied, and the technique of the experiments is described. The results were that the records of normal speech showed an integration of the various units of the breathing mechanism, which exhibited the follow-

ing characteristics: (1) a fairly close correspondence between thoracic and abdominal breathing; (2) a relatively greater number of laryngeal than breathing movements; (3) a relatively complete independence between vertical movements of the larynx and movements of breathing; (4) an evident rhythm of breathing, of the vertical movements of the larynx, and of the changes in breath pressure; (5) a disproportionate increase in the duration of expiration during speech; and (6) the presentation by the abdomen of small in-and-out movements ranging from five to seven a second. The stutterers showed a disintegration of certain motor speech units which was apparent in the following ways: a complete antagonism between the actions of the thorax and abdomen; a marked synchronism between the movements of the larynx and of the various units of the breathing apparatus; a marked prolongation of inspiration; large vertical movements of the larynx during inspiration; tonic and clonic spasms of the muscles of speech; and a slow abdominal tremor rate.

#### 279. Somatic Conditions in Manic-Depressive Insanity.

T. SONDÉN (*Uppsala Läkartidningen Förhandl.*, September 20th, 1927, p. 25) gives an extensive review of work done in the attempt to discover correlative physical and psychical factors in cases of mania and melancholia. He describes in detail a group of eleven cases of manic-depressive mental disease under his care, and elaborates the numerous clinical investigations performed by him; these included observations of the temperature, pulse rate, blood pressure, respiratory rate, erythrocytes, haemoglobin, leucocytes, albumin content of the serum, blood sugar, non-protein and urea nitrogen, preformed and total creatinin in the blood, the response of the vago-sympathetic nervous system to adrenaline injections, the oculo-cardiac reflex, and Loewi's conjunctival reaction. No parallelism was found between the psychic and somatic conditions, and no definitely abnormal physical factors were discovered; as regards the respiratory rate and non-protein nitrogen the results were completely negative. No clear connexion was found between blood sugar and the psychic condition, but the author states that this result does not contradict the hypothesis of an association between manic-depressive psychosis and diabetes. There seemed to be some numerical increase in the leucocytes, especially neutrophils, during mania as compared with the quiet periods, but the daily variations were considerable and the result of doubtful value. In some cases of mania a rise in the pulse rate was noted during mania periods, especially in the early stages. The blood pressure seemed at times to be definitely higher during periods of both mania and depression than during the quiet periods. Two patients showed increases in the number of red cells during transition stages from quiet to mania and from quiet to depression, but in the other cases no such parallelism was found. The author discusses hypotheses concerning the interrelationship of the endocrine and nervous systems in the psychoses, and suggests that some means of prevention may be found by the employment of therapeutic measures influencing these systems. Numerous charts, tables, and graphs are appended, and a list of references is given at the end of the paper.

#### 280. Friedreich's Ataxia.

G. GIDDINGS (*Journ. Amer. Med. Assoc.*, October 22nd, 1927, p. 1395) reports ten cases of Friedreich's ataxia in one family. Direct inheritance is unusual, but the percentage of cases in a family appears to increase with each generation. In the first generation of this series 4 cases occurred, while in the second generation 6 have developed. Gowers recorded 65 cases in 19 families—an average of 3.42 in each family. In Giddings's series there were six males and four females; their ages ranged from 5 to 42 years. One patient died at the age of 40, another at 30, while 8 are still alive. All developed definite symptoms at the same age—namely, 12. Certain prodromal symptoms, undescribed hitherto, were observed by the parents; in almost every case, from late infancy to the age of 12, a nervous instability, indicated by infantile convulsions, headache, lassitude, or excessive nervousness, preceded the definite onset. Blood and cerebro-spinal fluid Wassermann tests of the patients, parents, and blood relations were invariably negative. There was no familial history of epilepsy or of psychosis in relatives, but some of the parents were closely related. The urine was always normal; two patients had hookworms, and one had a *Taenia nana* infestation, but without secondary anaemia or definite eosinophilia. In some cases severe scoliosis prevented lumbar puncture. Pes cavus, with or without hyperextension of the great toe, was generally present; there was ataxia in 9 cases. The eldest patient, a man aged 42, had been imbecile for six or seven years, and confined to a chair for twenty-five years. Giddings gives details of all the cases, and records the following conclusions: (1) Friedreich's ataxia is not connected with any of the acute exanthemata. (2) When first noted as following these the pre-existent ataxia is aggravated by the patient's weakened



condition. (3) Definite prodromal symptoms may be present for five to seven years before ataxia appears, while disappearance of deep reflexes was an early and constant sign in all but one case. (4) Ocular changes had occurred in 6 cases, but nystagmus was absent. (5) Ataxia developed in 7 patients between 11 and 12 years old. (6) Other congenital defects or stigmata of degeneration occurred, including malformed ears, cardiac abnormalities, and hernia. (7) Scoliosis was constantly present, and appeared to be due to an unconscious effort to control the ataxia. (8) Mental changes were not constant. (9) Laboratory findings were negative. (10) The rate of progress is variable, but all these patients were confined to a chair within five to eleven years after the onset. Treatment is useless.

## Obstetrics and Gynaecology.

### 281. Obstetrical Factors in Neo-natal Intracranial Haemorrhage.

T. C. GREENE (*Boston Med. and Surg. Journ.*, January 12th, 1928, p. 1302) records a study of the incidence, causes, relation to breech extractions, and diagnosis of intracranial haemorrhage in the newly born, based upon 177 consecutive necropsy findings in infants dying before or shortly after birth. Greene concludes that such haemorrhage is the most frequent cause of neo-natal death, since it was present in 55 of the 177 cases; injury to the child's head, especially by sudden trauma, was the most important factor, but disease associated with haemorrhages in the body was sometimes detected. An analysis of the methods of delivery in these 55 cases indicated that intracranial haemorrhage occurs most often in primiparous and operative deliveries, especially breech extractions, though only 5 cases occurred in 258 consecutive breech extractions not preceded by version, and in five of these there was no difficulty in delivery. Since such haemorrhage occurs in a number of simple uncomplicated breech deliveries, and since breech extractions appear to be its commonest cause, the routine use of version and breech extraction is condemned. The author adds that though intracranial haemorrhage is a serious complication, it is not necessarily fatal, and minor breeches of the tentorium and falx can hardly be regarded as a cause of death, though they may be evidence of fatal intracranial pressure transmitted to the medulla. Diagnosis is usually easy, the infants being drowsy and cyanotic, and there may be deviation of the eyes, ptosis, or convulsions. Opisthotonos and a hydrocephalic cry may be present, and the spinal fluid be increased in pressure and blood-stained.

### 282. Pyelonephritis in Pregnancy.

W. S. PUGH (*Med. Journ. and Record*, January 4th, 1928, p. 27) discusses the occurrence and treatment of pyelonephritis in pregnancy. Of 100 apparently normal pregnant women examined from the seventh to the ninth month 80 per cent. showed evidence of uterine retention, mostly right-sided, and it would appear that obstruction with retention is the primary factor in the causation of the disease, bacterial implantation being secondary. A striking feature of the condition, especially when there is marked renal retention, is the high pulse rate, out of proportion to the temperature. Drug treatment was found to avail but little, and continuous drainage through the ureter with as large a catheter as possible is essential. No smaller size than a No. 8 x-ray catheter with several large eyes should be used, since the larger the calibre the better the drainage, with material shortening of the attack. The catheter is left in position in the pelvis of the kidney with its external end draining into a bottle attached to the thigh; if it does not drain properly it should be aspirated and irrigated with normal saline solution. Any initial discomfort can be relieved by mild sedatives or a 1-grain opium suppository. After about three days the smaller catheter may be withdrawn, when it will be found that the patient will take a No. 11 or 13, or even up to No. 18; it is important to use as large a catheter as possible, even performing ureteral meatomy or dilatation if necessary. Concurrently with this treatment copious draughts of water at frequent intervals should be taken. In a series of fifteen cases thus treated fourteen cleared up permanently without the use of any urinary antiseptics.

### 283. Puncture of the Cisterna Magna in Eclampsia and the Pre-eclamptic State.

WIELOCH (*Arch. f. Gynäk.*, November 28th, 1928, p. 296) records his experience of aspiration of cerebro-spinal fluid by suboccipital puncture of the cisterna magna in 10 cases of eclampsia and 45 of the pre-eclamptic condition. The purpose of the procedure is to bring about a diminution in intracranial and intracerebral pressure; as much as 58 cubic centimetres of fluid was abstracted. In 3 only of the 45 pre-eclamptic

cases did a convulsion follow. Two-thirds of the patients showed after the puncture a fall of blood pressure (20 mm. of mercury on the average) and in about one-third of the series a marked diuresis ensued. The pressure of the cerebro-spinal fluid was measured in 12 patients, and on an average was found to be 250 mm. of water, as compared with a normal average value of 150 mm.

## Pathology.

### 284. Etiology of Pernicious Anaemia.

E. LOMBARDI (*Rif. Med.*, January 30th, 1928, p. 98) records experiments on dogs in which he produced an artificial stenosis of the ileum with the following results. In five out of six cases a varying degree of stenosis of the last part of the ileum was produced, and above it a dilatation of the ileum, which in one case reached the size of a second stomach. After the operation the animals showed a characteristic syndrome consisting in progressive emaciation, voracious hunger, and ulceration of the limbs, while the blood showed considerable diminution of the haemoglobin, progressive reduction in the number of the red cells, poikilocytosis, anisocytosis, and sometimes metachromatophilia and leucocytosis. Death followed in eight to nine weeks. In some cases the necropsy showed a reversion of the bone marrow to its embryonic state. These experiments clearly indicate the deleterious action of enterogenous toxins on the blood and general nutrition.

### 285. A Precipitation Test for Syphilis.

REMARKING that one of the chief difficulties of the Kahn precipitation test is in the reading of doubtful and slightly positive reactions, F. B. JOHNSON (*Journ. Lab. and Clin. Med.*, January, 1928, p. 334) describes an adaptation of this test, introduced by Kline and Young, in which the readings are made with a microscope. In this method twelve paraffin rings are made on thoroughly cleansed slides (2 by 3 inches) by dipping a wire loop of 12.5 to 13 mm. diameter into smoking paraffin and touching the slide with it. All the apparatus should be kept at a temperature of between 22° and 27° C., and the air be fairly moist. The serums are heated for half an hour at 56° C., and 0.05 to 0.06 c.c. of each serum is pipetted into the centre of a paraffin ring, positive, negative, and salt controls being also prepared. The antigen, titrated and diluted according to Kahn's method, is most satisfactory when used after the lapse of 10 to 30 minutes. One drop of the antigen dilution is added to each serum with a capillary pipette dropping 0.0075 to 0.0085 c.c. to the drop. The serum and antigen are brought together by a wooden toothpick, further mixing being effected by a rocking circulatory movement of the slide for two or three minutes. The readings are determined in dim light with a microscope. A clear fluid is negative; fine granular clumping is recorded as +, fine flocculation as ++, marked flocculation as +++, and coarse flocculation as +++++. Johnson claims that this method is more simple than the Kahn test, requires less material and time, and gives more easily read results. It is slightly more sensitive than either the Kahn or Wassermann test, and is also adaptable to the globulin concentrated cerebro-spinal fluids.

### 286. Salmonellosis Associated with Hydatid Cysts.

E. L. PEYRE (*Presse Méd.*, January 21st, 1928, p. 85) adds to the bacteriology of hydatid cysts by describing the case of a colonial soldier who went to Indo-China in a transport containing a consignment of parrots, many of which died during the voyage. The patient entered hospital for pleurisy. After much investigation numerous bipolar staining Gram-negative coeco-bacilli were found in pus drawn from the region of the base of the left lung; they were shown to be closely related to *B. paratyphosus* B, but were not agglutinated by the corresponding nor by a human serum, though agglutinated by 1 in 100 serum of the patient himself. The patient's serious condition forbade intervention, but much improvement followed injection of an autogenous vaccine and resection of the eighth rib. The titre of agglutination rose to 1 in 300. About a month later during defaecation a very thick whitish membrane escaped through the wound and suggested a hydatid cyst; this was confirmed by finding *echinococcus* hooklets. Exploration of the wound localized the trouble in the region of the spleen. The patient improved considerably and returned to France. Peyre discusses the diagnosis and localization of hydatid cysts, calling attention to the unreliability of eosinophilia as a diagnostic sign, but emphasizing the value of serum tests. He suggests that the amelioration of the suppuration can be largely attributed to the vaccine treatment. The infection was evidently one of *B. psittacosis* following a hydatid cyst, apparently contracted in Morocco at some previous date.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 287. Oedema due to Hypothyroidism.

P. PAGNIEZ and L. ROUQUES (*Bull. et Mem. Soc. Méd. des Hôp. de Paris*, February 23rd, 1928, p. 268) illustrate the occurrence of oedema in hypothyroidism by describing a case of this nature. A woman, aged 32, had noticed for six weeks gradual swelling of the legs and arms which interfered with the movements of the limbs. When first observed the oedema, which was hard, tender, and pitting only on firm pressure, reached to the elbows and almost up to the knees. Pain was present, not only on movement, but at rest also, and there was insomnia from this cause, but x-ray examination revealed no lesion or enlargement of the bones. There had been no remissions since the onset, and no significant history of previous illness was obtained. The extremities were cold and cyanosed, there was no evidence of endocrine disturbance, and complete examination revealed no sign of myxoedema or Graves's disease, nor any further abnormality except a regular tachycardia of 120, which did not yield to rest. Treated by diuretics and calcium chloride the patient made no progress, but on administration of thyroid extract in doses increasing from 0.05 to 0.1 gram daily the swelling and cyanosis gradually disappeared, the oedema resolved, and movements of the limbs became unrestricted. Some months were needed for restoration to the normal, but nine months after starting treatment withdrawal of the drug occasioned relapse. After a year's treatment only slight non-progressive oedema appeared on discontinuance. During this period the pulse rate fell steadily to 80. A study of the literature shows that oedema of this nature occurs principally in thyroid lesions—for example, in Graves's disease—and in certain allied conditions showing permanent tachycardia and tremor without goitre or exophthalmos.

### 288. Carotinaemia.

C. STONER (*Amer. Journ. Med. Sci.*, January, 1928, p. 31), who reports an illustrative case with a review of the literature, states that immediately after the great war German writers described a number of cases by the name of carotinaemia which were obviously due to the high vegetable diet of that period. The cases were most frequently found in children who had been exclusively fed on diets rich in carrots and green vegetables. The chief interest of the condition, which is not accompanied by any symptoms of constitutional disturbance, lies in the fact that it may be confused with true jaundice, the principal difference being the absence of pigmentation of the sclerotics in carotinaemia. The discoloration of the skin, resembling that caused by jaundice, has been shown to be due to so-called carotinoid colouring matters designated lipochromes contained in yolk of egg, fats, and certain vegetables such as carrots, green vegetables, and oranges. Occasionally the colour of the urine is altered. Stoner's case was unusual in that it occurred in a woman, aged 65, who had been living for several months almost exclusively on a diet of vegetables, which included carrots. The skin showed a slight generalized yellowish pigmentation, which was most intense on the palms of the hands and soles of the feet. There was no pruritus, as is the rule in jaundice, and the sclerotics were not icteric. The temperature was normal, and apart from flatulence and constipation, which had been present for years, she had no other symptoms. Examination of the urine was negative, but the test for carotin in the blood was distinctly positive. The issue of the case is not recorded.

### 289. Diphtheria Prophylaxis in Asthmatic Patients.

G. L. WALDBOTT (*Journ. Amer. Med. Assoc.*, January 28th, 1928, p. 290) states that six asthmatic children who had been free from asthmatic symptoms for several months had recurrences of attacks coincidentally with the administration of toxin-antitoxin. In two other children with an allergic family history the first attacks were brought on by administration of toxin-antitoxin. The attacks were of very severe type and did not yield as well to adrenaline as is usually the case in asthma. The skin tests for horse serum were found positive. In all cases eosinophilia was present, and in seven was higher after the injections than before. The author adds that since the benefits of diphtheria immunization are too great to be abandoned in asthmatic persons it is advisable to use Besredka's method of giving small desensitizing doses at frequent intervals.

### 290. Polyneuritis following Mumps.

W. S. COLLENS and M. A. RABINOWITZ (*Arch. Intern. Med.*, January, 1928, p. 61), who record an illustrative case, classify the neurological complications of mumps into (1) meningitis, (2) encephalitis, and (3) neuritis—(a) of the second, sixth, seventh, eighth, eleventh, and twelfth cranial nerves, (b) diffuse polyneuritis, and (c) localized neuritis. Only four cases of diffuse polyneuritis have been described, all by French writers—namely, Joffroy (1886), Revilliod (1896), Gallavardin (1898), and Pitres and Marchand (1922). All the cases of polyneuritis on record presented the quadriplegic syndrome, but they varied in the nature of the cerebral involvement. The motor phenomena always predominated, while the sensory symptoms and signs played a minor part. The common features of all the patients were flaccid paralysis of all the extremities, loss of superficial and deep reflexes, slight or no sensory disorders, and disturbance of the joint and vibratory senses. No deaths followed, and all the patients recovered completely within a month to a year. The present case, which occurred in a man aged 29, after a mild attack of mumps complicated by left orchitis, was unique in that quadriplegia was associated with bilateral facial paralysis and meningitis. Complete recovery ensued within four months.

### 291. Tuberculous Infection in Schools.

J. GOUDSMIT and J. C. VAN DER LOO (*Nederl. Tijdschr. v. Geneesk.*, February 4th, 1928, p. 520), as the result of a study of the literature and their own investigations, have come to the conclusion that in classes which have been exposed for a varying period to infection by a teacher suffering from open tuberculosis a larger number of children develop signs of tuberculosis than might be expected from examination of other groups of children. The authors emphasize this form of infection as being probably of considerable importance, and advocate careful physical examination of school teachers.

## Surgery.

### 292. Diaphragmatic Hernia.

S. W. HARRINGTON (*Archives of Surgery*, January, 1928, Part II, p. 386) reports that an increasing number of cases of diaphragmatic hernia are being detected and that the condition is probably more common than is at present recognized. The embryonic formation of the diaphragm predisposes to herniation at certain sites, and there is a great preponderance of cases on the left side. The types may be classified into the main groups—namely, the traumatic, and the non-traumatic or congenital in origin. The symptoms are often obscure, and indefinite upper abdominal signs demand x-ray examination of the diaphragm. When the symptoms are mild without incarceration of viscera medical treatment may be adopted. Definite attacks of obstruction due to incarceration demand operation. The abdominal approach is usually preferred, and closure of the hernial opening is essential to relieve the symptoms. Paralysis of the diaphragm by phrenic neurectomy assists in closing large apertures. Eight cases are recorded, with no mortality but with recurrence in one case. The best results are said to be obtained in the traumatic variety of hernia.

### 293. Cancer of the Vermiform Appendix.

M. PÉRAIRE (*Bull. et Mém. Soc. de Chir. de Paris*, December 16th, 1927, p. 833) remarks that cancer of the appendix is only discovered either at a necropsy or during the course of an operation. He reports a case in which it was found while operating to remove a parovarian cyst in a patient aged 30. This condition has been found at all ages, but more frequently in females. The growth in the appendix is usually small, and large tumours are exceptional; its consistence is hard, and it is usually found at the tip of the organ. The glands are not as a rule involved, and metastases do not appear to occur. The condition gives rise to no special symptoms, apart from those of chronic appendicitis. It is not unlikely that the carcinomatous condition may follow on or be secondary to an old attack of acute appendicitis where the lumen of the organ has become obliterated. Contrary to what is found in other cases of cancer, the prognosis is good, and appendicectomy removes all danger of any recurrence. The treatment is removal of the appendix and its mesoappendix. The disease is histologically serious, but clinically benign.

## 294. Thrombo-angitis Obliterans.

M. LETULLE, J. MARCHAK, and G. BOYER (*Presse Méd.*, February 15th, 1928, p. 193) base their account of this disease upon a series of twenty-eight patients under their observation in Paris. Clinically they recognize three periods. (1) The insidious beginning is often found in the superficial veins of the limbs; the arteries are sometimes not affected for several years. Phlebitis always precedes true gangrenous changes. Sometimes veins, even when varicose, are completely blocked, and absorbed. The hair of the limbs comes out, and in slight cases swelling and heaviness of the feet are observed. There are also small tender inflammatory nodules in or below the skin. This stage of the disease may pass almost unnoticed by the patient. (2) After a period varying from two to seven years the second stage begins by the patient being seized one day when walking by a sudden pain, which feels like a sprain of the plantar arch or toe-joint. After a time his legs get weaker and the distance he can walk diminishes. His feet cannot bear the heat of the bedclothes and a slight jar brings on intolerable pain. He cannot sleep lying down and generally consults a doctor at this stage. The feet are rather dry, and pain is increased by warmth. Exercise produces vasoconstriction. Arterial examination by oscillometry is usually positive. The leucocyte count was 10,000 to 15,000 per c.mm. in half the cases, and the blood cholesterol figure was raised. The condition is easily mistaken for gout, rheumatism, or gonococcal arthritis. (3) The third period often begins during cold weather. The former symptoms are aggravated. The painful attacks are more frequent, the limb is blanched, and a little vesicle forms on the toe. It ulcerates, does not heal, and multiplies, becoming acutely painful. Morphine is necessary, and finally in most cases amputation. As regards treatment, sodium citrate, insulin, and sodium nitrite have been tried, the latter being successful in five cases. Out of 21 cases 13 thus treated were able to resume their work. Amputation when necessary should be done at the lower third of the limb. (Buerger's disease) is characterized by a definite lesion of thrombo-angitis—the lumen of the vessel being almost entirely obliterated by an organized thrombus containing many giant cell systems. Seven plates drawn from sections of vessels in amputation material show in detail the characteristic lesions found in the disease. The authors conclude by stating that on both clinical and histo-pathological grounds it is an entity due to some specific but undetermined cause resembling leprosy, tuberculosis, and syphilis.

293. E. V. ALLEN and H. W. MEYERDING (*Surg., Gynecol. and Obstet.*, February, 1928, p. 260) discuss the surgical procedure in thrombo-angitis obliterans with a report of 45 cases. Fatigue or claudication pain after exercise, relieved by rest, are early symptoms, followed by burning or aching in the digits unrelated to exercise and later becoming unbearable and only relieved by amputation. The earliest objective sign is a bluish-red discoloration with cold extremities, diminished pulsation, and followed by gangrene. A study of the cases showed that incision of toes or removal of nails should not be performed, and that amputation of toes is successful only in selected cases. In approximately 80 per cent. amputation below the knee is successful provided that medical post-operative measures, such as radiant heat, can be employed to increase the blood supply to the stump. Amputation above the knee should only be undertaken in cases in which infection or trophic changes are very extensive, and for those patients who are unwilling to risk a 20 per cent. chance of failure of amputation at a lower level. Procedure in each case has to be decided on its merits, it being remembered that function in many cases can be re-established by medical treatment. Cases of gangrene of the toes only should be treated medically provided that the pain can be relieved and economic conditions do not call for surgical intervention.

## 295. Preservation of the Limbs after High Ligation of the Vessels.

O. FRISCH (*Zentralbl. f. Chir.*, January 21st, 1928, p. 141) does not agree with H. Hartleb that the continued vitality of a limb after ligation of the main blood vessels is very doubtful. In 1916 Frisch had two cases of ligation of the femoral artery; these indicated that, as a rule, the limb is not endangered by ligation. He mentions that in the Russo-Japanese war ligation of the great vessels yielded very good results. In the Balkan war Frisch ligatured fifteen aneurysms: of these, five were of the femoral artery, one of the axillary artery, and one of the subclavian, and in no instance was there any interference with the nutrition of the limb. Frisch adds that many other surgeons have had similar successes; usually the collateral circulation was established quickly, and the continued vitality of the limb was not endangered.

## Therapeutics.

## 297. Glukhormont in Diabetes.

F. RATHERY and P. MOLLANET (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 16th, 1928, p. 203) have investigated the therapeutic action of glukhormont in diabetes. Two methods of administration have been tried, each of them on two cases of diabetes mellitus with wasting. To the first two patients glukhormont was given in doses increasing from one to two tablets (30 grams each) after food three times a day. There followed at once slight reduction of glycosuria, acetoneuria, and the blood sugar, with a marked falling off of beta-oxybutyric acid in the urine. In the second group of cases glukhormont was given in conjunction with insulin. With a constant dose of insulin there resulted a decided fall of sugar in the blood and urine and in the acetone bodies, but there was increased excretion of beta-oxybutyric acid. On the other hand, it was found that if the usual dose of insulin was reduced during the administration severe acidosis and coma resulted. The authors conclude that neither synthalin nor glukhormont can compare in efficacy with insulin. Glukhormont is found to have the power of decreasing glycosuria and hypoglycaemia, but pronounced individual variations occur precluding the determination of sugar and glukhormont equivalence. A marked action in reducing ketosis is observed, but this and the other properties of the drug usually become apparent after a certain delay. Some patients show great intolerance to both synthalin and glukhormont. It is considered that equilibration by diet should always be attempted, and that if this fails synthalin or glukhormont may replace insulin by virtue of its easy administration, but only under close supervision; injections of insulin should be renewed if the blood sugar or acetone bodies tend to increase. The authors add that there is evidence to suggest that synthalin and glukhormont are identical in composition. (See Dale and Dudley, *British Medical Journal*, December 3rd, 1927, p. 1027).

## 298. Treatment of Otitic Sepsis.

H. I. LILLIE (*Arch. of Otolaryngol.*, January, 1928, p. 30) records his results in twelve cases of septicaemia following mastoiditis and lateral sinus infection. Good results having followed transfusion in septicaemia, he resolved to use it in lateral sinus sepsis, and particularly in the case of patients who were in a serious physical condition before operation, or who did not appear to be recovering subsequently. In many cases he transfused blood before the operation with very good results. When a blood culture showed an actual blood infection a solution of germicidal dye was added to the blood at the transfusion or was given separately. Mercurochrome-220 was the dye used; this has been reported as having high bactericidal properties, especially for *Staphylococcus coli*, while gentian-violet is said to be specific for Gram-positive cocci, but is more difficult to prepare and to standardize than mercurochrome. The optimum dose of the dye was found to be 5 mg. for each kilogram of body weight, and the best results were obtained by adding it to the transfused blood. The combined transfusion, whether pre-operative or post-operative, had the effect of reducing the temperature and pulse rate considerably and lessened the operative shock. Blood transfusion was found also to shorten convalescence and add to the recuperative powers, the dye being entirely a curative measure. Lillie insists that transfusion and injection of the dye cannot in any way supplant operative measures, but are auxiliary.

## 299. Serum Therapy in Scarlet Fever.

B. JOHAN (*Monats. f. Kinderheilk.*, December, 1927, p. 536) has observed 25,000 children on whom the Dick test was made. He finds that on repeating the test conflicting results appear in some cases, which he thinks may be due to faulty technique or may mean a real change in immunity. The majority of Dick-positive patients were between 2 and 4 years old, while most cases of scarlatina occur between 5 and 9 years of age; Johan attributes this to the greater risks of infection at the later period. In spite of such variation he considers the Dick test sufficiently reliable to justify further investigation. He states that in Hungary more than 25,000 children were immunized by the Dick method; of these, no child who was Dick-negative at the time of exposure has become infected by scarlet fever. In a few cases children who were very strongly positive but who received a small injection remained negative for only a short time, and eventually became infected. In his opinion more work is needed to settle the dosage necessary for acquiring permanent immunity. Therapeutically two varieties of serum are used, one of which is prepared from convalescents and the other from horses treated with bacemolytic streptococci from scarlatina cases. Johan has found the Dick unit unsatisfactory and has elaborated another method, taking the size

of the reaction as standard and defining a scarlatina antitoxin unit. He has treated 144 patients with horse serum and 148 with convalescent serum; he compared the results with those in 1,838 cases treated without serum, which was given only when the infection was severe. Convalescent serum injected intravenously proved the most effective, with a mortality of 4.5 per cent.; intravenous injections of horse serum gave 6.9 per cent.; and untreated cases 20.2 per cent. Intravenous injection was found to be more effective than intramuscular. The earlier the serum was given the better the result; if injected after the fifth day the mortality was doubled. The best strength for a moderately severe case was 4,000 units, the mortality being three times less than if the dose was only 1,500 units. Patients reacting well to serum were found to be less subject to nephritis and otitis.

### 303. Treatment of Bronchial Asthma.

H. B. WILMER (*Arch. Phys. Therapy*, January, 1928, p. 18) maintains that the infra-red and ultra-violet rays should be used in all cases of bacterial sensitivity as an adjunct to bacteriotherapy. The treatment is indicated in all children suffering from asthma, no matter what the cause, who are definitely anaemic and show evidence of rickets; in all patients whose living conditions are poor with inadequacy of sunlight; and in adults with a dry cough and very tenacious sputum. Of 20 children aged from 2 to 10 years, 14 were relieved, 3 improved, and 3 showed no benefit from this treatment; of 12 patients aged from 10 to 21, 6 were relieved, 2 were improved, and 4 were not benefited; and of 50 between 21 and 72 years of age, 30 were relieved, 8 improved, and 12 were not benefited. Most of them had been unsuccessfully treated by various methods before radiation was employed.

## Dermatology.

### 301. Gold Treatment in Psoriasis.

N. TOOMEY (*Urol. and Cutan. Rev.*, December, 1927, p. 747), who records five illustrative cases in adults, states that for the last seven years he has treated selected cases of psoriasis by colloidal gold, which may be given by the mouth or, in obstinate cases, intravenously. No untoward effects were observed. The preparation originally employed for intravenous injection and most cases of oral medication was made from gold chloride according to the method used for making the Lango spinal fluid test reagent. Recently Toomey has used for oral administration a stronger suspension made from chemically pure metallic gold treated with bromides and from gold tribromide. The dose varies from 1 drachm (4 c.cm.) three times a day to a tablespoonful (16 c.cm.) two or three times a day. The author reports that the drug should be administered on an empty stomach, and a glass of water should be taken immediately afterwards. Intravenous injections are given twice a week, beginning with 5 c.cm. and increasing the dose to 10 c.cm. Improvement, the rate of which varies greatly, is generally noted in the following sequence: loss of sensations of tenderness and burning, cessation of itching, less congestion of the lesions, and diminution in acanthosis and scaling. There are said to be no contraindications to the treatment apart from albuminuria. Toomey adds that colloidal gold is not expensive, or unpleasant to take. Though not an indispensable or specific remedy, he finds that, if taken for a sufficient time, it will usually produce as lasting a cure as can be effected by any other method of treatment.

### 302. Diseases of the Skin in Asthma.

K. H. BAAGÖE (*Acta Med. Scand.*, vol. lxxvii, Fasc. III, p. 189, 1927) has performed cutaneous tests in 120 out of 124 cases of asthma (92 children, 32 adults). Among these 124 patients there were as many as 74 who had had some disease of the skin or were still suffering from it. Prurigo occurred in 36 cases, urticaria in 34, pruritus in 14, paresthesia in 2, local oedema in 6, and certain other skin diseases in 4. The cutaneous tests involved the use of such substances as feathers, hairs, foodstuffs, and pollen, and among 70 patients with diseases of the skin there were 57 giving a positive cutaneous reaction. Among 50 asthmatics with no skin affections and submitted to skin tests there were 30 who gave a positive reaction. The author admits that as no control material was investigated the claim could not be made with certainty that the above-mentioned skin diseases were more common in asthmatics than in persons not subject to asthma. But he adds that there seems hardly any reason to doubt the existence of a relationship between the skin affection and the asthma in those cases in which the two conditions developed simultaneously. With regard to the character of the skin diseases observed, he notes the exist-

ence of several characteristics common to them all. Thus they appeared in paroxysms and were associated with hyperaemia, oedema, and itching. For this reason, and because most, perhaps all, of these cases of skin disease were due to an idiosyncrasy, Baagöe follows the suggestion of certain American authors in including these diseases in a common group, with the title "Idiosyncratic or allergic diseases of the skin."

### 303.

#### Creeping Disease.

G. R. HAMILTON and E. W. FERGUSON (*Med. Journ. of Australia*, December 24th, 1927, p. 875) record a case of larva migrans in a girl, aged 3, who had lived for two and a half months in New Guinea. She spent a week at Samarai, where it rained all the time and she went barefooted, and then sailed for Sydney. On the second day at sea a small spot like a flea-bite was noticed on the middle toe of the right foot, and two days later similar spots appeared on the left sole. Each day following a ridge formed along the line of small blisters until, eight days later, it had travelled across the left sole, and the ridge on the right too had extended down one side of the toe and up the other. The track was always most red at its advancing end, while the other end slowly faded; there was intense itching at both sites. Both areas were excised widely and Thiersch grafts applied, which took well; from the time of operation all itching ceased. No parasite could be found. Creeping myiasis has been attributed to (1) the larvae of oestrid flies, (2) nematode larvae, (3) mites, and (4) inanimate objects such as horsehair. Of these it is possible that a nematode infection by *uncinostoma* and stronglylodes larvae may have been responsible for this infection, since New Guinea is heavily infested with hook-worm. Previous references to creeping disease have appeared in our *Epitome* columns (1926, vol. II, paras. 18 and 19, and 1927, vol. I, para. 529).

### 304.

#### Acröderrmatitis Perstans.

S. E. DORE (*Brit. Journ. Derm. and Syph.*, January, 1928, p. 12) records five cases of *acroderrmatitis perstans*—a rare, chronic, vesicular, and pustular eruption of mild, localized, but persistent character, affecting the palms of the hands, the fingers, and the soles of the feet. The condition is distinct from and not related to dysidrosis, eczema, dermatitis, or ringworm, and the nails are not necessarily affected. In the cases reported the eruption was limited almost entirely to the thenar and hypothenar eminences and palms, and the soles were rarely affected. The diagnosis from dysidrosis depends mainly upon its distribution, chronicity, resistance to treatment, and the destructive character of the lesions, which first appear as phlyctenular pustules resembling "small lakes of pus," with but little surrounding inflammatory reaction. Ringworm was excluded by microscopical examination and cultures. There was no history of whitlow or of any septic infection, and no evidence of a venous or vascular causation; the condition may remain localized and persistent without giving rise to any more serious sequelae. Various methods of treatment were adopted. In one case crude coal-tar in Lasar's paste was beneficial and prevented the eruption of fresh pustules for several months after x-ray, nitro-violet light, and ionization, and the evacuation of the pus, with insertion of pure carbolic acid, had failed. In another case affecting the soles of the feet treatment with iodine oil and x-rays caused some improvement, but fresh pustules developed when the x-rays were discontinued. Another patient was benefited by repeated ionization, but in some of the cases no treatment was permanently successful.

## Obstetrics and Gynaecology.

### 305.

#### Fibroids in Pregnancy.

J. O. POLAK (*Surg., Gynecol. and Obstet.*, January, 1928, p. 21) discusses the influence of fibroids on pregnancy and labour. Not only is the development of the pregnant uterus influenced by fibroids, but the pregnancy affects the fibroids by increasing their nutrition so that they tend to enlarge in the lines of least resistance. Their effect upon any particular pregnancy will be determined by their site. Treatment resolves itself into determining whether the patient's life will be endangered by allowing the growth to remain, and estimating the effect of its removal upon the continuation of the pregnancy, but experience goes to show that women with uterine myomata usually go through pregnancies with but little difficulty, so that the necessity for therapeutic abortion rarely occurs. In the majority of cases there will be no necessity for surgical intervention unless the tumour by its position or degeneration seriously endangers the patient. Polak advises delaying any operative intervention until the child is viable, while endeavouring to prevent abortion by rest at the

expected menstrual periods, and by the daily adoption of the knee-chest posture in order to prevent impaction of the tumour mass and uterus in the pelvis and to relieve engorgement. When the tumour blocks the birth passage Polak thinks that no attempt should be made to displace it manually because of the risk of injury to the mother, child, and tumour; if the knee-chest position does not lift the tumour out, section followed by enucleation or hysterectomy should be performed. Many fibroids, especially intramural growths, diminish in size and disappear during involution, but an emergency operation during the puerperium may become necessary should injury to the tumour in the course of labour be followed by necrosis or infection. Polak adds that during the puerperium surgical intervention is only indicated in the pedunculate, subserous, and intrauterine polypoid growths, while radium and x rays have no place in the treatment of haemorrhages from them during this period.

### 306. Radium Treatment in Pregnancy complicated by Carcinoma.

H. POUEY (*Bull. Soc. d'Obstet. et de Gynéc.,* December, 1927, p. 702) reports a case of cervical carcinoma in a pregnant woman; radium treatment was followed by a normal *accouchement*. A multipara, aged 34, and six and a half months pregnant, had on the posterior cervical lip an ulcerating haemorrhagic tumour, which proved to be a spino-cellular epithelioma. Radium was applied on three consecutive days, followed by a day's rest. Treatment was then continued in smaller doses, and finally stopped in about six weeks. A month later the tumour had disappeared. The pregnancy pursued a normal course, and eighteen days before the supposed full term the patient was delivered of a healthy, well-developed child. Six weeks after confinement a final application of radium was made. Two months later the patient showed signs of a rectal radium-necrosis, which, however, yielded to treatment with alkaline enemas. Nearly four years later both mother and child were well, and the cure seemed to be permanent, no trace of cancer being found. Pouey draws attention to the perfect tolerance of the pregnant uterus to the radium, to the natural delivery without laceration of the cervix, and to the normal post-partum period. He believes that the rectal necrosis could have been avoided by the use of a supplementary lead filter covered with rubber.

### 307. Lipiodol in Gynaecology.

C. BÉCLÈRE (*Bruxelles-Médical*, January 8th, 1928, p. 319) comments on the valuable results obtained in gynaecological diagnosis by means of injections of lipiodol into the uterine cavity and tubes; the only contraindication is pregnancy or acute febrile conditions. He thinks it better to inject the solution through soft catheters and at a pressure not more than 30 cm. Hg, taking care that the fluid does not escape into the vagina. No bad results have been observed after this practice, and by its means it is possible to see the size and shape of the uterine cavity, ascertain the permeability or otherwise of the tubes, detect where any obstruction is situated, determine the shape and position of the uterus, and gather useful information as to the site of fibromas if present. In cases of metrorrhagia indications of irregularities in the mucosa can be made out, and in sterility associated with tube disease valuable data as to the best method of procedure can be ascertained. It is advisable to take stereoscopic pictures when possible. The author bases his conclusions on an experience of over a hundred cases, for the most part verified by operation.

## Pathology.

### 308. Intestinal Absorption.

K. HOSOI, W. C. ALVAREZ, and F. C. MANN (*Arch. Intern. Med.*, January 15th, 1928, p. 112) conducted a series of intestinal absorption experiments upon dogs in order to discover a diet giving the least possible residue and likely to be useful in the treatment of diarrhoea or after rectal or anal operations. By an end-to-end anastomosis of the ileum and rectum a fistula of the terminal ileum was practically obtained, yet retaining a normal anus and sphincter, rendering it easier for collecting faeces and the care of the animal. Fasting residues, faecal characteristics with different diets, and the rate of passage of protein, carbohydrates, fats, fruits, liquids, sugar, and milk were studied, as also the influence of milk upon the digestion of other foods, the amount of residue with different foods, and the influence of the quantity given. From these observations it is concluded that the best basis for a low residue diet is lean meat, with possibly rice, hard-boiled eggs, sugars (except lactose), and small amounts of fruit juices, tea, and coffee; the highest degree of absorption was obtained by giving small quantities often and keeping the diet fairly dry.

The fact that milk leaves a large residue in the terminal ileum shows that this food should not be given when it is desired to prevent bowel movements. The authors emphasize the fact that milk should be avoided when it is desired to allow the digestive tract to rest. They think that it should be forbidden in diarrhoea, since their experience is that it had a bad effect in many such patients, who promptly improve when given meat alone or with a little pure starch and sugar. Their results agree closely with those obtained in a dog and man with the colon intact, thus showing that the colon absorbs little besides water. Contradicting the general belief in the nourishing properties of a raw egg, attention is called to the indigestibility of raw egg albumen and the resulting large moist residue. The highest percentage of moist residue was found with raw banana, which sometimes gave rise to stools larger than the original meal, as was also the case with prunes and baked potato. Large moist residues were obtained after giving lard, butter, Swiss cheese, apple, milk and bread.

### 309. Bacteriology of the Common Cold.

KATHERINE C. MILLS, G. S. SHIBLEY, and A. R. DOCK (*Journ. Exper. Med.*, February, 1928, p. 193) have studied the incidence of Gram-negative filter-passing anaerobic bacteria in the nasopharynx of healthy persons and of patients with colds. The general procedure was to wash out the nasopharynx with broth, filter the washings through a Berkefeld candle, and inoculate Smith-Noguchii medium, fresh rabbit blood-agar plates, and rabbit's blood broth with the filtrate. These were then incubated anaerobically, and the fluid cultures plated after a week. During the winter of 1925-26 five healthy normal persons were watched over a period of five months; during the winter of 1926-27 three normal persons were studied. Fresh examinations were made when these persons developed colds. In addition, other patients with colds were examined on single occasions only. The incidence of the Gram-negative filter-passing anaerobes in the normal was 78.6 per cent. during the winter of 1925-26, and 70 per cent. during that of 1926-27. In patients with colds, on the other hand, the incidence of these organisms during these two winters was 48.5 and 44.4 per cent. respectively. Taking into consideration the difficulties encountered in the cultivation of these organisms, the authors regard it as probable that they are nearly always present in the upper respiratory tract of healthy persons, but that there is a definite decrease in their incidence during colds. Careful examination of twenty-nine strains showed that they could be distributed roughly into three groups on a morphological, cultural, and biochemical basis; serologically the strains exhibited considerable heterogeneity, and displayed no relation to their source of origin. The authors conclude that these organisms constitute part of the normal flora of the upper respiratory tract, and probably bear no relation etiologically to the common cold.

### 310. Immunization against Diphtheria.

G. RAMON (*C. R. Soc. de Biologie*, February 10th, 1928, p. 351) has investigated different methods of producing experimental immunity to diphtheria in guinea-pigs and horses, comparing an anatoxin-antitoxin flocculate with the simple anatoxin. The flocculate, which was the result of mixing a given quantity of anatoxin with less than the full neutralizing dose of antitoxin, was dissolved in distilled water or suspended in saline; it was used either unheated or heated to 70° C. for forty-five minutes. In the first series of experiments six groups of six guinea-pigs were used; each received two doses of the antigen at an interval of three weeks; the degree of immunity resulting was tested a fortnight after the second injection by inoculation with apparently increasing doses of toxin. The results were quite clear; the four groups which received flocculate, heated or unheated, dissolved in distilled water or suspended in saline, resisted from 20 to 50 minimal lethal doses of toxin; the two which received an equivalent amount of anatoxin, heated or unheated, resisted from 500 to 1,000 doses of toxin. In the second series of experiments three groups of guinea-pigs were used; a single injection of the antigen was given, corresponding to 10 c.c. of anatoxin (five times the dose used in the first series), and the guinea-pigs were tested five weeks later. The animals which received the flocculate resisted only 5 minimal lethal doses of toxin, whereas those injected with the pure anatoxin resisted 200. A final experiment was made on horses. Four groups of five horses were used; each received three doses of the antigen at weekly intervals; the antitoxin content of their serum was tested a week after the last injection. Those treated with a saline suspension of flocculate, heated and unheated, had a titre of 26 and 30 units respectively; those injected with anatoxin, heated and unheated, had a titre of 125 and 140 units respectively. The authors conclude that anatoxin is undoubtedly much superior to an anatoxin-antitoxin flocculate in producing experimental antitoxin immunity in animals.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

311.

### Cardiac Neurosis.

F. A. WILLIUS (*Minnesota Med.*, February, 1928, p. 102) discusses the problem of functional disturbances of the heart, mainly from the neurogenic standpoint. Knowledge of the vital importance of the cardiac activity, and the frequent references in literature and the drama, direct the attention of the individual to the heart from childhood onward. This is one of the factors which play a part in the production of cardiac neurosis; others are hereditary disposition to emotional instability, and a condition of depleted nervous reserve in which fitness of judgement is blunted. Some event such as abnormal physical effort produces augmented cardiac action and a sense of palpitation which makes an undue impression upon the distorted perceptive faculty. The patient worries and becomes sleepless; the threshold of tachycardia and palpitation is lowered so that a vicious circle is established. The occurrence of extra-systoles or of paroxysmal nodal tachycardia may produce the same neuroses by the same mechanism. Willius urges the importance in every case of settling rapidly the question of the presence or absence of organic disease in order to avoid cardiac neurosis. He thinks there is no good ground for the belief that functional disturbances depend upon unrecognized pathological conditions; cardiac neurosis is therefore a definite clinical entity. The possibility of neurosis superimposed on cardiac disease is considered, and a free discussion with the patient and relatives is advised; explanation of the necessity for certain restrictions will eliminate fear and introspection. The judicious use of bromide is helpful in many of these cases, and quinine often diminishes the frequency and severity of attacks of functional paroxysmal tachycardia.

312.

### Exanthema Subitum.

A. P. BRAUNSTEIN (*Jahrb. f. Kinderheilk.*, January, 1928, p. 386) reviews the literature (see *Epitome*, December 19th, 1925, para. 558; February 27th, 1926, para. 229; December 18th, 1926, para. 562; November 12th, 1927, para. 431) and records his observations on five cases which he had recently seen at Charkov, thus giving the first description of the occurrence of this disease in Russia. The patients were aged from 7 to 19 months; three of them were boys and two girls. In all but one the temperature kept high for three to three and a half days, reaching a maximum of 103.6°. The eruption, which was morbilliform, appeared on the fourth day simultaneously with the fall of temperature, and disappeared in two days without leaving any trace. It extended over the whole body, but was most pronounced on the trunk, especially the back. No complications or sequelae were observed. The blood picture was characterized by a leucopenia, relative lymphocytosis, and diminution of the polymorphonuclear leucocytes. In short, the clinical picture of Braunstein's cases closely corresponded with the description of the American writers such as Zahorsky, Veeder, and Hempelmann, as well as with that of Glauzmann and von Bokay. Further investigations are needed to determine whether exanthema subitum is an independent nosological entity or not.

313.

### Goitre in Adolescence.

P. STOCKS and A. V. STOCKS (*Biometrika*, December, 1927, p. 292) have made an anthropometrical study of the relation between the size of the thyroid gland and the physical and mental development in adolescence. They find that the measurement of the maximum breadth of the gland is the most reliable index to its actual size. The authors report the statistical results of clinical examinations conducted in various parts of this country, and they find that the prevalence of goitre increases with age to a maximum in boys of about 13 to 14 years old, and in girls of about 17 to 18, when it declines. Where goitre is not endemic the gland hardly changes between the ages of 10½ and 13½, this flattening of the growth curve just before puberty being unique among physical measurements so far undertaken. In girls a rapid development of the gland occurs between the ages of 13½ and 15, which is doubtless associated with the onset of menstruation. There appears to be, in boys, no evidence of any relation between the size of the gland and the physical development, size of the head, the rate of growth, or the strength of the grip. In girls, however, there is a significant positive association with the height and weight, the rate of growth, the grip,

and the systolic and diastolic pressures, but none with the pulse pressure and rate, the colour of the hair and eyes, or proficiency in school work. The authors attach importance to the correspondence between growth curves of the thyroid and of the diastolic pressure, and add that long-continued general development in excess of the average rate seems to favour the appearance of large goitres; while slow development, followed by temporary rapid growth, is associated with small enlargements. They think that these complex relations in girls are capable of being explained on the theory of iodine deprivation, for which theory they afford indirectly an additional proof. They are opposed to the infective theory unless it is assumed that the agent of infection acts by preventing the proper absorption of iodine.

314.

### Alkalis and Renal Injury.

E. J. STIEGLOTZ (*Arch. Intern. Med.*, January, 1928, p. 10) remarks that alkalinization of the urine by administration of alkalis greatly increases the renal cellular acidity. This reversal of intracellular reaction is undoubtedly physiologically irritating, and thereby often causes a renal diuresis. The alkalosis which may be produced by long-continued or excessive administration of alkalis causes distinct renal irritation and occasionally a true nephrosis. This probably does not occur more frequently because of the tremendous reserve of renal structure and physiological efforts at compensation. In the author's view the administration of large doses of alkalis is therefore contraindicated, especially in the presence of pre-existing renal disease.

315.

### Diphtheria after Active Immunization.

P. S. RHODES (*Journ. Amer. Med. Assoc.*, January 28th, 1928, p. 254), who records fourteen cases of clinical diphtheria in nurses who had received three doses of toxin-antitoxin, states that the persistence of positive Schick tests in 67.2 per cent. of cases and the occurrence of clinical diphtheria in cases which had been given toxin-antitoxin is a not infrequent occurrence. The explanation of this disappointing result is that the commercial preparation used is not sufficiently potent. It is therefore necessary that Schick tests should be repeated three months after the last dose of toxin-antitoxin, and that more immunizing doses should be given when they are indicated. Moreover, when large numbers of toxin-antitoxin immunizations are required it is advisable to make tests for potency on the particular toxin-antitoxin to be used before the work is undertaken.

## Surgery.

316.

### Osteomyelitis of the Scapula.

MASSABEAU, A. GUIBAL, J. CHARDONNEAU, and L. MARCHAND (*Arch. Soc. Sci. Méd. et Biol. de Montpellier*, February, 1928, p. 55) describe a case of acute osteomyelitis of the scapula, and point out that the shape and position of this bone make the diagnosis a difficult problem. The patient was a boy aged 14. When first seen the shoulder on the affected side was kept immobile and the respiratory movements were diminished. Palpation produced pain all over the scapular region, but there were no evident signs of inflammation. The next day a swelling appeared between the scapula and the spine, and an exploratory puncture showed the presence of pus. A diagnosis of empyema was made. An operation disclosed that the pus was coming from the scapula itself, the periosteum of which was stopped up. The bone was drained and the patient made a satisfactory recovery. The authors add that the chief diagnostic sign in this condition is localized pain along the axillary border of the scapula. The best incision is one along the vertebral border, which gives access to all the bone. The condition is rare and causes much difficulty in diagnosis.

317.

### Treatment of Cholecystitis.

BACQUELAINE (*Le Scalpel*, February 25th, 1928, p. 197) states that in cholecystitis, in addition to cholecystotomy, often insufficient, and cholecystectomy, often too radical, there is another possible procedure, which he terms "biliary deviation"; he reports thirteen cases in which this operation was performed, in twelve by a cholecysto-gastrostomy, and in one by a cholecysto-colostomy, the results in all being excellent. In seven of these cases the gall-bladders were enlarged, with healthy, tense walls; the thickened contents showed no signs



of infection, and no adhesions were present. The affection seemed essentially mechanical, the vesicular retention following a diminished permeability of the common bile duct and the bile reaching the duodenum by a sort of overflowing. In four of the cases lithiasis was present; one was complicated by a neoplasm and one by gastric ulcer. In the latter the excess of hydrochloric acid was neutralized by conveying the alkaline bile directly into the stomach. Bachelard contends that if the bile cannot reach the intestine freely it is logical to conduct it there by deviation, and he maintains that from a technical point of view these operations are simple and benign. Local anaesthesia suffices in the majority of cases. The organs involved lie immediately under the peritoneum in contact with one another; there is no pulling of the organs, no deep manipulation, no shock; tamponing and drainage is unnecessary, and the operative procedures are simple. The operation is indicated in cases of chronic cholecystitis without calculi, and of cholelithiasis where the walls are sufficiently healthy to permit suturing. The advantages over cholecystectomy are its greater benignity and the absence of subsequent adhesions. Moreover, in cases where cholecystectomy fails, no further surgical intervention is possible, while after failure in cholecysto-gastrostomy the organs can be replaced in their original position and such other operation performed as is deemed advisable.

### 318. Tumours of the Pineal Gland.

K. O. HALDEMAN (*Arch. Neurol. and Psychiat.*, November, 1927, p. 724) describes two cases of tumour of the pineal gland, and also gives a tabulated summary of the microscopic findings, symptoms, and sex and age incidence of 113 additional recorded cases. In each of the two present cases, both females, the tumour proved to be a glioma, and in one a syringomyelic cavity was found. The association of such cavities with intracranial tumours is rare, and is due, according to Langhans and Kronthal, to a venous stasis in the cord, the tumour forcing the cerebrospinal fluid into the foramen magnum with compression of the vertebral veins, the resulting oedema and stasis favouring distension of the central canal, hydromyelia, and disintegration of the grey matter of the cord. The symptoms observed in cases of tumours of the pineal gland may be grouped as follows: (1) General symptoms of intracranial pressure: headache (especially occipital), vomiting, choked disc, mental apathy, somnolence, clonic spasms, and incontinence of urine and faeces. (2) Localizing symptoms: ocular palsies, rigid dilated pupils, nystagmus, blindness, deafness, cerebellar symptoms (ataxia, adiadochokinesis), peduncular symptoms (monoplegia, oculomotor paralysis), pontobulbar symptoms (disturbances of speech and swallowing), and disturbances of hypothalamic sympathetic nerve centres (exophthalmos, tachycardia, etc.). (3) Symptoms referable to the gland: many young patients show a precocious sexual development and adiposity or general overgrowth, which with symptoms of internal hydrocephalus constitute the syndrome designated by Pellizzi as macrogenitosomia praecox. An analysis of all the reported cases shows that the eye symptoms are important in localizing pineal tumours, the most significant being paralysis of upward movement, diplopia, abducens paralysis, nystagmus, ptosis, and absence of the pupillary light reflex. Of 102 cases in which the sex was reported 78 were males, and the greatest age incidence was during the second decade. Surgical removal of these tumours, while difficult and resulting fatally in most cases, has been advocated by Dandy. The contradictory results from experiments on pineal gland feeding of animals and defective children, and the destruction of the gland in animals, prevent any conclusions being formed regarding the function and significance of this gland.

### 319. Treatment of Inoperable Cancer of the Breast.

R. MONOD (*Bull. et Mém. Soc. Nat. de Chir.*, February 4th, 1928, p. 92) records the case of a woman, aged 49, with cancer of the left breast and enlargement of the axillary glands. The tumour when first seen was the size of an egg; it was hard and adherent to surrounding structures. The glands were fixed and hard, and there was much pain in the arm from pressure on the brachial plexus. Removal by operation appeared impossible owing to the extent of the disease, and x-ray treatment was advised. Ten applications were given; three months later the tumour and glands showed marked diminution in size, and there was freedom from pain. Radical amputation was then considered possible, and this was performed satisfactorily. Examination of the tumour showed it to be a typical scirrhous with great increase of the fibrous tissue, probably produced by the x rays. The patient was well more than three years after the operation. The case illustrates the good results of the use of x rays combined with surgery.

## Therapeutics.

### 320. Calcium Chloride in Hepatic Ascites.

DESPITE unfavourable opinions as to the value of calcium chloride in the treatment of ascites due to hepatic cirrhosis, L. BLUM and P. CARLIER (*Presse Méd.*, February 25th, 1928, p. 241) strongly advocate its use in these conditions, and report three cases illustrating its beneficial action. Large doses of the salt were administered, in one case 360 grams being given in twelve consecutive days; during treatment common salt and substances containing it were rigorously excluded from the diet. The drug is said to be harmless even in these large doses, and in two of the cases the only ill effect was a slight diarrhoea lasting a day. The third patient, however, suffered from loss of appetite, acid regurgitations, constipation, and a sense of weakness, these symptoms disappearing on cessation of the medication. The absorption of the ascitic fluid and the resulting reduction of weight caused by calcium chloride are due to its diuretic action. Difficulties arising out of the unpleasant taste of this salt and its occasional gastric and intestinal reactions can be overcome by supervision of the patient. Large doses are very dangerous, however, in cases with only slight aqueous retention. Calcium exists only in small quantities in the secretions and tissues, and it is necessary, therefore, that all given in excess of the requirement should be eliminated or rendered inactive. Chlorine can be retained by the body in greater amounts, and large doses of calcium chloride cause an accumulation of chlorine without a proportional increase of the basic element, a chloro-acidosis resulting. In eliminating this excess of chlorine the kidneys combine the latter with the sodium (the principal base of the body), and, in the blood, the increase of calcium causes a decrease of the sodium; thus a chloro-acidosis with natropenia is produced—a condition analogous to that of nephritis with chlorine retention. Ascitic or oedematous liquids form an alkaline reservoir which provides the necessary base for the neutralization of the chlorine excess; in hepatic oedema where the quantity of liquid is small complications need not be feared. In the use of this drug in renal conditions where there exists a circulatory insufficiency, as in asystolia, or a secretory insufficiency, as in nephritis with oedema or chlorine retention. The authors believe that other calcium salts are useless in these conditions, since the chlorine is the essential factor; they emphasize the necessity of administering large doses of the drug over a long period, and of excluding salt from the diet meanwhile.

### 321. Local Treatment in Tabes Dorsalis.

A. LÖWENSTEIN (*Wien. klin. Woch.*, January 26th, 1928, p. 120) describes a method of injecting air into the spinal canal; this acts as a form of irritation therapy on a tabetic lesion in the central nervous system. The technique is as follows: 10 c.cm. of cerebro-spinal fluid are replaced by 5 c.cm. of air. The process of withdrawing 5 c.cm. of fluid and replacing it by air is then repeated four or five times, resulting in the substitution of 20 to 30 c.cm. of fluid by about 10 to 20 c.cm. of air. The patient is now slowly placed in the recumbent position and an hour later is given an intravenous dose of neosalvarsan. The process is repeated five to seven times at three-day intervals. The object of this treatment is to produce an aseptic localized irritation of the meninges of short duration. The author has found that only under such conditions were drugs able to pass from the blood to the cerebro-spinal fluid. The same principle of treatment is said to hold good in syphilitic affections of the eye, where subconjunctival injections of hypertonic salt solution or preparations of iodine cause an increased quantity of a blood-borne drug to reach the lesion. This form of treatment was found to be of most use in the early stages of tabes before neural atrophy sets in.

### 322. Treatment of Chronic Auricular Fibrillation.

E. P. MAYNARD, Jnn. (*Amer. Journ. Med. Sci.*, January, 1928, p. 55), reports that, by the use of quinidine sulphate, auricular fibrillation can be abolished in at least 50 per cent. of cases, and that, even with persistence of the irregular action, the patients are undoubtedly relieved and exercise tolerance is increased. In order to determine if this effect was sufficiently lasting to counterbalance the discomfort and danger of this drug, Maynard studied 53 cases of chronic auricular fibrillation treated with quinidine, and followed them for periods of one to five years. The drug was administered as follows. Two test doses of 0.2 gram each were given the first day in order to eliminate all possibility of hypersensitivity to the drug; if no symptoms appeared, the dose was increased to 0.4 gram every two hours for five doses. In the case of a few patients who failed to respond to this treatment the dose was cautiously increased to 0.6 or 0.7 gram every two hours.

Later, in one case, following the suggestion of Rieckor, 0.4 gram was administered every four hours night and day in order to produce an even action throughout the treatment. It was found that in 38 of the cases normal sinus rhythm returned, 25 remaining regular for one month or more, and 15 for at least six months. Various toxic rhythms were detected, including auricular flutter and paroxysmal ventricular tachycardia; one case of collapse and sudden death occurred following the administration of the quinine. Short duration of fibrillation was found to be a good prognostic sign, but there was a definite tendency for it to become permanent. Maynard concludes that in this form of treatment of chronic auricular fibrillation a careful selection of the cases must be practised, the two definite criteria for this purpose being, first, a relatively short duration of the fibrillation, and, secondly, a well-compensated heart without the signs of congestive heart failure.

### 323. Pilocarpine in Gall-bladder Disease.

J. M. IRGER and B. G. DRAGUN (*Wien. klin. Woch.*, January 26th, 1928, p. 127) confirm the observation that in non-obstructive cases pilocarpine, by stimulating the emptying of the gall-bladder, increases the excretion of bile. The action is similar to that of magnesia in that it is an irritant, but it also appears to paralyse the nistriped muscle of the gall-bladder and to inhibit the so-called gall-bladder reflex, thus permitting an unobstructed flow of bile. Given subcutaneously in small doses of 0.2 to 1 c.cm. of a 1 per cent. solution, it is said to be very beneficial in many forms of cholecystitis and cholelithiasis.

## Radiology.

### 324. Skia-graphy in Pulmonary Diseases.

LAQUERRIÈRE (*Journ. de Méd. et de Chir. Prat.*, January 10th, 1928, p. 34) insists on the importance of obtaining a series of skiagrams in every case of pulmonary disease examined by means of the fluorescent screen. While formerly it was impossible to obtain satisfactory films of the thoracic viscera on account of the respiratory movements, the modern rapid exposures (while the patient holds his breath), however, give sharply defined skiagrams. Although the fluorescent screen frequently furnishes important information, the image is indefinite and badly illuminated. Finer details are invisible to the observer and can be obtained only by instantaneous skiagraphy. Laquerrière condemns the too common dependence of specialists and general practitioners on repeated radioscopic examinations, which are misleading and do not provide a permanent record. A series of skiagrams taken at intervals is of great value in watching the progress of the disease.

### 325. Diathermy in Acute and Chronic Gonorrhoea.

L. L. MICHEL (*Med. Journ. and Record*, January 18th, 1928, p. 87) reports that in a series of two hundred cases of acute anterior gonococcal infections the results of diathermy treatment alone were not encouraging. The patients came for treatment from twelve hours to ten days after the infection, and were treated daily and thoroughly. After four weeks it was found that the diathermy had had no effect on the discharge or upon the destruction of the gonococcus in the secretions. In chronic anterior infections, however, diathermy proved very useful. Galvanism, applied by special electrode through the endoscope, gave excellent results in strictures, however impassable they had appeared. In involvement of the posterior urethra, prostate, and seminal vesicles diathermy had given its best results, surpassing any other form of treatment known; since using it Michel has rarely employed surgical intervention in posterior gonorrhoea, and has found that acute pus formation within the prostate was not a contraindication to diathermy. Gonorrhoea in the female yielded more quickly to this treatment than to any other form, chronic endocervicitis being controlled by one or two applications. The author decries limitation of treatment to diathermy, and thinks all available methods should be used in the treatment of gonorrhoea.

### 326. Tetra-iodo-phenolphthalein in Cholecystography.

To elucidate the results obtained by the use of tetra-iodo-phenolphthalein in the diagnosis of gall-bladder disease, J. H. KING and L. MARTIN (*Bull. Johns Hopkins Hosp.*, October, 1927, p. 219) studied a series of 407 cases of various clinical conditions in which this dye had been administered orally. The method employed was as follows. Twelve 5-grain capsules of the fresh chemical were given, four at 4 p.m., four at 4.30 p.m., and four at 5 p.m. Supper was given at 6 p.m., but no breakfast to the morning. Plates were taken at sixteen, nineteen, and twenty-two hours, and between the

last two a meal containing fats was given. Very few disagreeable symptoms resulted from taking the dye by the mouth, and in only one case were plates unobtainable owing to persistent vomiting. The patients were divided into two groups—namely, those who had undergone operations and those who had not; the latter were further subdivided into patients not suspected of having any gall-bladder disease and those with definite signs of such a condition. The former were grouped, as a result of the test, into those having a normally functioning gall-bladder, those with an abnormally functioning one, and those which did not show the faintest trace of the dye in the gall-bladder. From their observations the authors draw the following conclusions. This method will not give positive assurance that a normally functioning gall-bladder is organically sound, and may give misleading information. In normally functioning gall-bladders the resultant picture does not depend on the method of administering the dye, and there is a probability of error whether it be given intravenously or orally. In non-filling gall-bladders the test will not indicate definitely the presence of disease, though the possibility of error is less (20 per cent.). A so-called delayed filling of the gall-bladder cannot be taken as evidence of early gall-bladder or any other disease. The number of stones demonstrated by x rays after dye administration is decidedly greater than without it. The evidence afforded by this dye test is helpful but not absolute, and must be compared with the clinical symptoms of the cases under consideration.

327. OF the two methods of administering tetra-iodo-phenolphthalein Dr. L. VALACH (*Bratislavské Lekárske Listy*, February, 1928, p. 49) favours the intravenous route. It is said to be quite harmless if fresh preparations are used. The author distinguishes three types of gall-bladder: (1) the hypertonic or orthotonic bladder, (2) the atonic-ptotic bladder, and (3) the pathological bladder. The gall-bladder empties in two ways—first, actively through contraction of its muscular wall, and secondly, passively through relaxation of its sphincter. Active emptying has been observed only after intravenous administration of hypophysisin, but in cases of atony and cholecystoptosis the effect of hypophysisin was only slight and set in very late. Substances given by the mouth cause only passive evacuation of the gall-bladder, the most active in this respect being fats, yolk of egg, peptone, and magnesium sulphate. The atonic or hypotonic gall-bladder does not diminish in size after a fatty meal, but the intensity of the x-ray shadow diminishes greatly. The author considers that his experiments proved further the mechanical influence of the pregnant uterus upon the gall-bladder, favouring stagnation, which tends to gall-stone formation and infection. Whenever possible stereoscopic skiagrams should be taken.

## Obstetrics and Gynaecology.

### 328. The Uterine Muscle during Pregnancy and Labour.

H. KNAUS (*Wien. klin. Woch.*, January 12th, 1928, p. 45) has found in a series of observations on animal uteri (mainly rabbits) that spontaneous contractions occur in the non-pregnant organ which are comparatively infrequent and feeble before sexual maturity is reached, but become much more powerful and frequent subsequently, attaining a maximum at the rut period of the sexual cycle; if, however, the ovaries are removed this uterine activity ceases and atrophy supervenes. In order to study the activity of the uterine muscle at the different stages of gestation one horn of the uterus of a number of rabbits was rendered sterile by division of the tube under anaesthesia fourteen days before coitus was allowed. Thus only one horn in each animal became pregnant, while the consecutive changes in the musculature could be studied either *in situ* or by excising the sterile horns at successive stages of pregnancy—which in rabbits lasts thirty-two days—and plotting illustrative curves. Knaus reports that by the second day after coitus the spontaneous contractility and tone of the uterus is considerably reduced, and this condition persists till about the eighth day; this corresponds to the phase of gestation before the ovum is firmly embedded. On the tenth day irregular muscular contractions occur again, and the tone increases until by the fourteenth day the activity closely resembles that of the non-pregnant adult uterus. On the eighteenth day regular contractions, somewhat like feeble labour pains, begin; these contractions are arranged in groups separated by rest intervals of fairly constant duration, and gradually increase in power, reaching a maximum on the twenty-ninth day of gestation. Meanwhile the tone of the muscle has been increasing slowly, and from the thirtieth day onwards the increase in tone is much more rapid until the onset of labour. As a result of his observations Knaus came to the conclusion that there is no sudden change in the tone and activity of the uterus at the

onset of labour, but that, so far as these two functions of the uterine muscle are concerned, the latter part of pregnancy passes into the beginning of labour by orderly stages. Cases of precipitate labour are ascribed to a lack of perception of the dilatation of the birth canal. The increase of tone occurring in the human uterus during the last four weeks (the last tenth) of pregnancy corresponds to the last two days (also the last tenth) in the rabbit, and accounts for the diminution in size of the uterus observed to occur about this time.

### 329. The Production of Painless Labour.

E. VOGT (*Med. Klinik*, January 6th, 1928, p. 24) has used pernocton—a 10 per cent. solution of a barbituric acid derivative, also employed by surgeons and psychiatrists—for the production of "twilight sleep" in a series of over sixty cases without ill-effects to mother or infant. An average dose of 1 c.cm. per 12½ kilos of body weight is injected very slowly intravenously, when good pains are present and the os is dilated about 5 cm. in primiparae and 2 fingers in multiparae. If the correct dose has been administered the patient falls asleep immediately, but rouses sufficiently during the pains to use voluntary muscles if encouraged to do so, though the analgesic effect is almost complete and lasts for two or three hours. The preparation did not interfere in any way with the uterine contractions, it had no deleterious effect on the infant, it produced a sufficient anaesthesia for minor urgent manipulations such as the treatment of prolapsed cord, and was besides a useful preliminary, especially in nervous patients, for full anaesthesia when this was subsequently found to be necessary. Vogt adds that the vomiting which sometimes occurs may be prevented by a preliminary injection of atropine half an hour before the pernocton is administered.

### 330. Vulvo-vaginal Thrush.

ACCORDING TO M. R. LE BRAYÈ (*Gynéc. et Obstét.*, January, 1928, p. 40) vulvo-vaginal thrush is much more common than is usually supposed, and its alleged especial frequency in association with pregnancy and diabetes is due to the greater severity of the lesions in these two conditions. It occurs at all ages, but is more common in adult life, being about equally frequent before and after the menopause. In leucitis and candidiasis the infection is similar to that found in the following of which it is a notifiable, (1) which are de- but usually non-ulcerated mucosa. (2) Intertriginous or eozematous patches, most common at the vulva, especially over the internal surfaces of the labia majora or the external surfaces of the labia minora. (3) Vesiculo-pustular lesions, rarely larger than a pinhead, and most common on the skin near the vulva. Diagnosis can be made with certainty by microscopical examination of smears or cultures, and with the effect of specific testing of the (usually vaginal), reddened, sensitive, example, of a 1 or 2 per cent. sodium bicarbonate solution, made at least twice daily—are quickly effectual. Such treatment must be prolonged for some time after the pruritus has disappeared.

## Pathology.

### 331. Filterable Forms of the Scarletinal Virus.

U. FRIEDEMANN and H. DEICHER (*Zeit. f. Hyg. u. Infektionskrankh.*, January 30th, 1928, p. 354) have endeavoured to prove the existence of a filterable form of the scarlatinal virus, but without success. Throat washings from a patient with a severe attack of scarlet fever were taken on the second day of the disease, filtered through Berkefeld W candles, and the filtrate rubbed on to the throat of two persons with a strongly positive Dick reaction; both persons remained well. It was thought that perhaps the filterable virus acted only in the presence of streptococci, so in the next experiment the filtrate was rubbed on to the throat of four patients who showed numerous in throat smears. All these patients had a positive Dick reaction, but none of them contracted scarlet fever; one of them, however, developed scarlet fever four weeks later through infection at home. The authors conclude from these experiments and from other evidence that the existence of a filterable virus acting alone or in symbiosis with streptococci in the production of scarletina is improbable. A different question is whether filterable forms of streptococci exist. Ramsdine observed in certain batches of streptococcal toxin a flocculent

precipitate; on culture this proved sterile, but when injected into mice it infected them, and streptococci were later demonstrated in their organs. The present authors have endeavoured to repeat Ramsdine's observations. One batch out of six of toxin in which flocculation had appeared was found by them to be infective for mice; haemolytic streptococci were recovered in small numbers from the spleen and kidney. They have also examined the urine of patients with scarlatinal nephritis; one mouse out of seventy-four injected with such urine died, and haemolytic streptococci were isolated in large numbers from the blood, spleen, and kidneys. These successes are so uncommon that the author regards them as practically devoid of significance.

### 332. Reticulo-endothelial Blockage and Flocculation.

V. COSTABILE (*Il Morgagni*, January 22nd, 1928, p. 121) has studied the effect of blocking the reticulo-endothelial system on certain diagnostic reactions which depend on disturbance of the colloidal equilibrium of the serum. Such are: (1) Costa's reaction—positive in intoxications, infections, pregnancy, and malignant disease; (2) Brossa's reaction—due to a relative increase of the less hydrophilic colloids (fibrinogen, globulin) in the serum, and positive in malignant disease; (3) Botelho's reaction—depending on the easier flocculation of the less hydrophilic colloids in an acid medium by means of a solution of iodine in potassium iodide, and likewise positive in malignant disease; (4) Matcy's reaction—caused by the action of trivalent aluminium on globulin, and positive in tuberculous and all diseases in which there is active destruction of globulin. In addition to these reactions he studied the sedimentation rate of the red blood corpuscles, using Liuzenmoler's method on young male dogs. The blocking of the reticulo-endothelial system was effected by intravenous injection of a 1 per cent. solution of trypan-blue in saline, 3 c.cm. being given per kilo of dog. The reactions were practised on the two days preceding the blockage, and on each day following it, up to the fourth. It was found that after blockage all the reactions were rendered more positive than before; the time at which flocculation appeared was earlier, and the degree of flocculation was increased. With the sedimentation test the time taken for the blood cells to settle was considerably decreased. That the alteration in the reactions was due to a blocking of the reticulo-endothelial system, and not to the trypan-blue itself, was shown by control tests in which the dye was added to the serum *in vitro*. The author concludes that as a result of the blockage of the reticulo-endothelial system there is an increase of flocculating substances—albumins and globulins—which renders the reactions more intense. It is clear, therefore, that these reactions cannot have any specific value in diagnosis; they merely indicate a disturbance in the colloidal equilibrium of the body fluids.

### 333. Ambard's Constant and the Renal Functions.

A. OROFINO (*Rassegna internaz. di clin. e ter.*, December, 1927, p. 818), as the result of his investigations, comes to the following conclusions. (1) As regards the two functions of the kidney, excretion of water and the excretion of substances in solution, the chief of which is urea, Ambard's formula for denoting the area index in terms of the body weight can determine the latter but not the former. (2) Azotemia may be a sign of anemia, but is no means of showing slight renal changes. (3) The concentration of urea in the urine, as determined by use of the ureteral catheter, may serve for testing the comparative value of the two kidneys, but it is no indication of their functional value, since the excretion of urea depends on the albuminoid content of the diet. (4) Ambard's formula shows not only the state of the kidneys, but also their functional value. (5) In tuberculous lesions, a normal Ambard's constant is an undoubted sign of a healthy kidney, while a high figure points to bilateral renal lesions. (6) In urinary surgery it is of very great value, since it indicates whether an operation should be performed or not. If the figure exceeds certain limits it is dangerous to perform a nephrectomy or prostatectomy, whereas a good constant justifies any operation.

### 334. The Histamine Test for Gastric Secretion.

R. BRANCATI (*Il Policlinico*, Sez. Chir., January 15th, 1928, p. 18) reports a series of observations on sixty patients divided into three groups—those without gastro-duodenal lesions, those with gastric or duodenal ulcer, and those suffering from new growths. He injected 1 mg. of histamine subcutaneously and fifteen minutes later extracted and examined the gastric juice; he repeated this process six or seven times. Comparison with fractional test meals showed that this histamine test gave a constantly higher acidity curve. By the histamine method a pure juice is obtained which can be estimated without filtration, and is suitable for cytological or bacteriological investigations.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 335. Methyl Salicylate Poisoning.

THOUGH cases of methyl salicylate poisoning appear to be very rare, only thirteen cases with six deaths having been recorded, F. V. WOODBURY and A. G. NICHOLLS (*Canadian Med. Assoc. Journ.*, February, 1928, p. 167) point out that oil of wintergreen is a drug in rather common use and may be extremely dangerous. Accidents from its therapeutic administration seem to be unknown, due doubtless to its being prescribed for external use only, but it has been taken accidentally, for suicidal purposes, and as an abortifacient. The authors describe two fatal cases of poisoning with this drug, and review a case reported by Pincus and Handley last year. One ounce is usually regarded as a fatal dose, though recovery has followed the ingestion of this amount; on the other hand, less than 15 c.cm. has caused more than one fatality in infants. Where recovery has ensued the following symptoms and physical signs have been noted: vomiting, purgus, vertigo, general weakness, excessive appetite and thirst, rapid pulse, slow and laboured respiration, drowsiness, and air hunger; the appearance of acetone and diacetic acid in the urine; fever; contracted pupils and amblyopia; with tremors, hemiparesis, and mania. In fatal cases, convulsions, tonic spasms, and opisthotonos may develop, followed by cyanosis and collapse. The various authors emphasize epileptiform convulsions as the clinical cardinal feature in these cases. The outstanding pathological appearances are acute degenerative parenchymatous nephritis, acute gastritis, intense congestion and oedema of the lungs, and multiple small haemorrhages in the pericardium, pleurae, and beneath the dura. The convulsions and parietic manifestations are possibly due to vascular disturbances in the cerebral cortex.

### 336. Spirochaetosis Arthritica.

R. FRUEHWALD (*Urol. und Cutan. Rev.*, January, 1928, p. 7), who reports two personal cases, states that Reiter in 1916 described a peculiar form of arthritis associated with conjunctivitis and urethritis and a constant absence of gonococci. Hitherto only twelve cases, including the author's, have been recorded. The disease always begins with urethritis, which is followed by conjunctivitis and then arthritis. The inflammation of the urethra is usually severe, both the anterior and posterior urethra being affected, and in some cases pronounced cystitis develops. Involvement of the testes or vesiculae seminales has not been observed. The ocular condition commences with inflammation of the conjunctivae, which are greatly reddened, swollen, and discharge abundant pus. There may also be keratitis, corneal ulceration, and iritis. The arthritis always attacks several joints, especially those of the lower extremities. The first cases recorded by Reiter were very severe and were not affected by treatment, but their final issue was not recorded; subsequent cases have been much milder. Treatment is entirely symptomatic. Reiter isolated a spirochaete from the blood which he called *Spirochaeta forans*, but his findings have not been corroborated.

### 337. Epidemic Encephalitis.

R. CRUCHET (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, November 25th and December 10th, 1927, pp. 848 and 895) records in full the histories of 64 cases observed by him in 1917, when he gave the first description of the disease and adopted the following classification, which still holds good: (1) a mental form in which the cerebral torpor, amnesia, lack of orientation, changes in the pupils, tremor, dysarthria, paraphasia, and changes in the cerebro-spinal fluid at first suggested general paralysis; (2) a convulsive form in which there was a succession of fits which constituted a transient status epilepticus; (3) a choreic form with all the features of infective chorea in the adult; (4) a meningeal form in which the meningeal symptoms such as rigidity, Kernig's sign, pain in the back, somnolence, and vasomotor phenomena which were always associated with profound and persistent cerebral changes were not explained by any hitherto known factor; (5) a hemiplegic, or, rather, a hemiparetic form, which, owing to its rapid subsidence and arrest at a certain stage of its development, was quite different from the ordinary hemiplegia in the adult; (6) a pseudo-cerebellar form with ptosis, conjugate deviation of the eyes, titubation, and a simple cerebellar form closely resembling cerebellar tumour; (7) a bulbo-pontine form with various nuclear lesions affecting the

nerves in this region, such as the fifth and seventh cranial nerves, vagus, and spinal accessory; (8) an acute ataxic form, resembling in some respects toxic-infective polyneuritis; and (9) an anterior poliomyelitic form, resembling infantile paralysis.

### 338. Essential Thrombopenia with Haematomyelia.

K. EVANG (*Norsk Mag. f. Laegevid.*, February, 1928, p. 163) records a case in a man, aged 30, who had shown slight symptoms of the haemorrhagic diathesis from the age of 12 years, and suddenly developed, apart from any accident, symptoms of a complete transverse lesion of the spinal cord at about the level of the second dorsal nerve. During the course of seven months the disease passed through the stages of flaccid paraplegia, spastic paraplegia, and spastic paraplegia with extension contracture. Examination of the blood showed secondary anaemia, relative neutropenia and relative lymphocytosis, slight eosinophilia, blood platelets about 20,000 per c.mm., no retraction of the clot, considerably prolonged bleeding time, almost normal coagulation time, positive stasis test, and extravasation of blood on contusion and puncture. Evang regards the case as an example of chronic non-recurrent essential thrombopenia (Frank, Breslau) complicated by haematomyelia.

### 339. Tetanus Caused by Skin Dressings.

C. ARMSTRONG (*Public Health Reports*, December 16th, 1927, p. 3061) brings forward evidence to show that post-vaccination tetanus tends to follow severe primary vaccinations performed with large insertions and dressed with some type of shield or covering strapped to the site. Moreover, shields or dressings markedly predispose to the development of post-vaccination tetanus in monkeys or rabbits vaccinated with virus artificially contaminated with *B. tetani*. Armstrong defines a proper vaccination as one in which the insertion is not over an eighth of an inch in its greatest diameter, and is made by some method which does not destroy or remove the epidermis. Such insertions treated without shields or dressings strapped to the site have never been followed by tetanus. It is probable that such simple procedures on the part of vaccinators, coupled with a warning to the vaccinated individual concerning the dangers of home-applied shields and dressings, would eliminate tetanus as a sequel of vaccination.

## Surgery.

### 310. Echinococcal Cyst of the Liver.

A. BALDUZZI (*Il Policlinico*, Sez. Prat., January 30th, 1928, p. 129) discusses the differential diagnosis of echinococcal cyst of the liver. Contrary to the usual view he has found pain in the hypochondrium a prominent symptom. He fully discusses the symptomatology and comments on the disagreement in this respect. In his experience pain of a heavy character was the most dependable symptom; it was present in the right hypochondrium, and radiated in front to the epigastrium and behind to the shoulder and angle of the right scapula. Sometimes it was felt along the right side of the vertebral column behind and as far down as the groin in front. Such pain is not, however, pathognomonic. He reports three cases, in all of which pain was the predominant symptom, and in varying degree had persisted for years. The first patient, while under observation, for two days passed with the faeces fluid containing daughter cysts. No treatment was given, and the patient made a good recovery. In the second case the diagnosis was based entirely on the character and locality of the pain accompanied by fever. An exploratory puncture was negative, as also was the serological test. Pns and daughter cysts were evacuated by an operation, and the patient made a good recovery. The third case was diagnosed by pain and the position and hardness of a palpable tumour. At the operation the cyst was found to be calcified, as was expected.

### 331. Isolated Fractures of the Semilunar Bone.

A. ODASSO (*Chir. d. org. di movimento*, January, 1928, p. 1), who records two illustrative cases in men aged 53 and 39 respectively, states that isolated fracture of the semilunar bone is rare, only about thirty examples of the kind having been published. As a rule it is associated with fracture of the radius or other carpal bones. The etiology is the same as that of Colles's fracture, but semilunar fracture is peculiar



in that it only occurs during ulnar flexion of the hand, and is essentially due to one of two causes—namely, compression or tension exercised by the anterior radiocarpal ligament. The softening or so-called lacunae of the semilunar bone which have been described may in some cases predispose to fracture, but are usually the remote result of previous injuries or fractures which have escaped detection. Clinical diagnosis, though feasible in some cases, is often very difficult or impossible, and the most frequent error is to mistake it for a simple sprain of the wrist. To avoid this error systematic x-ray examination is advisable whenever the wrist is injured. The prognosis varies according to the case, and depends on the greater or less degree of severity of the initial lesion, the stage at which treatment was instituted, and the general condition of the patient. While in some cases the functional result is good, in others complications develop, such as pseudarthrosis, chronic arthritis, more or less complete ankylosis, considerable wasting of the muscles of the forearm, and weakness of the wrist. Treatment should consist of immobilization of the wrist-joint for eight to ten days, followed by hot baths, massage, and mechanotherapy. If these bloodless methods fail, and the fracture shows no tendency to unite, the semilunar bone should be removed as soon as possible.

### 342. Colloid Carcinoma of the Stomach.

ACCORDING TO J. W. STINSON (*Surg., Gynecol., and Obstet.*, February, 1928, p. 180) the first statistical studies of gastric carcinoma were published in the *British and Foreign Medical Review* in 1857 by Brioton, who, in a series of 135 cases, found that 9.4 per cent. were of the colloid type. In a series of 2,516 pathologically proved cases of carcinoma of the stomach examined at the Mayo Clinic from March 1st, 1913, to May 1st, 1925, colloid changes were found in 121, or 5.09 per cent.; 25 of these patients were women and 95 men, the average age of the women being 50.5 years, of the men 53.3 years, and the general age being 52.7 years. The oldest patient was aged 79 and the youngest 31. As regards the symptoms, there was nothing to distinguish colloid carcinoma from other types of gastric cancer. The only sure method of distinction consisted in exploratory operation and microscopical examination of the tissue. In structure colloid carcinoma resembles the ordinary adenocarcinoma of the stomach, except that a great deal of thin mucus is present. In typical cases the whole wall of the stomach is almost completely changed by the presence of colloid material, so that the cut surface is clear and gelatinous and of a soft consistency. Colloid changes may be noted in the earliest stages of the carcinomatous process, and are frequently found on microscopical examination when not visible to the naked eye, especially in cases of small ulceration, when the diagnosis lies between benign ulcer and carcinoma. In the present series 97 of the cases (80 per cent.) were operable and the growth was removed, 19 were inoperable, and 5 were suitable for palliative measures. The percentage of patients living three and five years after operation is about the same as in the non-colloid types of carcinoma, but the incidence of early recurrence is high in the colloid variety. The post-operative mortality rate is about the same as in the non-colloid types, the post-operative life expectancy being less in young patients.

## Therapeutics.

### 343. Treatment of Pernicious Anaemia with Liver.

J. C. SPENCE (*Newcastle Med. Journ.*, January, 1928, p. 71) recalls that Cohn, working on the liver treatment of pernicious anaemia, divided the liver into fractions, and, discarding those which proved inactive, has shown that the essential curative factor is probably a liver extract. This is a non-protein fraction representing about 1 per cent. of the liver, a few grams of which, taken daily by the mouth, act with apparent specificity. Spence reports the results in twenty cases of pernicious anaemia treated with liver and subsequently followed up. In nineteen of these the improvement was striking and rapid, some of the most severely ill patients being able to resume full activities in three months. The rapid disappearance of the glossitis was particularly striking. Treatment consisted in the daily addition of 1/2 to 1 lb. of lightly cooked ox-liver to the ordinary hospital diet. Later the amount was slightly reduced in some cases. Prolonged cooking of the liver is said to be very inadvisable, since this may destroy or decrease the potency of the active curative principle. Only one case showed no improvement, and it is suggested that this may not have been true pernicious anaemia. As a concentrated preparation could be more easily given than the liver itself, certain proprietary compressed liver tablets were tried in two cases but with little response. Later a concentration prepared by Cohn's method

was used, with beneficial results in two other cases. The number of reticulocytes rises during treatment, the climax being reached within seven days, and this may be considered as a rapid method of estimating the efficacy of treatment. Once the process of erythrocytic regeneration is established, the reticulocytes return to a steady level of 3 to 5 per cent. of the red cells. During treatment two patients had acute attacks of gout, and another had marked oedema of the legs due to venous thrombosis. These patients had eaten liver very freely, which suggests that the response to the diet is a quantitative one. Spence has found that when the red cells have reached 4½ to 5 millions per c.mm., no more liver should be taken than is necessary to maintain that level, 1/2 lb. four times a week probably proving sufficient. He believes that the discovery of an effective liver fraction indicates that pernicious anaemia is a disorder of an internal liver secretion, and that the work of Peabody disposes of the theory that the disease is the result of a primarily haemolytic process, the haemolysis being probably a secondary factor.

344. E. MEULENGRACHT (*Ugeskrift for Laeger*, February 9th, 1928, p. 123) has treated 21 cases of pernicious anaemia with a liver diet during the past year. At first he thought that raw liver must be more potent than cooked liver, and that doses, since found to be totally inadequate, would suffice. Hence the disappointing results obtained in his earliest cases. The first three patients, all of whom were very ill, obtained no benefit from 10 to 20 grams of raw liver a day (even this small dosage was not maintained consistently), and died. Of the remaining 18 patients 2 died, the necropsy in one of these cases showing malignant disease of a kidney and the lungs. In the other fatal case the cause of death was obscure, but it is possible that the fever and persistent diarrhoea may have been due to some intestinal infection which was aggravated by the constant presence of liver in the intestines. In all the remaining 16 cases the treatment proved most satisfactory. The blood picture showed marked improvement, and in those cases in which the tongue showed morbid changes they disappeared. In 2 cases there were severe spinal symptoms with paralysis and ataxia of the legs. The improvement effected in these patients was the more striking as, under other methods of treatment, such cases have hitherto been notorious for their progressive character. But when achylia was found, it appeared to be uninfluenced by the liver diet. Most striking of all was the improvement in the general condition, patients who had been debilitated finding themselves quite fit for work. The author was impressed by the fact that some of his patients preferred to take their liver in the raw state, either made up in a fluid form with oranges, or in lumps of 5 to 10 grams, wrapped up in paper, swallowed whole, and washed down with a little water. Others ate the necessary quantity (200 to 250 grams a day) in the raw state, minced and eaten with a spoon. Cat's liver was usually employed, for it was found that pig's liver had a more unpleasant taste. With regard to substitutes and extracts of liver, the author prefers to recommend whole liver until more is known of the active principles. He suggests that experience with this treatment may alter the existing views as to the pathogenesis of pernicious anaemia, and that, instead of being regarded as a condition caused by certain poisons introduced into the body, it may be proved to be a deficiency disease, in the same class as scurvy and beriberi.

### 345. Treatment of Acute Rheumatism.

G. ROSENTHAL (*Bull. Soc. de Thér.*, January 11th, 1928, p. 29) states that in acute articular rheumatism and allied affections such as chorea immediate and vigorous treatment is indicated in the form of intravenous injection of salicylates, as recommended by Lescné. However mild the case may be the intravenous route should be employed whenever there is a possibility of an endocardial localization. The method is also indicated in cases where there is gastric intolerance for salicylates. In the case of adolescents during the acute stage of acute rheumatism an intravenous injection of 1 gram of salicylate should be given morning and evening, combined with 6 grams by the mouth. As the symptoms subside a single intravenous injection should be given, combined with 3 grams by the mouth morning and evening, for a few days, when the intravenous injections may be stopped, while the treatment by mouth is continued.

### 346. The Iodine Treatment of Goitres.

L. DAUTREBANDE and A. LEMORT (*Bruxelles-Médical*, February 12th, 1928, p. 528) describe a modified iodine treatment of exophthalmic goitre and thyrotoxic adenomas. They have obtained good results by administering a solution containing 10 grams of iodine and 20 grams of potassium iodide dissolved in 100 c.cm. of distilled water. In Graves's disease at first 5 to 30 drops are given daily in two to four doses; then the dose is increased to 60, 100, or even 150 drops daily, the



dosage being regulated by frequent examinations of the basal metabolism. In adonomas a daily dose of 60 drops has never been exceeded. The authors believe that, in these conditions, the iodine acts by lowering the general metabolism, by reducing the activity of all the tissues and thus arresting the abnormal excitation of the thyroid gland, and by restoring to normal the disordered functioning of its internal secretion. They claim that, administered in this form, iodine is a valuable adjunct to the medical and surgical measures usually employed in these conditions.

## Laryngology and Otology.

### 347. Vestibular Neuritis in Acquired Syphilis.

D. MASSA (*Rev. oto-neuro-oftalm. y de cirugía neurolog.*, November, 1927, p. 312) describes two cases of lesion of the vestibular nerve some time after syphilitic infection. The first patient was a man, aged 20, who had been infected five years previously; he had attacks of vertigo, nausea, and vomiting, with nystagmus and nystagmus, which continued and rendered him unable to walk. Examination showed the middle ear to be normal, there was a spontaneous horizontal nystagmus, and Bárány's caloric tests indicated very reduced irritability. The fistula sign was absent and neither vestibule reacted to the galvanic test. The Wassermann reaction was positive. Hearing was good and the cochlea did not appear to be involved. The patient was given injections of mercuric cyanide and of pilocarpine hydrochloride on alternate days for a month, with an interval of six days in the middle on account of vomiting and diarrhoea. The second case was similar, but the vestibular symptoms occurred four months after infection; the cochlea was not involved, the labyrinth did not respond to caloric tests, and the rotatory tests gave diminished reactions. The patient was given mercuric cyanide and neosalvarsan on alternate days for three weeks, and became very much better, losing all the vertigo. Massa finds that vestibular neuritis in syphilitic cases comes on suddenly and that its symptoms are severe. The reactions of the labyrinth to stimuli are very much reduced, if not entirely abolished. The diagnosis is made on the sudden and severe nature of the labyrinthine symptoms and the history of acquired syphilis. He believes that with energetic treatment these cases can be cured.

### 348. Occurrence of Brain Tissue within the Nose.

D. GUTHRIE and N. DOTT (*Journ. Laryngol. and Otol.*, November, 1927, p. 733) remark that while the upward passage of a malignant growth from the nose to the brain is not particularly rare the downward extension from the brain to the nose does not appear to have been previously recorded. They describe two cases where brain tissue was present in the nasal cavity. The first patient was a man with symptoms of a rapidly growing frontal lobe glioma, which, in spite of a decompression operation, rapidly attacked the basal ganglia and caused death. The necropsy revealed a large glioma which had taken on malignant characteristics, had penetrated the dura mater at the olfactory sulcus, and had perforated the cribriform plate. A small tumour of neuroglial tissue was found in the nasal cavity, and on examination was found to consist of the same malignant tissue as the cranial growth. In addition, in one microscopical field, there were one or two thrombosed veins and a slight polymorphonuclear infiltration showing the earliest stages of a cerebral abscess. The second patient was a man who had had a blow on the head in 1911, since when he had suffered first from hemiplegia and later from paraplegia. Glioma of the frontal lobe of the brain had been diagnosed, but apparently incorrectly. In 1920 nasal obstruction had occurred, and in that year and in 1921 nasal polypi of the usual appearance were removed. In 1925 obstruction recurred and a further polypus was removed. This appeared to be more solid and fleshy than usual, and was therefore examined microscopically, and proved to contain glial cells and fibres. It was covered by a ciliated epithelium under which was a fibrous layer resembling the meninges. The recovery of this case was, from a rhinological point of view, complete. The authors consider that the first case was an example of a malignant growth forcing its way by pressure through the base of the skull into the nose, and the second to have been an encephalocele, the stalk of which had been nipped off by closure of the aperture of the base of the skull.

### 349. Tuberculosis of the Upper Respiratory Tract.

G. B. WOOD (*Arch. of Otolaryngol.*, December, 1927, p. 573) reviews recent work on tuberculosis of the upper respiratory passages, and discusses this infection of the larynx. He believes that invasion of this organ always occurs through small lesions of the mucous membrane and not through the

lymph system. The connexion between the tonsils and cervical glands and the interior of the larynx is of the slightest, and shows no signs of the transmission of tuberculosis. The four stages of laryngeal tuberculosis, according to Manassa following Aschoff, are as follows. (1) Infiltration; the mucosa is thickened, red, and studded with miliary tubercles, with a certain amount of round-celled infiltration, and possibly oedema. The oedema may be one of two types; in one there are large lymph-filled spaces in the connective tissue crossed by fine fibrils, while in the other there are multiple minute spaces between the bundles of connective tissue. (2) Ulceration; it has been shown that the necrosis in the larynx are not due to encasing tubercles, but to the extension of intact granulation tissue. (3) Perichondritis; when this is present there is usually very advanced destruction of the superficial tissues and some degenerative changes, at least in the cartilage. (4) Tumour formation; this may represent either a true tuberculoma or a pachydermia. The tuberculomata are rounded smooth swellings, only very rarely ulcerated, and are of two types—the fibro-tuberculoma, which is pedunculated, and contains a large proportion of fibrous tissue round the tubercles, and the granulo-tuberculoma, which is rarely pedunculated, and contains tubercles embedded in granulation tissue. Pachydermia only occurs where squamous epithelium is present. It is found in chronic simple laryngitis, but the tumour formation is much more marked in tuberculosis. Pachydermia may be the only evidence of tuberculosis, and must always be viewed with suspicion. In some cases of paralysis of the recurrent nerve in tuberculosis it is found that the nerve is not merely compressed by a mass of tuberculous glands, but is actually infiltrated and destroyed by a mass of tuberculous tissue.

### 350.

#### Mastoid Periostritis.

A. PIAZZA MISSORICI (*Arch. Ital. di Otol.*, December, 1927, p. 750), who records 110 cases of mastoid periostritis, has found that swelling occurs over the mastoid process, the temporal region, or both. The periostritis was unassociated with any underlying mastoiditis in over 50 per cent. of cases under the age of 5; in 45 per cent. between the ages of 6 and 10; in 44 per cent. between 11 and 18; and in 42 per cent. between 19 and 30. Above the age of 30 only 24 per cent. of swellings behind the ear were due to periostritis only, while the remaining 76 per cent. were caused by mastoiditis and periostritis. The site of the swelling gave no indication of the nature of the inflammation. Mastoiditis, as a rule, was accompanied by swelling over the mastoid alone, while, in simple periostritis, the swelling tended to spread to the temporal region or occurred in that area alone. Investigation of the nature of the microbic infection did not show any distinctive feature in the infection of each type of inflammation.

## Obstetrics and Gynaecology.

### 351. Radiological and Operative Treatment of Uterine Conditions.

C. J. GAUSS (*Med. Klinik*, February 3rd, 1928, p. 163) reviews the results of his own experience and various summaries in the literature of the radiological and operative treatment of haemorrhagic metropathies and fibromyomata of the uterus. He compares the two methods of treatment under the following headings: curative effect; mortality risk; complications; and social considerations, such as cost and loss of time. He mentions also the subjective preference of the patient for the more conservative method of treatment. He concludes that fibromyomata and haemorrhagic metropathies require active treatment if they do not react to medicinal or the simpler gynaecological measures. He considers irradiation of the ovaries to be the method of choice, and deduces from his own experience of over twenty years that the symptoms of the artificial menopause are more severe when produced in this way than by surgical treatment. Operation is indicated when the fibroid growths are pedunculated—either submucous or subserous—and torsion is likely or has already occurred. It is also advisable when it is desirable and possible to avoid amenorrhoea and sterility by a myomectomy, when there is evidence of degeneration or suppuration of a fibroid tumour which might lead to a spread of sepsis, and when the possibility of an ovarian tumour being present cannot be excluded. In all other cases of this type he considers operation unjustifiable. Gauss adds that the method of temporary sterilization to control haemorrhage and tumour growth in young individuals is still in its infancy. Because of the theoretical risk of damaging the ova, of which, however, he has no evidence, he limits the method of temporary or partial sterilization to those cases in which subsequent pregnancy is unlikely, or in which the condition

of the patient in other respects makes the risks associated with the form of irradiation the lesser of two evils. He approves diagnostic curettage as a preliminary to x-ray treatment.

### 352. Ectopic Gestation.

PÉRY, CHARRIER, and MAGENDIE (*Journ. de Méd. de Bordeaux*, January 10th, 1928, p. 1) report the case of a woman, aged 37, who had a miscarriage ten years ago, followed by slight menorrhagia. In November, 1926, she had a normal period, followed in January and February, 1927, by slightly coloured discharge. At the end of February she had severe colicky pains but without any vaginal discharge; the attack passed off in two or three days, but the abdomen continued to increase in size, and at the end of April the patient felt foetal movements. At the end of September she had labour pains but no delivery. In October she suffered from tachycardia, hypertension, and albuminuria. The foetal parts could be clearly made out. Lipiodol was injected into the uterus and its cavity was found to be enlarged but empty. On October 14th the abdomen was opened and a dead fully formed child was removed with the placenta. The authors believe that this was an abdominal and not a tubal gestation, for the walls of the foetal cyst were formed of a thin membrane suggesting the amnion, and there was nothing to implicate the tube. They lay stress on the necessity in these cases of finding suitable lines of cleavage in the removal of the mass. In addition to the above condition the woman had a small fibroid, which perhaps accounted for her history of menorrhagia, but it is doubted whether it had anything to do with the ectopic gestation.

### 353. Pernicious Anaemia in Pregnancy.

P. N. DESCHAMPS and A. FROYEZ (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 9th, 1928, p. 143) report a case of the above disease successfully treated by liver. A primipara, aged 27, and six months pregnant, was admitted into hospital in July suffering from extreme pernicious anaemia. The periods were regular up to five months; there was marked albuminuria and oedema, but the liver and spleen were not enlarged. The red corpuscles numbered only 1,800,000 per c.mm. She was given 250 grams of half-cooked liver for a period of twenty-six days, and three blood transfusions were performed. About a fortnight after the liver treatment was instituted a remarkable change for the better occurred. By August the red corpuscles had risen to 5 million and they remained between 4 and 5 million up to November, when the patient was in good health. In October she gave birth to a healthy full-term child and a mummified foetus. The surprising feature was the improvement in the blood while the foetus was still in the uterus; as a rule there is no improvement until delivery. The persistence of the periods for the first five months was also unusual. The authors do not think that the blood transfusion had nearly as much to do with the good result as the liver treatment.

## Pathology.

### 354. Bacteriolysis of the Tubercle Bacillus.

M. P. ISABOLINSKY and W. J. GITOWITSCH (*Zeit. f. Immunitäts. u. exper. Therapie*, January 16th, 1928, p. 285) find that certain oils are able to dissolve the tubercle bacilli, and that the lysates have a protective action against tuberculosis when injected into guinea-pigs. In their experiments tubercle bacilli were mixed in test tubes with cod-liver oil and with olive oil, and incubated at 38°C. for six months and at room temperature for four and a half months. Under these conditions the bacilli were largely dissolved; a few acid-fast bacilli could still be demonstrated, however, in films. Lysis was more active in the olive oil mixture, and was more complete when freshly isolated strains of bacilli were employed than when old laboratory cultures were used. Not all the bacilli were dead, for cultures of the deposit on egg medium sometimes gave a slight growth; this the authors think is due to the presence of lipid-resistant strains, which are able to multiply in the oil. A number of other oils were tested—animal oils, vegetable oils, and ethereal oils—but none was so active as olive oil. The authors consider it probable that the substances responsible for lysis are lecithin, olive oil, and oleic acid, and that their action is specific. Guinea-pigs were injected subcutaneously with some of the oil that had covered the tubercle bacilli and contained their disintegrated products; two injections were made at intervals of a week. The animals remained perfectly well. A month later they were injected subcutaneously with 5 mg. of a virulent culture of tubercle bacilli. The two animals used were killed after a month; one was completely free from tuberculosis, the other showed a local lesion only. The

experiment was repeated, but the virulent bacilli were injected intraperitoneally, as was also the olive oil. Two guinea-pigs died in three and a half months with slight tuberculous lesions; two others were perfectly well after that time, and when killed showed localized tuberculosis of the lungs; control guinea-pigs died of milary tuberculosis in twelve to nineteen days. The authors conclude that the action of the olive oil in the test tube mixtures was so to weaken the virulence of the bacilli that they served as a vaccine to protect animals against subsequent inoculation of virulent bacilli.

### 355. A Spontaneous Epidemic of Pneumonia in Monkeys.

B. WISNER (*C. R. Soc. de Biologie*, February 17th, 1928, p. 458) records the outbreak of a spontaneous epidemic of pneumonia in the monkeys at the Cantacuzène serological institute, Rumania. During the fortnight October 26th to November 10th, 1927, eight monkeys out of a stock of seventy-six contracted the disease and died. Necropsy showed in six cases a lobar pneumonia, in two cases a broncho-pneumonia; in all cases but one the lesions were bilateral. The pleura and peritoneum were each attacked once, and the pericardium twice; false membranes were found deposited on these serous membranes. In all cases the spleen was swollen. Microscopically a Gram-positive capsulated diplococcus was found in the lungs, spleen, and false membranes; it was recovered in culture from the heart's blood. Serologically the organism proved to be a Type II pneumococcus. A vaccine was made from some of the strains recovered; these were grown in a liquid medium for eighteen hours, centrifuged, and the deposit suspended in saline solution. Three doses were given of 0.1, 0.2, and 0.5 c.cm. subcutaneously on November 12th, 14th, and 17th respectively; no further cases of pneumonia occurred. The author draws attention to the points of similarity between this epidemic and those attacking human beings, particularly the morbid anatomy of the lesions and the presence of a Type II pneumococcus. He suggests that the vaccination was responsible for bringing the epidemic to an end.

### 356. Nature of Morbid Processes following Duodenal Obstruction.

S. SAITO, K. SAKAI, and S. SUZUKI (*Japan Journ. Med. Sci.*, June 27th, 1927, p. 43) have investigated acute intestinal obstruction experimentally to ascertain the cause of death in animals with duodenal obstruction, the factors influencing the occurrence of acute poisoning, and conditions which lengthen the life of animals; special attention was paid to the probable processes taking place in the intestine below the obstruction. The authors found that the incidence of rapid intoxication in duodenal obstruction is prevented and life is much prolonged when the bile duct, or the ureter, is transplanted into the duodenum just below the obstruction, thus allowing the bile, or the urine, to flow through the intestine, and that the same result followed irrigation of the intestine below the obstruction with normal saline. By anastomosing the duodenum with the colon, so that the duodenal contents flowed directly into the colon without passing through the small intestine, the animals showed signs of duodenal intoxication with extensive bleedings from the mucous membrane of the excluded intestine, but when the excluded intestine was daily irrigated with normal saline no signs of intoxication or bleedings occurred. It was further found that when the duodenal ingesta flowed through the whole course of the ileum without passing through the jejunum, or through about 30 to 50 cm. of the lowest ileum without passing through most of the small intestine, the animals survived without developing any signs of duodenal intoxication. These results point to the fact that the cause of rapid death in animals with duodenal obstruction lies in the altered condition of the small intestine mainly below the obstruction.

### 357. Gastro-entero-anastomosis and the Activity of the Gastric Glands.

M. P. BRESTKIN (*Arch. des sciences biologiques* [Russian], vol. xxvii, fasc. 4-5, p. 211), reports the results of his investigations on dogs after gastro-entero-anastomosis. The activity of the gastric glands is intimately connected with that of the pyloric part of the stomach, and gastro-entero-anastomosis interferes considerably with their normal function; it causes a continual flow of gastric juice. The reflex gastric secretion observed under normal conditions is not manifest in animals with gastro-entero-anastomosis, and in many cases there is even a diminution of the secretion during meals. Chemical stimulants cause an increase of the secretion as under normal conditions. Fat does not inhibit the secretion as it normally does, but the soaps formed in the duodenum stimulate the gastric secretion as usual.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 353. Protein Sensitiveness.

D. L. BARLOW (*Med. Journ. of Australia*, January 28th, 1928, p. 112), recognizing the importance of sensitiveness to foreign proteins in the causation of various pathological conditions, emphasizes the diagnostic value of testing the skin for sensitiveness and the employment of specific treatment. In hay fever and asthma protein sensitization is the underlying mechanism in their production, and it is important that patients should be tested early in order that the protein concerned may be avoided, or that desensitization may be effected before the condition has become chronic or complicated. Scratch testing is said to be better than intradermal injection as a routine for pollen and epidermal proteins, though it may often be necessary to resort to the latter method in order to demonstrate sensitiveness to food and bacterial proteins. While specific desensitization treatment is indicated when it is impossible to avoid contact with the offending protein, it must not be regarded as the whole treatment of the affection. The general management of an asthmatic condition and the elimination of contributory causes, such as sinus disease or infected feet elsewhere, are most important in treatment. While many hay-fever patients obtain temporary relief by local treatment, desensitization by inoculation with the offending proteins should be performed also. In pollen asthma pre-seasonal treatment should be adopted with desensitization treatment as early as possible, and not postponed until other measures have failed. Epidermal asthma generally responds well to treatment, but further inoculation may be needed later. Barlow considers that vaccines prepared from sputum or nasopharyngeal swabs are frequently valuable in asthma which is not due to pollen, food, or epidermal proteins, but for this purpose only those organisms causing reactions should be incorporated in the vaccine after the patient has been tested with pure sterilized cultures intradermically.

### 359. Heart Affections in Elderly People.

A. G. THOMAS (*Journ. Med. Assoc. South Africa*, February 11th, 1928, p. 56) has analysed 46 cases of heart disease, excluding valvular lesions, in patients over 50 years of age. These patients, half of whom were men, showed myocardial damage due either to toxæmia or to arterio-sclerosis. The commonest symptoms in order of frequency were found to be dyspnoea on exertion or even at rest, pain or discomfort in the cardiac region, insomnia, sometimes due to dyspnoea, and slight swelling of the ankles. Little was generally discovered on physical examination; there were no murmurs and no enlargement of the heart; occasionally dropped beats were detected and a slight increase in the blood pressure. Several patients complained of epigastric pain and breathlessness, and it was found that an increased risk of sudden death was associated with this syndrome. The conditions giving rise to non-valvular heart disease in this group of patients were high blood pressure, senile degenerative changes, and toxæmias from acute infections such as influenza and pneumonia, but chronic interstitial nephritis was not prominently an etiological factor. Acute digestive disturbances were apt to produce changes of rhythm and sudden collapse in this type of case. The author regards general regimen and relief of symptoms as the most important lines of treatment; he recommends ample rest, a congenial environment, and moderation in diet with restriction of meat. The response to digitalis is said to be often disappointing, but a mixture of nux vomica, potassium iodide, and bromide was found to benefit the majority of patients.

### 360. Congenital Syphilis.

R. FISCHL (*Med. Welt*, February 18th, 1928, p. 243) believes that the great majority of cases of congenital syphilis are due to infection through the placental circulation, and not by contact with maternal lesions at the time of birth. He has observed 164 cases in the last ten years. Among these, 11 infants exhibited symptoms during the first week after birth; in 84 cases symptoms appeared in the second week. In the third week only 17 showed signs of congenital infection; while 63 developed symptoms between the third week and the sixth month. Thus the great majority of cases occurred during the second week of life, and 59 cases (35.98 per cent.) exhibited symptoms between the tenth and twelfth days. In Fischl's personal experience the percentage of

cases of congenital syphilis is now very small, approximately 0.25 per cent. He reports a remarkable decline in the number of cases during the last two years, coincidently with a more intensive treatment of parental syphilis. He has obtained no evidence that the intensive treatment of congenital syphilis induces visceral lesions instead of superficial manifestations. He finds that a negative Wassermann reaction occurs relatively frequently (nearly 22 per cent.) in infants presenting symptoms of florid syphilis, and concludes, therefore, that this test is of little value in doubtful cases; examination of the conjunctival and nasal secretions for the presence of spirochaetes is said to be a much more reliable method of diagnosis. Fischl maintains that the passage of spirochaetes from mother to child does not depend directly on the condition of the mother's lesions, for in some cases these were found to be definitely regressive or healed. He thinks that the possibility of direct paternal infection has not been disproved, and he believes in the existence of the "Colles's mother," with a negative Wassermann reaction.

### 361. Toxic Diphtheria.

W. STEINBRINCK (*Med. Welt*, March 3rd, 1928, p. 327) reports that in Breslau there has been during the last two years an increase in severity in cases of diphtheria, as also in Berlin and several other German towns. The cases were characterized less by increased frequency of laryngeal obstruction and its complications than by diffuse foul-smelling pharyngeal deposits, glandular enlargement, periglandular oedema, and severe toxæmia, which frequently led to vasomotor paralysis, cardiac dilatation, and death in the first or second week of the disease. An attempt to prevent the occurrence of toxic symptoms by early and large doses of antidiphtherial serum failed to reduce the mortality. It has recently been suggested in Berlin that the severity of the toxæmia is due to a mixed infection with streptococci, and combined injections of antidiphtherial and antistreptococcal serum have been used. Steinbrinck also found antistreptococcal serum of great value in his toxic cases.

## Surgery.

### 362. Surgical Treatment of Pulmonary Abscess and Gangrene.

G. PICOT (*Arch. méd.-chir. de l'appareil respiratoire*, 1927, Tome II, No. 4, p. 353) comments on the difficulty in pulmonary suppuration of determining the site or size of the abscess, its depth, multiplicity, and even its very existence; moreover, septic lesions may exist near the abscess and may so modify the symptoms as completely to mask it. Pulmonary abscesses may be classified as non-fetid, caused by specific organisms (streptococci and pneumococci); fetid, due to specific bacteria; and putrid or gangrenous, in which a multiplicity of organisms, particularly anaerobes and spirochaetes, are found. Non-fetid abscesses can heal spontaneously, do not cause a marked failing of the general health, and, being encapsulated, are circumscribed. Putrid abscesses are of graver prognosis, and, becoming subacute or chronic, usually end fatally in about two years. These abscesses exist as cavities in the parenchyma, are non-encapsulated, and the walls are broken, torn, and covered with gangrenous debris. Marked pulmonary sclerosis, especially round the bronchi, accompanies these lesions. Spontaneous cure is very rare, and medical treatment is often insufficient, since the cavity cannot be completely obliterated, thus causing danger of a recurrence. Surgical intervention aims at draining the abscess and producing its obliteration and cicatrization; it necessitates precise diagnosis of the lesions. Repeated radiographs should be made, and an exploratory puncture is an excellent aid to diagnosis. Picot does not favour bronchoscopy, which he considers dangerous and almost useless. Pneumotomy, by which the abscess can be drained to the exterior, should be performed only when the infected area is limited and the pus has already collected; it should be practised under local rather than general anaesthesia, since the latter favours septic complications of the opposite side. Other abscesses should be drained into the bronchi by one of the collapse procedures, such as artificial pneumothorax, phrenicotomy, or thoracic plastic operations. Phrenicotomy does not give conclusively good results, and one of the other operations is preferred by Picot.

**363. Splenectomy for Purpura Haemorrhagica.**

A. W. SPENCE (*Brit. Journ. Surg.*, January, 1928, p. 466) remarks that splenectomy was performed for purpura haemorrhagica on the assumption that the haemorrhages were the result of the reduction in the number of blood platelets caused by the destructive action of a diseased spleen. It is thought that the prolongation of the bleeding time is due to a defective quality of the platelets rather than to diminished numbers. The transfusion of citrated blood in these cases results in a fall in bleeding time to normal and a temporary rise in the platelet count. Purpura haemorrhagica may be divided into acute and chronic cases; splenectomy is beneficial in 80 per cent. of the chronic and 16 per cent. of the acute cases. When splenectomy is successful there is a decrease in the bleeding time to normal and an increase in the platelet count. Two cases are described which show the value of splenectomy as a therapeutic measure. In chronic cases its effects are said to be so beneficial as to warrant its performance when the diagnosis is made.

**364. Diverticula of the Duodenum.**

H. BLANC (*Bull. et Mém. Soc. Nat. des Chir. de Paris*, February 17th, 1928, p. 116) discusses the subject of diverticula of the duodenum. The false or secondary diverticula are usually the result of some inflammatory condition or due to an ulcer. True diverticula are congenital in origin, and the name should really be confined to this group. These diverticula are usually found in the second part of the duodenum, and there may be two or three present in the same case. The symptoms are not typical, and are usually similar to those of other gastro-intestinal lesions; there are generally indefinite dyspeptic troubles aggravated by food, but vomiting does not occur as a rule. In some cases, however, vomiting has been marked, suggesting pyloric stenosis, while jaundice and symptoms of chronic pancreatitis have also been noted. The diagnosis is always made by radiography. The treatment of choice is resection of the diverticulum and closure of its mouth in two layers. Invagination has also been practised. If these procedures cause narrowing of the duodenum it may be advisable to perform a gastro-jejunostomy also.

**365. Torsion of the Omentum.**

G. L. MCWHORTER (*Arch. of Surg.*, February, 1928, p. 569) finds that pure torsion of the omentum, unassociated with hernia, adhesions, or tumour, is rare, and records two cases. This condition may arise without any pre-existing abdominal symptoms. There appears to be in all cases evidence of a pre-existing pedicle which may be congenital in origin. Obesity of the omentum is usually present, and is a frequent predisposing factor in the condition. Hyperaemia may be the exciting factor in torsion, although trauma or unusual exertion may initiate it. Early operative resection of the strangulated omentum should be performed. Prophylactic treatment consists in resection of a pedunculated omentum and the freeing of adhesions when found at an operation.

## Therapeutics.

**366. Treatment of Osteo-articular Tuberculosis.**

C. CLAVELIN and A. SICARD (*Presse Méd.*, February 22nd, 1928, p. 227) have combined intravenous injections of calcium chloride with ultra-violet irradiation in a large number of severe cases of osteo-articular tuberculosis. They always use freshly prepared weak solutions (never more than 1.5 per cent.  $\text{CaCl}_2$ ) of the chemically pure salt in distilled water. The solution is repeatedly filtered, then sterilized in an autoclave. They give two series, each of ten injections, administered on alternate days. An interval of twenty days' rest is permitted before the second series of injections is commenced. In the first series five injections of a 1 per cent. solution are given in progressive doses of 50 to 250 c.cm., and then five injections of a 1.25 per cent. solution in similar dosage. After the twenty days' interval, five injections of a 1.25 per cent. solution in doses gradually increasing from 50 to 250 c.cm. are followed by five more injections of a 1.5 per cent. solution in similar dosage. In two months the patient receives a total quantity of 30.5 grams of the salt, of which 50 per cent. is absorbed (Delore). The flask of solution is first heated in a water-bath to 40° C.; its contents are then poured into a graduated funnel with a rubber tube, to which the needle is attached. If the vein is not entered a blister will be seen and the injection is stopped at once. When an intravenous injection is given, the patient feels a sensation of heat in the head, sometimes through the whole body; occasionally there is a "chalky fasto" in the mouth, or even slight nausea. When it is better to stop the injection lest vomiting should occur, though this seldom happens if the solution is injected very slowly. At least five minutes should be allowed for the

injection of 100 c.cm., and immediately afterwards the ultra-violet treatment is given. Irradiations are repeated every second day during the injections and the interval between the series. The patient receives in all thirty general irradiations. The first irradiation lasts for one minute with the lamp at a distance of one metre. Every subsequent irradiation is increased by one minute, and the patient is brought nearer the lamp. The final irradiation lasts for thirty minutes with the lamp at a distance of 0.5 metre. Usually the injections are well borne; the pulse is not changed nor does the temperature rise. The injections should not be given immediately after food, and the tolerance of the patient should be observed closely. Only one case of intolerance was seen; the patient fainted, but was restored quickly by an injection of adrenalin. In some advanced cases with pulmonary tuberculosis, rigors and profuse sweating followed the injections; in such cases it is advised that the dosage should be increased more gradually. The results have been generally satisfactory. Of 28 patients, 4 lost weight slightly, but 17 others gained from 5 to 20 lb. Many fistulae grew smaller and then healed. The authors consider that the combined treatment enables the patient to fight better against the disease.

**367. Vaccine Treatment in Soft Chancre.**

M. GARRIGA (*La Med. Ibera*, March 10th, 1928, p. 261) records 65 cases of soft chancre treated by Nicollo's vaccine, his conclusions being as follows. (1) The vaccine can be given intravenously and intracutaneously. The intravenous method is undoubtedly the most efficacious, although it gives rise to certain reactions, especially a high and continued fever. The intracutaneous method is less efficacious and slower in its action, but has the advantage of not giving rise to any general reaction. (2) The therapeutic effect of the vaccine, whether given intravenously or intracutaneously, is very slight in the case of ordinary chancroid. It is when the soft chancre and the secondary ulcers become abnormal by their extent and depth that vaccine therapy is valuable. (3) Vaccine treatment by the intracutaneous route is indicated, therefore, as a prophylactic against complications in the case of ordinary chancroid, and as a curative treatment in abnormal chancroid and secondary ulcers. In such cases the vaccine should be given intravenously if possible. (4) Intravenous vaccine therapy is contraindicated in old and weakly patients, in subjects of cardiac, renal, and hepatic disease, and in latent or active tuberculosis. In such cases, however, intracutaneous injection involves no risk.

**368. Synthalin in Diabetes.**

M. LABBÉ (*La Vie Médicale*, February 10th, 1928, p. 161) discusses the value of synthalin in diabetes, and refers to the copious literature. He agrees that the dose should be 20 mg. twice a day with meals, with a possible increase to 25 or 30 mg., but as its action is cumulative, the administration should be discontinued for one day in every three, if the drug is well tolerated and no gastric symptoms such as anorexia, epigastric oppression, diarrhoea, or vomiting occur. Those disturbances and the possible partial or complete anuria are seldom sufficiently serious to necessitate stopping the treatment; they are said to be due to a direct action on the sympathetic nervous system, and may occur when the drug is injected hypodermically. Calcium carbonate, belladonna, bromides, and bile extracts have been given as antidotes. Glycosuria is not diminished immediately, but the action of the drug is very definite after three days. The reduction is proportional to the dose administered, 1 mg. usually reduces glycosuria to the extent of 1.2 grams. While insulin can be administered safely for a long time in large doses, synthalin is dangerous in larger doses than 50 mg. daily. It cannot replace insulin in the treatment of acidosis, while its action in hyperglycaemia is slower. In young patients synthalin does not arrest emaciation, and toxic symptoms may occur. It cannot replace insulin in those cases in which the latter has failed. Labbé's personal experiences of synthalin accord with that of other authors—that its toxicity is a serious obstacle to its general use. He adds that it will never replace insulin in severe diabetes, especially when emaciation and acidosis are present; it is ineffective in diabetic coma, and its utility is restricted to mild cases in which insulin is unnecessary.

**369. Sodium Salicylate in Chronic Epidemic Encephalitis.**

S. H. EPSTEIN, R. K. FARNHAM, and S. COBB (*Boston Med. and Surg. Journ.*, February 16th, 1928, p. 1552) state that the favourable influence of salicylates on certain forms of encephalitis was not recognized until 1923, when Carnot and Blamontier treated two patients with acute epidemic encephalitis by intravenous injections of sodium salicylate. Since then numerous cases have been reported of acute epidemic encephalitis treated by intravenous injection of



sodium salicylate with more or less success. Only a few cases, however, of post-encephalitic Parkinsonism have been treated in this way, but the results were less successful. The present authors record two cases of Parkinsonism in patients aged from 15 to 44, who were given intravenous injections of 2 grams of sodium salicylate in 20 per cent. solution at weekly intervals. Although subjective improvement was noted in nearly every instance, little or no real benefit resulted. The improvement was only transitory, and the progress of the disease was not arrested. Local venous thrombosis occurred in every case. To prevent this the authors suggest that oral administration should be tried in future, and that it might be more effective than intravenous doses owing to the continuity of administration.

## 370.

## Treatment of Asthma.

ACCORDING TO C. SUTHERLAND (*Med. Journ. of Australia*, January 7th, 1928, p. 2) rather more than half the cases of asthma are due to specific hypersensitivity; in many of the remainder some focal sepsis can often be found. The exciting substance in the first group is probably allied to histamine, and treatment should be directed to preventing its formation or combating the spasm. By skin tests the exciting cause may be detected, when the patient may be desensitized by injections of the substance to which he is sensitive. For those who do not react to these tests such vaccines as the anti-influenza may be tried, or intravenous peptone, tuberculin, autohaemotherapy, shock protein therapy, x rays, and diathermy. Adrenaline, in small doses given early and repeated every ten minutes, is still the most useful, and pituitrin is efficacious; ephedrine given by the mouth is slower in action, but its effect is more lasting. Morphine and atropine, or light chloroform anaesthesia, may be useful in severe cases. Between the attacks sodium iodide is better than the potassium salt, and in children arsenic is often beneficial. Authorities differ as to the advisability of special diet unless there is definite dyspepsia; in children it is best to cut down the carbohydrates. Attention to the general hygiene is a necessary part of any course of treatment. Sutherland adds that the results of removing nasal polypi in these cases are often disappointing.

## Ophthalmology.

## 371.

## Lymphoma of the Lacrymal Sac.

H. WEVE (*Nederl. Tijdschr. v. Geneesk.*, February 11th, 1928, p. 696), who records an illustrative case, states that tumours of the lacrymal sac are very rare, so that many ophthalmologists of extensive experience may not have seen a single case. Schirmer, in the first edition of Graefe-Saemisch's *System*, does not mention the subject. In a later edition Stock, in addition to carcinoma and sarcoma of the lacrymal sac, alludes to a case reported in 1881 by Creutz, who found a lymphoma of the lacrymal sac in a patient suffering from leukaemia. Weve's case occurred in a woman, aged 59, who had suffered from lacrymation for a year, but had only had a swelling of the lacrymal sac for six months. The blood picture was normal, but the patient had had an enlarged cervical gland for six months. Toti's operation was performed and a yellowish-grey nodular tumour was extirpated. On microscopical examination it was difficult to determine whether the growth was a round-celled sarcoma or a lymphoma. The last diagnosis, however, appeared the more probable, since the wall of the sac and the lacrymal duct had a lymphatic structure, and lymphoid growths show a predilection for such situations. Comparison of the sections with lymphomata of the lacrymal gland and conjunctiva, and colloidal preparations of the tumour of the lacrymal sac, confirmed the view that the growth was a lymphoma. The only similar case was one recorded in 1927 by Pascheff at the forty-sixth congress of the German Ophthalmological Society, in a man, aged 70, who had a bilateral lymphoma of the lacrymal sac. The blood picture was normal. There was recurrence one year after removal of the growths, but this was successfully treated by x rays.

## 372.

## After-results of Cataract Extractions.

R. C. DAVENPORT (*Brit. Journ. of Ophthalmol.*, February, 1928, p. 85) analyses all the cataract extractions performed at Moorfields Eye Hospital during the years 1919-25, and compares them with a similar analysis made at this hospital by Devereux Marshall for the years 1889-93. By far the most popular technique employed in the recent series is extraction with peripheral iridectomy. The losses from acute infection appear to be considerably lower in recent years. With regard to visual results, those with simple extractions and those with peripheral iridectomies are better than those with complete iridectomy, but against this must be remembered the

fact that at the present time complete iridectomy is often performed in complicated cases. Compared with the earlier series prolapse of the iris is more common in all forms of technique. This may be explained by the more frequent extraction of immature cataracts. The visual results after iris prolapse are, however, better in the recent series. Vitreous loss is about the same in both series, and was considerably more common after complete iridectomy. Only four cases of sympathetic ophthalmia occurred in the recent series, as compared with eight in the earlier series. There were a great many more needlings necessary in the recent series, probably again owing to the greater number of immature cataracts operated upon nowadays. The total number of cases in the 1889-93 series was 1,519, and in the 1919-25 series 2,368.

## 373.

## Obstruction of Branch of Retinal Vessels.

F. H. RODIN (*Amer. Journ. Ophthalmol.*, October, 1927, p. 753) describes a case of obstruction of a branch of the superior temporal artery of the left eye which supplied the macula. The patient had complained of headache for some months. On examination a partial central scotoma and a small relative inferior paracentral scotoma were found. He remarks that the interest of the case lies in the fact that from the lower temporal border of the disc a cilio-retinal vessel extended towards the macula, and in consequence a portion of macular vision was retained. In cases of embolism of the central artery of the retina it is stated that the presence of a cilio-retinal artery, which occurs in 16 per cent., sometimes saves central vision.

## 374.

## Diphtheria Antitoxin in Sympathetic Ophthalmia.

E. B. HECKEL (*Arch. of Ophthalmol.*, January, 1928, p. 54) describes this method of treatment in four cases of this condition. The result was favourable in all four cases. In the first case five doses of diphtheria antitoxin, each of 3,000 units, were given. In the second case, after an initial dose of 1,500 units, four doses of 3,000 units were injected at intervals of a week. Only slight improvement occurred, so the dose was increased to 20,000 units, which was repeated daily for four days, when very considerable improvement ensued. The third case was a child, aged 6 years; 5,000 units were given daily for ten days with very good result. The fourth patient was given 20,000 units daily for seven days, with the result that the sympathizing eye regained full vision, after being reduced to 2/200. Heckel emphasizes the need for large doses of the antitoxin.

## Obstetrics and Gynaecology.

## 375.

## Spinal Anaesthesia in Labour.

P. BALARD and R. MAHON (*Presse Méd.*, March 7th, 1928, p. 291), discussing the advantages gained by spinal anaesthesia in labours complicated by spasmodic rigidity of the cervix, state that this rigidity is really an arrest of dilatation due to a state of uterine contraction. Demelin showed that the intracervical mucosa is lined with fine transverse muscular fibres, and the present authors agree with Keiffer that the cervix is a veritable sphincter. Cases are rare in which the muscular bed is so developed that its contraction alone can be dystocic, and most frequently the arrested dilatation is due to a generalized uterine contraction, of which the cervical rigidity is only a local manifestation. In the majority of cases of arrested dilatation due to cervical contraction time, rest, and opiates produce very good results, but often the maternal and foetal interests demand a more rapid termination of labour. The irritation caused by mechanical dilators is liable to increase contraction without accelerating dilatation. Two methods come up for consideration—namely, manual dilatation and incision of the cervix. The former, very efficient in the simple cases of multiparae, is painful and liable to cause cervical tears in primiparae; in these cases the authors strongly advocate spinal anaesthesia. By producing a physiological section of the posterior roots of the cord, this method suppresses the pathological hypertony, and even the normal tonic, of the cervix, and permits an easy and sometimes spontaneous dilatation. The contraction of the body remains unchanged as the autonomous uterine nervous system, freed from the moderating control of the medullary centres, produces a hypertony. Ballard and Mahon inject 5 to 7 cc. of syncaïne, and use manual dilatation, if necessary, when the flaccidity of the vulva and anus indicates an atony of the soft parts. No risk to mother or child is involved by this method, and the puerperium remains unaffected. Spinal anaesthesia is useless in pathological or primarily infective rigidity, but in normal contraction or in cases of secondary infection it is a most efficient method of producing speedy dilatation.



Y. BOURDES (ibid., March 10th, 1928, p. 316) draws attention to the dangers attending spinal anaesthesia in total or subtotal abdominal hysterectomy, and reports an illustrative case. The great atony of the anal sphincter occurring during this anaesthesia constitutes a serious risk, since it permits soiling of the operative field by the faeces. In these cases Bourdes strongly advises that an enema be given on the morning of the operation, and that, after the pudendal toilet, the vaginal entrance should be closed by well-packed sterile gauze.

### 378. Separation of the Symphysis.

W. BREHM and H. V. WEIRAU (Amer. Journ. Obstet. and Gynecol., February, 1928, p. 187), as the result of a systematic x-ray study of pelves before and after delivery, were surprised at the amount of separation of the symphysis pubis which occurs in apparently normal labours. In their last series of 54 cases 25 were normal without any separation, slight separation (0.5 to 0.9 cm.) was noted in 15, moderate separation (0.9 to 2 cm.) in 13, and severe separation (more than 2 cm.) in one case. Slight separation gave rise to no symptoms, but moderate separation caused pain over the pubes on turning, and fear of moving because of the unpleasant sensation occasioned there. The authors state that copritation may be felt; there is usually retention or incontinence of urine, with possibly prolapse of the urethra and bladder; there may be sudden pain due to the soft parts getting between the separated bones, and cystitis is common. Similar symptoms, but more pronounced, occur in severe separation. It is recommended that slow labours should be treated with scopolamine and morphine, and that the entire pelvis should be strapped and handaged after delivery. The bladder should not be allowed to become distended, and after catheterization one ounce of 5 per cent. argyrol solution should be introduced. The patient should be kept in bed for from three to four weeks, and a bandage be worn for three months after getting up. If symptoms persist surgical apposition may be necessary. An x-ray examination should be made if there is any suspicion of disproportion between the foetus and the pelvis.

### 377. Ulcus Vulvae Acutum.

W. L. L. CAROL and A. CHARLOTTE RUY (Nederl. Tijdschr. v. Geneesk., January 28th, 1928, p. 396), who record three illustrative cases, state that Lipschütz, in 1912, described under the name of "ulcus vulvae acutum" a specific form of gonital ulceration associated with the presence of an organism which he called *B. crassus*, and which was first obtained in pure culture by Scherber in 1913. Between 1913 and 1923 Lipschütz and Scherber recorded about twenty cases, and altogether about sixty cases have been described in various countries, including Austria, Germany, Poland, Denmark, England, Italy, and the United States. The first case in France was recorded by Roederer and Stoimovici of Strasbourg in 1927. The localization of the ulcers is the inner aspect of the labia minora, the free margin of the labia majora and minora, the introitus vaginæ, perineum, anterior and posterior commissure, and preputium clitoridis. Three forms have been described—namely, a gangrenous form of sudden onset, causing more or less destruction of the labial muor; a venereal form consisting of multiple ulcers resembling soft chancres; and a milinary form characterized by the presence of ulcers the size of a pin's head. Ulcers resembling ulcus vulvae acutum in which *B. crassus* was present have been found in men at the root of the penis, perineum, and round the anus. Ulcers have also been found on the vulva similar in appearance to those described, but in which *B. crassus* was not present. *B. crassus* has been found, apart from ulcus vulvae acutum, in vulvitis, cervicitis, salpingitis, and non-gonorrhoeal urethritis in women, especially in prostitutes. In some cases ulcus vulvae acutum has been associated with aphthous stomatitis, as in one of the authors' cases, in a woman, aged 24, in which *B. crassus* was found both in the buccal and vulvar lesions. The authors emphasize the forensic importance of ulcus vulvae acutum, since the patients may wrongly be suspected of venereal disease.

## Pathology.

### 378. Absorption of Oily Subcutaneous Injections.

L. BINET and H. BINET (Rev. de Méd., No. 9, 1927, p. 1143) relate the results of their experiments in the subcutaneous injection of certain oils and oily combinations into various animals, both vegetable and animal oils and oils with different substances in solution, in combination, and in suspension, being used. These workers found that the absorption of oil occurs very slowly, and is complete only after several months, the absorption being slower with vegetable than with animal

oils. The injection of oil causes a very marked histological reaction in the hypodermic connective tissue, an encystment of each oil droplet occurring, and the cyst walls contain numerous mononucleated cells, which seem to play an active part. This reaction is accompanied by chemical changes in the oil, which becomes acidified, a local digestion of the oil occurring with the liberation of fatty acids. The absorption of substances in solution varies with the substance, sudan and chlorophyll persisting *in situ* after the disappearance of the oil, while camphor was absorbed in some hours and iodoform in a few days. In the case of substances in combination with oil, such as iodine, there was a slow destruction of the oil and a tardy resolution of the substance itself, this depending, not on the quantity of oil or drug injected, but on the activity of the tissues, which varied with the individual. As regards substances such as mercury and bismuth in suspension, L. Binet and Fleury have found that the oil undergoes saponification, and Picon has suggested that such saponification is the basis of the accidents following bismuth injections. Experiments *in vitro* have proved that a mixture of a neutral oil and fatty acids in the presence of certain bismuth salts, such as the hydroxide, results in saponification, while other salts, such as the carbonate, cause no such reaction. The present authors confirm these findings, and assert that only such salts should be used for oily injections as are incapable of combining with the fatty acids formed in the course of the absorption of the oil.

### 379. The Leucocyte Picture in Surgical Diseases.

M. SIEBNER (Deut. Zeit. f. Chir., February, 1928, p. 318) states that examination of the blood picture may yield valuable information, especially in the following groups of diseases. (1) Acute osteomyelitis and acute abdominal disease, such as appendicitis, pancreatitis, cholecystitis, and cholangitis, which show leucocytosis, neutrophilia, eosinophilia, and a displacement to the left. (2) Localized suppuration, such as cerebral, diaphragmatic, or perinephritic abscesses, and especially circumscribed peritoneal abscesses, after diseases of the stomach, gall-bladder, and appendix, infected wounds, fractures, and haematomata. Such cases show hyperleucocytosis, absence of eosinophilia, and neutrophilia at the expense of the lymphocytes. Chronic suppuration, as a rule, shows only moderate or slight leucocytosis, and a characteristic feature in such cases is the presence of degenerated neutrophils. (3) Simple catarrhal inflammation of the appendix, chronic cholecystitis, chronic peritonitis or pleurisy, extensive thrombophlebitis, recent fractures, and haematomata. In such cases there is only a slight leucocytosis with a normal or only slightly diminished number of lymphocytes.

### 380. The Chloride Content of the Cerebro-spinal Fluid in Tuberculous Meningitis.

M. LÉVY-BRUHL and YVONNE GARREAU (C. R. Soc. de Biologie, February 24th, 1928, p. 487) draw attention to the importance of estimating the chloride content of the cerebro-spinal fluid in the diagnosis of tuberculous meningitis. Following Mestrezat, they consider that the normal content is 0.73 to 0.74 per cent.; that in tuberculous meningitis it falls below 0.63 per cent. and is generally between 0.5 and 0.6 per cent., while in other meningeal affections it is generally between 0.65 and 0.7 per cent. In cases of subacute tuberculous meningitis, in which the chloride content may be 0.6 to 0.65 per cent., the differential diagnosis from other meningeal infections is best made by a cytological examination; in tuberculous meningitis nearly all the cells are lymphocytes, while in other infections most are polymorphonuclears. The authors record eleven cases of meningitis or meningoencephalitis, in which the value of the chloride test in picking out the tuberculous from the non-tuberculous cases is exemplified.

### 381. Bacterial Flora of Periapical Infections.

R. OTTOLENGHI (Giorn. di Batteriol. e Immunol., February, 1928, p. 114) has examined the pulp of 100 dead teeth. Previous workers have obtained positive cultures from 50 per cent. or more of such teeth, the predominant organism being a streptococcus, not infrequently accompanied by a staphylococcus. The author's procedure was to remove the tooth as aseptically as possible, to cut off the apex, and to drop it into broth. Subsequently cultures were made on different media, and were incubated aerobically and anaerobically. Positive cultures were obtained in 43 per cent. of cases. The organisms recovered were non-haemolytic streptococci in 15 per cent., *Streptococcus viridans* in 8 per cent., haemolytic streptococci in 2 per cent., staphylococci in 6 per cent., the enterococcus in 2 per cent., unclassified spore-bearing bacilli in 4 per cent., and pneumococcus Types I, II, III, and IV, *B. acidophilus*, and *B. coli* each in 1 per cent. Bacilli of the obligatory anaerobic type were never encountered.

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### Medicine.

382.

#### Hyperpiesis.

E. B. GUNSON (*New Zealand Med. Journ.*, February, 1928, p. 1) emphasizes the fact that hyperpiesis is now widely recognized as a separate clinical entity which may or may not be associated with cardio-vascular or renal disease. He finds that, on analysis of 500 consecutive medical cases, 113 have systolic blood pressure readings of 170 mm. of mercury or over, in the absence of renal or valvular heart disease, and he considers these cases from the standpoint of systolic blood pressure readings in relation to symptoms and clinical findings. More or less equal numbers of both sexes are included in the total of 113, the ages averaging 52. Etiological factors are: hereditary tendency, worry, septic foci, excessive and faulty diet, and intestinal toxæmia. Although hyperpiesis occurs without symptoms, the most diverse manifestations may appear from impairment of the various bodily functions. Ten cases are described to demonstrate the common symptoms and the pressure changes resulting from treatment. General weakness, breathlessness, palpitation, and tightness in the chest on exertion, tinnitus, headache, giddiness after effort, flatulence, and epigastric discomfort are among the symptoms most frequently noted. The author regards rest as the first essential in treatment; worry and anxiety must be eliminated as far as possible. Any benefit resulting from dieting is more often due to general moderation than to restriction of meat or salt-containing foods. Digestive disturbances may be largely avoided by reduction of the carbohydrates and the avoidance of fluid at meal times. It is remarked that a too prolonged reduction in diet sometimes results in anæmia. Bromides, nitrates, and digitalis are recommended, the latter especially where elevation of blood pressure and return of symptoms have followed initial improvement. In most patients the greatest subjective improvement follows moderate blood pressure reduction, the level still remaining rather above normal.

383.

#### Typhoid Meningitis.

P. S. DUKAKIS (*Journ. Amer. Med. Assoc.*, December 31st, 1927, p. 2257) concludes that meningitis is a rare complication of typhoid, since only 33 cases have been reported. Among 2,768 cases of typhoid fever at the Johns Hopkins Hospital there were only 5 cases of meningitis. A study of the literature shows that only 30 cases of meningitis due to various causes have been reported in infants under 3 months old, the great majority being due in order of frequency to *B. coli*, streptococci, meningococci, pneumococci, and the tubercle bacillus. There was only one case of paratyphoid meningitis in children under 1 year, the patient being aged 7 months. Dukakis reports the case of a male infant, aged 2 months, breast fed, whose symptoms were regurgitation of its feeds, fever, bulging fontanelle, and slight nuchal rigidity; 5 c.cm. of opalescent fluid was obtained by lumbar puncture, and 25 c.cm. by cisterna punctura. Autimenogococcus serum was given intrathecally and intracranially. Death, preceded by optic neuritis, convulsions, and head retraction, occurred on the seventeenth day of disease. There was no necropsy. *B. typhosus* was recovered from the cerebro-spinal fluid. The Widal test was positive in the mother and typhoid bacilli were found in the stools.

#### 384. The Increased Incidence of Aortic and Cerebro-spinal Syphilis.

A. WOLDRICH (*Wien. Arch. f. innere Med.*, February 3rd, 1928, p. 141) states that there has been a recent increase in cerebro-spinal syphilis and syphilitic aortitis, though most of the smaller European States show a general decline in primary syphilis since 1924. Occasional decreases in the numbers of cases have been observed in recent times. After the Franco-Prussian war it was noted that the number of infected persons declined; this was attributed to a large increase in the marriage rate and more stringent control of prostitution. In contrast with the decrease in primary syphilis, parasyphilis has shown a continuous increase. It is generally admitted that among the less civilized races takes dorsalis and general paralysis seldom occur, while tertiary syphilides and gummata of the bones are more frequent; in the more civilized communities parasyphilis is always more prevalent. This difference has been variously attributed to strains of spirochaetes having special affinity for the nervous system, to degeneration of the civilized races, to a higher power of resist-

ance of native races, and to the evil influences of civilization and war injuries. Woldrich traces a parallelism between the incidence of cerebro-spinal syphilis and aortic syphilis, and states that after the year 1918-19 there was a great rise in the incidence of both until 1924. Since that date there has been a considerable fall in the curve of cerebro-spinal syphilis incidence, while that of aortic disease has remained almost stationary. Tables show also that cases of cerebro-spinal syphilis were three times as numerous in 1924 as in 1904, while those of syphilitic aortitis were fifteen times as numerous in 1924 as in 1904. Woldrich finds that in Czechoslovakia the increase of aortic and cerebro-spinal parasyphilis during recent years is undeniable. It commenced in the years 1918-19, but, assuming that the average incubation period of parasyphilis is fifteen years, the present remarkable increase is due to infection occurring in the quinquennium 1910-15, and is contemporaneous with the commencement of salvarsan treatment. The author adds that the prevention of parasyphilis can be secured only by systematic efficient treatment of all cases of syphilis in the early stages of the disease.

385.

#### Erythema Nodosum.

F. LO PRESTI-SEMINERIO (*Stadium*, January 20th, 1928, p. 12) reports three cases of erythema nodosum in young children, and discusses its etiology. In the first two patients, a brother and sister, the Pirquet reaction was strongly positive, and in one there was some evidence of hilus disease. The third patient gave no evidence of any other disease. The author believes that erythema nodosum is a specific infection, probably due to some filterable virus, and often having some relation to tuberculosis. In each of his cases the tonsils were hypertrophied, but no mention is made of any rheumatic infection.

### Surgery.

386.

#### The Incidence of Cancer.

REVIEWING the present position of certain cancer problems, M. GREENWOOD (*Cancer Review*, March, 1928, p. 97) states that the incomplete method of recording statistics followed in many countries renders difficult the obtaining of reliable information on this subject, but certain facts have emerged from this study. There has certainly been no decrease, and probably an increase, in the real mortality rate, but there is an indication that this increase is slowing down. Improved diagnosis is partly responsible for this apparent increase. The mortality rate is no longer considered to be higher in women than in men. The greater liability to a fatal termination of uterine cancer depends on injury to the cervix during the first labour, and the risks do not increase with the number of children born. Mammary carcinoma appears to be more frequent among unmarried women, and women who develop cancer seem to be less fertile; therefore, the non-specific factor involved may be the absence of a normal stimulus. The most prosperous class socially has the lowest mortality rate, and this differentiation has been found to be confined to certain sites, including the alimentary tract, skin, and larynx; this suggests that the poorer members of the population are exposed to some irritant or irritants the action of which does not reach the internal organs and cannot pass down the digestive tract below the stomach. The belief that a meat diet predisposes to cancer has not been confirmed. The results of treatment, especially as regards the breast and uterus, show that early radical operation is a much more hopeful procedure than is generally realized, and may give an average prolongation of life of more than ten years. There is also satisfactory evidence that radiology can compete satisfactorily with the knife in the treatment of cancer, and Greenwood believes that sufficient advantage of this method is not yet taken in this country. Adequate information is not yet available as to the influence of race, civilization, locality, and occupation on the incidence of cancer.

387.

#### Cervical Ribs.

G. PACETTO (*Arch. Ital. di Chir.*, January, 1928, p. 375) reports five cases of the above condition and discusses the subject generally. He states that the supernumerary rib may be associated with hypertrophy of the transverse process, or this hypertrophy may be the sole anomaly, as was the case in 56 out of 70 cases of cervical anomalies collected by Cronzon. Cervical ribs are usually bilateral, but, owing

to the fact that the condition is generally much more marked on one side, so far as signs and symptoms are concerned they appear to be unilateral; they occur more often in young women than in men. They may give rise to local physical signs not to disturbances of the circulation or of the nerves, due to pressure; motor disturbances are more rare than changes in sensation. Probably affections of the sympathetic system due to pressure are more common than is usually believed. When symptoms arise they do not necessarily persist, but may cease when the immediately exciting cause disappears; Puccetto remarks that, bearing this in mind, surgical intervention should not be hurried. He adds that it is said that cervical ribs or hypertrophy of the transverse process may be seen in 10 per cent. of the population, but the number of persons in whom this condition produces symptoms is very much less, and still smaller is the number of those who require surgical treatment for it. The possibility of anomalies in the first rib or transverse process of the first dorsal vertebra should also be borne in mind. The author appends an extensive bibliography of recent literature on the subject.

### 388. Aneurysm of the Splenic Artery.

GOULLIQUET (*Bull. et Mem. Soc. Nat. de Chir.*, March 17th, 1928, p. 402) records an unusual case of aneurysm of the splenic artery treated by removal of the sac. In this case the condition was diagnosed as a cyst of the pancreas, and its real nature was only discovered at operation. The aneurysm was successfully removed after ligation of the splenic artery, and the patient made a satisfactory recovery. Aneurysms of this vessel are said to occur about equally in men and in women. Syphilis is not regarded as of any importance in the etiology, and in no case does the diagnosis appear to have been made before operation. Trauma as a cause has been noted in a number of cases, either due to a gunshot wound or abdominal injury. The treatment of these cases is entirely surgical, and cure is not possible by any other means. Simple removal of the sac should be performed, but if this is impossible the aneurysm, together with the spleen, should be excised. This latter procedure will be necessary where the aneurysm is situated in a terminal branch of the splenic artery. Ligation of the artery alone should be performed if no other procedure appears possible.

### 389. Carcinoma of Prostate and Bladder.

B. S. BARRINGER (*New England Journ. Med.*, March 8th, 1928, p. 117) considers that cases of extensive prostatic carcinoma should not be subjected to major operations if it is possible to cope with the disease by radium, x rays, or a modified punch operation under local or spinal anaesthesia. It is shown by classifying the duration of life of 202 consecutive cases that in only 15 per cent. was there any length of life after the first examination, and only a few were benefited by any treatment. The operation should be followed by persistent radiation of the prostatic bed and of the lymphatics around the seminal vesicles; for those advanced cases with urinary retention some minor procedure should be adopted, since at least half of the patients will not survive for a year. In considering carcinoma of the bladder, of 20 cases of papillary carcinoma 75 per cent., and of 51 cases of infiltrating carcinoma 35 per cent., were cancer-free as long as observed. These included all cases in which the growth was small enough to be controlled intravesically and all those with radium implanted suprapubically. In 94 suprapubic implantations of radium the mortality was slightly over 3 per cent., compared with a mortality of between 10 and 20 per cent. for the operative removal of carcinoma of the bladder; this indicated that even if radium implantation was not more effective than operative removal a number of lives could be saved by its use. In Barringer's experience a large and increasing number of such cases are being controlled by the cystoscopic applications of radium, but the suprapubic operation is advised for practitioners who are not experienced in the use of radium, or when for any reason there is doubt as to the control of a tumour.

### 390. Gangrene of the Genitals.

J. BEJARANO and M. HOMBRÍA (*Arch. de med., cir. y esp.*, February 25th, 1928, p. 279) record a case in a man, aged 43, who, shortly after the crisis of lobar pneumonia, developed gangrene of the scrotum. Rapid recovery followed injection of 20 c.c.m. of a polyvalent antigangrenous serum consisting of a mixture of anti-vibrio, anti-perfringens, anti-oedematisans, and anti-histolyticus serums. *B. proteus* and *B. sporogenes* were grown from the lesions, and the patient's serum agglutinated *B. proteus* in 1 in 150 and *B. sporogenes* in 1 in 100 dilutions. Inoculation of guinea-pigs with *B. proteus* and *B. sporogenes* produced destructive lesions of a gangrenous type, which did not follow inoculation of either of these organisms separately.

## Therapeutics.

### 391. Tannic Acid Treatment for Burns.

S. BARLING (*Birmingham Med. Rev.*, March, 1928, p. 58) observes that in many cases of burns patients who survive the initial shock succumb later in consequence of absorption of toxins produced by the breaking down of the stable proteins of the damaged tissues. This absorption commences within a few hours after the burn, reaches its maximum after the second or third day, and death usually occurs at the end of the first week. Furthermore, burns, as generally treated, almost always become septic, such sepsis being inevitable while dead or damaged tissue is present to provide a soil for the growth of bacteria. The chief clinical symptoms of severe burns are elevation of temperature and pulse rate, restlessness, cyanosis, coma or convulsions, rapid respirations, and cold extremities. Treatment should be both local and general. Locally, toxic absorption and septic infection must be prevented, or at least limited, so far as possible. Since excision of the whole of the injured tissues is, as a rule, impracticable, these aims are best attained by applying coagulants, which fix the tissues and render the broken-down elements insoluble. Absolute alcohol and solutions of picric and tannic acids have been tried, the least objectionable being tannic acid. It is non-toxic and rapidly transforms the damaged tissues into a brown, leathery coagulum, which is insensitively, protects the underlying tissues, resists absorption, and is an unsuitable nidus for bacteria. Shock, if severe, should be first treated, local treatment being postponed for a few hours. Light ether anaesthesia may advantageously be used during the first dressing. The skin should be cleansed with soap and water, then with a 10 per cent. solution of sodium bicarbonate, followed by swabbing with ether, the opening of blisters, and the removal of loose cuticle. The burnt area is then sprayed with a 2½ per cent. aqueous solution of tannic acid, dried by a stream of warm air, and protected from pressure. The spraying is repeated hourly for the first eight or twelve hours, when the coagulum will be formed. Any fresh blisters should be opened and sprayed, as should also any moist areas. To avoid injury to the eyes, nose, and mouth in face burns, a 5 per cent. tannic acid ointment may be used instead of the spray. As the solution deteriorates with keeping, it should be freshly made every twenty-four hours. General treatment must provide for the neutralization or removal of toxins and the replacement of lost salts and fluids. Liquids should be given freely by the mouth and normal saline solution by rectoclysis or subcutaneously. Alkalis should be administered to increase the alkaline reserve, and in very severe cases exsanguination transfusion may be desirable, the blood of the donor being introduced into one vein while the patient's blood is withdrawn from another.

### 392. Scarlet Fever treated by the Dick Antitoxin.

L. BIDOLI (*Studium*, January 20th, 1928, p. 6) gave to 51 patients with scarlet fever intramuscular injections of Dick antitoxin; as controls he treated 54 cases on ordinary lines. In selecting the cases for injection preference was given to the more severe cases, which made the good results of the injections all the more striking. The usual dose of the serum was 25 c.c.m. each day for the first three days. Improvement in all the main symptoms soon followed, and no serious anaphylactic complications were noted. The duration of the rash was not appreciably affected, but patients treated by injections were able to leave the hospital five or six days before the controls, although the latter were the milder cases. As regards complications, rhinitis was present in 14 per cent. of the controls, as against 4.5 per cent. in the serum cases, and otitis in 9 per cent., against 20 per cent.; the incidence of mastoid trouble was about the same in both series, but there were no suppurative glands in the serum cases, as contrasted with 10 per cent. in the controls. The nephritis cases were about equal, but albuminuria occurred in 27 per cent. of the serum cases, as compared with 15 per cent. in the controls. There were three deaths among the control cases and none in the serum group.

### 393. Gold Salts in Cutaneous Tuberculous Affections.

JEANSELME and R. BURNIER (*Journ. de Méd. et de Chir. Prat.*, February 10th, 1928, p. 77) give an account of the treatment of cutaneous tuberculosis by gold salts, using a French preparation, erisalbine, closely resembling saucorysin. On the whole the improvement was very marked, and the best results were obtained with cases of erythematous lupus. Erisalbine is described as a white crystalline salt readily soluble in water. It is supplied in ampoules allowing a dosage of 0.05 to 1 gram. It is dissolved in distilled water immediately before use and injected intravenously. The

first injection consists of 0.10 gram, followed four days later by one of 0.25 gram. After this two injections of 0.25 gram are given each week up to twenty injections. Certain phenomena of intolerance may be exhibited—namely, albuminuria, nausea and vomiting, rise of temperature, cough, neuralgic pains, loss of weight, and stomatitis. Cutaneous complications are said to be the most frequent and the most serious. Of 32 cases of erythematous lupus localized on the face there were 20 complete cures, 7 improved, and 5 failures. By complete cure is meant the total disappearance of infiltration, redness, and keratinization. In some cases the skin became quite normal, and it was impossible to say where the lupus had been. In others a brownish pigmentation or slight scarring remained, but these were far less disfiguring than the original lupus. In obstinate cases after twenty injections the patients were given a month's rest before another series of injections was started. In four cases recurrence was noted, but this rapidly yielded to a second course of treatment.

## Neurology and Psychology.

### 394. Myasthenia Gravis.

J. M. NIELSEN and P. ROTH (*Journ. Nerv. and Ment. Dis.*, January, 1928, p. 32) summarize the hypotheses of various writers as to the pathology of this relatively rare disease. Jolly has demonstrated his myasthenic reaction (rapid fatigue of faradic irritability with unimpaired galvanic irritability), which proves the presence of organic changes. Among other observers, Weigert has described cell infiltrations of the muscles, which he regarded as metastases from thymic lymphosarcoma. Starr has noted pathological changes in the thymus in 28 per cent. of 250 necropsies, and Jelliffe believes that the cause lies in the vegetative nervous system. The present authors report three cases of myasthenia gravis, which, showing many differences, present a few salient points for comparison. One patient was a woman, aged 34, who presented a poorly developed musculature in general, with evidence of involvement of the bowels, a history of sexual excesses, and severe psychic trauma. The second patient, a married woman, aged 25, had given birth to a healthy child five months previously; she had a very low basal metabolic rate with evidence of myxoedema and of endocrine dysfunction with involvement of the bowel. The third patient, a man aged 36, had a poor musculature, and there were signs of syphilis of the central nervous system. The three patients had the typical onset and development of myasthenia gravis, and all showed Jolly's reaction. The authors maintain that the sexual excesses, myxoedema, syphilis, and psychic trauma are coincidences and not causative factors. They assert that myasthenia gravis seems to occur in persons with small or flabby muscles in general, and that the intestinal walls are impaired as is the voluntary musculature. Jolly's reaction is not necessarily present in all the muscles at any time. It was absent during remissions in two of the cases (the third was not tested), and was present only in the weakest muscles in one case. Strychnine seems to have little or no influence on the course of the disease. The basal metabolic rate is normal, and the exhaustion is probably of neuro-muscular origin.

### 395. Polyneuritis due to Mumps.

W. S. COLLENS and M. A. RABINOWITZ (*Arch. Intern. Med.*, January 15th, 1928, p. 61) report a case of polyneuritic quadriplegia with bilateral facial paralysis and meningitis complicating epidemic parotitis. A review of the literature showed that the characteristics of parotitic quadriplegia were flaccid paralysis of the extremities with loss of deep and superficial reflexes, slight sensory disorders, and deep disturbances such as those of the joint and vibratory senses. Complete recovery was the rule. The absence of abdominal reflexes, the presence of meningeal signs, and the few sensory manifestations with predominatingly motor phenomena point to there being some involvement of the cord in addition to the polyneuritis. The authors' patient was a man, aged 29, who, after a mild attack of epidemic parotitis, developed, one week from the onset, a left orchitis which resulted in atrophy. A fortnight later he complained of weakness in his legs, and was unable to stand; within two days he was unable to sit up or roll over in bed, and had difficulty with food owing to complete bilateral upper and lower facial paralysis, all the other cranial nerves being uninvolved. His neck was rigid, with his head in slight opisthotonos; he was unable to move his head or extremities. There was complete parietic quadriplegia and a marked bilateral Kernig sign; all the superficial, deep, and plantar reflexes were absent. Twenty-four hours later paraesthesia

of the feet developed, with tingling and burning sensations and hyperaesthesia of the arms, legs, hands, and feet, and loss of joint and vibratory sense. A week later the symptoms began to improve, the progress being more rapid after treatment with strychnine sulphate, 1/30 grain, three times a day; the motor signs improved more rapidly than the sensory. Four weeks after the onset of the paralysis he was able to stand with assistance and maintain quadriceps extension for thirty seconds, and his right facial power was returning to normal, though the deep reflexes and joint sense were still absent. Eleven weeks later all sensory, motor, and reflex phenomena were normal and he was discharged cured. All the reported cases showed quadriplegic manifestations, but varied in the nature of cerebral nerve involvement. This type of polyneuritis is said to be usually of infectious origin, resembling that complicating other infectious diseases.

### 396. Hemiplegia Associated with Extensive Nacvus and Mental Defect.

H. J. HUGO (*Journ. Med. Assoc. South Africa*, October 22nd, 1927, p. 534) refers to Brushfield and Wyatt's case of hemiplegia associated with nacvus and mental defect (*Epitome*, August 27th, 1927, para. 178), and reports an additional case of the same condition in a female idiot, aged 7, who was destructive, and unable to walk, speak, feed, or tend herself in any way. She was well nourished physically, but very undersized; she had epileptic seizures, the paroxysms being very severe. There was an extensive cavernous nacvus haemangioma over the right side of the neck from about the upper border of the mandible to the upper margin of the clavicle, which involved the upper and lower lips. The tumour increased in size during two years, and almost completely occluded the nostrils, but there was no haemorrhage from it. The left arm and both legs were paralysed, with a slight degree of atrophy of the muscles. The child died from status epilepticus, and at the necropsy vascular tumours, ranging in size from a pin's head to a pea, were found in all the brain ventricles, and similar growths were found in the kidneys and the liver; the brain showed scattered patches of sclerosis. It was concluded that the vascular tumours in the brain and internal organs were endotheliomata, probably secondary to the skin tumour. (Reference was made to another case of this condition, recorded by Brushfield and Wyatt, in the *Epitome* of January 28th, 1928, para. 99).

## Obstetrics and Gynaecology.

### 397. Uterine Pregnancy following Bilateral Salpingectomy for Tubal Pregnancy.

W. ZANGEMEISTER (*Zentralbl. f. Gynäk.*, February 18th, 1928, p. 411) describes the case of a woman, aged 24, who in 1927 complained of weakness, sickness, and pains in the back, and expressed fear of premature cessation of the menses. In 1925 the gravid left tube had been removed, but not the left ovary; in 1926 the right adnexa had been excised for right tubal gestation, and ventral fixation done. Subsequently the periods had become less, and the last two had been missed altogether. Examination showed a two months' uterine pregnancy; three days later abortion occurred and placental remnants were demonstrated microscopically in the fragments removed by curetting. About 200 cases have been published of right tubal pregnancies after operation for left, or vice versa; tubal gestation on the other side, it is said, may be expected to occur in about 5 per cent. of those operated on for tubal pregnancy—that is, in about one-sixth of those who become pregnant after such an operation. About 21 cases have been described in which tubal pregnancy has been repeated on the same side, occurring in fragments of tube left laterally or mesially, or in the interstitial part; to prevent such occurrences a wedge-shaped severance of tube and uterus has been recommended, but that this procedure is not necessarily effective is shown by Küstner's two observations of uterine pregnancy following wedge excision of both tubes for the purpose of sterilization.

### 398. Primary Abdominal Pregnancy.

E. R. FURGASON (*Journ. Amer. Med. Assoc.*, February 11th, 1928, p. 436) reports a case of what he considers to have been definitely a primary abdominal pregnancy in which the foetus was carried for ten months after the date of confinement. Caesarean section was performed, and the foetus was found in a large sac, completely filling the abdominal cavity, and adherent to the abdominal wall in front, to the transverse colon above and behind to the posterior abdominal wall, and to the small intestine below. So completely was the transverse colon adherent that it could not have been separated from the sac without destroying the intestinal blood supply.



The placenta had undergone calcification and was still adherent to the wall of the sac, the thickness of which was almost that of a normal uterus; there were no adhesions to the uterus. Only a small portion of the sac could be removed, but the patient made a good recovery and was able to leave the hospital three weeks after the operation. Ferguson comments on the confusion caused in this case by the re-establishment of normal menstruation at full term, and concludes that it is advisable to open the abdomen whenever there is such a history. The final diagnosis depended on vaginal examinations, confirmed by the use of x-rays, and it is suggested that both these procedures should be utilized more frequently when there is any doubt about the condition of the pregnancy.

### 393. Sequels of Radiation of the Ovaries.

H. MARTIUS (*Zentralbl. f. Gynäk.*, October 8th, 1927, p. 2601) discusses the possibility of the ovum being damaged in radiation of the ovaries. Weak radiation, in which the dose is insufficient to prevent ovulation, has been used in pelvic inflammations and with varying results, the best occurring in gonococcal infection of the adnexa, in puerperal parametritis, and in tuberculosis of the female genital tract. Martius uses it only when future pregnancy is already unlikely, as in two-sided infectious and tuberculosis, since it is impossible to regulate the dose so as to be sure of avoiding interference with ovulation. Weak radiation of the ovary is used in disorders of menstruation and sterility; its action is on the follicles, and if the dose is to be effective it risks damaging them. The clinical results are uncertain, and similar benefit follows radiation of the endocrine glands and diathermy. Martius thinks that it is only justifiable in polymenorrhoea and amenorrhoea of ovarian origin after medical treatment has been exhausted and surgical intervention is not possible. Stronger radiation doses prevent ripening of the follicles either permanently or temporarily; pregnancy may occur before the onset of the radiation amenorrhoea, and if so the child is usually damaged. It is advised that patients should avoid pregnancy for four months after radiation, and the author does not advise these larger doses while there is any prospect of pregnancy. When radiation is applied in order to promote temporary sterilization the usefulness in young women depends on the possibility of future pregnancy being preserved; there is always a risk of the induced sterility being permanent, or, if conception occurs subsequently, of the offspring being damaged. It should therefore only be used where there is no likelihood of future pregnancy, or where the radiation is confined to one side only. Martius deprecates the prevailing idea that radiation of the ovaries has no bad effects on the offspring, but he thinks that in some cases it may be worth while to disregard the progeny for the sake of the immediate benefit to the mother.

## Pathology.

### 400. *Leptospira icteroides* and *Leptospira icterohaemorrhagiae*.

E. MARTINI (*Centralbl. f. Bakt.*, February 15th, 1928, p. 402) has made some comparative observations on the spirochaetes of yellow fever and of Weil's disease. From experimentally infected guinea-pigs cultures of the heart's blood, liver, and kidney juice were made on Unger mann's medium, which consists of rabbit's serum inactivated by heating to 60°C. for half an hour, and covered with a layer of paraffin. The author found it very important in the cultivation of *Leptospira icteroides* to make cultures from the animal at the height of the fever. Usually the temperature reaches its maximum at 40° to 41°C. between the fourth and seventh days; sometimes it is maintained at a high level for only a few hours, so that it is necessary to observe the animal carefully. A high temperature does not necessarily betoken a particularly severe attack of the disease; some of his animals have recovered, even after exhibiting a temperature of 41°C. and oror, and after suffering from typical jaundice. On the other hand, the animals may die, with all the usual symptoms of jaundice, skin haemorrhages, epistaxis, necroses in the liver, and calcium cylinders in the kidneys without ever showing a rise of temperature to 40°C. Guinea-pigs were inoculated every week with cultures of *L. icteroides*; the virus was recovered from the heart's blood and introduced afresh into other guinea-pigs. The effect of this passage was to reduce the virulence of the strain. After about three months animals ceased to die after inoculation; infection still occurred, and cultures were obtainable from the blood, but death did not result. During the succeeding months the virulence became even less, so that icterus was no longer produced; a high temperature, however, continued to follow inoculation, and the organisms could still be recovered at the height of the fever. The resistance of one strain of *L. icteroides* and one

strain of *L. icterohaemorrhagiae* was tested in various media. In Unger mann's medium the former lived up to three years, the latter up to two years and one month; in a medium consisting of one part of rabbit's serum (inactivated) and three parts of saline the former lived up to three and a half years, the latter up to six months. It would appear, therefore, that the life of *L. icteroides* in culture is very much greater than that of *L. icterohaemorrhagiae*. The author suggests this very high resistance of *L. icteroides* may explain the re-emergence of disease in human beings after a long inter-epidemic period.

401. R. BRUYNOGHE and J. CORNIL (*C. R. Soc. de Biologie*, March 2nd, 1928, p. 598) have endeavoured to find out whether *Leptospira icteroides* differs from *L. icterohaemorrhagiae*. A comparison was made between two strains of *L. icteroides*, one strain of *L. icterohaemorrhagiae*, and one strain of a saprophytic spirochaete isolated from water. These organisms were cultivated in a medium consisting of one part of rabbit's serum, one part of broth, and four parts of saline solution, covered with a layer of vaseline; they all grew well at 28°C., and morphologically appeared identical. Three immune serums were prepared by injecting rabbits with *L. icterohaemorrhagiae*, saprophytic spirochaetes, and one strain of *L. icteroides*. Two series of tests were made with these serums. In the first series mixtures of serum and antigen in varying dilutions were incubated at room temperature and examined under the ultramicroscope after three or four hours and again after fifteen hours. The anti-*L. icterohaemorrhagiae* serum was strongly lytic and weakly agglutinating; it acted equally well on its homologous strain and on the two strains of *L. icteroides*. Moreover, its action was not inhibited by heating to 56°C., which suggests that complement was not essential to the lysis. The anti-*L. icteroides* serum was more strongly agglutinating than lytic; it acted equally well on its two homologous strains and on the strain of *L. icterohaemorrhagiae*. Neither of these two serums had any effect on the saprophytic spirochaete. On the other hand, the serum prepared against the saprophytic strain agglutinated and lysed its own cultures, but had no effect on the cultures of *L. icteroides* or *L. icterohaemorrhagiae*. In the second series culture media were made up with the different serums. Media containing anti-*L. icteroides* or anti-*L. icterohaemorrhagiae* serum inhibited the growth of both *L. icteroides* and *L. icterohaemorrhagiae*, but permitted a normal development of the saprophytic spirochaete; whereas media containing serum prepared against the saprophytic strain had no inhibitory effect on *L. icteroides* or *L. icterohaemorrhagiae*, though inhibiting the growth of the saprophytic strain. From these experiments the authors conclude that *L. icteroides* and *L. icterohaemorrhagiae* are biologically identical, and that, considering the clinical differences between yellow fever and Weil's disease, the causative agent of yellow fever is still unknown.

### 402. Malarial Therapy as an Indirect Immunizing Process.

W. H. GOECKERMAN (*Amer. Journ. Med. Sci.*, February, 1928, p. 261) remarks that although the value of malarial inoculations in general paralysis has been fully established, no explanation of their action has been afforded by the various hypotheses propounded; he reports a case suggesting an unusual factor. A woman, aged 35, presented all the mental symptoms of general paresis, and such physical examination as was possible, together with the Wassermann and other tests, confirmed this diagnosis. A malarial inoculation was given, and after passing through the usual course the patient was discharged. Six weeks later she showed definite mental improvement, and no cutaneous lesions were noted. Quinine, but no antisyphilitic treatment, was continued at home. Five months after inoculation the mental and physical progress was remarkable, but, despite this, typical nodulo-ulcerative syphilides had appeared on the left thigh and right buttock, these having been noticed by the patient about two weeks previously. Bloch believes that the appearance of a late syphilide is evidence of an allergic state, or at least of partial immunity, and the work of Brown and Pearce indicates that the tissue defence reaction is caused by the *Treponema pallidum*. No cutaneous test is known that will demonstrate specific allergy in syphilis, and it is possible that the entire defence reaction, including that of the skin, is non-specific in this disease. Goeckerman believes that the late appearance of the syphilides, coupled with the striking mental and physical improvement, suggests that the malarial treatment re-established a partial immunity in which the skin played a definite part. The gradual rather than rapid improvement of the spinal fluid in this case, as in many others, further supports the theory that the mechanism of malarial treatment is, at least in part, explainable on the basis of a tissue reaction rather than of a direct spirochaetocidal effect.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 403. The Incidence of Visceral Syphilis.

F. REDLICH and P. STEINER (*Wien. Arch. f. innere Med.*, February 3rd, 1928, p. 163) comment on the fact that while there is an undoubted extension of syphilis as a result of the late war, the former predominance of syphilitic lesions of the skin, mucous membranes, and bones has been exchanged for a preponderance of syphilitic diseases of the nervous and circulatory systems. Moreover, during the last decade visceral syphilis has been much more common, coincidentally with the adoption of energetic mercurial and arsenobenzol treatment. The authors cite German and American statistics in support of this observation. They have observed 3,000 patients (1,400 men and 1,600 women) during the period 1923-26. Of the 1,400 males, 212 were syphilitic; of these, 82 admitted infection (5.8 per cent. of those under observation, and 38 per cent. of the syphilitic cases); 13 males who had been treated recently in the dermatological department had no symptoms of syphilis, although 6.1 per cent. had a positive Wassermann reaction. Among the 1,600 females only 194 were definitely syphilitic. Of these, 33 patients admitted infection (2 per cent. of the observed cases and 17 per cent. of the syphilitics); 3 patients showed no signs of syphilis, but had positive Wassermann reactions (1.55 per cent. of all patients). The authors draw the following conclusions. (1) Among 3,000 patients 406 (13.6 per cent.) were definitely syphilitic. Out of 1,400 males there were 212 cases (15.14 per cent.) and among 1,600 women there were 194 (12.2 per cent.) syphilitics. (2) Between the ages of 31 and 60 years 19.4 per cent. males and 15.1 per cent. females were syphilitic—that is, approximately every fifth man and every seventh woman had been infected. (3) The Wassermann reaction was positive in 10.23 per cent. of all patients under observation and a positive reaction without clinical symptoms occurred in 27 per cent.—that is, every tenth patient had a positive reaction, but 3 of these had no clinical evidence of syphilis. (4) Diseases of the central nervous system were present in 135 patients (4 per cent.). (5) Diseases of the circulatory system were found in 88 patients (2.9 per cent.); excluding patients under 40 years old, the percentage was raised to 5.4. Among the 3,000 cases 3 per cent. had syphilitic aortitis (21 per cent. of all syphilitic patients). These observations show the preponderance of syphilis of the circulatory and central nervous systems. The authors add that this great frequency of visceral syphilis necessitates the greatest attention being paid to the patient's previous history and to the Wassermann reaction. The authors agree that syphilis has lost its character as a skin disease and has become largely a disease of the circulatory and central nervous systems which demands most careful study.

### 404. The Temperature in Whooping-cough.

A. DUFOURT (*Journ. de Méd. de Lyon*, February 20th, 1928, p. 109) disputes the view of Cadet de Gassicourt that any considerable rise of temperature in whooping-cough indicates a pulmonary complication. During the catarrhal stage, as Bencht, West, and Troussan, among others, have pointed out, the temperature may be fairly high and irregular or simulate intermittent fever; with the advent of the paroxysmal stage a fall of temperature may occur. Occasionally, however, the temperature keeps up, or rises still higher. In the course of the paroxysmal stage sudden febrile attacks may develop without any obvious cause and of long or short duration. Dufourt records five cases in children aged from 6 months to 8 years, in which the temperature was of an inverted type and presented wide oscillations between the morning and evening record. In none of the cases was there a definite pulmonary lesion. Tuberculin tests were negative, and the subsequent favourable course in each case showed that tuberculosis was not responsible for the fever.

### 405. Diabetic Acidosis.

D. MCCARTHY (*Minnesota Med.*, March, 1928, p. 158) analyses twenty cases of diabetic acidosis and coma from the standpoint of symptomatology. Apart from the abnormalities in the urine, he regards the following signs as important: flushing of the face and singlish mentality; odour of acetone in the breath; increase in the depth and frequency of respiration—this sign, and dryness of the mouth, being always present. Other common manifestations are pain in the upper abdomen and vomiting; and decrease in the intraocular tension. The absence of this latter sign in a comatose patient who is

known to be a diabetic may prompt search for, and discovery of, a vascular lesion such as cerebral thrombosis, and so avert the danger of an unnecessary injection of insulin. A leucocytosis of 13,000 to 20,000 per c.mm. is a constant finding, but the numbers always return to normal on recovery from coma. The presence of such leucocytosis in association with abdominal pain and vomiting may lead to a mistaken diagnosis of an acute abdominal condition. For the general management of severe acidosis or coma the author considers reassurance, warmth, normal saline enemata, and the administration of fluids as the most important measures. Fluids should be given by the mouth if possible, or, failing this, by the rectum or subcutaneously. Gastric lavage is necessary if there is vomiting, and hypodermic injections of digitoxin are recommended until the patient is out of danger. The method of administration of insulin depends upon the degree of acidosis; if this is not severe the patient is given 8 oz. of milk and 10 to 20 units of insulin every four hours, the later doses of insulin being controlled by urine examination. In the more severe cases an initial dose of 30 units is given intravenously and repeated every two hours until the urine is sugar-free; the dose is then decreased and the patient begins to take milk or orange juice.

### 406. Transmission of Scarlet Fever by Books.

B. FEJGIN (*C. R. Soc. de Biologie*, January 20th, 1928, p. 118) examined cultures of the pages of the books used by children suffering from scarlet fever, especially the corners of the pages, which were most likely to be contaminated by the patients' saliva, and isolated haemolytic streptococci either in pure culture or in association with saprophytic organisms, especially *Staphylococcus albus*. Further tests showed that the streptococci were identical with the causal organism of scarlet fever. The following two control tests were performed. Six books of healthy children who had never had scarlet fever were examined, and in none of them were scarlatinal streptococci found. A new book was contaminated with a broth culture of a scarlatinal streptococcus, with the result that cultures of the book taken at different intervals were positive for four to six weeks. Fejgin adds that the practical outcome of these investigations is that books handled by scarlet fever patients may harbour the causal organism and be responsible for the spread of the disease. Such books, therefore, should not be used for at least six weeks, and even after that period it would be best to disinfect them.

### 407. Musculo-spiral Paralysis following Injection of Quinine.

J. M. DE VILLAYERDE (*La Méd. Ibera*, February 18th, 1928, p. 173) records the case of a man, aged 33, who developed right musculo-spiral paralysis directly after subcutaneous injection of a solution of quinine for malaria in the outer aspect of the upper arm 5 or 6 cm. above the elbow. Three hypotheses may be suggested to explain the paralysis: (1) the neuritis was due to an infection; (2) it was caused by a direct lesion of the nerve by the point of the needle; (3) it was due to direct irritation of the nerve by the quinine. Infection could be excluded by the fact that the loss of power occurred immediately after the injection; moreover, there was no evidence of any local infection. It was hardly conceivable that the neuritis was of traumatic origin, since it was almost impossible for a lesion of such magnitude to be produced by the mere prick of a needle. In lumbar puncture one of the nerve cords of the cauda equina may be pricked by the point of the trocar, but the only effect is the occurrence of severe pain radiating to the foot, and no paralysis results. The most likely explanation is that the lesion of the musculo-spiral was produced by direct action of the drug on the fibres of the nerve. The prognosis in cases of local toxic neuritis is always very favourable, and rapid re-establishment of function follows. The possibility of proliferation of the connective tissue round the nerve must, however, be taken into account, since the fibrous tissue which is formed may cause compression of the nerve.

### 408. Immunization against Diphtheria with Virulent Cultures.

H. A. EBERHARD (*Deut. med. Woch.*, February 3rd, 1928, p. 181) states that Böhme in 1924 published a paper on active immunization against diphtheria by a vaccine composed of cultures of living virulent diphtheria bacilli. Since then Eberhard has also used the same method, with the following results. Inoculation was performed on 82 subjects, 37 of whom were small children, 13 school children, and 32 adults

between the ages of 20 and 40. The inoculations were made on the skin on the front of the thigh, the contents of a capillary tube being rubbed in without drawing much blood. Local reaction was usually slight, and constitutional disturbance was rare, or at most there was a slight rise of temperature. Healing occurred in most cases without redness of the skin or scab formation. In 54 cases the antitoxin content of the blood was determined before inoculation, and once or more afterwards. In 20 cases there was no change in titre in the first fortnight after inoculation. Although some patients showed an increase in the titre following inoculation, a considerable number of them showed no such rise. In any case, the method proved very inferior to that of toxin-antitoxin mixtures as regards the formation of antitoxin. Eberhard adds that the question must remain open as to how far formation of antitoxin is an indication of immunity.

#### 409. Clinical Significance of Gallop Rhythm.

P. D. WHITE (*Arch. Intern. Med.*, January, 1928, p. 1) records his observations on 100 patients with gallop rhythm, his conclusions being as follows. Gallop rhythm, which he defines as a rapid sequence of three heart sounds with each cardiac cycle, may be divided into four types—presystolic, systolic, protodiastolic, and mesodiastolic. The protodiastolic, which is the commonest, is probably due to the marked accentuation of the usually faint normal third heart sound. Gallop rhythm is almost invariably evidence of severe heart disease. No fewer than 45 of White's patients died within two years of the discovery of the sign, and 32 within six months. When last heard of a considerable number of the remainder were dead or seriously ill. Males were more often affected than females, in the proportion of 3 to 1. Gallop rhythm occurred in both young and old, but the average age was between 50 and 60, and 48 per cent. were between 60 and 70. In 16 patients under 30 it was more often associated with nephritis or mitral stenosis, and in the older patients with coronary aortitis. Congestive failure was the most outstanding feature, being present in at least 60 per cent. Angina pectoris was common (25 per cent.); cardiac asthma occurred in 14 cases. The heart rate was usually rapid, averaging about 100. The blood pressure varied, the systolic being between 100 and 150 mm. of mercury in 43 cases, between 150 and 200 in 35, over 200 in 19, and under 100 in 3. Pulsus alternans was found in 21 per cent. The heart was considerably enlarged in 60 per cent., definitely normal in only 6, and doubtful in 18. Valvular disease was uncommon. Electro-cardiograms were obtained in 64 cases, and only 2 were normal. Intraventricular block was the most common abnormality found (24 cases, or 38 per cent.), but atrioventricular block was surprisingly infrequent, being recorded in only 11 cases. Of the 17 cases tested, renal function was normal in 8 and abnormal in 9. Digitalis as a possible factor in the production of gallop rhythm could be eliminated, as in at least 32 cases none had been given, and in only 12 had a considerable amount been administered. Moreover, in some cases the gallop rhythm disappeared coincident with the improvement following rest and administration of digitalis.

## Surgery.

#### 410. Gastrectomy in Gastric Cancer.

X. DELORE and P. MALLET-GUY (*Paris Méd.*, March 17th, 1928, p. 254) emphasize the importance of early diagnosis if operation for gastric cancer is to be successful, and, while not denying the aids furnished by the laboratory and radiology, assert that clinical symptoms and the clinical sense are of equal, if not greater, importance in this respect. An exploratory operation is strongly advocated whenever carcinoma is suspected. After the age of 50 loss of appetite and emaciation are almost definite indications of cancer, and when unfeeling chronic affections, such as tuberculosis and nephritis, can be excluded, anorexia for fats and meats, with a progressive loss of weight and energy, is often the first sign of gastric cancer. Gastric symptoms are often limited to simple sensations of heaviness, gastric cramps, and discomfort after food. Except in stenosis, vomiting and haematemesis rarely occur early, though the vomit and stools should always be tested for occult blood. A slight, anaemic, yellowish tint of the skin often appears at an early stage, and blood counts and gastric intubation will afford valuable information. The authors believe that the classic hypothesis that an original seat of the tumour is of better prognosis is unfounded. Early diagnosis may be more difficult when the acuteness of the pain resembles that of ulcer. In the latter, though great emaciation is present, loss of energy is not so marked and the complexion remains clear. Change in the pains, their unusual persistence, and the disappearance

presence of a tumour. Resection of chronic gastric ulcers is strongly advised as a prophylaxis against cancer. In gastric carcinoma gastrectomy should be performed in preference to palliative operations, such as gastro-enterostomy. The authors do not attach much importance to the four factors usually considered as influencing prognosis—namely, stenosis of the pylorus, extension to the lymphatic system and neighbouring organs, and the microscopic and macroscopic anatomy of the cancer, though they consider colloid cancers to be particularly malignant. In many cases marked improvement and even temporary arrest have been noted after gastrectomy, life being prolonged from one to two years. The authors believe that a patient who has passed the third year in good health is almost certainly cured, and give six years as the extreme limit for the appearance of recurrences.

#### 411. Transcervical Fractures of the Femoral Neck.

A. CHENUT (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, February 25th, 1928, p. 145) remarks that it is indisputable that excellent results are obtained by bloodless treatment in cervico-trochanteric fractures of the neck of the femur, but that this is certainly not so in transcervical ones, and a case is reported in support of this view. The patient, a man aged 74, was admitted to hospital with such a fracture of the right femur. Bloodless treatment was instituted by means first of the Whitmann apparatus, and later of the plaster boot of Pareclier, and after five months the patient was discharged apparently cured. About two months later, on flexing the limb, intense pain was felt in the hip; after this walking became impossible, and the weight of the body could not be borne by the fractured limb. Chenut believes that the callus formed had not been ossified, even at the end of seven months, though it had become sufficiently solid to permit of walking for more than three months, and that in these transcervical fractures spontaneous ossification is very rarely realized. In such cases bloodless treatment should be employed only where other operative measures are contraindicated owing to the age, or the cardiac, renal, or general condition of the patient. Operation should be performed as soon as possible after the fracture in order to prevent the formation of pseudo-arthroses. Where bloodless treatment is deemed advisable Chenut strongly recommends the use of Pareclier's plaster boot with lateral wings. It is said to be tolerated much better than Whitmann's apparatus, is very simple and easy to apply, and keeps the limb in the desired position of forced internal rotation and abduction.

#### 412. Temporary Haemostasis in Abdominal Surgery.

L. MAYER (*Bulletin Médical*, February 26th, 1928, p. 564) believes that drainage after appendicectomies has become exceptional, and that many operators have abandoned tamponing after cholecystectomy; he emphasizes the difficulty in certain conditions of tying a deep vessel or excretory duct. He maintains that as satisfactory a haemostasis can be obtained by leaving clamps in position for a certain length of time, and the excellent results obtained by this technique in vaginal hysterectomy have encouraged him to try it in certain abdominal operations. Fourteen cases of such operations, including cholecystectomy, nephrectomy, and splenectomy, are reported in which this procedure was adopted with satisfactory results, secondary haemorrhage or any other untoward accident never occurring. This method occupies less time than tying, and is especially advantageous in cases where the poor general condition of the patient renders advisable a minimum duration of operation; it is also said to be expedient in cases, such as acute gangrenous cholecystitis, where the friability of the tissues renders the retention of sutures doubtful. Mayer uses a long, curved, mouse-toothed forceps clamp, seizes the vessels and duct concerned, and leaves the clamp in position for forty-eight hours. He adds that the clamp should be wrapped in gauze to avoid injury to the surrounding tissues, and should be withdrawn carefully and parallel with the axis of the incision.

#### Arthritis due to Foreign Bodies.

413. O. F. EHRENTHEIL (*Deut. Zeit. f. Chir.*, February, 1928, p. 409) states that this condition was first described in 1900 by Scultze, who distinguished two forms of arthritis of this kind, according as the foreign body was of metal or of wood. In the first form the symptoms are intermittent effusion into the joint, with pain and disturbance of function. When the joint is immobilized by a bandage the symptoms disappear, but recur when the joint is used again. The diagnosis in such cases is easily made by x rays. In the second form the symptoms are the same as in a fungating disease of the joint, with discharge of thin serous pus and fistulous openings with bluish-violet undermined edges. In such cases x rays do not help and the diagnosis can be made only by a careful consideration of the history, inspection of scars, palpation, and finally exploratory arthrotomy. Ehrentheil reports a case

In a girl aged 12 years, in whom the condition was first mistaken for tuberculous arthritis and treated accordingly by extension for three months. The correct diagnosis was then made by x-ray examination, which showed a needle in the left knee-joint. Complete recovery followed its removal.

#### 413. Köhler's Disease.

F. BENSO (*Rif. Med.*, February 20th, 1928, p. 179), who records two illustrative cases in a girl aged 5 and a boy aged 6 years respectively, states that Köhler in 1908 was the first to describe a painful condition of the tarsal scaphoid, usually unilateral and occurring between the fifth and ninth years, and characterized by delay in the development of the bone. The condition is rather rare, and not more than one hundred cases have been recorded. Boys between the ages of 5 and 10 years are chiefly affected. There is no example of hereditary transmission of the disease or of the occurrence of more than one case in a family. The symptoms are spontaneous pain in the dorsum of the foot, aggravated by walking and pressure on the tarsal region, which is slightly swollen, red, and hot. There is a slight degree of limping; passive movements of the foot are not restricted. There is sometimes atrophy of the calf. X rays show that the lesions are localized to the scaphoid, which is smaller than normal, especially in its antero-posterior diameter. The architecture is impossible to recognize, the cortex and spongy portion running together and the density being increased two- to four-fold. The course of the disease varies, but as a rule recovery ensues in a few months. Not infrequently the symptoms disappear after a few days' rest, and recovery of function is obtained in one or two months. Treatment, which is essentially conservative, should consist in immobilizing the foot by a suitable apparatus for a time ranging from one to six or seven months according to the severity of the case. As regards pathogenesis, Köhler's disease has been variously attributed to trauma, infections (especially tuberculosis and syphilis), endocrine disturbances, and late rickets.

#### 415. Malignant Tumours of the Testicle.

C. K. HIGGINS (*Annals of Surgery*, February, 1928, p. 263) remarks that most malignant tumours of the testis may be classified as teratomas, or mixed tumours, and spermatocytic tumours. Sarcoma of the testis is quite rare. Teratomas comprise over half the malignant conditions of the testis; they are very malignant and rapid in growth. These tumours are usually found between the ages of 20 and 50 years, but no age is exempt. There is often a history of trauma. Many cases are only seen after metastases are present; these may be found in the abdominal glands and also in the inguinal glands. Treatment has been tried by x rays, radium, Colley's fluid, orchidectomy, and radical operation. Higgins thinks that a radical operation should not be performed if enlargement of the glands can be recognized clinically. The prognosis after all forms of treatment is grave; it is most serious in the mixed tumours. Carcinomatous growths are the least malignant type. Higgins records twenty-three cases; six of the patients are still alive at varying periods after operation.

#### 416. Kaposi's Disease.

E. K. STRATTON (*Urol. and Cutan. Rev.*, February, 1928, p. 71) records a case, in a man aged 60, which clinically and microscopically corresponded to the rare disease known as Kaposi's multiple haemorrhagic sarcoma. The interesting features were (1) the development of a primary tumour on the scrotum at a spot where there had been severe pruritus ten years previously; (2) the appearance of similar tumours on the extremities—namely, the hands, feet, and ears after exposure to extreme cold; (3) the involvement of the right inguinal lymph glands; (4) no evidence of tumour formation in the viscera. The history of a primary lesion beginning at the site of a severe pruritus is suggestive of a specific micro-organism acting as the irritant. Winternitz and Noggs in 1910 reported a case associated with cirrhosis of the liver, and thought that metabolic products constituted the stimuli. Circulatory disturbances, such as exposure to severe cold, have been frequently recorded as a cause of Kaposi's disease, the explanation being that escaping blood provides the irritant substances causing endothelial proliferation.

#### 417. Injuries and Deaths from Boxing.

K. WOLFF (*Deut. Zeit. f. Chir.*, February, 1928, p. 379) states that the typical injury inflicted in boxing is metacarpal fracture, the following bones being affected in order of frequency: (1) head of first metacarpal; (2) bodies of second, fourth, and fifth metacarpals; (3) Bennett's fracture of the base of the first metacarpal; (4) fracture of the neck of the second and fifth metacarpal; (5) fracture of the body of the third metacarpal. Although many fatalities must have occurred in the brutal fights of past centuries, relatively few

cases have been recorded in recent years. In a series of 22 cases which have been reported since 1920 in Germany, where boxing was first introduced after the war by men who had been interned in England, evidence as the cause of death was available in only 13, and in only 9 for which boxing was responsible, subdural haemorrhage on one or both sides being the cause in 6, cerebral haemorrhage in 1, and fracture of the skull in 2. In view of the large number of boxing matches which have been held a total of 9 fatal cases is regarded as extremely small.

## Therapeutics.

#### 418. Protein Therapy in Leprosy.

N. A. DYCE SHARP (*Trans. Roy. Soc. Trop. Med. and Hyg.*, January, 1928, p. 305) believes that the essential feature in the treatment of advanced cases of leprosy is the degree of initial reaction. Any substance, therefore, which will result in a smart reaction in a leprosy individual will probably achieve a beneficial result apart from any specific action. The most suitable protein body to produce a shock is tinned milk prepared under the most hygienic circumstances and free from preservatives of any sort. The technique is as follows. The top of the tin is cleaned and a small hole made in it by a sterile nail; 2 or 3 c.c.m. of milk are then slowly drawn up into a 10 c.c.m. syringe and diluted with distilled water in a test tube, so that the strength of the dilution is 1 in 10. The standard dose of 0.5 c.c.m. of tinned milk is therefore contained in 5 c.c.m. of diluted milk. The reaction consists in a feeling of giddiness, which comes on within half a minute, followed in three or four minutes by marked respiratory distress and more or less severe precordial pain. Within five minutes of the injection there was always sharp pain in all the joints with severe frontal headache. General improvement followed in another five minutes, and usually within half an hour the patient was able to go home. A secondary reaction, shown by a rise of temperature to 103° to 104° F., would set in at night, and might recur for several nights. In every case complete relief from pains in the joints and bones and from formation occurred within twenty-four hours. At the end of forty-eight hours the temperature was usually normal, and there was almost complete freedom from pain, except in the septic ulcers. In the course of a week the skin lesions, including the perforating ulcers in the soles, showed a marked improvement. Relapses are apt to occur, when benefit may be derived from a second injection. In two of the twelve cases treated the injection was given into the buttocks. There was little, if any, immediate reaction, but when there was a smart febrile reaction a few hours later the end-results seemed to be the same. The author concludes that the treatment, though admittedly drastic and undoubtedly dangerous, seems to be specially applicable to the late and less hopeful forms of the disease.

#### 419. Quinidine in Coronary Thrombosis.

S. A. LEVINE and W. B. STEVENS (*Amer. Heart Journ.*, February, 1928, p. 253) describe the use of quinidine sulphate in coronary thrombosis complicated by ventricular tachycardia. This abnormal rhythm is not uncommon, and is in most cases the sequel of coronary occlusion. In many cases the tachycardia is transient, but, if it persists, the condition of the patient soon becomes extremely grave, as in a case reported. A man, aged 53, was admitted to hospital suffering from typical coronary thrombosis with persistent retrosternal pain, gallop rhythm, pyrexia, leucocytosis, and falling blood pressure. He continued to have some cardiac failure, but no other complication, until the fifteenth day in hospital, when the pulse rate was found to be 198, and an electro-cardiogram proved the presence of ventricular tachycardia. An intravenous injection of 5 grains of quinidine sulphate was given without effect. Four hours later 6 grains was given by the mouth, and on the next day 8 grains. Since the condition of the patient was deteriorating these daily doses were increased progressively to 18 grains, and then, four days from the inception of abnormal rhythm, it was shown by electrocardiography that occasional normal cardiac cycles were appearing. After two more doses of quinidine, each of 23 grains, the rhythm had become normal, apart from occasional ventricular extra-systoles. For the next six days doses of 15 grains were given four or five times a day, and then on withdrawal of the drug the pulse was slow and no irregularity recurred. Great improvement in the general condition of the patient coincided with the restoration of normal rhythm. The authors concur with the general hesitancy to use quinidine, but believe that its use is justified where the continuance of ventricular tachycardia is hastening a fatal issue. They comment also on the very large doses which were required in this case to produce the desired effect.

**420. Sodium Cinnamate in Pulmonary Tuberculosis.**

R. COURTOIS (*Le Scalpel*, February 11th, 1928, p. 141) discusses the treatment of pulmonary tuberculosis by sodium cinnamate, which has been used for more than twenty years at the sanatorium of La-Hulpe-Waterloo, from which the author has drawn his cases. Total statistics taken from a series of 200 unselected cases indicate that less than half of those treated were benefited at all, and that only some 12 per cent. were greatly improved. By arranging, however, all the cases in classes according to their lesions it is shown that the cinnamate treatment has had well-marked influence in certain types of cases, including the so-called ulcero-fibrous type, usually associated with normal or raised blood pressure, and tuberculous pleurisy which is not becoming quiescent under sanatorium treatment. The author has found that in cases of the ulcero-caseous type, cinnamate treatment does not give much hope, especially where the temperature is persistently high, nor is it useful in bronchitic cases. In early stages with a tendency to the ulcero-caseous type, as indicated by low blood pressure, cinnamate treatment may check the disease. Courtois has not used sodium cinnamate in any case unless sanatorium treatment alone had effected no improvement in two months. He gives a series of forty intravenous injections, ten with 1 per cent. solutions, ten with 2 per cent., and twenty with 5 per cent. The total amount of the drug used is not stated. In conclusion, the author claims that sodium cinnamate is the most important drug that can be used as an adjunct in the treatment of pulmonary tuberculosis; he recommends it strongly for cases seen in general practice where there is no great elevation of temperature and where sanatorium treatment is impracticable.

**421. Malarial Therapy in General Paralysis.**

H. A. BUNKER, Jun., and G. H. KIRBY (*Med. Journ. and Record*, February 15th, 1928, p. 173) describe their experience during four and a half years of the treatment of general paralysis by malaria, comprising observations on 156 unselected males in all stages of the disease with definite mental symptoms necessitating commitment to a mental hospital. At least 50 per cent. gave a definitely favourable response, even though in a third of them residual signs of previous cerebral tissue destruction precluded full clinical recovery. Discussing the permanence of the remission of mental symptoms obtained in those responding favourably to treatment the authors call attention to the fact that not only did complete remission occur in about one-third of the cases, but that in fourteen out of sixteen cases the remission has been maintained unaltered for at least three and a half to four and a half years. With reference to the type most likely to respond to treatment it was found that remission was good in 14 per cent. of the simple dementia type, whereas in the manic or hyperactive type 75 per cent. were definitely improved. The authors remark that by earlier treatment, before marked mental symptoms have appeared, much irreparable cerebral damage might be avoided, and they urge that advantage should be taken of a form of treatment which is remarkably effective against a disease which has largely resisted older methods of treatment. In just over one-fifth of the cases the Wassermann reaction in the spinal fluid became completely negative after treatment with malaria alone.

**Disease in Childhood.****422. Influenza in Infants.**

L. MOLL (*Wien. klin. Woch.*, November 24th, 1927, p. 1486) states that the organisms generally found in influenza in infants are the pneumococcus of Fraenkel, *Micrococcus catarrhalis*, *Streptococcus pyogenes*, and, much more rarely, Pfeiffer's influenza bacillus. In some epidemics a haemolytic streptococcus predominates. Two main forms of influenza occur in infants—the severe and the mild. In the severe or vasomotor type, commonest during the first three months of life, death may occur after only a couple of days' illness, with symptoms of severe general muscular weakness, pallor, rapid respiration, and general cyanosis, with occasional meningeal signs, such as vomiting, squint, and rigidity. Large areas of the lung are dull to percussion and a few crepitations may be audible, the liver is enlarged and soft, the heart may be dilated to the right, and the pulse small and accelerated; the temperature varies, and may be high or subnormal. Post-mortem examination frequently shows congestion of the liver, spleen, and the whole portal system, and the author ascribes this to vasomotor paralysis mainly affecting the splanchnic area; he thereby accounts for a part of the symptomatology of the disease in older children and adults as well. He also found, in co-operation with Luksch, that the suprarenal glands are congested and only contain

minimal amounts of adrenalin, but whether this is the cause of the paralysis or is a concomitant phenomenon is undecided. These pathological observations offer an explanation for the proved value of such vasomotor stimulants as adrenalin (1/2 c.cm. of 1 in 1,000 solution, subcutaneously) and caffeine (0.5 gram spread over two days orally, or 0.5 to 1 c.cm. of a 10 per cent. solution subcutaneously). In the milder form catarrhal symptoms predominate, often beginning in the nasopharynx and spreading to the larynx, trachea, and bronchi; if the lungs are affected it is generally the upper lobes. For the nasopharyngitis Moll advocates sweating treatment: 0.1 to 0.2 gram of aspirin may be given with comparatively large quantities of tea; sweating is also encouraged (though it must be carefully watched as it is not without risk) by a steam-tent constructed from an open umbrella covered with a sheet under which the mother sits holding the infant with a vessel of hot water at her feet. Locally one or two drops of adrenalin or 1 per cent. collargol solution are applied to each nostril. In cases with capillary bronchitis the condition of the gastro-intestinal tract is of particular importance, so that the absorption of nourishment may be adequate; in both breast- and bottle-fed infants a mixed diet of breast and cow's milk was found useful.

**423. Leukaemia in Childhood.**

W. K. HUNTER (*Glasgow Med. Journ.*, January, 1928, p. 1) classifies in five groups a series of twenty-two cases of leukaemia in childhood, observed over a period of twenty years. (1) One case of chronic lymphatic leukaemia with the white cell count rarely above normal, although the lymphocytes were absolutely and relatively increased; the glands all over the body, as well as the spleen, were enlarged. The case terminated fatally in two years. (2) Two cases of a more acute type of lymphatic leukaemia, with a duration of six weeks and fourteen weeks respectively. They each had a large mediastinal tumour with the histological characters of a lymphosarcoma. (3) Six cases of the most characteristic type of the disease, with a duration of from one to five and a half months. In most of them there was a pronounced anaemia, and in all a leucocytosis of from 13,000 to 300,000, mainly of a mononuclear, non-granular, primitive type of cell, now more generally regarded as a myeloblast rather than as a lymphoblast. (4) Five cases of leukaemia, or perhaps more correctly erythro-leukaemia, associated with pernicious anaemia. The difference between these cases and those in the third group is mainly one of degree, for several cases in the earlier group had also a number of nucleated red cells in the blood. (5) Eight cases of aleukemia; indeed, there was an actual leucopenia in almost all. In two cases the mononuclear cells seemed to be mainly myeloblasts, while in the other six it was regarded as a lymphocyte. Another feature of the group was the profound anaemia. Some haematologists would place the latter six cases among the aplastic anaemias; the author, however, inclines to the view that they are leukaemias. The pathogenesis of leukaemia in childhood is obscure. Several of the cases in the series presented many features of an acute infection, such as the sudden onset, often with fever, and the rapid course of the illness. The author suggests that the disease is not necessarily the same as in the adult, and that the various types he has described are possibly not all due to the same cause.

**424. Treatment of Infantile Paralysis by X-Rays and Diathermy.**

INSPIRED by the work of Bardier, A. G. LANOVSKY and G. M. FREYDOWITZ (*Meditsinskaya Mysl Uzbekistana* [Russian], October, 1927, p. 37) report the treatment by x-rays and diathermy of 39 cases of infantile paralysis during the first six months of the disease. A complete cure was achieved in 21 per cent., excellent results were obtained in 50 per cent., and in the remainder, with the exception of two cases of diffuse poliomyelitis, the therapeutic results were good. The treatment began with irradiation of the spine. When the lower limbs were affected, the rays were directed to the ninth, tenth, eleventh, and twelfth dorsal vertebrae; in paralysis affecting the upper limbs the fifth, sixth, and seventh cervical and the first dorsal vertebrae were irradiated. In cases of combined paralysis, both the upper and lower segments of the spine were treated. Each field was irradiated with 30 to 50 per cent. of the skin erythema dose with a filter of 0.3 mm. zinc and 1 mm. aluminium. The treatment was repeated at intervals of two to three weeks, and twice or three times altogether. Diathermy was employed every second or third day in the intervals between the x-ray treatments. A small electrode was applied to the affected segment of the spine, a large indifferent electrode opposite in front, and a current of 500 to 1,000 milliamperes was passed for ten to fifteen minutes. The course of treatment usually lasted from one to two months.



## 425. Sequels of Meningeal Haemorrhage at Birth.

M. RIVIÈRE (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, November, 1927, p. 643) reports the subsequent history of six infants, aged from 1 to 2 years, who at birth had had meningeal haemorrhage, which was proved by lumbar puncture. Four appeared to be normal, mentally and physically, and these included (1) a child delivered by forceps in a condition of asphyxia, whose apparently moribund condition, attended by ineffectual convulsions, improved *pari passu* with lumbar puncture repeated two or three times daily; (2) a child delivered by breech, in whom lumbar puncture was performed repeatedly, sanguineous fluid being replaced eventually by one which to the naked eye appeared purulent, but which was actually sterile. A fifth child had not walked at the age of 13 months and appeared to be lacking in facial expression; a sixth walked at 22 months. In a seventh case meningeal haemorrhage was diagnosed clinically, but not proved by puncture; this child was deficient mentally and parietic at 4 years of age, but there was a history of recent paternal syphilis.

## Obstetrics and Gynaecology.

## 426. Delivery of the Adherent Placenta.

J. JARCHO (*Surg., Gynecol. and Obstet.*, February, 1928, p. 265) reports three cases in which the Mojon-Gabaston method of removing the placenta was employed, with resulting delivery in from ten to forty minutes and uneventful recovery. By the injection of warm sterile saline solution into the umbilical cord vein the placental vessels become distended and ruptured, with the formation of a retroplacental hydroma; which mechanically causes separation of the placenta, thus avoiding intrauterine exploration with its attendant dangers. From 100 to 300 c.c.m. of warm sterile salt solution are injected slowly with a Record or Luer syringe into the vein of the umbilical cord, the navel being held in position by an artery clamp, which can be tightened to prevent any return flow of saline should a second puncture be found necessary. If required a rectal examination will determine whether the placenta after detachment is remaining in the cervix and vagina. Jarcho advocates the more general use of rectal examinations in obstetric practice as being easily and rapidly performed with a one-finger glove, and affording all the necessary information as to the progress of the labour. The bladder should always be emptied before injection, the site of which on the cord may be painted with iodine or mercurochrome. The method is useful also in febrile or infected patients; its performance is simple, requires no anaesthetic, and the injection being made into the unsolled portion of the protruding cord close to the external genitals, there is no danger of carrying infection.

## 427. The Heart in Pregnancy.

S. A. GAMMELTOFT (*Surg., Gynecol. and Obstet.*, March, 1928, p. 382) records the results of studies undertaken to ascertain the condition of the heart in pregnancy. Regular examinations throughout the pregnancy, and for a time afterwards were made. The examinations could not be completed in more than 239. Only those of normal physique between 20 and 35 years of age, and either primiparae or 2-parae, were selected, and during the whole period from the second or third month onwards they were examined every two or three weeks by the usual methods of auscultation, pulse, and blood pressure readings before and after exercise, record of weight, and x-ray and electro-cardiographic examination. In a smaller series the amount of blood circulating through the heart in one minute (the minute volume of the heart) was determined by the method of Krogh and Lindhard. While the majority of patients went through pregnancy and confinement without any unusual circulatory symptoms, 39 of the 239 perfectly healthy women presented during the latter half of gestation symptoms which during the last two months were so pronounced as to suggest an organic heart lesion, their chief complaint being cardiac pain, headache, and dyspnoea accompanied by rapid pulse, extra-systole, venous pulsation, and systolic and diastolic murmurs over the pulmonary and tricuspid valves. During labour there was no aggravation of the symptoms, and the murmurs disappeared as early as the next day; all symptoms had subsided before discharge. From these investigations and those of earlier observers the author concludes that apparently healthy women may develop functional symptoms during pregnancy which have often been considered as indicative of organic heart disease. Though his investigations do not conclusively prove cardiac hypertrophy, the heart's action is increased as a result of the larger total amount of blood and the increased amount circulating through the heart in one minute, thus explaining the development of hypertrophy and possibly dilatation.

## 428.

## Caesarean Section.

G. DECOURCY (*Amer. Journ. Surg.*, January, 1928, p. 30) reviews some recent modifications in the technique of Caesarean section, and describes his own operation devised to avoid that contamination of the peritoneal cavity and uterine incision which occurs when the amnion is ruptured within the uterus. To this end the entire gestation sac is delivered intact and is opened away from the field of operation. After delivery of the uterus through a rectus incision slightly to the left of the median line the intestines and abdominal cavity are walled off with saline gauze and the uterus is opened by a low incision commencing at the bladder and extending sufficiently high for easy delivery but not longer than is necessary, the resulting scar from such low incision being more secure. The entire gestation sac is then carefully stripped from the uterine wall and delivered *en masse*, an assistant removing it from the vicinity of the wound and rupturing the membranes, extracting the child, and tying and severing the cord. So long as the placental circulation is maintained there is no danger to the child; the separation from the uterine wall occupies about a minute. In eight consecutive deliveries without mortality to mother or child no difficulty has arisen in its performance. The author states that finding the placenta beneath the uterine incision need not occasion concern, and there is less danger of rupturing the sac if the separation starts with the placenta. By this method the risk of infection is reduced to a minimum, and the author contends that on account of its greater safety to the mother and child it should, in the majority of instances, be given preference to the use of high forceps, since by its use lacerations of the birth canal and the dangers of compression of the infant's skull are avoided.

## 429.

## Genital Neuralgia.

P. DALCHÉ (*La Gynécologie*, January, 1928, p. 5) discusses "habit" neuralgias of the female genital organs, and records cases in which the pain was of great intensity and was accompanied by a persistent burning sensation which did not yield to any treatment. This kind of pain was always intensified by the slightest touch, and by any voluntary movement such as walking. After a long period of misery the patients became anxious and irritable from loss of sleep and appetite. The author compares this type of pain with that occasionally noticed after trauma of nerves; particularly the median and sciatic. This similarity has led some observers to attribute the neuralgia to a sympathetic syndrome following a lesion of the periaxillary plexuses. Whatever the cause, there is no doubt that no organic lesion could be found even after the most minute examination. The patients were not hysterical or psychasthenic. The theory that a particular nerve may develop a habit of registering pain is considered by the author. He argues that, presumably, some initial cause starts the pain and the nerve continues habitually to record pain even after the cause has ceased to operate. Dalché suggests that this may be possible without any accompanying mental derangement. He remarks that such patients often explain their ills badly, and the present means of investigation are too incomplete to allow an accurate diagnosis to be made. Further investigation of the cause of the pain is required. Treatment tried includes psychotherapy, drugs, thermal waters, light, diathermy, ionization, and surgical treatment. In one woman relief was obtained by section of the internal pudendal nerve.

## 430. Influence of Thyroid Disease on Menstruation.

H. GARDINER-HILL and J. F. SMITH (*Journ. Obstet. and Gynaecol. of the British Empire*, Winter, 1927, p. 701) discuss the type of menstruation occurring in cases of thyroid disease based upon 300 cases, including 9 cretins, 100 instances of adolescent goitre with varying degrees of disturbed function, 96 cases of exophthalmic goitre and hyperthyroidism, 41 of myxoedema, 24 of parenchymatous goitre, and 22 of thyroid adenoma, the basal metabolism being estimated to confirm the degree of thyroid activity. It is shown that, while such conditions do not always affect menstruation, any alteration tends to be in a uniform direction, the type of menstruation varying inversely with the degree of thyroid activity; thus hypothyroidism may be associated with excessive haemorrhage, and hyperthyroidism with amenorrhoea. In cretins menstruation was usually found to be delayed or absent unless the patients were adequately treated, when normal regularity was obtained. In adolescent goitre without other signs of thyroid disturbance menstruation was generally normal, but in the presence of hyperthyroidism the periods were apt to be delayed and scanty, or excessive if hypothyroidism existed. In exophthalmic goitre there may be no menstrual disturbance, but in severe cases the periods tend to become scanty or absent. When myxoedema occurs before the menopause menorrhagia is generally present, but since this condition frequently does not develop till after the menopause the impression has arisen that it is sometimes accompanied by



amenorrhoea. Parenchymatous goitre and simple adenoma are usually unaccompanied by any menstrual disturbance, unless, as was found in a small proportion of the patients, hypothyroidism is present, when menorrhagia may occur.

#### 431. Mucous-celled Carcinoma of the Cervix.

ACCORDING to M. REEB (*Gynecol. et Obstét.*, January, 1922, p. 1), whereas carcinomatous growths of the luteal mucosa not infrequently contain mucous cells, it is extremely rare to meet such cells in malignant tumours of the lining of the cervix uteri; nevertheless in both situations cells having a physiological mucigenous function are present. Mucous-celled carcinoma of the cervix has been recorded in eight cases only, to which Reeb adds a ninth. A 2-para, aged 36, sought treatment for debility, loss of weight, and a sticky colourless vaginal discharge; she added that recently slight bleeding had occurred after coitus. There was a softened and moist vagina; the anterior lip of the cervix was enlarged to the size of a hen's egg, with a soft, smooth, and very sticky surface which was not ulcerated, but bled after being touched. This lip after excision showed a cylindrical-celled adenocarcinoma which, near the internal os, had typical microscopical characters, but in the middle, and especially in the lowest third, there was extensive mucous transformation. Large quantities of mucin were present, distending and finally bursting the intraglandular cavities and infiltrating the stroma in large collections to which degenerated remnants of gland cells were attached. In contrast with the corresponding neoplasms in the rectum there appears to be no evidence that mucous-celled cervical carcinomas are specially malignant.

## Pathology.

#### 432. Haematology of Measles.

F. REDLICH and Z. MATERNOWSKA (*Monatssch. f. Kinderheilk.*, January-February, 1922, p. 178), during an outbreak of measles at Lemberg, examined the blood of twenty-two cases and came to the following conclusions. During the incubation period there is often a rise in the number of leucocytes accompanied by an increase of the eosinophils; in the prodromal stage the number of white cells falls, and there is at the same time an increase in the monocytes. During the eruptive period the diminution in the number of leucocytes persists and the percentage of the monocytes falls to normal. At the beginning of convalescence the leucocytes are normal in number or slightly increased, and there is a rise in the number of the eosinophils, plasma cells, and monocytes. There are also not infrequently cases in which the blood picture differs from the type described owing to such factors as constitutional peculiarities, age, recent diseases, intestinal parasites, and, last but not least, the character of the particular epidemic. The authors conclude that examination of the blood in measles may be of value, but that in doubtful cases the diagnosis must be guided mainly by clinical considerations.

#### 433. Hypersensitiveness to Tuberculin.

A. MOELLER, studying the phenomena of hypersensitiveness to various tuberculins, has come to the conclusion (*Med. Welt.*, February 25th, 1922, p. 281) that some of the interpretations of this reaction are untenable. He compares the hypersensitive reaction with the rashes of the exanthemata, and believes that a period of hypersensitiveness of variable duration appears at some time in all tuberculous infections; this is attributed to by-products of the contest between the organism and the invading bacilli, varying with the age and constitution of individuals; it is not due to antigens, and should not be regarded as a measure of immunity. These by-products may at times be present in minimal quantities only, and, since in young guinea-pigs giving a negative tuberculin reaction tuberculous lesions may often be found when the animals are killed and dissected, he considers the assumption unjustifiable that young infants who give a negative tuberculin reaction are free from tuberculous infection. He has also found that on the thin arm of an undernourished child a negative reaction may be obtained, although when the child becomes fatter again the reaction becomes positive. He adds that it has also been demonstrated in cattle that cutaneous hypersensitiveness may disappear for a time, and yet the animals may be very resistant to infection.

#### 434. Vitamin Deficiency and Liability to Infection.

C. E. BLOCH (*Ugeskrift for Læger*, February 23rd, 1922, p. 185) notes that while he and various other observers have found vitamin A deficiency give rise to defective immunity, as demonstrated by the existence of various infections

processes, no clinical or experimental investigations have hitherto been made with regard to the possibility of vitamin C deficiency having the same effect. He asks if vitamin C deficiency provokes the same degree of defective immunity as does vitamin A deficiency, and whether patients suffering from scurvy are appreciably more susceptible to infections, benign and otherwise, than other patients. To answer these questions he grouped his clinical material into two classes. In the first there were 32 cases of scurvy (vitamin C deficiency), and in the second there were 86 cases of xerophthalmia (vitamin A deficiency). Among the cases of scurvy there were 18 infants whose ages were between 6 and 12 months, and 14 children whose ages were over 1 year. Among the cases of xerophthalmia there were 20 infants under the age of 6 months, 27 between the ages of 6 and 12 months, and 39 children whose ages were over 1 year. Among the cases of scurvy there were 9 showing evidence of some infection on admission or during residence in hospital, but with the exception of one case of pneumonia and one case of pyuria and congenital syphilis complicated by vitamin A deficiency, these infections were of a slight catarrhal character and rapidly cleared up. The incidence and severity of the infections in this class were not greater than in other hospital patients whose principal ailment was not an infectious disease. On the other hand, among the 86 patients suffering from xerophthalmia there were 68 also suffering from some infection, which in 15 cases consisted of pneumonia, in 12 of bronchitis, in 13 of otitis media, in 27 of pyuria, and in 14 of purulent conditions of the skin. These severe infections did not disappear till the vitamin A deficiency had been overcome. The author concludes from these observations that, in Denmark at any rate, it is only vitamin A deficiency, among all the various vitamin deficiencies, which causes a marked fall in the state of immunity. He notes in this connexion that while in chronic tuberculosis the increasing of the supply of vitamin A is most beneficial, the increasing of vitamin C has little effect except in the rare cases in which the tuberculosis is complicated by scurvy.

#### 435. Chronic Suppurative Otitis Media Associated with Vincent's Organisms.

R. MOTTA (*Il Policlinico*, Sez. Prat., January 23rd, 1922, p. 83) describes the cases of two children with discharging ears; the slight discharge tended to be fetid, and the children were often noticed to rub their ears with their fingers. At a later date the discharge increased in volume and in fetor; it was found to contain large numbers of fusiform bacilli and the spirilla of Vincent. The first case was a chronic condition of nearly two years' standing; the second was of much shorter duration. In both cases there was painful enlargement of the upper deep cervical glands, and in the first case there was an ulcer in the external auditory meatus, about half a centimetre across. Both cases had been treated with hydrogen peroxide drops, but neither had improved. A solution of 10 per cent. salicylic acid in alcohol was tried but without success. Finally a 15 per cent. solution of neosalvarsan was applied locally and a very considerable degree of improvement was obtained. It was found that the spirilla of Vincent and fusiform bacilli gradually disappeared from the discharge, and many pseudo-diphtheria bacilli remained. The author thinks that the infection with Vincent's organisms may have been added by the fingers of the children.

#### 436. Acclimatization to Low Oxygen Pressures.

J. A. CAMPBELL (*Journ. of Physiol.*, September 9th, 1927, p. 325), continuing his investigation of acclimatization to low oxygen pressure equivalent to that of the top of Mount Everest, confirms the general rule that the haemoglobin percentage decreases as the oxygen pressure in the air rises, and vice versa. The changes produced by altering the oxygen pressure pass off again after a few weeks' exposure to the normal. Changes in the haemoglobin percentage are, however, not essential to acclimatization to alterations in the oxygen pressure, and should be regarded only as possible consequences; they are of some assistance to the heart when they do occur. Campbell adds that, contrary to the prevailing views, acclimatization to lowered oxygen pressure in the air is not due to improvement in the tissue oxygen tension, but to the fact that the tissues accustom themselves to the lower figure. Rapid acclimatization is due to the ability of the vital organs—particularly the heart—to continue to function under a low oxygen tension. In all animals experimentally exposed to low pressures heart failure was the most constant phenomenon. Acclimatization to increased oxygen pressure in the air was similarly found to be due to the tissues accommodating themselves to it. Hypertrophy of the muscular coat of the branches of the pulmonary artery was observed to follow exposure to low oxygen pressures.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 437. Latent Scurvy.

THOUGH scurvy is considered of rare occurrence, H. ÖHNELL (*Acta Med. Scand.*, March 15th, 1928, p. 176) believes that it is not so infrequent in Sweden as is thought, and that the symptoms are often so mild as to lead to an erroneous diagnosis. He has had twenty-two such cases under his care, and Meniengracht has this year reported eight cases in Denmark. Of the twenty-two patients, six (aged 21 to 61) were males and sixteen (aged 21 to 53) were females; all the cases seemed to be due to a lack of vitamin C in the diet, which had been modified in consequence of the existence of intestinal disease. The predominant feature in most of these cases was a gingivitis, localized to the proximity of the teeth and accompanied by intensively swollen interdental papillae, though rarely by marked bleeding. Cutaneous haemorrhages, almost exclusively confined to the lower extremities, were noted in most cases; these were usually isolated, but in a few cases were confluent. Haemorrhages in other organs were rarely observed, haematuria occurring only in one and slight haemoptysis in two patients. Tests for occult melæna were always negative. In two cases there was marked oedema of the lower limbs. Rheumatic pains and slight anaemia were often present, and nervous disturbances were very frequent. Öhnell adds that the presence of gingivitis and cutaneous haemorrhages, combined with a history of vitamin C deficiency, are the chief factors in diagnosis, which may be aided by a radiological examination of the teeth for the typical scorbutic changes which are often seen. Prophylaxis, difficult in intestinal diseases, consists in supplementing the diet as soon as possible with fruit and vegetable juices rich in vitamin C, the juice of oranges, lemons, tomatoes, or carrots being given daily in teaspoonful doses. In treatment Öhnell gives these juices in larger doses—namely, the juice of one or several oranges or lemons or 50 to 200 grams of tomato or carrot juice daily; since the vitamin content varies considerably in the same kind of fruit or vegetable, several different varieties are prescribed for each patient.

### 438. Venous Drainage of the Cardiac Nodes.

E. GÉRAUDEL (*Arch. des Mal. du Cœur*, March, 1928, p. 148) has established the fact that the cardiac rhythm depends upon the arterial supply of the nodes, and he now gives an account of the venous drainage of these structures. The bundle of His and the auriculo-ventricular node are drained by a vessel which closely follows the artery supplying them. This vein is joined by one flowing from the interventricular septum, and the main trunk then opens into the right auricle immediately above the valve of Thebesius. No vein is found corresponding to the principal artery of the sino-auricular node, but many small veins are present in this region, and they open into the posterior portion of the right auricle on the medial aspect of the crista terminalis. The author has previously shown that arterial ischaemia results in impaired cardiac action corresponding to the nodes involved, and he considers that comparable alterations of rhythm may follow passive hyperaemia of the nodes due to faulty drainage. Thus, since arterial hyperaemia augments the action of the heart, so hyperaemia of venous origin should exert the same influence. Support for this hypothesis is found in clinical medicine, for it is particularly in those cases of mitral disease associated with right-sided dilatation that tachycardia is most common. Passive hyperaemia of the nodes may, therefore, be the link connecting auricular distension with rapid cardiac rhythm.

### 439. Diphtheria of the Larynx in the Adult.

C. ZOELLER (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 8th, 1928, p. 426), who records a personal case, illustrates the rarity of diphtheria of the larynx in the adult by the fact that Collet had seen only eight examples. Megias reported three cases, none of which was recognized at the onset, while one was mistaken for tuberculous laryngitis. It is noteworthy that Bretonneau made a retrospective diagnosis of diphtherial laryngitis in the case of George Washington, who died at the age of 67. Zoeller's case was that of a colonel, aged 60, who had an attack of purely laryngeal diphtheria followed by paralysis of the palato and constrictors of the pharynx, but ultimately recovered. It was remarkable that, living as he did in a community where diphtheria was ubiquitous, he had not become immunized.

### 440. Meningococcus Septicaemia.

O. HERMANN and M. EIFSCHITZ (*Deut. med. Woch.*, March 2nd, 1928, p. 355) state that meningococcus septicaemia is not an infrequent occurrence. In all cases of suspected malaria, influenza, or enteric fever in which the diagnosis is not definitely established a repeated bacteriological examination of the blood should be made. According to Friedemann and Deicher, the characteristic features of meningococcus septicaemia are (1) catarrh of the nasal mucous membrane, throat, or bronchi; (2) fever, at first remittent and then irregular, from one to several months' duration; (3) erythema exudativum or nodosum; (4) protracted course without physical signs; (5) a relatively good general condition. The authors record a case in a man, aged 30, who presented all these symptoms and showed a pure culture of meningococci in the blood. Spontaneous recovery followed, the disease being apparently not affected by quinine, arsenic, or iron.

### 441. Transverse Myelitis as a Form of Heine-Medin's Disease.

C. HÜNNERMANN (*Arch. f. Kinderheilk.*, March 23rd, 1928, p. 251) records the case of a previously healthy boy, aged 14, in whom, during an epidemic of poliomyelitis, there developed paralysis of both lower limbs and retention of urine. There had been no trauma to cause haematomyelia, which might have given rise to these symptoms. Syphilis, tuberculous spondylitis, or a tumour which could have produced a transverse lesion could be excluded, as well as lead or arsenical poisoning. The diagnosis was therefore made of acute poliomyelitis in the form of transverse myelitis, of which several examples have been recorded in recent years, so that the description of a transverse myelitis form of Heine-Medin's disease appears justifiable. Since no normal horse serum or convalescent serum was available, antimeningococcal serum was injected intraspinally and intramuscularly, and in the course of three months recovery ensued.

### 442. Encephalitis following Measles.

P. H. KRAMER (*Nederl. Tijdschr. v. Geneesk.*, February 25th, 1928, p. 937), who records five illustrative cases, regards it as probable that encephalitis following measles is not due directly to the virus of measles, but results from the invasion of a neurotropic virus which is already present in the patient or has attacked him after the onset of measles. Kramer draws attention to the greater frequency of the occurrence of encephalitis in connexion with other infectious diseases in recent years in various countries, such as vaccinia, varicella, scarlet fever, and whooping-cough, and suggests that it may be connected with epidemic or sporadic cases of encephalitis lethargica.

## Surgery.

### 443. Prognosis in Foreign Bodies in the Gastro-Intestinal Canal.

J. GRÜNSTEIN (*Zentralbl. f. Chir.*, March 10th, 1928, p. 585) states that the majority of elongated foreign bodies that enter the alimentary canal are passed naturally per anum. Some, however, are retained, either on account of their size or because they become impacted in the region of an anatomical or pathological narrowing of the canal. Perforation of the large intestine by foreign bodies is very rare, but Brünning reported a perforation of the transverse colon by a fish-bone, which was found in an omental abscess; the perforation in the intestinal wall had healed completely. The inflammatory omental swelling was removed successfully. Grünstein now reports two other cases. A woman, aged 38, observed a hard mass in the left side of her abdominal wall below the umbilicus. She had occasional severe pain in this region, and her general health was failing. At the operation a hard, tender omental tumour, as large as the fist, was found firmly attached to the peritoneal surface of the abdominal wall. The adherent transverse colon was definitely thickened over an area two inches in diameter. With the probability of this being a carcinoma with omental metastases, the bowel was resected and an end-to-end anastomosis performed. The omental tumour contained a fish-bone and several abscesses. In the resected portion of the bowel there was a perforation which easily admitted a sound. The patient did well until the fourth day, when a sudden fatal haematemesis occurred. A man, aged 36, was said to have had recently a severe

attack of typhus with melaena. A skiagram showed a deep shadow, three fingers in breadth, below the liver margin, and a diagnosis of metallic foreign bodies was made. On opening the abdomen, a hollow viscus presented, densely adherent to the parietal peritoneum over an area as large as a five-shilling piece. This proved to be the stomach, and immediately beneath the pylorus a protrusion as large as a small apple was found. On opening this sac two coins and fifty-six straight and bent nails, some as long as 5 inches, were found. The patient made a rapid recovery. The author adds that reports of such cases, followed by successful operation, are very frequent, and prognosis is favourable if operation is not delayed.

#### 444. Myositis Ossificans.

T. R. CHAMBERS (*Arch. of Surg.*, March, 1928, p. 755) reports an unusual case of myositis ossificans occurring in a man, aged 28, who, while helping to lift a motor car, felt a sudden sharp pain in the upper part of his right arm and shoulder, which was followed by swelling and slight pain and tenderness. A month later an x-ray examination showed a definite bone-forming tumour of the outer side of the right humerus, which was thought to be due to the stripping of the periosteum at the insertion of the deltoid, the result of the indirect violence a month previously. Six months later the bony mass was larger and appeared to be extending round the shaft as a pedunculated bony tumour attached to the humerus at one point. It was at first thought advisable to defer operation until the mass had ceased growing, but a sudden rapid increase in size led to a decision to operate, and twenty months after the injury the mass was curetted down to the shaft and a considerable amount of periosteum with some cortex was curetted and chiselled off. The wound healed without any complication and the patient was freed from pain. Two months later recurrence took place, and steadily increased, threatening the blood and nerve supply to the arm. Amputation at the shoulder-joint was performed, and one and a half years later there was no evidence of any further involvement. Sections showed typical myositis ossificans without any sign of malignancy. Chambers comments on the possibility that the condition was due to indirect violence by muscular exertion, recurrence following removal before a stationary or receding stage had arrived. Had it not been that the earlier x rays showed the cortex to be intact without erosion or irregularity, a diagnosis of periosteal sarcoma would undoubtedly have been made after the first operation in view of the recurrence, and because the films then more closely resembled sarcoma, the mass being more irregular, and the cortex being irregular and eroded as the result of curetting.

#### 445. Treatment of Prostatic Hypertrophy.

G. H. EWELL (*Amer. Journ. Surg.*, February, 1928, p. 201) states that the mortality after operations on the prostate during recent years has fallen to about 3 per cent. as the result of careful pre-operative and post-operative preparation and treatment. The institution of bladder drainage and the forcing of fluids before operation is important. Acridavine is usually administered together with urotropine, and if cystitis is present bladder-irrigation is performed twice daily. The suprapubic operation gives excellent results, and the mortality is low with this method. Nitrous oxide or ethylene gas are the anaesthetics of choice. Complete haemostasis after operation is the second most important factor in the management of these cases; this is secured by gentleness and care in the coagulation, and by the use of some mechanical pressure. The Pileher bag is useful, but the gauze pack is to be preferred. This is soaked in glycerin and packed tightly into the gland cavity. Bladder irrigation is started about the fourth day. Epididymitis is a frequent complication and may retard convalescence. Double ligature and division of the vas prevents this and should be performed.

#### 446. Death in Acute Intestinal Obstruction.

W. D. GATCH, H. M. TRUSLER, and K. D. AYRES (*Surg., Gynecol. and Obstet.*, March, 1928, p. 332), discussing the cause of death in acute intestinal obstruction, conclude that in simple obstruction without gangrene death is not due to absorption of toxins, but results from dehydration and the loss of chlorides through vomiting and starvation; in acute strangulation, however, death is due primarily to toxin absorption from bacterial action in the distended and gangrenous bowel, which quite overshadows the dehydration and hypochloraemia. In simple pyloric or duodenal obstruction operation should be postponed until the dehydration, hypochloraemia, and starvation have been overcome by the intravenous administration of sodium chloride, glucose, and water; in early stages of intestinal obstruction the operation should be performed as soon as the blood chlorides have reached

a normal level. The authors think that, unless the patient is moribund, the prognosis of acute simple obstruction should be favourable, provided that the metabolic disturbances resulting from dehydration and loss of chlorides can be relieved by the administration of sodium chloride solution. In obstruction complicated by gangrene, such treatment, while it supplies fluids and chlorides and increases kidney elimination, does not relieve the toxæmia, which is closely allied to that of surgical shock; such patients stand anaesthesia badly, and the operation should always be preceded by the intravenous administration of a considerable quantity of sodium chloride solution. The gangrenous loop should be excised and enterostomy performed, an intestinal anastomosis being postponed until the patient has recovered, and not being undertaken in the presence of great distension of the bowel.

## Therapeutics.

#### 447. Heliotherapy and Renal Tuberculosis.

A. ROLLIER (*Brit. Journ. of Tuberculosis*, January, 1928, p. 9) outlines the important position which heliotherapy occupies in the treatment of renal tuberculosis as a most valuable subsidiary agent. He considers nephrectomy essential as soon as the diagnosis of unilateral renal tuberculosis is established because of the risk of bladder infection. In such cases heliotherapy is of use, and is especially indicated in the pre-operative stage for those patients whose general condition is precarious and who are likely to be poor operative risks or to suffer from post-operative complications. It is claimed that heliotherapy induces repair of tuberculous lesions, improves the circulation, increases the general powers of resistance, and, by developing local cellular resistance in the area of the operation, it lessens the risk of wound infection. Post-operatively heliotherapy gives excellent results by assisting healing, destroying germs, and stimulating the cellular defence. In bilateral disease it is the treatment of choice in helping the organism to fight against extension of the tuberculous lesions and exerting an analgesic action upon ulcerations of the bladder. To be efficacious its administration demands strict adherence to proper dosage for each individual case, so that the local and general reactions never become so intense as to be dangerous. Application to the whole surface of the skin, commencing with the lower extremities, is of importance, the different regions of the body being exposed in short sessions at intervals of five minutes, repeated three times. Local treatment should rarely exceed thirty minutes for the kidney or bladder. Rollier advises patients to take up some form of work which, combined with the sun cure, exercises a valuable psychotherapeutic influence.

#### 448. Arsenic and Bismuth Therapy in Hodgkin's Disease.

ALTHOUGH certain chemical preparations exercise a rapid and radical effect at first on the glands in Hodgkin's disease MICHAELIS (*Bruxelles-Médical*, March 18th, 1928, p. 677) gives the warning that the prognosis should be guarded, since in the final stages their action is inefficacious. He reports an illustrative case of a woman, aged 52, who when first seen had an enlarged gland behind the right ear. Treatment with an iodine ointment and hot moist dressings caused no improvement, and, three weeks later, further enlarged indurated ganglia were found in the neck and arms. Cytological examination of the blood revealed no special features; the Wassermann reaction was negative, and the family history was inconclusive as regards syphilis. At this time the right parotid gland commenced to enlarge, and a diagnosis of epidemic parotitis was tentatively made. Three intramuscular injections of eparseno (12 cg.) were given, which were followed by decrease in the parotid and in the subcutaneous and submaxillary glands, though other enlarged glands appeared. Two further injections of eparseno were not well tolerated, and three injections of mercury cyanide were given. The parotitis completely subsided, but an attack of general pruritus supervened. Owing to the persistence of the adenitis, which proved that the parotitis was secondary and not primary, and the continued negative character of the blood reaction, a diagnosis of Hodgkin's disease was now made. Fearing the action of arsenic on the liver Michaelis now employed injections of Millot's benzo-bismuth (20 cg.) twice weekly. This at first had a rapid action on the ganglia, but later another ganglion appeared in the right axilla, and the right breast became enlarged and congested. X rays were tried, but without effect. The patient became emaciated; cough, dullness over the intercostal and posterior region of the right lung, and enlargement of the liver occurred. The blood still showed no changes, and now a diagnosis of lymphosarcoma terminating the Hodgkin's disease was made. At the end of the seventh month the patient died, pneumonia

not supervening, since the pulmonary tumour did not undergo necrosis or suppuration. Michaelis draws attention to the initial beneficial action of the arsenic and bismuth in this case, and suggests that this was possibly due to the presence of a syphilitic terrain upon which the Hodgkin's disease developed.

#### 449. Thallium Acetate in Ringworm.

B. F. FELDEN (*Arch. Derm. and Syph.*, February, 1928, p. 182) records his experience of treating forty-seven children with ringworm of the scalp by oral administrations of thallium acetate; of these, thirty-six were cured by one dose. The dose was 8 mg. of the drug for each kilogram of body weight; it was dissolved in half a glass of water sweetened with sugar, and given on an empty stomach in the morning. Eplilation usually occurred on the eighteenth day, but was only entirely complete in approximately 50 per cent. of the cases, the remaining loose hairs being painlessly extracted by strips of adhesive plaster; in some cases only partially successful results were obtained. In from three to four weeks the hair began to grow again and during the whole period daily local treatment with 5 per cent. tincture of iodine and 10 per cent. sulphur ointment was continued; it was found that this did not cause irritation, thus constituting an advantage as compared with x-ray treatment. Patients with a marked discrepancy between weight and age are said to be unsuitable for pure thallium treatment, but a modification consisting of one-half or two-thirds of the doses of both x-rays and thallium combined gives good results. On account of its toxicity full dosage must be avoided in adults and adolescents; repetition of the dose in less than two months is dangerous, and acute infections and kidney diseases are contraindications for its use. Symptoms of poisoning are: muscle and joint pains, choreiform convulsions, albuminuria, gastro-intestinal disturbances, achlorhydria, secondary anaemia, and tachycardia. Felden regards the drug as of value in producing eplilation in children, but warns against its indiscriminate use by those who are not familiar with its grave toxic qualities and contraindications.

## Anaesthetics.

#### 450. Ocular Complications of Spinal Anaesthesia.

J. ROLLET (*Journ. de Méd. de Lyon*, March 20th, 1928, p. 167) states that ocular complications following spinal anaesthesia, which were first described by C. Adam and then by Doesser and Roeder in 1906, are rare, their frequency being about 1 in every 300 cases of spinal anaesthesia. Paralysis of the external rectus are far the commonest, occurring in more than 90 per cent. of the cases. Involvement of the oculomotor nerve is much rarer. Paralysis of the external rectus is generally unilateral. Other ocular palsies are exceptional. In spite of the toxicity of cocaine, most of the paralyzes have followed the use of stovaine or novocain, and in only one or two cases has cocaine been incriminated. As regards the size of the dose, although at first paralyzes occurred even after small doses, at present they have mainly followed large doses. The ocular paralyzes may be sometimes accompanied by affection of other cranial nerves, while signs of a meningeal reaction are constant. The paralyzes usually appear a week after the operation, and subside in the course of six or seven weeks. Of the numerous theories suggested to explain their occurrence, the most likely appears to be localization of an attenuated meningeal process following spinal anaesthesia. It is possible that a previous taint, such as syphilis, may cause a special disposition. Recovery is usually spontaneous, but may be hastened by treatment with strychnine or urotropine combined with antisyphilitic drugs.

#### 451. Splanchnic Anaesthesia in Upper Abdominal Operations.

H. E. MURRAY (*Indian Med. Gaz.*, March, 1928, p. 117) mentions the difficulties and annoyances encountered in surgery of the upper abdomen which can be obviated by anaesthesia of the splanchnic area; he has adopted this method in twelve cases with striking results. Within two or three minutes of induction the patient is breathing without distress; there is no protrusion of the intestines into the operation area or out of the abdomen, and the amount of general anaesthetic required is considerably lessened. Two strengths of novocain, 1/2 and 1 per cent., and a 50 c.cm. and 30 c.cm. syringe are employed, 100 c.cm. of the 1/2 per cent. solution being used for the first step and 30 c.cm. of the 1 per cent. for the second. General anaesthesia having been started in the usual manner, the needle is inserted into the skin and deeper tissues at the lowest point of one of the costal arches. When the rib or cartilage is felt the needle point is depressed, passed for

a short distance under the arch, and some of the 1/2 per cent. solution is injected into the tissues surrounding the intercostal nerve. The needle is then withdrawn, inserted a little higher up, and more solution is injected. This is repeated until the ensiform cartilage is reached, and the opposite costal arch is similarly treated. After opening the abdomen the lesser gastric curvature is defined and the fingers of the left hand are introduced above it until the body of the first lumbar vertebra is felt just above and to the right of the origin of the coeliac axis. The index and middle fingers are then slightly separated, thus pushing the aorta to the left and leaving an area devoid of blood vessels on the vertebral body. The needle is passed into this space and on to the body of the vertebra; the 1 per cent. solution is then slowly injected. Care must be taken not to puncture a blood vessel, but, if this should happen, the needle must be withdrawn and inserted in another place. No adverse sequelae have been noted in any of the cases.

#### 452. Regional Anaesthesia for Operations upon the Spinal Column.

G. LABAT (*Anaesthesia and Analgesia*, January-February, 1928, p. 38) points out that the principles involved in the induction of regional anaesthesia for orthopaedic operations upon the spinal column differ to some extent from those underlying the technique for other operations, since they have usually to be made in regions where the landmarks have been distorted by trauma or disease, and that therefore the anaesthetist must have a thorough anatomical knowledge. The best posture for the patient is lying prone; this facilitates the paravertebral injection technique and keeps the back muscles as relaxed as possible. Induction of paravertebral block by approaching the nerves from a point overlying the transverse processes is advised, since the same wheels are used for the field-block. By producing the "barrage" as near the middle as possible forcible retraction does not cause any discomfort; part of the injection finds its way through the wound, and the resulting ischaemia of the operative field facilitates dissection. A 0.5 per cent. solution of novocain with the addition of five drops of adrenaline solution (1 in 1,000) to each 100 c.cm. injected is advised to delay absorption and increase the duration of the anaesthesia. Not more than 250 c.cm. should be very slowly injected, it being borne in mind that perfect anaesthesia should not be sacrificed to the possibility of slight circulatory reactions which have no clinical significance. Under regional anaesthesia decompression of the cord is rendered less difficult and hazardous; extensive spinal fusions can be performed with but little post-anaesthetic disturbance and greatly improved prognosis, especially in the presence of active pulmonary tuberculosis.

## Obstetrics and Gynaecology.

#### 453. Cystic Swellings of the Abdominal Wall Following Trauma.

W. KOLDE (*Zentralbl. f. Gynäk.*, March 3rd, 1928, p. 553) describes two cases to illustrate the diagnostic difficulties which may be caused by large subcutaneous collections of fluid in the abdominal wall. The first patient, a woman aged 46, reported abdominal swelling and general wasting of fifteen months' duration; the appearance of the abdomen (its girth was 4 ft. 5 in.) together with the emaciation suggested a giant ovarian cyst, but the indefiniteness of the limitation of the tumour above and below led to a diagnosis of ascites from intra-abdominal carcinoma (primary focus unknown) or of peritoneal tuberculosis. Incision of the skin as a preliminary to laparotomy gave issue to nearly nine gallons of greenish-brown fluid containing necrotic shreds, and the tumour was emptied without incision of the abdominal cavity; microscopical examination of the cyst wall pointed to its having a lymphatic origin. The patient's health and weight were subsequently fully restored. Questioning elicited the statement that the abdominal swelling had been preceded by a fall with direct violence to the abdomen. In the second case a fall into a pit at work was followed by the admission of the patient, a 1 para aged 22, to hospital; fracture of two ribs was noted, as well as morbid physical signs in both lungs, and a diagnosis of military tubercle was made. A collection of pus in the pouch of Douglas was evacuated by the posterior fornix, but an abdominal swelling, thought to be due to abdominal tuberculosis, did not regress. At operation a large abscess was evacuated from the space between the abdominal wall muscles and the peritoneum. The fall was thought to have caused the formation in this region of a haematoma which had become infected by the blood stream from the pelvic abscess. Kolde adds that to arrive at a correct pre-operative



diagnosis in cases of collections of fluid in the abdominal wall appears, from the cases recorded in the literature, to be exceptional; among the diagnoses made have been ileus, twisted ovarian tumour, cholelithiasis, and strangulated hernia. Treatment, except in the case of small haematoma, is surgical; if it is too long delayed there is danger of secondary infections and of grave cachexia.

#### 454. Chronic Endocervicitis.

C. J. MILLER (*Surg., Gynecol. and Obstet.*, March, 1928, p. 337), discussing the considerations that the treatment arise from manifestation of the cause. Since the cure to spontaneous cure, and gives rise to sequelae which may be very serious, prompt treatment is necessary; any surgical procedure should be preceded by a course of treatment with a view to reducing hypertrophy and inflammatory reaction and to restoring the normal relation of the parts. Local treatment has been found very unsatisfactory, and diathermy, ionization, alcoholic injections, and vaccines are only moderately effective, while radium is too dangerous for routine employment. In a large number of cases endocervicitis may be averted by prophylaxis, especially soon after parturition. Cauterization, trachelorrhaphy, or removal of the gland-bearing area of the cervix by the Sturmdorf operation may be needed, but amputation of the cervix should be avoided whenever possible. If there should be the slightest evidence of stenosis after the use of the cautery graduated dilatation must be promptly instituted. Miller agrees with the suggestion of Matthews that the indications for cauterization may be widened if it is performed unilaterally so that one lip is allowed to heal before the other is treated.

#### 455. Bladder Irritability of Rectal Origin.

H. EXNER (*Zentralbl. f. Gynäk.*, February 25th, 1928, p. 498) reports a case in which irritability of the bladder was kept up by an abnormal rectal condition after the original cause had been removed. The patient, a married nullipara, aged 40 years, had complained of frequency of micturition for five years. The urine showed no abnormality. Directly behind the bladder in the anterior wall of the uterus lay a fibroid as large as a fist and fixed in the pelvis. The vagina was double, with two external orifices, and the uterus was septate. After hysterectomy the bladder condition improved, but did not disappear, and the patient then stated that she had had anal tenesmus and painful and difficult defaecation since the beginning of the frequent micturition. On examination the external sphincter was found to be greatly hypertrophied, the mucous membrane was thrown into folds tightly pressed together with tiny faecal masses and rhagades between them, and the levatores ani were also very strongly developed. About a year after the hysterectomy the sphincter and levatores ani were thoroughly stretched and the bladder trouble ceased entirely. The condition was thought to be due to the strenuous efforts of the patient to control the frequent and precipitate micturition. She contracted the whole pelvic floor, causing it to hypertrophy; the unfolding of the mucous membrane, with faecal retention and formation of rhagades, led to the tenesmus of the external sphincter ani.

### Pathology.

#### 456. The Nature of Bacterial Anaphylaxis.

J. TOMCSIK and T. J. KUROCHKIN (*Journ. Exper. Med.*, March 1st, 1928, p. 379) remark that the main difficulty in studying bacterial anaphylaxis is the primary toxicity of the bacterial protein; Doerr showed that the amount of bacterial antigen which produces shock in sensitized animals is negligibly smaller than the lethal dose for normal animals. Zissner and Mallory reported that active sensitization is rendered very difficult because the bacteria contain a little coagulable protein, and that in animal tissues than in the case of protein antibodies. The present authors think, however, that the primary toxic substance of the bacteria is not necessarily identical with the specific antigenic part and that it might be possible to isolate an atoxic specific constituent responsible for anaphylactic shock. The discovery of specifically acting polysaccharides led them to investigate whether animals could be sensitized to carbohydrate haptines, either actively by the injection of bacteria, or passively by immune serum. Using guinea-pigs, experiments were made with *B. lactis aerogenes*, pneumobacilli, and a yeast. No reaction was noted in any of these tests in actively sensitized animals, but in the passively sensitized ones bacterial anaphylaxis was produced, *in vivo*

and *in vitro*, with haptines from each of the test micro-organisms. The smallest amount of haptine giving rise to fatal anaphylaxis was less than the minimal quantity of protein which caused death in properly sensitized animals. The haptines used were largely carbohydrates, but since they contained a small amount of nitrogen, it could not be positively asserted that carbohydrate alone will produce shock. Since haptines will not sensitize animals, these investigators conclude that the anaphylactogenic and shock-producing parts of the antigen are not identical, and that the experiments provided further evidence of the close relation between precipitins and anaphylaxis.

#### 457. Death from Air Embolism.

L. JUNG and L. AUGER (*C. R. Soc. de Biologie*, March 9th, 1928, p. 610) recall that many explanations have been given of death from air embolism—such as pulmonary embolism, nervous disturbances, and distension of the right ventricle leading to paralysis of the heart. Their own experiments suggest a different pathogenesis. To kill a dog it is necessary to inject at least 50 c.cm. of air into the right ventricle or at least 100 c.cm. into the jugular vein; moreover, this amount must be injected in the course of a few seconds. If the air is injected sufficiently slowly, an almost indefinite amount can be used. Immediately after injection there is a sudden fall of pressure in the carotid artery to 30 to 40 mm. of mercury. The right auricle and ventricle dilate rapidly, and a peculiar sound is heard during systole. After a short time numerous bubbles of gas are seen in the coronary veins passing in a retrograde direction till they reach the finest branches, where they stop. Shortly afterwards both ventricles enter into fibrillation, while the auricles continue to beat. At this moment the right heart, the great veins, and often veins at a considerable distance are filled with a foaming mass of blood. If the air is introduced into the left ventricle, only 20 c.cm. is required to cause death; almost immediately gas bubbles enter the coronary arteries, where they come to a standstill, and the two ventricles pass into fibrillation very rapidly. In neither instance were any appreciable lesions found in the lungs, nor did section of the medulla or vagus nerves alter the cardiac manifestations. In interpreting these findings the authors consider that ventricular distension is by itself insufficient to cause death, partly because it does not occur when the injection is made into the left heart, and partly because it cannot explain the simultaneous arrest of both ventricles. They believe rather that death occurs from embolism of the coronary arteries when the air is injected into the left ventricle, and from retrograde embolism of the coronary veins when it is injected into the right ventricle; in each case the coronary embolism is followed by ventricular fibrillation and death.

#### 458. The Relation between Glucose in the Blood and Spinal Fluid.

ACCORDING TO S. KATZENELBOGEN and Mile M. STOILOFF (*Ann. de Méd.*, February, 1928, p. 160) no significance can be attached to the amounts of glucose in the spinal fluid which some authors consider excessive, because such quantities have been noted both in different pathological conditions and in normal subjects; they conclude that the hypothesis that hyperglycorrhachia is due to a local trouble in the cerebro-spinal axis favouring the passage of glucose from the blood to the spinal fluid must be abandoned. The interdependence of the blood and cerebro-spinal glucose in diabetics has been long known, but in non-diabetics the figures vary greatly. Derrien estimates the spinal fluid glucose content as half that of the blood content, while Polonowsky and Dnhot think these amounts are equal, and other workers report figures between these extremes. In order to ascertain if a "haemo-meningeal" relation exists—a relation depending not only on the amount of glycæmia, but also on modifications of the cerebro-spinal axis—the authors examined forty-two cases of different maladies—namely, meningitis, nervous and mental troubles, and diseases of the respiratory, gastric, and circulatory systems, and one of meningitis and one of to be lower than the figure of Derrien, and in the other cases the ratios varied from 0.41 to 0.83. It has been shown that experimental aseptic inflammation of the meninges increases their permeability for nitrates, but that the amounts of these salts which pass into the spinal fluid are not proportional to the intensity of the inflammation. This variation in permeability is still greater for glucose. The authors believe that the amount of glycorrhachia is dependent in a certain measure on the degree of glycæmia, but more so on the meningeal permeability, which, favoured by meningeal congestion, is subject to important physiological variations. They maintain that an increased ratio between the blood and cerebro-spinal glucose has no semeiological significance.



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A. CLERC and R. LÉVY (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, March 22nd, p. 490), in an investigation of heart-block, found that this condition might occur in children and young adults as well as in middle-aged patients, although Adams-Stokes attacks were less liable to complicate the juvenile group. They describe four cases in which heart-block was either constantly or usually complete in patients between 20 and 28 years of age. Such cases may be classified into those which are uncomplicated and those in which there is a coexisting congenital cardiac defect; cases in the latter group are usually diagnosed before the age of 10 on account of the accompanying cyanosis, while those without complications remain unrecognized until 20. Diphtheria is an important etiological factor, but rheumatism is not; the influence of syphilis and congenital heart disease is not known. The development of the condition is slow, and though syncope or convulsive attacks may supervene whether the block is complete or not, they occur only in one-third of all cases. Since congenital malformations are themselves of grave import, prognosis as regards life is better in the uncomplicated cases; these withstand intercurrent infections, operations, and even pregnancy very well, and frequently the patient suffers no ill effects from strenuous exercise, although there is a tendency for syncope attacks to follow violent exertion. Restoration of normal rhythm never occurs. For treatment, the authors advise salubrine in small doses, alternating with belladonna: sports should be forbidden and the avoidance of pregnancy is recommended in view of the danger of Adams-Stokes attacks.

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C. T. OLCOTT and J. G. MERSHIS (*Amer. Journ. Dis. Child.*, February, 1928, p. 250) record a case of pulmonary gangrene following a severe attack of faucial diphtheria, which proved fatal on the twelfth day of disease. A diagnosis of pulmonary gangrene was made only forty-eight hours before death owing to the signs of pulmonary consolidation and the foul odour of the breath. There was practically no sputum. An x-ray examination showed irregular patchy consolidation scattered throughout both lungs, with areas of cavitation in the right lung. At the necropsy the lower two-thirds of the right lung were found to be completely gangrenous. Smears from the lung showed Vincent's organisms, and cultures yielded abundant diphtheria bacilli, non-haemolytic streptococci, and staphylococci. The authors believe that no similar case of pulmonary gangrene following diphtheria has been recorded.

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M. OBERMAYER (*Derm. Woch.*, March 3rd, 1928, p. 297) remarks that until recently most authorities maintained that one attack of herpes zoster conferred a lifelong immunity, and only a few examples of second attacks of zoster have been recorded. Obermayer reports the case of a man, aged 32, who in the course of a few years had eleven recurrences of typical left lumbosacral zoster, accompanied by the characteristic constitutional disturbance in the prodromal stage, inguinal adenitis, and neuralgic pain. The patient had had an attack of varicella in childhood. In contrast with previously reported cases the latest attacks were more severe than the previous ones. Sexual excesses appeared to be causally connected with the eruption, which usually developed after an "incubation period" of two to four days. A somewhat similar case of recurrent zoster is reported by Richter in connexion with menstruation.

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R. BÉNARD (*La Médecine*, December, 1927, p. 184) gives the following statistics of orchitis in mumps based on personal observations of 403 cases of mumps and study of the official statistics of the French army during the period 1892-1913 relating to 173,197 cases. The frequency of mumps in the French army varies considerably from one year to another, ranging from 9 to 33 per 1,000 of the total strength. Laveran estimated the incidence of orchitis at 33 per cent., Hudelo at 60 per cent., Catrin and Wesselhoef and Bénéard himself at 18 per cent. In former times, when soldiers were not admitted to hospital for mumps and were often kept on duty, orchitis was much more common than at present. Laveran collected 1,075 cases of mumps, complicated by orchitis in 184, of which

21, or almost 1 in 9, were bilateral. In Bénéard's series 1 in 15 of the cases of mumps orchitis was bilateral. As regards the frequency of testicular atrophy following mumps orchitis only two of Bénéard's patients had any atrophy, and this was very slight and unilateral on discharge from hospital; eight others showed a diminution in the size of the testis from one-third to one-quarter some months later. Bénéard considers cases of bilateral orchitis with atrophy, impotence, and feminism as mythical, both on statistical and anatomoclinical grounds.

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J. A. ELLIOTT and L. C. TODD (*Arch. Derm. and Syph.*, March, 1928, p. 299) report a case of early syphilitic hepatitis in which the blood bilirubin determinations afforded an aid to diagnosis and a guide to treatment. They adopted the icterus index as a quantitative estimate of the bilirubin in the blood, using the van den Bergh test qualitatively to determine the type of jaundice: in the earlier stages of the case this latter test indicated that the jaundice was due to injury of the hepatic cells. The patient, a man, aged 25, suffering from severe jaundice, gave a strongly positive Wassermann reaction two months after the development of a sore on the penis. Because of the severity of the liver disturbance 0.1 gram of bismuth was injected at weekly intervals, and after the third injection improvement, both subjectively and objectively, was rapid, the index having become normal and the patient feeling well after having received twenty injections. In twenty-five control cases both tests were used to determine the effects of early syphilis and of treatment on the liver function, as shown by the bilirubin content of the blood. With three exceptions the blood was normal for bilirubin throughout treatment, with, in some cases, as many as twenty neocarsphenamine and from fifty to sixty bismuth injections. All the reactions in these three indicated only a slight increase of blood bilirubin content at one time during treatment. In the case of early syphilitic hepatitis recorded treatment with bismuth proved to be of great value.

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M. KRABEL (*Zentralbl. f. Chir.*, March 31st, 1928, p. 781) refers to the difficulty in the differential diagnosis of acute appendicitis and cyclical vomiting in children. Although numerous articles on acute appendicitis in children have appeared in recent years scant attention has been paid to the symptoms of acetonæmia, although these often simulate those of acute appendicitis. Krabel records the case of a delicate boy, aged 6, who had had severe indefinite abdominal pain for thirty-six hours, accompanied by violent vomiting, which was becoming worse. Although there was no definite tenderness over McBurney's spot gangrenous appendicitis was suspected. There was profound collapse, dry tongue, and a small and rapid pulse, but the rectal temperature was normal. He was quite conscious, and complained of pain in the right side of the abdomen, but there was no muscular rigidity. A distinct odour of acetone was detected in the breath; sugar and a trace of albumin were found in the urine. During the examination the child vomited spasmodically and frequently. The operation revealed a completely normal appendix and peritoneum. Twelve hours later the child's condition was unchanged and the vomiting persisted with a distinct odour of acetone. The urine contained traces of acetone, diacetic acid, and sugar. Two 5-unit doses of insulin were given; the vomiting ceased and the child's condition improved rapidly. In two days the acetonuria disappeared and recovery was uninterrupted. Krabel states that cyclical (acetonæmic) vomiting is rare in that district (Aachen Forst). It is characterized by the sudden onset of intractable vomiting, with sudden collapse, acetonæmia, and possibly acetonuria. The etiology is obscure; constitutional diathesis may be a factor, as this patient's elder brother had a similar, though less serious, attack. The production of ketone bodies is not the cause of the vomiting, but is a concomitant symptom. Free administration of carbohydrates and of insulin is indicated, and the possibility of recurrence must be remembered. Krabel hopes that this report may prevent other surgeons from performing unnecessary appendicectomy in such cases.

**465. Ligature of the Inferior Vena Cava.**

M. PATEL and R. PEYCELON (*Lyon Chir.*, January-February, 1928, p. 22) report a case of ligature of the inferior vena cava after nephrectomy for a large tuberculous kidney. A woman, aged 37, complained of acute pain in the right lumbar region, pus in the urine, and a swelling in the right flank, which had increased in size during the previous three months. This swelling, which was painless and about the size of an adult head, was found at the operation to be a very hard and pedunculated tumour. Along the big vessels there were numerous large glands; the renal artery was normal, but the renal vein was much dilated and obscured by a fatty mass at the hilum of the kidney. This was freed and ligatured, and the tumour removed. A few seconds later a large jet of venous blood sprang from the bottom of the wound near the vertebral column, and obviously from a tear in the inferior vena cava, which was sutured by a catgut ligature above and below the rent. The tumour weighed 1,500 grams, and was composed of many pockets filled with caseous material and containing also many calculi. The patient suffered only slightly from shock, the urine soon became normal, and the temperature scarcely rose. There was a slight swelling in the legs at the end of eight days, but this only lasted for two days. The patient got up on the fifteenth day and has had no further trouble, there being no outward indication that the inferior vena cava had been ligatured.

**466. Disinfection of the Hands with Hydrogen Peroxide.**

R. FRANK (*Zentralbl. f. Chir.*, March 3rd, 1928, p. 514) has found that when hydrogen peroxide is mixed with soap a copious foamy lather is formed and the nascent oxygen penetrates deeply into the pores and fissures of the skin, destroying any bacteria without injury to the epidermis. Frank recommends the following procedure for sterilizing the hands before an operation. After thoroughly washing them with soap the hydrogen peroxide is allowed to fall in drops on the hands, which are constantly rubbed together, and the nails and subungual spaces are scrubbed thoroughly. This process is repeated three times and the foamy lather washed off in a stream of hot water for one minute. The hands are then rinsed with 30 to 40 c.cm. of the hydrogen peroxide solution and dried with a sterile swab; this is said to be most important, as the swab will remove any bacteria remaining on the skin surface. Frank finds that this renders the hands practically sterile, and that subsequent washing with alcohol does not materially increase the freedom from bacteria. A. LIPPAY (*ibid.*, p. 519) mentions that he has employed Frank's method with very good results in over 800 operations, and found hydrogen peroxide much more satisfactory than mercuric chloride solutions. Lippay uses an elevated irrigator with a tap adjusted to deliver 100 to 150 drops of hydrogen peroxide solution per minute. Among his 800 operations were 180 laparotomies, as well as thyroidectomies, and operations on bones and joints. He thinks that the primary healing without reaction obtained in all these cases is a proof of the practical value of hydrogen peroxide-soap sterilization.

## Therapeutics.

**467. Mercurial Diuretics in Ascites.**

L. BLUM and P. CARLIER (*Presse Méd.*, March 21st, 1928, p. 353) find that although mercurial diuretics are often of great value and that their toxicity is relatively low, they may fail to give relief and produce serious toxic symptoms, including pyrexia, rigors, stomatitis, and colitis. They report the case of a man, aged 56, who had hepatic cirrhosis with severe ascites, anasarca, and cholaemia. Transient relief followed the administration of large doses of calcium chloride, but the quantity of urine diminished, and the oedema increased when the calcium chloride was discontinued. An intramuscular injection of novasurol (0.22 gram) produced copious diuresis and a loss of 7½ lb. in weight; on the following day the patient became worse, and died eight days later from cholaemia. A further danger mentioned is that a single injection of one of these diuretics does not always suffice. The authors recommend the administration of large doses of calcium or ammonium chloride in solution with raspberry syrup to disguise the taste before or after the injection of the mercurial preparation. They describe a case of atrophic cirrhosis with severe ascites in which this treatment was successful. Injections of mercurial compounds were tried without permanent benefit and the patient was then given 150 grains of calcium chloride daily, for four days, followed by an intramuscular injection of neptal, a mercurial preparation. This produced marked diuresis (8 pints in twenty-four hours), with a loss of 6½ lb. in weight. Thus three mercurial diuretics failed, in the

absence of a preliminary course of calcium chloride. The authors describe a similar result in the case of a man aged 42, who had cardiac dilatation and hepatic cirrhosis. They add that ammonium chloride has certain advantages; it does not, like calcium chloride, cause constipation, and has a less unpleasant taste. They recommend that when an intramuscular injection of a mercurial diuretic has failed, one or other of these chlorides should be given for three or four days. In chronic nephritis with hypertension and abundant albumin, either calcium or ammonium chloride may be dangerous, by increasing the retention of chlorides. In such cases the authors consider that mercurial diuretics are contraindicated.

**468. Vitamin B Extract in Diabetes.**

As the result of four years' clinical experience of its action, C. A. MILLS (*Amer. Journ. Med. Sci.*, March, 1928, p. 376) believes that vitamin B stimulates the utilization of glucose in the body. He has found it very effective in increasing the appetite and rate of growth both in children and adults, and, since increased food utilization, growth, and resistance to infection are attained in diabetes by the use of insulin, he assumed that the vitamin might be exerting a similar action. Mills, therefore, tried the addition of vitamin B to the treatment of diabetes, and reports seven cases in which a definite effect seems to have been obtained. In five of these there was indisputable evidence of vitamin effect on sugar excretion; in another the clinical improvement was very marked; and the remaining patient left hospital when definite results were commencing to appear. Funk, Corbitt, and Collip, among others, have previously performed animal experiments in this connexion. Mills gives an acid-alcohol extract of plants rich in vitamin B, such as alfalfa, onions, and spinach. In diabetes the alcoholic extract was administered, but in the case of children the alcohol was evaporated and glycerin to 40 per cent. added as a preservative. The results in these cases indicate that vitamin B does possess the power of lowering sugar excretion, and 30 c.cm. of the extract were found to be roughly equivalent to 30 units of insulin. Without indicating diabetes as a deficiency disease, Mills believes that this therapy affords the injured pancreas an opportunity for functional recovery, and might in combination with insulin give better results than either would alone. It has the added advantage that oral administration is effective, and the treatment may therefore be carried on safely in the homes of patients to whom insulin could not be entrusted. In further experiments on dogs and rabbits as to the physiologic properties of this extract, Mills (*ibid.*, p. 384) found that it did not produce hypoglycaemia, and had no effect on the normal fasting blood sugar. It increases glycogen storage in the liver, but it has no insulin-like action on depancreatized dogs, nor does it enhance insulin action in such dogs. The author concludes that its effect is exerted directly on the pancreas, and that its action in inducing glycogen storage is secondary to its pancreatic effect.

**469. Malaria Therapy in Cerebro-spinal Syphilis.**

H. GOUGEROT (*Paris Méd.*, March 3rd, 1928, p. 198), discussing the malarial treatment of cerebro-spinal syphilis, remarks that patients who have contracted malaria after syphilis have nevertheless developed neuro-syphilis, including general paralysis of the insane and tabes dorsalis. Routine malaria therapy cannot be recommended in all cases as it is still under trial, and also a fatal case after inoculation with *Plasmodium vivax* has been recorded. He describes the case of a man aged 39 who contracted syphilis in 1916. In 1917 he contracted malaria and had many severe attacks until 1919. In spite of these he developed definite symptoms of early general paralysis. After intermittent anti-syphilitic treatment the patient was inoculated with malaria in March, 1927, and during the following month he had eleven malarial attacks; rapid and definite improvement followed, and five months later he returned to business. Gougerot thinks that this case shows that while previous malaria cannot prevent the development of neuro-syphilis, malarial inoculation has the power of arresting the progress of general paralysis, though this anomaly is difficult to explain. F. Dainville described the case of a man who contracted malaria and syphilis in 1916; he is now suffering from typical tabes dorsalis. MILLAN (*ibid.*, p. 200) doubts whether malaria prevents the development of neuro-syphilis; if it does so, the effect is not attributable to shock, nor to production of hyperpyrexia, but evidently to the production of antibodies. He cites the case of a man who contracted syphilis as a student. When approaching the age of 40 he developed serious cardiac symptoms. A prolonged but irregular course of anti-syphilitic treatment produced some improvement. Subsequently, he had a severe attack of enteric fever, and the cardiac symptoms disappeared completely; for three years he has been free from both heart disease and syphilis.

## Radiology.

### 470. Radiological Examination of the Bladder.

H. COHEN (*Med. Journ. and Record*, February 1st, 1928, p. 124) emphasizes the value, as a diagnostic method in bladder conditions, of introducing air in conjunction with x rays, by which means lesions are rendered demonstrable which would otherwise be overlooked; in many it is the only means of pre-operative diagnosis. The technique is said to be simple and free from danger under ordinary sterile precautions. After an ordinary skiagram of the bladder has been taken for comparison a soft rubber catheter is introduced and the urine drawn off; the bladder is then gently inflated with air by means of a hand bulb attached to the catheter, and the patient is then x-rayed again. Cohen does not use any device for measuring the amount of air introduced, but relies on the patient's feelings, though the Rubin apparatus used by gynaecologists can be employed. While foreign bodies are readily shown by the ordinary film this method, by making the proper contrast, assists in localizing the foreign body in the bladder and away from the rectum. The difficulty in visualizing tumours by an ordinary film owing to the want of comparison is overcome by this means, the air affording a contrast with solid tissue. Except in diverticulum of the bladder this method is said to give better results than those obtained by the use of sodium bromide or iodide solutions which, besides being expensive, tend to disguise pathological conditions in the bladder. In the case of a diverticulum, if the bladder is first distended with solution and x-rayed, the solution drained off, air introduced, and another x-ray photograph taken, the diagnosis will be easy—the diverticulum showing a white negative shadow, since, being devoid of muscular tissue, it retains the solution while the bladder shows a black air shadow. In the diagnosis of tumours washing out the bladder with bromide solution will leave a coating on the tumour.

### 471. X-ray Treatment of Asthma and Spasmodic Coryza.

P. VALLERY-RADOT, P. GIBERT, P. BLAMOUTIER, and F. CLAUDE (*Ann. de Méd.*, March, 1928, p. 214) believe that radical treatments, acting on the body generally, give more lasting results in asthma, and state that they have obtained excellent results from the employment of x rays. They recall that Schilling in 1906 was the first to use this method of treating asthma. Irradiations can be applied over the pulmonary hila, the spleen, or over both sites, either on the same occasion or alternately in successive treatments. The authors employ an induction-coil apparatus with a standard Coolidge ampoule, a focal distance of 30 cm., and an aluminium filter of 5 to 10 mm., and a dosage of 500 R. For both the lung and the spleen two ports of entry are used, anterior and posterior, in order to save the skin. Ten to twelve successive irradiations are given at the rate of two weekly. If no success follows, a second and even a third similar series may be tried. A summarized table showing the diagnosis, treatment, and results of sixty-four cases treated by this method is given. After a single prolonged irradiation nausea, vomiting, and sometimes a recrudescence of the affection have occurred, but these symptoms last only a few hours and are usually followed by marked amelioration. No other untoward symptoms were noted, and eosinophilia, a fall in the leucocyte percentage, and a lowering of arterial tension were never seen. Beneficial results have been reported following irradiation of several pulmonary areas and of other organs such as the thyroid, the cervico-thoracic ganglia, and the long bones. Many hypotheses as to the mode of action of the rays in these affections have been suggested. As Vidal and others have proved that an asthmatic is a colloidoclastic, the authors believe that the rays cause a change in the humoral state which prevents the production of colloidoclastic shock.

472. P. GIBERT (*Paris Méd.*, February 4th, 1928, p. 126) notes that the statistics of other workers show 30 per cent. of very good results, 35 per cent. of improvements, and 35 per cent. of failures in the treatment of asthma with x rays. In his own series of 64 cases of asthma and of spasmodic coryza either separately or in combination 19 patients seemed to recover completely, 16 were much improved, while the treatment failed in 29 cases. He advocates a dosage of 500 R twice a week, over a field of 12 by 12 cm. at a focal distance of 30 cm. with moderately penetrant rays. When there is spasmodic coryza alone he irradiates the spleen; in cases of asthma, with or without coryza, he irradiates the spleen and the hilar region. He does not conclude that the treatment has failed until he has given twelve irradiations. No untoward results have followed.

### 473. X Rays in Hyperchlorhydria.

SOLOMON (*Paris Méd.*, February 4th, 1928, p. 123) advocates irradiation with x rays for functional hyperchlorhydria, gastric or duodenal ulcer, and after gastro-enterostomy. He reports a representative case in each series in which he had obtained satisfactory results—namely, disappearance of pain and neurosis, fall in the acidity, absence of occult blood when previously present, increase of weight, and return of the capacity for work. He irradiates an abdominal field of 12 by 12 cm. or 16 by 16 cm. over the gastric area, at a focal distance of 30 to 40 cm. He uses penetrant rays (120 and 200 kilovolts) filtered through 0.5 mm. of copper and 1 mm. of aluminium. The dose at each irradiation is 500 R, repeated at intervals of three to eight days, until a total dosage of 5,000 R is attained. A second series of irradiations is given eight weeks later if the first has not been sufficient.

## Obstetrics and Gynaecology.

### 474. Ovarian Extract and the Menstrual Cycle.

FOLLOWING up Zondek's observation that the activity of ovarian extracts could be tested by their effect on the cyclical changes in the vaginal epithelium of the mouse, Mahnert and Slegmund concluded that the same hormone was produced in the ripe or ripening corpus luteum and in the corpus luteum of pregnancy, the difference being quantitative and not qualitative. Having found from animal experiments that folliculin was a satisfactory preparation, A. MAHNERT (*Wien. klin. Woch.*, March 8th, 1928, p. 329) tested its effects on the human menstrual cycle. Ten normal women, aged 21 to 33, were given five to ten subcutaneous injections of folliculin during the first two days of menstruation, six starting on the first day with 12 to 20 c.c.m. in all and four on the second day receiving a total of 8 to 10 c.c.m. of a preparation standardized in mouse units; in seven of these women menstruation was curtailed from the usual four or five days to two days or less. Mahnert considers that these results confirm the hypothesis that the period of repair of the endometrium during the menstrual cycle occurs when the ovarian follicular hormone secretion is at its maximum, and that the disintegration of the endometrium associated with the flow occurs when the hormone secretion is at its minimum. If the ovum from a ripened follicle dies early in the cycle, the follicle rapidly breaks down and the menstrual flow recommences after a shortened interval—that is, menstruation occurs with abnormal frequency. The inhibitory effect of injections of folliculin on the flow is ascribed partly to the regeneration of endometrium induced and partly to an effect on the uterine vessels. Similar injections were given to sixteen patients with functional abnormalities of menstruation, the flow being either excessive in quantity or duration, or there being disturbances of rhythm; satisfactory results were obtained in all but one. Mahnert concludes that an abnormal menstrual cycle due to delayed or inadequate ovarian secretion or early death of the ovum can be influenced by injections of the specific hormone present in folliculin.

### 475. Accidental Haemorrhage.

P. GAIFAMI (*Ann. di Ostet. e Ginecol.*, February 29th, 1928, p. 253) bases his account of premature detachment (before labour) of the normally situated placenta—so called accidental haemorrhage—on 400 unpublished cases collected from Italian and other sources. Of these 125 were at the author's clinic. He distinguishes between (1) asymptomatic cases, recognized by examination of the placenta; (2) severe cases with clamant clinical signs and accompanied by diffuse haemorrhagic lesions of the myometrium and adnexa (ntero-placental apoplexy); and (3) cases of an intermediate degree of gravity; these last form the majority. The apparent incidence of the morbid condition varies with the sharpness of the watch which is kept for it: the mean figure is roughly 0.22 per cent. Albuminuria was noted in 80 per cent. of the cases; eclampsia was present in 6 per cent. of Gaifami's cases. Only about one patient in five is a primipara. Several clinics have reported an increasing frequency of accidental haemorrhage during recent years. The foetal mortality is given as 80 per cent., and cadaveric rigidity is stated to be frequently noted when the foetus is delivered. Diagnosis by the practitioner or midwife is said to be infrequent, most cases being confused with placenta praevia; it is nevertheless important that detachment of the normally-situated placenta should be recognized before external bleeding, combined with a state of shock, has rendered the patient's condition desperate. The chief signs are (1) progressive increase in size of the uterus, which is tense and tender, (2) acute pain localized in one portion of the uterus, (3) loss of blood-stained serous

discharge, (4) tenuity of the bag of membranes, and (5) irregularity of the uterus in the neighbourhood of a retro-placental haematoma. Utero-placental apoplexy may be present in cases in which hardness and tenderness of the uterus are slight or absent, but is always accompanied by grave general signs. About one-half of cases require no operative intervention, but there is always considerable danger that post-partum haemorrhage may follow. In hyper-nate cases in which the patient is too ill to be taken to hospital stimulants should be given, an abdominal binder applied, and perhaps pituitary or adrenal extract injected. Vaginal tamponade is not to be recommended, but rupture of the membranes may sometimes be justifiable. Accouchement forcé with metallic dilators is now superseded by vaginal or abdominal Caesarean section, which offers the only hope of cure in grave cases. The author reports a mortality of 14 per cent. in the abdominal and 22 per cent. in the vaginal operation. Pro-Caesarean hysterectomy has been largely adopted for these cases in Italy, chiefly on account of fear of grave post-partum haemorrhage if the uterus be left behind, but British statistics are taken to be reassuring in this respect. The decision whether hysterectomy should be performed calls for careful judgement, which should take into account the patient's general condition, the contractility of the uterus and its degree of morbidity as revealed during the operation, the patient's prospects of maternity, and the nature of the therapeutic essays to which she has been previously subjected.

#### 476. Urea in the Treatment of Uterine Bleeding.

P. WERMER (*Zentralbl. f. Gynäk.*, March 17th, 1928, p. 693) reports the treatment of 46 women, aged from 16 to 50, suffering from excessive uterine bleeding, by administration twice daily of 20 grams of urea dissolved in water. Myoma and other gross morbid conditions of the uterus were absent from the series, which consisted mostly of patients with ovario-genous bleeding, but contained some cases of bleeding due to acute or chronic adnexal inflammation and one or two of climacteric haemorrhage. In 27 cases the bleeding was arrested, in 6 diminished: as a rule, five doses—that is, two days' treatment—were required, but a transitory favourable effect was noted after the first powder had been taken. According to Wermer the effect of the urea is due indirectly to its diuretic action; the organism responds to the increased elimination of water by increased production of the hormone of the posterior lobe of the pituitary gland; the pituitary hormone, secreted to counteract diuresis, exercises incidentally a utero-haemostatic function. Wermer has had similar results from intravenous injections of certain other diuretics, some of which, however, are known to increase the coagulability of the blood, a function which urea does not appear to possess. Uterine bleeding has been reported by Vogt and others to be influenced favourably by injections of lusu-lin, and in this connexion Wermer refers to Dixon's discussion of the action of pituitary extract (*British Medical Journal*, 1927, vol. ii, p. 1070).

### Pathology.

#### 477. The Cerebro-spinal Fluid in Tuberculous Meningitis.

D. STEWART (*Edin. Med. Journ.*, March, 1928, p. 141), referring to the difficulty of early diagnosis of tuberculous meningitis in children, points out that examination of the cerebro-spinal fluid affords the most accurate means which we at present possess of distinguishing between this condition, the meningism of acute infections, and other types of meningitis and ocephalitis. The value of early examination of the cerebro-spinal fluid is borne out by a case in which a diagnosis of tuberculous meningitis and a hopeless prognosis had been based upon adequate symptomatic data, though the cerebro-spinal findings showed no increase in cell count or protein and no organisms; at the end of a fortnight, however, complete recovery resulted. The fluid may be withdrawn either by lumbar or cistern puncture, the latter route being as safe and as easily performed as the former, except in the very late stages of the disease when acute hydrocephalus causes brain displacement. In a series of thirty cases the cell count was increased in all, and the differential count showed a lymphocytosis of from 80 to 98 per cent.; the total protein was definitely increased in twenty-five. The estimation of the chlorides and sugar gave such variable results as to render it of no diagnostic importance, the significant data being furnished by qualitative and quantitative protein examination and enumeration of the cells, including the valuable differential count. Tubercle bacilli were found in the cistern fluid in all cases, and in the lumbar fluid in 57 per cent. Stewart concludes that in every case of doubtful tuberculous meningitis the cerebro-spinal fluid should be examined qualitatively and quantitatively for increased pro-

tein as early as possible; any increase in the cell count should be noted, and a search be made for tubercle bacilli in the cistern and lumbar fluids.

#### 478. Calcium Deficiency as a Cause of Disease.

CITING an important experiment performed by Steenbock and Hart on the calcium metabolism of a goat, C. E. CORLETTE (*Med. Journ. of Australia*, February 18th, 1928, p. 198) discusses fully the pathology of various diseases of animals and birds which are caused evidently by a calcium deficiency. He concludes that in calcium deficiency there is a general disorder involving all the functioning cells and important organs of secretion. Diseases such as rickets, gastro-intestinal catarrh, bronchitis, and diarrhoea, represent a process going on in the liver, pancreas, kidneys, thyroid, parathyroids, and other organs, the functions of which become disordered and depressed. The glycogenic function of the liver is disturbed, its detoxicating function is more or less suspended, and metabolic poisons may not be properly neutralized. These organs and also the nervous system do not always recover completely when the original deficiency is removed, and some permanent damage often remains. Thus coeliac disease in children and cirrhosis of the liver in adults may be the result of a deficiency no longer existing in the diet. Corlette believes that calcium and/or phosphorus deficiency can cause nervous disorder closely resembling that produced by deficiency of vitamin B, and that it is, or may be, implicated in many morbid conditions of man and animals in which nervous symptoms often occur.

#### 479. Influence of Hydrogen-Ion Concentration on Cellular Division.

R. REDING and A. SLOSSE (*C. R. Soc. de Biologie*, March 23rd, 1928, p. 878) have performed some experiments on the effect of peptone shock in altering the hydrogen-ion concentration of the blood and in stimulating cell division. Dustin found in the mouse that under the influence of peptone shock there was evident nuclear destruction on the first day, followed on the third or fourth day by a very active wave of karyokinesis; the mitoses were observable not only in those organs such as the lymphatic glands, intestinal mucosa, and thymus in which they can normally be found, but also in others in which they are seldom seen. The authors' experiments were performed on six dogs; in eight experiments peptone shock was produced and in one experiment anaphylactic shock was caused by means of horse serum. The hydrogen-ion concentration of the blood was measured by Hasting and Sandroy's method. In cases of peptone shock the hydrogen-ion concentration fell from pH 7.42 to pH 7.20; the return to normal occurred rapidly, generally in a few hours. But forty-eight hours after the shock the hydrogen-ion concentration commenced to decrease, so that on the third and fourth days it was about pH 7.48; after this it again returned to normal. Histological observations showed that the primary fall of pH was accompanied by nuclear destruction; and that the wave of alkalinity on the third and fourth days was accompanied by a prolonged wave karyokinesis. The authors therefore consider that the activity of the cellular division is determined by the alteration in the hydrogen-ion concentration of the blood. Even when no actual shock was apparent after the intravenous injection of peptone marked alterations in the hydrogen-ion concentration occurred.

#### 480. The Filterable Form of the Tubercle Bacillus.

A. CHARLOTTE RUY (Nederl. Tijdschr. v. Geneesk., February 18th, 1928, p. 795), in a review of the literature dealing with the existence of a filterable form of the tubercle bacillus, states that the opinions of the French investigators cannot be regarded as conclusive. Two views may be held on this subject. The first is that the pathogenic tubercle bacillus may produce a filterable form which may be transformed again into the typical bacillus. The second is that the pathogenic tubercle bacillus can produce a virus which differs from the original tubercle bacillus as regards pathogenicity, form, and other properties, and is a filter passor. A number of French observers have based the existence of such a virus on the following considerations. (1) The presence of acid-fast bacilli in the tracheo-bronchial glands of guinea-pigs inoculated with filtrates containing tubercle bacilli without typical inoculable tuberculosis developing; (2) a positive tuberculin reaction in these animals; (3) the death from cachexia of a number of those animals. Ruy, however, brings forward the following objections. A number of investigators have been unable to find acid-fast bacilli resembling tubercle bacilli, and no control examinations were made on normal animals. A positive tuberculin reaction can be explained as a reaction to extracts of tubercle bacilli which were introduced with the filtrates. The death from cachexia may have been due to the large quantity of the filtrates introduced.



# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 481. Endemic Meningococcal Meningitis.

S. McLEAN and J. P. CAFFEY (*Amer. Journ. Dis. Child.*, March, 1928, p. 357) describe the protean nature of the clinical manifestations in 136 cases admitted to hospital from 1914 to 1926; 17.6 per cent. of the patients were not over 3 months old and 67.6 per cent. were in the first year of life. Crowding, poverty, and poor hygiene are predisposing causes. Muscular rigidity, especially at the level of the neck, with or without retraction of the head, was present in 84.5 per cent. of the cases, and is the most frequent and important single clinical sign. Increase of tendon reflexes—Kernig's and Brudzinski's signs—though often present, are unreliable diagnostically in infants. Unexplained irritability (62.5 per cent.) and drowsiness, stupor, or coma (46.2 per cent.) are of value in focusing attention on the central nervous system. Examination of the cerebro-spinal fluid is essential when there is a bulging fontanelle. Convulsions were present in 29.4 per cent. of the patients, generally at the onset of the disease; 11 per cent. had a haemorrhagic eruption, meningococci being demonstrable in blood films made from the purpuric areas. The most frequent ocular manifestation was strabismus, which was present in 20.5 per cent. of the cases. The temperature, vomiting, and tache cérébrale are not characteristic. The need for lumbar puncture in suspected cases is emphasized. The presence of a purulent fluid nearly always indicates meningococcal meningitis; the discovery of meningococci makes the diagnosis certain. Blood cultures should be made in all cases, but particularly in the fulminating ones, when organisms can be recovered from the blood, though they are not demonstrable in the cerebro-spinal fluid.

### 482. Thoracic Signs of Hypertension.

S. WEINSTEIN (*Med. Klin.*, March 16th, 1928, p. 418) confirms the observations of Delherm and Chaperon that hypertension is frequently associated with dilatation of the aorta. Among 100 patients (42 men and 58 women) 18 (4 men and 14 women) had hypertension and 23 (10 men and 13 women) had aortic dilatation. Further analysis showed that 50 per cent. of these 18 patients who had hypertension had also aortic dilatation, as compared with 17 per cent. in whom this condition was associated with a normal or slightly increased blood pressure; 39 per cent. of patients having aortic dilatation had hypertension, while only 12 per cent. of those in whom the aorta appeared to be normal had hypertension. Weinstein states also that there is a direct relation between the size of the lungs and the blood pressure. In collaboration with W. Lutz he has investigated clinically a number of cases by means of skiagrams; it was found that a subnormal development of the lungs was very often associated with hypertension. The two authors also investigated the pulmonary development of 100 patients; of these, 31 (8 men and 23 women) had small lungs. Among these, of 18 patients having hypertension 13 had small lungs, while among 82 patients who had normal or slightly raised blood pressure only 18 had small lungs. Among 31 patients who had small lungs 13 had hypertension, while among 69 patients who had lungs of normal size only 5 had hypertension. Among 116 women over 50 years old 52 per cent. with small lungs had hypertension, in contrast with only 6 per cent. of "control" cases; 86 per cent. of women having hypertension had small lungs, as compared with 25 per cent. of women who had normal or slightly raised blood pressure. Weinstein draws the following conclusions. (1) The aortic dilatation described by Delherm and Chaperon and its connexion with hypertension has been proved in a considerable number of cases. (2) The size of the lungs should be estimated systematically, as hitherto this question has not been considered. Small lungs, especially in women, stand in close relation with hypertension. (3) One or both symptoms (aortic dilatation and small lungs) were present in all cases of hypertension; when both symptoms were absent there was no hypertension.

### 483. Latent Syphilis Carriers and the Spread of Infection.

W. KOLLE (*Zentralbl. f. Bakt.*, 1928, vol. 106, Festschrift, p. 134) asks why it is that with the widespread employment of salvarsan in every country syphilis has not been practically stamped out. For it is known that salvarsan rapidly causes every symptom of the disease to disappear, and that it leads in a high proportion of cases treated early to a lasting cure. It is admitted, on the other hand, that the majority of patients

treated with salvarsan, although they show an immediate apparent cure, yet relapse and again become infective, but it is difficult to believe that all cases of syphilis originate from contact with cases of open infection. Many patients are found to be syphilitic during the course of routine examination who never suspected it themselves; this applies especially to patients with disease of the nervous or arterial system. The author thinks that these patients have become infected with syphilis without ever developing primary manifestations. His suggestion is that a large number of persons with latent syphilis are in reality chronic carriers of the disease, and that they may prove infective in much the same way as an apparently healthy person may excrete typhoid bacilli. He thinks it possible that these persons are carrying living spirochaetes on their mucosae without showing any evidence of disease. Animal experiments tend to support this view. Albrecht has shown with rabbits that a primary chancre of the vulva undergoes spontaneous cure; but when does that have recovered completely from such a chancre are brought to a huck, the huck develops syphilis without, however, showing any primary manifestations; the infection can be demonstrated by extirpation of the regional glands and injection of them into fresh animals. A symptomless infection can also be produced in the mouse, as the author has shown. After infection, the spirochaetes live in the glands, spleen, and brain for several months; they can easily be demonstrated by inoculation into fresh mice. The author doubts whether there is any immunity in syphilis other than an infection immunity. If this is so, and if syphilis can be imparted by apparently healthy persons who are carriers of the disease, the only hope in the cure of syphilis is the earliest possible treatment so as to obtain a chemical sterilization and thus prevent the development of the carrier condition.

### 484. Pluriglandular Syndrome following Mumps.

J. HUBER (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, March 8th, 1928, p. 368) records the case of a man, aged 26, who, after a severe attack of mumps complicated by unilateral orchitis followed by atrophy of the left testis, developed a pluriglandular syndrome consisting in sexual frigidity, hypotrichosis, and upper dorsal kyphosis indicating overaction of the suprarenals and hypophysis respectively, together with general weakness and diffuse pain most marked in the lumbar region and sacrum, suggesting an involvement of the sympathetic system. No benefit was derived from opotherapy.

## Surgery.

### 485. Results of Periarterial Sympathectomy.

S. RUBASCHOW (*Zentralbl. f. Chir.*, March 24th, 1928, p. 727), who reports 46 cases of periarterial sympathectomy, believes that this procedure should not be abandoned; it may give good results in certain diseases. The operation affects chiefly the trophic nerve fibres and not the vasomotor fibres. He has had very good clinical results in three cases of causalgia, and in two cases of amputation the stumps remained entirely free from trophic changes. In Raynaud's disease three out of four patients with injuries of the sciatic nerve remained free from ulceration. In twelve cases of ulcers due to various causes cure was obtained in six. Among ten cases of spontaneous gangrene two patients improved; in six cases the operation had no effect and two patients became worse. In two cases of ununited fracture some improvement resulted in one case. The operation failed in a case of syringomyelia, in five cases of tuberculous arthritis, and one case of elephantiasis. The author states that moist gangrene occurred in two of the cases which did not improve. He considers that periarterial sympathectomy is advisable only in cases showing "dry" gangrene. One patient with causalgia remained cured after three and a half years, another with a gunshot wound of the sciatic nerve relapsed after three years. In a case of early gangrene of the little toe improvement has persisted for more than two years. In a typical case of Raynaud's disease of the hand there was no immediate result, but after two or three months considerable improvement resulted. No case became septic. In femoral sympathectomy the author operates on the middle third of the artery below the origin of the profunda artery and the lymph glands. In one case the brachial artery was injured and required ligature, but the ultimate result was satisfactory.



Occasionally post-operative arterial hyperaemia persisted, in one case (incipient spontaneous gangrene) for two years with good result; in two other cases (causalgia and trophic ulcer) it lasted for three years. Rubaschow does not think that hyperaemia is the preponderant factor in the healing process; in a case of ulcer of the foot to a lowing a gunshot wound of the sciatic nerve, the operation was followed for two weeks by anaemia and coldness of the foot, possibly arterial spasm, yet during this period the ulcer healed. In the course of the following two years there was intense hyperaemia and no recurrence. In another case an ulcer reappeared after three years, in spite of persistent hyperaemia. In one case of digital ulceration (thrombo-angiitis obliterans) the whole right arm was pulseless. Brachial sympathectomy with resection of 2 cm. of the artery was performed; this was followed by hyperaemia and uninterrupted healing of the ulcers of the fingers.

#### 436. Diabetes Complicating Surgical Urinary Conditions.

I. CHIOFALO (*Journ. d'Urol.*, January, 1928, p. 11) discusses the pre-operative treatment of surgical urinary disease associated with diabetes. When the case is not urgent; as, for example, in prostatectomy, it is usually sufficient to reduce the carbohydrates, thus producing a condition of tolerance so that the glycosuria disappears. In such cases insulin is of no use and patients can be satisfactorily prepared for operation without its employment. When there is marked acidosis it is necessary to employ a strict diet combined with insulin. The results in these cases are said to be excellent, and the operation can be performed with little or no risk. It will be necessary to inject 15 to 20 units of insulin one and a half hours before operation, followed in half an hour by a small quantity of sugar. Morphine may also be given with advantage. Chloroform is absolutely contraindicated, and local anaesthesia, ether, or spinal anaesthesia should be used. In urgent cases a dose of 40 to 50 units of insulin should be given an hour before the operation, followed by 50 grams of sugar. Insulin is given in all cases after the operation; the results so obtained are said to be excellent and frequently to result in cure.

#### 437. Chronic Appendicitis.

H. KOSTER (*Archives of Surgery*, January, 1928, Part I, p. 44) argues that while dull aching pain or intermittent and colicky pain in the right lower quadrant of the abdomen may be referable to organic or functional disturbances in the appendix, it is not correct to group all the conditions of the appendix under the heading "chronic appendicitis." In many of these cases the pathologist may not find any evidence of chronic inflammation, the symptoms having resulted from kinks, adhesions, and strictures. He suggests that the term "chronic appendicitis" should be replaced as a pre-operative diagnosis by "appendicular colic." This will have a definite meaning and a distinct application as a working basis. No two pathologists agree as to the criteria for the diagnosis of chronic inflammation, and the result has been confusion and controversy. Koster thinks that with the acceptance of definite criteria such confusion will be avoided.

#### 438. Symmetrical Gangrene of the Extremities following Typhoid Fever.

C. IMPERIALE (*Rif. Med.*, March 5th, 1928, p. 242), who records an illustrative case, states that of all the numerous infectious diseases followed by gangrene of the extremities typhoid fever occupies the first place. Of 102 cases of post-infective gangrene collected by Barraud, 44 were due to this cause. Predisposing causes include cold and damp, excessive physical exertion, and pre-existing diseases such as syphilis, nephritis, diabetes, arterio-sclerosis, alcoholism, and indulgence in tobacco. As a rule the lower extremities are affected, the right as often as the left, but the simultaneous appearance of gangrene in both is rare. The upper limbs are seldom affected. Post-infective symmetrical gangrene presents a characteristic clinical picture in that the onset is sudden and the progress rapid and extensive. The condition can readily be distinguished from Raynaud's disease, in which there is a long prodromal period and a certain periodicity of the symptoms. As regards the pathogenesis, post-typhoid gangrene is usually due to arterial thrombosis, with which may be associated vascular spasm of sympathetic origin. The prognosis is grave, the mortality being about 50 per cent. The present case was that of a soldier, aged 20, who developed gangrene, first in the right leg and shortly afterwards in the left leg, about a month after the onset of an ordinary attack of typhoid fever. Amputation on the right side was performed in the middle half of the thigh, and on the left leg at the upper third of the leg. Recovery followed. Examination of the arteries in the amputated limbs showed thickening of the intima and the formation of a thrombus.

## Therapeutics.

#### 439. Alcohol in Acute Infectious Diseases.

J. D. ROLLESTON (*Brit. Journ. of Inebriety*, April, 1928, p. 201), continuing his observations on this subject (see *Epitome*, April 23rd, 1927, para. 451), states that during the year 1927, when the annual consumption of brandy at his hospital was only 25½ oz., as compared with 991½ oz. in 1926 and 2,539 oz. in 1925, no brandy whatever was used in the treatment of diphtheria, the case mortality from which was the lowest recorded at his hospital (3.01 per cent.) though the type of disease remained the same. He maintains that the use of brandy, in spite of the evidence of its inefficiency or harmfulness, is doubtless often due to the pressure exercised upon the doctor by the patients' friends, who are under the mistaken impression that in the absence of such treatment everything is not being done that can be to save life or hasten recovery. Such influence, though much more likely to be brought to bear successfully in private practice than in institutions, is not without its effect even in hospital. In addition to the reduction in the administration of alcohol in the wards Rolleston has exercised a strict control over its use in the ambulance service connected with his hospital, the nurses on ambulance duty having received orders to furnish a report of every case in which they considered such administration necessary, together with the amount given. The result of this measure was that during the whole of 1927 only 1 ounce and 7 drachms of brandy was used by the ambulance nurses. This figure applied not only to the 3,223 patients admitted to the hospital in the course of the year, but to all the other cases removed by the ambulance nurses, amounting to a total of over 12,000 persons conveyed and a mileage of over 68,000.

#### 440. Saline Solutions in Hypertension.

W. L. T. ADDISON (*Canadian Med. Assoc. Journ.*, March, 1928, p. 281) summarizes previous research in arterial hypertension as showing that calcium chloride produces an inorganic acidosis, with increased excretion of ammonia and soda; potassium chloride, without change of the acid-alkali ratio, gives an increase of soda secretion; potassium citrate produces an alkalosis with an increased soda excretion; and all three drugs with proper dosage reduce arterial pressure in the large majority of cases. Consequently Addison investigated the reaction of potassium and sodium chlorides in the same person, and the experiments were repeated with the respective bromides, lest the chloride should be thought to be a party to the action. Tests were made upon five patients, all of whom were on a salt-poor diet with fish once daily and vegetables, fruits, cereals, and milk freely, but from which meat, poultry, eggs, cheese, beans, peas, and nuts were excluded. Addison prescribes a mixture of potash salts—namely, potassium bromide 10 grains, potassium chloride 20 grains, potassium citrate 30 grains, with syrup to half an ounce, to be taken in water after food. This formula acted well in certain cases when the chloride acted indifferently, the potassium bromide and citrate being among the most efficient of the potash salts in reducing hypertension, while the inclusion of potassium chloride assists the stomach and kidney functions. The investigation showed that the giving of all three potassium salts causes a fall in blood pressure with an amelioration of symptoms of hypertension, while the administration of sodium chloride and bromide is associated with a rise in blood pressure and an increase of the symptoms of hypertension.

#### 441. Prolonged Salicylate Treatment in Rheumatic Endocarditis.

A. COURY (*Bull. Soc. de Théor.*, February 8th, 1928, p. 51), who records two illustrative cases in children aged 13 and 7 years respectively, protests against the view that salicylate treatment is needed in acute rheumatism only so long as the joint affection lasts, and that it has no effect in cardiac complications. Numerous writers in France and other countries have shown that acute articular rheumatism is a disease with a very prolonged course, and in essence cardiac rather than articular. During the last ten years Coury has continued to treat his rheumatic patients for at least a year after all the joint manifestations had disappeared. This treatment comprises the administration of salicylates for from fifteen to twenty days a month with ten to fifteen days' rest, and in much smaller doses than are required for the acute attack of rheumatism. Coury's two cases show that rheumatic endocarditis can clear up entirely over a long time after it has been established. The large doses of the acute stage were not needed, no more than from 2 to 5 grams daily being required. In prolonged salicylate treatment two factors must be considered. Gastric intolerance is more likely to occur when the treatment is prolonged than when the drug is given

in large doses for a few days only. The second factor is habituation, which rapidly evokes resistance of the rheumatic virus to specific treatment. Coury recommends intravenous injections of 2 or 3 grams of salicylates in glucose solution two or three times a week.

#### 492. Sublingual Absorption of Drugs.

D. DAVIS and D. AYMAN (*Arch. Intern. Med.*, February 15th, 1928, p. 231) conducted investigations in order to determine the absorption capacity of the sublingual mucous membrane for drugs. A known quantity of morphine sulphate was placed beneath the tongue, and after a given time the contents of the sublingual space were washed out and the exact amount of unabsorbed drug was determined. The authors found that no appreciable absorption occurred in seven experiments in which 10 to 15 mg. of powdered morphine sulphate were placed under the tongue for from five to ten minutes, 65 to 80 per cent. of the drug being recovered. Allowing for loss in recovery less than 10 per cent., if any at all, of the total drug was absorbed. There is no evidence from the literature in support of any capacity for absorption by the sublingual mucous membrane at all comparable with the rapid absorption capabilities of the gastro-intestinal and rectal mucous membranes, and the authors consider that this method of administering morphine should be discontinued.

#### 493. Treatment of Erysipelas.

O. KRAUS (*Med. Klin.*, February 24th, 1928, p. 294) records 45 cases of erysipelas in adults, 15 of whom were treated with intragluteal injections of milk, 15 with diphtheria antitoxin, and 15 with local applications such as ichthyol ointment, Burrow's solution, or tincture of iodine. The results were as follows: Rapid recovery occurred after the injection of 5 c.cm. of milk which had been sterilized for ten minutes in a water bath. An equal dose of diphtheria antitoxin was not nearly so efficacious. Local treatment did not essentially shorten the course of the disease. The only contraindication for milk injections is the presence of pulmonary tuberculosis or chronic recurrent haematemesis.

#### 494. Autohaemotherapy in Conjunctivitis.

A. DE CAMPE (*La Pediatria*, March 1st, 1928, p. 225) publishes brief details of thirty-one cases of conjunctival and corneal affections in children, treated by injections of 5 c.cm. of whole blood into the gluteal muscles. The injections were given every other day or twice a week, and the results were excellent, for in 78 per cent. of the cases cure was obtained, although most of the inflammations were chronic in type. Improvement showed itself in the rapid disappearance of irritation, photophobia, blepharospasm, and corneal infiltration. No general reactions were observed after the injections. The author thinks that they may act like non-specific proteins, or produce their effects by stimulating the sympathetic system.

## Laryngology and Otology.

#### 495. Mucocoele of the Accessory Nasal Sinuses.

According to C. A. HEATLY (*Arch. of Otolaryngol.*, February, 1928, p. 150) mucocoele of the accessory nasal sinuses is not the rarity which it has frequently been considered. He defines it as an accumulation and retention within a sinus of a mucoid secretion, owing to continuous or periodic closure of its ostium, and resulting in gradual thinning, distension, or actual erosion of one of its walls. The onset of the disease is so gradual and the course so slow and painless that the etiology is difficult to establish, though cases have been recorded in which catarrh, trauma, or osteoma appear to have been the exciting cause. As a rule the first sign is swelling in the orbital region. This usually occurs in the upper inner angle of the orbit, and as a result the eyeball is displaced downwards and outwards. Exophthalmos and diplopia may occur and epiphora may be an early and misleading symptom. The swelling may involve the anterior wall of the frontal sinus, and in ethmoidal mucocoeles nasal obstruction, or actual deformity, may be present. There is usually no local tenderness, the swelling may be as hard as bone, or may yield a parchment-like crepitation. If actual erosion of the wall of the sinus has taken place a fluctuating tumour may be felt, protruding through the bony defect. The absence of nasal discharge is characteristic, although the duct is not completely closed in all cases. The content of the mucocoele varies greatly in colour and consistency. Usually it is a brownish, thick fluid, but may be clear and serous in character. Treatment should aim at establishing a large permanent communication with the nose. In some cases, especially where the mucocoele is confined to the ethmoidal labyrinth, a simple intranasal opening will suffice,

but in the majority of cases an external operation is necessary. In addition, a large drainage tube is passed from the sinus into the nose and left in position for several days. Prompt subsidence of orbital symptoms usually follows operation.

#### 496. Lesions of the Cervical Sympathetic Ganglion and the Pericarotid Sympathetic.

LASAGNA (*Arch. Ital. di Otol.*, January, 1928, p. 1) has performed a series of experiments on the cervical sympathetic apparatus in rabbits, employing three types of operation. In the first he removed the sympathetic trunk with the three cervical ganglia of one side; in the second, in addition to this, he also excised the pericarotid plexus of the same side; and in the third case he merely removed the carotid plexus. The animals were killed at periods of a few hours, a few days, a month, two months, and so on, and examinations were made of the turbinate bodies and their mucosa, the laryngeal mucosa, and the wall of the carotid vessel. It was found that the nasal and laryngeal mucosa were congested with dilated vessels, and that the glands became engorged and secreted a copious mucous fluid with which the ducts were dilated. In the cases where the pericarotid sympathetic was removed there was an oedematous infiltration of the submucous layer, but not where the ganglionated trunk only was removed. These changes were found only in those animals which were killed soon after the experiment. The longer the period between the experiment and the microscopic examination the more nearly had the tissues returned to normal, until at the end of a month there were practically no pathological changes to be seen. Removal of the ganglionated trunk and the pericarotid plexus had a greater effect, which lasted longer than that produced by removal of the trunk alone. Removal of the plexus alone had about the same effect as the removal of both systems. Examination of the carotid revealed a reduction of the lumen, an overgrowth of the muscular coat, and a copious formation of connective tissue in place of the extirpated tunica adventitia, which showed that new sympathetic fibrils appear. The conclusion is that extirpation of the cervical sympathetic system produces an engorgement of the nasal and pharyngeal mucosa, but that its duration is too short to be of any therapeutic value in such cases as atrophic rhinitis and ozæna.

#### 497. Laryngeal Cough.

G. FERRERI (*Arch. Ital. di Laringol.*, December, 1927, p. 5) discusses the causes and significance of the various types of cough. From an etiological point of view he classifies cough according as it is due to a laryngeal lesion or secondary to conditions of the central nervous system, the air passages, including the upper and lower respiratory tract, the alimentary tract, and general body diseases, such as diabetes and albuminuria. The type of cough is often a useful diagnostic sign in children, especially in the harsh raucous cough of measles and scarlatina and in whooping-cough. In some cases of tracheo-bronchial adeopathy there are frequent attacks of convulsive cough, but these two types can be distinguished by symptoms of pressure on the bronchi—an asthmatic wheeze in many cases. In cases of laryngeal papilloma there is some alteration in the voice besides the cough. In adults the persistence of a raucous cough may be of considerable gravity in the exanthemata, since it may signify the onset of ulceration of the mucosa. In influenza laryngitis the superficial ulceration of the cords is accompanied by a violent metallic cough. Benign growths of the larynx cause short attacks of violent cough, but the cough in malignant disease has no diagnostic value. In tuberculous laryngitis the cough is more noticeable in the pachydermatous type than in the ulcerative or the oedematous. The brassy cough of laryngeal paralysis is very typical, and each of the various affections of the larynx and trachea has a particular variety of cough which gives indications as to its origin.

## Obstetrics and Gynaecology.

#### 498. Late Sequels of Induced Abortion.

SERDUCOFF (*Gynæcol. et Obstet.*, March, 1928, p. 196), in the light of his experience in Russia, where abortion for social reasons has been authorized since 1920, describes the harmful effects which are produced in women who have undergone one or several artificial interruptions of pregnancy during the early months. He is satisfied that in young women aged 17 or 18 artificial abortion, even when unaccompanied by inflammatory phenomena, is followed by intractable sterility. In older subjects a morbid involution of the genital organs ensues, which takes three main forms—infantile fibro-atrophic uterus, small atrophic uterus, and fibro-metropathic uterus,

which may be associated with fibro-cystic ovarian degeneration. In certain instances psychic instability, hypo-ovaria, obesity, frigidity, dyspareunia, and various hysteroneuroses are also noted; these, together with the atrophic uterine changes, may be attributed to the sudden disturbance by artificial abortions of the endocrine activity of corpus luteum, placenta, ovum, uterus, etc. In three cases out of four artificial abortions are followed by oligomenorrhoea, in one out of ten by amenorrhoea. Serdukoff quotes the observations of his co-worker Lankovitz, who, comparing the confluents of 1,700 women who had not undergone abortion with those of 660 who had had from two to four or more artificial abortions, found that in the latter series pyrexia was three times as frequent as in the former, duration of labour was three times as great, low placental insertion was three times as common, difficulty in placental detachment was twice as frequent, and retarded involution of the uterus was four times as common.

#### 499. Treatment of the Menopause.

P. E. MORHARDT (*La Vie Méd.*, April 10th, 1928, p. 427) discusses recent views on the causation and treatment of the various disturbances associated with the menopause. It is supposed that the less normal the sexual life of a woman has been the more troubles she has at the menopause. It is stated that the more primitive woman or less disturbed than civilized women. The hot flashes felt when the blood of the splanchnic area arrives rapidly at the periphery are attributed to the loss of the vagotonic action of the ovaries. There is a profound modification in the relations between the two antagonistic systems, vagotonic and sympathicotonic, due to the functional disappearance of the ovaries. The question whether the obesity so frequently noticed at this time is associated with a modification of the basal metabolism has not been satisfactorily settled, as hypo- or hypothyroidism may be simultaneously present. The author thinks it reasonable to suppose that the removal of the ovarian secretion will upset the endocrine equilibrium, and many of the symptoms may be due to this. The psychic phenomena are said to be more marked in the unmarried and in widows. Nothing has yet been found which replaces the effects which the ovarian secretion exerts on the nutrition of the articular cartilages and capsules. The author places psychotherapy first in his consideration of treatment, then the various ovarian preparations. As a sedative he recommends two tablets of a day of potassium bromide 30 to 40 grains, codine phosphate 40 eg., extract of valerian 6 grams, syrup of bitter orange peel 200 grains, water q.s. to 300 c.c.m. Local symptoms such as hemorrhoids he treats with charcoal, and pruritus with dermatol 50 eg., boric acid 1.5 grams, tannin 1 gram, vaseline 30 grains. For acne rosacea cold cream, with the addition of adrenalin (2 per cent. of the 1 in 1,000 solution), has proved useful.

#### 500. Fibroma and Pregnancy.

LUTAUD (*Bull. et Mém. Soc. Chir. de Paris*, March 2nd, 1928, p. 168) reports a case of a three months' abortion in a multipara who had previously given birth to two healthy children. On curettage being attempted a fibroma, the size of a large orange, was discovered attached to the posterior uterine wall, this being evidently the cause of the abortion. Myomectomy was advised but refused, and on examination some time later it was found that the tumour had undergone marked regression. A subsequent pregnancy terminated normally at full term. Two years later, after strong pains simulating labour pains, a hard tumour as large as a foetal head was passed into the vagina and was easily removed. During the following three years the patient has enjoyed excellent health, and monthly examinations have revealed no abnormalities. Lutaud observes that other similar cases have been reported in which an increase in size, during pregnancy, of a fibroma by oedematous infiltration has been followed after labour by a regression or pseudo-regression of the tumour.

#### 501. Fracture of the Clavicle during Spontaneous Labour.

K. ADLER (*Zentralbl. f. Gynäk.*, April 7th, 1928, p. 879) examined a series of 2,000 infants (1) at the time of their spontaneous delivery by vertex presentation, (2) at the date of their discharge from an obstetric clinic. One case only of fracture of the clavicle was found; the mother was a 4-para, aged 35, and the child weighed 4.3 kilograms. A fracture of the anterior clavicle was audible as the perineum was being supported for passage of the shoulders; subsequently the usual physical signs were readily recognizable. Of the infants in this series 603 were examined radiologically for missed clavicular fracture. According to reports in the older literature fracture of the clavicle after spontaneous vertex delivery appears to have been at one time rather frequent.

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Riother in 1902 reported 65 cases during one year at a Vienna clinic; Munst year later reported an incidence of 1.3 per cent. among 1,600 cases at Copenhagen, and Hanch (1905) an incidence of 0.67 per cent. among 2,500 spontaneous vertex deliveries. Certain of the older writers believe that the fracture occurred during birth of the shoulders, others ascribed it to an intrapelvic injury. It was agreed that diagnosis was difficult for the reason that crepitation, unusual mobility, and impaired function were frequently absent. It was invariably noted that the anterior clavicle was the more frequently fractured.

## Pathology.

#### 502. Bacteriology of Septicaemia of Childbirth and Abortion.

K. SOMMER (*Zentralbl. f. Gynäk.*, April 14th, 1928, p. 942) adduces evidence that of late years, in industrial areas at any rate, haemolytic streptococci no longer play the chief part in causation of septicæmic conditions following childbirth or abortion. His material comprises 58 cases of normal birth or premature birth and 186 cases of septic abortion, of which nearly all were artificially induced. The deaths numbered 44 and 164 respectively in the two groups. A haemolytic *Staphylococcus aureus* was found in the blood in 71 cases, with 86 per cent. mortality; the next place was shared by a haemolytic streptococcus and the anaerobic *Streptococcus putridus*, each with 46 cases and 81 per cent. mortality. There were staphylococcal blood cultures in 42 cases, with 89 per cent. mortality. Further analysis showed staphylococcal septicaemia to be much more frequent in the cases of infected abortions, which appear to be induced most usually by irregular practitioners who undertake in addition a considerable amount of unqualified treatment of skin disease. The figures are from a Berlin clinic.

#### 503. The "R" and "S" Forms of Pneumococcus.

M. H. DAWSON (*Journ. Exper. Med.*, April 1st, 1928, p. 577) mentions that, following the discovery by Arkwright of two variants of the same bacterial species, "R" (rough) and "S" (smooth), Griffith was the first to recognize two corresponding variants of the pneumococcus. The distinguishing features of these are as follows. "S" forms are virulent, produce the specific soluble substance upon which type specificity depends, and form colonies which have a smooth surface when examined by reflected light. "R" forms are avirulent, do not produce the specific soluble substance, and form colonies which have a rough surface. The question of their interchangeability has considerable significance in the problem of epidemiology and in the interpretation of bacterial mutation. Dawson has made a series of experiments on the interconvertibility of the two forms, and especially on the reversion from "R" to "S." He has previously shown that virulence and type specificity could be restored to "R" forms by growth in anti-"R" sera, and cites Soule's findings that by the incorporation of "S" or "R" immune sera in fluid media "R" may be obtained from "S" and "S" from "R" forms respectively. In these experiments, made *in vitro* by growth in anti-"R" sera as well as *in vivo* by animal passages, both mass and single cell cultures of Types I, II, and III pneumococci were employed. Dawson found that "R" pneumococci may revert in all respects to the "S" type, and that in all instances in which reversion occurred the "R" forms invariably reverted to the same specific type from which they were originally derived. Reversion from "R" to "S" was always accompanied by the acquisition of maximal virulence.

#### 504. Resistance of Tubercle Bacilli to Putrefaction.

ACCORDING TO V. M. PALMIERI (*Rif. Med.*, February 27th, 1928, p. 205) it is generally agreed that the tubercle bacillus is one of the most resistant organisms known to external agencies, such as high temperature, drying, and water, but excluding sunlight. This peculiarity is due to its waxy covering and high fat and lipid content. Observations regarding its capacity of resistance to putrefaction are both scanty and contradictory. Palmieri records the case of a man, aged 21, who was exhumed after four months' burial, his death being due to pulmonary tuberculosis, which was alleged to be the result of a wound in the chest six months previously. In spite of the advanced stage of decomposition naked-eye appearances of tuberculosis were found in the lungs, in which numerous tubercle bacilli were found by Ziehl-Neelsen's stain, as well as with Gram's and Bozzelli's methods. Animal inoculation was not employed, since the lungs had been immersed in formalin at the time of exhumation.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 505. Pulmonary Ventilation in Phthisis.

R. WILLIAMSON (*Quart. Journ. Med.*, April, 1928, p. 371) has made observations on the pulmonary ventilation, oxygen consumption, and respiratory quotient of patients suffering from pulmonary tuberculosis and of normal individuals. Experiments were performed in three groups: in the first, a series of observations were made on the same patient, who had been fasting and at rest for fourteen hours; in the second group the records were made three times during the day on the same patient, the initial readings being taken under the basal conditions present in the first group; in the third series determinations were made on healthy subjects at varying times during the day. The results of these investigations showed that the pulmonary ventilation and consumption of oxygen varied from time to time in the same patient under the same basal conditions of rest and fasting; by plotting these values against each other it was found that each was directly proportional to the other. The same direct ratio was found to hold in the second group of experiments, where the variables fluctuated with the taking of exercise or food. In the normal subject the correspondence between ventilation and oxygen consumption was less marked owing to the variability of the respiratory quotient. The author considers that for practical purposes the pulmonary ventilation is a measure of oxygen utilization, and therefore of metabolic rate, and he suggests that determination of pulmonary ventilation made under constant conditions may be a useful means of estimating the progress of a patient. With a given oxygen consumption the tuberculous patient is found to have a greater ventilation than a normal subject, and this observation is adduced to explain the fact that dyspnoea is more readily produced by work in the tuberculous than in the healthy individual.

### 506. Anginal Attacks Due to Tobacco.

E. MOSCHOWITZ (*Journ. Amer. Med. Assoc.*, March 10th, 1928, p. 733) records four illustrative cases, in persons aged from 35 to 62, in whom tobacco smoking caused anginal pains, which ceased when they no longer smoked. One of the four was a woman. They had all smoked for many years previous to the seizures. Two smoked only Turkish cigarettes, and two strong Havana cigars with occasional pipes, so that the variety of tobacco used apparently made no difference. The pain of tobacco heart differs from that of coronary or aortic disease in being more intense, of longer duration, and usually accompanied by little or no disturbance of heart function. A prominent feature is the apparent sensitization which occurs. In some cases more or less pain was caused by merely puffing a cigarette or sitting in an atmosphere of tobacco smoke. Moschowitz describes two varieties of tobacco heart: (1) those in which evidence of cardiac injury is not present, and (2) those in which the signs are suggestive of the intraventricular conduction disturbance associated with coronary or aortic disease. In the latter tobacco is probably the exciting cause of the anginal pain. Treatment consists in complete withdrawal of tobacco, as mere limitation of its use is not enough. The pains do not cease immediately after withdrawal, but they continue for many weeks or even months. Although the mechanism of tobacco angina is not definitely known, the most probable explanation is that it is due to the constrictive action of tobacco on the blood vessels.

### 507. Encephalitis in Measles.

THE rarity of nervous complications in the course of measles (Bouheim in 5,910 cases only noted their presence in 0.4 per cent.) induces D. BLASI (*La Pediatria*, April 1st, 1928, p. 362) to record a case in a child aged 3. Four days after the appearance of a typical measles rash generalized convulsions developed; they were rather more marked on the left side, and between the attacks the child was in a stuporose state, with occasional cephalic cry. She refused food for two days, but had no vomiting, and there were no pulmonary or cardiac changes. There was slight strabismus and neck rigidity. The knee-jerks were exaggerated. Kernig's sign was absent, and lumbar puncture gave no evidence of meningitis. The symptoms lasted about six days and then slowly disappeared; after a few weeks the child completely recovered. The author believes the encephalitis in this case was probably due to the measles toxin.

### 508. Capillary Dilatation in Deep-seated Inflammation.

A. PARAVICINI (*Rev. del Instituto Medico "Sucre,"* January-February, 1928, p. 49) has observed that many patients with deep-seated inflammatory processes present illiform subepidermic striae of a bright red colour and of a permanent character, localized on the skin of the trunk, especially that of the supraspinous fossae at the site corresponding to the pulmonary apices, the extent of this striation varying with the severity of the subjacent lesion. The striae may also be found on distinct parts of the shoulder and breast, corresponding with lesions in the mediastinum, pericardium, or pleura. They resemble those met with on the nostrils of alcoholic subjects, but differ from them in their greater docility. In all the cases in which the author observed the sign it was constantly associated with deep-seated lesions, usually of a tuberculous nature. The condition is thought to be a dilatation of the superficial cutaneous capillaries, which is at first transient and subsequently becomes permanent. The only other changes in the skin observed are dryness, slight increase of thickness, occasional branny desquamation, and adhesions. Most of the author's observations were made in mining centres, where the sign was frequently met with, especially among subjects of pneumoconiosis and dry pleurisy.

### 509. Diagnosis of Glandular Fever.

L. D. CADY (*Amer. Journ. Med. Sci.*, April, 1928, p. 527) discusses the diagnosis of sporadic infectious mononucleosis (glandular fever), and reports nine cases. He concludes that the diagnosis from such conditions as syphilis, tuberculosis, and Hodgkin's disease can only be established by careful study of the differential white cell count in association with the clinical features. The clinical symptoms may persist for a few months, but the abnormal blood picture continues for months or years after the initial attack. Patients may be affected in the fourth or fifth decades, as well as during childhood and early adult life.

### 510. Treatment of Laryngeal Diphtheria.

E. S. PLATOU and C. A. STEWART (*Minnesota Med.*, March, 1928, p. 170) have found two measures of value in the treatment of laryngeal diphtheria. The first of these is laryngeal suction for removing laryngeal membrane. Through a laryngoscope a plain semi-soft or metal catheter is introduced, the distal part of which is attached to a suction machine. Over a two-year period the incidence of intubation was reduced approximately one-half by this method, which is comparatively simple after practice with the laryngoscope. The second measure is intraperitoneal injection of antitoxin. Tests showed that this method was second only to the intravenous, and that sufficient antitoxin was present in the blood one hour after intraperitoneal injection to neutralize all the circulating toxin in the very worst case of diphtheria.

## Surgery.

### 511. Embolotomy.

U. BANI (*Il Policlinico, Sez. Chir.*, March 15th, 1928, p. 117) reports the case of a woman, aged 39, admitted into hospital with a history of sudden pain in the right leg, followed by coldness and deadness of the limb, and gangrene, evidently due to an embolus in the femoral artery. The leg was amputated in the middle third of the thigh. A week later the patient was seized with a similar sudden attack of pain in the left leg, and there was evidence of an embolus in the left femoral artery. The leg was cold and insensible; the reflexes were absent, and no pulse could be felt below Scarpa's triangle. In spite of her grave general condition the clot in the femoral artery was removed about six hours after the onset of the symptoms. Local anaesthesia was used and an embolus about 4 cm. long was extracted from the artery. The arterial wound was sewn up with catgut without involving the intima; silk threads were left on the artery and were brought out of the external wound in case secondary haemorrhage should occur. The immediate result of the operation was excellent, the leg became warm, sensation returned, and pulsation could be felt in the arteries. The leg continued to do well for the next seventeen days, when, after sudden emotion, the heart, which was affected with advanced mitral stenosis and fibrillation, failed, and death occurred from embolism. No necropsy was allowed.



**512. Treatment of Suppurative Osteomyelitis.**

M. SAIDMAN (*Zentralbl. f. Chir.*, April 7th, 1928, p. 844) recommends irrigation of the medullary canal in all cases of acute or subacute osteomyelitis of long bones. After opening the medullary canal with a small trephine, within a short distance of the upper and lower epiphyses, he removes the marrow through these openings by means of a curette or spoon. The medullary cavity is then irrigated with dilute methylene blue solution or other antiseptic by means of a syringe and cannula, the latter having a lateral orifice. In the case of very long bones, such as the femur, tibia, and humerus, it is sometimes advisable to trephine the diaphysis at three or even four equidistant points; it may also be necessary to introduce a curved sound through the trephine openings before the medullary canal can be irrigated thoroughly. Saidman describes the case of a man, aged 53, who had a typical attack of subacute osteomyelitis in the upper half of the left tibia. The operation was performed under local anaesthesia. Two small incisions were made at the upper and lower borders of the painful area. Through these the medullary canal was opened by means of a small trephine, the outlet being made larger than the inlet, and the marrow in the vicinity of the trephine openings was removed with a spoon. Pus flowed from both orifices. The wounds were lightly plugged and the limb was fixed in a Volkmann's splint in the position of rest. The temperature rose at first and then fell slightly, otherwise there was but little change in the clinical condition. Two days later the medullary canal was irrigated with a weak antiseptic solution under very low pressure. From the exit orifice a mixture of the solution, pus, and masses of marrow containing large drops of fat escaped, and the irrigation was continued until the solution was clear. The procedure was performed six times; only after the first treatment was there a rise of temperature and increased pain in the inflamed area, which necessitated the administration of a hypodermic injection of morphine. On the next day the patient was free from pain and slept soundly. The rapid improvement that followed the first irrigation was evidently due to the treatment. Saidman claims that this treatment is scientific, and so simple that it can be performed under local anaesthesia.

**513. Surgery of the Sympathetic Nervous System.**

G. PIERI (*Arch. Ital. di Chir.*, February, 1928, p. 487) publishes a series of cases illustrating the effect of section of the sympathetic nerves in conditions where pain is the predominant symptom, and where after abdominal section no sufficient cause is found to explain the symptoms. He reports three cases of gastralgia which could not be explained by the ordinary suppositions, where ramisection caused complete cessation of the pain. Three cases of persistent pain in the right iliac fossa not apparently due to the appendix or caecum were also relieved by ramisection. In these cases he also removes the appendix as a prophylactic measure. The next three cases refer to biliary pseudo-lithiasis, occurring in young subjects suffering from pain in the right hypochondrium especially over the gall-bladder, and radiating to the back without fever or jaundice. One case of doubtful slight pancreatitis was relieved of pain by ramisection. The author also reports cases of renal, vesical, testicular, or pelvic pain treated similarly with success. He only resorts to this symptomatic treatment after excluding any removable cause. As to the duration of the cure, none of the cases are very old—the oldest goes back only two years—but in every case the relief has been maintained to date. Pieri adds that when operating on the dorsal roots care must be taken to avoid injuring the plexus, and in every case the nerve trunks must be disturbed as little as possible. Altogether the author has performed thirty-one ramisections, with one death from broncho-pneumonia.

**514. Prevention of Post-operative Bleeding in Haemorrhoids.**

J. A. WESSLER (*Med. Journ. and Record*, March 21st, 1928, p. 310) considers quinine, urea hydrochloride, and conglutin to be an ideal combination for the prevention of post-operative haemorrhage in haemorrhoidectomy. He prefers local to general anaesthesia, using a 1 per cent. solution of quinine and urea hydrochloride with the addition of 3 per cent. conglutin, a combination which afforded a nearly bloodless field during operation in fifty cases without any post-operative bleeding. After dilatation of the sphincters under a 1 per cent. solution of novocain the most dependent haemorrhoid is injected with the solution from base to apex to the point of distension and blanching. After it has been drawn down the skin and pile tissue are divided at the mucocutaneous junction and a No. 30 linen thread is passed round the pedicle, the entire haemorrhoid being tied and cut off, leaving sufficient stump to prevent slipping of the ligature. Each individual haemorrhoid is similarly treated. The

advantages claimed are that the quinine and urea hydrochloride produce a prolonged anaesthetic effect, while the conglutin prevents secondary haemorrhage and provides a nearly bloodless field. Wessler advocates conglutin as being a solution of thrombokinase isolated from blood platelets; it is free from protein and there is no danger of anaphylactic shock. It is a stable preparation which remains uniform in potency; if necessary, the ampoules can be sterilized by boiling, without affecting the coagulating qualities.

**Therapeutics.****515. Treatment of Syphilis Associated with Tuberculosis.**

R. MARCLAND (*Bull. et Mém. Soc. Méd. Hôp. de Paris*, March 29th, 1928, p. 548) illustrates the harmful influence of novarsenobenzol on tuberculous syphilitic patients by describing two cases in which the first few injections were followed by uncontrollable activity in previously quiescent lesions. Arsenical compounds as a whole have, during the last fifteen years or so, fallen into disuse in pulmonary tuberculosis on account of the risk of aggravation of the disease. Such activation is brought about by the pulmonary congestion which follows the administration of arsenite, and this drug is therefore specially contraindicated when there is fever, haemoptysis, or progressive loss of weight. Considerable elevations of temperature in febrile tuberculous patients have been shown to follow five or six injections of cacodylate of soda. Marcland remarks that syphilis and tuberculosis are such common diseases that they must frequently coexist, and it is therefore important to make a thorough search for a tuberculous lesion whenever a febrile reaction or a loss of weight occurs during treatment with novarsenobenzol. Patients suffering from both diseases should not be treated with this drug unless the temperature and physical signs are carefully watched so that the administration may be immediately stopped should signs of tuberculous activity appear. If withdrawal of arsenic becomes necessary treatment should be continued with bismuth and mercury. These drugs are well tolerated by tuberculous patients, and although cure of the syphilitic condition may be delayed, it may ultimately be effected. On the other hand, it may be difficult or even impossible to arrest a pulmonary tuberculous lesion which has been lit up by the ill-advised and uncontrolled use of novarsenobenzol.

**516. The Treatment of Bronchiectasis.**

ACCORDING TO R. STRISOWER (*Wien. Min. Woch.*, April 5th, 1928, p. 495) the three most important indications to prevent the extension of bronchiectasis are to decrease the expectoration, to assist in its expulsion, and to prevent gangrene. One of the most important measures in diminishing the expectoration is to decrease the amount of fluid imbibed. It should amount to about 600 c.cm. per diem for three days, and on the fourth day, which may be called a "drink" day, the ordinary amount is taken. To avoid thirst a slice of orange or lemon may be given and the mouth may be washed out with soda-water. The following remedies can also be employed: atropine, turpentine, eucalyptus, menthol, quinine and camphor in solution, and eucalyptus and menthol dissolved in oil. To assist in its expulsion the expectoration should be made thinner by alkaline waters and potassium iodide. The most important means for getting rid of the expectoration is the adoption of Quinke's position and respiratory gymnastics. Adoption of the following position is often efficacious—the patient should be in the dorsal position with the pelvis raised, and should then take deep breaths. He should then bend the hips and knees and press them firmly into the abdomen. Salicylates and diathermy have also proved useful. If there are signs of gangrene neosalvarsan injections should be given; should there be no result after six or eight they must be abandoned. An operation is indicated if the sputum is excessive and purid, or if the disease progresses in spite of treatment.

**517. Ephedrine in Asthma and Hay Fever.**

R. GREEN (*Malayan Med. Journ.*, March, 1928, p. 10) records his observations upon the symptomatic treatment of asthma and hay fever with ephedrine. The hydrochloride was given orally in doses varying from 1/2 to 1 1/2 grains in ten asthma cases, while in two cases of hay fever a 3 per cent. ephedrine sulphate solution was applied locally to the nasal mucous membrane. Each asthma patient was kept under observation for from two to six hours, and in some cases the blood pressure was recorded every half-hour. Complete relief was obtained in six of the ten cases, while five developed toxic symptoms, including mental confusion, urticaria, palpitation, tremor, sweating, tachycardia, or collapse. Green thinks



that ephedrine is of much the same value in asthmatic attacks as adrenalin, but has the advantage of being given by mouth instead of by injection. In view of the toxic symptoms sometimes arising small doses should be employed until tolerance is established. When the drug was used during an attack the blood pressure was unaffected or lowered, but when given during a quiescent period the blood pressure was temporarily raised, so that it would appear to have the same contraindications as other blood-pressure-raising drugs in disorders of the cardio-vascular system. In the two cases of hay fever treated by local applications of ephedrine sulphate to the swollen nasal mucous membrane marked temporary relief for three hours was obtained; 1 gram of ephedrine hydrochloride had no effect upon the symptoms, but produced a toxic effect of faintness, palpitation, and sweating similar to that noticed in some of the asthma cases.

#### 518. Treatment of Pulmonary Tuberculosis by Sanoecrysin.

V. BRE and M. S. ANDERSEN (*Acta Tuberculosis Scandinavica*, 1927, vol. 3, Fasc. 2, p. 61) publish details of a series of 35 cases of pulmonary tuberculosis treated by sanoecrysin. Injections were made intravenously as a rule, occasionally intramuscularly, of a 5 per cent. solution, and in general the dosage was regulated according to Moellgaard's directions. Two series of injections were given, sometimes three. In the early stages of the investigation an antituberculous serum was given during the first series of injections, but later this practice was discontinued. Most of the patients after treatment with sanoecrysin were dispatched to a sanatorium. Of 12 acute cases with tubercle bacilli in their sputum 6 patients died, 4 were apparently cured (1 relapsed later), 1 remained stationary, and 1 was improved. Of 12 acute cases, and 2 chronic cases with acute exacerbations, without tubercle bacilli in their sputum, 1 patient died, 9 were apparently cured (but 2 relapsed later), 3 were probably cured (but were not examined later), and 1 was improved. Of 8 chronic cases with tubercle bacilli in their sputum 3 patients died, 1 was apparently cured, 2 were improved, and 2 remained stationary. Two patients with chronic disease but without tubercle bacilli in their sputum were apparently cured. Against these may be set 19 cases that were not treated by sanoecrysin. Seventeen of these were acute cases, or chronic cases with acute exacerbations, with tubercle bacilli in the sputum; of these, 9 patients died, 4 were improved, and 4 were worse. Of 2 acute cases without tubercle bacilli 1 patient died, the other was improved. The authors consider that these figures demonstrate the value of sanoecrysin treatment.

### Ophthalmology.

#### 519. Transmission of Arsenic to the Aqueous Humour.

A. M. YUDKIN, A. C. KRAUSE, and D. G. MORTON (*Arch. of Ophthalmol.*, March, 1928, p. 147) describe four experiments on dogs with regard to the transmission of arsenic to the aqueous humour. They found that, whereas after intravenous injection of large doses of arsenical compounds practically no arsenic could be found in the aqueous, yet if paracentesis of the anterior chamber was performed shortly before or after the intravenous injection arsenic was found in the aqueous fluid, and, further, that this presence of arsenic in the aqueous could be increased by further paracentesis. The arsenic present in the aqueous fluid after these procedures leaves the anterior chamber in a few hours. The instillation of pilocarpine and eserine helps to increase the quantity of arsenic in the aqueous. In view of their experiments the authors suggest that in cases of syphilitic affections of the eye, and in particular in cases of interstitial keratitis, paracentesis of the anterior chamber should be performed near the time of the intravenous injection of an arsenical compound, and that the paracentesis might with advantage be repeated again within a few hours, and that concurrently pilocarpine or eserine drops should be instilled into the eye.

#### 520. Keratitis Due to an Infection of Trachoma.

DURING the course of annual autumnal epidemics of acute conjunctivitis in Athens, due often to the bacillus of Weeks, B. ADAMANTIADIS (*Ann. d'Oculist.*, February, 1928, p. 119) has noticed that in certain patients, particularly infants, a latent trachoma becomes apparent during the decline of an acute conjunctivitis; the course of this acute condition was much longer in trachomatous subjects, and favoured complications of the cornea or aggravated existing ones. This ulcerative keratitis, caused by a superinfection of the trachoma by Week's bacilli, differs from other forms of keratitis in the following characteristics. The ulceration, always due to this bacillus, occurs in debilitated cases, and is limited to

the middle of the cornea on the horizontal meridian. It is in the form of a furrow, very deep in the centre and less so on the two sides, perforation always occurring in the centre. The edges appear polished, shiny, and without any greyish infiltration. The ulceration is uncomplicated by suppuration, and has a very rapid course. Two or three days after the onset of the ophthalmia the cornea is affected and speedily becomes eroded in its depth. Abundant lachrymation and intense periorbital pain accompany the corneal involvement. The prognosis is very grave, though with continuous and systematic treatment it is not hopeless. The author recommends daily cauterizations with a 1 per cent. solution of silver nitrate after careful eversion of the lid, instillations of pilocarpine or argyrol, and compress dressings. At first, owing to the lachrymation, these dressings should be changed four or five times daily, the instillations being then made, and an antiseptic ointment applied. In obstinate cases subconjunctival injections of mercury cyanide may be given combined with parotential injections of milk.

#### 521. Amaurotic Zoster.

E. ROLLET (*Journ. de Méd. de Lyon*, March 20th, 1928, p. 149), who records an illustrative case in a woman aged 70, states that in addition to the ordinary ophthalmic herpes characterized by pain, eruption, and various disturbances of the anterior segment of the eye, such as keratitis or iritis, there is a form of ophthalmic zoster in which the posterior segment is involved owing to affection of the optic nerve. The inflammation of the nerve appears to be secondary to herpetic meningitis, the existence of which is proved by lumbar puncture, which shows a distinct lymphocytosis. Whereas optic atrophy occurring in general diseases and intracranial affections is symmetrical, unilateral atrophy will often be found to be due to a previous attack of ophthalmic zoster.

#### 522. Mikulicz's Disease Treated by X Rays.

R. E. WRIGHT (*Amer. Journ. of Ophthalmol.*, December, 1927, p. 903) describes a case of this disease in which the lacrimal and submaxillary glands were involved. The swelling of the lacrimal glands was so great that corneal ulceration ensued and the lids had to be sutured. X-ray applications were given over a period of six weeks, two being given to the left eye, which was the one least involved, and six to the right eye. At the end of the six weeks the swelling of the lacrimal glands had disappeared.

### Obstetrics and Gynaecology.

#### 523. Surgical Intervention in Extrauterine Pregnancy.

H. P. BROWN, Jun. (*Annals of Surgery*, April, 1928, p. 531) records the experiences gathered from 109 cases of ectopic gestation treated at the Pennsylvania Hospital. Regarding the etiology and pathology of this condition, Robinson has stated that it is due rather to a functional disturbance of the tube than to an inflammatory and mechanical condition of the tube itself, and numerous authors have shown that the cause of rupture and haemorrhage, conditions chiefly responsible for the symptoms, are dependent not only on the distension of the tube by the growing embryo, but also on the degree of penetration of its walls and blood vessels by the foetal elements. In the present series a combination of vaginal bleeding and abdominal pain was the most frequently seen—namely, in 55 per cent. of the cases—while lower abdominal pain without haemorrhage occurred in 36 per cent. Salpingitis was noted as having been present in only 10 per cent., while a high leucocyte count was not observed frequently enough to be of diagnostic value. In no instance was the temperature on admission above 101° F. The onset of the symptoms was found to be often insidious, depending largely on the degree and rapidity of rupture of the tube or embryonic sac. The differential diagnosis between ectopic pregnancy and conditions simulating it, especially salpingitis and appendicitis, is frequently difficult. In the present cases the right side was involved in 53 per cent. and the left in 38 per cent., while on operation the tube alone was removed in 81 per cent. and both tube and ovary in 15 per cent. In two cases both tubes were excised, and in one ovarian pregnancy only the ovary. The mortality was 6.3 per cent. Brown concludes that diagnosis is difficult in atypical cases; and that much reliance cannot be placed in the menstrual history or the absence of previous pregnancies. In doubtful cases where an acute surgical emergency is not present reasonable delay is permissible in order to arrive at a correct diagnosis, but in those presenting symptoms of active bleeding immediate operation is necessary without waiting for a reaction from shock, since there is always a chance of recovery despite extensive intra-abdominal haemorrhage or shock. Where indicated an autotransfusion may be beneficial.

## 524. Treatment of Ovarian Cysts during Pregnancy.

M. BROUHA (*Bruxelles-Medical*, April 15th, 1928, p. 803) states that, while the systematic operative treatment of ovarian cysts during the first months of pregnancy is generally approved, opinions differ as to its advisability during the latter months. Despite the dangers of torsion, rupture, and suppurative of the cyst, surgical intervention, practised by certain authorities, is not recommended by Brouha owing to the risk of causing a premature accouchement and eventration due to rupture of the abdominal cicatrix; a case of this nature is cited. When the cyst lies in the abdominal cavity spontaneous natural delivery is possible, and the cyst can be treated at the end of the puerperal period. Pelvic cysts cause a mechanical obstruction, and other measures are necessary. Manipulation of the cyst into the abdomen is tedious and risky; puncture, formerly much practised, and vaginal incision of the tumour have been abandoned. Ovariectomy is the method of choice, and Brouha advocates the combining of this operation with natural delivery. When dilatation of the os is almost complete, and not before, he opens the abdomen, removes the cyst, temporarily closes the abdomen, and terminates labour per vaginam by forceps or version. Two cases treated with complete success in this manner are reported. This method is not applicable when the cyst lies intraligamentally, or when strong adhesions are present. There is also risk in cases where the foetal vitality has already suffered, as the exteriorization and luxation of the uterus may cause disturbances of the placental circulation capable of producing foetal asphyxia. These are said to be the two only contraindications, and the method possesses the immense advantage of conserving the uterine integrity, which is so advisable for future pregnancies and labours. Brouha recommends a definite closing of the abdomen only at the end of the accouchement, as then the reduced size of the uterus renders suturing much easier. Moreover, it is thus possible to verify a haemostasis of the pedicle, which is liable to be interfered with during delivery.

## 525. Antistreptococcal Serum in Treatment of Puerperal Septicaemia.

C. BERNARD (*Gynéc. et Obstét.*, March, 1928, p. 216) reviews the results given by treatment by antistreptococcal serum in puerperal septicaemia. Thirty-five cases were treated; in all the diagnosis was confirmed by blood culture, bacteriological examination of pus from metastatic abscesses, or necropsy. Streptococci were found in the blood in eighteen cases. The proportion of cures was 37.1 per cent.; if the cases are deducted in which death occurred within a few hours of the serum being injected, as well as those in which the pathological agent was other than a streptococcus, the cures numbered 47.3 per cent. The doses advocated are high: from 80 to 100 c.cm. In two injections during the first day and on succeeding days from 60 to 80 c.cm. Two or three days are required in which to judge of the efficacy of the treatment. The conclusion is drawn that the serum may act (1) in about 20 per cent. of cases, rapidly and perhaps specifically, the temperature falling and the general condition improving as from introduction of antibodies is appropriate to the infecting agent; (2) more slowly and indirectly, its efficacy being non-specific and equal or inferior to that of colloidal metallic preparations given intravenously.

## Pathology.

## 526. The Action of Ergotamine on the Autonomic System.

M. GOLDMAN (*Arch. des Mal. du Cœur*, April, 1928, p. 204) has observed the effect of ergotamine, the principal active constituent of ergot, on normal individuals and on those suffering from various diseases. This substance was injected into and under the skin and intravenously in doses of 0.25 mg. upwards of the tartrate. A diminution of pulse rate varying between 6 and 60 beats a minute was found; this was due either to excitation of the cardio-inhibitory mechanism or to predominance of the latter as a result of paralysis of the sympathetic terminations. When atropine had been previously administered the reduction of the pulse rate was even more marked. In relation to adrenaline it was found that this drug would abolish the ergotamine effect, whereas ergotamine did not influence the effect of adrenaline. The fact that ergotamine has a variable effect depending upon the bodily state at the time of administration was shown by the accelerating influence on the pulse rate in a patient suffering from hyperthyroidism. The effect of this substance on the blood pressure was always to increase the diastolic pressure. Generally the pulse pressure rose, but in a few cases there was a fall, so that the systolic pressure dropped below the

original level. This alteration of diastolic pressure by ergotamine is comparable with the effect of adrenaline, but the change is more prolonged. It is concluded from these investigations that ergotamine excites the sympathetic innervation and the muscles of the peripheral vessels, while in the heart it activates the parasympathetic and perhaps paralyzes the sympathetic. The sympathetic supply to the stomach is stimulated so that secretion and motility are diminished. The therapeutic indications for ergotamine are the following: circulatory disorders with a tendency to tachycardia, whether paroxysmal, toxic, or glandular; cases of transient or permanent hypotension, especially in circulatory failure; and digestive troubles associated with excessive secretion and motility.

## 527. Infectious Necrotic Hepatitis in Australian Sheep.

A. W. TURNER (*Ann. de l'Inst. Pasteur*, February, 1928, p. 211) has previously submitted evidence to show that the black disease (infectious necrotic hepatitis) of Australian sheep is essentially a localized infection of the liver due to *Cl. oedematis*. He now gives an account of the experimental reproduction of the disease in animals, and the preparation of a protective vaccine. By cultivating the organism for several generations in a glucose nitrate agar medium he obtained a type which was highly virulent but only slightly toxic to guinea-pigs. Injected in a dose of 0.25 c.cm. it gave rise to local oedema, and to a pleural and peritoneal effusion; but instead of the organisms being confined to the local lesion they were found in the serous effusions, in the viscera, and in the blood. In one out of ten guinea-pigs injected with this dose necrotic areas were found in the liver containing large Gram-positive bacilli which proved to be *Cl. oedematis*. Similar areas of necrosis in the liver were found in a sheep injected with the bacillus. Experiments seem to indicate, however, that the appearance of these necrotic areas, both in guinea-pigs and in sheep, is the exception rather than the rule. Vaccination experiments were attempted in both animals, but with rather ambiguous results. A formalized whole culture of *Cl. oedematis* injected on one, two, or three occasions into guinea-pigs gave rise to no definite immunity. In sheep the results appeared to be more hopeful, but unfortunately so few animals were available for use as controls that the interpretation of the experiments was difficult. The author thinks, however, that animals can be protected with a suitable vaccine, but that an experiment in the field on a large scale is necessary before the value of prophylactic vaccination can be ascertained.

## 528. The Mesenteric Glands and Fat Absorption.

C. CASSANO (*Il Policlinico*, Sez. Med., February 1st, 1928, p. 93) reports a histological investigation of the function of the mesenteric glands in dogs during the digestion of fats. The stains used for the microscopic sections were Sudan III and haematoxylin, and the method of Ciaccio for lipoids. Cassano found that the fatty substances in the mesenteric glands did not exist only as neutral fats, but also as soaps and fatty acids. Two hours after the ingestion of a fat-containing meal the glands showed conspicuous activity in building up the large fat molecules at the expense of the soaps and other lipoids. After twelve hours' digestion the neutral fats prevailed in greater quantity than the soaps. At this period also he noted deposits of neutral fats inside the blood vessels. It thus appeared that there was a gradual passage of these fats into the blood circulation, this being contrary to the opinion formerly held that the fats pass wholly by the receptaculum chyli into the thoracic duct. From twenty-four to forty-eight hours after the last meal there was always to be seen a large quantity of fat in the glands, indicating that they acted as a storehouse to economize the fats. During protracted fasting (seven to fifteen days) the mesenteric glands still conserved part of the deposited fats, and at the same time it was noted that a certain amount of separation had occurred, liberating the fatty acids and augmenting the soaps.

## 529. Bacteriological Examination of Rheumatic Nodes.

B. LE BOURDELLES (*C. R. Soc. de Biologie*, March 9th, 1928, p. 691) examined bacteriologically two small subcutaneous nodes removed during life from the scalp of a young man suffering from cardiac rheumatism. The nodes, which were taken out under strict aseptic precautions, were dropped, the one into glucose peptone broth, the other into a modified Noguchi medium. On the fourth day a streptococcus developed in the glucose broth, and on the tenth day in the Noguchi medium. Subcultures made from these primary cultures remained sterile. The organism did not haemolyse the patient's blood. The author considers this finding of a streptococcus as of interest in relation to the etiology of acute rheumatism.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 530. The Phrenico-Pupillary Syndrome in Pleuro-pulmonary Affections.

E. SERGENT and P. GEORGE (*Presse Méd.*, April 28th, 1928, p. 529) conclude that in addition to the information given by the direct investigation of the respiratory apparatus (clinical and radiological examinations) the indirect signs of localization based on anatomical and physiological considerations are to be remembered, since they can in many cases provide diagnostic help of great value. Among the most valuable of these indirect signs are the changes in the irido-dilator and phrenic nerves. These signs may exist singly or in association with each other, producing a phrenico-pupillary syndrome of variable type. There may thus occur a spasmodic mydriasis, or a paralytic myosis, or the syndrome of Claude Bernard-Horner, associated with phrenic paralysis, and completed by other signs of the mediastinal series—such as, for example, paralysis of the recurrent laryngeal nerve. The authors state that the phrenico-pupillary syndrome, which is observable in all pleuro-pulmonary affections, but principally in tuberculosis, acquires in many cases a diagnostic value where the physical signs are indistinct or still latent. It is always serviceable in making more precise the exact topography and knowledge of observed or suspected lesions. A summary of two case reports exemplifying the phrenico-pupillary syndrome, illustrated by radiograms, is given.

### 531. The Heart in Hypertension.

G. FAHR (*Amer. Jour. Med. Sci.*, April, 1928, p. 453) believes that, though the general length of life has increased during the last century, yet the adult who survives to-day until the age of 45 cannot expect to live much longer than his eighteenth century ancestors. He adds that the greatest obstacle to longevity is hyperplasia, by this term being meant a condition of high blood pressure not associated with nephritis. Heart failure associated with high blood pressure is the most common form of cardiac impairment and the most important result of high blood pressure continued for many years. Of approximately 140,000 annual deaths in the United States from the consequences of hypertension, about one-half were due to cardiac failure. Fahr discusses this condition and describes four well-followed cases. The most characteristic physical sign of the heart in hypertension is left ventricular dilatation, which causes an increase in its weight. The symptoms develop about twelve to fifteen years after the onset of hypertension if only a very moderate coronary arterio-sclerosis is present and no other complication has meanwhile occurred. The symptoms do not differ essentially from those found in heart failure due to other types of cardiac impairment, though pulsus alternans is more frequently found in hypertensive hearts. The blood pressure may remain high even to within twenty-four hours of death, though it may fall, especially if arricular fibrillation or marked coronary sclerosis be present. Treatment should be directed towards lowering the blood pressure and reducing the physical activities of the patient, thus lessening the work of the exhausted heart muscle. Digitalis, diuretics, and sedatives have the same indications as in other forms of heart disease with failure, and long-continued rest in bed is probably the most effective measure in treatment. Venesection helps in emergencies where the venous pressure has risen above 20 cm. of water.

### 532. Exophthalmic Goitre and Lead Ionization.

J. MILLER, P. M. MACDONNELL, and A. F. G. CADENHEAD (*Canadian Med. Assoc. Journ.*, April, 1928, p. 400) record a case of exophthalmic goitre complicated with toxic adenoma and treated by lead ionization. A woman, aged 46, was admitted to hospital with symptoms of advanced exophthalmic goitre and symmetrical enlargement of the thyroid gland, which for the previous year had rendered swallowing increasingly difficult. Failure in treatment led to the supposition that the enlargement was possibly malignant. Lead ionization was performed twice a week for five months; the electrolyte was lead nitrate, and each administration lasted for fifteen to twenty minutes, representing a dose of about 10 mg. of lead at each treatment. Marked improvement in all symptoms resulted, though surgical intervention was

contraindicated on account of the cardiac condition. The patient left hospital much better, but returned two months later very much worse, and died in spite of active treatment. Post-mortem examination revealed an encapsulated foetal adenoma of the thyroid gland buried in a colloid goitre which showed marked degenerative changes. On chemical analysis the lead content of the thyroid proper approximated 6 to 8 mg., but there was no trace of lead in the foetal adenoma. The authors conclude that the case was primarily one of exophthalmic goitre, and that the degenerative changes and relatively large lead content found after death pointed to the lead ionization being an important factor in the diminution in the size of the gland and in the improvement in symptoms. The rapidly with which the patient became worse is attributed mainly to the growth of the toxic adenoma developing in the last few months; this was probably not present during the time the lead ionization was being performed, since lead was absent from the growth. The fact that lead ionization appears to cause degenerative changes in the cells of a parenchymatous goitre, with marked diminution in its size and general improvement in health, suggests the practical utility of such treatment, followed, as soon as the swelling has been reduced, by surgical intervention in those cases in which there is no cardiac or other contraindication.

### 533. Diabetic Psychoses.

H. J. SCHIM VAN DER LOEFF and J. A. J. BARNHOORN (*Nederl. Tijdschr. v. Geneesk.*, March 24th, 1928, p. 1465) state that diabetic psychoses—that is, psychoses causally connected with diabetes mellitus—occupy only a small place in the group of symptomatic psychoses and are rarely observed. The authors record four illustrative cases in women, their conclusions being as follows. (1) Diabetic psychoses may appear in the form of dementia, hallucinations, and delirium. (2) The term "diabetic psychosis" should be used when symptoms develop in a diabetic patient in association with an aggravation of the primary illness and disappear as the diabetes improves or coma ensues. (3) The development of paranoid or manic-depressive symptoms must be regarded as mere coincidences which originated before the attack of diabetes. (4) In spite of the rarity of diabetic psychoses the possibility of their occurrence should always be considered in cases of mental disorder, as their timely recognition and antidiabetic treatment may be of great benefit.

## Surgery.

### 534. Treatment of Acute Cholecystitis.

H. O. BRUGGEMAN (*Annals of Surgery*, March, 1928, p. 423) compares acute cholecystitis with acute salpingitis as being rarely fatal if treated conservatively. It is not comparable with acute appendicitis, which is a lethal disease, since it so frequently results in diffuse peritonitis. Acute cholecystitis rarely causes widespread peritonitis because when the gall-bladder becomes inflamed it is soon walled off from the peritoneal cavity. The author thinks that an operation during the acute stage of cholecystitis is seldom required and should be avoided until the active inflammation has subsided. Rest, morphine, and fluids suffice in most instances to limit the inflammatory process. The gravest danger in conservative treatment is a mistaken diagnosis. There is a wide difference of opinion about the indications for operation in these cases and as to the best procedure to adopt. Bruggeman thinks that cholecystectomy is usually preferable, though cholecystostomy may be wiser as the more simple operation. He insists that in acute cholecystitis an operation is very rarely indicated. In mild cases any form of treatment will make but little difference to the result.

### 535. Intussusception of Meckel's Diverticulum.

J. HOLST (*Norsk Mag. f. Lægevid.*, March, 1928, p. 279) reports the case of a boy, aged 12, who was admitted to hospital with the diagnosis of acute appendicitis. He had been ill for twenty-six hours with acute abdominal symptoms. On laparotomy an intussusception of the ileum 20 cm. in length was seen and was found to be due to Meckel's diverticulum, which had become invaginated into the lumen of the small intestine and had given rise to intussusception in a similar manner to

that caused by a pedunculated polypus. The blind end of the diverticulum showed a polypus the size of a pea. The intussusception was reduced and the diverticulum was resected; recovery followed.

### 536. Treatment of Varicose Veins by Injections.

IN view of the hither and poor results attending the use of elastic stockings and bandages in the treatment of varicose veins, W. WOLF (*Med. Journ. and Record*, April 18th, 1928, p. 416) concludes that the only satisfactory local method is to obliterate these veins, thereby preventing their rupture or the production of varicose ulcers. Surgical extirpation of the affected vessel or the tying of the trunk vein at a higher point is not recommended because the circulation is seriously interrupted, the patient is laid up for some time, and the leg never looks or feels normal afterwards. Another method is to inject the vein with a solution which is not injurious, does not cause coagulation of the blood with the consequent danger of embolism, and which will produce such inflammation of the vessel walls as will cause obliteration of its lumen. Substances such as iodine or sodium bicarbonate should not be employed owing to the coagulation and violent inflammation they cause. Those, in the order of their importance, which may be used are: a 60 per cent. dextrose solution; a 20 to 25 per cent. sodium chloride solution containing a small amount of local anaesthetic; a 1 to 3 per cent. mercuric bichloride solution; 5 to 20 per cent. phenol in glycerin and water; 5 to 10 per cent. quinine orcin hydrochloride; and a 20 per cent. salicylate solution with a small amount of local anaesthetic added to prevent painful cramping of the veins. Wolf describes his method of injection, and emphasizes that a particular and carefully executed technique is of greater importance than the substance used. A reaction usually occurs in from twelve to seventy-two hours, and consists in a swelling and tenderness around the operation area, but this is rarely severe enough to incapacitate the patient or to require treatment. With correct technique no untoward results or failures need occur, the patient is not laid up in bed, the symptoms commonly associated with varicose veins (eczema, ulcer, cold feet, and a feeling of heaviness in the legs) are rapidly relieved and disappear, and the desired obliteration of the vein is produced.

### 537. Fractures of the Acetabulum.

E. L. ELIASON and V. W. M. WRIGHT (*Surg., Gynecol. and Obstet.*, April, 1928, p. 539) define three groups of central dislocation fractures of the acetabulum: (1) fractures of the rim; (2) radiating, including fractures and epiphyseal separation of the floor; and (3) penetrating, with or without intrapelvic displacement of the femoral head. Over 50 per cent. of the cases are complicated by other pelvic fractures with varying manifestations from associated pelvic and abdominal injuries. Diagnosis of the nature and degree rests principally upon x-ray examination, but symptomatically there may be flattening of the trochanter, shortening, flexion, abduction, and external rotation. Obturator pain from injury to or pressure upon the nerve, crepitus, and symptoms arising from injury to blood vessels and bladder may also be present, while there is always tenderness on lateral pressure over the trochanter. All movements of the thigh are restricted, but patients have been able to walk immediately after the injury, which may have been unrecognized at the time. Lesions of the sciatic nerve may result in varying degrees of paralysis and pain. Direct violence over the great trochanter is the cause in the majority of cases (60 per cent. of the authors' cases and 97.5 per cent. of those reported in the literature). Associated complications require prompt treatment, and reduction is best performed by closed methods under ether anaesthesia with complete muscular relaxation, open operation being contraindicated. Reduction should be maintained by the application of a plaster-spica with the thigh in abduction, slight flexion, and external rotation.

### 538. Treatment of Gastric and Duodenal Ulcer.

J. L. DECOURCY (*Annals of Surgery*, April, 1928, p. 556) remarks that the treatment of gastric or duodenal ulcer varies according to the pathological condition found in each individual case. While focal infection is a definite etiological factor in these ulcers, daily misuse of the stomach function is also an important cause. The lesions always coexist with a gastric hyperacidity, and treatment is based on the alleviation of this symptom and the protection of the ulcer from its ill effects. DeCourcy classifies peptic ulcers as follows: ulcer of the mucosa, of the submucosa, indurated ulcer, and delaminating ulcer with or without induration. Ulcers extending no deeper than the mucosa usually yield to proper medical treatment, and, especially in patients under 30, this should be given a thorough trial before an operation is advised. For submucosal ulcers DeCourcy advocates, particularly in cases under 40, gastro-enterostomy with canterization of the ulcer or ulcers from within the stomach. Careful

search should be made for multiple ulcers, since it is possible that gastro-jejunal ulcers following posterior gastro-enterostomy are due to contact infection from the original ulcer, as in the "kissing" ulcers of Meynihan. For indurated ulcers, in particular in patients over the age of 40, partial gastrectomy should be performed in preference to gastro-enterostomy. The author advises this drastic measure as a prophylaxis against subsequent carcinoma, and, while granting the high mortality in such operations, believes that with improved technique their safety will be much increased, as has occurred in cholecystectomy and thyroidectomy, operations formerly very dangerous. He emphasizes the need of a careful closure of the duodenum, since this is an important factor in the mortality.

### 539.

#### Acute Appendicitis.

E. P. QUAIN and R. H. WALDSCHMIDT (*Arch. of Surg.*, April, 1928, p. 858) record a study of 1,000 consecutive cases operated on for acute appendicitis. A trial of the treatment recommended by Ochsner was abandoned after several unfortunate experiences, and all patients are now operated on without preliminary treatment. The authors believe that the best chance of recovery lies in immediate operation with efficient drainage of the peritonium. The split muscle incision was employed, and can be enlarged by cutting across the linea semilunaris. Post-operative hernia was found in 1.5 per cent. of cases. In cases of intestinal distension a small rubber tube is passed into the caecum through the stump of the appendix; these fistulas soon heal and are serviceable while they last. Where there is widespread peritonitis and great distension enterostomy should be performed at once through a separate incision. The majority of the patients soon had received a purgative soon after the onset of the disease; the authors think that this practice is strongly to be condemned in cases of acute appendicitis. The mortality in the 1,000 recorded cases was 2.5 per cent.

## Therapeutics.

### 540.

#### Antitoxic Action of Yeast Extract.

G. LEMOINE (*Bull. Soc. de Thér.*, March 14th, 1921, p. 90) suggests an ethereal extract of yeast for the treatment of infectious diseases. In his previous investigations he had employed pyocyanase, which is an alcoholic extract of dry cultures of *B. pyocyanus*, and then an ethereal extract of these cultures. With the last product he had obtained excellent results in the treatment of diseases due to streptococci. The work of E. Gérard and the more recent investigations of Benoit, which had shown the resemblance between the extracts of cultures and yeast extracts, induced Lemoine to employ the latter in the treatment of infectious diseases, such as streptococcal infections, erysipelas, puerperal fever, scarlatina, and septicæmia, as well as in other affections in which the streptococcus is an associated organism. In scarlet fever in particular and in measles the results were remarkably striking, the fever and constitutional disturbance subsiding in less than forty-eight hours. The yeast extract employed by Lemoine is essentially composed of lipoids, ergosterin, and undetermined nitrogenous compounds, and it is to the combination of these products that the author attributes the good results obtained.

### 541.

#### Pituitrin in the Treatment of Migraine.

K. ZEINER-HENRIKSEN (*Tidsskrift f. d. Norske Lægeforening*, March 15th, and April 1st, 1928, pp. 250 and 312) has treated forty-two cases of migraine with pituitrin during a period of two years and nine months, and has achieved prolonged improvement in twenty cases. An intramuscular injection of 0.5 c.c.m. was given once a week. In one case, that of a woman who had been subject to regular attacks of migraine since she was 7 years old, the treatment was started at the age of 23. After three injections no further attacks occurred. She received altogether twelve injections, and was free from attacks during an observation period of more than a year. Many of the patients complained of feeling very tired during the treatment, but they were still able to attend to their daily routine of duties. Discussing the rationale of this treatment, the author suggests that it may break a vicious circle, the existence of which depends on faulty functioning of the pituitary body, which at times does not produce an adequate secretion on account of some psychic disturbance or other cause. In this connexion it is pointed out that, of all the theories put forward to account for the genesis of migraine, the most plausible is that which Quincke advanced, and which depends on the assumption that an acute serous hydrocephalus develops on certain occasions. Whatever the explanation may be of the beneficial action of pituitrin, the author holds that it is more effective than other symptomatic remedies, even including luminal.



## 542. Oxygen Therapy.

J. H. EVANS (*Med. Journ. and Record*, April 4th, 1928, p. 349) suggests that anaesthesia and inhalation therapy should be regarded as combined specialties, since the latter is the natural outgrowth of the former. While inhalation therapy may eventually include the administration of other gases or combinations of gases, Evans discusses the use of oxygen only, mainly from his experience in fourteen cases of pneumonia in which from 60 to 100 per cent. oxygen was given continuously for periods of four to fifteen days. In no instance did such high concentrations act as an irritant or produce any harmful results, because pneumonia patients require more than the usual amount of oxygen in the inhaled air to bring the blood oxygen up to normal, and even a slight lack of oxygen for several days is serious, since the harmful effects of anaemia are considerable. To be effective it should be commenced early and in sufficiently high concentrations to abolish any deficiency in the arterial blood. In anaemia of the intestinal tract causing distension and suspending the digestive processes oxygen administration in high concentrations by removing the anaemia improves the prognosis. The cases show that a continuous 60 to 100 per cent. oxygen administration can be safely given over a period of several days to abolish cyanosis, and in the absence of cyanosis pure oxygen, administered for twenty minutes every hour, apparently exerts a therapeutic action. Its beneficial use is indicated in various other diseases—such as asthma, bronchitis, arthritis, burns, and cardiac cases. Evans points out that while its administration to relieve anaemia is logical, its application to diseases in which the blood oxygen is normal is illogical unless they are caused by an anaerobe which might be combated by oxygen therapy.

## 543. Liver Extract in Pernicious Anaemia.

L. LAQUEUR and A. P. W. MÜNCH (*Nederl. Tijdschr. v. Geneesk.*, April 7th, 1928, p. 1664) record their observations on fourteen cases of pernicious anaemia treated with liver extract. All the patients improved, some within a week, and the majority within a month. This was particularly noticeable in the severe cases, in most of which there had previously been relapses. At first a syrupy extract was used, and later a powder. The doses consisted of 300 grams of fresh liver daily, in some cases 400 to 500 grams. The treatment was continued for four weeks. The authors remark that their cases were not very numerous, and add that even in England, where the treatment was used before it was introduced into Holland, only about thirty-two cases have been recorded in which this treatment had been tried, the results being favourable in all except two.

## Disease in Childhood.

## 544. Angina Pectoris in Children.

E. J. STOLKIND (*Brit. Journ. Child. Dis.*, January-March, 1928, p. 1) records four personal cases and has collected twenty-five examples from the literature of angina pectoris in children aged from 7 to 14 years. After a historical note in which he vindicates Heberden's priority over Rougnou, he describes the symptoms, etiology, and pathology, which he maintains are the same in children as in adults. He is of opinion that the attack of angina is brought about by a combination of factors—namely, the chemical and toxic substances circulating in the blood, the state of the nervous system, especially the autonomic system, and the condition of the heart and aorta.

## 545. Cerebro-spinal Fever in Infancy and Early Childhood.

S. MCLEAN and J. P. CAFFEY (*Amer. Journ. Dis. Child.*, March, 1928, p. 357) record their observations on 136 cases of endemic meningococcus meningitis in patients aged from 23 days to 7 years; 50 per cent. were admitted to hospital more than one week after the onset. The age was not over 3 months in 17.6 per cent., and 67.6 per cent. were in the first year of life. The disease occurred almost invariably in districts in which crowding, poverty, and poor hygiene were prevalent. Maternal nursing did not tend to produce immunity, as of 22 infants not more than 3 months of age 18 had been nursed exclusively up to the onset of the disease, of 27 aged from 3 to 6 months 21 had been nursed exclusively, and of 28 aged from 6 to 9 months 15 were still being nursed by their mothers when the first symptoms were noted. Muscular rigidity, especially of the neck and with or without retraction of the head, was present in 84.5 per cent., Kernig's sign was found in 41 per cent., and Brudzinski's sign in 36 per cent. Unexplained irritability, which was one of the most

valuable signs, was present in 62.5 per cent.; a bulging fontanelle was found in 56.6 per cent.; convulsions occurred in 29.4 per cent., nearly always at the onset; 11 per cent. had a haemorrhagic eruption. Herpes occurred in only two patients, both over 1 year old. There was no characteristic temperature curve, and fever was frequently absent in the active stages of the disease. Vomiting occurred in 56.6 per cent. and diarrhoea in only 2 per cent.; tache cérébrale was noted in 20.5 per cent. Strabismus, present in 20.5 per cent., was the most frequent ocular manifestation of the disease.

## 546. Haemorrhagic Disease of the Newborn.

RUBY S. BEVERIDGE (*Arch. Dis. in Childhood*, February, 1928, p. 39) reports twenty-four cases of neonatal haemorrhagic disease treated in the Royal Hospital for Sick Children, Glasgow. She found that the sex incidence of the children affected was practically equal, and she remarks that it is in the first week of life, especially within the first four days, that bleeding is prone to occur. In only a small minority of cases was there any question of trauma at birth. She suggests that a determination of the coagulation and bleeding times would assist in the diagnosis between haemorrhage due to trauma and the true haemorrhagic disease. The most efficient and satisfactory treatment is said to be the injection of whole human blood, and transfusion is especially necessary where the constitutional symptoms are severe.

## 547. Pneumococcal Peritonitis in Children.

H. SALZER (*Deut. Zeit. f. Chir.*, February, 1928, p. 226) records his observations on 31 cases of pneumococcal peritonitis which have occurred at the Mauthner-Markhof Children's Hospital at Vienna in the last twenty years; twenty-eight were girls and only three were boys, the much greater frequency of the disease in the female being probably due to an ascending infection from the vagina. In twenty-one cases the correct diagnosis was made before operation. In the three boys the disease originated in pneumococcal appendicitis, but in none of the girls was a pneumococcal appendicitis present. One girl, however, showed a simple appendicitis due to *B. coli*, while a pure culture of pneumococci was obtained from the peritoneal pus. Salzer remarks that in the case of boys, therefore, it is not necessary to make a differential diagnosis between appendicitis and pneumococcal appendicitis, and an operation should be performed at once. In girls, however, an early operation should be avoided, as six out of eight girls so treated died, and a tonic treatment should be adopted. After the severe initial symptoms have subsided incision and drainage should be employed. By such treatment Salzer was able to save fifteen patients.

## Obstetrics and Gynaecology.

## 548. Menstrual Fistulae.

M. BALLIN (*Surg., Gynecol. and Obstet.*, April, 1928, p. 525), who records two personal cases with a review of the literature, applies this term to fistulae in laparotomy scars characterized by periodic discharge of blood, more or less coincident with normal menstruation. Although a few menstrual fistulae have been caused by a suppurating tubo or tubal pregnancy spontaneously rupturing through the abdominal wall, most are of post-operative origin, being caused either by direct communication with the uterine or tubal cavity, (1) following Caesarean section; (2) after operations for pelvic inflammatory diseases, salpingectomy, or partial hysterectomy; (3) after ventrofixation of the uterus, or by post-operative enclosure of endometrial tissue in the abdominal wall in the course of such operations as hysterectomy, ovariectomy, and ventrofixation. While there are on record at least 32 cases of menstrual fistulae following Caesarean section, examples of spontaneously formed fistulae from inflammatory conditions and tubal pregnancy are much rarer. Frequent complications with extensive intestinal adhesions and faecal fistulae occur; they render operation difficult and sometimes fatal, as in one of Ballin's cases.

## 549. Treatment of Amenorrhoea.

G. MAORTUA (*Arch. de med., cir. y esp.*, April 7th, 1928, p. 489) records three illustrative cases, in women aged 20, 22, and 40, suffering from amenorrhoea, who were treated by injection of the serum of a pregnant woman. The results were found to be far superior to those hitherto obtained by the usual method, including folliculin. Maortua is of opinion that the serum in pregnancy, in addition to an exogenous hormone, contains internal secretions, principally of the anterior lobe of the hypophysis, which explains the excellent results obtained. If the good results are confirmed by subsequent investigations he suggests that a serum might be prepared from pregnant animals which would be of value in practice.



## 550. Leucorrhoea.

F. IMPARATO (*La Gynéc.*, February, 1928, p. 65) does not agree with the five groups of vaginal organisms which Wegelius formulated. As a result of examining the vaginal flora in over 200 women the author finds that every case falls into one of three groups: (1) containing Gram-positive organisms with flat epithelial cells and scarcely any leucocytes; (2) containing coccobacilli, Gram-positive and Gram-negative staphylococci, and Gram-positive diplococci; and (3) large masses of cocci both Gram-positive and Gram-negative, together with flat epithelial cells. This last group never contains Döderlein's bacillus. Transition forms from one group to another were noted. Imparato remarks that the vaginal secretion is notably different in infancy, puberty, and old age. In the newborn there is a minimal secretion, which is acid and destitute of germs, but rich in glycogen, on which the acidity seems to depend. The glycogen diminishes slowly as the secretion becomes alkaline. At sexual maturity the secretion again becomes acid and contains numerous bacilli of Döderlein. The acidity is a natural protection against germs, and attains its maximum at the end of pregnancy. During the menopause the glands begin to atrophy and the reaction is feebly acid. Pathologically the vaginal secretion may increase and give place to an abundant leucorrhoea, milky, muco-purulent, or sero-sanguineous. As regards treatment, the outstanding cause must be treated, whether it be constipation, anaemia, lack of sexual hygiene, gout, or arthritis. The author enumerates the various kinds of local treatment which are in use, and for the typical leucorrhoea in which no appreciable cause is found he suggests douching with two small spoonfuls in a litre of water of a solution of zinc chloride 10 grams, distilled water 100 grams.

## 551. Pyotherapy in Puerperal Infection.

L. DEVRAGNE, SAUPHAR, and LAENNEC (*Rev. Méd. Française*, March, 1928, p. 195) remark that leucocytotherapy now occupies an important place in the treatment of certain infections, and many authorities, particularly Netter, are cited as having employed this procedure, the results obtained being due to the leucocyte diastases. There are two forms of this method of treatment: autoleucocytotherapy, in which a hyperleucocytosis is produced by excitation of the haematopoietic centres; and heteroleucocytotherapy, in which foreign leucocytes are introduced into the organism. The pus is obtained from an equine abscess of fixation caused by a turpentine injection. After repeated bacteriological controls and sterilizing in an oven a solution of uroformine (20 cg. per c.c.m.) in physiological saline is added to the pus to conserve its sterility when amputated. The authors report two series of cases of puerperal infection treated with excellent results by this method. In one series of fifteen cases the pus was given in curative, and in the other of five cases in prophylactic, doses. The dose employed by the authors was 4 c.c.m. daily, given subcutaneously in two injections, one into each thigh. In only one case, owing to the gravity of the patient's condition, was the intravenous route adopted. These doses were well tolerated and no ill after-effects were noted. The authors compare this treatment with that of abscess of fixation. Both are based on similar biological principles. In the one the introduction into the organism of irritant substances causes an abscess of fixation; the other involves the direct introduction of the pus. The advantages of pyotherapy are its easy administration, its harmlessness, and its being well tolerated.

## 552. Ectopic Decidual Tissue.

P. GEIPEL (*Arch. f. Gynäk.*, January 2nd, 1928, p. 650), who in 1921 described the finding of decidual tissue in the pelvic lymph glands during pregnancy, reports to the present date forty such findings in women dying during pregnancy and shortly after delivery; one case was that of a third gestation at the eighth week. About one-half the patients were primiparae; fourteen patients died from eclampsia and six from sepsis. Decidual deposit was not more common in young than in old subjects, and was found in about two of five necropsies on pregnant or lately pregnant persons. As a rule, one or two glands, usually on one side of the body only, were affected. The deposits were found in the reticular tissue of the follicles, in the capsule and trabeculae, and in the afferent lymph vessels outside the glands; true lymphatic tissue was destroyed indirectly by pressure, but endothelial tissue seemed insusceptible of decidual metaplasia or deposit. From the distribution of the decidual cells and for other reasons Geipel is inclined to believe that decidual transformation is due to the influence of a hormone diffusing from the peritoneal cavity; such an influence is comparable to that producing fat necroses in cases of pancreatic apoplexy. Decidual tissue was also found in the pouch of Douglas, in both omenta, or in the diaphragm (fourteen cases), and in one instance in the spleen.

## Pathology.

553. Cutaneous Spirochaetosis due to *Treponema cuniculi* in British Rabbits.

D. K. ADAMS, D. F. CAPPELL, and J. A. W. MCCLUSKIE (*Journ. Path. and Bact.*, April, 1928, p. 157) draw attention to a disease in rabbits which is liable to be confused with experimental syphilis. According to some observers as many as 20 to 40 per cent. of wild rabbits in this country are affected, though it would appear that in hutch rabbits the disease is much less common. The authors during the past four or five years have examined 228 rabbits, belonging to the laboratory stock; of these 14 were affected. The lesions consist of small scaly patches, often slightly eroded and covered with a brownish crust, situated on the genitals or in the perineal region. In males the peri-anal region was chiefly affected; in females the vagina and neighbouring skin. In two animals the nostrils were attacked; they showed deep erosions with raw, bleeding edges. In two others the disease attacked the eyelids, which were thickened and scaly. In all 14 cases spirochaetes were readily found, sometimes in enormous numbers. The organisms closely resembled *Treponema pallidum*, and, except for their being apparently rather longer, they were morphologically indistinguishable from it. Like *Tr. pallidum* the organism took on a rose-red colour with Glemsa's stain; in such preparations the two organisms were indistinguishable. Histologically the lesions were found to be superficial; no spirochaetes were demonstrated in the deeper tissues. The disease was readily transmitted from rabbit to rabbit by inoculation of an infective tissue suspension on to the scarified skin of the genital region. The incubation period varied from two to eight weeks. Once established infection persisted, often for months; in males spontaneous cure usually occurred, but in females, even though the large condylomatous lesions tended to heal, small scaly patches remained for a long time. Transmission by mating was effected, though not with constancy. The disease is readily cured by unguitum hydrargyri or by the intravenous injection of urosarso-nobillon.

## 554. The Pirquet Test—Puncture Method.

G. A. STEWART (*Amer. Journ. Dis. Child.*, March, 1928, p. 338) found, on applying the Pirquet test at the Lymanhurst school for tuberculous children, that the children preferred a single puncture through the skin to the usual scarification. A comparison of the efficacy of the two methods was therefore carried out on 281 children. The results agreed in all the cases, the same 223 children giving positive reactions both by the scarification and the puncture methods, while the remaining 58 were uniformly negative. The technique is simple: the forearm is cleansed with ether, a drop of tuberculin is placed on the skin and a single puncture made through the drop with an ordinary sewing needle. The tuberculin may be wiped off immediately after without appreciably altering the effectiveness of the test.

## 555. Sero-diagnostic Methods in Tuberculosis.

Y. E. BADOUX and Mlle M. NARBEL (*Rev. Méd. de la Suisse Romande*, January 25th, 1928, p. 21, and February 25th, 1928, p. 103) compare two methods and attempt to assess their value both from a diagnostic and a prognostic point of view. They describe in detail the method of Vernes in which 0.6 c.c.m. of clear serum is mixed with an equal amount of a 1.25 per cent. solution of pure resorcin. The optical density of this mixture is measured by means of a photometer. The authors have compared their results by this method with those obtained by Besredka's complement fixation test in conjunction with sputum and clinical examinations in a series of over 300 cases. They find that in 94 per cent. of cases the Vernes test is positive, as compared with 96 per cent. with the Besredka, and that therefore both methods are useful, although neither is infallible. They find that the Vernes test is of more value in prognosis than the other. It is also simpler, but the apparatus is expensive. In surgical cases its diagnostic value is 81 per cent. as compared with 61 per cent., and its accuracy in prognosis is said to be even more marked.

## 556. The Blood Groups of Children and Infants.

ELSIE CROWE (*Arch. Dis. in Childhood*, April, 1928, p. 114) records the investigation of the blood groups of 200 children. The first 100 were under the age of 12 and were normal boys and girls. The second 100 were infants under 1 year, many of whom were suffering from pneumonia, diarrhoea, and vomiting. The results show that infants as well as children have a definite blood group. In infants Group I contains a smaller and Group IV a larger proportion of cases than in children. This suggests that the blood groups may not be established during the early months of life. Sex and colouring have no apparent relation to the blood groups.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 557. Eczema caused by Quinine Suppositories.

K. HANSEN (*Tidsskrift f. d. Norske Lægeforening*, March 1st 1928, p. 215) recalls that, according to Moltzer's investigations, 0.12 per cent. of all human beings are liable to show some idiosyncrasy to quinine in the form of rashes and the like. This idiosyncrasy may appear not only when quinine is taken by the mouth, but also when it is used in hair lotions and suppositories. He records three cases of eczema provoked by quinine suppositories. The first patient was a woman, aged 23, suffering from an acute weeping eczema of the genitals and surrounding structures. She knew that she suffered from idiosyncrasy to quinine, which, when taken by the mouth, had several times provoked a rash, but she had not realized that the vaginal suppositories she had used contained quinine. The second patient was a man, aged 45, who had never had eczema previously, and who had suffered from acute eczema of the genitals, the inner side of the thighs, and the face. It transpired that his wife used vaginal suppositories containing quinine. Some time later, before the eczema had completely disappeared, the experiment was made of giving him 0.1 gram of quinine sulphate by the mouth. A few hours later an almost universal, violently itching erythema broke out, and the eczema in the inguinal regions flared up afresh. The third patient was a woman, aged 40, suffering from an acute weeping eczema of the genitals. She did not know that she was sensitive to quinine, but the eczema broke out after she had begun to use quinine suppositories. The author remarks that, considering how often quinine suppositories are used as contraceptives, and how common is an idiosyncrasy to quinine, it is strange that cases such as his have so seldom been recorded. He can, in fact, find only one such case, that of ZACHARIAS (*Méd. Klinik*, 1926). It is probable that the rarity of such records does not imply that this condition itself is rare; more probably it is fairly common, but often overlooked. It is characteristic of this condition that it begins on the genitals, that the husband or the wife suffers, but not both of them, that its severity depends on the degree of idiosyncrasy, that it extends to many other parts of the body if the use of the suppositories is continued, and that it is difficult to cure unless its cause is discovered.

### 558. Respiratory Hippus in Mediastinal Affections.

F. TONICETTI (*Il Policlinico*, Sez. Prat., March 5th, 1928, p. 307) reports three cases of alternate pupillary dilatation and contraction during inspiration and expiration. Koch, in 1903, reported a case of aneurysm of the arch of the aorta complicated with mediastinal, pleural, and pericardial adhesions in which this ocular phenomenon was continuous and bilateral, and gave it the name "respiratory hippus." Tonicetti remarks that the interpretation of the phenomenon is not quite clear. The first of his three patients had suffered for five months from difficulty of breathing, profuse sweating, violent cough, and scanty expectoration. He had a feeling of weight in the head with giddiness and persistent coryza. The neck then increased in volume, and his face and the upper part of the trunk were red and swollen. At night he often had severe attacks of dyspnoea. The jugular veins were markedly distended, and reticular veins were evident over the upper part of the thorax; the lymphatic glands of the neck were hard and fixed. The dyspnoea was intense, as was also the cough, owing to compression. The pupils were of normal size, symmetrical and of regular outline; their reactions to light and accommodation were singlish. Both pupils presented continuous and rhythmical oscillations in size synchronous with the respiratory act, dilating with inspiration and contracting during expiration. The phenomenon was not influenced by the size of the pupil in relation to light or accommodation; it occurred without jerks or interruptions. In Tonicetti's second case a hard indolent swelling appeared at the base of the neck in the region of the right carotid; and jugular distension followed with sensations of heaviness, heat, and giddiness in the head. An afternoon rise of temperature was followed by an evening fall accompanied by sweating. The pupillary movements were continuous and bilateral. Tonicetti's third patient had similar but less severe symptoms. The author considers that the last two patients had undoubtedly mediastinal lymphogranulomata with aneurysm of the aortic arch. In the first case, although he was sure of the presence of a mediastinal affection its exact nature was not quite clear. Tonicetti agrees

with Koch that the movements present no irregularity, and are not nervous affections. Kussmaul has reported a very slight dilatation of the pupil in normal man during the act of inspiration. The movements appear to be due to alterations in vascular pressure alone which affect the volume of the circulation in the iris.

### 559. Localized Asphyxia Due to Cold.

L. FERRANNINI (*Studium*, February 20th, 1928) reports an investigation into the etiology and pathology of a case in which local asphyxia was produced by cold. A woman, aged 30, with three healthy children, stated that when she was several months pregnant with her last child a fleeting cyanosis of the tip of the nose had been noticed. This coincided with a period of worry and anxiety. At the beginning of 1925, on a cold and windy day in the country, she had noticed a numbing of the exposed parts—hands, legs, face—which became first pale, then red, and finally blue. She was obliged to return to the house to restore warmth and feeling. This affection increased to the extent of preventing her carrying on her work as a domestic servant. At the end of 1927 she was admitted to hospital, and a blood examination revealed a diminution of red cells with a lymphocytosis; the Wassermann reaction was negative. When the patient's hands, which otherwise appeared normal, were submitted to cold air or cold water the skin became pale and the circulation ceased locally in a few minutes. When the cooling agent was removed the pallor remained for some minutes, after which blueness supervened. During the ischaemic stage the patient did not have any abnormal sensation, but there was diminution of tactile sensibility and difficulty in flexing the fingers was experienced. When warmth was applied the normal appearance was regained in gradual stages. The pulse and respiration rates diminished somewhat at the beginning of the local syncopal attack, but the amplitude and character of the pulse were not appreciably altered. The lower extremities, nose, and ears behaved similarly on exposure to cold. The question at issue was whether the condition was due to functional or organic alterations in the vessels. The capillariscopes did not reveal any marked changes from the normal, but investigation of the action of the vagus and of the sympathetic by means of injections of pilocarpine and atropine brought to light instability of the sympathetic. The possibility of endocrine disturbance was explored with Raynaud's "uterine cyanosis" in mind. Ferrannini concludes that this case represents a variety of Raynaud's syndrome, but adds that neither the etiology nor the pathogenesis of the condition is clear and no effective treatment has been found.

### 560. Iodine Deficiency in Water as an Index of Goitre.

D. F. SMILEY (*Amer. Journ. of Hygiene*, March, 1928, p. 297) has endeavoured to correlate the existence of slight degrees of goitre with iodine deficiency of the water supply. He examined two groups of students sitting for their entrance examination at Cornell University. One group showed enlargement of the thyroid gland; the other group did not. During the last seven years 967 male students in each group have been studied. It was found that of the first group 654, or 67.6 per cent., came from regions whose waters contain less than 23 parts of iodine per 100,000,000,000, whereas of the second group 555, or 57.3 per cent., came from such regions. This difference, in the author's opinion, is too small to be of significance. Since McClendon and Hathaway have shown that coarse cereals, green vegetables, and milk contain from 1 to 29 grams of iodine per ton of dehydrated food, even in regions where the waters are deficient in iodine, the author argues that iodine may frequently be ingested in sufficient quantity in foodstuffs to balance any effect of the iodine deficiency in the water. He therefore concludes that the iodine content of the water in a given region is not an accurate index of the frequency with which thyroid enlargement is to be expected in male students who come from that region.

### 561. Ocular Manifestations of Juvenile Tabes.

J. ROSNOBLET (*Journ. de Méd. de Lyon*, March 20th, 1928, p. 163) states that one of the principal features of juvenile tabes is the frequency of ocular manifestations such as changes in the pupils, oculomotor palsies, and especially optic atrophy. These ocular signs usually form the first evidence of the disease, juvenile tabes being first and foremost an amanrotic form, in which the cerebral symptoms predominate, whereas motor ataxia is ill marked or absent

and the general condition remains satisfactory. In 73 per cent. the pupils are unequal and often irregular in outline quite apart from the irregularity associated with the synchiae resulting from old iritis. In other cases the pupils are dilated and do not react to light or accommodation. The oculomotor palsies may be early or late. In the first group the levator palpebrae, rectus externus, rectus internus, and more rarely the rectus inferior and obliques are affected. The onset of these paralyses is rapid and recovery is quick and spontaneous, whereas the late paralyses, which are often bilateral and chiefly affect the third nerve, have a slow course and show no tendency to clear up. Optic atrophy has been noted in 53 per cent. of the published cases of juvenile tabes, and is thus twice as frequent as in the tabes of the adult. The atrophy, whether grey or white, primary or secondary to neuritis, invariably ends in complete blindness after an interval varying from a few months to a few years.

#### 562. Stammering Produced by Thyroid Medication.

M. B. GORDON (*Amer. Journ. Med. Sci.*, March, 1928, p. 360) asserts that tolerance to thyroid medication varies greatly, and depends on the autogenous thyroid content and susceptibility of the individual and not on his age or weight. The untoward symptoms produced by thyroid administration are essentially those of an acute thyroiditis, and are generally disturbances of the central nervous, gastro-intestinal, and cardio-vascular systems. Stammering may be produced by thyroid extract, and should be considered as a general nervous excitation following disturbance of the central nervous system. Five cases of infantile myxoedema and hypothyroidism are reported in which stammering occurred during the course of the thyroid treatment. The relationship between the stammering and the medication was emphasized by the subsidence and cessation of the affection following discontinuance of treatment. After a quiescent period of variable length, thyroid tolerance was later brought back by a gradual increase in the dosage. Gordon affirms that when stammering is noted during thyroid treatment, it should be treated as any other toxic symptom by immediately suspending the medication, which should not be resumed until some time has elapsed after the disappearance of the trouble and then only with small doses.

#### 563. Lymphatic Leukaemia.

D. L. FARLEY (*Medicine*, February, 1928, p. 65) reviews the classification of lymphatic leukaemias, their relations to other lymphatic diseases, and their treatment, especially by irradiation. In chronic lymphatic leukaemia the two characteristic features are the blood picture, with its increase of lymphocytes, and the histological structure of an excised lymph node, an unorganized hyperplasia of lymphatic cells of uniform size and appearance. In aleukaemic lymphoma or leukaemia, regarded by some observers as only a phase in either chronic or acute lymphatic leukaemia, the blood picture is lacking, while the lymph node presents the histological features described. In acute lymphatic leukaemia the lymph tissue may vary from normal to the chronic type, while the blood picture is marked. Most of these acute cases probably belong to the myeloid group. A true mixed leukaemia has never been definitely demonstrated in man. The author further draws a distinction between the lymphatic leukaemias and lymphosarcoma, leucosarcoma, mycosis fungoides, and Hodgkin's disease. Irradiation in leukaemia has been accomplished by the use of radium,  $\alpha$  rays, mesothorium, thorium-x, and various radium salts. The last three have been injected intravenously. The results obtained with radium in the past decade have been very promising. Bécère reported excellent results from using concentrated  $\alpha$  rays over the spleen in myelogenous leukaemia and over the lymphatic masses in the lymphatic type. Attempted irradiation of the bone marrow failed to produce any effects. X-rays or radium do not shorten the course of acute leukaemia of either type and may definitely accelerate the disease. Minot and Isaacs and Wood agree that chronic cases are benefited by irradiation; the improvement, though temporary, is often striking. The patient does not live longer, but he gains greater comfort and freedom from symptoms. Many other observers, however, consider that irradiation does prolong life in individual cases. A change to a different form of irradiation might be successful in resistant cases. Increase in the patient's sense of well-being and decrease in the size of the lymphoid masses or spleen appeared to be proportional. Generally, myelogenous cases reacted very much better to irradiation than lymphatic ones. The intravenous injection of mesothorium, thorium, or thorium-x is still in the experimental stage; control over this form of therapy is too indefinite. The technique employed in different clinics is described in an addendum to the review.

## Surgery.

#### 564. The Cerebro-spinal Fluid in Cranial Injuries without Fracture.

H. CLAUDE, A. LAMACHE, and G. DUBAR (*Paris Méd.*, March 24th, 1928, p. 271) review the facts known at the present time as to modifications in the physical and chemical state of the cerebro-spinal fluid induced by injuries to the skull insufficient to cause fracture, and record their own observations in twenty-two recent cases. The subjective symptoms most commonly noted by them in subjects of such injuries are, in order of frequency: headache, vertigo, asthenia, lusemia, tinnitus aurium, and visual fatigue. Chemical examination of the cerebro-spinal fluid included estimation of albumin, globulin, and sugar. Excess of albumin was found in nine cases and a fall in the albumin percentage was observed to take place gradually as the symptoms improved. Globulin was not detected in any case, and variations in the sugar content, always variable in normal subjects, did not yield any information of clinical value. Variation in tension was the most striking feature; in five cases only was the tension found to be normal; in the remainder tension was found either (1) raised (the greatest number), (2) lowered, or (3) unstable, varying considerably even in the course of a single observation; the authors note that such instability has been found by other observers previously in epileptics. Where hypotension is found lumbar puncture usually gives good results, though several punctures and the withdrawal of large quantities of fluid may be necessary. Where lumbar puncture is refused the ingestion of hypertonic saline and glucose solutions may be tried, though its efficacy is doubtful. In hypotension intravenous injection of distilled water has been tried, but the authors record one case of success following the apparently paradoxical withdrawal of fluid, possibly owing to stimulation of the mechanism of secretion. Treatment of instability of pressure has proved most difficult, but the trial of ergotamine tartrate is recommended. Variations in the cerebro-spinal tension are attributed to the liberation of toxins acting upon the secretory mechanism as the result of brain injury. Leakage of cerebro-spinal fluid into the surrounding tissues has been suggested as a possible cause of hypotension, but is not considered likely where no fracture can be demonstrated. It has been shown that the retinal pressure, as read by Baillart's ophthalmodynamometer, gives a close approximation to the cerebro-spinal tension, a useful alternative where lumbar puncture is refused.

#### 565. Reduction of Strangulated Hernia en masse.

J. CHAVANNAZ (*Rev. de Chir.*, No. 1, 1928, p. 33) records observations made in a series of cases of strangulated hernia reduced *en masse*. He concludes that reduction in this way is rare but not unknown, and that it occurs usually in adults and old people, men being affected more often than women. When reduction *en bloc* occurs it is nearly always the result of taxis by the patient himself or his doctor. It is most frequent in cases of inguinal hernia of long standing, particularly when on the right side and containing small intestine. The death of the patient is the usual result of a case which is neglected. Diagnosis is difficult, being often confused with intestinal obstruction. The chief characteristics on which it is made are the persistence of symptoms after reduction of the strangulated hernia *en masse* and the presence of a swelling in the region of the hernial orifice. Immediate operation is necessary, and the abdomen must be opened; in cases of gangrenous intestine there must be resection. Early operation is essential to success. In 1908 the death rate was 48 per cent. and is estimated now at 25 per cent., but it is probably lower since surgical intervention is more often undertaken.

#### 566. Primary Tumour of the Endocardium.

G. GULDBERG (*Norsk Mag. f. Lægevidensk.*, March, 1928, p. 272) records the case of a woman, aged 76, who had suffered for six months from symptoms resembling angina pectoris. At the necropsy a roundish tumour the size of a plum was found in the left auricle, as well as extensive arterio-sclerosis in the aorta and coronary arteries, fibrous myocarditis, and multiple pulmonary emboli. As neither the history nor the post-mortem findings gave any support to the view that the tumour could have been the cause of death its presence was regarded as a mere coincidence. It was situated on the lower margin of the closed foramen ovale, was brownish-red in colour, and of soft elastic consistence. On microscopical examination it was found to be a vascular fibroma interspersed with haemorrhages. There were no signs of any remains of thrombi in its formation, and Guldberg therefore had no doubt that it was a real tumour, confirming the view that the endocardium may be the seat of new growths.

## 567. Vasectomy in Prostatic Hypertrophy.

T. HÜHNE (*Zentralbl. f. Chir.*, March 17th, 1928, p. 642) remarks that the more serious sequelae of prostatic hypertrophy are residual urino, septic cystitis, and ascending secondary pyelo-nephritis. Renal back pressure may cause irreparable damage and ultimately uraemia. He considers that while prostatectomy is the preferable operation if the patient's condition permits, the post-operative mortality may be diminished further by more rigorous selection of cases. As a preliminary or alternative to the major operation he recommends ligation or resection of the vasa deferentia, which he has employed in thirty-six cases. As a preliminary operation vasectomy or ligation permits the use of a self-retaining catheter, before and after prostatectomy, without danger of secondary septic epididymitis or orchitis. The author found in his oldest patient, aged over 80, that the vas was patent. He recommends that one vas should be ligatured or resected, and then, after an interval, the other should be treated; this will lessen the danger of post-operative psychoses occurring. Hühne has performed vasectomy in fourteen patients aged between 66 and 85 without subsequent prostatectomy, which was contraindicated by renal insufficiency or advanced age. Six of these patients were treated subsequently by injection of the hypertrophied prostate with pepsin-novocain solution, as recommended by Payr. In four cases rapid improvement followed, and nine months later the patients were able to urinate normally. One patient had 20 c.cm. residual urine, the remaining patients had none. In the four patients the size of the gland was reduced from that of an egg or an apple to that of a chestnut. These results of the combination of vasectomy and pepsin treatment correspond with those of simple pepsin treatment. Two patients were not relieved by vasectomy and died from intercurrent diseases. Hühne concludes that vasectomy is a safe and simple operation which will prevent serious septic infection and may obviate the necessity for subsequent prostatectomy.

## 568. Treatment of Internal Haemorrhoids with Quinine and Urea.

W. A. ROLFE (*New England Journ. Med.*, March 15th, 1928, p. 187) describes the use of injections of quinine and urea hydrochloride in the treatment of internal haemorrhoids. As this method is painless and ambulatory it is well adapted to out-patient clinics, but care is needed in the selection of cases. Strangulated, sloughing, or external haemorrhoids should not be treated by this method, and spastic spasm, denoting infection in the ano-rectal region, is also a contraindication. Treatment should consist in six to eight injections at five or six days' interval, and the full course should be given even though bleeding is arrested by the first injection. Atrophy and ultimate disappearance of the pile follow successful treatment. There is no danger of complications, except that very rarely a patient may show symptoms of idiosyncrasy with vomiting and some collapse, but these quickly yield to suitable treatment. The injections should be given with the patient in the right or left Sims position; a Brinkerhof or Otis' rectal speculum is used to expose the haemorrhoid, which is swabbed with a 3 per cent. solution of mercurchrome, or, failing this, tincture of iodine. Some 5 per cent. solution of quinine and urea hydrochloride is drawn into a 5 c.cm. syringe, to which is attached a four-inch 25 gauge needle. Into the centre of each haemorrhoid 5 to 15 minims of the solution are slowly injected. Such injections should be made well above the recto-anal line, otherwise painful oedema may result. If rectal aching follows the operation it may be subsequently prevented by the addition of a drop of saturated sodium bicarbonate solution to the contents of the syringe. During the treatment constipation must be corrected by liquid paraffin.

## 569. Clinical Classification of Septicaemic States.

L. LANGERON (*Journ. de Méd. et de Chir. Prat.*, February 25th, 1928, p. 130) discusses the possibility of making a clinical diagnosis of the causal organism in septicaemia, of which he recognizes four main groups. His first group includes those cases in which the organisms give rise to the typhoid state; in his second group the septicaemia is the sequel of an obvious local sepsis such as puerperal fever. In his third type there is a dominant symptom, or group of symptoms, which would suggest a particular organism—as, for example, phlebitis causing a streptococcal septicaemia, or osteomyelitis a staphylococcal one. The fourth group comprises cases in which the septicaemia has no obvious or definite characteristic; in these the causal agent can frequently be suspected, though it may not be definitely established. In order to obtain an exact diagnosis the final appeal must rest with the pathologist, but the author remarks that it is always helpful for the clinician to be able to indicate in which direction the inquiry should proceed.

## Therapeutics.

## 570.

## Emetine in Amoebic Abscess.

THE value of emetine hydrochloride in amoebic hepatic or pulmonary abscess has not been generally recognized; although Leonard Rogers, more than ten years ago, advised aspiration of a "tropical" abscess and injection of the cavity through the cannula, with an aqueous solution of emetine hydrochloride (2 grains to the ounce). N. FLEISSINGER and R. CASTERAN (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, January 5th, 1928, p. 1746) record two cases of pulmonary abscess in which the symptoms disappeared rapidly after hypodermic administration of this drug. They comment on the great difficulty of diagnosing hepatic abscess when the pleuro-pulmonary syndrome simulates pulmonary congestion, pleural effusion, or empyema. Their first patient was an ex-soldier, aged 53, who was thought to have chronic diabetes with pleuro-pulmonary congestion at the right base. There was no albuminuria, but the sugar content was 33.3 grams per litre. The patient subsequently developed pyelonephritis, followed by violent pain in the much enlarged liver, and pyrexia. There was no history of dysentery, but he had served with dysentery-infected troops. Hypodermic injections of 0.08 gram of emetine hydrochloride were given daily for four days, and the dose was doubled on each of the four following days. The pain and fever ceased at once, and ten days later the polyuria and glycosuria had disappeared. He returned to work in three weeks, and four months later he had gained 11 lb. The liver was enlarged but not hard, the pulmonary signs had disappeared, and the urine was normal. The second patient, a man aged 33, was admitted with pleuro-pulmonary congestion at the left base. An amoebic abscess in the left lobe of the liver was mapped out by lipiodol; it contained 1.5 litres of pus and was cured by aspiration and emetine without incision. In two months the patient gained 22 lb. and resumed work. A. LEMIERRE and R. KOURILSKY (*ibid.*, January 26th, 1928, p. 37) report the case of a man, aged 46, who was admitted to hospital with slight fever and pain at the right base. At first he had no cough, but after a violent attack of coughing, with inodorous greenish sputum, excavation occurred, and the sputum became fetid and septic. Aspiration of the right lower lobe produced abundant greenish-yellow odourless pus. A daily hypodermic injection of emetine hydrochloride (0.08 gram) was given, and six days after the commencement of this treatment the patient's sallow, earthy colour disappeared. He gained weight rapidly and the temperature became normal. From the second day of treatment all fetor of the sputum disappeared.

## 571. Boric Glycerin Injections in Post-operative Anuria.

If urinary retention persists for about twelve hours after operation, E. FERNAUD (*Rev. Méd. de la Suisse Romande*, March 25th, 1928, p. 212) pursues the following treatment. A few drops of urine are withdrawn by catheterization, and then 10 c.cm. of a 20 per cent. solution of boric glycerin are injected into the bladder still full of urine; this dosage and concentration have been found to produce the best results. Twenty-eight cases are reported, in 24 of which the desired effect was produced in half an hour or less. In 15 cases only one injection was necessary, in 8 two, in 3 (in which spinal anaesthesia had been employed) three were given, and in only 2 cases were no results obtained and catheterization became necessary. Previously existing cystitis is said to be the only contraindication to this treatment, which is described as a simple, painless, and safe procedure, tolerated perfectly by patients. Fernaud insists that it is essential not to empty the bladder before making the injections, since injections into a void bladder are liable to cause haematuria or even nephritis.

## 572.

## Serum Therapy in Lobar Pneumonia.

R. L. GECIL (*Arch. Intern. Med.*, March 15th, 1928, p. 295), discussing the specific treatment of lobar pneumonia, submits evidence from his own work and that of others which clearly shows that antipneumococcal serum and its derivatives properly administered exert a definite influence on the course of pneumonia Types I and II. In pneumococcus infection in man the result depends upon whether the pneumococci or the leucocytes gain the supremacy, the infection remaining localized and recovery ensuing if the host produces sufficient immune bodies, whereas death from pneumonic sepsis results if the pneumococci produce sufficient soluble substance to overcome the immune bodies so that phagocytosis is inhibited, the infection spreads, and the pneumococci gain access to the blood stream. From a study of the Type I and II antipneumococcal serum of Cole, Hinton's antihody solution, and Felton's concentrated antipneumococcal serum it is concluded that the principle involved is the same in all. In a



series of 195 patients with Type I pneumonia. Colo found the mortality rate reduced two-thirds by treatment as compared with those untreated. Early and adequate treatment with large doses of serum is essential since the serum is bacteriostatic, producing an opsonization of the bacteria prior to their destruction by the leucocytes; thus by early and sufficiently continuous administration the soluble substance of the pneumococcus may become neutralized and a balance of immune bodies established with prevention of bacteraemia. The present difficulty in specific treatment is due to defects in the serum or its derivatives, so that purification and concentration are important factors in its practical application. Hinton's antibody solution, though free from horse protein, lacking sufficient concentration, while Folton's extract, though concentrated, is not entirely free from horse protein; both products may produce chills in large intravenous dosage. It is in Types I and II that the outlook for success with specific therapy is most promising. In Type III efforts to sterilize the blood by specific therapy have failed, the death rate being almost identical with that of untreated patients, and in Type IV specificity of the protective substance is impossible because a number of different types are concerned, so that a suitable serum cannot be made from a single strain of Type IV pneumococcus, though it might be possible to prepare a polyvalent Type IV serum by immunizing a horse against a number of strains.

#### 573. Artificial Light Baths in Tuberculosis of the Larynx.

A. FLUM (*Ugeskrift for Læger*, March 15th and 22nd, 1928, pp. 241 and 259) gives a statistical analysis of the results of the treatment of tuberculosis of the larynx with carbon arc light baths at the Elsen Institute in Copenhagen. His material consists of 163 patients whose treatment was started before January 1st, 1926, their records being completed up to January 1st, 1927. Practically all the patients had to be treated under ambulatory conditions, and many of them had to come to the institute from unhealthy homes, and had to make their way to the institute even though they were febrile and debilitated. The exposures lasted only fifteen minutes at first, being increased by fifteen minutes each time till the full exposure of two hours and a half was reached. As a rule, a light bath was given every other day, but women were often given daily light baths in order to make good the time lost during menstruation. For the most debilitated patients the initial exposure was only for ten minutes, and the increase of the exposures was comparatively slow. Among the 163 there were as many as 90, or 55 per cent., who were cured. In all other cases marked improvement, and in 20 cases some improvement, was effected. There remained 42 patients whose disease was unaffected or became worse. Relapses were infrequent, only eight relapses occurring among the 90 cases of recovery. The author points out, however, that the term "recovery" refers only to the disease of the larynx, and not to tuberculosis elsewhere, and in this connexion he admits that at least 14 of the 90 patients who recovered so far as their throats were concerned died subsequently of pulmonary tuberculosis. Also, among the 163 patients with tuberculosis of the larynx there were as many as 49 who died. A classification of the material according to sex showed that there were 99 men to 64 women. The recovery rate was considerably better for the latter, being 67.2 per cent., whereas in the case of the men it was only 47.5 per cent. The author suggests that this difference may depend chiefly on the fact that men come to treatment comparatively late because they are breadwinners with families to support, and because they often have to continue at work during treatment.

#### 574. Serum Treatment of Appendicitis.

WITH a view to establishing specific serum treatment M. WEINBERG, A. R. PRÉVOT, J. DAVESNE, and CLAUDE RENARD (*C. R. Soc. de Biologie*, March 16th, 1928, pp. 749 and 752) have made a study of the microbic flora in 150 cases of acute appendicitis, of which a great number were of the gangrenous type. The nitramicroscope showed that, in contrast with pulmonary gangrene, spirochaetes are rarely present in appendicitis; they were found in only three cases. Of the aerobic bacteria the frequency in the 150 cases was: *B. coli* 123, the enterococcus 41, *B. proteus* 14, staphylococcus 12, streptococcus 10; a few other species of organisms were found less frequently. Of the anaerobic bacteria the frequency was: *B. perfringens* 49, Gram-negative organisms 60, coccil and streptococci 40, *B. ramosus* 16, *B. fallax* 5, *B. bifidus* 2, *F. septique* 2, *B. histolyticus* 2, and other organisms in small numbers. The flora of the inflamed appendix is generally mixed, and consists of both aerobic and anaerobic organisms. The authors think that the flora varies in

ictant has been found very frequently, whereas in Franco it is uncommon. It appears that the two most important organisms are *B. coli*, which was present in 85 per cent., and *B. perfringens*, which was present in 30 per cent. of cases. As a result of this study the authors have replaced anti-oedematis serum by anti-coli serum, and they have prepared serums, for use in special cases, against *B. ramosus* and the enterococcus. The polyvalent serum is employed as a routine both for prophylactic purposes and to combat post-operative accidents. It is specially recommended for use in cases of acute appendicitis in order to lower the temperature and abate the symptoms, thus allowing the operation to be performed in a relatively quiescent stage.

## Anaesthetics.

575.

#### Sacral Block Anaesthesia.

J. S. LUNDY (*Amer. Journ. Surg.*, March, 1923, p. 262) finds that for many operations, such as those on the rectum, bladder, and perineum, sacral nerve-block anaesthesia is generally satisfactory. The patient during the injection is placed in the prone position, the hips being elevated. The skin over the sacrum is carefully prepared and a solution of procaine-adrenaline is used to produce the anaesthesia. A small skin-wheel is then made with a fine needle through which the caudal needle is to be thrust. This needle is then introduced through the sacro-coccygeal membrane into the caudal canal. The needle is advanced until it reaches the level of the second sacral foramen and as near the centre of the canal as possible. If spinal fluid appears the needle must be partly withdrawn till it lies below the dural sac. Twenty cubic centimetres of solution are injected into the canal, and while this is being done the respiration increases in depth. Anaesthesia occurs in thirty to forty-five minutes. If anaesthesia is incomplete it may be necessary to inject the first four sacral foramina posteriorly. In cases where the caudal canal cannot be located good anaesthesia can be produced by injecting twice the amount into the sacral foramina without a caudal injection.

576. S. A. WALLACE (*Canadian Med. Assoc. Journ.*, April, 1928, p. 406) compares sacral with spinal anaesthesia and surveys its anatomy, technique, and clinical application. Being a combination of caudal and trans-sacral block it affects the coccygeal and perineal regions, and the anus, rectum, urethra, and bladder. It is especially useful in cystoscopic work, litholapaxies, and stricture dilatation, as well as in rectal operations and prostatectomies. Though more difficult to perform it is said to be much safer than spinal anaesthesia; an accurate anatomical knowledge is essential. In caudal block 20 c.c. of a 2 per cent. novocain solution in normal saline with 10 minims of adrenaline per 100 c.c. is injected very slowly at body temperature through the sacral hiatus, and in trans-sacral block through the sacral foramina. Mild reactions are common, but severe ones can be avoided by slow injection, taking care that the needle is not in a vein or in the subarachnoid space. Wallace describes the technique for each procedure in detail, and points out that caudal block usually suffices for ordinary cystoscopic and urethral work, with the additional injection of the second and third sacral foramina in cases in which the bladder is inflamed and contracted. He adds that for haemorrhoidectomies and anal operations excellent anaesthesia results from caudal block with the additional injection of the lower foramina. For the more extensive operations of rectal resection and prostatectomies caudal block with injection of all the sacral foramina is required. In suprapubic prostatectomy an additional abdominal field block is necessary, and pre-operative narcosis by "twilight sleep" is indicated in apprehensive patients.

#### 577. Carbon Dioxide Administration during Ether Anaesthesia.

H. A. LAKIN (*Anaesthesia and Analgesia*, March-April, 1928, p. 85) relates his experience of using carbon dioxide in anaesthesia at over two thousand operations, and reviews the opinions of several other anaesthetists. For administering the anaesthetic Lakin employs a McKesson Model G apparatus, though he states that any other inhaler which has a rebreathing bag with stopcock attachment is suitable. The patient is first given pure oxygen or air, and the carbon dioxide is gradually added until it rises to 30 per cent. The ether administration is then commenced while the patient is getting this amount of carbon dioxide. Two methods have been tried with the same results: in the first, after the patient has taken eight to ten breaths of carbon dioxide, the ether indicator is turned



carbon dioxide is reached, the ether is turned on slowly to three-quarters or full, and the carbon dioxide flow is stopped. The respiration rate is an indication as to the sufficiency of the carbon dioxide given. Many advantages are claimed for this method. The induction to the ether anaesthesia is said to be smooth and pleasant, and the period is shortened, many patients being peacefully relaxed at the end of three minutes of ether inhalation. There is practically no struggling, excitement, choking, or breathlessness, and no cyanosis, patients always maintaining a good colour. Post-operative thirst is reduced, and nausea and vomiting have rarely been noted, even in gall-bladder operations. The depth of anaesthesia can be easily controlled, and de-etherization procedures can be used to hasten the return of consciousness and the elimination of ether.

#### 478. Ethylene Anaesthesia.

H. P. FAIRLIE (*Brit. Journ. Anaesth.*, April, 1928, p. 154) records his experience of ethylene anaesthesia in 200 cases. He considers that the danger of explosion when mixed with either oxygen or air is no greater than with certain similar mixtures of ether if the same precautions are taken; moistening the apparatus through which the mixture passes prevents such risk. The obnoxious smell, more obvious to those in attendance than to the patient, can be modified by the addition of eucalyptus oil or by securing greater purity of the gas. In administration a higher percentage (about 16 per cent.) of oxygen is required than with nitrous oxide, and McKesson's apparatus is preferred because it allows for rapidity of change in the proportion of the two gases and for the immediate delivery of pure oxygen if necessary. Fairlie regards ethylene as a safe anaesthetic provided there is not too strict a limitation of oxygen; he considers it superior to a mixture of nitrous oxide and oxygen, owing to the freedom from cyanosis and venous haemorrhage resulting from its higher oxygen content. Fewer patients require supplementary ether administration and a smaller amount is needed. It is an advantage to give a preliminary dose of morphine or of hyoscine-morphine. As to the depth of anaesthesia for producing satisfactory relaxation in abdominal operations, ethylene is said to be superior to nitrous oxide, and it has been frequently possible to anaesthetize with ethylene alone in cases where ether would have been necessary had nitrous oxide been the initial anaesthetic. The oldest patient was 82 and seven were infants a few weeks old; the series included 44 abdominal operations, 14 appendectomies, 7 gall-bladder operations, 5 gastrojejunostomies, and 4 hysterectomies.

## Obstetrics and Gynaecology.

#### 579. Placenta Accreta.

ACCORDING to M. RECH (*Gynéc. et Obstét.*, February, 1928, p. 81) the gravity of placenta accreta ("true adherence of the placenta") is intensified by the fact that this condition cannot be diagnosed until the moment of intervention, when an attempt is made to remove manually a retained afterbirth. Its occurrence may perhaps be thought likely in the case of those who have had many children and have been subjected to repeated manual removals of the placenta or to repeated curettages (especially in the puerperium), in cases of myomatous or malformed uterus, and in those patients in whom pregnancy has supervened after a long period of amenorrhoea. At any rate the history of many cases has pointed to such etiological factors, which may be taken to indicate that ensuing pregnancies should be terminated in hospital. Of the 25 cases collected by Rech from the literature, in 6 only did the patients survive the condition of placenta accreta and its consequences—haemorrhage, shock, and sepsis. Of the surviving patients two were treated by subtotal hysterectomy, rupture of the uterus having been diagnosed in one; one by hysterectomy after laparotomy for placenta praevia; one by tamponage after laparotomy for placenta praevia; and one by tamponage after curetting following a five months' abortion. The sixth case with survival is now described by Rech; delivery was by Caesarean section. The patient, a 2para aged 24, suffered from violent abdominal pain, vomiting, pyrexia, albuminuria, and slight vaginal bleeding fourteen days before term; the uterine was distended and firmly contracted, and the os admitted the tip of the finger only. The case being regarded as one of partial detachment of the normally situated placenta, laparotomy was performed. The acute symptoms were found to be due to left peritoneal salpingitis with localized peritonitis. After the Caesarean section it was found impossible to determine a plane of cleavage for detachment of the placenta, which tore and left many cotyledons intimately adherent to the myometrium.

Subtotal hysterectomy was performed and the patient recovered. Examination of the specimen showed that in some areas the placental attachment was practically normal; others showed varying degrees of accretion, and the myometrium was greatly thinned towards the fundus. Microscopically in the areas of adhesion the placental villi were inextricably tangled with the muscular bundles; the decidua spongiosa was completely absent, and the compacta was for the most part lacking. Inflammatory reaction in the decidua basalis was absent.

#### 580. Dystocia due to a Large Foetus.

P. BALARD (*Gaz. Hebdom. des Sci. Méd. de Bordeaux*, March 11th, 1928, p. 165) discusses dystocia due to disproportion of the foetus and pelvis. He concludes that dystocia may be said to begin with a foetal weight of 9 lb. 14 oz., though the head is not always proportionate to the weight. Dystocia depends less on the absolute volume of the head than on its degree of ossification, or its failure to reduce satisfactorily, but excessive size of the shoulders creates the chief obstacle in delivery. The diagnosis of dystocia can be made in the later months of pregnancy when the uterus is found to be bigger than the time of pregnancy would suggest, twins and hydramnios being excluded. As regards the etiology, dystocia seems to occur only in multiparae, and generally at the optimum age, but heredity plays some part, and the author quotes from his own records the cases of a mother and daughter, both of whom had disproportionately large children. The breadth of shoulder is said to be inherited from the father. Rest on the part of the expectant mother is likely to predispose to a large child; syphilis, diabetes, and endocrine deficiency have been suggested as causes. Labour in these cases is very prolonged and fraught with danger to mother and child. True dystocia of the shoulders does not appear until after the head is born. Traction must then be avoided, and an attempt should be made to substitute the cervico-acromial diameter for the bis-acromial one. The posterior arm should be brought down, the head rotated, and the same manoeuvre performed with the other arm, now posterior—all with great rapidity. A frequent complication is post-partum haemorrhage. The prognosis of an undiagnosed case is bad. When the diagnosis is made in the later months of pregnancy the choice of treatment lies between induction and Caesarean section.

#### 581. Traumatic Pelvic Haematoma.

S. DI FRANCESCO (*Ann. di Ostet. e Ginecol.*, February 29th, 1928, p. 183) believes that traumatic haematomas in the pelvis are more common during than apart from the puerperium, and are more often encountered below than above the musculo-fascial pelvic floor. The majority of haematomas unconnected with labour are of small size, and with conservative treatment are, as a rule, spontaneously absorbed. Large haematomas usually cause considerable difficulty in diagnosis; operative treatment is required because of their slow absorption and the considerable danger which exists of their becoming infected. The case is described of a single, poorly developed girl, aged 16, with rachitic stigmata, who while labouring in a factory sustained a blow on the right buttock; in spite of pain and faintness she continued to work for eight days. The pain was felt from time to time in the abdomen, back, right buttock, and right groin; walking became difficult, and rectal and vesical tenesmus were noted. During three weeks' rest in bed under medical supervision slight evening pyrexia was noted, but no gross pelvic lesion was suspected until the introduction of a syringe into the rectum was found to be difficult and painful. On admission to hospital three months after the accident a swelling was found extending upwards to three fingerbreadths below the navel and presenting below in the perineum, causing the posterior and right walls of the vagina to protrude. The hymen was intact; the uterus was displaced upwards and to the left. Puncture from below gave issue to blood clot, from which staphylococci and streptococci were cultivated. Six hundred c.c.m. of odorous contents were evacuated from the haematoma by a 2 c.m. incision in the right anterior vaginal wall. It is suggested that the bleeding came from a branch of the right gluteal artery.

#### 582. Ovarian Tumours in Old Age.

R. MÜLLERHEIM (*Zentralbl. f. Gynäk.*, March 17th, 1928, p. 689) records the case of a woman, aged 72, who complained of swelling and pain in both breasts, from which tumour formation was absent. Severe uterine bleeding was noted a few days later. The uterus, previously known to be atrophic, was found to be of double the normal size, but curettings showed only benign endometrial hypertrophy; a tumour the size of an apple was felt in the left ovary. Microscopically this was found to be a columnar-celled carcinoma, partially cystic. A second case is recorded in which a woman, aged 69, had bilateral mammary enlargement,

uterine bleeding, and a solid columnar-celled carcinoma of one ovary; she survived operation for eight years. Clinically these cases confirm the importance, in cases of post-menopausal bleeding, of paying attention to the ovaries as well as to the uterus; similar cases were reported by Monlougnot-Dolérin in 1924, but in his patients the tumours were mostly benign—solid or cystic and sometimes intraligamentary. Mammary hypertrophy, it is said, has not previously been described as an accompaniment of ovarian tumour causing metastasis in old women; it may be regarded as confirming the view that the renewed uterine activity is due to hormone ovarigenous influences. Myometrial and endometrial activity in aged subjects suffering from ovarian tumours has been held to be correlated with the fact that such tumours either contain primordial ova or are of granulosa-cell origin. The cases described in this paper do not conform to these characters.

## Pathology.

### 583. The Leukaemias and Lymphomas.

E. L. OPIE (*Medicine*, February, 1928, p. 31) surveys the literature on leukaemia and aleukaemic lymphoma in animals. Leukaemias conforming with the types found in man are found in many, if not in all, domestic animals, and in small animals available for experimental studies. Aleukaemic lymphocytosis apparently occurs much more frequently. Experimental study of leukaemias, resembling those of man has been as yet unfruitful. There has been almost unanimous agreement that none of these diseases can be conveyed from one species to another. Evidence is wanting that leukaemia in mammals can be transferred to other animals of the same species, and the same can perhaps be said of aleukaemic lymphoma. The "infectious lymphosarcoma of dogs" is readily transmitted by natural means, like a contagious disease, or artificially, with material preserved in glycerol. No micro-organism has been found in constant association with them. Resistance which appears in animals with the tumour has some resemblance to that caused by bacterial infection. The nature of the disease is as yet undetermined. Multiplication of blood cells and their precursors may be stimulated more readily in birds than in mammals. Diseases occur in fowls which closely resemble human leukaemias, but are easily transmitted to other fowls. Aleukaemic lymphomata are not uncommon with transitions to myelogenous leukaemia on the one hand, and to anaemia with hyperplasia of the precursors of erythrocytes on the other, though it is doubtful if lymphatic leukaemia occurs. These various changes are transmitted by a single virus, which is ultramicroscopic and filterable. In this respect these leukaemias differ from mammalian ones and resemble certain malignant tumours of fowls (sarcoma of Rous).

### 584. Bacteria in Spinal Fluids.

RUTH GILBERT and MARION B. COLEMAN (*Journ. Lab. and Clin. Med.*, March, 1928, p. 547) report the bacterial findings in the spinal fluids of 284 cases of meningitis, the examinations covering a period of over seven years. The number of tuberculous fluids was relatively high, being 167, due perhaps to the fact that 89 of the patients were under 10 years of age. In thirty-one instances ten strains proved to be of bovine and twenty-one of human origin. Meningococci were isolated in only eighteen cases, and these corresponded serologically with the various type organisms. In accordance with the findings of other workers it was noted that meningococci isolated from sporadic cases were less uniform serologically than those found in epidemics. Pfeiffer's bacillus was found in twenty-three instances, of which seventeen were children 2 years of age or under, and no history of previous respiratory disorders was given. This type of infection is said to be indicated by the presence of large numbers of polymorphonuclear leucocytes and very pleomorphic Gram-negative bacilli, and a tentative diagnosis may be made on these findings. The mortality from influenza meningitis is high, but experiments on monkeys appear to indicate that, with early diagnosis, vaccine or serum treatment may be of value. Pneumococci were found in thirty-three and streptococci in thirty-five cases. In only three of the former was a history of pneumonia given; and of streptococci, two were from head injuries, 3 followed mastoid abscess, and 10 of the variety producing methaemoglobin. *B. typhosus* was found in one case. *M. catarrhalis* in two, and *B. pyocyaneus* in one case following a skull fracture. In four instances unidentified organisms, due possibly to contamination, were found. The authors draw attention to the relatively low incidence of meningococci in this series.

### 585. The Chlorides of the Cerebro-spinal Fluid in Meningitis.

G. C. LINDER and E. A. CARMICHAEL (*Biochem. Journ.*, 1928, vol. xxii, No. 1, p. 46) have made an examination of the chloride content of the cerebro-spinal fluid in four cases of meningitis—two tuberculous, one meningococcal, and one streptococcal. In health the concentration of chloride in the serum is 0.58 per cent. and in the cerebro-spinal fluid 0.73 per cent., the ratio of the two being 0.79. The reason for this difference is not clear, and attempts to explain it on physical grounds have not been altogether convincing. The fall in the chlorides of the cerebro-spinal fluid in meningitis has been attributed to an increase in permeability of the choroid plexuses, thus allowing the chloride concentration to approach that in the serum. In favour of this explanation is the fact that in meningitis certain substances such as fibrinogen, bile pigments, and complement appear in the cerebro-spinal fluid. Against it, however, is the fact that the decrease in chlorides in tuberculous meningitis from 0.72 to 0.55 per cent., for example, is unassociated with a great increase in protein in the cerebro-spinal fluid. The authors bring evidence to show that the fall of chlorides is not due to increased permeability of the meninges. They find that the fall in chlorides occurs almost equally in the cerebro-spinal fluid and in the serum. In the four cases the chloride content of the serum varied from 0.56 to 0.45 per cent., of the cerebro-spinal fluid from 0.61 to 0.52 per cent. The ratio between the two was 0.85 to 0.90. (According to the table given this ratio is the same as in health; but in the text the normal ratio is given as 0.79.) The authors conclude, therefore, that the fall in the chloride content of the cerebro-spinal fluid is dependent on a similar fall in the chloride of the serum.

### 586. Cell Changes in the Skin in Measles.

B. LIPSCHÜTZ (*Wien. Klin. Woch.*, March 15th, 1928, p. 365) has found that the filterable virus of measles produces definite changes in the cells of the skin during the rash. It affects primarily the superficial capillaries of the subpapillary layer, leading to proliferation of the cells round the vessels. There is also an inflammatory reaction in the superficial parts of the corium, and the boundary between the corium and epidermis is obliterated at certain points. Swelling and occasional vacuolation of the epithelial cells and sometimes diapedesis of leucocytes occur. The changes in the epidermis depend largely on the stage the rash has reached and the severity of the case. The most important and constant changes Lipschütz found, however, to be intracellular and to affect the nucleus of the cells; one of these is said to be normally present in each cell and to be quite distinct from the nucleus. In a number of the skin cells in measles the two to four centrocytes which ordinarily constitute a nucleolus are increased in number, and after an staining reaction, showing an increased affinity for haematoxylin. Similar changes have been found in monkeys, in whom typical symptoms of measles occurred eight to fourteen days after an injection of measles virus. Lipschütz considers these intracellular changes of particular importance, since other workers have found other characteristic intracellular changes associated with such filterable viruses as variola and varicella. He suggests that they should be of value in identifying possible cultures, and in studying the nature and mode of action of those filtrates to which other methods are inapplicable.

### 587. The Blood in Scarlet Fever.

A. LEONI (*Sperimentale*, January 12th, 1928, p. 641), from a study of 90 cases of scarlet fever and 55 other diseases, including measles, diphtheria, typhoid fever, varicella, and serum sickness, comes to the following conclusions. (1) Döhle's inclusion bodies occur in all diseases in which there is a slight leucocytosis, whereas in typhoid fever, which is characterized by leucopenia, they are absent. According to Leoni these inclusion bodies indicate immaturity and perhaps also degeneration of the leucocytes. (2) Amato's bodies (round or oval bodies in the neutrophil leucocytes), on the other hand, are found exclusively in scarlet fever and in no other infections or diseases whatever; their presence is closely connected with the acute stage of the disease. They are of considerable diagnostic value owing to the readiness with which they can be found, and to the fact that they are present in scarlet fever and in no other disease. (3) Eosinophilia does not appear to occur in scarlet fever, in which in the great majority of cases the number of eosinophils is almost normal. They are, however, diminished in number or entirely absent in severe toxic attacks, especially those which end fatally. (4) The leucocyte picture in scarlet fever constantly shows a neutrophil polymorphocytosis (80 to 90 per cent.) with relative lymphopenia (1 to 10 per cent.). In severe attacks immature forms, such as myelocytes and metamyelocytes, may be found in large numbers.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 588. Acute Syphilitic Phlebitis.

H. MORROW and N. EPSTEIN (*Arch. Derm. and Syph.*, March, 1928, p. 309), who report an illustrative case, state that phlebitis is one of the rarer manifestations of syphilis, the veins, in striking contrast with the arteries, appearing to enjoy a comparative immunity. In addition to the first case reported by Gilwood in 1860, the authors have collected forty-five observations of various forms of syphilitic phlebitis, which they have classified in the following three groups: early superficial phlebitis; nodular thrombo-phlebitis; and late phlebitis. Early syphilitic phlebitis, to which they confine their attention, may appear as an inflammatory process of one or more segments of a vein. It has a tendency to be multiple, involving the veins of more than one limb, and frequently progressing from one vein to another. The lower limbs are more frequently affected, the internal saphenous usually being attacked. The phlebitis develops within a few months of the chancre, and may accompany or even precede the early secondary rash. The local and general symptoms are usually so slight that the condition is readily overlooked; they may, however, be severe, giving rise to nocturnal pains and constitutional disturbance. The skin over the affected vein is usually reddened, and occasionally there is slight oedema. The limb may be swollen, but does not pit on pressure. Early syphilitic phlebitis has a remarkable tendency to recur, either in the original vein affected or in another vein in the same or opposite limb. Under specific treatment complete involution occurs in two or three weeks. Complications are rare, and only one case of embolism has been recorded. Early syphilitic phlebitis is much commoner in males than in females. Of 31 cases in which the sex was stated 27 were in males and only 4 in females. Strain and alcoholism are contributory factors. The chief pathological change is a proliferation of connective tissue in the sub-endothelial layer which causes protrusion of the endothelium into the lumen. The *Spirochaeta pallida* has never been found in the lesions. Early syphilitic phlebitis is distinguished from the phlebitis due to other infective processes by the lack of constitutional and local symptoms, the multiplicity of the veins involved, the tendency to recurrence, the rarity of embolism, and the prompt response to specific therapy. The authors' case occurred in an alcoholic blacksmith, aged 30, who developed phlebitis in the left calf in the fourth month of infection, the right calf being subsequently involved. Much improvement took place under arsenamine, but the condition recurred when he resumed his work; a second though milder recurrence developed later, but complete recovery followed.

### 589. Epileptic Variants.

DURING the course of twenty years' practice S. A. KINNIER WILSON (*Journ. Neurol. and Psychopath.*, January, 1928, p. 223) has noted a large number of cases which present similarities to epilepsy, but which nevertheless do not seem superficially to resemble each other. Close study of these, which he terms epileptic variants, dispels the idea that epilepsy is a self-contained and sharply delimited clinical entity, and indicates that their clinical signs must be considered physiologically. Epileptic phenomena grade easily from the motor convulsive seizure to psychical, sensory, or visceral symptoms of a highly disparate nature, and Wilson classifies epileptic variants into the motor, sensory, psychical, and visceral, illustrating each group with clinical examples. The motor group includes myoclonic or regional epilepsy, epilepsy <sup>partialis</sup> <sub>partialis</sub>, and inhibitory or akinetic which is by far the commonest variant, consists in irregular twitches of a limb in multimuscular groups. Epilepsy partialis continua, somewhat rare, differs from the former type in that the twitching is limited to one, generally a peripheral, segment of the body; twittings continue between the fits, and are not so much movements as irregular individual muscular contractions. Tonic epilepsy is characterized by tonic contractions only, to the exclusion of the clonic element; in these cases it is advisable to suspect an organic and localizable basis for the affection. Co-ordinated epilepsy includes those cases where the movements are co-ordinated and seemingly purposive, exhibiting the features of voluntary movements. But they are aimlessly repeated and never attain an objective. In inhibitory or akinetic epilepsy immobility forms a prominent

feature of the fit; an illustrative case is reported in which there was a clear transition from convulsive to inhibitory epilepsy, the former being classifiable as epileptic and the latter as cataplectic. Sensory variants are grouped as reflex, sensory, and affective. In the reflex type the seizure develops after an extrinsic sensory excitation, and the sensory sensation may represent the whole of the disturbance. Affective epilepsy is characterized by its development following extrinsic or intrinsic affective stimuli, and differs from reflex epilepsy in the definitely affective element of the excitants. Discussing psychical variants Wilson states that much of an ordinary fit may consist of phenomena in consciousness, and refers to the occurrence of bad temper in epileptic families. Visceral variants are possibly the outcome of physiological disorder localized largely in sympathetic centres to the exclusion of sensori motor phenomena of somatic type. One variety, vaso-vagal attacks, can be clearly distinguished, and the symptoms are referable to transient functional disturbance in the organs supplied by the pneumogastric nerve, and probably develop from disorder of the dorsal vagal nucleus in the medulla and of the juxtaposed vasomotor centre. In other types of recurring seizure the symptoms may represent some disturbance of third ventricle visceral centres with spread to similar centres in the floor of the fourth ventricle.

### 590. Chronic Paratyphoid Septicaemia.

E. R. GRAWITZ (*Munch. med. Woch.*, March 30th, 1928, p. 560) reports the case of a woman, aged 53, who had had attacks of severe pain in the splenic region for a month, was diagnosed as suffering from primary tuberculosis of the spleen, and had the organ removed. After the splenectomy general septicæmia developed with metastatic abscesses in the pleura and subcutaneous tissue, but recovery ultimately followed intravenous injections of solganol, an organic gold preparation. Examination of the spleen showed two large abscesses from which a pure growth of paratyphoid bacilli was grown. The strain isolated was a transitional form between the so-called Breslan and the Schöttmüller types. The remarkable variability of all paratyphoid bacilli, which has been constantly emphasized by bacteriologists, is considered to explain the unusual clinical course in this case.

## Surgery.

### 591. Metatarsal Fracture.

S. E. GOLDMAN (*Journ. of Bone and Joint Surg.*, April, 1928, p. 228) remarks that fractures of the metatarsal bones, due in part to indirect violence, are not uncommon and are often overlooked. Lesions of this type are met with in strenuous athletic activities and where violent muscular effort involving the feet is required. As the initial trauma may be very slight, these fractures may pass unnoticed unless x-ray photographs are taken. "March foot," as it is called, is commonly met with in the army, where long forced marches with heavy kit are undertaken; hence it is well known to military surgeons. Its incidence in civilian practice appears to be uncommon. The condition is the result of over-fatigue in weak feet, resulting in spasm of the muscles, which causes blood and lymph stasis in the tissues. As a result of this there is swelling of the soft parts and brittleness of the bone tissue, leading eventually to fracture. It may be noted that "march foot" may occur without fracture of the metatarsals, which is usually a later development. Goldman records a case in a civilian where the x-ray examination showed fracture of the second metatarsal bone. The treatment should be rest and massage.

### 592. Primary Tuberculosis of the Bladder.

A. ROMANI (*Arch. Ital. di Urol.*, February, 1928, p. 201), who records a personal case, illustrates the rarity of the occurrence of primary tuberculosis of the bladder by the fact that Leguen in his textbook states that tuberculosis of the bladder is always secondary, almost always following renal tuberculosis and much more rarely tuberculosis of the genitals. Jungano in 1920 collected all the cases hitherto published—namely, five in number—but none of them could withstand criticism. Romani's case was that of a man, aged 38, who for the last six years had suffered from difficult micturition which had gradually been getting worse. Forty days before admission to hospital he had profuse hæmaturia. Nothing abnormal was found on examination of the lungs and genitals,





## Neurology and Psychology.

### 598. Chronic Systematized Deliriums.

R. BENON (*Rec. de Med.*, 1928, No. 1, p. 33) defines a delirium, which is sometimes difficult to distinguish clinically from mania and dementia, as a system of ideas, coherent or confused, single or multiple, founded on hallucinations, illusions, or numerous extravagant interpretations, and accompanied by varied emotional manifestations which involve the general belief or full conviction. Deliriums, though of extreme diversity, present four points in common: they are chronic psychoses, and almost invariably incurable; they are systematized, this being sometimes perfect, sometimes more or less obscure, sometimes more or less incoherent; they never terminate in dementia or loss of memory and ideas, and the delirious syndrome is often difficult to follow, though the intelligence may be enfeebled or diminished; and all appear to have an emotional or passionate origin, even when they follow acute or subacute, toxic, or infectious deliriums—that is, the troubles engendered by the emotions always precede the appearance of the insane ideas. In the great majority of these cases ideas of persecution are the essential theme, though these may be veiled by ideas, as, for example, of grandeur, or may even totally disappear; they are sometimes accompanied by melancholia. Benon places these deliriums in five groups. (1) Hallucinatory delirium, the commonest form and the true persecution delirium of Laségue. Its evolution is marked by three periods: a period of incubation or crystallization, one of hallucinations, and one of ideas of grandeur. (2) Delirium with psycho-motor hallucinations, a rare form, in which the patient only hears inner voices to which he submits and which direct his general activities, sometimes dangerously. (3) Paranoiac delirium, also rare, is based solely on false recognitions of persons, places, and sounds. This paranoiac is not an illusion; the objects that cause the sensations are not altered or illudged by the senses, the patient merely confusing them with others which he remembers. (4) Intro-projective delirium, which is constituted by delirious paroxysms based on anxiety. Hallucinations are always absent, and there are incessant repetitions of anxious manifestations. (5) A delirium, styled *revendicatif*, with paroxysms based on joy. As in the preceding form, emotional deviation plays an essential part in the absurd beliefs of the patients, and hallucinations are never present. Benon considers that chronic systematized deliriums are as varied as men themselves; that pure forms are rare; and that the greatest number are atypical, corresponding to the systematized deliriums of Magnan's degenerates, and are caused by individual degenerative elements which are at once of a sensorial, emotional, and dysthenic order. Such an atypical case is fully described.

### 599. Post-encephalitic Respiratory Disorders.

W. A. TURNER and M. CRITCHLEY (*Journ. Neurol. and Psychopath.*, January, 1928, p. 191) remark that, though the respiratory disorders associated with epidemic encephalitis have been frequently described, no effort has hitherto been made to trace their sequels. A short review is given of the literature relating to a few cases which have been followed up for some time, and the authors report the end-results in 29 cases, most of which were treated at the National Hospital. The disorders noted were tachypnoea (the commonest variety), breath-holding (the next in order of frequency), yawning, blowing and sniffing, coughing, and bradypnoea. In 20 of the cases an association of varying degrees of Parkinsonism was observed, but in only 8 were psychotic changes seen. Age seemed to be a factor, fifteen patients being in the second decade of life and only one in the sixth; while males outnumbered females in the proportion of 21 to 8. The 1924 epidemic appeared to be responsible for the majority (23) of the cases. Post-encephalitic respiratory disorders are usually paroxysmal; diurnal variability is the rule, and no precipitating cause can be traced. Emotional stress is perhaps the most potent aggravating factor; concentrated effort may cause a diminution in the paroxysms, and intercurrent illness or noxious stimuli may divert the disorders. The act of calling has exerted an unfavourable influence in a few cases; but severe physical exertion as a rule has little or no effect upon the appearance of the respiratory troubles, and the ability on the part of the patient himself to cut short an attack is rarely obvious. Numerous physical and psychological stimuli may temporarily influence the severity of the disorder, but recovery does not depend upon any particular treatment, and improvement, when it occurs, seems to be spontaneous. Of the 29 cases only 2 patients showed complete recovery, in 10 the respiratory disorder was cured, but other manifestations were worse or unchanged; in 2, while the respira-

tory disorder improved, other manifestations became worse or remained unchanged; in 13 the respiratory disorder remained unchanged; and death occurred in 2 cases. R. G. GORDON (*Ibid.*, April, 1928, p. 340) reports in some detail a case of post-encephalitic respiratory disorder in which there was an apparent complete recovery. A young woman who had been under observation for twenty-one months had a definite history of derangement of sleep and interference with co-ordination of eye muscles; this, with the subsequent sequels of respiratory (panting) and violent conduct disorders, left no doubt that there had been a mild attack of encephalitis lethargica. No treatment, excepting the mildest form of psychotherapy, was given, and recovery was almost spontaneous.

### 600. The Brain in General Paresis after Inoculation Malaria.

W. L. BRUETSCH and M. A. BARR (*Journ. Nerv. and Ment. Dis.*, March, 1928, p. 209) report a case of general paralysis in a man, aged 56, who died seven days after the intravenous injection of 1.5 c.cm. of malarial blood during a paroxysm. The authors' conclusions are as follows. (1) The treatment of general paresis with inoculation malaria produces during the paroxysm histopathological changes in the brain, consisting in proliferation of the capillary endothelium. (2) This reaction of the reticulo-endothelial system is as intense as in typhoid fever, which has often been followed by good remissions in general paralytics. (3) The absence of the perivascular infiltrations in the present case suggests the disappearance of the infiltrating cells during the acute malaria. (4) The perivascular infiltrations persisted in the temporal lobes and the corpus striatum. These findings accord with the observation of other authors on the modified distribution of the inflammatory phenomena following malaria. (5) During malaria, and particularly at the time of the febrile attacks, plasma cells probably immigrate into the brain vessels and take part in the phagocytosis of the liberated young plasmodia. (6) After retrogression of the perivascular infiltrations normal conditions are re-established in the perivascular lymph spaces, resulting in a partial recovery of the ectodermal tissue (ganglion and glia cells).

## Obstetrics and Gynaecology.

### 601. Necrobiosis of Uterine Fibroids.

ACCORDING to PATEL and DENIS (*Gynecol. et Obstet.*, March, 1928, p. 161), necrobiosis of a uterine fibroid occurs most commonly in women aged from 30 to 50, and is relatively frequent during pregnancy; the initial acute stage of the aseptic necrosis is known as red degeneration. Clinically there are two different symptomatic pictures, according as necrobiosis is slow or rapid, but intermediate cases are not rare. Slow necrobiosis is characterized by (1) an almost complete absence of local signs or symptoms and (2) vague general symptoms due to resorption of toxic material—malaise, digestive troubles, slight pyrexia (100.5°), and loss of weight. Rapid necrobiosis is associated with an acute pain in the lower abdomen which simulates torsion of an ovarian cyst, or an attack of pelvic peritonitis, and confines the patient to bed for a few days, thereafter gradually disappearing. There is also increase of volume of the fibroma, and alterations of the general condition are noticed, such as pyrexia, and thinning and yellowness of the face. The sequels of necrobiosis may be (1) calcification; (2) a continued condition of malaise and wasting which, if attention is not drawn to the pelvic organs, may be attributed to anaemia or tuberculosis; (3) an opening of the necrotic focus into the cavity uteri, with secondary infection and intermittent vaginal discharge—cancer of the body of the uterus may therefore be suspected; or (4) an infection by contiguity or the lymphatic route—the infected necrobiotic focus may secondarily open into the uterus or the peritoneal cavity. Necrobiosis of a uterine fibroid can be diagnosed with a considerable degree of certainty when a patient known to have a fibroid has abdominal pain accompanied by increased size and softening of the tumour, which becomes more tender. It may be suspected when a patient known to have a fibroid has slight pyrexia, wasting, and digestive disturbances, even in the absence of local signs. Gangrene or septic necrosis of a fibroid may be distinguished from necrobiosis in that the former is rarer, and occurs, as a rule, after a confinement or abortion or operation on the uterus; it is associated with high fever rigors, well-marked peritoneal reaction, and a fetid vaginal discharge. A single fibroid in a young woman may be removed by myomectomy, but, otherwise, hysterectomy is usually called for, and the prognosis is not worse than that of uncomplicated fibroids.



A subserous infected necrobiotic fibroid requires vaginal drainage after hysterectomy. When pregnancy is present with a necrobiotic fibroid expectant treatment will frequently enable the patient to go to term. When the symptoms do not abate it is necessary, according to the situation of the tumour and the duration of the gestation, to perform myomectomy, supravaginal hysterectomy, or Caesarean section followed by myomectomy or hysterectomy.

#### 602. Epithelioma following Subtotal Hysterectomy.

SIMONE LABORDE and ALICE ROQUES (*Bull. Soc. d'Obstét. et de Gynéc.*, February, 1928, p. 123) remark that the development of epithelioma in the cervix uteri following subtotal hysterectomy is generally considered to be somewhat exceptional. Nevertheless, among 379 uterine cancers they have met with this condition in 11 cases, the details of which are given. Taking as a basis the condition for which the subtotal hysterectomy was performed, they group these cases as follows. In the first class the cancer of the cervix developed after subtotal hysterectomy for an affection of the adnexa. In these cases the cancer was a Malpighian epithelioma, and developed at long intervals (from five to sixteen years) after the hysterectomy. In the second class the cancer developed after subtotal hysterectomy for fibromyoma of the uterus, and the neoplasms were again Malpighian epitheliomata. Here the interval between the hysterectomy and the development of the cervical cancer was much shorter, ranging from one month to three years. The third category comprised two cases of glandular epithelioma, one appearing a month after subtotal hysterectomy, performed on account of epithelioma of the body of the uterus, the other developing two years after subtotal hysterectomy for fibromyoma of the uterus. In this case the cancer may have been due to a malignant transformation in a tumour of the cervix already existing. The authors add that in general it may be said that the cancer in the cervix tends to show rapid development and an early spread to the vaginal walls. On account of their anatomical relations and the absence of the uterus, treatment by radium is said to be very effective. The occurrence of these cancers might be attributed to the fact that surgical intervention suppresses vascular and nervous, especially sympathetic, connexions and thus favours the development of cancer in an organ, the nutrition of which thereby becomes profoundly modified. The authors, however, consider its presence a pure coincidence in view of the frequency of cancer of the cervix, which should be taken into account in considering the relative advantages of total and subtotal hysterectomy.

#### 603. Diphtherial Endometritis.

L. LEFEVRE (*Journ. Amer. Med. Assoc.*, March 31st, 1928, p. 1015), who records an illustrative case, has collected three examples of diphtherial endometritis from the literature of the last twenty years. Two were reported by Lash and one by Beck. All presented great tenderness in the lower part of the abdomen, cramps or other abdominal pain, and in one case haemorrhage—symptoms which are absent in diphtherial vaginitis. LeFevre's patient was an unmarried woman, aged 21, who, on the sixth day of recovery from an illegal abortion, had a discharge of about a pint of bright red blood from the vagina, followed by a second severe haemorrhage a few hours later, accompanied by severe abdominal pain and tenderness. The pulse and temperature were normal. A large piece of placenta was removed from the uterus, which was packed with iodoform gauze. The following day the temperature rose to 100° and the pulse to 120. During the next four weeks the uterus and vagina were packed repeatedly, haemorrhage occurring every time the packing was removed. Finally, after a very alarming haemorrhage, the uterus was removed under gas anaesthesia, and the specimen showed post-abortive infection and non-resolution of the decidua. A culture of the uterine cavity after the organ had been removed produced a luxuriant growth of diphtheria bacilli and streptococci; 20,000 units of antitoxin were given, and rapid recovery followed without any paralysis. LeFevre recommends that culture of the uterine cavity should be made in cases of puerperal infection showing low fever and a markedly disproportionate increase in the pulse rate.

#### 604. Extrauterine Pregnancy.

ACCORDING to E. HAEUSERMANN (*Zentralbl. f. Gynäk.*, March 31st, 1928, p. 822) a greatly increased post-war incidence of ectopic pregnancy has been reported from several German districts. At the Städtischen Frauenklinik at Dortmund the incidence rose from between 10 and 20 annually from 1911 to 1918 to between 40 and 55 annually from 1919 to 1926. The increase is ascribed to the greater frequency of inflammatory disease in the Fallopian tubes as a consequence of increased commonness of criminal and

other abortions. In almost every case in the author's clinic diagnostic puncture of the pouch of Douglas is performed; the aspiration of dark-coloured non-clotted blood is regarded as characteristic of ruptured or aborted ectopic pregnancy. The prognosis is largely dependent on the earliness with which the patients come to operation; since 1921 there have been 259 recent non-infected cases with a mortality of 0.7 per cent., and 24 into infected cases with a 25 per cent. mortality. In the latter group of cases it is recommended that whenever possible the abdomen should not be opened until the pyrexia has disappeared, draining through a colpotomy opening being performed in the meanwhile if necessary.

## Pathology.

#### 605. Anaerobic Bacteraemia.

L. BOEZ, A. KEHLSTADT, and J. SCHREIBER (*Ann. de Méd.*, April, 1928, p. 340) recall that, while *B. ramosus*, described by Veillon and Zuber, has often been noted in gangrenous pus, it has only been isolated from the blood by Gilbert and Lippmann. The present authors, however, in 1924 recorded a case of bacteraemia due to this micro-organism, and now report seven further cases of a similar infection. In all these instances *B. ramosus* was isolated from the blood; in four innumerable colonies appeared in the cultures, and in three only ten to twenty colonies per 10 c.c.m. of blood were found. This bacillus is very delicate, and requires the strictest anaerobic conditions for its growth. It is a small, non-motile, non-haemolytic, and Gram-positive bacillus, growing with difficulty on Veillon's agar, and more readily on his asetic agar, but not at all on gelatin. It does not coagulate milk, but it ferments glucose and lactose though not maltose or saccharose. A serum prepared from a rabbit agglutinated the seven strains isolated in a titre of 1 in 500. The colonies are very small, round, and often punctiform. Of the seven patients, two died. One of these suffered from tuberculous meningitis complicated by a maxillary sinusitis from which a streptococcus and a *Staphylococcus aureus* were isolated; the other from a mastoiditis with thrombophlebitis of the sinus due to infection with an anaerobic staphylococcus. The authors remark that the part played by *B. ramosus* is not great; that its presence in the circulation does not markedly modify the clinical evolution of the disease; and that the prognosis in bacteraemia due to this microbe, as also in the majority of anaerobic blood infections, is governed by the initial infectious focus and its metastases.

#### 606. The Blood Urea in Scarlet Fever and Tonsillitis.

F. WAHLIG (*Klin. Woch.*, March 18th, 1928, p. 542) used Ambard's bromine and caustic soda method of estimation of the blood urea in forty cases of scarlet fever and five of tonsillitis, the blood being taken when the patient was in the fasting condition. Most of the scarlet fever patients were children aged from 3 years and upwards, and the adults were in the second or third decennium. The examination was usually made on the first to fifth day of the rash. Most of the cases were mild and only a few severe. The average blood urea value was 30.7 mg. per cent. In only four cases were high values found—namely, 78 mg. and 119 mg. per cent. In two cases of nephritis and 95 mg. per cent. in two cases without any abnormal findings in the urine. In view, therefore, of the fact that the physiological average blood urea ranges from 15 to 40 mg. per cent., it is held to be obvious that scarlet fever as such does not tend to increase the blood urea in the majority of cases which are not severe. Most of the cases of tonsillitis occurred in adults in the second, third, or fourth decennium. Their average blood urea value was found to be 16.3 mg. per cent.—that is, the lowest of all acute infectious diseases.

#### 607. Sterility and Vitamin Deficiency.

U. SUZUKI, W. NAKAHARA, and N. HASHIMOTO (*Japan Med. World*, February 15th, 1928, p. 31) refer to previous work on the factors governing reproduction in animals, and describe a series of experiments on white rats in which the effect of diet on reproduction was studied. The animals were fed on a diet practically free from fat and lipid, but adequate for growth. Prolonged observations proved that no reproduction took place among the test rats, though their general nutrition was good. The sex glands of the males became markedly degenerated, and on microscopical examination no spermatozoa were found. Small amounts of cholesterol or of synthetic triolein and daily exposures to ultra-violet light did not affect these results, the rats remaining sterile. As these diets are not deficient in any other known factor than vitamin E, these workers attribute the reproductive failure to the absence of this vitamin.

# EPITOME OF CURRENT MEDICAL LITERATURE.

## Medicine.

### 608. Cardiac Insufficiency in Pulmonary Tuberculosis.

R. GONEL (*Presse Méd.*, May 12th, 1928, p. 596) gives an account of the syndrome presented by cardiac insufficiency supervening in patients suffering from pulmonary tuberculosis. Dyspnoea is the principal symptom of such an event, and varies from a slight degree of breathlessness with exertion to grave paroxysmal attacks in which the patient awakes during the night in great respiratory distress and expectorates abundant blood-stained sputum. Tachycardia, hypotension, and increasing numbers of râles are usually observed in such attacks; oliguria, thimtus, and subjective visual phenomena may be experienced. The x-ray appearances of the heart are frequently obscured by abnormal lung shadows and by cardiac displacement, but a marked convexity of the left ventricular border is not uncommonly found. Despite the difficulty of making electro-cardiographic records during attacks of this nature, tracings have been obtained showing left ventricular extra-systoles, isolated or in groups. The extent of the pulmonary lesion bears no relation to the onset or grade of cardiac insufficiency, although dyspnoeic attacks may mark the incipient stage of the disease or accompany the lighting up of an old lesion. This syndrome may also precede or accompany haemoptysis. Pathological examination of the heart reveals the left ventricle as being globular in shape and relatively large from hypertrophy in the majority of cases; the lungs show oedema, congestion, and sometimes haemorrhage surrounding cascating areas. Even severe dyspnoeic attacks are amenable to immediate treatment; ouabain should be given intravenously in daily doses of 1/4 mg. for three or four days. In the less severe cases it is preferable to give ouabain by the mouth in doses of 40 minims of a 1 in 1,000 solution twice daily for five or six days; since the effect of the drug is transient, this treatment should be supplemented by digitals in moderate doses. Camphor is sometimes beneficial. With regard to the induction of artificial pneumothorax, all signs of cardiac insufficiency must disappear before this is contemplated, and a look-out should be kept for such signs after each refill.

### 609. Etiology of Angina Pectoris and Abdominalis.

D. DANIELOPOLU (*Zeit. f. Klin. Med.*, 1928, Band 107, Hefte 3 and 4, p. 397) considers that the term "angina pectoris" is still too indefinite, since many authors include incorrectly in this category cases of dyspnoea and acute pulmonary oedema. Daniélopou divides all cases of angina pectoris into the simple and the complicated, the former being subdivided into organic and non-organic types. He cannot accept either of the current theories of the etiology of this syndrome, which, in his opinion, is an indication of myocardial exhaustion due to intoxication rendering the sensory and motor elements unable to eliminate their waste products. This condition produces a transient myocardial circulatory failure, due to a series of reflexes which he terms "pressor reflexes." In this severe circulatory failure there are secondary factors: (1) coronary arterio-sclerosis; (2) coronary aphasia; (3) aortic dilatation or other deformities obstructing the coronary orifices and so diminishing the myocardial blood supply; (4) pathological changes in the cardiac plexus and aortic wall. Daniélopou has seen many cases presenting evidence of inflammatory aortic and coronary arterio-sclerotic degeneration, extensive peri- and intra-neuritic infiltration of the small scattered ganglia of the cardiac plexus, with changes in their nerve cells. A fifth predisposing factor is the generalized hyperexcitability of the vegetative nervous system and of the sensory visceral system, which prefigures the cardio-vascular reflexes to the production of anginal attacks. The determining factors are as follows. The anginal attack is the result of serious myocardial circulatory failure; the special predisposing factors are constant, while angina pectoris is paroxysmal. There must be a critical moment which determines the attack—in other words, the attack is due to direct myocardial circulatory failure, caused by some effort which imposes too great a strain upon the myocardial circulation. This condition may be induced by increased cardiac activity or diminished myocardial circulation, or by both. Effort is the usual cause of the former, especially when the patient has hypertension, which may evoke attacks when the patient is at rest. The increased cardiac activity may terminate in paroxysmal tachycardia. Some patients who have coronary arterio-sclerosis may have a typical anginal attack during an attack of paroxysmal tachycardia; this may

cease suddenly, while the tachycardia persists. Emotion or heated argument may determine an attack through simultaneous spasm of the coronary arteries and increase of the cardiac action. The author believes that there is a "fatigue phenomenon" in these cases analogous to that of the voluntary muscles. The myocardium is thought to be the site of the anginal attack, where the accumulated toxic substances irritate the sensory nerve-endings and the motor elements of the myocardium. This stimulates the heart to further effort and a "vicious circle" supervenes. Daniélopou suggests a similar etiology for abdominal angina; the circulatory balance is disturbed and severe abdominal pain follows. The pain is usually situated in the epigastrium, and radiates to the spine or the right hypochondrium; it is caused by increased peristalsis and tympanites. Attacks are frequent after meals and after strenuous exertion; they are occasionally complicated by melæna. In many cases the abdominal arterioles have undergone degenerative changes similar to those of coronary arterio-sclerosis. This hypothesis is supported by the fact that angina pectoris and angina abdominalis may occur in the same patient; occasionally the two syndromes occur alternately.

### 610. Subacute Infective Endocarditis in Children.

B. SCHLESINGER (*Brit. Journ. Child. Dis.*, January-March, 1928, p. 33) illustrates the extreme rarity of subacute infective endocarditis in children by the following statistics. During the last sixty-five years at the Hospital for Sick Children, Great Ormond Street, only 10 examples were found after death as compared with 349 necropsies on undoubted cases of rheumatic carditis with endocarditis over the same period. At University College Hospital only 4 out of 60 cases of subacute infective endocarditis were in persons under the age of 15, the average age at death being 33. Horder, in a series of 26 cases with positive blood culture, had only 2 in children. Among Blumer's 317 cases there was only one under 10 years and 54 in the second decade. Subacute infective endocarditis and rheumatic endocarditis often show a close resemblance in their onset, while signs which are specially attributed to subacute infective endocarditis occasionally appear in certain rheumatic cases such as enlargement of the spleen, purpura, and clubbing of the fingers. The characteristic signs of subacute infective endocarditis in children are prolonged high irregular pyrexia and embolic manifestations, both of which are rare in rheumatism. The pathology of splenic enlargement differs in the two diseases. Enlargement in rheumatism is caused either by a severe primary infection or by secondary infection. Splenic infarction, although rare in rheumatism, is invariably present in subacute infective endocarditis. On the other hand, acute pericarditis, so common in rheumatism, is exceptional in subacute infective endocarditis, although signs of old pericardial inflammation are often present.

### 611. Inhibitory Epilepsy.

S. A. KINNIER WILSON (*Journ. Neurol. and Psychopath.*, April, 1928, p. 332) maintains that many epileptic phenomena are inhibitory and not excitomotor in character; he discusses a case in which the restraint or inhibition of motor centres by epileptic sensory discharges was shown, and refers to two analogous cases. In the first case the sensory aura followed the usual course of cortical excitation—namely, from the fingers up the arm to the shoulders and neck, thence down the trunk to the leg and toes, and at the same time to the tongue and face. Motor function varied during the seizure, the affected limbs being flaccid at the outset and passing through a period of relative rigidity to recovery. When the limbs were flaccid they were also powerless, and volitional innervation returned with the tone. In three fits it was noted that during recovery from the absolute flaccid akinesia the limbs for a time exhibited a striking defective inhibition of the antagonists. This disturbance of the normal interaction of synergists and antagonists supports the view that such interference with reciprocal innervation is commonly of cortical site, and is not observable, or only exceptionally so, at lower physiological levels. Actual loss or diminution of the deep reflexes was not noted during the attack. Their exaggeration, the presence of ankle clonus, and, on one occasion, of a probable extensor response, clearly point to intracortical release synchronous with cortical inhibition. The development of temporary motor paralysis without spasmodic discharge must be assigned to lower activity of the motor centres involved—that is, to their inhibition. The author remarks that the recent elaborate investigations of Pavlov have conclusively proved how readily inhibition

follows stimulation, and how, in respect of cortical function, the two processes are constantly and continuously interacting and superimposed the one on the other. Epilepsy cannot create physiological processes that do not exist; at the most it can only distort the processes of the individual concerned, and an epileptic development may be a sudden inhibition of the man's own movements. Wilson emphasizes the parallels and resemblances between inhibitory epilepsy and other clinical states in which akinesia is a prominent feature. In a recent paper on narcolepsy and cataplexy he stressed the fact that "sleep" is a misnomer, and that the clinical syndromes are constituted rather by a state of immobility without loss of consciousness, and are only allied to cataplexy on the one hand and to epilepsy on the other.

#### 612. Pathogenesis of Influenza.

P. BAIZE (*Gaz. des Hôp.*, March 24th, 1928, p. 421) discusses the views held on the pathogenesis of influenza before the discovery of Pfeiffer's virus. He points out that the pandemic of 1918-19, due possibly to influenza being due to a filterable virus, *Bact. pneumosintes*, and other organisms met with in the disease, such as varieties of streptococci, pneumococci, spirochaetes, and special diplococci. He distinguishes two varieties of influenza—namely, (1) true or essential influenza caused by a filterable virus, possibly *Bact. pneumosintes* of Oltzky and Gates, and representing an excessively contagious disease, occurring in pandemics at more or less distant intervals; bronchopulmonary complications are extremely frequent and severe, and convalescence is protracted; (2) various seasonal ill-determined affections, such as rhinopharyngitis, laryngotracheitis, ordinary colds and catarrhal sore throats, which are improperly called influenza, and should be more suitably denominated para-influenza states. This group differs from influenza in not having an epidemic character and being much less contagious. Complications are rare and recovery is usually rapid. These conditions are said to be due to non-specific organisms localized in the respiratory tract.

#### 613. Diagnosis of Chronic Myocarditis without Cardiac Failure.

T. S. HART (*Amer. Heart Journ.*, April, 1928, p. 430) defines the term "chronic myocarditis" as including degenerative and inflammatory processes which are due mainly to arterial changes and infectious and damage the heart muscle. The first manifestations of this disease are usually those suggesting cardiac insufficiency, but in a certain proportion of cases the diagnosis may be made in the complete absence of signs of failure. That such cases occur is clear from the frequent finding of small myocardial lesions at necropsy where no cardiac defect had been suspected in life; further, such lesions may produce extra-systoles, auricular fibrillation, or alternation of the pulse, or even abnormalities of the heart-beat, which can only be detected instrumentally. If cases belonging to this group are followed up the diagnosis is not uncommonly confirmed by the subsequent appearance of definite signs of failure and by post-mortem findings. Three cases are described as examples of this group. In two of them auricular fibrillation, and in the third right branch bundle block, were proved to be present without any evidence of cardiac insufficiency; in all three, however, such evidence ultimately appeared. Many patients give a history or present signs strengthening a diagnosis of chronic myocarditis; for example, some etiological factor may be discovered or there may be precordial pain, cardiac enlargement, a murmur, abnormal or very unstable heart rate, or alterations in the heart sounds such as reduplication or gallop rhythm. The author emphasizes the fact that these cases are not common, since cardiac insufficiency usually accompanies myocardial damage.

#### 614. Ulcero-necrotic Glossitis in Scarlet Fever.

L. BERGER (*Monatsschr. f. Kinderheilk.*, April, 1928, p. 289), who records an illustrative case, remarks that, in contrast with ulcero-necrotic angina, a similar involvement of the tongue and buccal mucosa is a very rare complication of scarlet fever, Heuoch and Hetzer being the only writers who mention ulcero-necrotic glossitis as a complication of this disease. Hetzer recorded four cases in which ulcero-necrotic angina in scarlet fever was associated with more or less extensive involvement of the tongue; all ended fatally. Berger's case was a girl, aged 11½, who in the course of a severe attack of scarlatina anginosa developed ulcers, first on the sides and then on the back of the tongue and both lips. No diphtheria bacilli were found, and no benefit was derived from the intramuscular injection of diphtheria antitoxin. Gradual improvement followed and finally complete recovery occurred.

## Surgery.

#### 615. Pre-cancerous Changes in the Rectum.

J. P. LOCKHART-MUMMERY and C. DUKES (*Surg., Gynecol. and Obstet.*, May, 1928, p. 591) record their observations upon the pre-cancerous changes in the rectum and colon, and show from pathological and clinical data that cancer of the rectum is frequently preceded by chronic hyperplastic epithelial proliferations similar to those described by Lenthal Cheate as preceding mammary cancer. Adenomata of the mucous membrane of the large intestine are known to be peculiarly liable to undergo malignant changes, and an irregularly distributed hyperplasia, often only microscopic, has been shown to represent the first stage of such tumour formation. The authors regard the sequence of events in the development of cancer in the majority of cases as being: (1) localized microscopical patches of hyperplasia affecting an extensive area of the bowel; (2) the appearance of sessile adenomata scattered over the same area; (3) cancer development either in one of such pre-existing adenomata or in the neighbouring epithelium; and (4) the progressive enlargement and dissemination of the malignant tumour accompanied by retrogression of the hyperplastic changes and benign tumours surrounding the malignant growth. In the rectum such a pre-cancerous condition is distinguished by irregular patches of hyperplasia of the mucous membrane and adenomatosis. Every such hyperplastic patch, however, does not necessarily develop into an adenoma, nor every adenoma into a cancer, since the former may disappear and the latter may become pedunculated and be shed; nevertheless, a patient in whom such a condition of multiple adenomata is found on sigmoidoscopic examination should be kept under strict observation. The authors state that this pre-cancerous stage may exist for many years or may abruptly assume the invasive properties of cancer; with the development of the malignant tumour the neighbouring epithelial proliferations and benign tumours tend to retrogress and disappear, so that they are less evident in association with large malignant ulcers.

#### 616. Prostatic Hypertrophy.

G. J. THOMAS and E. W. EXLEY (*Minnesota Med.*, May, 1928, p. 297) discuss the technique of pre-operative and post-operative treatment of non-malignant hypertrophy of the prostate. Their experience suggests that conditions contra-indicating operation or indicating a definite method of procedure may be discovered by a careful examination of the past history and physical condition of the patient, and they have been in the habit of co-operating with the other members of the hospital staff in an intensive study of every patient requiring prostatectomy. Not only should particular attention be paid to the heart and kidneys, but foci of infection should be searched for and renal function investigated, with complete blood, x-ray, and cystoscopic examinations. Gradual decompression of the bladder with an indwelling urethral catheter as a one-stage operation is performed, a suprapubic drain being only needed if decompression is not accomplished within a reasonable time, and double vasotomy under a local anesthetic is recommended as soon as decompression is completed. The importance of protecting the patient from chill during an operation, so that pneumonia may be prevented, is emphasized. For obviating post-operative haemorrhage the authors advocate infiltration of the prostate before enucleation with novocain, stitching the mucosa edge, tying all visible bleeding points, and using in addition the Filcher bag. Vasotomy and the control of infection with mercurochrome have in their series reduced the number of cases of post-operative epididymitis.

#### 617. Plastic Surgery for Hernia.

A. COMOLLI (*Arch. di Chir.*, April, 1928, p. 109) reports ten cases of relapsing hernia cured by transplantation of part of the sartorius muscle. The author has made a special anatomical study of the nerve and vascular supply of the sartorius, and gives a long detailed account of his researches. He then describes in detail ten cases of relapsing hernia where he used part of the sartorius muscle to fill the gap. In every case the result was completely satisfactory and has remained so for three and a half years. The position and shape of the sartorius muscle make it very suitable for plastic purposes in the lower abdomen, and the direction of its fibres and good blood and nerve supply render transplantation likely to be successful. The success of a graft depends largely on an accurate knowledge of the nerve supply, hence the author's careful description of this in the case of the particular muscle in question. He believes that some of the failures reported are due more to lack of knowledge in this respect than to sepsis. The paper is freely illustrated and a bibliography is appended.

# 618. Purpura Haemorrhagica following Fracture of Clavicle.

G. L. FRENCKELL and R. I. GAWRILOW (*Zentralbl. f. Chir.*, May 5th, 1928, p. 1037) describe the case of a man, aged 43, who sustained a comminuted fracture of the inner third of his left clavicle. Skiagrams showed that the bone was badly splintered; the mediastinal canal was opened and the diaphysis was impacted in the splintered epiphysis and also probably in the triangular cartilage of the sterno-clavicular joint. Four days after the accident the patient exhibited multiple subcutaneous haemorrhages over the left thigh and leg. On the next day petechiae appeared on various parts of the body, varying in size from that of a pea to areas 15 cm. in diameter. The petechiae began to fade in ten days and they had disappeared entirely in a month. The Wassermann reaction was negative. There were no symptoms nor history suggestive of haemophilia, purpura, or scurvy. The erythrocyte count and haemoglobin content were slightly below normal; on the first day there was leucopenia (3,600), monopenia, and slight eosinophilia. Subsequently the erythrocyte count became normal, the monopenia increased, and eosinophilia disappeared. Thrombocytes were very numerous (132,000) at first, but later they returned to normal. Many small nucleated erythrocytes (0.5 to 1 per cent.) were present; the coagulability was subnormal. The urine and faeces were free from blood. The authors refer to Verzar's recent discovery that extract of bone marrow has definitely haemolytic properties. They believe that when, in this case, the mediastinal canal of the clavicle was opened and the bone forcibly compressed some of the marrow was forced into the circulation and thus produced haemolytic phenomena.

# 619. Transplantation of Ureters for Congenital Incontinence.

G. A. MASON (*Arch. Dis. in Childhood*, April, 1928, p. 109) reports the case of a boy, aged 10, who suffered from incontinence of urine and complete epispadias. The ureters were transplanted into the sigmoid colon, one at a time. After each operation there was renal reaction and continence was established, the child passing his urine by the rectum four times daily. He seemed in perfect health. Three years later he developed obstruction from a band associated with tuberculous mesenteric glands, and died after the operation. At the necropsy the rectum showed a catarrhal inflammation of the mucous membrane below the entrance of the ureters. The right kidney was in a condition of advanced pyonephrosis, the left kidney was normal. Mason remarks that it is clear that after transplantation of the ureters a life may be lived which is to all intents and purposes normal. The rectum is able to tolerate the passing of urine, control is soon established, and voluntary evacuations are obtained at convenient intervals.

# 620. Tumours of the Renal Pelvis.

F. LEGUET (*Urol. and Cut. Rev.*, March, 1928, p. 140), who records four illustrative cases in patients aged 56, 64, 50, and 59, states that three varieties of tumour of the renal pelvis may be described—namely, non-papillomatous cancer, papillomatous epithelioma, and simple papilloma. Sessile non-papillomatous tumours are rare; simple papilloma is rarer in the renal pelvis than in the bladder, and degenerates rapidly into a malignant tumour. A characteristic feature of all tumours of the renal pelvis is their extension through a part or whole length of the ureter, so that they have often been revealed on cystoscopy by a tumour appearing in the bladder at the ureteral orifice. The predominant clinical feature of these tumours is haematuria, which, instead of being spontaneous as is usual with new growths, is often caused by examination and is usually accompanied by renal retention. Nephrectomy alone is not sufficient, but complete or partial excision of the ureter is also required to prevent recurrences, which take place in most of these tumours.

# 621. Intussusception in Children.

W. R. SHANNON (*Minnesota Med.*, April, 1928, p. 221) emphasizes the importance of early diagnosis. The cardinal points are: (1) pain, sudden and severe, first constant, later intermittent; (2) early nausea and vomiting (in 166 cases out of 170, according to Hess); (3) prostration, sudden and out of proportion to other symptoms; (4) tumour, the most important sign (Hess), present in over one-half the cases; (5) stools which contain blood in varying amounts after one or more normal evacuations; (6) temperature, which is typically not raised or subnormal in early stages. But any of these symptoms may be absent in a particular case. The author holds that blood in the stools is the most important individual sign, though many conditions other than intussusception give rise to it. The treatment is surgical, with the possible exception of an involvement frankly in the lower bowel, when x-ray studies could reliably indicate reduction.

# Therapeutics.

## 622. Treatment of Angina Pectoris by Alcohol Injections.

J. C. WHITE and P. D. WHITE (*Journ. Amer. Med. Assoc.*, April 7th, 1928, p. 1099) describe the use of paravertebral injections of alcohol in five cases of angina pectoris, the upper five left dorsal nerves being blocked; they have watched these cases for periods varying from four to thirteen months after the treatment. This is administered as follows. A 10 c.cm. syringe with thin sharp needles 8 to 10 cm. long is used, with a piece of rubber transfixed by it to indicate the depth to which it has been inserted, and the patient's position is as for lumbar puncture. Alcohol and iodine are used to disinfect the area, and a small cotton-wool pledget dipped in acriflavine is used to palpate and to mark the upper five dorsal vertebrae, acriflavine with iodine giving a black colour. A second series of marks is made 4 cm. to the left of the spinous processes, and a wheal is raised at each of these points by injecting 1 per cent. procaine. Through the wheal the needle is advanced perpendicularly to the plane at the back until, at 3 to 5 cm. depth, the underlying rib is felt; the needle is then shifted until its tip is felt to slip by the lower edge of the rib. It is then rotated so that it points caudally and medially 45 degrees, and it is then advanced forward a distance of exactly 2 cm. If one of the intercostal vessels is injured the needle must be withdrawn and reinserted. Five needles are thus put into position and aspirated to see if any blood or cerebro-spinal fluid is present. If the needle has penetrated the pleural cavity the patient will cough; a manometer can be used and the needle readjusted. An injection is now given of 5 c.cm. of 1 per cent. procaine; this should be followed by anaesthesia from the middle of the back to the sternum in front, and from the fifth intercostal space up to the region where the descending branches of the cervical plexus overlap the upper three ribs. If the first and second dorsal nerves have been properly blocked there should be good anaesthesia of the axilla extending a few centimetres down the arm, with Horner's syndrome—a contracted left pupil and narrowed palpebral fissure. When anaesthesia is complete 5 c.cm. of 85 per cent. alcohol is injected and the needles withdrawn. Four out of the authors' five patients were definitely benefited, but one in whom Horner's syndrome did not appear at the time of injection was unimproved.

## 623. Serum Treatment of Peritonitis.

J. KNOPP (*Zentralbl. f. Chir.*, April 14th, 1928, p. 923) has recently employed a *B. coli* serum in the post-operative treatment of ten cases of diffuse peritonitis and other kindred conditions. In two cases there were perforations of the gastro-intestinal canal, with severe diffuse *B. coli* peritonitis occurring twelve to fourteen hours after operation. Following the injection there was a rapid return of peristalsis with improvement in the general condition and the circulation. The serum was administered in four cases of diffuse peritonitis following appendicitis with perforation, with good results. In two of these cases the serum was given at a late period, after drainage had failed to arrest the progress of the peritonitis. In a subsequent case of *B. coli* peritonitis after appendicitis, the injection of serum produced severe anaphylactic shock; the treatment was not repeated, and the patient died next day. In the remaining three cases the administration of the serum failed. One patient had a *B. coli* metastatic pulmonary abscess, following perforated gastric ulcer, and another severe septic cholangitis. The third case was one of strangulated hernia, and the serum was given after operation. The infection had traversed the strangulated intestinal wall and possibly had caused slight peritonitis. The result of serum treatment was doubtful. Peristalsis was restored, but subsequently the patient developed severe hypostatic pneumonia. The author adds that the last three cases suggest that this treatment has limitations, although for diffuse *B. coli* peritonitis its employment seems to be clearly indicated.

## 624. Colloidal Bismuth in Syphilis.

L. DE KETSER (*Brussels-Medical*, May 6th, 1928, p. 886) reports the results of treating 66 cases of syphilis at various stages with colloidal bismuth. He places the cases in three categories for the purpose of comparing the effects of treatment. (1) In twenty-two patients who had not had any previous treatment the action of colloidal bismuth in primary and secondary syphilis was very slow and generally insufficient, but it was particularly efficacious in nerve lesions and especially in headache. Sixteen of this group of cases were tertiary, and in 4 of these the symptoms were ameliorated although the blood reaction remained unaffected. (2) Of 39 patients who had had previous treatment 8 had a negative Wassermann reaction, which remained negative even after



a course of bismuth. In 16 cases the previous treatment had not modified the blood reaction, and in 9 of these the bismuth did not appear to have any influence on the Wassermann reaction. In the others the results were good. (3) There were 4 cases of congenital syphilis, two of which had never been treated; in only one of these did the Wassermann reaction become negative. In another, although the reaction remained positive, a large ulceration of the leg cicatrized and albumin disappeared. The author concludes that there is no doubt that colloidal bismuth has a curative action on syphilis at all stages, but its action on recent primary or secondary lesions is generally slow. In two cases secondary lesions actually developed while the patient was under treatment. In the treatment of tertiary lesions ulcers and gummata are seen to disappear rapidly, and the action on the nervous manifestations at all stages is most marked, but especially in tabes. In two cases there was retrogression of optic neuritis after the second course of treatment. In about 50 per cent. of the cases a resistant positive Wassermann reaction was made negative. In certain cases in which this reaction had become negative under previous treatment it did not become positive during the cure with bismuth. The author comments on the freedom from danger in this treatment; only once was gingivitis observed after daily injections.

#### 625. Sodium Nitrite in Sea-sickness.

J. F. PEARCY and D. B. HAYDEN (*Journ. Amer. Med. Assoc.*, April 14th, 1928, p. 1193) report that during research on the labyrinthine function in relation to blood pressure it was found that by lowering the normal blood pressure to between 95 and 105 mm. of mercury the nystagmus after rotation was greatly diminished. Believing that sea-sickness is due mostly, if not entirely, to over-stimulation of the vestibulo, they concluded that the nitrites offered a direct line of attack on the morbid process in sea-sickness. Sixteen persons suffered from sea-sickness on a return trip across the Atlantic, and all had subcutaneous injections of adrenaline hydrochloride. For the test by sodium nitrite they were divided into two groups of eight. The controls were prostrated for the average two days, and there was not much variation from that period. The other group received 3 to 5 grains of sodium nitrite every two hours until relief. The average time before members of this second group were free from ocular nystagmus, vertigo, nausea, etc., and were comfortable on deck and could eat a meal, was four hours, and there was no recurrence. The authors agree that the series is a small one and think that there may be cases that cannot be dealt with successfully in this way.

## Radiology.

#### 626. Radiological Treatment of Uterine Fibromata and Hypertrophied Prostates.

H. B. PHILIPS (*Med. Journ. and Record*, March 7th, 1928, p. 238), discussing the x-ray and radium treatment of uterine fibroids and hypertrophied prostates, suggests that the similar histopathology of the two conditions affords a logical basis for expecting success from radiotherapy in both. In uterine fibroids his experience in two cases points to the fact that large size need not be considered a contraindication for treatment, since complete resolution without any disturbing symptoms resulted when the fibroids were larger than a six months and a full-term pregnancy respectively. X-ray treatment, in small doses of 20 or 30 minutes' duration on alternate days, is recommended until a suberythema dose is given on the anterior and posterior aspects; in very large tumours the sides are used for additional portals of entry in cross-firing. Persistent bleeding can be promptly controlled by supplementary radiation of the spleen and pituitary gland. An analysis of 65 cases shows that the earlier the treatment is commenced the quicker and more successful will be the cure, since failure is usually due to the superposition of such secondary changes as chronic cystitis and bladder atony. Large boggy prostates react favourably in all instances and are more easy to relieve than small hard fibrous ones; several prostates of the size of a small grapefruit have completely involuted to normal size. Philips concludes that radium or x-ray therapy is the treatment of choice, the former being used either exclusively or to supplement the latter; surgery should only be employed if these fail.

#### 627. Sodium Tetra-iodo-phenolphthalein in Radiology.

G. E. DYAS (*Brit. Journ. Radiol.*, March, 1928, p. 97) reports a death associated with the oral administration of this drug. A man, aged 52, previously diagnosed as suffering from gall-stone colic, was admitted into hospital in November, 1927. The liver was greatly enlarged and reached to the umbilicus; it was smooth and not tender, and the sclerotics were slightly

yellow. The only other abnormality was a high blood pressure (200/110). The patient had been a total abstainer for nearly the whole of his life. It was decided to have the gall-bladder x-rayed, and the patient was given sodium tetra-iodo-phenolphthalein by the mouth the night before; though apparently quite well a few minutes earlier, he suddenly collapsed and died after returning to the ward from the x-ray department. At the necropsy a linear tear about one inch in length was found at the most dependent part of the right lobe. Further examination showed evidence of advanced portal cirrhosis of both lobes, with, in addition, in the right lobe, acute degeneration of the hepatic coils and rupture of the walls of sinuses, as a result of the removal of the support normally afforded by these coils. The tear in the capsule presumably occurred as a result of the increased pressure within the liver brought about by the haemorrhage from the sinuses. The portal cirrhosis obviously played some part in the onset of the acute degeneration, but Dyas agrees that the relation of the tetra salt to the degeneration can only be conjectured.

#### 628. The Epilation and Erythema Dose of X Rays.

W. E. CHAMBERLAIN and R. R. NEWELL (*Radiology*, April, 1928, p. 280) have made a series of experiments on the relation between the hardness of x rays and their biological effect. Fricke and Petersen have shown that radiation  $\lambda = 0.75$  Angström has within 2 per cent. the same effect as radiation  $\lambda = 0.248$  Angström, but Glasser and Moyer found the erythema dose to be markedly dependent on the wavelength. In the present study epilation was chosen as being a precisely measurable effect, and erythema readings, largely a matter of personal judgement, were made for completeness. X rays of two qualities, filtered and unfiltered, were employed, and dosage was measured in the R units described by Bohannon. The experiments were performed on the anterior surfaces of the thighs of five young men, the left being treated with the unfiltered and the right with the filtered beam. The degree of both epilation and erythema was found to be practically the same for each kind of ray, and the dose delivered to a surface was augmented in every instance from the mass of material irradiated, or hard than for soft rays, and, while this becomes important when large masses are treated. The authors found that neither epilation nor skin erythema suffices to define x-ray dosage with satisfactory precision, and that the maximum safe dose is several times the minimum erythema dose.

#### 629. Radium Treatment of Cervical Cancer.

FOLLOWING a previous paper on the general technical principles underlying radium treatment of the carcinomatous uterine cervix, J. MUIR (*Med. Journ. and Record*, May 2nd, 1928, p. 472) now describes his own technique. He emphasizes that in this method precautions as to pre-operative preparation, rigid asepsis, and measures to avoid shock are as important as in surgical operations. Since this therapy is based on giving the highest possible dosage compatible with immunity of the surrounding unaffected tissues, proper applicators and suitable instruments for every step of the procedure are essential; protection for the rectum, bladder, and adjacent vaginal mucosa must be provided; and necrosis in the malignant tissue itself avoided. Pre-operative preparation includes the complete emptying of the bladder and rectum; just before the radium is applied the patient is given a thorough douching with normal saline or weak permanganate solution, and, if necessary, the anal is dilated. After the applicators have been placed in position the vagina is packed with gauze (on each side of the applicator) until the uterus and radium are well above and beyond the rectum and bladder. A catheter may be left in the bladder, or the urine drawn off every six hours. A firm T-bandage is applied and absolute rest is prescribed for forty-eight hours. At the end of the second day the applicators are withdrawn and sterilized, the vagina is douched, the rectum is emptied, and the applicators are re-introduced. This is repeated at the end of each forty-eight hours for six days and twenty hours—that is, for 164 hours in all—and thus is given a slow, intensive radiation so disseminated as to reach both the uterine periphery and the distal parts. Muir employs a much higher dosage, rendered possible by proper filtration, than is habitually used, the total irradiation being 7,900 millimicron hours, divided as follows: 2,200 millimicron hours from the intra-uterine tube, 3,800 from the pessary, and 1,900 from the cervical applicator. Muir maintains that the success attending this mode of treatment depends entirely upon the penetrating radiation made possible by the construction of the applicators, that the segregation of the hard gamma ray of the shortest wave length (the true therapeutic ray) is effected by the extraordinarily heavy filtration employed, and that slow intensive radiation gives the best results.



## Obstetrics and Gynaecology.

## 630. Heart Disorders in Pregnancy.

B. E. HAMILTON (*New England Journ. Med.*, March 29th, 1928, p. 292) reports that in the Obstetrical Clinic of the Boston Lying-in Hospital 7.5 per cent. of the patients are referred to the cardiac clinic for investigation. They are classified into three groups. The least important of these consists of patients complaining of breathlessness, palpitation, fainting, or heart pain. Nothing beyond tachycardia or extra-systoles is found on examination, and they are mostly cases of cardiac neurosis. The second class contains patients with possible or slight cardiac damage; rheumatic and slight congenital heart disease and mild infrequent paroxysmal tachycardias make up the majority of this group. Among 421 patients of this and the next class watched through pregnancy there was no occurrence of cardiac failure, and only two maternal deaths. The remaining class consists of patients showing such evidence of severe cardiac damage as gross cardiac enlargement, a diastolic murmur, significant disorder of the heart beat, and signs or history of congestive failure. Of 207 patients belonging to this group, there was a maternal mortality of 8.5 per cent. and an infant mortality of 22 per cent. The presence of any of the following complications is held to constitute an unsafe pregnancy risk: congestive failure past or present, recent or active rheumatic fever, active endocarditis, auricular fibrillation, uophris, and hypertension; under any of these circumstances the early interruption of pregnancy is advised. The avoidance of pregnancy, and sterilization if practicable, is suggested. As a result of improvement in the treatment of these patients the maternal and infantile death rates at the Boston Lying-in Hospital have been considerably reduced during the last four or five years. The following lines of treatment are recommended for patients in the last-mentioned class who are able to continue to term; during pregnancy ten hours in bed each night; much rest, particularly after meals; the avoidance of any but the lightest exertion, and if possible the prevention of any infection. Labour should be conducted in hospital, and if cardiac failure occurs the patient should remain in bed at least three weeks after all signs have disappeared.

## 631. Epidemic Encephalitis and Pregnancy.

F. ROQUES (*Journ. Obstet. and Gynecol. of the British Empire*, Spring, 1928, p. 1) discusses the reciprocal relations of epidemic encephalitis and pregnancy, using the notes of eighteen cases from the Sheffield epidemic (1920-24) and three London cases, as well as reviewing 200 cases collected from the literature of various Continental countries and America and from Scotland. In the largest series of cases the incidence among pregnant women did not exceed 2.7 per cent., and there is no evidence that pregnancy increases susceptibility. The mortality in Roques's English cases (18) was 5 per cent., but in larger series in France, Italy, and Great Britain it was from 44 to 60 per cent.; probably it is not as a rule greater on the average than that of all persons attacked under similar conditions of age, sex, time, and place. Primiparae are rather more commonly attacked than multiparae, probably because they are on the whole younger. In Roques's series all the infants were born healthy, and 85 per cent. survived the early months of infancy. Encephalitis in the newly born of mothers affected with the disease has been reported, but is very rare; transplacental transmission of the virus is proved by Marinisco's case, in which *post-mortem* examination showed signs of epidemic encephalitis in the brain of both mother and foetus (the mother was infected during the fifth month and died undelivered). To establish a diagnosis of epidemic encephalitis in the pregnant woman is easy, provided the signs are not too obscure and that an epidemic is known to be existent at the time. Mild cases, however, may be diagnosed as influenza, and the early stages may be confused with pregnancy toxæmia, eclampsia, or hyperemesis. Occasionally epidemic encephalitis mimics very closely the chorea of pregnancy, but in the latter condition the facial muscles hardly ever escape, and an onset later than the third or fourth month is rare. Artificial termination of pregnancy plays little part in the therapeutics of acute epidemic encephalitis, for miscarriage or labour rarely alters the course of the disease, and does not appreciably affect the mortality. Labour is sometimes found to occur with great rapidity and little pain; asphyxiation of a child born in hospital without the attendants' notice has been reported. The second stage should be completed quickly—by forceps if necessary—in order to avoid taxing too greatly the mother's strength; for the same reason suckling should be forbidden. There is considerable evidence that of women infected while pregnant a larger proportion become Parkinsonian than when the acute attack occurs without pregnancy. Whether this attack

occurs with or without pregnancy, Parkinsonism may make its first appearance during an ensuing pregnancy. Pregnancy in a Parkinsonian subject may be attended by an accentuation of the Parkinsonian symptoms. There is no evidence that Parkinsonism has an injurious effect on pregnancy, labour, or the puerperium, and little evidence that the child is morbidly affected. Regarding treatment of pregnancy in Parkinsonian subjects, Roques concludes that (1) prophylactically, those who have recovered from acute encephalitis should be advised not to become pregnant until four years have elapsed since recovery—the same advice applies to those first seen as Parkinsonians; (2) when Parkinsonian symptoms appear for the first time with pregnancy, induction of labour is justified and advisable; (3) in those who are Parkinsonian before conceiving, and in women who become pregnant after an acute attack but have not so far exhibited Parkinsonian manifestations, careful observation is called for, and deterioration or appearance of the signs of chronic encephalitis calls for termination of pregnancy.

## 632. Renal Function during Pregnancy.

ACCORDING TO G. DE CANDIA (*Ann. di Ostet. e Ginecol.*, March 31st, 1928, p. 293), it is wrong to reject the old concept of a "pregnancy kidney" with impaired function. Estimating the renal function by the phenolsulphonethylsulphate test and comparing the content in diastase of blood serum and urine, he finds that the variations shown by the two methods are without exception parallel. In normal pregnancy the renal sufficiency does not differ during the early months from that of non-gravid subjects. As pregnancy persists, however, both tests show a diminution of renal function, which is most marked at term and increases definitely during labour, returning to normal within the first days of the puerperium. Examination of renal function during pregnancy complicated by various maladies, including hyperemesis, tuberculousis, syphilis, nephritis, and renal calculus, showed in some cases an impairment which persisted after labour and was taken to point to permanent kidney damage.

## 633. Asphyxia Neonatorum.

M. HENKEL (*Zentralbl. f. Gynäk.*, March 24th, 1928, p. 730) protests against the application of forceps as routine treatment for asphyxia neonatorum. Since there are many causes of asphyxia, it is difficult to estimate its degree, and a hasty forceps delivery may mean unnecessary damage to the mother and injury or death to the child. Uterine contraction interferes with the supply of oxygen to the child; hence the acceleration of the heart, a process which is normal and shows the efficiency of the heart's response. Should the contractions become too strong or frequent asphyxia will supervene, and should be treated by lessening the uterine activity by morphine or chloroform. During expulsion the head may be unduly compressed and the brain injured, the cerebral centre may be upset either from lack of oxygen or irritation of the vagus, or from direct pressure. In any case the foetal heart is slowed, preventing the acceleration necessary to procure sufficient oxygen. Further, stimulation of the respiratory centre may lead to establishment of lung breathing, and, if the foetal circulation cannot be restored, the child dies. Henkel examines the foetal heart at frequent intervals and regards as danger signals slowing and irregularity in time and pace; to estimate the latter careful auscultation early in labour is necessary for comparative purposes. He adds that the appearance of meconium is of less significance than is usually supposed. Treatment consists of frequent observation of the foetal heart, administration of morphine or chloroform, or both, to control very strong contractions, and episiotomy of rigid perineum. In severe asphyxia no rule can be laid down; each case must be dealt with on its own merits, bearing in mind that the delivery of an asphyxiated child by high forceps defeats its own object and risks injury to the mother.

## 634. Rectal Gonorrhoea in Women.

L. SINGER (*Dermatol. Woch.*, April 14th, 1928, p. 506) comments on the divergence in the reported incidence of rectal gonorrhoea, and concludes that this condition is more common in women than is generally believed. It is often caused by urethral or vaginal discharge passing backwards towards the anus and, when established, seldom gives much discomfort. In recent infections there is pain and sometimes tenesmus during defaecation, anal pruritus, and the discharge of yellowish or occasionally of blood-stained mucus. In subacute or chronic cases pain is seldom present, and paraproctitic abscess is a rare complication. On account of the comparatively painless character of this condition its frequent occurrence has escaped recognition until recent years. Singer recommends that it should be treated by irrigation with silver salts in a viscid or gelatinous medium twice daily; 10 per cent. protargol suppositories are also said to be

very efficacious, usually curing the patient in two or three weeks, though, exceptionally, the treatment may have to be continued for six weeks. The author believes that in women the rectum is infected in approximately 38 per cent. of all cases of gonorrhoea. As a method of diagnosis and observation, irrigation is superior to swabbing, but the best results are obtained by alternating these procedures.

### 635. Induction of Labour by Pituitary Extract:

K. HATZKY (*Zentralbl. f. Gynäk.*, April 28th, 1928, p. 1055) reports seventeen selected cases in which he induced labour with pituitary extract. The patients were all at term with the membranes intact, and the pains had not begun. If primiparae were concerned the os was closed; if multiparae, it admitted one finger. The dose of the extract was 1 c.c.m. given in three stages at intervals of an hour—0.2 c.c.m. twice and 0.6 c.c.m. once. The results were: (1) Successful in 30 per cent., the patients being in labour within two hours of the last injection and the child having been born within twenty hours in the case of primiparae, and within twelve hours in the case of multiparae. (2) Doubtful in 11 per cent., labour having started but being prolonged. (3) Failure in 59 per cent., labour not having become established twenty-four hours after the last injection. The course of labour was not influenced by the injections, and serious complications were met with only among the failures. The puerperium was normal except for one case of mastitis and one of thrombosis of the pelvic veins. As regards the duration of labour, in the successful cases it was shortened to two-thirds of the normal; no further injections were given when labour had started, and this happened in some before the full dose had been given. The points in favour of the method are said to be its simplicity, the avoidance of risk of infection or complications, and the shortening of labour; the main disadvantage is its great unreliability. It is suited for patients who have reached full term, the child being fully developed, and there being no immediate hurry, so that in the event of failure there is time for other measures. It is of no value in the induction of premature labour or where time is important.

## Pathology.

### 636. The Pityrosporon of Malassez.

J. M. H. MACLEOD and G. B. DOWLING (*Brit. Journ. Dermatol. and Syph.*, April, 1928, p. 139), from an experimental study of the morphology, cultivation, and pathogenicity of the pityrosporon of Malassez, conclude that seborrhoeic dermatitis is a pure infection, and that, as is the case with other related fungi, the pityrosporon grows best in subjects with moist, greasy skins, and in such warm moist situations as the axillae, interdigital folds, scalp, and presternal and interscapular regions. Conditions of clothing or environment tending to provoke perspiration and sebaceous activity also favour its growth. It appears to be a frequent cause of anal pruritus and of serotol and inguino-crural dermatitis. Experimental inoculations varied in their effects upon the already existing disease, in some cases rapidly clearing up the lesions, in some causing fresh foci, while in others there was no response or reaction. The organism is pleomorphic, usually in the form of a gourd or flask with a large spherical portion surmounted by a small roundish process, or it may be hour-glass, ovoid, or sausage-shaped.

### 637. The H- and O- Forms of *B. typhosus*.

L. OLITZKI (*Zeit. f. Immunitäts.*, April 12th, 1928, p. 445) has studied the different antigens contained in the bacilli recovered from patients with typhoid fever and from convalescents. Of 23 strains of *B. typhosus* cultivated from the blood, 17 were of the H- or heat-labile form, and 6 of the O- or heat-stable form. Of 15 strains cultivated from the stools of patients, most of whom were in a late stage of the disease, only 3 were of the H- form, the remaining 12 being of the O- form. Likewise of 19 strains recovered from the stools of typhoid convalescents only 4 were of the H- form, the remaining 15 being of the O- form. Though no examination of the stools appears to have been made in the early stage of the disease, the author considers that during the stage of recovery from the disease there is a progressive change in the type of the infecting organism from the H- to the O- form. This would explain why in cultures taken from the blood in the early stages of the disease the predominating type is the H- form, whereas in stool cultures from convalescents the predominating type is the O- form. There is evidence that in certain chronic carriers the change in the organism may be even greater, and that some other antigen is elaborated, different both from the H- and the O- forms. In the actual

diagnosis of chronic carriers and of convalescents the author considers it advisable to put up suspicious organisms against both an H- and an O- agglutinating serum.

### 638. The Haemoclastic and Levulose Tests in Childhood.

MURIEL J. BROWN (*Arch. of Dis. in Childhood*, April, 1928, p. 81) reports the results of investigating the value of the haemoclastic crisis and the levulose tests in childhood. The first test depends on the physiological digestion leucocytosis. The author concludes that it gives most inconsistent results, both in normal and abnormal subjects. Regarding the levulose test, considerable variation was found in normal individuals, apart from the age of the child. It is considered that a rise of 30 per cent. in the blood sugar content after the administration of levulose should constitute evidence of hepatic disease. The purity of the levulose was of great importance. In most examples of definite hepatic disease the test was positive, but in ketosis and coeliac disease the liver appears to be normal, as indicated by the test. On the whole, where the clinical evidence left the diagnosis in doubt, the levulose test was of definite help.

### 639. The Reticulo-Endothelial System.

C. P. RHODES (*New England Journ. of Med.*, March 1st, 1928, p. 76) describes the reticulo-endothelial system as an organization of cells grouped together because of the common function of phagocytosis. It is made up of cells of somewhat similar morphology, and possibly of common origin; found in lymphoid tissue, spleen, liver, bone marrow, and connective tissue. The function of this cell group is very important for the following reasons. (1) It has to do with blood formation and destruction and with the formation of bile pigments. (2) It is active in combating infection, locally by phagocytosis and generally by the formation of antibodies. (3) It reacts specifically to certain infections, such as tuberculosis, leprosy, typhoid fever, typhus, rhonchatic fever, trench fever, and kala-azar, and takes part in processes of inflammation and repair. (4) It has an ill-defined relation to disordered lipid metabolism. (5) It probably forms a certain group of rare tumours variously termed reticulum cell sarcoma and endothelioma.

### 640. The Kahn Test in Primary Syphilis.

J. C. WILLETT and N. NAGLE (*Journ. Amer. Med. Assoc.*, April 14th, 1928, p. 1189) remark that only a small percentage of cases of syphilis show a positive Wassermann reaction during or before the second or third week following the appearance of the chancre. They claim for the Kahn test a marked increase in the positive reactions during the early primary stage, and they compare this test with the result of dark-ground examinations. In a series of 187 patients exhibiting venereal lesions, 105 were found by dark-ground and clinical examination to be cases of primary syphilis. Of these 105 cases, 84 gave a positive Kahn reaction, and in 64 the dark-ground was positive. In 39 cases the Kahn test was positive while the dark-ground was negative; the Kahn test was negative in 19 cases in which the dark-ground illumination test was positive. During the first week after the chancre appeared the dark-ground was most reliable, but in the second and subsequent weeks the Kahn test was the more reliable. The authors conclude that the Kahn test is a valuable diagnostic procedure in persons having a chance of less than one week's duration. It gave 80 per cent. positive as compared with 60 per cent. in the case of the dark-ground test. The primary lesions were of less than twenty-eight days' duration in all but four cases. The Kahn test failed in 20 per cent. of cases and dark-field examination failed in 39 per cent. of cases.

### 641. Passage of Arsenic and Bismuth into the Cerebro-spinal Fluid.

S. MUTERMILCH and Mlle E. SALAMON (*C. R. Soc. de Biologie*, April 27th, 1928, p. 1113), working with general paralytics, find that the injection by lumbar puncture of 1 to 2 c.c.m. of a sterile 10 per cent. emulsion of flour in saline gives rise to an aseptic meningitis, evidenced by a rise of temperature, headache, retraction of the neck, and Kernig's sign. When arsenic or bismuth compounds are injected intravenously into such patients the metals can be detected in the cerebro-spinal fluid an hour or two later; in patients without an aseptic meningitis this does not occur. In practice the flour emulsion was injected the previous day. The cerebro-spinal fluid withdrawn the following day was more or less turbid and contained a considerable number of polymorphonuclear cells. The quantity of metal that passed into the cerebro-spinal fluid was very small; two hours after injection it was never greater than 1 mg. per cubic centimetre of fluid, and generally very much less. The therapeutic results of this method of treatment are reserved for a further communication.



occurring in one out of 2,200 births. He considers the best time to operate, when the cleft of the palate is complete and involves the premaxilla and hard and soft palate, is between the first and third months. Repair of the soft palate should be undertaken between the ages of 18 and 24 months, before the child has learned to talk. Clefts of the lip should be dealt with between the ages of 3 weeks and 3 months. In premaxillary clefts a wire is passed through the maxilla above the alveolus and through the bone from the palatal side to the labial surface, the bones being moulded towards each other. The wire is removed in four to six weeks' time. The operation advised for clefts of the lip is a modification of that of Thompson, as described by Now of the Mayo clinics, and for closure of the soft tissue in palatal clefts a modification of the Langenbeck operation is said to give good results. Post-operative care is necessary to keep the child quiet, and compression sutures should be removed, beginning after the fourth day following the operation.

#### 648. Treatment of Fractured Ribs.

L. P. MARIANTSCHIK (*Zentralbl. f. Chir.*, May 12th, 1928, p. 1171) recommends for fractured ribs the application of a thin rubber bandage as being preferable to the ordinary method of fixing the chest wall by means of strips of plaster; he has employed this method in nine cases, one patient being a woman and the others males whose ages ranged from 40 to 75 years. In three cases the patients had fractured four to six ribs, in four cases two ribs were fractured, and in two cases only one rib was involved. In all cases the result was entirely satisfactory. The author's method is as follows. The patient's skin is disinfected and smeared with ointment or dusted with talc; he is then told to breathe out as completely as possible. A rubber bandage, three inches broad, is then applied spirally to the chest wall, commencing over the rib below the site of the fracture; each turn of the bandage is overlapped for half its breadth by the succeeding turn and the bandage is continued spirally to the level of the rib above the site of the fracture, when it is secured by covering it with a gauze bandage, the application being allowed to remain in position for a period of from two to four weeks. It is recommended that skiagrams should be taken after the application of the rubber bandage and before its removal, and that the chest wall should be subsequently massaged. A gauze bandage will give any support that may be required during convalescence.

#### 649. Late Treatment of Burns.

F. W. BANCROFT and C. S. ROGERS (*Arch. of Surg.*, May, 1928, p. 974) describe the successful treatment of severe burns by means of tannic acid. This treatment diminishes pain, prevents fluid depletion, decreases toxæmia, and, in first and second degree burns, permits epithelial growth while the membrane is in place. Among 114 patients treated with tannic acid the mortality from all causes was 20 per cent., while other methods showed a 40 per cent. or even 57 per cent. mortality. The treatment is as follows: morphine is given as soon as possible and combined with saline injections or transfusion. The skin is cleansed and that covering the blisters removed. After this, loose gauze dressings are applied which have been soaked in a 5-per cent. aqueous solution of tannic acid; they are kept in place for twenty-four hours, no bandages being used. When the burned area is tanned a mahogany brown the dressings are removed and a tent is erected, with electric lights to warm the air. Hyperbolic saline injections help to relieve toxæmia and prevent vomiting. Care must be taken to prevent infection under the tanned membrane, which after one or two weeks should curl at the edges and separate, leaving newly formed epithelium underneath. If, as is possible in a third degree type of burn, infection occurs, and the patient has an elevated temperature with gastro-intestinal disturbances, the membrane must be excised and hot boric acid dressings applied to the granulating area; this will become red and clean, after which epithelial growth should proceed rapidly. In deep burns skin grafts should be applied after the sloughs separate. For granulating areas which have been infected the scar tissue must be excised to the fascia beneath. Pinch grafts are usually successful if applied immediately.

#### 650. Diagnosis of Tuberculous Prostate.

H. BLANC (*Journ. de Méd. de Bordeaux*, March 25th, 1928, p. 226) thinks that the apparent rarity of this condition may be in part due to difficulties of diagnosis. He believes that it is often thought to be renal tuberculosis. It does not follow that tubercle bacilli in the urine are due to renal disease, and he quotes two cases of bacilluria in which the lesion was traced to the prostate by the use of appropriate methods. These methods are to wash out the bladder several times with a weak antiseptic, leaving it full. The patient then micturates, after which the prostate is vigorously massaged.

The patient then micturates again. The second sample alone will be found to contain tubercle bacilli. On cystoscopic examination in such cases there will be found a more or less normal bladder, with possibly an inflamed trigone. The prostate is not usually enlarged.

## Therapeutics.

#### 651. Promotion of Diuresis in Cardiac Conditions.

REGNIER, LEMORT, and MILLO J. VAN DEN EERHOUT (*Le Scalpel*, March 24th, 1928, p. 303) have tried mercuric acetate of salicylallylthiuril-O-acetate (salyrgan) in ten cases of heart disease, in view of the fact that many of these patients have anasarca and other signs of fluid retention which prove refractory to all treatment, whether cardiac or diuretic. Novasol yields satisfactory results in some cases, but its action is inconsistent, while several cases of nephritis following its use have been recorded. The authors state that salyrgan, which contains 35 per cent. of mercury, seemed to be a reliable and rapid diuretic. They administered it both intravenously and intramuscularly, either pure or diluted with physiological serum. The intravenous injections were usually well tolerated, but it was found that even a small quantity of salyrgan injected subcutaneously might produce scars, especially in old patients. No shock followed intravenous injections, but the vein might be obliterated. Intramuscular injections occasionally produced extensive aseptic infiltration, and, very rarely, large abscesses developed. Since unpleasant sequelæ occurred more frequently after intravenous injections, the authors have employed only the intramuscular route in their more recent cases. Diuresis lasted for twenty-four hours only when salyrgan was given intravenously, but for two days when injected intramuscularly. The quantity of urine is increased very rapidly—for example, from 40 c.cm. to 400 or 500 c.cm. every hour, in two or three hours after the injection; the average daily quantity was 3 to 4 litres, the maximum being 7.25 litres in twenty-four hours. One patient passed 700 c.cm. in an hour. The authors add that in a healthy man salyrgan does not produce diuresis. In all their cases the drug increased the flow of urine without provoking albuminuria or the passage of casts. If previously present, albumin and casts were not increased by salyrgan, even when twenty injections had been given on alternate days, but in all cases of nephritis in which this drug is used the urine should be examined daily for their presence. Cardiac oedema and ascites due to hepatic cirrhosis are both relieved by salyrgan. After a year's experience they regard this as the best diuretic in refractory cases of cardiac oedema, and they limit its use to these cases.

#### 652. Synthalin in Diabetes.

A. I. RINGER, S. BILSON, M. M. HARRIS, and A. LANDY (*Arch. Intern. Med.*, April, 1928, p. 453) discuss the use of synthalin in the treatment of diabetes; it is administered in doses of from 20 to 25 mg. twice on the first and third days, once on the second, and omitted entirely on the fourth day. An overdose causes anorexia, epigastric pressure sensations, nausea, vomiting, and diarrhoea. The authors treated four cases representing all stages of uncomplicated diabetes. They conclude that the drug has a decided advantage from the patient's point of view since it can be taken orally in tablet form, thus obviating the necessity for frequent hypodermic injections as required in the case of insulin; it is capable of clearing up glycosuria and ketonuria. Though insulin is considered ideal in clearing up hyperglycaemia, glycosuria, and ketonuria, in alleviating symptoms, and improving nutrition and well-being, it has the one disadvantage of possible hypoglycaemic reaction. Synthalin occasionally causes gastric distress, which Adler claims can be overcome by the administration of 0.5 gram of a sodium salt of dehydrocholic acid, which, acting as a bile stimulant, eliminates any unpleasant effects. It is unsuitable for emergencies since its action is slow, but it may be found useful in cases in which insulin is not desirable.

#### 653. Vaccine Treatment of Typhoid Fever.

H. SCHOTTER, S. BRODSKAJA, and G. SINAI (*Wien. Klin. Woch.*, March 1st, 1928, p. 297) state that, although more than thirty years have elapsed since Fraenkel, in 1893, introduced vaccine treatment in typhoid fever, the question of its efficacy is still unsettled. Stollkind, in 1916, collected only 3,416 cases that had been so treated up till then, and since that time comparatively few papers on the subject have been published, so that there is barely a total of 4,000 cases of typhoid fever in which vaccine therapy has been employed. During the period November, 1926, to July, 1927, the authors treated with vaccines 41 cases of enteric fever, of which 36 were typhoid and 5 paratyphoid, while 30 cases, of which 26 were



typhoid and 4 paratyphoid, were given symptomatic treatment only and served as controls. The results were as follows. (1) No encouraging results were obtained from the intramuscular administration of vaccine. (2) The intravenous injection of autovaccines caused only a slight general reaction and rendered relatively large doses possible, but owing to the time required for the preparation of these vaccines and the consequent delay in their application they were of little practical use. (3) The intravenous injection of a formalized vaccine composed of several strains was tried in 31 cases and produced a somewhat shorter duration of the disease than in 30 cases which had symptomatic treatment only. Systematic repetition of small doses did not cause any alarming symptoms, but it had no influence on the occurrence or character of complications, sequelae, or relapses. (4) The vaccine treatment of enteric fever is not to be condemned *a priori*, but needs further study.

## Disease in Childhood.

### 654. The Larynx in Whooping-cough.

F. HEINRICHBAUER (*Jahrb. f. Kinderheilk.*, November, 1927, p. 104) records his observations on the *post-mortem* appearances of the larynx in thirteen cases of whooping-cough in children aged from 8 weeks to 3 years. Four showed typical ulcers, which in three were on the vocal cord and in one in the interarytenoid space. In another three cases there was considerable inflammatory infiltration of the mucous membrane, which in the interarytenoid region had led to a perichondritis of the subjacent cartilage. In all the cases the capillaries were greatly dilated and the mucous membrane in the region of the sinns of Morgagni showed infiltrations which mostly consisted of round cells of the lymphocytic type. In several cases there were accumulations of lymphocytes, partly in a diffuse arrangement and partly in nodular form, often grouped around the openings of the ducts of the glands. Another change present in one case consisted in complete necrosis of the mucous membrane of considerable extent. In four cases the tissue of the vocal cord or its vicinity was loosened, and in another four cases round-cell infiltrations were found round the lobules of the glands. The origin of the ulcers which showed a typical localization in the vocal cord was undoubtedly due to mechanical factors, especially the knocking of the vocal cords against each other during the violent attacks of coughing. As the slightest irritation of the throat and larynx was sufficient to produce an attack of coughing, the author thinks that considerable importance must be attributed to the inflammatory lesions, especially the ulcerative changes. A vicious circle is thus formed by the attacks of coughing favouring the development of inflammatory changes in the vocal cords, and by the latter in turn provoking a paroxysm. He adds that the changes are not confined to whooping-cough, similar though isolated lesions being found in measles. The practical significance of the findings is that they furnish anatomical evidence of the duration and frequency of the individual paroxysms and of the duration of the disease as a whole.

### 655. Infantile Pyelocystitis.

G. VINCENT (*Arch. des Mal. des Reins et des Organes Genito-Urinaires*, February 1st, 1928, p. 239) describes two cases of pyelocystitis occurring in male infants aged 10 and 2 months respectively. The older child was admitted for a rhinopharyngeal infection complicated by intestinal disturbance. The urine contained albumin, and the mother stated that the child frequently cried when micturating. The temperature rose to 104° F.; there was cervical rigidity, Kernig's sign was positive, and the general condition suggested meningitis. The urine had a faecal odour, and contained numerous *B. coli*, polymorphonuclear cells, and granular casts. In spite of hypodermic injection of urotropine the temperature did not begin to fall for nine days, but four days later it was normal and the general condition had improved greatly. A week later the urine was apparently normal. In spite of repeated febrile attacks (apparently due to tonsillar or pharyngeal infection, relieved by ablation of tonsils and adenoids) there was no recurrence of pyelitis. The younger child, who was feverish and had persistent vomiting, had been sickled for fifteen days, and afterwards was fed on condensed milk. Three days before admission he vomited all food, was constipated, and the temperature rose to 102.6°. There was opisthotonos and diffuse cutaneous hyperaesthesia. Kernig's sign was present. The liver, spleen, and kidneys were palpable. The urine contained albumin, numerous polymorphonuclear leucocytes, granular casts, *B. coli*, and enterococci. The cerebro-spinal fluid escaped under pressure, but was sterile. Under autogenous vaccine treatment there

was temporary improvement, but the vomiting and diarrhoea returned and the child died from exhaustion at the end of four months' illness. The necropsy revealed no sign of tuberculous, but slight glomerulonephritis with pyelocystitis was present. The author remarks that in infancy boys and girls are equally susceptible to pyelocystitis, but in later childhood it is far more common among girls than among boys. Vincent adds that pyelocystitis results most frequently from acute gastro-intestinal infections, and to a less extent from acute or chronic bronchial and pulmonary infections. Other causes are nasopharyngeal infections, otitis media, and, occasionally, suppurative dermatitis.

656.

### Alimentary Pyrexia in Infants.

H. RIETSCHEL (*Med. Klin.*, December 9th, 1927, p. 1904) quotes experiments which show that deprivation of water in adults produces a rise of temperature during rest and an increased rise after physical exercise. Hyperthermia can also be produced in infants and others by the subcutaneous and oral administration of hypertonic saline solution. The following physico-dynamical explanation of the process is given. For every 10 grams of a 4 per cent. sodium chloride solution administered approximately 57 grams of water have to be withdrawn from the tissues in order to make the solution isotonic (0.6 per cent.) with the body fluids. By this "work" heat is generated, while the lack of water interferes with the loss of heat; the thirst produces restlessness and crying in the infant, thereby increasing the generation of heat, and pyrexia thus ensues. A similar result may be produced by insufficient water in young infants, and Rietschel thus accounts for the temporary pyrexia of breast-fed infants, frequently observed to reach its highest point about the second or third day after birth before the secretion of milk is fully established. This occurred in a larger proportion of one series in summer than in winter, and may be prevented by the administration of water. Loss of water is also probably an important factor in the production of pyrexia and the general toxic state associated with the more severe cases of infantile diarrhoea, which helps to account for the increased mortality from this condition during the warmer months. Rietschel also ascribes the fall in temperature which has been observed when bottle-fed babies with unexplained pyrexia are given breast milk partly to the lower salt content of the latter. The pyrexia of some infective conditions, especially in infants, is due to the cumulative effect of thirst and the infecting organism, and a rapid therapeutic effect is therefore often produced by the administration of water—as, for example, in pyelitis, influenza, and pyuria. Though water is very valuable in the treatment of pyrexia, especially in infants with poor appetites, the optimum amount must not be exceeded, as an excess of water also has deleterious effects and may produce digestive disturbances.

657.

### Sepsis in the Newborn.

R. VAGLIO (*La Pediatria*, January 1st, 1928, p. 1) deals with newborn infants who, after starting well, begin to lose weight, become pallid and bluish, are unwilling to feed, develop vomiting or diarrhoea, have a dry inelastic skin, sunken eyes, and occasional sudden rises of temperature, and often die suddenly. He believes that many of these cases are due to sepsis, and since greater care has been taken to avoid possible sources of it the results have been much better. He has abandoned the practice of early vaccination in these cases, as, he considers it to be a possible source of infection; the same applies to mouth cleansing. Any skin lesion, especially about the buttock, heels, and malleoli, should be carefully attended to. By careful prophylaxis on these lines the author obtained far better results than by measures directed to the cure of the sepsis itself, such as vaccine therapy.

## Obstetrics and Gynaecology.

658.

### Treatment of Vomiting of Pregnancy.

For the treatment of vomiting of early pregnancy and the prophylaxis of hyperemesis E. SPENDEL (*Amer. Journ. Obstet. and Gynecol.*, March, 1928, p. 411) recommends (1) prohibition of coitus, the patient occupying a separate room and resting during the morning; (2) a change of scene; (3) light meals of rusks, lemonade, feed tea, and sweetened fruit juice; and (4) intravenous injections of corpus luteum extract, exhibition of luminal sodium  $\frac{1}{2}$  grains three daily, tablespoon doses of milk of magnesia at bedtime, and in some cases (to combat hypochlorhydria) administration of ten drops of dilute hydrochloric acid in water before meals. An enema of a half gallon of warm water containing a tablespoonful of sodium bicarbonate will empty the colon and to some extent relieve the acidosis. If these simple measures are not successful



the condition takes the aspect of hyperemesis and demands energetic measures. The patient should be isolated from friends and relations, preferably in a hospital, and kept in a somnolent condition by rectal administration of 6 oz. of 10 per cent. glucose solution containing 60 grains of sodium bromide and 15 grains of chloral hydrate three times a day. To combat the dehydration one quart of decinormal saline solution should be injected daily under the breasts. Intravenous injections of glucose are most valuable: the solution must be prepared with pure glucose and freshly distilled water, and must be given warm. Half a litre daily in 10 per cent. solution is recommended; double the amount has been given to very dehydrated patients, but there is some danger of acute dilatation of the heart. Stronger solutions in smaller bulk have been advocated by Titus and others, but diuresis is to be avoided. A mixture with separately dissolved sodium bicarbonate solution (200 c.cm. of 3 per cent.) will help to diminish acidosis. In very severe cases a tube should be passed through the nose into the duodenum, where it can be left for several days, serving for the introduction of water, glucose solutions, liquid food, and laxatives. If intensive intravenous glucose treatment continued for four days is not successful duodenal treatment should be performed for a similar period. If at the end of that time decided improvement is not evident interruption of the pregnancy is justifiable.

#### 659. Glucose Treatment of Eclampsia.

P. TITUS, P. DODDS, and E. W. WILLETS (*Amer. Journ. Obstet. and Gynecol.*, March, 1928, p. 303) have found that whereas in normal pregnant women the blood sugar maintains a constant level for each person, an eclamptic patient shows repeated and rapid fluctuations. In the majority the blood sugar level is normal or reduced, except after the muscular exertion of a convulsion, and a convulsion is preceded by relative hypoglycaemia—that is, a rapid fall in blood sugar by from 15 to 80 mg. per 100 c.cm. within a few minutes. A causative connexion is traced between the onset of relative hypoglycaemia and of a convulsion; it is admitted, however, that an eclamptic convulsion may occur when the recently reduced blood sugar content is still at or even above the normal level, just as in certain circumstances diabetics may suffer from hypoglycaemic crises at average though recently and rapidly diminished blood sugar levels. According to the views of Titus and his co-workers, pregnancy is associated with diminution of hepatic glycogen by reason of foetal demands, hypertrophy of the uterus, and vomiting with insufficient diet during the early months of gestation. Pregnancy toxoses, such as hyperemesis and eclampsia, are attributable to disorganized carbohydrate metabolism; the associated nephropathy is incidental or contributory only, and the same may be said of the disturbances in nitrogen metabolism. Insulin treatment, which has recently been recommended for eclampsia—either alone or combined with injections of glucose—is contraindicated. Applying their conclusions to treatment, the authors recommend in pre-eclampsia restriction of salt and protein intake, but increased ingestion of carbohydrate, especially glucose with fruit juices. For eclampsia they advocate the injection of morphine hypodermically, magnesium sulphate hypodermically or intravenously, and chloral hydrate by the rectum. They also commend the intravenous administration of large single doses of hypertonic glucose solution—75 grams dissolved in 300 c.cm. of distilled water, the injection lasting from 60 to 75 minutes and being repeated at intervals of four to five hours during the attack and three or four times during the day following cessation of the convulsions. The immediate effects are diuresis, lowering of blood pressure, cessation of convulsions, and prompt regaining of consciousness.

#### 660. Fatal Staphylococcal Puerperal Infection.

LEMELEND and DARDANE (*Bull. Soc. d'Obstét. et de Gynéc.*, February, 1928, p. 132) record a case of labour at seven months, following a fall, in which a slightly macerated female foetus weighing 3½ lb. was spontaneously delivered. The same night the pulse and temperature rose, and all the signs and symptoms of acute puerperal infection were present. Fifty-eight hours after the delivery the abdomen was opened and total hysterectomy was performed. The reins in the utero-ovarian pedicles, being the seat of a thrombo-phlebitis, were ligatured. The patient's condition became worse, and she died on the twelfth day after delivery. On two occasions during the illness blood cultures revealed a pure culture of staphylococci. The authors sum up the points of interest in this case as follows: (1) the rapid onset of phlebitis; (2) the impossibility of performing a hysterectomy in acute puerperal infection; (3) the difficulty in fixing the diagnosis of a staphylococcal infection; (4) the lack of success of surgical intervention; (5) the unusual severity of a staphylococcal infection.

## Pathology.

#### 661. Chemical Changes concerned in Acidosis.

A. F. HARTMANN (*Amer. Journ. Dis. Child.*, April, 1928, p. 557) has studied the chemical changes in the blood of twenty-seven infants with mastoiditis who suffered from diarrhoea, vomiting, dehydration, and acidosis, presenting a clinical picture similar to that of alimentary intoxication. He found that the chemical changes were due to the chief symptoms of the infection—namely, vomiting, diarrhoea, dehydration, and oliguria. As a result of vomiting, hydrochloric acid and base chloride are lost from the body. Base bicarbonate is much reduced by loss in the intestinal secretion and diarrhoeal stool. Dehydration accounts for the occasional increase of lactic acid and protein, and oliguria for the increase of phosphoric acid and non-protein nitrogen in the blood. In a large number of the cases the blood was not examined chemically until after a considerable quantity of common salt, in the form of Ringier's solution, had been given intraperitoneally. In these cases the serum base bicarbonate and pH were much reduced, while the base chloride content was frequently greatly increased. Where the blood was examined before significant amounts of fluid were administered parenterally the base bicarbonate, although reduced, was not usually as low, while the base chloride was also reduced. The administration of large amounts of saline solution when diarrhoea and oliguria persist is therefore contraindicated, for it may produce extreme, persistent, and often fatal acidosis. Water in large quantity must be given orally as such, or intravenously as dextrose solution. Because of the frequent marked loss of base bicarbonate from the body intravenous administration of sodium bicarbonate is often indicated, and may at times be a life-saving measure.

#### 662. Temperature of the Cerebro-spinal Fluid.

P. SCHEFF (*Arch. de méd., cir. y esp.*, March 24th, 1928, p. 422) found that the average temperature of the cerebro-spinal fluid, as estimated by a thermo-electrical apparatus, was 37.68°C. in fifty patients with a normal rectal temperature. This result indicates that the temperature of the cerebro-spinal fluid is approximately half a degree higher than that of the rectum. The spinal temperature to a great extent appears to be independent of external agencies, such as analgesic or antithermic drugs or motor excitement. It does not appear to have a direct relation to the general temperature of the individual nor to the tension of the cerebro-spinal fluid. Ten patients showed an abnormally great difference, ranging from 0.9° to 1.5° C., between the temperature in the rectum and that in the spinal canal. Most of these patients were suffering from senile psychoses. The author thinks that it would be premature to draw any definite conclusions from these facts, as patients suffering from the same affections presented normal spinal temperatures. Eight patients who were suffering from an anxiety syndrome showed spinal temperatures which were the same as or lower than the rectal temperatures. These results were obtained under rigorously controlled conditions. The apparatus is delicate, costly, and takes up considerable space, and is not suitable for clinical use.

#### 663. The Brain in Encephalitis.

J. H. MUSSER and G. H. HAUSER (*Journ. Amer. Med. Assoc.*, April 21st, 1928, p. 1267) describe the post-mortem appearances of the brain in ten cases of encephalitis in measles. The gross changes consisted in extensive injection of the pia-arachnoid vessels and cerebral vessels generally. In one case thrombi were noted in the vessels of the pia-arachnoid. None showed inflammatory exudate over the surface of the brain, but there was considerable clear fluid in the sub-arachnoid spaces. The convolutions were flattened and the sulci shallow. On section the brain showed discrete punctate haemorrhages, with some areas of diffuse haemorrhage. Microscopical examination revealed perivascular haemorrhages round the small vessels, which appeared to be peculiar to this type of encephalitis. None of the cases showed any clinical or post-mortem evidence of tuberculosis or syphilis.

#### 664. The Optimum Hydrogen-ion Concentration for Giemsa Staining

J. G. LACORTE (*C. R. Soc. de Biologie*, May 25th, 1928, p. 1579) finds that the best method of differentiating *Trypanosoma gambiense* in guinea-pig's blood is to add one drop of Giemsa's stain to 1 cubic centimetre of a buffer solution at pH 7.4, and to place the film in contact with it for one hour. The buffer solution is made by adding acid sodium phosphate to distilled water. If the pH is below 7.4 the organisms and the blood cells appear reddish; if it is above 7.4 they become bluish. The best differentiation was obtained at pH 7.4.

